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**MODELLING SUSTAINABLE
ECOTOURISM DEVELOPMENT ON
THE COROMANDEL PENINSULA
IN AOTEAROA / NEW ZEALAND**

**A Holistic Systems Approach Based on the
Idea of Chaos and Complexity in a
Human–Activity System**

Rupert Holzapfel

A thesis submitted in partial fulfilment of the
requirements for the degree of

Doctor of Philosophy (PhD)



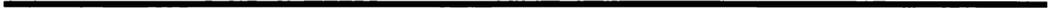
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Rupert Holzapfel



Abstract

This thesis studies ecotourism in the context of sustainable tourism development. The research is based on the *premise* that ecotourism and sustainable development can be expressed as operational theoretical concepts and as fields of empirical inquiry. Positioned in the realm of applied qualitative research in the social sciences, the study's *leitmotiv* is that sustainable ecotourism development can be represented from an integrative perspective by designing a conceptual system model. The field work consists of an empirical inquiry placed in the Coromandel Peninsula in New Zealand/Aotearoa. By employing a regional case study to test the hypotheses of the thesis, the research attains an insight in the operationalisation of ecotourism and sustainable ecotourism development. It further produces new knowledge regarding the theorisation and conceptualisation of ecotourism and sustainable tourism development.

Two *main goals* drive the study. The first is the exploration of the ontological, epistemological and ideological matrix of a holistic and systemic *research perspective*. The second goal is the examination of the methodological and practical utility of conceptual system modelling as a *research approach*. The adopted strategy allows for causal, correlative and teleological interpretations of the spatio-temporal physical and mental phenomena encountered.

With reference to critical realism the modelling process is recognised as an abstraction of 'actual reality' as opposed to 'real reality'. Critical realism as an ontology accounts for the different 'situated knowledges' and worldviews that are present in the Coromandel Peninsula. The model itself reflects the researcher's perception of an 'empirical reality', which is depicted at three resolution levels. Progressively coupling the different scales, the model design focuses on: (1) The configuration and behavioural patterns of the system as a whole; (2) the attributes of nested subsystems and their influences on each other as well as on the whole system; (3) the properties of individual system constituents, the processes and relationships linking these elements, and their effects on subsets of the system as well as on the system as a whole. Structural and process

analyses, as well as an aetiological account of the system's variables, do justice to the experienced complexity.

At each resolution level the research outcome entails two simultaneously developed models. Both show the characteristics of *open, complex* and *adaptive* human–activity systems. While the first model reflects the *status quo* of sustainable ecotourism development in the Coromandel Peninsula, the second one represents an idealised *archetype* that can be used as a grid for further improvements. Neither model offers a *fait accompli*. Having identified ecotourism and sustainable tourism development as *subjective* and *dynamic* problem areas, answers exist within a continuum of differential interpretations, satisfying changing interests, needs and expectations. Solutions are thus of a suggestive and tentative nature.

On a theoretical level, the study utilises ideas derived from ‘general system theory’ and the ‘chaoplexity paradigm’. Conceptually, it expands the philosophical notion of methodological holism into a pluralistic approach. Methodological triangulation is employed to compensate for the anticipated shortcomings of individual methods. In a pragmatic sense ecotourism and sustainable tourism development are viewed as anthropogenic phenomena that emerge at the interface between humans and the natural environment. Human agency is interpreted as the fulcrum of the system's evolution, which operates in both the mental and physical dimension.

Assuming that humans possess ‘free will’, and that rational and irrational as well as emotive and intuitive behaviour are inherent faculties of our nature, the system's dynamics can *not* be sufficiently described via linear causalities. Non-linear relations, and a complex combination of multivariate and contingent causation, are interpreted predominantly as a result of human encounter and interaction. Answers to what should be ‘right’ and ‘wrong’ in ecotourism practice are based on the adoption of a pluralistic moral stance. This approach allows for competitive as well as cooperative elements as inherent human character traits that drive decision-making processes.

Based on the findings, the thesis concludes with a flexible template of systemic indices that can evaluate the environmental performance and development of ecotourism. It is

argued that utilising the suggested set of complex indicators in conjunction bears the potential to enhance sustainable ecotourism development. The template's adaptability to specific situational contexts is viewed as a prerequisite to cater for changing demands and expectations of individuals, local communities and regions.



Technical Aspects

Linguistic Issues

The major part of the thesis is written in the third person, using the passive voice. Occasionally I employ the first person as a linguistic tool to stress the subjectivity of an experience, or a claim, of a conclusion I draw, or a suggestion I make. With reference to the syntax, the period at the end of a quote is omitted if the quotation is followed by a coordinated conjunction, or a dependent or independent clause, to fit the citation grammatically into the sentence structure.

Many Māori terms and phrases can have several meanings. Their respective translation depends on their interpretation by individuals and the situational context in which they are employed. In my thesis the use of Māori terminology sometimes differs from standard Māori–English dictionary translations. Where this is the case, meanings are based on research literature, or personal communication with Māori researchers, and are referenced in the body of the thesis.

Occasionally I use words and phrases from other languages than English or Māori. The rationale is the authentic representation of an idea, concept, or theory in philosophy, the natural, or the social sciences. The exclusive use of the English equivalent would distort the original meaning, which depends *inter alia* on the linguistic, historic and socio-cultural context. An approximate translation is provided either in a footnote or in the text.

Direct quotes from interviews and questionnaires are used to exemplify perceptions and to backup conclusions. The transcriptions adopt open-ended answers and additional comments from the questionnaires *verbatim* and *literatim*. Any typographical or grammatical errors reflect the original. Excerpts from taped interviews conducted in English are *verbatim*, while translations are free in the sense that preference is given to the meaning of the quote rather than the linguistic structure of the source language. Occasionally an analogous quote from an unrecorded interview is employed to substantiate a claim.

Image sources

The images used in my thesis constitute qualitative research data. By depicting spatial and conceptual categories and boundaries, the selection of photos and maps positions my case study in a locational and mental sense. The images illustrate the various stakeholders' perceptions of New Zealand and the Coromandel Peninsula as a holiday destination. In their original function as information and marketing tools, many of these images reflect different aspects and interpretations of ecotourism and sustainable tourism development from the tourism industry's perspective. Other photos reflect holiday memories of tourists. The sources of images that are not my own are acknowledged collectively in the figures' headers.

Dedication

For my son Jonas



Acknowledgements

A PhD thesis does not evolve in a vacuum. The synthesis of concepts and ideas presented in this dissertation took four challenging years to mature. During this time, I was fortunate to have the support of a number of people and institutions who contributed to its completion in a variety of ways. Some of them are mentioned below.

First and foremost I am indebted to Dr Anne-Marie d’Hauteserre and Associate Professor Dr Lex Chalmers who shared the role as my chief supervisors. They provided invaluable ongoing advice and guidance during numerous dialogues and by proof reading my manuscript at various stages. Their comments and critique were both constructive and inspiring, helping me in refining the presentation of my research. I further wish to express my gratitude to Dr Judith Cukier who guided me as my supervisor during the initial stages of my doctoral studies.

The Geography Department at the University of Waikato deserves special recognition. Apart from providing generous logistic, technical and administrative assistance, the Department granted me a doctoral scholarship and employed me as a contract lecturer. The research award and the teaching position secured my ‘economic survival’. An additional travel grant enabled me to attend the annual meeting of the American Association of Geographers in New York as well as several national conferences in New Zealand. Publishing my ideas and presenting preliminary research results to these forums, initiated stimulating discussions and gave me the unique opportunity to establish important links within tourism academia.

My special thanks go to all interviewees and ‘observed participants’, whose perceptions and perspectives were ‘eye-openers’ and provided me with essential information. Without their knowledge-enriching contributions the study would not have been possible in its present form.

Last but not least, I am grateful to my parents, who believed in me, encouraged me, and supported me financially as well as morally throughout this ‘adventure’.



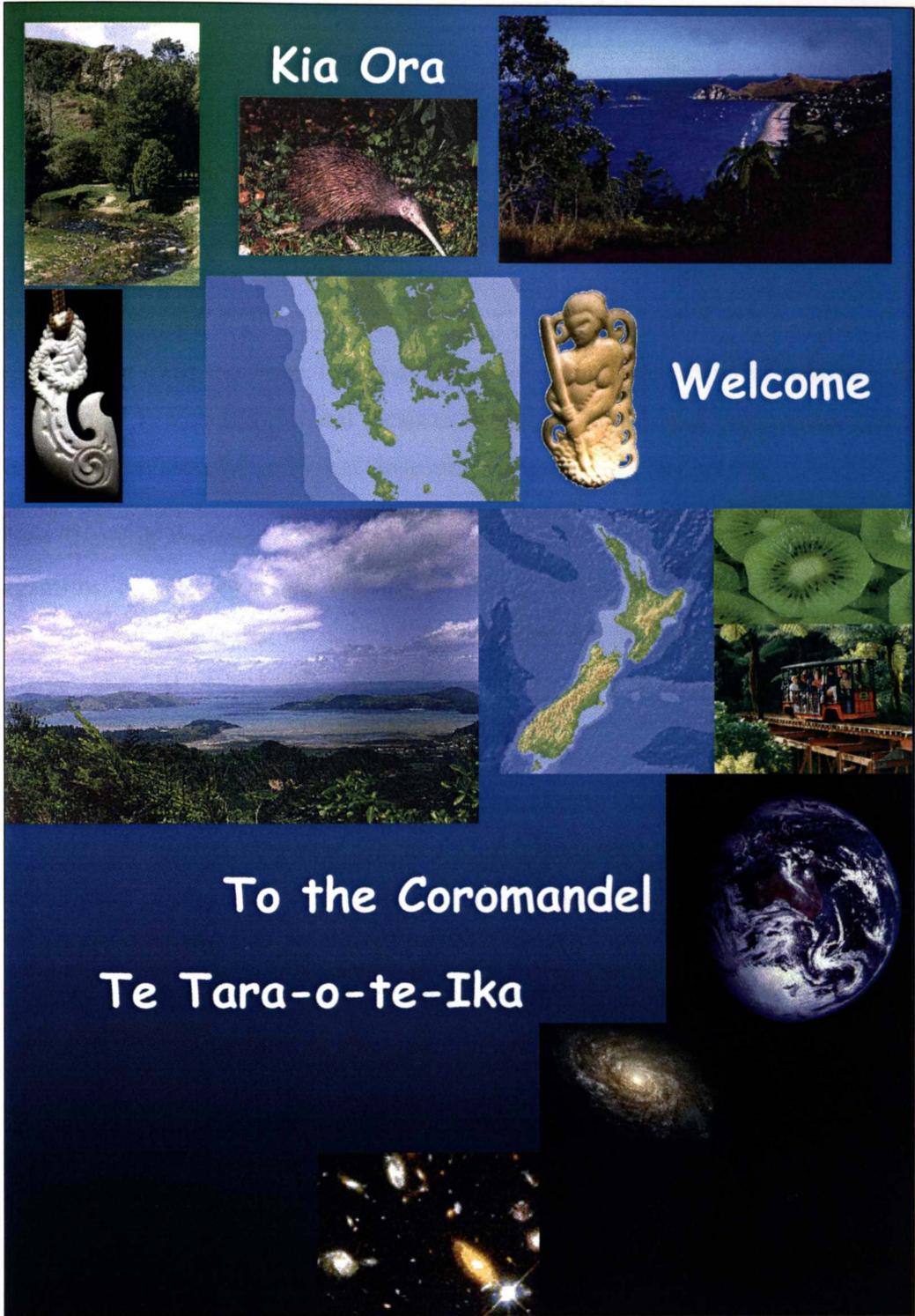


Figure 1 Frontispiece: Destination Coromandel

(Images from Williams *et al.* 1995; Netlist 1997; Hubble Heritage Team *et al.* 1999; Moir and Slayden 2000; Fox *et al.* 2001; Bartley Internet and Graphics n.d.-a; d; Centers for Disease Control and Prevention (CDC) n.d.; Cochrane and Helms n.d.; Hemana n.d.; Live India Internet Services and Chopra n.d.)



Destination Coromandel

I'm saying the universe is a unity, our minds are one mind, everything is interlocked with everything else. [...] It's one uni-verse (Turner, cited in Watkin 2001, p. B5).

The stars, Earth, stones, life of all kinds, form a whole in relation to each other and so close is this relationship that we cannot understand a stone without some understanding of the great sun (Montessori, cited in Suzuki and McConnell 1997, p. 12).

The pictorial assemblage of the frontispiece (Figure 1) symbolises the complexity of reality and of (our) existence. It depicts place and space of this thesis by reflecting the Coromandel Peninsula's physical location as well as the intrinsic interconnectedness and interdependence of ecological environments and cultural landscapes.

From the dark vastness of the universe, the 'cosmic womb' of evolving stars and organisms, a planetary system orbiting an average star is located in one of the spiral arms of its birthplace that we call 'our' home galaxy, the Milky Way. The solar system emerges in midst of hundreds of billions of other suns and contains the blue planet Earth.

New Zealand, or *Aotearoa*¹ (Land of the Long White Cloud) in the South Pacific Ocean, is but one startling example of the lush green canopy covering large areas of the terrestrial continents, produced by an abundance and diversity of life forms. Photos capture the interplay of physical and biological processes, evolving landforms and dynamic weather patterns, as well as fauna, flora and human activities.

Two worldviews that are present in the Coromandel, *kaupapa Māori*² and the modern Western scientific paradigm are depicted metaphorically. They are symbolised in the different cartographic representations of the region and the country, as well as in typical (eco)tourism activities. The *Manaia* and the *Matau*³ represent carving as a

¹ Also *Te Ika-a-Māui*; originally only the North Island

² Māori cosmology or cosmogony (Tapine and New Zealand Council for Educational Research 2000)

³ *Manaia* are the guardians, or keepers of spiritual energy. *Matau* is the fishhook (Kay and Kay 2000).

cultural and spiritual heritage experience of Māoridom, while an image of the 'Driving Creek Railway' venture exemplifies Nature-based ecotourism in the Coromandel.

Table of Contents

Intellectual Ownership	iii
Abstract	v
Technical Aspects	ix
Dedication	xi
Acknowledgements	xiii
Destination Coromandel	xvii
Table of Contents	xix
<i>Part I</i>	<i>xxiii</i>
<i>Prefatory Sections</i>	<i>xxiii</i>
List of Figures	xxv
List of Tables	xxvii
List of Abbreviations and Acronyms	xxix
Prologue	xxxiii
<i>Part II</i>	<i>1</i>
<i>The Reference Frame</i>	<i>1</i>
Chapter One	3
The Scope of the Challenge	3
1.1 A Brief Geography of the Coromandel Peninsula	3
1.2 Structure of the Thesis	9
1.3 The Conviction of Uncertainty	13
1.3.1 Knowledge: The Human Quest for Explanatory Theory	16
1.3.2 Bootstrapping, Complementarity and Holism	20
1.3.3 Asking the Right Questions	21
1.4 The Research Context	22
1.4.1 The Research Problem	22
1.4.2 Abstraction, Comprehension and the Human Barrier	23
1.4.3 Research Goals and Objectives	26
1.4.4 Research Statement: Overview of the Proposed Research	30
1.4.5 Research Focus: Explicit Research Questions	31
1.5 Holism – Philosophical Context and Underpinnings	33
1.5.1 Holism from a Metaphysical and Ontological Perspective	34
1.5.2 Holism from an Epistemological Perspective	38
1.5.3 Paradigms of Reasoning and Theories of Knowledge	39
1.6 The Systemic Perspective: A <i>Weltanschauung</i> and its Limitations	42
1.7 The Philosophical Context of Chaoplexity	45

1.8	Bootstrapping Human Nature and Ethics	46
1.8.1	The Free Will Problem	46
1.8.2	Whose Morals?	50
1.9	Hypotheses	52
<i>Part III</i>		55
<i>The Theoretical and Methodological Framework</i>		55
Chapter Two		57
Information Synopsis		57
2.1	The Emergence of Systems Thinking in Tourism Research	59
2.2	The Chaoplexity Paradigm in Tourism Research	67
2.3	The Manifolds of Sustainable (Tourism) Development	71
2.3.1	The Moral and Spiritual Roots	72
2.3.2	The Intellectual Roots	80
2.3.3	Conceptualising Sustainable Tourism Development	88
2.4	Theory and Practice of Ecotourism	95
2.4.1	Debated Meanings: Ecotourism and the Ecotourist	96
2.4.2	Conceptual Dimensions	104
2.4.3	Ecotourism Research in New Zealand	107
Chapter Three		117
Methodological Holism		117
3.1	The Philosophical, Ideological and Theoretical Framework	118
3.1.1	Underlying Assumptions and Principles	118
3.1.2	The Conceptual Framework	123
3.1.3	The Logical Framework	124
3.2	Generating Data	129
3.2.1	The Practical Framework	131
3.2.2	The Case Study: Linking Theory and Practice	133
3.2.3	The Social Survey and Ethnographic Inquiries	135
3.2.4	The Fieldwork in Hindsight	148
3.3	Making Sense of the Data	154
3.3.1	Symbolic Interactionism	154
3.3.2	Phenomenological Reflection	156
3.3.3	Interpreting Processes, Reconstructing Associations and Capturing Networks	157
3.3.4	Deconstructing Layers of Meaning and Revealing Chaos	158
3.3.5	Reconciling Contradictions and Inconsistencies	162
3.3.6	The Quintessence of Methodological Holism: Modelling Reality and Truth as Relative Concepts	165
<i>Part IV</i>		167
<i>Applied Research: The Design of the System Model</i>		167
Chapter Four		169

Conceptualising the Model’s Configuration	169
4.1 Generative Mechanisms in Model-Building	169
4.1.1 The Coupling of Realities	171
4.1.2 The System’s Reality	171
4.2 The Reference Frame: Conceptualising the Model Design	173
4.2.1 The Functional System: Differentiation and System Hierarchies	175
4.2.2 Methodological Scaling	177
4.2.3 Simplicity and Complexity	179
4.3 The Spatiotemporal System: System Dimensions	180
4.3.1 Phase–Space and Attractors	183
4.4 The Interactive System	186
4.4.1 Linear System Behaviour	187
4.4.2 Non-linear System Behaviour	188
4.4.3 Information Transfer and Non-Communicative Effects	192
4.5 Practical Limitations and Ethical Considerations	194
 Chapter Five	 197
Macro Scaling: The Totality of the Environment	197
5.1 The Operating Platform	199
5.2 Conceptual Patterns	206
5.2.1 Ecotourism	208
5.2.2 Sustainable Ecotourism Development	217
5.3 Boundary Patterns	226
5.3.1 Structural and Functional Boundary Patterns	227
5.3.2 Spatiotemporal Flows: Vanishing Borders	237
5.3.3 Perspectival and Positional Inconsistencies: Chiasmata and Lead–Lag Models	241
5.3.4 Hidden Complexities	246
5.4 Emergent Features: Dependency and Autonomy	248
5.4.1 Autonomous Behaviour and Non-Communicative Effects	250
5.4.2 Autopoiesis: Self-Maintenance and Self-Regulation	252
5.5 Relative Robustness	255
5.5.1 Sensitivity and Flexibility	255
5.5.2 Relaxation Period	257
5.6 The Optimised Macro Scale Version: Coordination under Uncertainty	258
 Chapter Six	 261
Meso Scaling: Network Patterns of Stakeholder Groups	261
6.1 The Network Matrix	264
6.2 Ecotourists: Characteristics and Behavioural Patterns	266
6.2.1 The ‘Budget’ Ecotourist	268
6.2.2 The ‘Luxury’ Ecotourist	285
6.2.3 An Analysis of Ecotourists’ Impacts on the Market’s Development	287
6.2.4 Ecotourists and SETD: Ideals versus Practice	291

6.2.5	Room for Improvements	296
6.3	The 'Eco' Industry: Trapped between Ecological Visions and Economic Reality	297
6.4	The Configuration and Dynamics of Power Relationships in Tourism Politics	308
6.4.1	The Marginalisation of Small-Scale Operators	310
6.4.2	Networking amongst Well-Established Operators	322
6.4.3	Tourism Coromandel: The 'Hub' of Tourism Politics	325
6.4.4	Māori and Ecotourism	333
6.4.5	Private Landowners: Initiatives Impeded by Bureaucracy	339
6.4.6	The Department of Conservation: A Special Case	340
6.5	Summing It Up	349
Chapter Seven		353
Micro Scaling: The Level of the Individual		353
7.1	Differential Impacts of Individuals	357
7.2	Predictability Patterns	361
7.3	Potential Enhancements?	366
7.4	Linking the Models	369
7.4.1	Common Denominators	369
7.4.2	Fractal Dimensions	371
Part V		373
Research Synthesis		373
Chapter Eight		375
Evaluation and Recommendations		375
8.1	Research Evaluation	375
8.1.1	Theoretical Validity	376
8.1.2	Practical Validity	381
8.2	Key Indicators of Sustainable Ecotourism Development	385
8.2.1	Revisiting Ecotourism and the Ecotourist	389
8.2.2	Preconditions for Sustainable Tourism Development	394
8.2.3	The Nature, Potential and Position of EPIs	397
8.2.4	Systemic Indices of Environmental Performance	403
8.3	Recommendations for Future Research	414
8.3.1	A Complex of Philosophical Questions	415
8.3.2	Theoretical and Methodological Pursuits	417
8.3.3	Practical Follow-ups	418
Part VI		421
Supplementary Sections		421
Appendices		423
Reference List		451

PART I

PREFATORY SECTIONS



List of Figures

<i>Number</i>		<i>Page</i>
Figure 1	Frontispiece: Destination Coromandel	xv
Figure 2	The Coromandel Peninsula as a holiday destination	4
Figure 3	Tourism as a triangular relationship between individuals, society and the natural environment	24
Figure 4	Tourism as a complex phenomenon	25
Figure 5	The formulation of questions within methodological holism	38
Figure 6	Complementary modern Western scientific approaches to reality	44
Figure 7	Key themes and <i>key words</i>	58
Figure 8	The roots of sustainable (tourism) development	92
Figure 9	Conceptual dimensions of ecotourism	106
Figure 10	Interlinked practical research approaches	131
Figure 11	Encoding and decoding data	156
Figure 12	Integrative modelling of qualitative data: An iterative cycle	161
Figure 13	Conceptual modelling	170
Figure 14	The path to the system's reality	173
Figure 15	The process of rational abstraction	174
Figure 16	Systemic categories	177
Figure 17	Methodological scaling and coarse graining	178
Figure 18	System dimensions	181
Figure 19	System behaviour	187
Figure 20	Periodically shifting attitudes towards tourism development	205
Figure 21	Conceptual patterns of ecotourism's contribution towards sustainable tourism development	216
Figure 22	Positioning of paradigmatic approaches to SETD in the Coromandel	225
Figure 23	General boundary patterns	227
Figure 24	Ecotourism specific boundary patterns	227
Figure 25	Ecotourism as an emerging phenomenon	230
Figure 26	The main system structures	231
Figure 27	Spatiotemporal flows: Vanishing borders	240

<i>Number</i>	<i>Page</i>
Figure 28 <i>Chiasmata</i> and lead–lag models	242
Figure 29 Theory and practice of ecotourism in a lead–lag model	245
Figure 30 The ecotourism phenomenon: Main overlaps between spatiotemporal dimensions, operating platforms and network nodes in a composite system model at the macro scale level	265
Figure 31 The ‘budget’ ecotourist’s information network	278
Figure 32 Booking chances for small-scale ecotourism operators	281
Figure 33 Predictability patterns of booking numbers	283
Figure 34 The market position of ecotourism operators in a tourist attraction system	290
Figure 35 Shifting responses	296
Figure 36 The ecotourism operators’ perception of a tourism marketing network	304
Figure 37 The opportunity spectrum and its influence on the ecotourism supply	305
Figure 38 The operators’ perception of their customers	308
Figure 39 The vicious circle of market failure	315
Figure 40 Networking as a possibility to create a positive cycle	315
Figure 41 The ‘extremes’: Small-scale operators meeting and failing the market	316
Figure 42 The continuous success story of a small-scale ecotourism venture	319
Figure 43 The power division within Tourism Coromandel	327
Figure 44 DoC’s involvement in ecotourism: The major links	341
Figure 45 The individual’s influence on the system’s state	356
Figure 46 The reciprocity of differential impacts	358
Figure 47 Predictability patterns in a human–activity system	366
Figure 48 Designing, using and probing EPIs	388

List of Tables

<i>Number</i>		<i>Page</i>
Table 1	'Pure' sustainable development paradigms	95
Table 2	The framework of methodological holism	128
Table 3	Data sources of sampling frames	142
Table 4	Iwi Affiliation of people of New Zealand Māori descent in the Coromandel	144
Table 5	Visitors in the Coromandel	147
Table 6	Visitors in the Coromandel	148
Table 7	Key to Figure 30	265
Table 8	Operators' perceptions of themselves and of their relationships within the market	309
Table 9	A Western interpretation of Māori involvement in ecotourism	335
Table 10	Preconditions for sustainable (eco)tourism development	394
Table 11	Markers: The first step in the design phase of EPIs	399
Table 12	Orientators: The positioning of EPIs	401
Table 13	Systemic indices and their paradigmatic orientation	405
Table 14	Flowchart of research goals and objectives	444



List of Abbreviations and Acronyms

2020	Towards 2020: A Strategic Plan for Tourism in the Coromandel over the Next Generation
309	A narrow and winding provincial state highway, connecting Coromandel Town on the West Coast with Whitianga on the East Coast
ADAC	The German equivalent of the New Zealand Automobile Association (AA)
AIC	Algorithmic Information Content
ANT	Actor–Network Theory
ARC	Auckland Regional Council
ATON	Australian Tourism Operators Network
CAD	Computer Aided Design
CBA	Cost–Benefit Analysis
CEO	Chief Executive Officer
CIA	Cultural Impact Assessment; also Community Impact Analysis
CIE	Community Impact Evaluation
D.C.R.	Driving Creek Railway & Potteries
DoC	(Waikato Conservancy of the) New Zealand Department of Conservation, Te Papa Atawhai
EAA	Ecotourism Association of Australia
EAC	Environmental Assimilation Capacity
EPR	(1) Einstein-Podolsky-Rosen; (2) Environmental Performance Review
EPI	Environmental Performance Indicator
ESDT	Ecologically Sustainable Development of Tourism

List of Abbreviations and Acronyms

EW	Environment Waikato
FIT	Free and Independent Traveller
FRST	Foundation for Research, Science and Technology Tuāpapa Rangahau Pūtaiao
GDP	Gross Domestic Product
HO theorem	Heckscher–Ohlin theorem
HREC	Human Research Ethics Committee
IIPT	International Institute for Peace through Tourism
IYE	International Year of Ecotourism
MEPI	Māori Environmental Performance Indicator
NEAP	Nature and Ecotourism Accreditation Program
NGO	Nongovernmental Organisation
NTO	National Tourism Organisation
NZE	New Zealand Encounters
NZITT	New Zealand Institute of Travel and Tourism
NZTB	New Zealand Tourism Board
NZTS	New Zealand Tourism Strategy 2010
OECD	Organisation for Economic Co-operation and Development
OTSp	Office for Tourism and Sport
PAR	Participatory Action Research
PRA	Participatory Rural Appraisal
PPP	Public–Private Partnership
QEII	Queen Elizabeth II

List of Abbreviations and Acronyms

RMA	Resource Management Act
RRA	Rapid Rural Appraisal
RTO	Regional Tourism Organisation
SCP	Structure–Conduct–Performance paradigm
SD	Sustainable Development
SDIC	Sensitive Dependence on Initial Conditions (Butterfly Effect)
SETD	Sustainable Ecotourism Development
SFI	Santa Fe Institute
SPO	Strategic Portfolio Outline
SPSS	Statistical Package for the Social Sciences
SSM	Soft Systems Methodology
TA	Territorial Authority
TC	Regional Tourism Organisation Tourism Coromandel
TCDC	Thames–Coromandel District Council
TIA (also NZTIA, or TIANZ)	Tourism Industry Association New Zealand
TLA	Territorial Local Authority
TMN	Tourism Marketing Network
TNZ	Tourism New Zealand
TRCNZ	Tourism Research Council NZ
TSA	Tourism Satellite Account
TSG	Tourism Strategy Group
VIN	Visitor Information Network
VFR	Visiting Friends and Relatives

WTO

World Tourism Organization

Prologue

It is in exchanging the gift of the earth that you shall find abundance and be satisfied. Yet unless the exchange be in love and kindly justice, it will lead some to greed and others to hunger (Gibran, cited in Chiras 1992, p. 102).

I belong to a generation of geographers that is experiencing a ‘planet in crisis’ (Kuhn 1970; Capra 1986). While travelling, living and working in different parts of the world I encountered social injustice, economic inequity and poverty, civil wars and the exploitation of individuals and communities. Every day I experience and contribute, on a human timescale, to the exhaustion of non-renewable fossil fuels and mineral deposits, the overuse of renewable resources and the pollution of the natural environment. All of these activities are conspicuous in the deterioration of ecosystems and depletion of natural resources. The impacts of our treatment on the environment have resulted in a global debate about the conduct of life. The question we (have to) ask ourselves is not new to human contemplation and can be traced back to Greek philosophers:

We are discussing no small matter, but how we ought to live (Socrates, cited in Pojman 1998, p. 4).

Living in a virtually closed system (Raven *et al.* 1998, p. v), the maintenance of life, and human survival in particular, depend on environmental sustainability. My thinking about the destruction of our resource bases and possible solutions to counterbalance the rapidly advancing degradation of environments was influenced by Capra’s (1982; 1986; 1992a; 1992b; 1997) and Capra and Pauli’s (1995) writings. I agree with Capra (1997, p. 4) who argues that the problems we have created and are faced with at present originate in a ‘crisis of perception’.

In recent times the discussion, firmly anchored in the neo-Malthusian paradigm of exhaustible resources, initially focused on the temporal dimension rather than on practical solutions. A framework of Earth’s carrying capacity was sought by demanding viable and lasting answers that allowed for continuous growth, while concurrently creating and maintaining sustainable environments and communities on a long-term

basis (Brown and Worldwatch Institute 1981; World Commission on Environment and Development (WCED) 1987).

Various authors content that a resolution to overcome the scarcity of resources, in the form of appropriate and applicable concepts, requires a profound “... expansion of our perceptions and ways of thinking, ...” (Capra 1997, p. 9) about conduct and practice of life, as well as a radical revision and change of our beliefs and values (Næss 1973; Devall and Session 1985; Næss 1985; Næss and Rothenberg 1989; Gore 1993; Capra 1997, p. 3; Suzuki and McConnell 1997; Suzuki 1998). The prerequisites to the development of satisfying and feasible concepts thus encompass a new consciousness, i.e. a transformation of standards and an alteration of environmental ethics (Rifkin 1991; Capra 1997). Earlier proposals to replace the orthodox ‘growth economy’ dogma with a stationary steady-state, or ‘zero growth’ economy (Daly 1971a; b; c; 1973; 1977; 1991) and more socio-economic equity (Daily and Ehrlich 1995), have now become more popular. These concepts identify ‘sustainable growth’ as an impossible theorem (Daly and Townsend 1993), signalling a possible and necessary change in our (environmental) thinking.

No matter whether changes come about as one of Kuhn’s (1970; 1972) abrupt ‘paradigm shifts’ or as a gradual and progressive ‘problem shift’ (Lakatos and Musgrave 1970; Lakatos 1978), I believe that ‘quick-fix’ solutions treat the symptoms rather than the cause. They cannot compensate for current destructive tendencies that are steadily diminishing exhaustible assets, endangering the cultural integrity of communities and peoples, and reducing the biological diversity.

I am of the opinion that the accomplishment of the necessary changes in our mode of thinking, feeling, willing (i.e. the intention to act) and acting depends to a large extent on the realisation of de Saint-Exupéry’s⁴ statement that “You can only understand the world according to what you have experienced.” The general aim is to reconcile tensions that exist between interrelated, yet often contrary goals, by answering the central question “..., how do people want to live and [subsequently] how are they to

⁴ Antoine Marie Roger de Saint-Exupéry (1900-1944): From an unknown source

arrange that they live that way” (Lewontin 1991, p. 119). Flexibility to accommodate a spectrum of viewpoints is essential, but is not to be confused with ambiguity, which can only provide cover for a failed consensus (Stone 1996). The conceptualisation of ideas and terms requires positive and unequivocal definitions. The answers we supply will shape the fate of the biosphere (Weiner 1990; Lewontin 1991, p. 119; Weizsäcker *et al.* 1997). Preconditions essential to sustainable societies have been recommended (Robèrt 1991, cited in Suzuki and McConnell 1997, p. 231), and these can be used as catalysts to start the debate.

I argue that tourism and travelling offer Exupéry’s ‘experience’, and have the potential to contribute to the debate by changing our thinking about and our behaviour in the world. Dann (1988) has outlined the classical arguments against tourism, but tourism can also enhance our well-being and bridge the gap between worlds, both in a physical and a psychological sense (Powell 1978, p. 3). From a tourist’s perspective a journey can have recreational as well as educational value, and broaden one’s horizon. Albeit tourism can reinforce ‘insensitive gazing’, through meeting the ‘Other’ it can also help create cultural sensitivity by overcoming biased views and prejudices towards different, alternative value and belief systems, customs and traditions. Travelling can generate, or restore awe for the beauty of natural scenery, and recognition of the significance natural landscapes (which include geological features and topography as well as fauna and flora) have for our well-being.

With this research I hope to make a small contribution to the goal of maintaining, or re-establishing a sustainable ecological, socio-economic and cultural environment at a local and regional scale. I acknowledge that like any research, the evaluation of current theories, the methodology pursued, and the conjectures propounded, as well as the analysis and interpretation of research data are not and cannot be neutral and value-free. It is argued that complete ‘disengagement’ is impossible. My own paradigm and *Weltanschauung*⁵, embedded in the current *Zeitgeist*⁶, will inevitably exert an influence on

⁵ German for ‘worldview’

⁶ German for ‘the trend and thought in a period’

the conceptual framework, as well as on the procedure and outcome of the research (Capra 1997, p. 11).

PART II

THE REFERENCE FRAME



Chapter One

The Scope of the Challenge

The only laws of matter are those, which our minds must fabricate, and the only laws of mind are fabricated for it by matter (Maxwell, cited in Johnson 1997, p. 9).

1.1 A Brief Geography of the Coromandel Peninsula

While the phenomenon of ecotourism and the idea, or concept of sustainable development as the thematic foci of the thesis transcend physical boundaries, primary research data were collected in a regional social survey with its spatial focus on the Coromandel Peninsula⁷ in New Zealand/Aotearoa. My academic background in tourism, my experience as tourism professional, my interest in cultural and Nature experiences, as well as my passion for travelling are the discriminating factors in choosing ecotourism and sustainable development as the subject areas for scientific investigation. While ecotourism and sustainable development (SD), as the fields of inquiry, are selected for personal reasons, the motives for obtaining the empirical data in the Coromandel are of scientific, pragmatic and private nature. This opening section introduces the physical place and space of my research ‘in a nutshell’. It describes the location, and outlines some of the research related characteristics of the geographical region that serves as a case study.

The Coromandel is viewed as a region that bears the attributes necessary to test the hypotheses underlying this research. The Peninsula is located to the south-east of Auckland in the North Island of New Zealand. A tourism brochure describes it as “... a scenic finger of land reaching into the sea, and one of New Zealand’s best kept secrets” (Jason Publishing 1998). Figure 2 depicts the Coromandel from the ‘official’ tourism (marketing) perspective of the Regional Tourism Organisation (RTO) Tourism Coromandel.

⁷ The Coromandel Peninsula is referred to as the ‘Coromandel’ or the ‘Peninsula’.

Figure 2 The Coromandel Peninsula as a holiday destination (Tourism Coromandel 2001a)



The map is published online on several (interlinked) websites and depicts the Coromandel as a holiday destination. It provides a subjective snapshot of one ‘reality’. For the purpose of this study the map serves as a ‘reader’s guideline’ only. It positions the empirical component of my study in space, and depicts the physical boundaries of the major part of my fieldwork. The photos framing the map are selective ‘still visions’ of ever-changing places (Picard 2002, email), representing particular aspects of the Coromandel visually.

For the most part, the Coromandel’s contemporary spatial boundaries are easy to define in accordance with the Peninsula’s coastline. Like the Coromandel’s geographic boundaries, local government boundaries, such as the Territorial Local Authority (TLA) boundary of the Thames–Coromandel District Council (TCDC), or the extended political boundaries of the Coromandel Electorate and the Hauraki Māori Electorate (Kirkpatrick 1999, p. 35), can also be easily identified. Though administrative divisions do not necessarily coincide, each one of them is relatively fixed in space and time⁸. However, the conceptualisation of ecotourism and sustainable ecotourism development in the Coromandel is not confined to the physical boundaries of the Peninsula. Though the ‘target zone’ is the Coromandel, some of the fieldwork is conducted outside the Peninsula’s physical and political boundaries. Modelling the fluidity of boundary patterns (*Chapter Five*, section 5.3), as well as the perceived existence of multiple realities in the Coromandel, are some of the tasks that this thesis endeavours to accomplish.

According to Cope (2000) “The oldest known name for the Coromandel Peninsula is *Te Paeroa A Toi*’⁹ [emphasis added]”, or *Te Paeroa-o-Toitehuatahi* (McKinnon 1998, p. 19). A better-known traditional name for the Coromandel is *Te Tara-o-te-Ika (-a-Māui)* (ibid., pp. 17, 19; Greensill 2000, pers. comm.). The original names link the region to ancient Polynesian voyagers. It is, however, difficult to determine when the first people arrived at the shores of the Peninsula (McKinnon 1998, p. 11). Both the exact point in time as

⁸ Local Authority boundaries were restructured in 1989 (Kirkpatrick 1999, p. 35).

⁹ The long range of Toi (Cope 2000)

well as the chronology of pre-European settlement are debated (King and Hempstead 2002). Māori origin is also controversial (Dunlop 1998), but in Māori history and mythology the first settlement of tribal Māori in the Coromandel is often attributed to the landing of *Te Arawa*, one of the presumed ancestral *waka* (canoes) arriving from *Hawaiki*¹⁰ (McKinnon 1998, p. 17). Others argue that human activity in New Zealand in general (e.g. Pacific Island Travel 1999; King and Hempstead 2002; Davis n.d.; Doig n.d.), and in the Coromandel in particular (Cope 2000), can be traced back even further to nomads known as Moa hunters, or Archaic Māori. The Peninsula received its present name in 1830 from the crew members of a British Royal Navy vessel collecting Kauri spars (ibid.).

For today's inhabitants and visitors alike, the Peninsula is a unique and almost 'magical' place to be (New Zealand Travel & Tourism (nztl.com) 2001). Its location is characterised by relative isolation yet closeness to urban centres, and easy accessibility:

Although only two hours drive from Auckland, and the first major destination on the Pacific Coast Touring Route, The Coromandel feels like it's a world away (New Zealand Travel & Tourism (nztl.com) 2001).

With its 'violent' geological past (Homer *et al.* 1998), the Coromandel features stunning natural scenery, summed up in the subtitle of one brochure as "*a scenic gem off the beaten track*" (Interland Tours 1999). A rugged western coastline lined with Pohutukawa trees, sweeping sandy beaches on the eastern side, and offshore islands frame bush-clad jagged outcrops of a vanishing volcanic mountain range. The journey to valley retreats and gorges, sheltered bays and tracts of state forest parks resplendent with native Kauri trees, on narrow, windy and often unsealed roads, is an adventure by itself. With graded walking and mountain biking tracks, waterfalls and swimming holes, marine reserves and thermally active stretches of beach, the Coromandel offers recreational opportunities for a wide variety of land- and water-based outdoor activities and experiences (Jason Publishing 1999; New Zealand Travel & Tourism (nztl.com) 2001). The visible historic and cultural heritage of the Coromandel exists in the form of middens along beaches and around estuaries (Cope 2000), grassy remains of Māori

¹⁰ (1) Māori place of origin, the physical location is debated; (2) A place on a spiritual plane

pā¹¹, old gold quarries and mining shafts, as well as equipment, logging dams and the historic displays in local museums (Jason Publishing 1999).

The previous (static) ‘snapshot’ portrays the Peninsula as a place almost ‘fixed in space and time’. Nowadays a few larger townships and many smaller communities are scattered along the coastlines, with Thames in the south-west being the largest town on the Peninsula. Following seasonal patterns of tourism development, the temporary population of all townships fluctuates. The Peninsula’s permanent and semi-permanent population consists of a diverse range of people with varied socio-cultural and economic backgrounds (New Zealand Travel & Tourism (nztl.com) 2001), their idiosyncrasies often distinguished by a pronounced individualism (Archibald and Board of Tourism Coromandel 1999, p. 7) and ‘alternative’ outlook and way of life. The region has attracted a variety of artists and craftspeople who now call the Peninsula their home (Jason Publishing 1999; New Zealand Travel & Tourism (nztl.com) 2001; Tourism Coromandel 2001b). Local communities are renowned for their wares, and tourists can not only purchase the products but also engage in traditional crafts like pottery and carving. This image of the Coromandel’s permanent resident population is complemented by regular visits of temporary residents, a constant flow of seasonal domestic and overseas visitors, and a flux in tourism development. Tourism dynamics thus add ‘an element of change’ to the description and representation of the Coromandel, with visitors contributing to a colourful and vibrant ambience. The ‘international flair’ is reflected in the almost infinite number of variations encountered, when questioned on the implied notions of ecotourism and sustainable tourism development.

Depending on the data source (public statistics, travel guide books, operators), the terminology for tourist seasons varies slightly, but the difference in time spans that define tourist seasons in the Coromandel is negligible. The main tourist season falls in the warmer months of the year. Due to New Zealand’s geographical location in the southern hemisphere, these extend from November through to April. The peak, or

¹¹ Fortified villages or strongholds

high season, i.e. the busiest and most expensive time to travel in the Coromandel, coincides with New Zealand's summer school holidays, and lasts from (mid-) December through to the end of January. With the end of the school year visitor and temporary resident numbers swell. They reach their maximum on Boxing Day (26th December) and slowly decrease after New Year's Eve (Archibald and Board of Tourism Coromandel 1999). January and February are commonly recommended as the best beach-weather months, and attract the highest number of domestic and international visitors. Tourist centres can become crowded, and visitors are advised to book accommodation in advance during the busy season.

To a lesser extent, domestic visitors and holiday bach¹² owners create additional peaks over Easter in April, Queen's Birthday weekend early June, during Labour Day weekend in late October, and the mid-year school holidays in June/July (Archibald and Board of Tourism Coromandel 1999; Lonely Planet Publications 2002). On 'ordinary' weekends day-trippers from Auckland also boost tourist numbers and generate additional revenue.

Prices and visitor numbers as well as the temperature drop during the low season in the colder and wetter months of the year. Off-season 'specials' are available from May through to October. The spring (October – November) and summer/autumn (February – March) shoulder seasons are often recommended as the best times of the year to explore and experience the Coromandel (e.g. Turner n.d.), with the Term One school holidays in April, and the Term Three school holidays in late September generating some additional business. The temperatures in December and March are usually pleasantly warm – and can be even hot at times. November and April are slightly cooler, tourist centres are noticeably quieter and accommodation is easier to find (Lonely Planet Publications 2002).

Personally, I had a wonderful time cycling and camping around the Peninsula during the winter months of July and August. Temperatures can drop below zero degrees Celsius and it might rain for a week, but an 'empty' Peninsula with mist covering the

¹² New Zealand term for holiday home, or cottage

lush green canopy of the mountain ranges and hardly any traffic on the coastal roads compensates the cyclist for any climatic inconveniences.

At the outset of this study it is presumed that the Coromandel possesses potential for sustainable ecotourism development (SETD). I argue, however, that at the other end of the spectrum existing possibilities for development also make room for abuse, allowing the terms ecotourism and sustainable development to be misinterpreted by focusing on the financial opportunities. If tourism is hailed as an economic panacea, the idea of sustainable development (SD) may be applied with the intention of enrichment in a purely materialistic sense. Ecotourism is not immune to this trend. “Ecotravel, ecolodges, and just generally being “eco” [...] [can] become popular tourism sales pitches” (Merg 1999b). The financial emphasis is reflected in the opening paragraph of an article that defines ecotourism in the ‘Third World’ context:

Ecotourism is an activity that provides financial and qualitative revenues. It is a business alternative, a lucrative activity capable of substituting for agriculture and exploitation of wood; the revenue will come with lodging, feeding, services and entrance to natural attractions (Justiniano 1998a; b, p. 52).

Before addressing in the next but one section the general precepts of research strategies that are employed to clarify the meaning(s) of both terms (i.e. of ecotourism and sustainable development), the following section provides a structural outline of the thesis by summarising the content of each chapter.

1.2 Structure of the Thesis

The first chapter depicts the reference frame of the thesis. Limitations to answers and solutions with regards to certainty and knowledge are discussed in section 1.3, supported by examples from philosophy, the natural sciences and linguistics. The next section (1.4) outlines the ‘scope of the challenge’ by providing an introduction to the research problem. The research context is reflected in the statement of main goals and objectives, an account of proposed research strategies, and the delineation of explicit research questions.

Section 1.5 then deals with the ontological, epistemological and ideological framework of the thesis. Contouring the philosophical context of holism, the underpinnings of methodological holism are discussed at a metaphysical, ontological and epistemological level, differentiating between logocentric paradigms of reasoning and theories of knowledge. Fundamental ideas in positivism and critical (or transcendental) realism are considered as an open door for the reconciliation of ethnoscience¹³ and modern science. In section 1.6 the concept of ‘systems thinking’ is introduced as a philosophical perspective of ‘reality’, and as a tool to design models of ‘real world’ phenomena. Section 1.7 presents chaoplexity¹⁴ as a special case within ‘systems thinking’. Utilising ideas from the chaos and complexity paradigm is suggested as a conceptual treatment of *deterministic* non-linear system dynamics. Possibilities and limitations of employing the idea of chaos and complexity to describe non-linear system dynamics in association with the human dimension are précised.

Attempting to identify common ground for a code of conduct in ecotourism and SETD, the following section (1.8) focuses on preconceptions in regard to human nature, and the debate of absolutism versus relativism in moral philosophy and foundational ethical theory. The underlying hypotheses of this thesis are then summarised, stating the anticipated potential and limitations with regards to the theoretical conceptualisation and practical operationalisation of the system design and modelling process. This last section (1.9) concludes the first chapter with the specification of presumed main system characteristics, and the expected intrinsic nature of the research results.

The information synopsis in *Chapter Two* critiques the theoretical framework by identifying and reviewing key research findings, and by isolating imputed errors in the academic (background) literature. The comparative analysis of the scholarly debate in ‘systems thinking’ in tourism research is viewed in a historical and philosophical context, with its focus on the adoption of the chaoplexity paradigm by social scientists

¹³ The term ‘science’ is used in the sense of ‘all forms of organised knowledge’.

¹⁴ A compound term formed by the words chaos and complexity

and tourism researchers in particular. The historic development and current perceptions of paradigms and ideologies of sustainable (tourism) development and ecotourism are evaluated, while concurrently establishing my own position within the theoretical context.

Combining different qualitative research approaches in *Chapter Three*, the conceptual framework of methodological holism is explicated. Subsequently the practical implementation of the data collection and analysis strategy is developed. I use a pluralistic methodological approach in qualitative tourism research to describe and explain the *behaviour* of the system and its subsets, *what* people perceive and *the way*, or *how* they interpret their imaginations. The methodology section focuses on the adaptation of ideas and key elements derived from:

- Inter- and intra-methodological triangulation (Denzin 1989), emphasising a pluralistic approach
- The phenomenological paradigm of reflection, with the focus on the essence of phenomena
- The phenomenographic paradigm of processes, which is utilised to describe and discuss behaviour
- The hermeneutic paradigm of *verstehen*¹⁵, reconstructing associations by emphasising the reciprocity between wholes and parts (Inwood 1995; Norris 1995)
- The ethnographic principle of actor–network theory (ANT), focusing on heterogeneous engineering of connections
- The chaoplexity paradigm of non-linear system dynamics, to identify ‘regularities’, or patterns
- The postmodern and poststructural paradigm of situational context, to deconstruct discursive networks and layers of meaning

¹⁵ German for ‘to understand’; as a phenomenological research method best translated as ‘a sympathetic or empathetic understanding’

The pragmatic part of *Chapter Three* complements the methodological theory by delineating the applied triangulation methods of gathering information (Oppermann 2000), and the tools and techniques used for sampling, filtering and analysing or interpreting data.

In *Chapter Four* the conceptual approach of configuring the model's matrix and nomenclature of categories and hierarchies is explained. The progressive coupling of realities in the system modelling process, the scaling method, as well as the internal differentiation of the model into its spatiotemporal, physical and mental (i.e. cognitive, intuitive and emotional) dimensions are outlined. The discussion includes the discrimination of functional, behavioural and aetiological patterns, as well as the examination of information flow patterns.

While the first four chapters are essentially *descriptive in nature*, the next three chapters are *expository in application* and deal with the modelling process. *Chapters Five to Seven* (re)present the nucleus of the research. The theoretical and conceptual framework of methodological holism in 'systems thinking' is applied to the concrete situation in the Coromandel. Collected data (as well as the absence of information) are analysed by deconstructing, decentring and interpreting their meaning(s). The various captured constructs and interpretations of ecotourism and SETD are subsequently converted into the conceptualisation and design of the system model. Based on the philosophy of critical realism, the model depicts the researcher's 'actual reality' on three different scales: At the system level as a whole, from the perspective of groups of stakeholders, and at the level of the individual. Progressively coupling the scales, two models are created simultaneously: The first reflects the actual *status quo* in the Coromandel, while the second model is a structurally integrated 'optimised generic system model'. The latter one integrates components that have been extricated as essential, or beneficial for ecotourism and SETD. The modelling process is complemented by a calibrating triangulation, which validates the model design on a continuous basis.

Validity and reliability issues of the study, and the interpretation and discussion of results constitute the research synthesis in *Chapter Eight*. In a retrospective analysis the

study's face and content validity are vindicated, and the validity of the theoretical/conceptual approach is defended. The chapter further revisits the methodological integrity of the fieldwork, and evaluates the integrity of conclusions inferred from the research findings. After reviewing the problems of defining ecotourism and ecotourist, the second part of *Chapter Eight* focuses on the design of an environmental performance evaluation model. Within the proposed generic model, the emphasis is on a set of *key indicators* that communicate the degree of sustainable ecotourism development. The thesis concludes with recommendations in respect of future research and decision-making strategies.

1.3 The Conviction of Uncertainty

The implications of an increasing ecological awareness worldwide translate into the 'trendy' global issue of sustainable development. The 'sustainability debate' has reached tourism with the appearance of sustainable tourism development as a concept (e.g. Ing 1995; World Travel & Tourism Council (WTTC) 1995), and with emerging 'new forms' of tourism (e.g. Poon 1993; 1994; Mowforth and Munt 1998, p. 102). Specific goals and principles of sustainable tourism development have been formulated as an action strategy (e.g. Gonzales 1996, appendix A), in the global context in tourism economics (e.g. Sinclair and Stabler 1997, p. 159), as well as with the focus on New Zealand's economy and resources (e.g. Dymond 1997, p. 280; Page and Thorn 1997; 1998). New Zealand's Resource Management Act 1991 (RMA) reflects the 'official' notion that sustainable development is a paramount goal underlying any planning strategies and development processes (New Zealand Ministry of Tourism 1993). However, according to Glazebrook (1998, email) "Widespread acceptance of tourism's potential as a vehicle for sustainable development is often challenged in practice by its failure to enhance local livelihoods."

This thesis focuses on ecotourism as a possible means to achieve sustainable tourism development, and as an alternative to traditional mass tourism (Wearing and Neil 1999, p. 1). It examines ways of identifying key indicators of sustainable ecotourism development (SETD) and developing research and decision-making strategies that can

improve the level of sustainability and increase the degree of sustainable development (SD). Differential perceptions, values and beliefs within a continuum of viewpoints (Adams 2001), ethical standards and ideologies, as well as notions of hierarchical power and control mechanisms in a confederation of dependencies, often lead to contrary interpretations of the implied meaning of ecotourism and SD. Controversies and contrasting interpretations surrounding the ‘new tourism paradigm’ (Gonzales 1996) have proliferated since the early stages of the global debate (e.g. Williams 1988, p. 15; Rees 1989; Ekins 1993). Ideas regarding ‘green politics’ fuel the discussion (Dobson 1990; 1995, p. 5; 2000), and political agendas underlying interpretations and applications of sustainable tourism development are increasingly being recognised and researched. For example Mowforth and Munt (1998) examine *inter alia* the politics of alternative forms of tourism in ‘Third World’ settings.

Researchers in economics (e.g. Pearce *et al.* 1989), in tourism economics (e.g. Sinclair and Stabler 1997, pp. 182-213), and in environmental economics (e.g. Hunter and Green 1995) consent that there is no agreement yet on a conclusive and unambiguous definition of either term. In New Zealand local government responses demonstrate the contested nature of SD in the tourism context within the public sector (e.g. Page and Thorn 1997; 1998). According to Dobson (1995, p. 7, cited in Mowforth and Munt 1998, p. 38), hegemonic positions are the result of ideologies, which ‘map the world in different ways’.

To solve the conundrum of differential interpretations, the emphasis of the study is on a correlative way of thinking by modelling ecotourism and SETD as a system. I endeavour to achieve a holistic perspective (section 1.5) by adopting a systemic, or integrative approach (section 1.6), and by incorporating the idea of chaos and complexity in a human–activity system (section 1.7). In order to compensate for the shortcomings of a supremely abstract ‘specialist’s’ view of reality, which focuses on formal properties of a system in a ‘top-down’ approach, a rather concrete ‘bottom-up’ strategy, proceeding from the angle of sensible qualities (Lévi-Strauss 1968), complements the research design. Both approaches are employed in conjunction to achieve the synergistic effect of brainstorming, or ‘supersum’ thinking (Carr 1992, p.

23). The procedure is expected to unlock unutilised cognitive¹⁶ and emotive¹⁷ potential. The Coromandel in New Zealand, as a venue for ecotourism, serves as a regional case study to verify or refute the underlying conjectures (section 1.9) of this research.

These conjectures constitute the research hypotheses of the thesis. They are corroborated (or falsified) by means of empirical evidence. This is standard procedure within the modern scientific paradigm to advance a new theory, modify a previous version, or reject and replace an old body of knowledge altogether. It is argued that, using the term in a praxiological sense¹⁸, *the* ‘scientific method’ is in fact a methodology, with scientific methods comprising the procedure. Anchored in one particular *Weltanschauung*, Western science is based on assumptions about the very reality the methodology is employed to understand, describe, explain and predict. Sections 1.3.1, 1.3.2 and 1.4.2 present a discourse on “The Limits of Science and the Science of Limits” (Barrow 1999a, subtitle), addressing discoveries and controversies regarding existence, certainty, determinacy, logic, knowledge, objectivity and truth. I argue that the consequences of these findings are of relevance for every researcher investigating a ‘real world’ phenomenon within modern science, and they are of specific significance for this thesis in view of the attempted holistic approach. The answers provided represent the foundation and the constraints of this inquiry. Even though humanity might be able to know what it does not know (*ibid.*, p. 2), the principles governing the knowledge that we do have, are themselves established by applying “... the secure methods of science ...” (Kant, cited in Smith 1972, cited in Checkland 1981, p. 34). Principles and methods are, therefore, not only limited in their scope and applicability, but at the same time “... *self-limiting*” (Barrow 1999a, p. 2). This claim is explored in the following section. The section further provides a discourse on the limitations of the proposed research approach.

¹⁶ Intellectual intelligence is interpreted as cleverness, foresight and versatility, including the abilities of creative and abstract thinking (Goleman 1996).

¹⁷ Emotional intelligence includes self-awareness, impulse control, persistence, zeal and motivation, empathy and social deftness (Goleman 1996).

¹⁸ In the sense of ‘the knowledge of procedure’ (changed after Kotarbiński 1966, cited in Checkland 1981, p. 162)

1.3.1 Knowledge: The Human Quest for Explanatory Theory

We come from a past of conflicting certitudes, be they related to science, ethics or social systems, to a present of considerable questioning, including questioning about the intrinsic possibility of certainties. Perhaps we are witnessing the end of a type of rationality that is no longer appropriate to our time. The accent we call for is one placed on the complex, the temporal and the unstable, which corresponds today to a transdisciplinary movement gaining in vigor. This is not by any means a call to abandon the concept of substantive rationality The project which remains central to both the students of human social science and to the natural scientists is the intelligibility of the world (Gulbenkian Commission 1996, p. 79).

The universe is intractable, but is it ultimately knowable? Neuman's (2000, p. 17) observations suggest that "Science does not, and cannot, provide people with fixed, absolute truth." This section outlines the confinement within which science – and thus this thesis operates. We do not know whether reality exists (Böhme 1993, p. 177). If there is a reality, we do not comprehend its nature¹⁹ (Hawking and Penrose 1997, p. 49; Johnson 1997, p. 149), and the debate over Copernican versus the anthropic principle highlights our ignorance regarding the reason for its existence (Longair 1974; Barrow and Tipler 1996). According to Gödel's incompleteness theorem, which limits the power of logical deduction (Barrow 1992, p. 32), we cannot even be sure that there is the theoretical possibility to ascertain the truth about reality (Horgan 1997, p. 6; Searle 2000, p. 3); and Russell's paradox (Barrow 1999a, p. 20) in set theory undermines the conjecture that rationality exists in mathematics, the "... very citadel of rationality ..." (Searle 2000, p. 3). Heisenberg's *Unschärferelation*²⁰ in the probabilistic interpretation of quantum mechanics suggests that the physical world, at a micro scale, is 'out of focus', or indeterministic; and authors such as Kuhn and Feyerabend claim "... that science itself was infected with arbitrariness and irrationality" (ibid., pp. 3-4). Despite our "... passion for comprehension ..." (Piel 1991, p. 4), human nature itself (also) exerts practical limitations on any attempt to construct a complete and consistent description of reality (Heisenberg 1963, p. 177; Suzuki 1968, p. 239; Capra 1992a, pp. 35, 53; Ditfurth 1993, p. 305; Weinberg 1994, p. 4). Einstein's (cited in Stone and Stone n.d.)

¹⁹ In the natural sciences the currently accepted theory is the 'standard model of reality' (Gribbin 1996, p. 188).

²⁰ The English terms 'uncertainty or indeterminacy principle' are interpretative rather than verbatim translations. The literal meaning of the term is 'out of focus relationship'.

claim sums up the conundrum we might face: “Reality is merely an illusion, albeit a very persistent one.” These (inherent) restrictions and their implications on the research process are discussed further in section 1.4.2.

Aforementioned doctrines challenge those hypotheses that suggest an existence as well as the attainability of complete certainty and accessibility of absolute knowledge, or absolute truths (Checkland 1981, p. xii; Capra 1982, p. 47; Sheldrake 1992; Böhme 1993; Capra 1997, p. 40; Johnson 1997, p. 4; Barrow 1999a):

“science is not an edifice of truth, built stone by stone. It is a landscape painting, never finished ... We can be certain at any one time only that there is more to know”
(Tudge, cited in Watkin 2001, p. B5).

There is no monopoly on knowledge, and fixed knowledge in the social *and* the natural sciences is an *idée fixe* (Flyvbjerg 1993, p. 13). Nothing seems secure, and it is argued that any scientific study of a ‘real world’ phenomenon is based on propositions that have to be regarded as axiomatic at the outset of the investigation (Barrow and Tipler 1996, p. 1). Without attempting to solve the egocentric predicament of the mind–body enigma (Sokolowski 2000, p. 10), the mental–causation question, the problem of qualia (Searle *et al.* 1997), or the mystery of consciousness, it is assumed that contemplation of being, origin, innate qualities and meaning of the universe is based on sensory perceptions and intuition. The state of mind, sentience and awareness, as well as the mode of consciousness (for example alert, intuitive, recollective, imaginative, or judgemental), are seen as influential in the way pure data are perceived and processed by our senses and consciousness. Cognition, sensations and perceptions in the human mind lead to conscious (and unconscious) mental activity. It is argued that the existence of a non-empirical consciousness of self (Keller 1998, p. 14) allows for synthetic inductive *a priori*²¹ judgements about the world, and a categorisation of phenomena into ‘logical functions’, a progression Kant calls transcendental deduction of the categories, or transcendental idealism (Baldner 1995; Randall 1998). However, since the map is not the territory, they can *not* be taken for reality *per se*.

²¹ An *a priori* judgment refers to “... a proposition that can be known to be true or false “without reference to experience” (May 1997, p. 134). This definition effectively restricts the term experience to subsequent empirical sensations or perceptions of the human mind.

The resulting categories and taxonomies (such as three-dimensional Euclidean space and monochronic time as separate entities) are subjective abstractions and simplifications of reality, and constitute the basis for any metaphysical and epistemological inquiry as well as for the system model developed in this thesis. Classifications depend on our mode of thinking, assessing, judging and evaluating our perceptions from a causal, correlative or teleological perspective (Schad 1982, p. 9). Science, or knowledge, is based on these presumptions, and consists of tentative and inexact portrayals, rather than absolute and complete explanations of some properties of entities we call time (Davies 1995; Smolin 1996; Barrow 1999b, pp. 157-181), space, matter (Schrödinger 1991), energy, life (Schrödinger 1944, cited in Davies 1989, p. 93; Margulis and Sagan 1995), soul, spirit and consciousness (Bennett 1997; Searle *et al.* 1997; Sheldrake and Fox 1997, p. 65).

Checkland's (1981, p. 50) assessment sums up the effects of these unknown (and unknowable?) variables on what is sometimes termed 'factual knowledge': "Scientifically acquired knowledge and tested knowledge is not reality, it is knowledge of the best *description* of reality that we have *at that moment in time*" (see also Popper 1979; Capra 1982; Chalmers 1987; Suzuki and McConnell 1997, p. 17). Based on Heisenberg's (1963, p. 173, cited in Capra 1992a, p. 35, and in Capra 1992b, p. 47) conclusion "... 'that every word or concept, clear as it may seem to be, has only a limited range of applicability' ", Capra (1997, pp. 40-41) points out that "... it is recognized that all scientific concepts and theories are limited and approximate. Science can never provide any complete and definitive understanding." Realising that science is neither value-neutral nor culture-independent, Schrödinger (cited in Holton 1998, p. 1) puts the question more generally: "To what extent is the pursuit of science *milieubedingt*²², ..."?

Not only does knowledge about reality appear to be in principle of a subjective nature, but (scientific) definitions of reality have also changed from deterministic to relativistic and probabilistic descriptions of the universe and its constituent elements and

²² German for 'dependent on, or influenced by the environment'

processes. Even the doctrine that the world is made up of objects whose existence is independent of human consciousness has been challenged. This ‘dogma’ turns out to be in conflict with what Johnson (1997, p. 148) terms the Budapest interpretation of quantum mechanics (Searle 2000, p. 5). Wheeler calls this idealist interpretation of reality the ‘participatory view’, or ‘participatory anthropic principle’ of the universe, a ‘scientific ontology’ that is in accordance with Niels Bohr’s complementarity principle (Davies 1989, pp. 167, 182). One of the principle’s propositions is the idea of “... elementary acts of observer–participancy” (Wheeler, cited in Rees 1998, p. 257). Maturana and Varela’s (1980; 1998) Santiago theory of cognition represents the extreme version of idealism. The theory reflects the (neuro)scientific counterpart of solipsism²³, where “Cognition, [...], is not a representation of an independently existing world, but rather a continual *bringing forth of a world ...*” (Capra 1997, p. 260).

However, it is argued that no matter whether any of the ‘mainstream’ philosophies and theories on ‘reality’ is correct, and would thus qualify as one of Heisenberg’s ‘final theories’, the longing for comprehension relies on the presence of two distinctive features: Self-awareness and a quest for knowledge. This claim depends neither on the existence of a realist’s ‘objective’ reality nor on the contrasting idealist’s ‘subjective’ reality. The claim is also independent of Kuhn’s (1970, p. 135) epistemological theory, where *experimentis crucis* trigger ‘paradigm shifts’, creating new ‘worlds’, or ‘realities’ (Schellnhuber and Wenzel 1998, p. VIII).

Self-consciousness appears to be a synergistic (or synergetic) property of not only the human mind but also of higher primates and some other animals (for example dolphins), where self-awareness, or self-reference, has been observed. Likewise, the cognitive and emotive dimensions of human life seem to be emergent features in some of humanity’s higher developed and (assumed) close relatives in the animal kingdom (O’Connell 2000). However, as far as we are aware, *Homo sapiens sapiens*²⁴ is the only organism with an infinite yearning for knowledge, a curiosity to learn about her- or

²³The extreme version of idealism, where “... [the] entire description of the world is mind-imposed, ...” (Barrow 2000, p. 16).

²⁴‘Doubly wise man’, the appellation for present-day humans

himself, the nature of knowledge and the kernel of being. This possibly exclusively human trait, the desire to know the world and oneself, has led to the unique mental activity we call scientific research (Changeaux, cited in Graubard 1998, p. VII). Tracing back the semantic roots of the academic degree *philosophiae doctor* to its Greek and Latin origins reveals an approximate translation of ‘teacher of wisdom’. Knowledge and wisdom, as well as research questions, are based on previous experiences and on decisions ‘what to take as granted’. This claim is validated in subsequent sections (1.3.2 and 1.3.3).

1.3.2 Bootstrapping, Complementarity and Holism

At the beginning of any human undertaking to attain knowledge of the world and gain ‘wisdom’, the inquirer faces the central problem of deciding which fundamental presumptions should be accepted, a process called bootstrapping (Capra 1985; 1992a). The bootstrapping principle is based on the idea that objectivity defined as:

... the basic conviction that there is or must be some permanent, ahistorical matrix or framework to which we can ultimately appeal in determining the nature of rationality, knowledge, truth, reality, goodness, or rightness (Bernstein 1983, p. 8).

... either does not exist or is not (yet) accessible.

Challenging the idea of objectivity does not imply that knowledge and faith are interpreted as ‘identical twins’, but rather that “ “This disjunction between faith and reason is quite wrong” (Turner, cited in Watkin 2001, p. B5). It is contended that the employment of the ideas encompassed in the bootstrapping philosophy is a prerequisite for any attempt to comprehend and describe a ‘real world’ phenomenon from a holistic perspective. It is further argued that the idea of holism in the social sciences is based on the acceptance of Bohr’s complementarity principle at a macro scale. It is suggested that in a socio-cultural context the same principle refers to an ‘inter-objectivity’, unravelling “... the intricate tangle of partially conflicting needs, intentions and interests of the actors involved ...” (Schellnhuber 1998, p. 7). As a thought process, the principle is related to the idea of ‘multilogical’ thinking (Carr 1992, p. 9). I assert that type and quality of the ‘wisdom’, or knowledge gained, as well as the degree of objectivity attained in the process, will depend on my ability to apply the

Socratic Method of critically scrutinising my own beliefs at the outset of the inquiry (Grassian 1981; Wertheimer 1993). Reflexivity is expected to assist me in finding the right questions.

1.3.3 *Asking the Right Questions*

I argue that the questions asked not only *justify* an account of the philosophical underpinnings, clarifying the accepted model of reality and its underlying paradigm, but that the employed theories and methodologies *require* a discussion of the philosophical context. Identifying the adopted ontology and theories of knowledge is seen as an essential precursor in achieving an understanding of the possibilities, limitations and implications a holistic system approach has for the research results. This is deconstructionist practice: Interrogating the principles of reason, i.e. of its meanings, its origins, its goals and its limits, of inquiring after the grounding of the ground itself (McCarthy 1991, p. 99).

I further contend that theorising on the tourism phenomenon naturally involves a multiplicity of subject areas. A comprehension of the *structures, processes, patterns, and relationships* involved, requires a broad conceptual perspective, touching on diverse subjects. To do justice to all the different facets, aspects and issues relevant to the chosen field of inquiry, a multi- and interdisciplinary approach is inevitable, frequently crossing the boundary and bridging the gap between the natural and social sciences.

The successful inclusion and application of ideas derived from the chaos and complexity paradigm (section 1.7), as well as the incorporation of *kaupapa Māori* (which is based on an ‘unorthodox’ ontology and epistemology), will at least partly depend on a logical philosophical framework serving as the foundation for this thesis. This assertion is reflected in Gregory’s (1979, p. 11) claim that “... it is the concentration on theory that safeguards the practical importance of science and, as a result, [...] it is strategically necessary to clarify the foundations of our theoretical activity.”

According to Bohr’s complementarity principle, the method of questioning as well as the questions themselves have an influence on the results of any inquiry (Capra 1992a, p. 143). Bohr’s viewpoint became known as part of the Copenhagen interpretation of

quantum mechanics and was almost unopposed until the mid 1980s (Gribbin 1996, p. 14). Accepting Bohr's idea, knowledge is thus a function of the method we use to acquire it. In the words of Heisenberg (cited in Capra 1997, p. 40, and in Johnson 1997, p. 149): "What we observe is not nature itself, but nature exposed to our method of questioning." Wheeler (cited in Barrow and Tipler 1996, p. viii) stresses the relevance of (research) questions: "In advancing a new domain of investigation to the point where it can become an established part of science, it is often more difficult to ask the right questions than to find the right answers," This is exactly what I intend to achieve: Asking the right questions. The research questions of this thesis are presented in the next section.

1.4 The Research Context

The purpose of this section is to acquaint the reader with the specific aims of the thesis and to validate the "... soundness, legitimacy and relevance ..." (Kitchin and Tate 2000, p. 34) of the research. The research context, and the research goals and objectives of this study are depicted in a statement of the research problem. In response to the perceived *problématique*, an overview of the proposed research strategy is given. The strategy emphasises explicit research questions with a focus on the possibility of modelling human behaviour, which is interpreted as the main agency and pivot of ecotourism and SETD. The introductory chapter concludes with an overview of the hypotheses that drive the research.

1.4.1 The Research Problem

Tourism research lacks a grand theory. Due to the nature of the tourism phenomenon, research in ecotourism, as a specific form of tourism, is informed by theories that originate in a wide range of disciplines and subject areas. Within the tourism phenomenon, ecotourism has emerged as a relatively new form of (primarily) Nature-based tourism (Whelan 1991). The idea of sustainable tourism development has been integrated in the debate, which revolves around the theoretical foundation of ecotourism as well as the conceptualisation and operationalisation of sustainable development. Both terms still lack a conclusive and coherent definition (Wearing and

Neil 1999) and represent ‘ill-defined’ concepts. The main question underlying the study is:

- How can justice be done to the *variety* of perspectives and the *multiple* stands that people take, by designing *one* system model?

The multidimensionality and the interdisciplinary character of tourism as an academic subject, is an intellectual challenge and requires critical, multilogical, lateral (or creative) thinking (de Bono 1996), and vertical thinking, applying good, or informed sense as opposed to common sense (Carr 1992, p. 9). The gist of the argument is the adoption of the systems approach (section 1.6), and the development and application of methodological holism (*Chapter Three*). The procedure is expected to cope with and master the complexity of ecotourism as a phenomenon, and the multiple layers of meaning regarding SETD as a common goal.

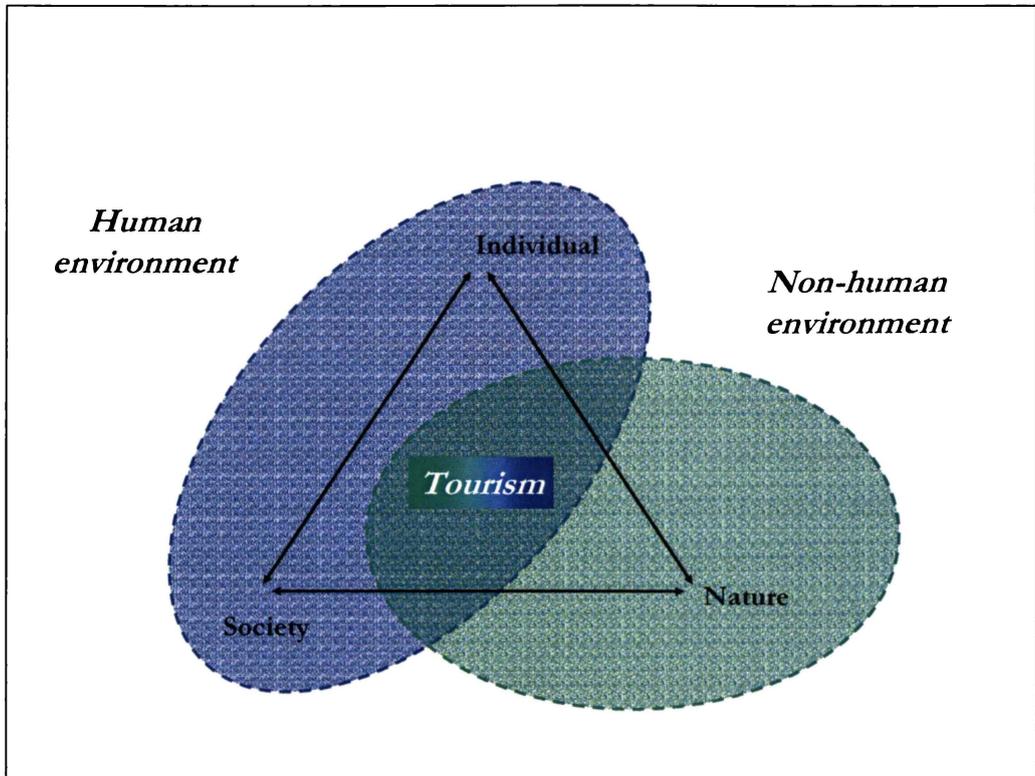
1.4.2 Abstraction, Comprehension and the Human Barrier

At the most fundamental level tourism can be construed as an emergent property of the interplay between human minds, languages and behavioural patterns. These faculties are reflected in the cultural and historic context of ways societies operate, and interact with and within infrastructural and natural environments²⁵. Following this line of thought, tourism can be represented as a synergistic (or emergent) phenomenon in a triangular and reciprocal relationship with humans and natural environments²⁶ (Figure 3).

²⁵The term ‘natural environment’ is used here as a synonym for ‘natural scenery’ or ‘natural setting’, which might or might not have been altered by humans. It includes the physical landscape as well as fauna and flora.

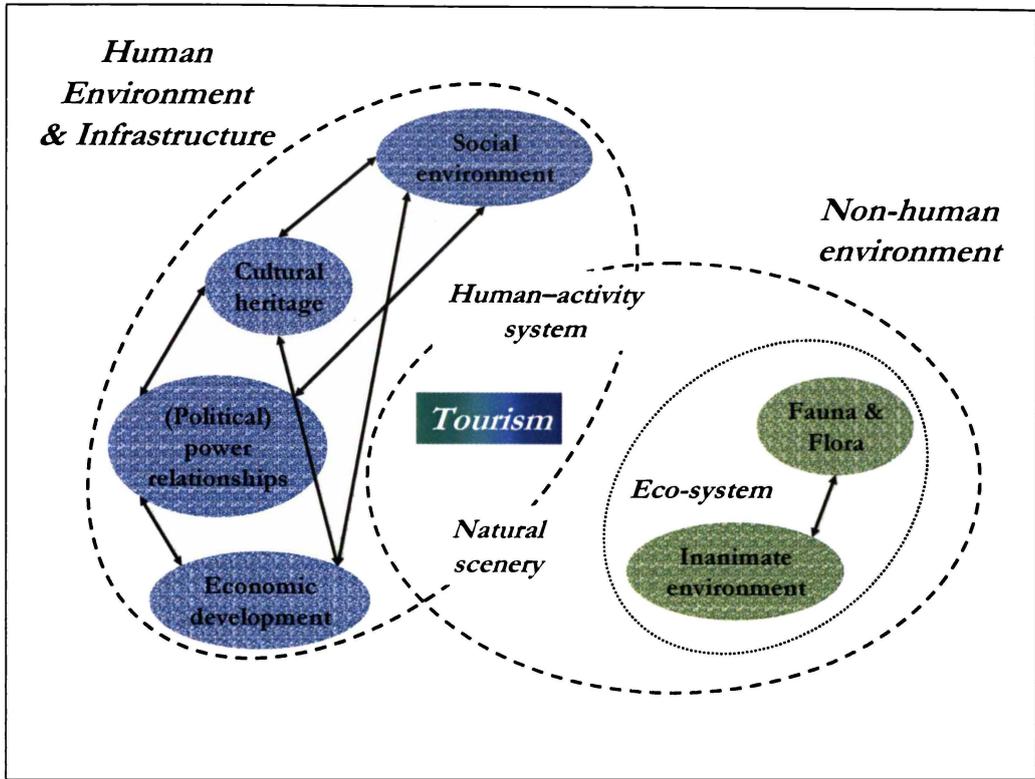
²⁶This simple model does not account for the idea that the human dimension is an integral part of Nature.

Figure 3 Tourism as a triangular relationship between individuals, society and the natural environment



Expanding the definition of the term environment, and accommodating its different meanings in a model of tourism that focuses on humans as “... predominant structural [and functional] factor[s] ...” (Fränzle 1998, p. 419), or keystone players, instantly converts the simple ‘trptych’ into a complex and web-like composite (Figure 4). This network consists of interconnected and interwoven entities, which are interacting and interdependent in different dimensions, on multiple levels, and to varying degrees. It is argued that representing a ‘real world’ phenomenon (like the ideas and practice of ecotourism and SETD) as a system model, has to account for the reciprocal relationship between human thought and action (or inaction) within environmental processes.

Figure 4 Tourism as a complex phenomenon



However, “It is clear that our abstract system of conceptual thinking can never describe or understand this reality completely” (Capra 1992a, p. 35). “... for all its sophistication, our conceptual knowledge encounters sharp limits ...” (Weinberg 1994, p. 4) in trying to grasp the complexity of a ‘real world’ phenomenon in its totality. These inherent restrictions “... arise from the paradox that we who observe are part of what we are trying to comprehend” (ibid.). The evolutionary stage of our consciousness constitutes a second curtailment. It only allows for a restricted perception and understanding of ‘real world’ phenomena, a situation Pascal (cited in Ditfurth 1993, p. 305) describes as “No longer animal, not yet angel.” The restricted linguistic and semantic code of human language also inflicts limitations on imagination and interpretation of ‘real world’ phenomena. The insufficient lexicon confines our comprehension to an approximate representation of reality, the realm of rational knowledge (Heisenberg 1963, p. 177, and Suzuki 1968, p. 239, cited in Capra 1992a, p. 53).

The attempt to counterbalance these inherent restrictions, or ‘cognitive uncertainties’, culminates in methodological triangulation²⁷ (Denzin 1989). Ideas and concepts expressed in phenomenology (Fellmann 1989; Sokolowski 2000), phenomenography (Marton 1986; Francis 1993; Marton 1994) and hermeneutics, as well as in chaoplexity, network theory and discourse analysis (*Chapter Three*, section 3.3), are utilised and integrated in the system model to understand and incorporate human behavioural patterns and decision-making processes, as well as other non-linear (*Chapter Four*, section 4.4.2) phenomena encountered.

1.4.3 Research Goals and Objectives

This section outlines the main *goals* and *objectives* of my research. I employ the terminology in accordance with Gunn and Var’s (2002, pp. 14-15) definition of goals and objectives in the tourism planning context. Goals are overarching, general and long-term “... ideals or aims that one strives for but may never completely accomplish. Goals provide the framework for the identification [...] and accomplishment of specific objectives” (ibid., p. 15). Neither goals nor objectives are ‘standalone’ research aims. They influence each other and the accomplishment of one objective may generate a set of new (sub-)objectives. Achieving specific objectives may rely on the completion of other objectives, or a reciprocal dependency may exist.

Two main goals drive the research of the thesis. The quests are of a philosophical and pragmatic nature respectively. The first goal is the examination and delineation of the ontological, epistemological and ideological framework in respect of a systemic and holistic study of SETD. The second goal concerns the theoretical, methodological and practical utility of system modelling. Integrated modelling is applied in the attempt to construct a conceptual system model of ecotourism and SETD in the Coromandel.

It is anticipated that this research will provide an insight in the operationalisation of ecotourism and SETD by “... catching the nature of the system[’s development] without attempting to create a one-by-one cyberspace copy of it” (Schellnhuber 1998, p. 135). The study is also expected to produce new knowledge regarding the

²⁷ Although the term ‘triangulation’ stands for ‘three corners’, the methodology can encompass multiple perspectives.

theorisation and conceptualisation of both concepts. Three ‘problem’ areas are dealt with:

1. The *configuration* and *behaviour* of the system as a whole and that of its nested subsystems
2. *How* people perceive and practise ecotourism and SETD in the Coromandel
3. *The way* people interpret and assess the present situation in respect of (eco)tourism development, and evaluate (current) dynamics of processes and relationships

Simulating *genuine complexity* (Chapter Four, section 4.2.3) and *fundamental heterogeneity*, part of which is due to ‘absolute’ chaotic human activity (Chapter Four, section 4.4.2), requires me to preserve the integrity of the object by identifying and acknowledging unavoidable assumptions, approximations, simplifications and omissions (Schellnhuber 1998, p. 134). Schellnhuber (*ibid.*, p. 135) stresses that integrated modelling has to observe two main principles, namely those of *relative comprehensiveness* and *weak endogeneity* (Chapter Four, section 4.1).

My research is positioned in the realm of applied qualitative research rather than foundational research in the social sciences. However, on a theoretical level the study utilises the ideas of ‘systems thinking’ and chaoplexity, both of which originated in the (so-called) ‘hard’ (Carr 1992, p. 1), or ‘exact’ sciences (Breuer 1994, p. 11) of mathematics, biology and physics. Methodologically, I employ the philosophical concept of methodological holism (Heil 1995; Pettit 1995). On the one hand, the idea of ‘systems thinking’ in the social sciences, and in geography in particular, is not recent, but emerged in the 1970s (Gregory 1979). Chaoplexity, on the other hand, has been employed (or at least recommended) only recently as an appropriate and applicable concept in the social sciences, in economics and in tourism research. Representative contributions include for example Byrne (1998), Harvey and Reed (1994), Maani and Cavana (2000), and Marion and Weaver (1997) in the social sciences, Ormerod (1998) in economics, and in tourism research *inter alia* Carlsen (1998), Faulkner and Russell (1997; 2001), Horn and Simmons (1998), and McKercher (McKercher 1998a, unpub.;

1999). The attempt to adopt concepts and theories from the natural, or physical sciences in the humanities, has also been criticised (Sokal and Bricmont 2000), and even parodied (Sokal 1996). I intend to test and demonstrate the validity and feasibility of applying ideas encompassed in non-linear system dynamics (Ingraham 1992) in the process of modelling ecotourism and SETD as a human–activity system.

The expected *research outcome* consists of two major contributions that structure the debate and enhance our knowledge base regarding the conceptualisation and operationalisation of ecotourism and SETD:

1. The first intended result is the representation of the current situation, regarding ecotourism and SETD in the Coromandel Peninsula in New Zealand, as a system model.
2. A second payoff should be an idealised archetype of ecotourism and SETD that can be used as a grid on which further improvements of the system are modelled.

In a global nexus the models are meso scale representations of ‘real world’ phenomena, and will be materialised as verbal descriptions as well as in graphic form. By focusing on tourism and society, both models are expected to contribute to the goal of securing “... *an acceptable long-term coevolution of nature and civilization*” (Schellnhuber 1998, p. 9).

It is argued that accuracy²⁸ and precision²⁹ of both models depend on the accomplishment of two *objectives*:

1. The *status quo* model relies on the identification of key indicators of SETD.
2. The *prototype* model is contingent on the development of adequate research and decision-making strategies³⁰, which can advance the degree, or level of SETD.

²⁸The term ‘accuracy’ refers to the ‘degree of freedom from error’ of the applied research methodology and analysis (Carr 1992, p. 114).

²⁹The term ‘precision’ refers to the ‘exactness’ of the applied research methodology and analysis (Carr 1992, p. 114).

³⁰The term ‘decision-making strategy’ refers to planning and development activities embracing the political, planning, decision-making, and revision process.

Both indicators and strategies are expected to be of a qualitative and suggestive nature rather than adhering to a normative and prescriptive set of rules and paragraphs laid down in codes and policies.

Within the limitations outlined in sections 1.3.1 and 1.4.2 a third goal, pursued at the methodological and practical level, is the realisation of a holistic approach in system modelling. It is asserted that the inclusion of Te Ao Māori (the world, or worldview of Māori) in a model of ecotourism and SETD in the Coromandel is not only culturally and politically ‘correct’ but also represents an essential prerequisite for the acquirement of a genuine holistic perspective. Māori are the Peninsula’s *tangata whenua*³¹ (Sinclair 1991), and in 1996 people of New Zealand Māori ethnicity represented 13.3% of the total population (Space-Time Research 1997)³². In support of the attainment of a holistic approach, the ethnoscientific paradigm of the Māori people, who are marginalised people in the ecotourism context, is incorporated at an ontological, epistemological, methodological and practical level of system modelling.

It is not the aim of this research to offer a ‘final solution’ to a specific ‘problem’. Ecotourism and SETD are perceived as subjective and dynamic problem situations of interconnected problem areas (Checkland 1981) within a continuum of differential interpretations. The results of the scientific investigation ought to constitute a ‘template’ rather than a ‘blueprint’, to deal with a scenario that bears the characteristics of a perceived, yet unstructured and ill-defined smörgåsbord of related problem areas. It is anticipated that the template will provide a flexible and adaptable framework rather than a rigid and fixed recipe. It should suggest answers and solutions that have the potential to improve the research process as well as the ‘problem’ situation. The framework is expected to cater for the specific needs of individuals, local communities and regions. It is thus not expected to resemble a *fait accompli*. On the contrary, the research results should accommodate opportunities to ‘bend, flex and change’ the matrix by modifying, manipulating and adjusting it to serve specific spatiotemporal and

³¹ People of the land / indigenous people

³² Sampling frames are discussed in detail in *Chapter Three* (section 3.2.3).

paradigmatic circumstances, ‘situated knowledges’ (Haraway 1991, p. 188; 2001), as well as pragmatic necessities. The proposed ‘solutions’ have to be allowed to ‘mutate’ in the Lamarckian sense by learning from previous experiences. Tentative answers and proposed activities in such a ‘soft’ system, will require assessment and refinement in an iterative evaluation and learning cycle, where problems and solutions are constantly evolving (Checkland 1981, p. 213).

1.4.4 Research Statement: Overview of the Proposed Research

On the basis of contextual awareness and reflexivity, the research activities comprise theoretical deliberations regarding the adopted theories and concepts, a practical part where empirical evidence is gathered to corroborate or falsify underlying hypotheses, and the modelling stage where the system model is conceptualised and designed. Theory and practice overlap in the two system modelling phases, where ideas, hypotheses and concepts are continuously reassessed and re-evaluated while the collected data are being analysed, interpreted and integrated in the system model.

The theoretical section is subdivided into three areas:

1. The most substantial part of the discussion involves the theorisation, conceptualisation and operationalisation of ecotourism and SETD.
2. The exploration of adequacy, as well as possibilities and limitations of a systemic perspective in tourism research
 - Including the assessment of the validity and applicability of the chaoplexity paradigm in the context of a tourism system model
3. The conceptualisation and operationalisation of methodological holism, and its relation to a systemic perspective

The data collection consists of primary and secondary information. During the field study a variety of methods are employed to generate data:

- A social survey in the form of a questionnaire, which provides baseline information, as well as in-depth interviews, which supply the situational context

- Focus group sessions based on action research and the utilisation of key elements from PAR, PRA and RRA methods³³
- Participant observation techniques
- Informal conversations
- Documentary research utilising policies, reports, statistics, brochures, etc.
- Electronic sources like Internet websites, databases, etc.

Data obtained in face-to-face encounters (i.e. in interviews and as an observer) are prioritised and regarded as the most ‘valuable’ information. Although the effort put into the different methods varies, all of them play an important role in the data generating process. In combination they enable me to form a holistic picture, and to find conclusive and consistent answers.

The heart, or core, of this study is the system design phase. It is supported by electronic data processing tools, viz. CAD software (Microsoft Corporation n.d.-a; b), ‘systems thinking’ and modelling software (Maani and Cavana 1999) as well as the qualitative data analysis programme QSR NUD*IST Vivo (NVivo) (Qualitative Solutions and Research 2000). The design of both the ‘real’ and the ‘ideal’ model commences simultaneously at a low ‘resolution level’. With progressing complexity, however, the scale decreases and the models become more detailed. In an ongoing pluralistic investigation, comparative triangulation (Chambers 1994b, p. 1254) with the ‘real world’ situation continuously assesses and validates the *status quo* model’s isomorphism by crosschecking the data. Specific research questions with respect to the modelling process are dealt with in the next section.

1.4.5 Research Focus: Explicit Research Questions

During the two phases of the system modelling stage (viz. the conceptualisation and the design phase) the foci are on the system’s behaviour as well as on the theoretical

³³ PAR stands for ‘Participatory Action Research’, PRA for ‘Participatory Rural Appraisal’ and RRA is the acronym for ‘Rapid Rural Appraisal’ (Chambers 1994a; b; c; Selener 1998).

and practical predictability of the system's dynamics. The emphasis is on human activities as primary drivers of the system's development. Attention is paid to bifurcation points³⁴ marked by threshold values, or critical conditions. The system's stability (or robustness) and its instability (or sensitivity) respectively, to initial conditions and key variables, are identified. These characteristics are responsible for phase transitions and catastrophes resulting in new positions in phase-space (*Chapter Four*, section 4.3.1). Special attention is furthermore paid to:

- The recognition of internal system dynamics and externalities resulting in emerging systemic patterns
- The configuration and dynamics of networks
- Synergistic (or cooperative) and antagonistic effects and their implications
- Causal and functional links

Depending on the type of chaotic behaviour (*Chapter Four*, section 4.4.2), non-linear system dynamics are either interpreted within the chaos and complexity paradigm or from a postmodern and poststructural perspective by decentring and deconstructing the different layers of meaning in a discourse analysis. Differential perceptions, imaginations and interpretations are viewed as contextual and situational phenomena, while a phenomenographic inquiry illuminates decision-making processes and *the way* people perceive and interpret phenomena (Ryan 2000a).

Specific research questions are:

- How can conceptualisation and operationalisation of ecotourism and SETD be modelled as a system, and what are the characteristics of the model?
- What is the optimal synchronisation level of the model with reality, and how can this aim be achieved in the modelling process?
- How can the model help to improve the perceived problem situation?

³⁴The nomenclature used in chaoplexity is defined in *Chapter Four*.

- To what extent is dynamic forecasting possible?

1.5 Holism – Philosophical Context and Underpinnings

The *methodological* research goal as stated in section 1.4.3 is the achievement of a holistic system approach. The idea of holism stands for a range of doctrines regarding the understanding and explanation of ‘real world’ phenomena. The primary conception of holism is that phenomena need to be examined in a synthetic way as wholes rather than by analysing their parts. In contrast to reductionism, which encompasses the idea of atomistic (or molecular) analysis, the philosophical theory of holism regards phenomena as more than the sum of their parts, where emerging cooperative effects cannot be explained by focusing on the structure of parts and linear causalities. In the human context one consequence is that social activity “... cannot be grasped as the sum of personal encounters” (McCarthy 1991, p. 155). Apart from these *synergistic* properties, holism also considers possible *antagonistic* emergent effects, where combined consequences “... may also be less severe than the sum of their individual effects, ...” (Raven *et al.* 1998, p. 9).

Holism opposes the mechanistic worldview in the life sciences, which aims at defining biological phenomena “... in terms of properties of their inorganic constituents” (Heil 1995, p. 371). Holism (or organicism in the biological sciences) does not depend on an *élan vital*, but views organisms as interconnected wholes. A conclusion of the latter doctrine is the postulate that properties of individual entities in a complex are influenced by their relationships to other elements. On the human plane this effect of encounter and interaction is portrayed in Jung’s³⁵ statement “The meeting of two personalities is like the contact of two chemical substances; if there is any reaction, both are transformed.” In the natural sciences the holistic perspective has been equated with ‘systemic’ and ‘ecological’ (Capra 1997, p. 17), but methodological holism in the social sciences is ill-defined and “... its connotations will vary ...” (Pettit 1995, p. 565).

³⁵ Carl Jung (1875-1961): From an unknown source

In tourism the holistic approach has been related to strategic, systemic, integrated (or integrative), holistic and sustainable planning and development concepts (Hall *et al.* 1997, p. 21). The realisation that holism remains an approximate description of ‘a whole’ is rooted in the arguments presented in sections 1.3.1, 1.3.2 and 1.4.2. A holistic approach, which interprets a phenomenon *as a whole*, is different from my understanding of methodological holism, which aims at describing *the whole* of a phenomenon. A holistic approach, based on the prior mentioned doctrines, restricts itself in its capability to view the whole by focusing on qualitative properties of orgs (Gerard 1964), holons (Jacob 1974), or integrons³⁶ (Koestler 1967; 1978). Qualities are expressed as relationships, processes and resulting patterns. Concurrently, the holistic approach typically neglects quantitative qualities like the structure, location and spatiotemporal distribution of the phenomena’s substances, or parts.

Whereas reductionism and mechanism are based on linear causal thinking, holism is rooted in correlative thinking, focusing on the temporal (and in the human realm in addition mental) dynamics. This line of thought is pursued in the following sections, which cover the metaphysical, ontological and epistemological deliberations holism is based on. I argue that methodological holism has to integrate an array of research strategies – and thus reflects the pluralistic approach of methodological triangulation. The methodology itself is developed in *Chapter Three*.

1.5.1 Holism from a Metaphysical and Ontological Perspective

At a metaphysical level it is argued that holism is grounded in Whitehead’s (1929, cited in Checkland 1981, p. 80; Capra 1997, p. 42) process philosophy (i.e. Parmenides’ *becoming*) as opposed to substance philosophy (i.e. Heraclitus’ *being*) (Bhaskar 1978; Fernández-Armesto 1998). From a holistic perspective reality is viewed as an entangled web of interconnected relationships and processes as opposed to an aggregate of separate structures that can be explained on their own. The idea of ‘Supernature’ (Watson 1974; 1987), where “... everything is connected with everything else” (Suzuki and McConnell 1997, p. 12), has been described as ‘the first law of ecology’

³⁶ System entities that are interpreted as wholes or subsystems at one hierarchical level, while concurrently being analysed as parts of a higher-level system

(Commoner 1971, p. 33). In modern physics the same idea is reflected in John Bell's theorem, which interprets the EPR³⁷ *Gedankenexperiment*³⁸. The theorem "... demonstrates that the universe is fundamentally interconnected, interdependent and inseparable" (Capra 1992a, p. 346). It further suggests the existence of a non-local reality, and concurrently highlights "The idea that the act of observation must have a non-negligible effect on the object being observed ..." (Barrow and Tipler 1996, p. 463; see also Holzapfel 1998; Barrow 2000, p. 158). In the social sciences "... a change in the behaviour of persons or groups ... [as the result of being observed] ... is known as the *Hawthorne Effect*" (Kumar 1996, p. 106). At a biological level the idea of intrinsic interconnectedness is reflected in Sheldrake's (1992; 1993) hypotheses on morphogenetic fields and morphic resonance.

The concept of reciprocal relationships can also be found in Māori ontology, where the nature of being is *matter and spirit*, both 'substances' *related in space and time*. Māori reality is based on genealogy, or *whakapapa*, in which the spiritual aspects manifest as *mauri* and *wairua* (Roberts and Haami 1999). The embodied parts of *whakapapa* emerged from events taking place in the past, and are described in Māori history and mythology. Everything, or every 'thing', which includes the physical world of living and dead organisms as well as inanimate phenomena and entities existing in a spiritual dimension, develops its individual *wairua*. Translated as the "the spirit of oneness" (Pere 2000, p. 28) of a phenomenon, *wairua* is prone to changes, or manipulation, inflicted by internal as well as external forces that can alter its characteristics. *Mauri*, on the other hand, is a God given spiritual essence, or life force, every 'thing' is 'born' with (Greensill 2000, pers. comm.; Melbourne 2000, pers. comm.). *Karakia*, which can be interpreted as rituals, can change and even destroy this "... intrinsic essence of a person or object" (Tapine and New Zealand Council for Educational Research 2000, p. 8).

" 'Indigenous knowledge' is an expression that still has evolving conceptual boundaries" (Heyd 2000). Viewing traditional Māori thought as a driver for the

³⁷ Einstein-Podolsky-Rosen

³⁸ German for 'thought experiment'

adoption of a broader perspective, it is argued that the intention to accommodate the Māori ethnoscientific interpretation of the nature of being necessitates a pluralistic philosophy. In contrast to both monism and Cartesian dualism, a pluralistic (or holistic) philosophy allows for multiple material *and* non-material ‘substances’ as possible constituents of reality. It would thus overcome what Bierre (1997/98, p. 30) calls “The Analytical Prison of the Cartesian Mind”. In a holistic approach the Pākehā³⁹ Copernican universe has to be accessible to the spiritual universe of Māori and *vice versa*. This is not to say that ‘pure’ Pākehā or Māori thinking necessarily exists. No culture is static. Traditions, values and beliefs change as they are influenced by their environment. If two or more cultures are in contact, paradigms and customs develop accordingly and can overlap. In the process a new ‘hybrid’ culture might emerge.

In contrast to a pluralistic philosophy, which is not restricted to a particular universe, the question regarding the number of ‘substances’ that exist is an ontological query from a reductionist perspective, emphasising the physical structure of the universe we live in. Māori ontology ‘overrides’ this materialistic perspective by including spiritual ‘substance’. *Kaupapa Māori* links the spiritual dimension with the material world of the present in an eternal spatiotemporal network of past, present and future relationships and dependencies. There appears to be a similarity between Māori understanding of time, and the polychronic and circular concept of time as an ‘eternal present’ of some North American Indian tribes (Knutdson and Suzuki 1994, pp. 152-154). This kind of thinking is maybe best described by the German phrase *vernetztes Denken*, which can be translated as relational, correlative, or webbed thinking.

The modern scientific paradigm, on the other hand, is anchored in the naturalistic and materialistic frameworks, both of which proceed on the assumption that reality is a unified whole, rejecting any incursion of Nature by souls, or other spiritual entities. Cause and effect are locked in a linear or non-linear but always unidirectional timeline, whereas causality within a cyclical concept of time could be interpreted as ‘curved’ (Knutdson and Suzuki 1994, pp. 152-154).

³⁹ (Usually white) foreigner

Scientific progress and paradigm shifts in the nineteenth and twentieth century, and in particular the emergence of quantum mechanics, have modified ‘pure’ materialism, which views the nature of being as matter driven by mechanism and contingency, to the extent that:

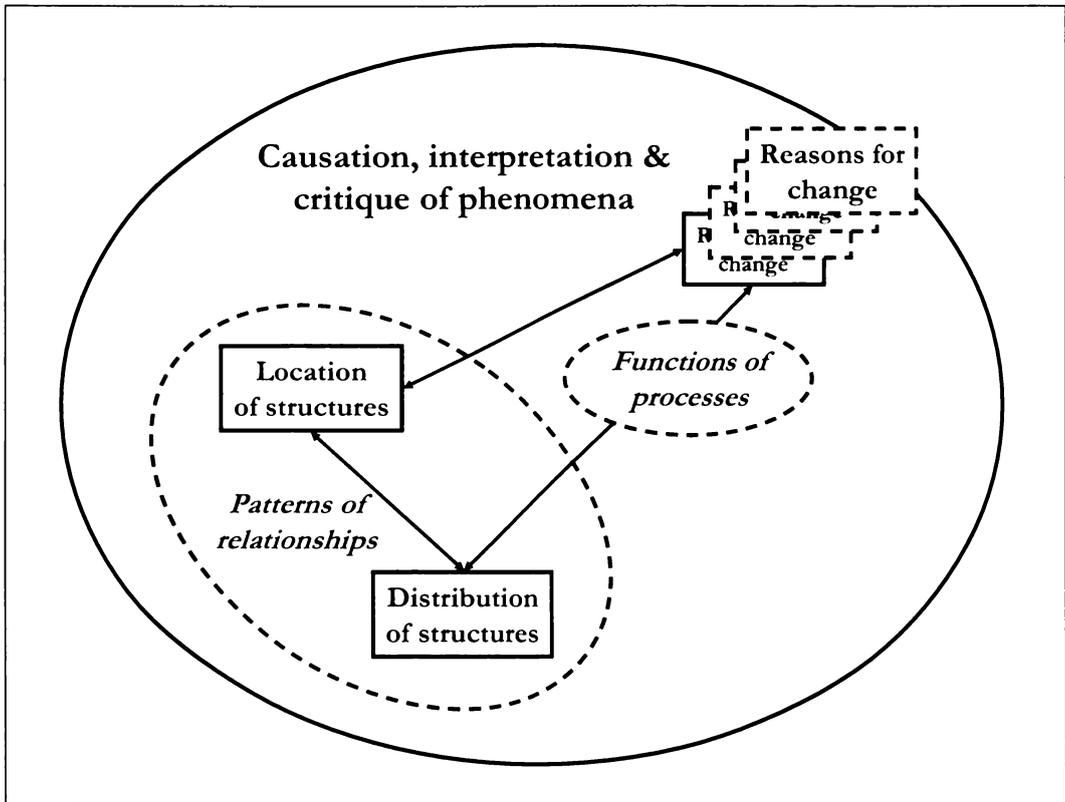
The laws of quantum mechanics, unlike Newton’s deterministic laws, lead to a probabilistic description of nature. As a consequence, one of quantum mechanics’ most important philosophical implications concerns the apparent breakdown, or at least a drastic reinterpretation, of the causality principle in atomic phenomena (Encyclopædia Britannica 2001).

Naturalism allows for “... ‘theoretical’ entities which cannot be directly observed, ...” (Lacey 1995a, p. 605). However, there is (still) no room for spirits in modern science. With this restriction in mind, Figure 5 illustrates that genuine methodological holism needs to account for:

- Causation, interpretation and critique of phenomena
- Location and distribution of structures
- Functions of processes
- Patterns of relationships
- Reasons for changes

Possibilities and limitations of leaving the modern scientific platform, to incorporate spiritual value and belief systems as well as philosophies that focus on the ‘essence’ of phenomena, are explored in the following sections and in *Chapter Three*.

Figure 5 The formulation of questions within methodological holism



1.5.2 Holism from an Epistemological Perspective

It is argued that from an epistemological viewpoint holism has to focus on two questions:

1. *What* counts as knowledge?
2. *How* is knowledge obtained?

Both queries are already based on assumptions. They presume a *nous poietikos*, or active mind, accepting Descartes' proposition *Cogito, ergo sum* as true with the emphasis on *I* think. This might sound trivial and obvious, but Māori ontology suggests the validity of a third question:

3. *Where* is knowledge located?

From a Western perspective the Māori interpretation of *wāhaka pāpā* can be described as a spiritual imprint of eternal interdependencies of everything that ‘is’ and ‘was’.⁴⁰ Knowledge, manifesting itself as *mātauranga*, exists on a ‘higher plane’, transcending time and space. It is accessible to sense perception, but its existence is not restricted to its apprehension by the human mind. The idea approximates Bhaskar’s concept of ‘real reality’ (*Chapter Four*, section 4.1.2) and Popper’s World III (*Chapter Four*, section 4.3). *Wānanga* can be interpreted as the Māori methodology of disseminating *mātauranga* in a process that consists of teaching and debating elements (Greensill 2000, pers. comm.; Melbourne 2000, pers. comm.). In Māori thought, factual and mythical events in the past exert an influence on the present and “ ... it is [therefore] sometimes said that Māori are a people who walk backwards into the future, ...” (Roberts and Haami 1999, p. 17).

It is argued that an understanding of the nature of knowledge of *all* involved and/or affected parties in the ecotourism system is crucial to a holistic approach. In this connection it is suggested that ‘epistemological holism’ can be achieved by clarifying the researcher’s standpoint within methodological paradigms of ‘knowing’ and the ‘theories of knowledge’.

1.5.3 Paradigms of Reasoning and Theories of Knowledge

Extreme rationalists see the acme of human intellect in pure reasoning, a logocentric perspective that includes intuition (*Chapter Three*, section 3.1.3). Reasoning derives knowledge and ‘truths’ through non-experimental deduction by asking why something is. Sensory perceptions are interpreted as ‘opinion formers’. Within traditional logic, Platonian dialectic logic, which is based on logical consistency, is distinguished from Aristotelian analytic logic, which derives knowledge *a priori* through deductive inference. By way of contrast logical positivism and empiricism affirm that all knowledge is derived *a posteriori* through induction, which is based on sensual experience and requires verification. In its extreme version, this ‘paradigm of

⁴⁰The concept is comparable to the Akasic records in Eastern and Western occultism and mysticism.

ampliative inference’ views the human mind as a *tabula rasa*. Experiences create ‘synthetic evidence’ as opposed to ‘analytical truths’.

I argue that from a modern scientific perspective Kant’s transcendental idealism, which aims at uniting rationalism and empiricism, offers a means of incorporating Māori ethnoscientific thinking. *Kaupapa Māori* relies on the intrinsic interconnectedness between every aspect of reality, and is therefore not affected by the shortcomings of transcendental idealism, which, in its traditional static version as well as its ‘updated’ dynamic form, does not sustain the existence of objective reality independent of human agency (Bhaskar 1978, p. 27). Transcendental deduction commences with synthetic *a priori* judgements about the world. These are based on intuition and concepts the human mind possesses *before* any experiences are gained (Baldner 1995; Randall 1998). Inductive reasoning is applied in a heuristic process where these value judgements are assessed on the basis of personal experience (*Chapter Three*, section 3.1). “According to Kant, the world outside ourselves causes only the matter of sensation. Our brains order this matter and supply the concepts by means of which we understand experience” (Checkland 1981, p. 215). Kant’s resulting ‘logical functions’ are used in the conceptualisation of the model design in *Chapter Four*.

Regarding the utilisation of different theories of knowledge I am inclined to a pragmatic approach without abandoning the principles of a holistic methodology. The ‘paradigm of practical utility’ is based on the idea that the truth of a conjecture depends on its practical utility (Rescher 1995, p. 710) and on the context in a spatiotemporal as well as an aetiological sense. I argue that the set of *epistēmēs* employed in methodological holism is context dependent. At the methodological level the inclusion of knowledge and belief systems is thus based on their presence on the Peninsula. The research focuses on two predominant knowledge systems, which are ‘situated’ in the Coromandel. They are not mutually exclusive; but instead the two worldviews can be interpreted as ‘positioned’ at opposing ends of a continuous scale:

- The universal paradigm of modern science, where knowledge is public, and is disseminated as explanatory and predictive theory

- The *kaupapa Māori* research paradigm of eternal spatiotemporal relationships, where knowledge, or *mātauranga*, is subjective as well as objective (Roberts and Haami 1999)
 - *Mātauranga Māori* serves the purpose of maintaining the *mana*⁴¹ of the community (Cram 1993), and is *in situ* knowledge in so far as its distribution is restricted due to its *tapu*⁴² status (Smith 1992b).

A positivistic approach cannot do justice to *kaupapa Māori* ontology, epistemology and methodology. The methodological precept of *le réel* in the original Comtean version of positivism does not allow for any ‘supernatural’ forces, or entities (Gregory 1979, p. 26). However, it is argued that there are (unifying) criteria the positivist approach to the modern scientific quest for knowledge and *kaupapa Māori* research, or ethnoscience, have in common. Both share the search for unity, simplicity, order and regularity in a world that is apparently complex and ‘messy’. Categories and hierarchies are constructed in this process of abstraction, discrimination and simplification. ‘Objective’ and subjective knowledge in both systems are open to and obtained through human perception, imagination and interpretation (Gregory 1979; Roberts and Wills 1998; Roberts and Haami 1999). It is argued that these principles are the fundamentals on the basis of which a holistic approach can accommodate the implicit binary of scientific and ethnoscientific thought and methodology.

It is further argued that the mediation process between ethnoscience and modern science has to start at an ontological and epistemological level. Bhaskar’s (1978) philosophy of critical realism (as a metatheoretical account) is viewed not as an ideal, but as the best ‘candidate’ to structure the debate. It allows for “... the independent existence of reality and causal powers ascribed to human reasons ...” (Yeung 1997, p. 55), resulting in an interrelationship of *res cogitans* and *res extensa*. Critical realism is employed because it promotes the overlap and overlay of an objective reality with the

⁴¹ Spiritual power and authority (Tapine and New Zealand Council for Educational Research 2000). “It could be the charisma, the aura that you have. The respect you conjure up” (Winitana 1990, p. 108).

⁴² Sacred and sacrosanct (Tapine and New Zealand Council for Educational Research 2000)

subjectiveness of individual and social aggregate constructs of reality. The philosophy represents an epistemological dualism, which can accommodate an ethnoscientific, as well as a naturalistic interpretation of reality (Bhaskar 1978; 1998).

However, it is acknowledged that critical realism focuses on a material perspective of knowledge (Yeung 1997), thus facing the problem of obtaining empirical evidence for a spiritual dimension that ‘exists’ in Māori ethnoscientific reality. The possibility of reconciling tensions between prestructural and poststructural thought and their contrasting viewpoints on ‘reality’, by employing critical realism at the ontological and epistemological level, is explored in *Chapter Three* (section 3.3.5). The next section focuses on the concept of ‘systems thinking’ as a way of conceptualising reality that forms the basis for the holistic approach of this thesis.

1.6 The Systemic Perspective: A *Weltanschauung* and its Limitations

System modelling is seen as the pragmatic equivalent to a reductionistic, or restricted holistic approach (Markl 2001). The systemic perspective can thus only provide the mould for methodological holism. ‘Systems thinking’ resolves the tension between ‘traditional’ reductionism and ‘genuine’ holism by favouring the correlative mode of thinking, where the dichotomy between substance and form is decided to the credit of the Pythagorean emphasis on qualitative properties of patterns (Bateson 1972, p. 449), processes, and relationships of a phenomenon (Capra 1997, p. 18). ‘Systems thinking’ is based on “... the primacy of processes over events, of relationships over entities and of development over structure” (Ingold 1990, p. 209). However, there is a catch in it. By putting the emphasis on ‘networking’ and ‘context’, the systems approach neglects structures and the ‘essence’ of things, as well as their different meanings and the circumstances leading to a particular interpretation. Capra (1997, p. 40) rightly points out that “... systems thinking involves a shift from objective to ‘epistemic’ science; to a framework in which epistemology – ‘the method of questioning’ – becomes an integral part of scientific theories.” Following Barrow’s (1993, p. 162) line of thought that “... the world can be both simple and complicated ...”, it is argued that holistic modelling demands a range of ‘methods of questioning’. Holistic modelling of ecotourism and

SD as a system is thus based on a causal, correlative *and* teleological interpretation of the phenomena involved. In opposition to a mechanistic development, which formally relies on a ‘natural agent’, concepts and processes exist within the ecotourism system that are intentional and serve a *raison d’être*, for example that of SD.

Whereas simple laws describing the structure of phenomena in the platonic fashion are the focus of reductionism, ‘systems thinking’ is anchored in the Aristotelian tradition of exploring temporal changes. Figure 6 contrasts the Cartesian (or Newtonian) mechanistic analysis with the ‘organismic’ system synthesis by depicting the main differences, as well as realms of reality, that are associated and researched within the particular paradigmatic approach to ontology.

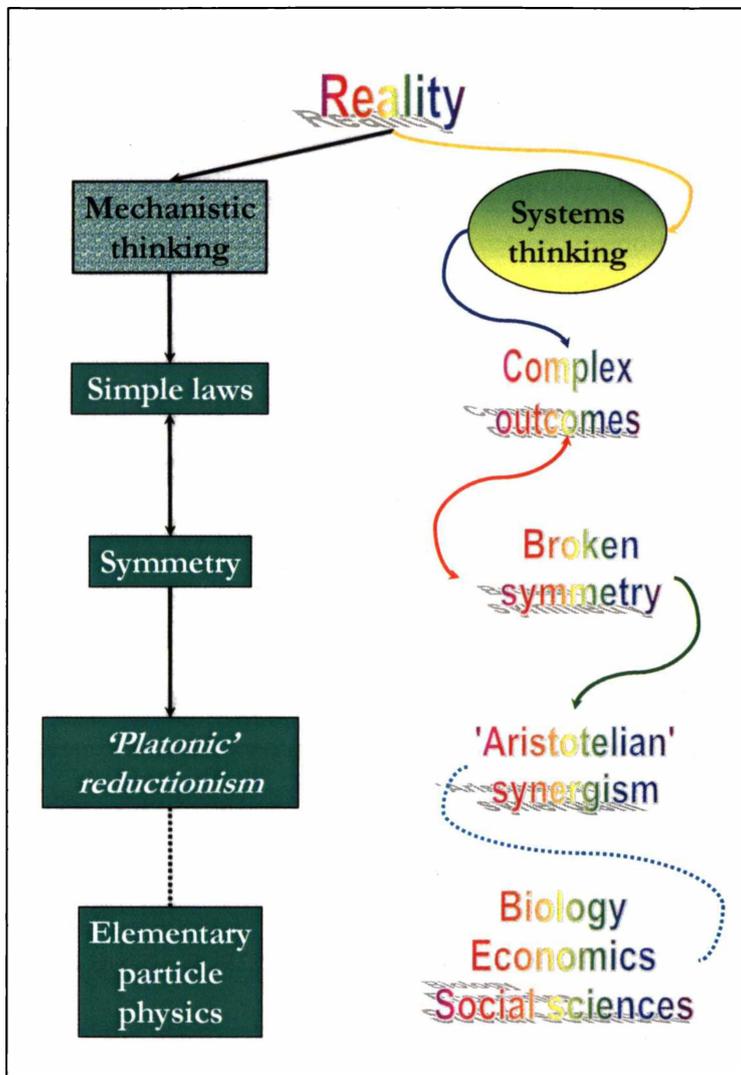
Bogdanov’s (1913-25; Dudley 1996) ‘Tektologiia’, Wiener’s (1961) ‘Cybernetics’, and Bertalanffy’s (1969; 1975) ‘General System Theory’ represent the exploratory stage of systems thinking in Western science. All three works focus on general *and* organismic system dynamics. They also outline a theory of (human) social systems in rudimentary form. According to Capra (1997), Bogdanov was the earliest to develop the ‘universal organisational science’ (the English translation of ‘Tektology’s’ subtitle) of systems thinking within the modern Western scientific paradigm. He introduced the ideas of ‘organisational patterns’, of ‘feedback loops’, and of ‘open–system boundaries’ in nonliving structures and living organisms as well as in social system dynamics (ibid.):

“all things are organizational, all COMPLEXES could only be understood through their organizational character” (Bogdanov, cited in Mikes 1997).

Employing the ideas of complexity, open boundaries, self-regulation, and emergence⁴³, all three concepts describe the ‘mechanics’ in systemic representations of ‘real world’ phenomena. The workings of functional and reactive linkages focus on causal networks, emphasising automatic (or unintentional) reactions, action orientation and action consequences.

⁴³ These ideas are discussed foremost in *Chapter Four* and *Five*.

Figure 6 Complementary modern Western scientific approaches to reality (adapted from text in Barrow 1993, p. 163, and from Figure 9.2. in Barrow 1999b, p. 63)



Bogdanov, Wiener and Bertalanffy alike neglect, however, (psychologically motivated) choices and the freedom of intentional behaviour. The level of unconditioned human *responses* in a social environment is thus excluded from their systemic description of human activity and interaction. It is assumed that a structural (or situational) *and* process analysis, encompassing a teleological as well as aetiological account of ecotourism and SD, is required in a system model that aims at representing the complexity of the phenomena involved in a holistic/integrative manner. Looking for *causation, function, interaction and reason*, key ideas in ‘systems thinking’ are utilised as a

framework for methodological holism in order to explore the ‘broken symmetry’ (*Chapter Four*, section 4.2.1; *Chapter Five*, section 5.3.4) of complex outcomes like the socio-cultural and socio-ecological phenomena associated with ecotourism and SD. The next two sections (1.7 and 1.8) explore the viability and validity of utilising key ideas from the chaoplexity concept, and incorporating the idea of a free human will within the system paradigm, to describe human behaviour and resulting system dynamics.

1.7 The Philosophical Context of Chaoplexity

It is argued that the idea of chaos and complexity (*vulgo*: Chaos and complexity theory⁴⁴) is rooted in Comte’s interpretation of positivism, viz. the search for order in the form of categories and hierarchies (Lacey 1995b, p. 705). The concept of chaoplexity is a science *in statu nascendi* in modern (or Western) science, ‘taming’ the dynamics of seemingly erratic behaviour by modelling a ‘real world’ phenomenon as a chaotic system. This abstraction of reality is a methodology that offers a means of finding order in apparent disorder. Wilson (cited in Barrow 1999b, p. 111) has expressed this thought in poetic terms:

The love of complexity without reductionism makes art; the love of complexity with reductionism makes science.

Where there seems to be inherent irregularity, discontinuity and turbulence, the concept of chaos and complexity postulates theoretical predictability but practical indeterminacy due to the system’s sensitivity to initial conditions. The mathematics of chaos and complexity detect consistent patterns like the Feigenbaum numbers (Davies 1989, p. 42; Byrne 1998, p. 22), or self-similar, recurring configurations such as fractal patterns (*Chapter Seven*, section 7.4.2), as well as (strange) attractors (*Chapter Four*, section 4.3.1), converting apparent randomness into ‘deterministic chaos’, to use the oxymoronic, but correct term. “At their root chaotic systems marched to the laws of

⁴⁴The term ‘chaos and complexity theory’ is commonly used to describe the idea of chaos and complexity. However, Stewart (1997, p. vii) rightly makes the claim that chaos is not a theory but a concept.

Newtonian physics, not quantum mechanics” (Johnson 1997, p. 92)⁴⁵. It is argued that chaos and complexity are based on a new paradigm of patterns rather than constituting a new theory. While chaoplexity has the power to enhance our comprehension of the complexities of ‘real world’ phenomena, it is also self-limiting in respect of its inability to describe intrinsic indeterministic phenomena.

The next sections, which outline assumptions regarding human nature, argue for the adoption of ‘free will’ as an intrinsic system component, and this is where the idea of chaos and complexity reaches its limits. The drawback of chaoplexity is that it can describe, but not explain those changes in a system that are due to unconditioned human behaviour (assuming that this kind of behaviour is based on ‘free will’ and therefore is in itself inherently stochastic and unpredictable in principle). This conundrum is addressed by proposing the utilisation of ideas stemming from the postmodern and poststructuralist paradigm of contextual and situational layers of meaning.

1.8 Bootstrapping Human Nature and Ethics

Chew (1968; 1970) introduced the bootstrap approach to the scientific community as a concept and as a philosophy. Bootstrapping relies on the idea that researchers pick themselves up by their own bootstraps, defining a set of postulates that provide the foundation for self-consistent answers (Kaku and Thompson 1999, p. 81). General presumptions underlying this thesis have been outlined in sections 1.3.1, 1.3.2 and 1.4.2, while specific assumptions regarding methodological holism have been addressed in section 1.5. The following sections cover remaining presuppositions regarding human behaviour as the key driver of the system’s evolution.

1.8.1 The Free Will Problem

The ecotourism phenomenon is an anthropogenic development, emerging within a human–activity system at the interface between humans and the non-human environment. Human encounters and our interaction with and within different

⁴⁵ However, we don’t know (yet), whether or not deterministic chaos does account for quantum mechanical effects at the subatomic level.

environments result in complex system behaviour. Human agency is viewed as a rogue, or chaos maker, altering the system's coevolutionary and cooperative dynamics (section 1.9). Trying to comprehend the essence of the human being is considered as an essential prerequisite towards understanding human behaviour in the ecotourism and SETD context and debate. This section addresses assumptions regarding three questions:

- *Whether* humans have a choice
- *How* choices originate, and
- *Why* we make particular choices

In a human-induced, influenced and (partly) determined system the question of 'free will' is an essential one. Depending on the resolution of the conundrum whether or not 'free will' exists, the system's dynamics can be expected to be (at least theoretically) deterministic or inherently indeterministic. Existentialists like Sartre (1969) argue that humans do have a genuine 'freedom of choice', forcing us to create our own 'personalised' values and our own morality – and thus imposing accountability and responsibility for our behaviour on each individual. But, do we have a say in what is going to happen or are we unknowingly puppets on a string? Is the world's evolution predetermined, and are our lives subject to destiny and karma or are we 'free'? The prolonged battle to provide answers to these questions has been fought at many fronts, but as yet we still are in the quandary of being ignorant of the final outcome.

The more recent philosophical debate in Western philosophy covers a (logocentric) spectrum that ranges from Hegel's (1949) temporally-mediated *and* eternal freedom of choice and morality, to Sartre's (1969) intrinsic freedom of consciousness and Foucault's (1970; 1980) theory of historical discontinuity with his 'genealogy' of power/knowledge as a narrative. Popper's (cited in Barrow 2000, p. 7) statement summarises the dilemma. "If the physical laws of this world are autonomous, we are not free; if we are free, then the physical laws are not autonomous." Although one might argue that our behaviour and decision-making could enjoy a degree of freedom

within the laws of physics governing the known universe, if there are ‘equations with more than one solution’.

In the natural sciences Einstein’s (1962) general theory of relativity seems to provide an answer. Spacetime is fully four-dimensional and “... the entire *world line* of a particle, charting the whole history of its motions in spacetime, can be calculated from the theory” (Coles 1998, p. 352). Quantum mechanics does not, however, coincide with this Laplacian fantasy of determinist predictability (Gleick 1997, p. 7; Johnson 1997, p. 156; Barrow 1999a, p. 48). It is not (yet) possible to resolve emerging inconsistencies when combining both theories. The answers they provide are inconclusive and cannot solve the conundrum regarding human nature.

Following Steiner’s (1989, p. 192) line of thought, it is argued that neither the behavioural sciences nor the physiological sciences can be of imperative exactness. However, since we cannot observe any predestined behaviour I resist the (positivistic) idea of being a marionette in a cut and dried universe:

For positivists, human beings are rational individuals who are governed by social laws; [...]. There is no free will (Sarantakos 1993, p. 35).

Instead, I choose to adopt the existentialists’ position by presuming the existence of a genuine ‘free will’. I thus accept the anticipated yet inconvenient consequence that system–models of human interaction are at least partially indeterministic in principle. This viewpoint reflects the interpretive perspective within social science and ideas embedded in the critical perspective of critical theory (Sarantakos 1993, pp. 35-36). Critical theory (*Chapter Three*, section 3.1.1) incorporates ideas expressed in Skinner’s (1953; 1974) behaviouristic psychology (O’Donohue and Kitchener 1999; Thyer 1999) in so far as it accepts that ‘free will’ is manipulated by social factors. Critical theory and behaviourism thus provide a loophole for the employment of the chaos paradigm. Both suggest that even behaviour based on creativity and the ‘free will’ concept is conditioned by the environment, i.e. action is influenced (or governed) by a stimulus. Thus human activity *can* fall into the category of ‘deterministic chaos’ (section 1.7), making at least the conditioned part of human behaviour amenable to the idea of

chaos and complexity. Modelling network patterns at the meso scale level (*Chapter Six*) is thus informed *inter alia* by critical theory and behaviourism as a theory.

The examination of individual choices and decisions in the micro scale model (*Chapter Seven*) is based on the premise that an underlying genuine ‘freedom of choice’ exists. If human behaviour can *not* be identified as environmentally conditioned, or mediated, the resulting decision-making pattern is treated as ‘absolutely chaotic’ (*Chapter Four*, section 4.4.2). Choices and actions (or inaction) that are not bound by the limits of basins of attraction (*Chapter Four*, section 4.3.1) are interpreted as discursive resultants and are examined in the situational context.

A second cognate problem (that has resisted any attempts to resolve it) is the question *how* we choose. Unlike “... the fundamental economic presumption that individuals act rationally (i.e. consistently) to maximize their self-interest” (Sinclair and Stabler 1997, p. 161), and in contrast to linear models of rational human behaviour in management and public administration (Maani and Cavana 2000, p. 4), I presume that human intellect comprises irrational and emotional components as well as *zweckrational*⁴⁶ reasoning, all of which exert an influence on decision-making processes. Furthermore, it is argued that intellectual *and* emotional intelligence are both essential ingredients to arrive at successful and sensible decisions (Goleman 1996). Consequently, the question arises whether humans act only to optimise their personal yield or whether there is a complementary impetus for a particular behaviour.

The existence of human societies suggests that Huxley and Huxley’s (1971) competitive view of human nature has to be balanced by Kropotkin’s (1972) cooperative description of human nature. The latter views the ‘necessity to cooperate’ in order to survive as a species as a typical (but not exclusively) human ‘trademark’ (Ridley 1997, p. 5). I adopt the position that both competition and cooperation are inherent human character traits. The study of ontogenic couplings between organisms corroborates this claim (Maturana and Varela 1998, p. 197). On the one hand, the struggle for existence of the individual might be the cause of selfishness. Mutual aid

⁴⁶ German for ‘rational behaviour that pursues a particular purpose’

and support, on the other hand, could be a key towards sustainable societies (Ridley 1997, pp. 1-7). I argue that both “The Selfish Gene” (Dawkins 1989, book title) as well as altruism, or at least reciprocal altruistic tendencies in human behaviour (Trivers 1985; Nowak and Sigmund 2000), have to be accounted for in a system model of ecotourism and SETD (Holzapfel 2000). The idea of collaboration as a tool of SD is elaborated in *Chapter Six*, where competition and cooperation are identified as instrumental to the relationship between ecotourism operators.

From a systemic perspective it is concluded that an inquiry into causation, function, interaction and reason of human encounter has to focus on the questions whether and how individuals are reciprocally influenced by the entire system, or subsystems of which they are a part. Taking the previous assumptions into account, it is argued that chaotic behaviour is consequently (almost) inevitable. This applies all the more if human activity within the system is coupled with the complexities of other (non-human) nested systems, or variables (Fränze 1998, p. 419).

1.8.2 Whose Morals?

‘All truth is simple’ – is that not a compound lie? (Nietzsche 1990, cited in Buchanan 2000, p. 57)

The question remains how we *should* think and act. The unwritten code of conduct and practice of life is based on values, virtues, beliefs and assumptions, the so-called ‘undiscussables’ (Argyris 1990, p. 25, cited in Maani and Cavana 2000, p. 13). These ‘imperatives’ find their expression *inter alia* in customs, traditions, policies and legislation, all of which form the basis for the way we think about and treat others and ourselves⁴⁷. Cultural and societal conventions also influence our interaction with the non-human environment. It is argued that a particular way of life has its origin in the acquisition of what Wilson (1993a) calls a moral sense. According to Ridley (1997, p. 142) “Morality requires an innate capacity for guilt and empathy, ...”, and I argue that ecotourism and SD are two ideas, or concepts that include these two notions. The specifics of a moral sense are influenced by a (changing) perception of non-human

⁴⁷ In *Chapters Five to Seven* it is argued that thinking, feeling, willing and acting do not necessarily coincide.

Nature as well as the particular perception of fellow human beings. I argue that the qualities of guilt and empathy are, however, neither of a static nor universal nature. Ecotourism and SD thus stand for complex and often contradictory concepts, which exist within a continuum of evolving imaginations and interpretations. The question remains to be answered: Whose morals should be adopted to formulate a conclusive and precise definition of these terms?

It has been argued that neither the natural sciences (section 1.3.1) nor the social sciences (Creswell 1998) can produce absolute knowledge. Moral relativism (Grassian 1981; Robinson and Garratt 1997) suggests that moral philosophy and foundational ethical theory are no exception. As a consequence applied ethics in the confrontation with genuine moral problems resist perfect theoretical unity (Barrow 1993, p. 14; Winkler and Coombs 1993b).

I do not intend to solve the problems of ethics⁴⁸, but rather focus on the question how to find acceptable, satisfying moral codes for ecotourism and SD, the precursors for any definition of these terms. The claim is made that morality and resulting conventions cannot be monopolised, and are always situational and contextual products rather than the outcome of logical thinking, or scientific analyses. I take a pluralistic moral stance (Stone 1988), claiming that there is *no* 'ideal' morality underlying the concepts of sustainability, SD and ecotourism. Even if the metaethical position of moral absolutism, or objectivity is adopted, subjectivity of values within a sociological, or cultural relativism can be observed and experienced (Grassian 1981, pp. 27-28), rendering Stace's (1937) ethical universalism infeasible (Grassian 1981, pp. 31-35).

The ecotourism phenomenon and the concept of SD involve and affect individuals and communities with a range of diverse and often conflicting interests, needs and desires. Participants from different socio-cultural and ethnic backgrounds are interlinked in a network of relationships and interdependencies. (These links are modelled in *Chapter Six*.) It is argued that coherent, acceptable and justifiable

⁴⁸ Here interpreted as moral philosophy in contrast to ethics in the Lévinasian sense of a 'first philosophy' (Critchley 1992, p. 16).

definitions of ecotourism and SETD have to accommodate the multitude of positions individuals and societies take on the various moral questions concerning ecotourism as a form of tourism, and of SETD as a tourism planning and development concept. Consequentially, this holds also true for ethical guidelines, and codes of conduct and practice for ecotourism and SETD, which are implicitly based on particular strands of environmental ethics (Holzapfel 2000).

Consistent with my view of human nature, Kant's categorical imperative (von Weischedel 2000), which postulates reason rather than empirical, or sensuous motives as the ultimate foundation of morality (Normann 1995, p. 589), can therefore be replaced by hypothetical imperatives (McDowell 1978; Crisp 1995). These depend on reasons, emotions and desires, all of which influence morals, which constitute the underlying guiding principles for definitions, goals and objectives of ecotourism and SD. Furthermore, taking into account Māori *tikanga*⁴⁹ (which is based on *prima facie* principles regarding inanimate Nature), the utilitarian idea of universalistic hedonism is discarded in favour of irreducibly pluralistic moral principles, obligations and what Aristotle termed 'situational sensitivity' (Slote 1995, p. 593). The situational context thus serves as a matrix and starting point for modelling the 'ideal' code of ethics for a prototype of ecotourism and SETD. In tourism research this idea is reflected in Murphy's (1993) community approach. In New Zealand the idea of community involvement is evident in the central government's current consideration to devise inclusive processes by incorporating community information, consultation and participation strategies in environmental protection legislation (New Zealand Department of Conservation (DoC) Te Papa Atawhai 2000, email).

1.9 Hypotheses

This last section of the introductory chapter concludes the list of 'starting points' by stating the fundamental hypotheses of this study. It is assumed that SETD has not reached an 'ideal' state. Instead, the claim is made that SETD is recognisable and indeed perceived as a problem situation in the institutional context as well as on an

⁴⁹'The right to do' (Tapine and New Zealand Council for Educational Research 2000, p. 9)

individual basis. Primary presumptions are that sustainable ecotourism tourism development can be expressed as an operational theoretical concept and as a field of empirical inquiry. The possibility of dynamic forecasting is expected to be limited due to the complexity and partially chaotic, as well as inherently random behaviour of the phenomena involved.

The study's *leitmotiv*⁵⁰ is that ecotourism and SETD can be represented theoretically within 'systems thinking' by conceptualising and designing a system model. This abstraction of reality is expected to display the characteristics of an open, complex and adaptive system (*Chapter Four*, section 4.2.3; *Chapter Five*, section 5.5) in the sense Gell-Mann (1994) employs these terms. I thus anticipate that the model reveals autopoietic (Kauffman 1996, p. 274; Capra 1997, p. 202; q.v. *Chapter Five*, section 5.4.1), self-organising and self-maintaining properties (Kauffman 1996; Johnson 1997) of the 'complex mess' it is mimicking. Development implies change; and it is hypothesised that sustainable system dynamics reflect stability, i.e. a non-stationary, or fluctuating equilibrium rather than a stasis.

In respect of key variables it is hypothesised that human behaviour is the key driver of the system's dynamics and development. Viewing the human as a *zoon politicon*⁵¹ (Fränze 1998, p. 419), anthropogenic processes are expected to be subject to spatial and temporal variation (*Chapter Four*, section 4.3; *Chapter Five*, section 5.3), resisting any attempt to describe them in a uniform way (Schellnhuber and Wenzel 1998, p. XIV). The utilisation of the chaoplexity paradigm in a human–activity system is anticipated to be limited in regard of irrational and emotive fractions of human nature and the inclusion of the 'free will' concept.

With regard to the possibility of an empirical inquiry it is hypothesised that, within the confines outlined in sections 1.3.1 and 1.4.2, a holistic methodology, based on methodological triangulation, can be developed to collect the necessary data essential for the model-building stage. It is anticipated that a combination of principles and

⁵⁰ German for 'recurrent theme'

⁵¹ 'Political animal'

ideas, deduced from a range of qualitative research methodologies, offers a means of structuring a holistic approach to the interpretation of the data, resulting in the optimisation of trade-offs.

Regarding the dynamic forecasting capabilities of the model it is hypothesised that the system model will possess linear, 'linearised' and non-linear qualities, resulting in theoretically and practically deterministic, as well as indeterministic dynamics of the system as a whole and of its subsystems. It is expected that in parts of the system model "... contingency [not randomness] dominates and [dynamic forecasting] [...] recedes to an irrelevant background" (Gould 1991, p. 290, cited in Byrne 1998, p. 40). Non-linear characteristics are thus anticipated to limit the prognostic power of the model.

With respect to the *validity and reliability* of research results, it is anticipated that analysis and interpretation will bear the characteristics of relational and *pro tempore* statements. Relating to the *operationalisation* of research results it is expected that the implementation of suggested changes and improvements will reflect a cyclical and iterative process, where theoretical conclusions and practical implications are treated as tentative answers, constantly being challenged and revised in a continuous learning circle. The 'essence' of research results is not expected to reflect the character traits of 'absolute and final answers, or solutions'. Rather, it is anticipated that 'problems' will remain neither the same nor that they will stay 'solved'. 'Solutions' are envisaged to be in constant flux (Checkland 1981).

PART III

THE THEORETICAL AND METHODOLOGICAL FRAMEWORK



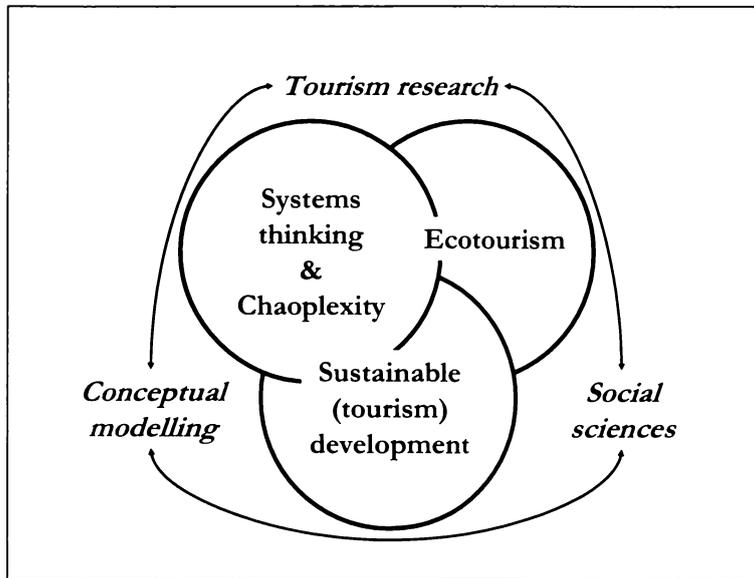
Chapter Two

Information Synopsis

By outlining and evaluating the emergence of different lines of thought in the context of my research, this chapter provides an account and constructive criticism of current theories informing the debate, and their application in tourism research. Given the suggested multidisciplinary character of tourism studies (Wolf and Jurczek 1986, pp. 21-22; q.v. section 2.1) there is a myriad of non-tourism sources that inform my research. The literature review focuses on *background* tourism related literature and *additional* sources of information on issues surrounding the theoretical approach and the subject areas of the inquiry. Key findings of theories, concepts and ideas that play an *immanent* role in my research are mostly dealt with at the appropriate place in the thesis.

The critique further establishes my own position within the philosophical, theoretical and methodological framework of four main areas of inquiry: (1) ‘Systems thinking’ as a philosophy, perspective and theoretical approach; (2) the adoption of the chaoplexity paradigm in the social sciences and in particular in tourism research; (3) the concept of sustainable tourism development and its position within the global ‘sustainability’ debate; and (4) ecotourism as a tourism product and special form of tourism. The issues are intertwined, and it is the overlap of these focal themes that is explored here in regard of my research goals and objectives (Figure 7).

The first two sections (2.1 and 2.2) deal with the *objects* of my inquiry by providing the historic backdrop and a theoretical account of the focal points of my *research approach*. The emphasis is on the body of knowledge in respect of the adopted philosophical and conceptual (viz. system) perspective, and the pursued methodological (viz. modelling) approach. Both sections thus evaluate the current status, and outline my own position in regard of systems thinking and the utilisation of the chaoplexity paradigm in tourism research.

Figure 7 Key themes and *key words*

The development of tourism research is epitomised by sketching the beginnings of a fragmented, mostly descriptive and weakly theorised geography of tourism (Britton 1991, p. 451), characterised by deterministic, simplistic and mono-perspectival (viz. mostly economically orientated) models of tourism development, towards a representation of complex dynamics and uncertainties in multidimensional, multi-layered, and multi-perspectival system models.

The next two sections (2.3 and 2.4) focus on the *subject areas* of the thesis. Outlining the philosophical context and origin(s) of the ‘sustainability debate’, they provide an overview of the historic advancement of sustainable development as a global concept in an array of (scientific) disciplines and other spheres of life. The emergence of sustainable tourism development as a way of ‘doing’ tourism, as well as of ecotourism as a (new) form of tourism and as a research discipline, is explored. Conjunctions between the sustainability paradigm, sustainable tourism development and ecotourism, as well as current theories and ways of studying these concepts, are contrasted with my own research approach.

2.1 The Emergence of Systems Thinking in Tourism Research

The nature and value of tourism studies is still a contested topic (Perkins and Cushman 1998, p. 2). Shaw and Williams (1994, p. 243) point out that tourism research, or tourism studies at the beginning of the 1990s fell into the category of a somewhat marginal and isolated research area, and was not widely recognised as a traditional and accepted academic discipline. However, to disdain tourism research as an ‘offshoot’ of so-called ‘purer’ disciplines, neglects the notion that all ‘autonomous’ fields of inquiry are in fact interrelated. Being the result of convenience and practicality, the splits are artificial. Neatly and arbitrarily dissected into categories and subject areas, science ‘delivers’ abstract and simplified *pro rata* versions of reality (*Chapter One*, section 1.3.1). These partitions of Nature “... become so ingrained in our thinking that we find it hard to see the unity which underlies the divisions” (Checkland 1981, p. 60).

Dann (1997, p. 474) speaks of a “... fragmented understanding of tourists and tourism”, and concludes that “There [is ...] no single truth underlying tourism inquiry ...” (ibid.). Dann’s view is implicit in Mowforth and Munt’s (1998, p. 3) suggestion that tourism research can be viewed “... as an activity which helps us to understand the world and the ways in which humans interact with the planet and with each other in a range of senses”, rather than a discrete field of study. Provided that the (now commonly acknowledged) multi- and interdisciplinary character (e.g. Mowforth and Munt 1998, pp. 3, 9; Aronsson 2000, p. 8) of tourism is considered, the very same argument also justifies Leiper’s (1981) earlier claim that, while being multi-perspectival in nature, tourism research is indeed a discrete field of scientific inquiry. I reject, however, Jafari’s (1989, cited in Butler 2000, p. 338) assertion that “... geographers are expected to make their primary contributions to the study of tourism in the environmental sphere.” Instead, I concur with Wilson (1998) who stresses the necessity of permeable boundaries between disciplinary knowledge, which enable us to understand complex phenomena that transcend these artificial categories. It is argued that statements regarding the ‘interdisciplinarity’ as well as the ‘discrete’ character of tourism research are complementary rather than contradictory assertions. The argument is supported by Mowforth and Munt (1998, p. 3) who use the ‘focal lens’

analogy to describe the multidisciplinary approach “... as the only way in which tourism can be comprehended.”

I adopt the stance that tourism, viewed (but not defined) as human encounter, interaction and experience, furthermore requires a *multi-perspectival* research approach that accounts for stakeholders’ different realities. In the ecotourism context this claim is corroborated by Björk’s (2000, p. 190) statement that “... a complete understanding of a concept cannot be generated if it is not viewed from different perspectives.” The inclusion of differing viewpoints can alleviate (but not cancel out) the biases of a study, ‘objectifying’ the subsequent representation of particular aspects of tourism to a certain degree. In this case the research is strongly wedded to my personal background and worldview as a male, white European with a scientific education. In accordance with Dann (1997) I presume that the interpretation of the phenomenon tourism is influenced by various paradigms, but, as Dann (1996) pointed out earlier, is theoretically grounded in the social sciences.

A multidisciplinary approach and multi-perspectival representation of tourism is related to ‘systems thinking’. Within the Western scientific paradigm the ‘genealogy’ of a general systems theory, as a body of knowledge that comprises ideas, concepts and techniques to model ‘real world’ phenomena as evolving complex and open systems, can be traced back to Russia in the early twentieth century (*Chapter One*, section 1.6). According to various authors the main impetus for the emergence and development of a systems approach in the natural sciences is a lasting anti-reductionist trend within the scientific community (e.g. Checkland 1981, pp. 52, 92; Capra 1997; Thrift 1999b, p. 33). The systemic perspective of interdependent and interactive elements and events, as a way to imagine, investigate and interpret dynamics in the human dimension, entered the social sciences as early as the 1970s (*Chapter One*, section 1.4.3). However, rather than replacing reductionism and determinism, my aim is to adopt an integrative stance, which is in agreement with Checkland’s (1981, pp. 74-75) assertion, that “... systems thinking and analytical thinking will come to be thought of as the twin components of scientific thinking, ...” Following this argument, one of my research objectives is to ‘paint a holistic picture’ by investigating and modelling emergent *and* structural *and*

dynamic properties of a system that operates in the human realm as well as in the non-human dimension (*Chapter One*, section 1.6).

Theories in the social sciences that are related to, or associated with ‘systems thinking’, and utilised (or abandoned) in my thesis, are critical theory (*Chapter Three*, section 3.1.1), action theory (*Chapter Three*, section 3.2.1), actor–network (or actant–RHIZOME) theory (*Chapter Three*, section 3.3.3), the social theory of space and the theory of the space of flow (*Chapter Three*, section 3.3.4), structural functionalism (*Chapter Five*, section 5.4), and structuration theory (*Chapter Five*, section 5.4.1). The theoretical and practical suitability (or weaknesses) of these theories in respect of my specific research objectives are evaluated at the appropriate place in subsequent chapters.

According to Leiper (1997, p. 22), it was probably Cuervo (1967) who introduced the system modelling approach to tourism research. From a sociological and socio-anthropological perspective Cohen (cited in Jafari 1976, pp. 6-7) conceptualises tourism as a social system, and defines three major research areas that comprise the study of tourism:

- The social structure of tourism as a set of institutions and relationships
- Processes of interaction, and
- Tourism impacts

Mowforth and Munt (1998, p. 38) note that earlier analyses of tourism have, however, focused on conceptualising *structural* and *deterministic* models of tourism. In the German literature earlier accounts of tourism as an interactive and reciprocative activity, are Grünthal’s (1934, cited in Wolf and Jurczek 1986, p. 24) theoretical deliberations of research problems in tourism geography and Sputz’s (1919, cited in Wolf and Jurczek 1986, p. 23) case study of geographic conditions and the effects of tourism on the environment. In the English-speaking world Plog’s (1974) psychographic tourist typology, Gunn’s (1972) and MacCannell’s (1976) tourist attraction systems, Doxey’s

(1975) ‘irridex’⁵², Leiper’s (1979) tourism framework, Gunn’s (1979; 1994) and Gunn and Var’s (2002) planning framework, as well as Butler’s (1980) destination life cycle model, are well-known contemporary examples of tourism models. They capture isolated parts or dynamics of the tourism system from a particular perspective by conceptualising, classifying, or predicting individual aspects of tourism development.

Since the late 1980s criticisms have been voiced by social scientists regarding the inadequate appreciation and representation of tourism’s complexities (Crick 1989; Clarke 1997, p. 226, cited in Mowforth and Munt 1998, p. 38). A ‘classic’ example of the attempt to conceptualise the whole tourism system is Mill and Morrison’s (1985) introductory text, which models the phenomenon tourism as a closed system. Adhering to the ‘closed–system approach’, their book appeared in a second and third edition in 1992 and 1998. Collier’s (1997) account of ‘Principles of Tourism’ is an example of a ‘closed–system approach’ in the New Zealand context. Around the same time Mill and Morrison’s work was first published, the necessity to model and represent the tourism phenomenon as an integrative and interactive system was pointed out by McIntosh and Goeldner (1986, p. 14, cited in Leiper 1997, p. 22), and has not been omitted three editions later (McIntosh *et al.* 1995, p. 21):

... what is really needed to study tourism is a systems approach

In the academic German literature there are sporadic earlier accounts that stress the idea of open and permeable boundaries within the tourism system. For example Monheim (1975) and Kaminske (1981) depict intersections, overlaps and entanglements of recreation, leisure and tourism dynamics with other areas of existence in their conceptualisation of tourism research. A geographic complex-system analysis of leisure and tourism is Wolf and Jurczek’s (1986) publication. The authors emphasise the dynamic character of the tourism system, and include political decisions and effects in their representation of tourism as a model of interactive processes that are influenced by external stimuli (*ibid.*, p. 9). Pearce’s (1989) work exemplifies the seminal reductionist stage of ‘systems thinking’ in tourism research, when the phenomenon

⁵² Visitor–resident irritation index

tourism was generally analysed by disassembling it into its component parts (McKercher 1999, p. 426). To the best of my knowledge Murphy's (1993) 'community approach', which was first published in 1985, is the only model that treats tourism as an *organismic* (and thus evolving) system by using the analogy of a living ecosystem.

In the 1990s the pendulum veered round and systemic models of tourism proliferated, stressing the multi- and cross-disciplinary character of tourism (e.g. Leiper 1990; 1997, p. 26). These models acknowledge that tourism "... is a function of the interaction of different factors in contemporary society" (Holden 2000, p. 1). The phenomenon tourism is now commonly equated with '*the dynamic tourism system*', without further questioning the system approach (e.g. Harrison and Husbands 1996, p. 1; Heath and Wall 1992, and Przeclawski 1993, cited in Clarke 1997, p. 226). Wolf and Jurczek (1986, p. 16) point out that earlier system analyses of tourism are often characterised by 'mono-perspectival' approaches (viz. usually with a business, or management focus). Concurrently, the authors (ibid., p. 33) suggest possible alternative perspectives of tourism research (see also Hughes 1992; McIntosh *et al.* 1995, pp. 17-21). It is argued that a predominantly economic perspective pervades the academic tourism literature to this day. More recent examples are Leiper's (1997) 'Tourism Management System' and Hall and Page's (1999) 'Geography of Tourism and Recreation'. I presume that not only Leiper's (1997, p. 22) system analysis was inspired by Boulding's (1956; 1966) systemic framework of economics, which incorporates issues regarding environmental sustainability (Sinclair and Stabler 1997, p. 156). Boulding's (1981; 1987) later adoption of an organismic (or evolutionary) economic perspective may also have affected systemic tourism analyses like Murphy's (1993) 'community approach'.

Early links between a systems perspective, economics and ecology have evolved into discrete (foremost economic) approaches of SD, i.e. systems ecology and ecological economics (e.g. Berkes and Folke 1992). In the global context Laszlo's (1994) 'vision for global survival' is a recent example, where global challenges for humanity are conceptualised on the basis of evolutionary systems theory. His account also exemplifies the application of the chaoplexity paradigm in the social sciences, an approach that is discussed in the next section (2.2).

Questions of tourism planning, development, marketing and management, which are commonly dealt with from the tourism industry's or the public sector's viewpoint, tend to focus on physical structures and the spatial distribution of networks, on travel flows, geographic patterns of recreation and leisure pastimes activities, or on environmental impacts of tourism (e.g. Williams 1998). McKercher (1999, p. 426) summarises the shortcomings of current existing models:

By design, the existing models are selective in which elements of tourism they include and which disciplinary issues relating to tourism they strive to explain. With few exceptions, they tend to focus narrowly on selected destination variables or on a simple relationship between markets and a destination.

In the context of ecologically sustainable tourism development the same demand expressed by McIntosh and Goeldner in the 1980s (q.v. quote, p. 62), is reflected more than a decade later in Carlsen's (1998, p. 251, subheading) paper:

The Need for a Systems approach to Understanding ESĐT⁵³

The application of 'systems thinking' in tourism studies remains, however, in practice often a network analysis of case studies, with the emphasis on structural patterns and their connectivity. Concurrently, these reductive and deterministic closed-system approaches often neglect underlying (subtle) processes and external stimuli. Mowforth and Munt's (1998) book is one example that represents 'the exception to the rule'. Their account of interrelationships and interdependencies between tourism, sustainability and the 'Third World' stresses the relevance of political forces and global processes in the tourism context. Causal human agency of system dynamics is here typified as (hierarchical) power relationships. It is interesting that the authors utilise a complex system approach implicitly by modelling tourism as an open system, *without* mentioning 'systems thinking' explicitly as their philosophical, or theoretical framework. Bryner (2001) is another author who stresses the leverage of political forces and (hierarchical) relationships in a global context. He further points to the significant role political network capacities play in the realisation of SD. In the ecotourism context Tyler and Dangerfield's (1999) work exemplifies the attempt to

⁵³ Ecologically Sustainable Development of Tourism

combine ecological ‘systems thinking’ with a philosophical rationale to conduct ecotourism in a sustainable fashion. (The meaning(s) of sustainable tourism development are discussed in section 2.3.)

The ‘snowball effect’, which ‘systems thinking’ in tourism research experienced in the 1990s, led to the dominance of *systemic* tourism analyses as opposed to reductionist approaches (e.g. Horn and Simmons 1998; Simmons and Leiper 1998; Wall 1998; Jones *et al.* 2000). The confluence of the system approach with the concept of sustainable tourism development is also evident in the literature. Within the range of available tourism planning approaches, system models are now regarded as *the* concept to achieve sustainable tourism development objectives (Hall *et al.* 1997, pp. 20-21).

Concurrently, ‘systems thinking’ is often equated with a holistic perspective (e.g. Checkland 1981; Carlsen 1998, p. 249; Hall and Lew 1998, pp. 1, 3). This equal status of the terms ‘systemic’, ‘integrative’ and ‘holistic’ causes ambiguities, a problem that I have addressed in *Chapter One* (sections 1.5 and 1.6). However, despite ‘systems thinking’ now being the ‘trendsetter’ in tourism research, complex interrelationships in tourism are still poorly conceptualised and understood. According to McKercher (1998a, p. 2, unpub.; 1999, p. 426), systemic tourism models are often based on flawed assumptions of an outdated reductionist paradigm, where:

- Systems are closed and their dynamics can be controlled
- The claim is made that a set of common goals and objectives can be identified, often without taking into account the various stakeholders’ differing (and evolving) perspectives
- Parts of the system add up to form the whole system

Carlsen (1998, p. 255) identifies the reason for these deficiencies as “The narrow focus on tourist flows and observable economic, social and environmental impacts[, which] disregards the more fundamental factors that underlie the functioning of the tourism system.” While Carlsen (*ibid.*) and McKercher (1998a, unpub.; 1999) attribute the shortcomings to a persistently mechanistic and reductionist (and thus implicitly

myopic) approach, I believe that additional factors further contribute to only partially successful realisations of systemic analyses and holistic interpretations of tourism as a complex and dynamic phenomenon and open system. These factors are:

- Ambiguous definitions and simplistic binaries – and thus a confusion of terms and their meaning(s), e.g. simple and complex, systemic and holistic, synergistic and antagonistic emergence, external and internal stimuli
- The omission of (subtle) power relationships and resulting forces (or processes) in respect of the system's dynamics in tourism models
 - In particular the neglect of 'informal' communitarian politics and personal relationships
- The disregard of non-communicative effects (*Chapter Four*, section 4.4.3; *Chapter Five*, section 5.4.1)
- The difficulties of interpreting and representing the phenomenon of cognitive dissonance⁵⁴ and its effects adequately

The second point has been confirmed as a shortcoming of tourism analyses *inter alia* by Mowforth and Munt (1998). It is concluded that 'complex systems thinking' in tourism research is still in its infancy, and my aim is to build on previously acquired knowledge of system modelling in other disciplines and its application in tourism research. In this connection Schellnhuber's (1998, p. 56) system model of 'pure' SD paradigms, which correspond to elementary control principles, is discussed in section 2.3.2. My intention is to expand the 'typical and traditional' economic/managerial tourism network perspective by integrating different philosophical and ideological viewpoints and dimensions into multi-perspectival and multi-layered models that display an open and dynamic ecotourism system on different scales. The aim is to depict mental and physical processes, as well as the influences of these forces on structures, relationships and patterns, by integrating the various stakeholders' perspectives.

⁵⁴ 'Cognitive dissonance' is a term used to describe an observed discrepancy between the thinking, feeling, willing and acting of individuals.

2.2 The Chaoplexity Paradigm in Tourism Research

Within ‘systems thinking’, the chaoplexity paradigm encompasses a blend of concepts and ideas that describe a special type of system behaviour (viz. chaotic system dynamics) and characteristic features of certain systems (viz. those system properties that are associated with complexity). The distinction between chaos and complexity, as well as an unambiguous definition of these two terms, are not trivial, but essential in order to understand the different implications of the chaoplexity paradigm in the natural sciences and in the social realm respectively. A detailed discussion of complexity and of chaotic behaviour follows in *Chapter Four* (in particular in sections 4.2.3 and 4.4.2).

The idea of chaos as a universal property of reality is not new, and can be traced back to ancient Chinese philosophies and religions, as well as to Greek cosmology (Encyclopædia Britannica 1997; Sardar and Abrams 1998, pp. 3-4). Within the Western scientific paradigm, the genesis of chaoplexity and the conceptualisation of chaotic and complex processes can be traced back more than a century to the works of the physicist Poincaré (Buchanan 2001, p. 29). The associated concept of ‘fractals’ (*Chapter Seven*, section 7.4.2) has been attributed to Mandelbrot (1977), but its roots date back to the 19th century. The idea of scale independent invariance can be found in the works of the mathematician Weierstrass from 1872 (Buchanan 2001, p. 255) and in von Koch’s ‘Koch-curve’ from 1904 (ibid., p. 63).

It was not until the early 1960s that Lorenz (1963, cited in Stewart 1997, p. 121) discovered the ‘Butterfly Effect’⁵⁵ in computer simulated weather patterns. His work reflects the first attempt to ‘harness and tame’ mathematically, what we perceive, or experience as discontinuous, erratic, or irregular behaviour in Nature. Converting the statistical data into graphics, Lorenz represented these aperiodic atmospheric vacillations as ‘strange attractors’ (*Chapter Four*, section 4.3.1). Electronic computation thus made chaos and complexity accessible to scientific inquiry (Gleick 1997, pp. 11-31). The concept of chaoplexity emerged as a discrete discipline in the natural sciences

⁵⁵ Or ‘Sensitive Dependence on Initial Conditions’ (SDIC)

in the 1970s (*ibid.*, p. 3). Its application went through a similar ‘dissemination’ process as general system theory.

The formal merger of the in principle multi- and interdisciplinary chaoplexity paradigm into a discrete discipline was achieved under the auspices of the Santa Fe Institute (SFI), which was founded in 1984 (Thrift 1999b, p. 41). One aim of the research centre is the amalgamation of ‘systems thinking’ and chaoplexity into a theoretical framework that can cope with the complexities of SD in the natural and the social realm. This is evident in a statement regarding SFI’s research objectives. According to one of its co-founders Gell-Mann (1994, p. xiii), the institute embodies the attempt “... to model ways in which human society on our planet might evolve toward more sustainable patterns of interaction with itself and with the rest of the biosphere.”

The assumption of congruence between chaos and complexity in the natural sciences on the one hand, and the social sciences on the other hand, emerged approximately three decades ago. Thrift (1999b, p. 32) notes that the links between ‘complexity theory’, geography and cognate disciplines were established early on in the 1970s. The transition process between ‘complex systems thinking’ in the natural sciences and the social sciences is marked by applications in quantitative geography (e.g. Chorley and Kennedy 1971). An early attempt to understand questions and problems of conservation within the chaoplexity paradigm is reflected in Johnson’s (1972) collection of research publications in the environmental and ecological sciences.

The subsequent incorporation of ‘complexity theory’ in the social sciences is exemplified in Checkland’s (1976; 1981; Checkland and Scholes 1990; 1994; Checkland and Holwell 1998) ‘Soft Systems Methodology’ (SSM). Checkland (and Scholes and Holwell) theorise and utilise ideas and concepts encompassed in ‘complexity theory’ by formalising a system-based problem-solving technique for human–activity (or social) systems. Checkland’s methodology focuses on the economic sector, with applications primarily designed to deal with ‘fuzzy’, ill-defined problem areas that can be identified at the managerial level of businesses. However, unlike later works of social scientists and tourism researchers in the 1990s, Checkland’s conceptual model caters for

complex *and* chaotic behaviour in the social realm *without* actually labelling ‘chaos’ as such.

Checkland (1981, p. 245) and Thrift (1999b, p. 33) point out that ‘systems thinking’ arose historically with the chief impulse to cope with the kind of complexity – whether in natural, or in human and social phenomena – that defeats the reductionism of the classic scientific method. However, a problem emerges if complex and chaotic behaviour in human–activity systems is interpreted and treated in the same way complex and chaotic behaviour in natural systems is understood and modelled (This issue is further discussed in subsequent chapters). Checkland avoids falling into the trap of equating (in principle indeterministic) chaotic human behaviour with (in principle deterministic) chaotic natural processes by using Wymore’s (1967, cited in Checkland 1981, p. 133) argument, which *de facto* ‘linearises’ human behaviour and limits the prognostic precision of conceptual human–activity system models:

Extant insights from the behavioural science are sufficient to enable the development of system-theoretic models of human behaviour in a restricted environment.

Based on neurophysiological evidence, Checkland (1981, pp. 70, 113) presumes the existence of ‘free will’, and states its effects on social (system) dynamics:

... at the core of the phenomena studied by social science is the self-consciousness of human beings and the freedom of choice which that consciousness entails [...] nothing can remove from the agent his freedom to select his action

The consequence of self-consciousness is that the human being is irreducibly free; he has genuine freedom of choice in selecting his actions.

Subsequent publications on the application of the chaoplexity paradigm in economics (e.g. Ormerod 1998, p. 182) and the social sciences (e.g. Thrift 1999b) do not always clearly distinguish between deterministic chaos in natural systems and the *in principle* indeterministic chaos of unconditioned human behaviour (based on the assumption of ‘free will’) in social systems. I argue that this confusion has led to the assumption that social dynamics can be *predicted* within the chaoplexity paradigm (e.g. Buchanan 2001, pp. 9, 182-192). Byrne (1998, pp. 72-88) proposes to analyse and model the emergence and the dynamics of social chaos and complexity with quantitative methods and SPSS

software by using contingency tables, cluster analyses and correspondence analyses. He acknowledges the deterministic nature of the chaoplexity paradigm, but does not consider inherently random behaviour – and thus in principle indeterministic chaos as a second possible complementary component of social processes. Byrne *ipso facto* fails to regard the potential of ‘free will’ as a causal agent of inherently chaotic social reality.

In tourism research the adoption of the chaoplexity paradigm is in its embryonic phase, and its actual application is ‘yet to be born’. The current state of affairs is reflected in Butler’s (2001, pp. 293-294) statement in a paper that was first published in 1998 (Butler 1998a):

Finally, Faulkner and Russell (1997) introduce the relatively recent concept of chaos theory to tourism development and the resort cycle model. This raises some fascinating implications, not least because it deals in part with questions of agents of change or triggers in the development process, topics which have not been dealt with adequately and which should reveal much about specific cases and general processes.

Various publications suggest, or recommend the incorporation of complex *and* chaotic dynamics in system approaches, but fall short of actually utilising the chaoplexity paradigm (e.g. Faulkner and Russell 1997; Laws *et al.* 1998a; b; McKercher 1998a, unpub.; 1999). To the best of my knowledge Faulkner and Russell’s (2001) chapter constitutes the most elaborate and most recent account that conceptualises an ‘alternative’ model of tourism based on ideas and principles encapsulated in the chaoplexity paradigm.

By incorporating the knowledge derived from these ‘probing’ applications of the chaoplexity paradigm in the social realm of tourism systems, my aim is to find a way of identifying and distinguishing between deterministic chaos and inherently random (or stochastic) choices (which consequentially entail ‘in principle’ indeterministic social chaos) at a conceptual level.

‘Systems thinking’, the idea of chaos and complexity, and the concept of SD display similar and connected thought patterns, with links that can be traced back in history for thousands of years. Daoism, or Taoism, an ancient Chinese philosophy and religion, is but one example of a different culture from a different era where SD and a

holistic system perspective reflect the *modus operandi* and the *modus vivendi* of its followers. In their conduct of life Taoists seek a balancing path (in a spiritual *and* practical sense) towards harmony with Nature (Cleary 1998). The pragmatic part of Taoism can thus be interpreted as ‘the search for order’. Likewise the quest for balance and harmony can be identified as one possible goal of the Western version of SD. The ‘chaos’ in chaoplexity is also order, not simply order, but the very essence of order (Prigogine and Stengers 1984; Hayles 1991; Field and Colubitsky 1995; Lorenz 1995). The spiritual and the scientific roots of SD, as well as their transference into practical applications, are explored in the next section.

2.3 The Manifolds of Sustainable (Tourism) Development

In the previous section it was pointed out that SD (like ‘systems thinking’ and chaoplexity) is neither a new concept nor did it originate in Western societies. In section 2.3.1 it is argued that the (historic) roots of sustainable (tourism) development are of a moral and spiritual nature. In Western societies, political and economic goals and objectives ‘override’ these ethical considerations. These goals and objectives constitute the initial key drivers that characterise the beginnings of a ‘rational’ and ‘informed’ sustainability debate (section 2.3.2). In the tourism context at present two (interconnected) mainstreams of thinking, or positions regarding SD exist concurrently.

On the one hand, the industry sector ‘officially’ conceptualises sustainable tourism development on moral grounds by interpreting environmental ethics from an anthropocentric (and on an individual basis also egocentric) perspective. The affinity of ‘practised’ sustainable tourism development with morality issues is reflected in the common label ‘codes of ethics for tourism’, and is exemplified in the first principle stated in the Global Code of Ethics for Tourism, which was prepared and ratified by the General Assembly of the World Tourism Organization (WTO) (1999, p. 4):

(1) The understanding and promotion of the ethical values common to humanity, with an attitude of tolerance and respect for the diversity of religious, philosophical and moral beliefs, are both the foundation and the consequence of responsible tourism; ...

These codes are the ‘physical output’ of the industry’s deliberations regarding the meaning(s) of sustainable tourism development. Their role is explored in section 2.3.1.

On the other hand, the academic community today theorises sustainable tourism development from a (social) scientific viewpoint, and analyses ‘applied environmental ethics’ that are developed and implemented by the industry. The scientific perspective and knowledge-driven interpretations of sustainable (tourism) development are investigated in section 2.3.2.

The transference of ideas and knowledge between industry and academia is limited, reflecting a communication as well as comprehension gap between researchers and practitioners of tourism at the local, regional and national level. This ‘flaw’ has been pointed out for example by Speary (1999, cited in Ryan 2000b, p. 221) and Plimmer (cited in Ryan 2000b, p. 221). I experienced the need to bridge an existing gap between theory and practice myself while conducting the field work (*Chapter Five*, sections 5.1 and 5.2; *Chapter Seven*, section 7.4.1; *Chapter Eight*, section 8.2.3). In the global nexus, an (indirect) exchange between the scientific community and the industry sector does take place at events like the Rio Summit and other international conventions, when political debates (that are fuelled by socio-economic goals and objectives, power relationships, and scientific findings) result in resolutions that affect the (tourism) industry. The political outcomes of decision-making processes are legislative frameworks at local, regional, national and international level. Global and government regulations (viz. acts, statutes and policies) that are pertinent to my case study are discussed in *Chapters Five to Seven*.

2.3.1 The Moral and Spiritual Roots

It is argued that ethics serve as the ‘foundation-stone’ of any interpretation of sustainable (tourism) development. In particular, environmental ethics form the basis of codes of conduct and practice for tourism. The insight that interpretations of sustainable (tourism) development and environmental ethics are intrinsically linked, is evident in publications that theorise tourism ethics in conjunction with the concept of

sustainable tourism development, or with ecotourism (e.g. Reed and Slaymaker 1993; Hultsman 1995; Isaak 1998; Malloy and Fennell 1998; Honey 1999).

The movement of environmental ethics is rooted in a growing general awareness and promulgation of a global ecological (White 1998) as well as socio-economic (Moncrief 1998) crisis (see also Capra 1982; 1997). According to Mason and Mowforth (1996, p. 151), some of the perceived problems are the direct result of the phenomenon and growth of (conventional large-scale) mass tourism itself. The differing conceptions of environmental ethics are expressed in the various strands that exist in environmental thought (e.g. Winkler and Coombs 1993a; Guerrier 1995; Smith 1997; Pojman 1998; Benson 2000; Pojman 2000). In the international context, a growing body of literature deals with environmental, or ecological ethics for a 'global community' (e.g. Nietzsche 1966; Elfstrom 1990; Rasmussen 1996; Dower 1998; Elfstrom 1998; Attfield 1999).

For tourism, these different strands have been classed *inter alia* by Mowforth and Munt (1998, pp. 164-165) and Holden (2000, pp. 166-172). Together, the different environmental perspectives and practices form a body of opposition against ideological assumptions and values embodied in conventional, or neoclassical economics (Birkeland *et al.* 1997). How SD is defined and conceptualised in the tourism context thus depends in part on the environmental 'vision' the interpreter, or practitioner of a particular version of the concept adheres to. Adopting a particular environmental paradigm (or ethic) in turn is conditional on the specific view of Nature, and how natural heritage and scenery are valued.

Tourism is a Western concept, and the main actors and beneficiaries are usually 'First World' citizens (Mowforth and Munt 1998, p. 47). It is argued that codes of ethics, which are (usually) developed and implemented by representatives of the tourism industry, are thus grounded in a Western philosophy of Nature (Dobel 1998). This has been acknowledged by tourism researchers, and a historic account of changing attitudes towards Nature in Western societies thus often precedes geographic analyses of sustainable tourism development (e.g. Hall 1998; Holden 2000, pp. 24-35).

Due to their origin, existing codes of ethics for tourism commonly have an economic focus reflecting the industry's business perspective. Ethical guidelines further emphasise a morally monistic viewpoint, and clearly prioritise growth objectives of SD. These claims are substantiated by the following two excerpts from the Global Code of Ethics for Tourism (World Tourism Organization (WTO) 1999, p. 2):

... But convinced that the tourism industry as a whole has much to gain by operating in an environment that favours the market economy, private enterprise and free trade and that serves to optimize its beneficial effects on the creation of wealth and employment, ...

(1) All the stakeholders in tourism development should safeguard the natural environment with a view to achieving sound, continuous and sustainable economic growth ...

Hunter (1997, pp. 858, 860) terms this currently dominant perception of sustainable tourism development the weaker 'growth-oriented', or 'product-led' vision of SD. The simultaneous goal to safeguard the natural and cultural resource bases of tourism (World Tourism Organization (WTO) 1999, p. 5), creates 'boundary conditions' for the specific objective to attain (or sustain) continual economic growth. The 'restricted growth' notion of SD is based on the objective to achieve 'Pareto optimality', a condition also known as the Nash solution (Encyclopædia Britannica 2001). In Schellnhuber's (1998, pp. 69-70) scheme of SD (section 2.3.2) these restrictions effectively classify the industry's interpretation of sustainable tourism development as a 'qualified optimisation' approach within the bracket of the optimisation paradigm.

A third quote from WTO's same preamble demonstrates that codes of ethics are meant to inform and 'guide' all participants' and stakeholders' actions and behaviour:

..., all stakeholders in tourism development [...] and bodies of all kinds belonging to the tourism industry, as well as host communities, the media and the tourists themselves, have different albeit interdependent responsibilities in the individual and societal development of tourism and that the formulation of their individual rights and duties will contribute to meeting this aim, ... (World Tourism Organization (WTO) 1999, p. 2).

In this connection Mowforth and Munt (1998, pp. 89-90) emphasise that different groups of stakeholders ascribe to different (and sometimes contrasting) sets of moral

guidelines, such as *work* ethics, *leisure* ethics and *conservation* ethics. The development and implementation of codes of ethics for tourism, and for ecotourism in particular, are now common practice within public administrations, private enterprises (e.g. The Ecotourism Society (TES) 1993a; b; Explorations in Travel 2000), consulting services (e.g. Great Outdoor Recreation Pages (GORP) n.d.), and regional and national business associations (e.g. Belize Eco-Tourism Association (BETA) 1999; Tourism Industry Association of Canada and National Round Table on the Environment and the Economy 1999). Governmental (e.g. Romero *et al.* 1995; Ecotourism Information Centre (EIC) 1998) and multilateral organisations (e.g. World Tourism Organization (WTO) 1999), as well as research bodies associated with the tourism sector (e.g. World Resources Institute (WRI) 1991; Sustainable Tourism Research INterest Group (STRING) 2000) have also adopted a variety of codes of conduct.

D'Amore (2001, email) states that many of these guidelines are modelled on the codes of ethics for sustainable tourism, which were developed by the International Institute for Peace through Tourism (IIPT) shortly after the Rio Summit in 1992. It is therefore assumed that the IIPT code may have been influenced by the 'plan of action for the future', outlined in the Agenda 21 manifesto (Sitarz 1993) and in its tourism version (World Travel & Tourism Council (WTTC) 1995). According to Mason and Mowforth (1996, p. 152), one of the first codes of ethics for tourism to be devised and promoted in Britain was the Countryside Commission's Country Code (1987) in the 1960s. Mason and Mowforth (1996, pp. 163-165) point out some of the current codes' characteristic features:

- The lack of monitoring and evaluation strategies for the purpose of assessing their uptake and effectiveness
 - A finding that is interpreted as a deficiency by the authors (*ibid.*)
- The (mis)use of codes of ethics as marketing tools
- The voluntary status and self-regulatory function of codes of ethics

- The variability of codes of ethics, and a lack of coordination between bodies that design and implement them

Mason and Mowforth (1996, p. 166) highlight that a certain variance might be unavoidable, or even desirable, in order to reflect a local context and differing situational circumstances, as well as prevailing paradigmatic convictions adequately. This notion corresponds with Hunter's (1997) 'adaptive paradigm' of sustainable tourism development, which is discussed in section 2.3.3. It is argued that codes of ethics for tourism could benefit from utilising Aristotle's intellectual (truth) qualities of *epistémé*⁵⁶, *téchné*⁵⁷ and *phrónésis*. In particular the concept of *phrónésis* as the virtue related to value rationality and accepted praxis, or custom (Flyvbjerg 1993, p. 13), could serve as *one* factor in a list of decision-making criteria regarding (applied) environmental ethics, which form the underlying moral base for any design of codes of conduct in tourism.

With regard to Māori ecotourism, I endeavour to investigate the manner in which Māori conceptualise, or practise sustainable (ecotourism) development in the Coromandel, as well as whether and how their ethics are altered or compromised by Western thought and practice. In connection with the Māori worldview and their interpretation of sustainable (Māori) ecotourism, I am thus interested in *principles* of underlying ethics of traditional communities. The perception, imagination and interpretation of Nature by First Peoples is often equated with values and beliefs embedded in spiritual ecology. At the outset it is therefore hypothesised that in these societies notions of SD resemble ideas encompassed in spiritual ecology. My initial understanding (i.e. before conducting the fieldwork) of spiritual ecology suggests that First Peoples' conception of Nature is related to the concepts of radical ecology (Zimmerman 1994; Keulartz 1998) and deep ecology (Berry 1990; Hayward 1994; Lipietz 1995). These could be interpreted as 'Westernised versions' of the spiritual aspects of ecology, conservation and environmental ethics.

⁵⁶ Uncovering how things are that cannot be otherwise (Aristotle 1976, 1139b, pp. 18, cited in Flyvbjerg 1993, p. 13)

⁵⁷ A productive state that is truly reasoned (Aristotle 1976, 1139b, pp. 18, cited in Flyvbjerg 1993, p. 13)

‘Conventional wisdom’ holds that ancient cultures and indigenous peoples have, for (tens of) thousands of years, incorporated the idea of sustainability and SD in their philosophical and religious value and belief systems as well as in their everyday lives. Rousseau’s ‘noble savage’ (Cranston 1991) has turned into the enduring myth of an ‘ecological savage’ (e.g. McFadden 1992; Gore 1993; Knudtson and Suzuki 1994, cited in Holzapfel 2000, pp. 200-201). An example is the oration allegedly spoken by Chief Seattle⁵⁸ (e.g. Gore 1993, p. 259; Capra 1997, p. 35), whose “... sonorous and evocative phrases still reverberate today” (Clark 2001).

There is little doubt that aboriginal peoples’ interpretation of intricate ecological networks is of a *different* quality than scientific ecological knowledge. Their knowledge and wisdom can contribute to our understanding of natural processes and patterns, relationships and dependencies by adding yet another dimension, or perspective (e.g. Suzuki and McConnell 1997; Suzuki 1998). Sir Edmund Hillary (cited in Kemf 1993, p. xi) has called them “... the original environmentalists.”

But there are also other voices, viz. those who question these generalised inferences – and thus the validity of underlying assumptions. For example the authenticity of the chieftain’s speech has been challenged, and, despite its popularity, the affirmation of Indian eloquence may not be founded in historical reality (Clark 2001). In the tourism context Butcher (1997) argues that the moral elevation of indigenous cultures is a Western construct. According to Kauffman (1995) and Budiansky (1995), both cited in Ridley (1997, pp. 214-215), preaching and practice of ‘environmental wisdom’ among indigenous, or First Peoples in the past and in the present very seldom coincide. In this connection Ridley (1997, p. 215) makes the claim that “... the entire notion of living in harmony with Nature is built on wishful thinking.”

It is argued that perceptions and opinions inevitably ‘feed’ moral, aesthetic and spiritual arguments for particular interpretations of sustainable (tourism) development, even if the validity of belief-based value judgements is subject to debates and disputes. These beliefs are complemented by and interact with socio-economic goals and objectives, as

⁵⁸ Patriarch of the Duwamish and Suquamish Indians of Puget Sound in the 1850s

well as with the results of (social) scientific research. The end products are decisions based on our emotional and rational intellect, as well as on egoistic and altruistic tendencies in our thinking and acting. It is argued that egoism and altruism, as well as intellectual, emotional and social intelligence, are intertwined features of the human mind and human (inter)action, with reciprocal influences (*Chapter One*, section 1.8.2).

From a Western perspective, well-known individuals whose convictions and lifework ‘bridge the gap’ between rational and emotional motives of SD are for example John Muir, Te Heuheu Tukino IV, Jane Goodall, Ansel Adams and Aldo Leopold:

- Muir was a North American environmentalist and Nature writer in the nineteenth century. According to Downing (1992), he was the first to conceive of the idea of wild lands set aside by governments for their scenic and educational value alone and not just for their potential commercial resource value. Muir is the father of the United States National Park System and the Sierra Club’s founding president (Golden 2000, p. 54). His conservation values were of an aesthetic and spiritual nature (Nash 1967, pp. 134-135), and he has been called a romantic ecologist and a preservationist (Hall 1998, p. 19).
- In New Zealand, the paramount chief of the Ngati Tuwharetoa, Te Heuheu Tukino IV, gifted the first national park, Tongariro, to the people of New Zealand in 1887. Tongariro National Park was the fourth national park to be set up anywhere in the world and lies within one of two New Zealand’s World Heritage sites (D. E. Cottle 1998).
- Throughout the second half of the twentieth century the ethologist, conservationist and animal rights activist Goodall gained a reputation worldwide with her iconoclastic research on the chimpanzees of East Africa’s jungles in the Gombe game reserve (Goodall 2000). Goodall’s (ibid.) ethological, anthropological and conservation studies, as well as her spiritual and moral convictions (Goodall and Berman 1999), continue to fuel ‘primate ethics’ and questions of human behaviour in relation to animal ‘rights’ (Smith 1997, pp. 34-46).

- In the twentieth century the photographer and environmentalist Adams used his pellucid black-and-white images of natural landscapes as persuasive visual arguments for the preservation of pristine wilderness areas on aesthetic grounds (Hill 1977).
- A forester in the U.S. Southwest at the beginning of the twentieth century, Leopold advocated total protection of certain wilderness areas (Golden 2000, p. 56). In his ‘Almanac’, Leopold (1989, pp. viii-ix) envisions an extension of conservation ethics to include the notion that “... land is to be loved and respected ...” ‘Leopoldian’ environmentalism is based on moral convictions, aesthetic perceptions and ecological insights (Heyd 2000), and has been classed as ‘naturalism’ and ‘ecocentrism’ (Smith 1997, pp. 47-56). Leopold’s ‘land ethics’ have also been interpreted as a strand of deep ecology (Birkeland *et al.* 1997, p. 130), an eco-centric version of environmental ethics that was later developed by Arne Næss (1973).

These people, and others who followed in their footsteps, have left lasting imprints on the discussion surrounding SD. The convergence of feelings and knowledge continues to influence the debate, but the ‘rationalisation’ process has dominated the conceptualisation of sustainable (tourism) development in the second half of the twentieth century. The intellectual roots of SD are explored in the next section (2.3.2).

In the New Zealand context, the country’s parks and protected areas are regarded as *taonga* (treasures) of irreplaceable value. Areas and features are protected for their natural and cultural values, as well as for their spiritual significance (D. E. Cottle 1998).

However, in the tourism context Mihalic and Kaspar (1996) note explicitly that (from the consumer’s perspective) eco-ethics are *always* supplemented by market-based (or financial) considerations. Complementing the discussion of SD’s moral and spiritual roots, historic developments as well as contemporary (scientific and economic) theories of sustainability and sustainable (tourism) development are explored next.

2.3.2 *The Intellectual Roots*

Unlike the systems approach and its ‘subsidiary’ chaoplexity, the intellectual roots of SD emerged in Western societies simultaneously in a diverse range of disciplines. The contemporary conceptualisation of ‘final’ definitions and applications of ‘sustainability’ are social and political constructs (McCool 1998, cited in Bushell 2001a, p. 33), rooted in an interdisciplinary approach, or perspective. The influence of political forces on a global, as well as on a local scale, has been outlined for example by Keil *et al.* (1998), and Mowforth and Munt (1998). Becker *et al.* (1997) and Becker and Jahn (1999) stress that any scientific attempt to conceptualise, or define SD takes place in three closely linked dimensions:

1. Within the *political* framework of (hierarchical) *power relationships*
2. In the (social) *scientific* realm of *analyses*, and
3. From within the all encompassing *social* dimension, where *normative value judgements* are made

By pointing out some of the major milestones in contemporary Western thought this section outlines the historical, philosophical and theoretical backdrop of SD, thus providing answers to how and why SD became a fashionable planning, development and marketing ‘recipe’ in tourism.

A notable cornerstone for sustainable tourism development was Gifford Pinchot’s and Theodore Roosevelt’s political initiative, which resulted in the first national conservation policy in U.S. history at the end of the nineteenth century. While Hall (1998, p. 19) characterises both as economic, or progressive conservationists with the aim to manage forest lands on a sustained yield basis, Pinchot and Roosevelt have also been labelled as non-environmentalists, and their main motive as ‘rational exploitation of natural resources’ (Golden 2000, p. 54).

In the international political arena the idea of SD in respect of political and economic considerations can be traced back to 1924, when the first World Power Conference took place in London (Whicher 1989, p. 79). With its focus on the supply of finite

energy resources (i.e. fossil fuels) for an evolving global industry with a rapidly growing demand, the meeting was a major step towards the emergence of global (economic) network thinking. A brief tour d’horizon outlines subsequent (institutional) undertakings and ‘official’ publications that constitute milestones in the neo-Malthusian debate:

- The ‘Report(s) to the Club of Rome’ (Meadows *et al.* 1972; Weizsäcker *et al.* 1997) with the ‘limits to growth’ approach
 - Beckermann (1992, p. 481) refers to Mishan (1967), Schumacher (1973) and Hirsch (1977) as individuals who, publishing their conclusions at around the same time, expressed similar concerns.
- The Worldwatch Institute’s annual publications ‘State of the World’ (Brown *et al.* 2000) and ‘Vital Signs’ (Brown *et al.* 1999)
 - In 1981 Brown (Brown and Worldwatch Institute 1981) provided the ‘original’ definition of SD.
- The first ‘Brandt Report’ (Independent Commission on International Development Issues 1980) and the subsequent ‘Brandt Memorandum’ (Brandt Commission 1983), both of which highlight the steepening of the socio-economic North–South gradient
- SD was established as a policy consideration in the World Conservation Strategy (International Union for Conservation of Nature (IUCN) *et al.* 1980, cited in Holden 2000, p. 165).
- The ‘Brundtland Report’ (World Commission on Environment and Development (WCED) 1987), which focuses on sustainable economic growth
 - The legitimacy of the equation sustainable development = sustainable (economic) growth is discussed in *Chapter Five* (section 5.2.2). Brundtland’s interpretation of SD is a frequently quoted definition, and often serves as the

matrix for subsequent modified versions that are adapted to the situational context.

- A common critique is reflected in Richardson's (1997, cited in Holden 2000, p. 165) characterisation of the 'Brundtland Report' as 'political fudge' that compromises opposing views and 'keeps everybody happy'.
- Schmidheiny's 'Business Council on Sustainable Development' (Carothers 1993, p. 14)
- The first 'Earth Summit' 1992 in Rio de Janeiro with its non-binding resolutions, viz. the 'Rio Declaration' and 'Agenda 21' (Sitarz 1993), as well as the latter one's 'tourism version' (World Travel & Tourism Council (WTTC) 1995)
- The 'follow-up' Earth Summit+5 in New York in 1997
- The Kyoto Protocol, a UN framework convention on climate change resulting from a conference convened in Japan in 1997

These international endeavours exemplify the global character of the sustainability challenge. They all share the same political (or 'First World') perspective, with the focus on the (socio-)economic dimension of sustainability and SD. It is argued that all of them also have a common primary objective, i.e. to determine whether and how economic growth and profit margins can be sustained. The underlying logic is based on the assumption that damaging, or depleting resources will result in diminishing returns, i.e. of those resources that are exhaustible, or irreplaceable. Redclift (1994, p. 125) lists a "... a number of objections to the 'neo-Malthusian' position and its variants", but a detailed discussion would be beyond the scope of this thesis.

In the tourism context the 'neo-Malthusian' notion of exhaustible resource bases constitutes the (unspoken) ideological framework of the debate, which, like the general SD debate, usually revolves around continued (economic) growth as the 'ground zero' of sustainable tourism development (Hunter 1997, pp. 853, 858). Coccossis and Parpairis (1996, cited in Holden 2000, p. 172) refer to this tourism-centric preferential

treatment of business objectives as the ‘economic sustainability of tourism’. A possible contradiction arising from the idea of infinite growth in an environment of finite resources is discussed on page 220. In New Zealand the business prerogative is corroborated by the New Zealand Tourism Board’s (1991) growth strategy, and by a statement in a ‘Discussion Paper’ published by the New Zealand Ministry of Tourism (1992, p. 1):

For tourism, sustainability means achieving growth in a manner that does not deplete the resource, cheat the visitor, or exploit the local population.

The current tourism development strategy of New Zealand’s tourism industry continues to feature growth as a prominent and desirable goal:

Looking to the future, growth prospects [emphasis omitted] for international tourism are very good [emphasis omitted] New Zealand International Visitor Arrivals (Tourism Industry Association New Zealand (TIA) 1999a, p. 3)

Profitability is equated with growth, and key performance indicators of tourism growth are *arrival numbers* and *expenditure patterns* (Tourism Industry Association New Zealand (TIA) 1999a, p. 3). The latest Tourism Strategy Group’s (TSG) (2001) report ‘Tourism Strategy 2010’ (NZTS), as well as publicly funded tourism research projects, also continue to prioritise the possibilities of ‘economic growth’ (e.g. Simmons 2002b). TSG’s report summarises the overall direction of development for the tourism sector as follows:

A sustainable yield driven strategy based on growing tourism demand and financial returns while enhancing the quality of the visitor experience and New Zealanders’ quality of life (Tourism Strategy Group (TSG) 2001, p. ii).

The underlying ultimate goal of sustained, or continual economic growth is, however, also subject of continuous debate (e.g. Daly 1971a; Friend 1992). On the one hand, the dominance of economic development priorities has been labelled ‘environmentally benign growth’ (Dryzek 1997). Adopting a perspective positioned at the other end of the opinion spectrum, Hunter (1997, p. 860) suggests a less favourable synonym. He refers to a prevailing orientation of the sustainability paradigm toward business

viability, profit maximisation, and growth of the tourism industry as the ‘tourism imperative’.

Another global political movement associated with the idea of SD is the so-called ‘Third Way’. The socio-economic framework of ‘Third Way’ politics has repeatedly surfaced and disappeared in political thought and practice (Giddens 2001, p. 1). The concept differs from the previously mentioned initiatives in so far as it focuses on the reconciliation of a growing global market economy with social change. ‘Third Way’ politics emphasise the idea to institute social justice, fairness and decency as essential parts of integrative political policies (Latham 2001, p. 25).

Parallel to these public forums and initiatives, individuals have also fuelled the debate, ‘leaving their fingerprints’ on current conceptualisations and interpretations of SD. Tackling environmental issues from varied angles, academics and activists have highlighted ecological, economic, social, moral and health aspects of SD:

- Barbara Ward’s (1962), and Ward and Dubos’s (1972) (economic) plea for social and ecological sanity, as well as Paulo Freire’s (1996) (moral) demand for social equity, fairness and justice, all highlight the existing (and widening) socio-economic gap between ‘rich’ and ‘poor’ in particular in the ‘Third’ and ‘Fourth World’.
- Garret Hardin (1968; also cited in Butler 1998b, p. 25) claims that environmental deterioration is inevitable in the absence of responsibility and accountability for resource conservation.
- Like Meadows *et al.* (1972), the economist Ernst Schumacher (1973) rejects infinite economic growth, mega-companies and unlimited consumption, by conceptualising and promoting the idea of ‘small is beautiful’.
- In his bestseller ‘The Turning Point’, the physicist Fritjof Capra (1982) focuses on the pragmatic necessity of an ideological paradigm shift in order to define and achieve SD. He attributes global ecological problems to a general ‘crisis of awareness’, which is caused by an ‘outstripped’ worldview. According to Capra, the old mechanistic, materialistic and patriarchal paradigm is based on false

Cornucopian assumptions, and needs to be replaced by a systemic and holistic picture of the world.

Although I have not come across an explicitly stated direct link between the above works and tourism, these authors could be labelled as precursors of Murphy's (1993) tourism community approach (originally published in 1985) and Jamal and Getz's (1995) subsequent 'collaboration theory'. Murphy recommends a bottom-up approach in tourism development and promotes the importance of local involvement, which encompasses:

- Consultation processes
- Influence and control mechanisms
- Shared responsibilities and accountability
- Beneficial participation
- Social justice, fairness and equity in tourism projects

These tenets are closely related to the notion of 'fair trade' in 'Third World' tourism development, a concept that seeks to redress 'core-periphery' dependencies by reversing unequal terms-of-trade tendencies (Cleverdon and Kalisch 2000). Community-building aspects have become an integral part of attempts to conceptualise and measure SD on ethical grounds (e.g. Næss and Rothenberg 1989; Beatley 1994; Ghai 1994; Bessis 1995; Blackburn and Bruce 1995; Jespersen and Hansen 1995; Jones 1995; Singh *et al.* 1995; Gottlieb 1997; Mattessich *et al.* 1997; Warburton 1998b; Buckingham-Hatfield and Percy 1999; Campbell and Lewis 1999; Kremen *et al.* 2000). In tourism, Murphy's ideas are now firmly anchored in concepts of sustainable tourism development (e.g. Woodley 1993; Pearce *et al.* 1996; Cooper and Wanhill 1997; Din 1997; Faulkner and Tideswell 1997; Hunter 1997, p. 864; Reed 1997; Oliverio 1998; Scheyvens 1999; Goodson *et al.* 2000; Richards and Hall 2000).

Hall's (2002, p. 1) statement corroborates this claim in the ecotourism context:

One of the most important concepts which has emerged from the idea of ecotourism is that of involving the community.

The ‘Rio Summit’ and its thematic successors in tourism (e.g. World Conference on Sustainable Tourism 1995) launched cultural integrity, social equity, and justice and fairness as sustainability indicators into mainstream thinking (Aronsson 2000, p. 37). The realisation, or degree of community participation often serves as an indicator of sustainable tourism development in case studies (e.g. Long 1991; Woodley 1993; Epler Wood 1998; Milne *et al.* 1998; De Haas 1999, unpub.; Manning 1999; Notzke 1999).

In tourism the ‘equity principle’ (Schellnhuber 1998, p. 48; Sharpley 2000, p. 10) of community participation as one sustainability objective is supplemented by the ‘resource protection’ principle. Tourism is dependent upon an intact environment (Clarke 1997, p. 228), and ecotourism in particular (section 2.4) relies primarily on the quality of the natural resource base (e.g. Wearing and Neil 1999, pp. 5-6). The concept of ecological sustainability is associated with the idea that natural scenery is not only worthwhile protecting in economic terms. This view emerged with changing perspectives of Nature in conjunction with the rise of nineteenth century Darwinist biology. Nature is now commonly conceptualised as a dynamic system of natural processes that form an intricate web of relationships and interdependencies (e.g. Shugart and O’Neill 1979; Sheldrake 1992; Capra 1997; Raven *et al.* 1998; Schellnhuber and Wenzel 1998). Organismic systems thinking and evolutionary biology enabled us to realise that the environment’s condition impacts on our immediate physical and psychological health, while concurrently affecting our chances of securing the long-term survival of the human species. To name but a few, early scientists who proclaimed and popularised biogeophysical arguments for preserving biodiversity and ecosystems through the protection of habitats as a desirable ecological goal are:

- The biologist George B. Schaller (e.g. 1963), who researches carnivore behaviour and emphasises the value of predators in the food chain
 - Schaller stresses the intrinsic connection between species and their habitat. Ascertaining the symbiotic relationship between biosphere and ecosphere

provided knowledge-based *and* ethical arguments for saving, or protecting biomes, and in particular wilderness areas.

- The entomologist Edward O. Wilson (1975; 1978; 1980), who accentuates the importance of biodiversity and conceptualised the idea of ‘sociobiology’ as well as the ‘biophilia’ (or love for life) hypothesis (Wilson 1984; Wilson and Kellert 1993)
- The pioneering research of people like Rachel Carson (1962) and Barry Commoner (1966; 1971; 1972) made ecological principles common knowledge. These principles constitute scientific cornerstones for any definition of ecological sustainability:
 - The notion of (long-term) effects of human (economic) activity on the biosphere became public knowledge through Carson, who identified the process of bioaccumulation and has been called the mother of the modern environmental movement.
 - Commoner is a biologist, educator and environmental activist. The Time Magazine in its February 2nd, 1970 cover story dubbed him the ‘Paul Revere of Ecology’ (Clark Peyser 1997; Golden 2000, p. 57). In 1966 Commoner founded a pioneering ecological research institution, the Center for the Biology of Natural Systems (CBNS) (Golden 2000, pp. 56-57). Promoting communal empowerment, Commoner has been called the father of grassroots environmental movements (Center for the Biology of Natural Systems (CBNS) 1997).
 - Carson and Commoner both brought to our attention the principles of causation–agency relationships between human activity and the condition of the geophysical and the biological environment. The idea of etiological human–ecological dynamics stresses the effects of exploitive practices in the primary and secondary sector on natural processes and resources. The principles also corroborate the aphorism of Commoner’s ‘second law of ecology’ that ‘nothing ever goes away’.

Both researchers' work not only highlights the fragility of the ecological environment but also points to the important role the ecosphere holds in regard to our well-being. But well-being is neither well defined nor is there a conclusive answer to the question whose well-being should enjoy priority. Underlying philosophical, scientific and moral aspects of these unresolved problems continue to cause disagreement whenever the attempt is made to define sustainable tourism development and ecotourism (sections 2.3.3 and 2.4).

2.3.3 Conceptualising Sustainable Tourism Development

One implication of the ongoing discourse is an armada of (contrasting) definitions of SD (Steer and Wade-Gery 1993). These are firmly anchored in (hegemonic) ideologies, which focus on particular aspects of SD and target different areas of life by proposing contrasting goals and avenues to achieve set objectives. Mowforth and Munt's (1998) and Williams's (1988) comments summarise the complexities of the situation:

There is no agreement over the exact nature, content and meaning of sustainability. It is a contested concept in all senses of the word (Mowforth and Munt 1998, p. 40).

The very many meanings and interpretation of this idea [i.e. sustainability] are often a direct reflection of the problem that has been identified and both the explicit and implicit connections that people are making (Williams 1988, p. 15, cited in Mowforth and Munt 1998, p. 5).

According to Warburton (1998a, p. 3) and Sharpley (2000) SD is not only a contested and vigorously debated concept but also a critique that merges questions in development theory (Preston 1996) with environmental ethics, civic science, human welfare and human rights problems. In the tourism context, 'development' has been acknowledged as a debated concept in its own rights and the topic has been integrated in the sustainability debate (e.g. Burns 1999, pp. 135-160; Aronsson 2000, pp. 31-32; Sharpley 2000). Earlier conceptions of (mass) tourism as a 'smokeless' (i.e. non-polluting) industry have given way to the distinction between sustainable and unsustainable tourism development (Honey 1999, p. 9). However, the binary *sustainable – unsustainable* is a simplistic representation of a condition that presumably can be more accurately positioned in a continuum. According to Markwell (1998, p. 65) the concept

of ecological sustainability entered the discourse of tourism towards the end of the 1980s. A decade later, Sharpley (2000, p. 1) argues “... that tourism development remains embedded in early modernisation theory ...”, with economic growth being its core premise (Rostow 1952). There is a tremendous volume of output on the subject, and if there is agreement on one question, it is the acknowledgement that there is no agreement (Travis 1992, p. 4, cited in Aronsson 2000, p. 4). The following quote exemplifies the *status quo*:

... nobody really knows what sustainable development is, ... (O’Riordan 1998, p. 96).

Just like its over-arching parental paradigm, sustainable tourism development features as an ambiguous concept. It consists of a diverse range of principles, policy prescriptions, objectives and criteria, management strategies, methods and tools, assessment indicators, and proposed solutions. The term has a surfeit of synonyms ranging from ‘alternative’ to ‘synergistic’ tourism (Hunter 1997, p. 857; Mowforth and Munt 1998, p. 100). The specific meaning, interpretation and application of the term, or its counterparts depend on the particular perspective.

Stabler and Goodall (1996, p. 170) argue that “... sustainable tourism development should be consistent with the tenets of sustainable development ...”, but what those tenets exactly are remains unclear. Even the transposition of SD principles onto tourism development contexts is a disputed procedure (Wall 1997; Mowforth and Munt 1998; Sharpley 2000, p. 2). Hunter (1997, p. 851), Wall (1993, cited in Hunter 1997, p. 851) and Wheeler (1993, cited in Hunter 1997, p. 851) identify a theoretical and conceptual gap between the parental sustainability paradigm and sustainable tourism development. Both Hunter (1995) and Holden (2000, p. 172) note that objectives of sustainable tourism development do not necessarily coincide with the goals of SD. Hunter-Jones’s (1997, pp. 477-478) summary of notions, expressed in a review of a conference on ‘Sustainable Tourism, Ethics, Economics, and the Environment’, reflects the status of current debates:

One was left with the impression that sustainable tourism meant a great many things to a great many people.

This (convoluted) situation has led to the acknowledgement that the concept of sustainable tourism development is still evolving (e.g. Clarke 1997, pp. 224, 229). Cooper *et al.* (1998) point out that it is illogical to define sustainable tourism development in the form of a rigid, homogenous and simple concept within a complex and dynamic social phenomenon such as tourism. Some of the reasons associated with the difficulties in defining sustainable tourism development have been spelled out by Aronsson (2000, p. 15) and others:

- The term is conceptualised in a *normative* way by prescribing principles, methods, tools, indicators, etc. that reflect *subjective* ambitions. Success is assessed by comparing what ought to be versus what is (Farrell 1999, p. 189).
- The term is *relative*, describing a process viewed from a particular perspective, or angle (Mitlin 1992; Munt 1992; Murdoch 1993; Wilbanks 1994, cited in Hunter 1997, pp. 851, 858).
- SD is *multi-* and *interdisciplinary*, catering for a spectrum of processes, goals and objectives in all areas of life. Hunter (1997, p. 859) calls the consideration of other sectors and activities in a conceptual framework of sustainable tourism development ‘a truly holistic approach’.
- The concept is *contextual* and *situational* – and thus *sensitive* to place–time specific factors (Turner *et al.* 1994, p. 30; Hunter 1997).
- Consequentially, SD represents a malleable and *dynamic process* rather than a fixed state, or equilibrium (Hägerhäll 1988, p. 23, cited in Aronsson 2000, p. 16).

Hunter’s (1997) call for an ‘adaptive paradigm’ reflects the acknowledgement by academia that different interpretations are appropriate to suit different circumstances. Despite the call for contextual and situational flexibility, and although there is little consensus about the exact meaning(s) of sustainable tourism development, it is possible to identify several common denominators that pervade the academic literature and characterise the nature of the term:

- One prevailing notion is that sustainable tourism development is not an option, but an indispensable objective (rather than a mere goal) that all forms of tourism must strive to achieve (e.g. Beeton 1998, p. 2; Sharpley 2000). Clarke (1997) labels this position as ‘convergence’. The mandatory character of sustainable tourism development is reflected in the title of Farrell’s (1999, p. 189) ‘Opinion Piece’, as well as in his opening statement:

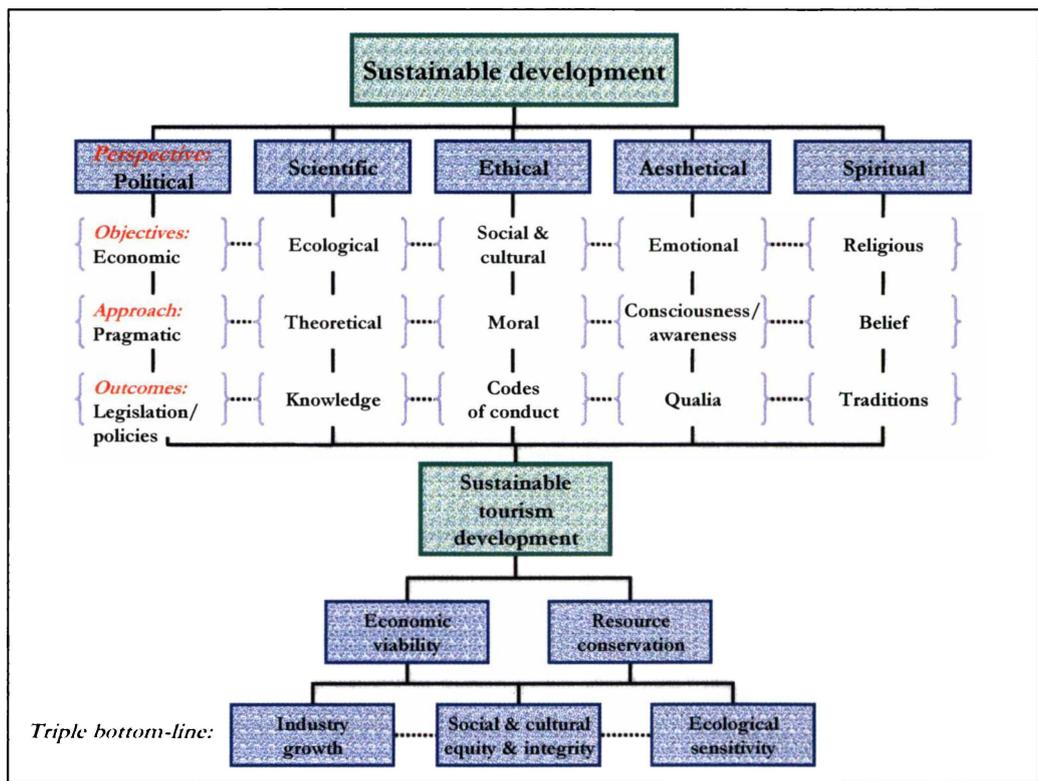
Increasingly at all levels development is being remodelled along the lines of ‘sustainable development’, ...

- The idea that sustainable tourism development can be achieved independently of other activities and processes (Croall 1995, cited in Butler 1998b, p. 28) has given way to the notion that sustainable tourism development requires and advocates a comprehensive and integrative, or holistic approach (e.g. Hall *et al.* 1997, p. 19; Stabler 1997, p. 16; Butler 1998b, p. 28; Sharpley 2000, pp. 8-9). Aronsson (2000, p. 16) suggests that the interdisciplinary and multi-perspectival character of SD actually *provides* a holistic perspective on society and environmental issues.
- A number of authors attribute the discrepancies between the various theories and concepts of sustainable (tourism) development to different, or contrasting perspectives, ideologies and paradigms (Hunter 1997; Aronsson 2000, p. 34; Holden 2000, pp. 166-172).
- Sustainable tourism development is commonly interpreted as a way of *doing* tourism rather than being an exclusive concept, or strategy that can be applied to a particular tourism form, product, experience, or activity only (e.g. Harrison and Husbands 1996, p. 1).
- There appears to be consensus of opinion that sustainable tourism is often applied as a ‘metafix’ for any form of tourism, being (ab)used as a marketing tool, money-spinner and job generator (e.g. Butler 1998b, p. 27).

- The previous insight is connected to the notion that sustainable tourism development not only faces a theoretical divide (Sharpley 2000) but also a policy–practice conundrum (Dutton and Hall 1989; Ladkin 2000).

It is argued that any concept of SD rests on five interconnected and overlapping ‘pillars’, which reflect different dimensions of SD (Figure 8). In the tourism context sustainability objectives often condense to the triple bottom-line ‘meta-principles’ of economic, ecological and socio-cultural SD (Swarbrooke 1999; Gordon 2000; Hart *et al.* 2000).

Figure 8 The roots of sustainable (tourism) development



The triangular relationship has been advocated as the conceptual foundation of SD (Farrell 1992). Farrell (1999, p. 189) calls this central tenet the ‘three-dimensional sustainability trinity’. Like the related model of natural capitalism (Hawken *et al.* 1999), both notions conceptualise SD from a financial, or business perspective, promoting (continual) economic growth as the primary objective of SD (Prain *et al.* 2000). The

‘dimensional’ conceptualisation of sustainable tourism development is complemented by Lane’s (1994) ‘perspectival’ concept of sustainable tourism development. The latter one interprets SD as a balanced triangular relationship between (ecological, cultural, economic, etc.) impacts on the destination (from the host population’s viewpoint), tourists’ perceptions, and industry objectives. Both approaches in turn are related to Müller’s (1994) ‘magic pentagon’ (Sharpley 2000, pp. 8-9). In all instances, no single aspect, or perspective predominates (Farrell 1992; Müller 1994). The alleged equivalent status of economic, social, and ecological sustainability objectives contrasts with previously mentioned indications, which suggest that in practice economic goals often supersede any social or ecological considerations.

Albeit SD “... has become the new paradigm for all forms of development, including tourism” (Holden 2000, p. 161), only few authors have actually employed a paradigmatic approach to define sustainable tourism development (e.g. Hunter 1995; Clarke 1997; Hunter 1997; Sharpley 2000). I have argued that the (secondary) inclusion of ecological and socio-cultural objectives, as integral parts of a (primarily) economic approach, generally underlies and characterises current concepts of sustainable tourism development. Hunter (1997) notes that this procedure reflects a tourism-centric and inflexible ‘top-down’ approach, which lacks a theoretical foundation, entailing a shallowly defined and weakly conceptualised ‘sustainable tourism’ paradigm.

Acknowledging the continuous spectra of evolving and adapting perceptions and interpretations of SD, Clarke (1997), Hunter (1995; 1997), and Sharpley (2000) (re)conceptualise and define sustainable (tourism) development rather vaguely. Sharpley identifies the theoretical divide between principles of SD and concepts of SD in tourism as a temporal lead–lag, or phase displacement. Focusing on the concept of development, Sharpley (ibid., p. 6) points to discrepancies between ‘alternative development’ as “... the current end-point of the development paradigm continuum, ...”, and contemporary (and in Sharpley’s view antiquated) conceptions of development in the tourism context, which are linked to modernisation theory (page 89).

While Hunter's (1997) classification scheme focuses on leading perspectives, or approaches of sustainable tourism development, Clarke's (1997) taxonomy reflects a chronological sequence of changing conceptual spectra. Both authors conceptualise and categorise sustainable tourism development by linking discrete categories to positions within a range of viewpoints. Hunter places the dominant perspective, or approach according to its 'ecological sustainability value' in a spectrum that ranges from very weak to its 'antidote', i.e. very strong sustainable tourism development (Turner *et al.* 1994). The respective position can be ascribed to the adherence to a particular version of environmental ethics. Clarke's scale resembles a 'historic bandwidth'. He describes how classifications of sustainability in the tourism context have changed over time, ranging from early 'very rigid' and bipolar opposites on binary scales, to topical 'very flexible' and imprecise positions and perspectives within continua.

Building *inter alia* on Hunter's, Clarke's and Sharpley's research, I intend to utilise Schellnhuber's (1998, pp. 48-127) paradigmatic approach of sustainable development as a conceptual framework. Schellnhuber (*ibid.*) employs the term 'pure' paradigm in the sense that the respective SD paradigm is not linked to a particular dimension, or perspective of sustainable development. Each of his paradigms incorporates, however, a particular conviction regarding the process of how SD is achieved, as well as generalised goals. Table 1 provides an overview of Schellnhuber's 'pure' SD paradigms, their major goals and associated key concepts. I have included 'carrying capacity', 'continuous economic growth', the 'precautionary principle' and the 'Brundtland strategy' (*ibid.*, p. 90) as common examples of interpretations and applications of the respective paradigm.

The framework is envisaged as a complementary attempt to conceptualise sustainable tourism development in a bottom-up approach. Schellnhuber's approach has the advantage that – at a theoretical and conceptual level – it allows for a positive and precise identification and definition of sustainable development objectives. At a practical level, this quasi-axiomatic foundation enables me to evaluate and classify target objects such as principles, objectives and activities of individual stakeholders and

parties. Concrete operations are thus accessible to assessment and can be linked to a precise definition of sustainable (tourism) development within the spectrum of paradigms. However, it is anticipated that in ‘real life’ situations SD goals do not exist in isolation, and are subject to changes. I expect to experience a spatial and temporal ‘blending’ of fundamental SD strategies. The next section establishes the link between the concept of sustainable tourism development and its ‘scion’ ecotourism as a (new) form of tourism.

Table 1 ‘Pure’ sustainable development paradigms (terminology and some of the concepts adopted from Schellnhuber 1998, pp. 48-128)

<i>Paradigm</i>	<i>Conviction & (Key concepts)</i>	<i>Goal</i>
<i>Standardisation</i>	Normative (Carrying capacity)	<i>Absolute standards:</i> Assessing the quality of development by comparison with established norms, quota, criteria, tolerable minima/maxima ranges, or ‘windows’
<i>Optimisation</i>	Optimism (Continuous economic growth)	<i>Maximising utility:</i> Striving for the best possible evolution
<i>Pessimisation</i>	Pessimism (Precautionary principle)	<i>Minimising the damage:</i> Preventing the worst
<i>Equitisation</i>	Equality / Justice / Fairness (Brundtland strategy)	<i>Comparative endowment:</i> Relative balancing of respective interests
<i>Stabilisation</i>	Balance (What kind of world do we want?) <ul style="list-style-type: none"> • Preservation/conservation/protection (<i>status quo</i>) • Restoration (<i>status quo ante</i>) • Segregation (<i>disentanglement of Nature and civilisation</i>) 	<i>Dynamic equilibrium:</i> Steering towards a selected system state

2.4 Theory and Practice of Ecotourism

This last section of the literature review provides an overview and critique of the current state of affairs in regard to ecotourism concepts, their implementation and ecotourism research in New Zealand. It discusses and appraises conceptual problems, as well as discrepancies, between theoretical deliberations and practical applications of the term.

2.4.1 *Debated Meanings: Ecotourism and the Ecotourist*

Since the early 1990s, ecotourism has featured as a complex phenomenon in many tourism publications. Despite Blamey's (1997a, p. 109) assertion that the discussion concerning conceptual definitions has begun to subside, a plethora of definitions, connotations and objectives regarding ecotourism still exists, the term ever defying unequivocal usage (Clarke 1997; Acott and La Trobe 1998; Beaumont 1998, p. 239). Björk (2000) lists more than a dozen different definitions, upholding earlier claims (e.g. Valentine 1993; D'Ayala 1995) that ecotourism as a fuzzy and elusive concept is surrounded by confusion. Even the necessity for a precise definition of the term is valued differently, and the boundaries between different schools of thought are sometimes blurry: (1) For example Buckley (1994, p. 664) notes that a precise definition might be unnecessary. (2) Blamey (1997a) and Burton (1998, p. 117) acknowledge the situational and circumstantial context of ecotourism's many meanings, stressing the need for conceptual and operational congruence. (3) Others (e.g. Björk 2000, p. 190) call for a standardised definition of ecotourism, sometimes without differentiating between theoretical validity and operational feasibility (e.g. Lindberg 1994, p. 1, cited in Blamey 1997a, p. 110). (4) Ross and Wall (1999) represent an intermediary position. On the one hand, their conceptual and operational framework relies on a normative definition of the term's meaning. On the other hand, the authors acknowledge the need for flexibility when it comes to defining the objectives of ecotourism in a local context. (5) *Ways* of defining and conceptualising ecotourism are also assessed, for example by categorising different notions and frameworks as 'restrictive', 'less restrictive', 'inclusive', or 'extended' (Blamey 1997a; Beaumont 1998; Björk 2000).

Ecotourism's often weak conceptualisation and the term's vague meaning(s), as well as its close relationship with the concept of sustainable tourism (e.g. Beeton 1998, p. 2; Diamantis and Ladkin 1999; Honey 1999) and ecologically sustainable development (e.g. Airey 1995, unpub.; Ecotourism Association of Australia and Australian Tourism Operators Association 1996), is reflected in the frequent synonymous and interchangeable use of prefixes to label a particular *tourism concept* (Honey 1999, p. 11):

- ‘Alternative’ (e.g. Hunter 1997, p. 858; Dowling 1998; Mieczkowski 1995, p. 459, cited in Wearing and Neil 1999, p. 3)
- ‘Conservation’ (e.g. Ashton and Ashton 2003, forthcoming)
- ‘Ecological’ (e.g. Ceballos-Lascuráin 1988)
- ‘Ethnic’ (e.g. U.S. Congress. Office of Technology Assessment 1992, p. 2)
- ‘Green’ (e.g. Hasek 1994)
- ‘Low-impact’ tourism (e.g. Lillywhite 1990, cited in Honey 1999, p. 11)
- ‘Responsible’ (e.g. Harrison and Husbands 1996, p. 5)
- ‘Small-scale’ (e.g. U.S. Congress. Office of Technology Assessment 1992, p. 2)
- ‘Sustainable (resource use)’ (e.g. Warren and Taylor 1994, p. 1)

Definitions and applications of the term ecotourism also refer to particular *forms of tourism*, which are linked to the resource base and ways of experiencing it. Forms of tourism related to ecotourism are for example:

- Nature(-based, or -orientated) tourism (e.g. Ceballos-Lascuráin *et al.* 1996; Clarke 1997, p. 224; Herath 1997, p. 442; Markwell 1998, p. 67)

and, to a lesser degree:

- Academic tourism, and more specifically biotourism, archeotourism, geotourism, etc. (e.g. U.S. Congress. Office of Technology Assessment 1992, p. 2)
- Adventure tourism (e.g. U.S. Congress. Office of Technology Assessment 1992, p. 2; Honey 1999, p. 11; Mieczkowski 1995, p. 459, cited in Wearing and Neil 1999, p. 3)
- Cultural, educational, scientific, and agri-tourism (Mieczkowski 1995, p. 459, cited in Wearing and Neil 1999, p. 3)

- In Hall (2003a, pp. 380-386) ecotourism falls into the rubric ‘special interest tourism in rural and peripheral areas’.
- Weaver (2001b, p. 104), and Thomlinson and Getz (1996, p. 185) argue that ecotourism can be conceived as a *form* of mass tourism and not as its opposite.

A frequently implied notion is the symbiotic relationship between ecotourism, Nature-based activities and Nature-orientated educational experiences (e.g. Ceballos-Lascuráin 1988; Boo 1990a; b; Collier 1997, p. 244; Beeton 1998, p. 2), environmental ethics (e.g. Wight 1995; Smolin 1996; McKercher 1998b), conservation, or preservation issues (e.g. Warren and Taylor 1994, p. 2; Brandon 1996; Clarke 1997, p. 224), community participation (e.g. Ross and Wall 1999; Scheyvens 1999), and sustainable tourism development (e.g. Cater 1993; Cater and Lowman 1994). In terms of sustainable tourism development, ecotourism often embraces the two notions of *environmentally (or ecologically)* (e.g. Tyler and Dangerfield 1999) and *socially responsible* travel (e.g. Honey 1999, pp. 10, 11). However, authors also point out that the connection between sustainable tourism (development) and ecotourism is not always made clear (e.g. Björk 2000, p. 189).

One of ecotourism’s most common connotations is expressed for example in Boo’s (1990a; b), Whelan’s (1991), Beeton’s (1998, p. 1), and Wearing and Neil’s (1999, p. vii) publications. These authors equate ecotourism explicitly with Nature, or Nature-based tourism. Others speak of ecotourism as a subset of Nature-based tourism (e.g. Beaumont 1998, p. 248; McKercher 1998b), or as a subset of alternative tourism (e.g. Mieczkowski 1995, p. 459, cited in Wearing and Neil 1999, p. 3). The extremes are reflected in Higgins’s (1996, p. 11) and Björk’s (2000, p. 189) publications. While Higgins differentiates explicitly between Nature tourism and ecotourism, Björk claims that ecotourism is *not* Nature tourism. In a joint initiative the Australian tourism industry, represented by the Ecotourism Association of Australia (EAA) and the Australian Tourism Operators Network (ATON), combines different (possible) aspects of ecotourism in a comprehensive approach that attempts to standardise the conceptualisation and practice of ecotourism. In an extended version of the agencies’

definition of Nature tourism, additional educational elements are identified as the main distinguishing feature between Nature tourism and ecotourism:

Ecologically sustainable tourism with a primary focus on experiencing natural areas that fosters environmental and cultural understanding, appreciation and conservation (Ecotourism Association of Australia 2001b).

In its Nature and Ecotourism Accreditation Program (NEAP), the industry uses assessment criteria that are based on this ‘ultimate definition’ (Ecotourism Association of Australia 2001a) of ecotourism to grade tourism products (i.e. tours, attractions and accommodation) on a three-step scale. The assessment criteria (or principles) include further distinctions between Nature tourism and ecotourism. Ecological conservation, community benefits, as well as cultural sensitivity and integrity are listed as additional objectives of ecotourism. Ventures can gain accreditation as ‘Nature tourism’, ‘ecotourism’, or ‘advanced ecotourism’ operations. From a conceptual point of view, this endeavour bears the advantage that it allows for a unified evaluation *approach*. However, the programme does not solve the problem of identifying and defining the exact meaning(s) of individual assessment criteria in an unequivocal manner. While the constituent elements of ecotourism are defined, their specifications(s) are still open to discussion, and the problem of identifying and approving a product as ecotourism under the umbrella definition has only shifted in scale. The realisation of key principles cannot be judged by ‘ticking boxes’, but is a complex (and subjective) process that requires referees assessing each individual case on its merits.

In New Zealand no such accreditation scheme exists. “At present no national ecotourism association exists in New Zealand, nor is there a recognised national certification programme for ecotourism operators, guides and/or interpreters” (Higham *et al.* 2001, p. 4). However, one operator in the Coromandel (*viz.* Kiwi Dundee Adventures) is part of the Nature New Zealand Network, a national TMN adhering to a charter that specifies requirements for the preservation of New Zealand’s natural resources (New Zealand Tourism Board (NZTB) n.d.; Tourism New Zealand (TNZ) n.d.). The federal government of New Zealand through its National Tourism

Organisation (NTO) ‘Tourism New Zealand’ (TNZ) ‘officially’ defines ecotourism within the broader concept of sustainable tourism development:

Ecotourism is ecologically sustainable tourism with a primary focus on experiencing natural areas. It fosters environmental and cultural understanding and appreciation and conservation of those areas. It is based primarily on nature-based attractions, it is learning centred and it is conducted in a way that makes every reasonable attempt to be environmentally, socio-culturally and economically sustainable (Tourism New Zealand (TNZ) n.d.).

TNZ appears to have adopted⁵⁹ and adapted Weaver’s (2001a, p. 658) glossary entry for ecotourism. The focus on the sustainability dimension is reflected in current research on ecotourism conducted or commissioned by the Ministry of Tourism and the New Zealand Tourism Board (NZTB) (section 2.4.2). However, the modified version of this definition is ambiguous, and the meaning remains unclear. Is ecotourism ecologically sustainable or does ecotourism make every reasonable attempt to be sustainable? What is meant by sustainable and by environment? Is the emphasis on environmental, socio-cultural, or economic sustainability? Does the definition refer to a product, an experience or an activity? Does it address the behavioural patterns of operators and/or tourists? The need for and concurrently lack of a conclusive definition in the New Zealand context is stated by Higham *et al.* (2001, p. 35). Their summary also provides criteria that characterise current ecotourism businesses in New Zealand:

Defining ecotourism in New Zealand is a high priority. This has been the focus of efforts by the New Zealand Tourism Industry Association Eco/Nature Tourism Working Party. Currently there is a lack of clarity, in both supply and demand, in terms of what ecotourism means in the New Zealand context - and what qualities of experience ecotourism operations provide. [...] It was found that the defining criteria that apply to ecotourism in the New Zealand context include: a strong commitment to visitor education, visitor interpretation programmes, active contributions made to conservation, collaboration with research institutions, low impact visitor operations, and, in most cases, local ownership and the employment of local people. Providing indigenous cultural perspectives on the natural environment, and raising awareness of relevant environmental issues are also central to a number of New Zealand ecotourism operations.

⁵⁹ The definition is not referenced.

It is argued that the problems encountered, when defining and conceptualising sustainable tourism development (section 2.3.3), contribute to the difficulties in defining ecotourism and assessing ecotourism ventures. Honey (1999, p. 11) attributes the existing confusion over labels (Björk 2000, p. 189), their meaning(s) and application(s) to the diverse institutional roots of ecotourism. According to Honey, these can be traced to four sources, all of which follow differing agendas and have sometimes contrasting objectives:

- Academic circles and conservation groups, as well as nongovernmental organisations (NGOs)
- Multilateral aid agencies
- ‘Developing’ countries
- The tourism industry and travelling public

It is argued, however, that these bodies and interest groups do not comprise separate and independent entities. With their boundaries frequently changing and overlapping, they interact and influence each other. Examples of interaction and ‘fluid boundaries’ are international ecotourism conferences and Munt’s (1994) academic conceptualisation of ecotourism in the ‘Third World’ from a Western perspective. On such occasions and in similar publications a confluence of contrasting perspectives, objectives and perceptions can be experienced. Interpretations, definitions, and concepts of ecotourism have cross-fertilised each other, spawning the (recognised) ambiguity in terminology (Clarke 1997, p. 224). Clarke (*ibid.*) points out that all of the previously mentioned associations sometimes result in the hybridisation of terms. Hybrid labelling is evident for example in Ashton and Ashton’s (1993; 2003, forthcoming), Ayala’s (1996a; 1996b), Cater and Cater’s (1999), Dernoï’s (1988) and Wight’s (1995) publications.

Not only are the implied meaning(s) of (practised) ecotourism debated, but the term’s historical roots are also controversial. In a regional context the notion of ecotourism is said to have emerged in France, and its articulation in Switzerland (Collier 1997, p.

244). Honey (1999, p. 13) attributes the birth of the term ecotourism to Latin America and Africa. The implied notion(s) of Nature-based and ecologically sensitive tourism are also said to be the brainchild of individuals. Blamey (2001) credits Hetzer (1965), “... who identified four ‘pillars’ or principles of responsible tourism: minimizing environmental impacts, respecting host cultures, maximizing the benefits to local people, and maximizing tourist satisfaction” (Blamey 2001, p. 5), with the invention of the term ‘ecotourism’. Honey (1999, p. 13), and Ashton and Ashton (1993) point out that Miller (1978) conceptualised the ecological, socio-economic and political dimension of sustainable Nature-based tourism in the late 1970s. Budowski (1976, cited in Orams 1995, and in Markwell 1998, pp. 63, 64), Romeril (1985, p. 216, cited in Markwell 1998, p. 64) and Valentine (1992, cited in Markwell 1998, p. 67) are other individuals mentioned in the same context. Ceballos-Lascuráin is frequently named as the individual who coined the term ecotourism in the 1980s (e.g. Gilbert 1997; Beeton 1998, p. 1; Markwell 1998, p. 67; Bushell 2001b), and Hummel (1994, cited in Beaumont 1998, p. 240) attributes the invention of the term to a Costa Rican tour operator.

If ecotourism is already a contested label, the existence of the *typical, or ideal* ecotourist may be “... a travel myth ...” (Carr and Higham 2002, p. 32). Practical limits of classifying tourists in typologies and as market segments have been addressed for example by Leiper (1997, p. 47). Tourist typologies appear to be based on Maslow’s (1954) ‘hierarchy of needs’ theory, and tend to generalise characteristic traits by combining psychologically based needs with socially oriented motives (McIntosh *et al.* 1995, p. 171). Identifying, profiling and defining *the* ecotourist essentially represent attempts to squeeze idiosyncrasies of individuals into typologies where ‘one suit fits all’. Taxonomies also reflect the idea that people ‘do not change their suits’. Presumably the *raison d’être* of characterising and categorising ecotourists has foremost economic origins. Primarily for business purposes, many eco-destinations around the globe generate profiles of their visitors (e.g. Epler Wood 2002, pp. 21-22). Likewise in New Zealand a number of studies have been conducted that aim at understanding and describing the typical consumers of ecotourism and their satisfaction level with the

product (e.g. Higham *et al.* 2001; van Aalst and Daly 2002). Descriptions of ecotourists are based on a variety of tourist typologies (Fennell 1999, pp. 54-61) that use different sets of variables.

Procedures involving demographic profiling, psychographic segmentation, establishing travel and expenditure patterns or activity preferences, are all based on the assumption that the *typical* ecotourist actually exists. The common ‘static snapshot’ approach reflects the idea that identified attributes and values of the following variables are unambiguous and can be extrapolated into the future:

- Tourists’s motivation based on their psychological and physiological interests and needs, i.e. *why* people *prefer* a specific destination, activity, or experience
- Tourists’s cognition and perception, i.e. *how* people *feel* about and *interpret* destinations, activities, or experiences
- Tourists’s intellect, conscience and awareness, i.e. *how* and *what* people *know* and *think*
- Tourists’s behavioural patterns, i.e. *what* people *do* and *do not do*, and *whether* their action/inaction corresponds with their words

However, for example Carr and Higham (2002, p. 32) rightly ask the questions:

Are ‘environmentally conscious’ eco-visitors creating the demand for ecotourism products or are ecotourism experiences merely another activity for visitors to participate in, whether environmentally conscious or not? Do these visitors continue on as ordinary travellers without ‘green ideals’ once their ecotourism experience is finished? After all their contribution to the consumption of fossil fuels, in order to reach an ecotourism operation or destination, surely does more environmental harm than good?

Higham *et al.* (2001, p. 35) point out that the diversity of visitor types that are represented within the New Zealand ecotourism market, make it nearly impossible to identify the *typical* ecotourist:

Profiling visitors to ecotourism operations and the experiences that they report is critical to the further development of the ecotourism sector. This report questions use

of the term 'ecotourist' as it was found that visitors to ecotourism operations in New Zealand comprise a diverse collection of visitor types. The majority of study operations, including the more specialised, small scale operations, were found to receive a diversity of visitors that are described by Duffus and Dearden (1990) as 'specialists and generalists' or 'experts and novices'.

The perceived necessity and economic endeavour to identify and classify the client is thus complemented by a philosophical discourse that involves the complexities of human interaction, ethics, cognitive dissonance, and changing behaviour to name but a few topic areas. This study aims to do both: Identifying the Coromandel ecotourist *and* addressing problems surrounding any categorisation, or definition (*Chapters Six*, section 6.2; *Chapter Seven*; *Chapter Eight*, section 8.2.1). The debated meanings of ecotourism – and thus the difficulties of identifying *the* ecotourist, are rooted in arguments surrounding the conceptual dimensions of both terms. Wight's (2001, p. 37) chapter on "Ecotourists: Not a Homogeneous Market Segment" supports this claim. The next section examines different perspectives that result in dynamic 'layers of meanings'.

2.4.2 Conceptual Dimensions

There is general agreement that the term ecotourism is used in many different ways and for numerous different purposes at the operational level (e.g. Wearing and Neil 1999, p. 1). However, the need to conceptualise ecotourism beyond its applied meanings has also been expressed (e.g. Acott and La Trobe 1998). Miller and Kaae's (1993, cited in Orams 1995, p. 4) paradigmatic scale, as well as Ashton and Ashton's (1993) ecotourism spectrum, show the philosophical and theoretical conundrum that any conceptual model of ecotourism faces. Modelling ecotourism in continua that are bounded by bipolar extremes, these authors demonstrate that the (theoretical) possibility for ecotourism to exist depends on the prevailing paradigm. In other words, at the operational level the implied meaning of ecotourism is case-sensitive, rendering a normative definition of the term futile. The binaries that are used to describe the endpoints on sliding scales, characterise the position within the spectra from a moral perspective: Negative/positive, shallow/deep, environmentally detrimental/benign, cynical/genuine (Acott and La Trobe 1998). Other scales are more rigid and imply the notion of 'good' *or* 'bad' without allowing for a grey-zone in between, exemplified by

the binaries ego/eco (Munt 1994), hard (active)/soft (passive) (Weaver 2001b, p. 106), conventional/alternative, mass/small-scale, irresponsible/responsible, etc.. Blamey (2001, p. 7) speaks of ‘popular’ and ‘classical’ ecotourism with the distinguishing feature being the group size. According to Blamey, popular ecotourism does not qualify as ‘alternative tourism’, which he equates with personalised products and small group sizes. But even these ‘endpoints’ usually lack clear definitions of their implied meanings.

Although the conceptualisation of ecotourism causes difficulties, common grounds can be established:

(1) Apart from the above mentioned models, theoretical considerations and case studies are commonly based on what is reflected through, or enacted in the real world rather than considering philosophical questions surrounding the concepts. Acott and La Trobe (1998) emphasise that ecotourism is usually defined with reference to the activity, or experience the tourist is engaged in. Definitions thus deal with the *concrete* rather than the abstract meaning of ecotourism.

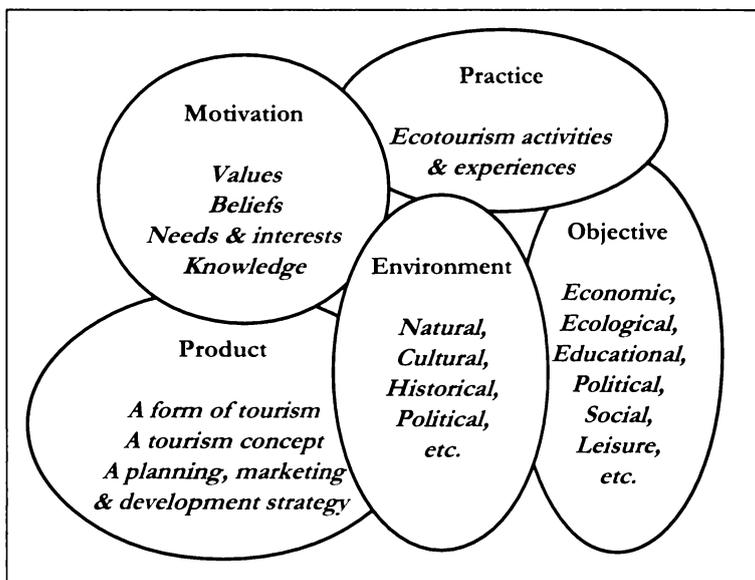
(2) At the conceptual level some *central elements* of ecotourism are identified in most publications. For example Allcock and the Australian Commonwealth Department of Tourism (1994), Blamey (1997a, p. 110), and Beaumont (1998, p. 240) identify the ‘natural setting’, ‘(ecological) sustainability’ and ‘educational components’ as the three *key principles*, or *dimensions* of ecotourism. Buckley’s (1994) framework encompasses ‘conservation-supporting’ as a fourth core element of ecotourism. In his discussion of principles of ecotourism, Blamey (2001) summarises the main elements of ecotourism as:

- Nature based
- Environmentally educated
- Sustainably managed
- Small-scale, or personalised

Blamey hence employs qualitative characteristics (viz. the resource base, the type of mental activity and experience, as well as management strategies) *and* quantitative attributes (viz. the group size) to define principles of ecotourism. However, Blamey neither limits the ‘typical’ ecotourism activity or experience to a particular type or duration of a physical activity, nor to a particular behavioural pattern (of tourists or operators).

(3) The majority of publications conceptualise ecotourism as a *touristic product*, and relate the term to *touristic practices*. As a concept, or form of tourism, ecotourism is thus defined with regard to a particular *touristic activity*, or *experience*. In addition some authors acknowledge the philosophical nature of the term and include participants’ motivations (e.g. Wearing and Neil 1999), opinions (e.g. Chirgwin and Hughes 1997), and behavioural patterns (e.g. Acott and La Trobe 1998; Björk 2000) as key elements of conceptual models of ecotourism. Figure 9 summarises conceptual dimensions that play an immanent role in the way ecotourism is defined and practised.

Figure 9 Conceptual dimensions of ecotourism



Adopting and developing appropriate modes and means to research these dimensions adequately constitute the topics of the next chapter. In my social survey I intend to incorporate Blamey and Braithwaite’s (1997) idea of profiling individuals in regard to

their (social) values. It is anticipated that the survey will: (1) Provide information about beliefs, values and motives of stakeholders; (2) reveal discrepancies between expressed intentions and displayed behaviour; and (3) demonstrate whether (and how) travel (or business) experiences modify thought and activity patterns of involved parties.

The last section of this chapter discusses the way(s) in which the history of sustainable (tourism) development and ecotourism, as well as the terms' debated meaning(s), have influenced the chronology, approach and current focus of ecotourism research in New Zealand.

2.4.3 Ecotourism Research in New Zealand

Invented in the 1970s or 1980s, the term ecotourism has proliferated in New Zealand related research publications since the early 1990s. Traditionally the study of ecotourism in New Zealand has been conducted on two separate *knowledge platforms*⁶⁰, which can be labelled as the *public* and the *private research platform*. Different rationales underlying the research on both platforms result in the examination of ecotourism from different angles (viz. the *industry-driven* and the *knowledge-driven approach* respectively). With few earlier exceptions, the two approaches of studying and conceptualising the ecotourism phenomenon have only recently begun to overlap and 'merge'. The latest development and the current situation regarding the different perspectives and approaches of ecotourism research in (and on) New Zealand are explored in this section. Specific ecotourism research literature related to the regional, or local context of the Coromandel is discussed in *Chapter Five* (section 5.1).

On the one hand, what can be termed the *industry-driven approach* is applied foremost on the *public research platform*. Tourism research conducted in the public domain serves mainly one purpose: Research outputs aim to enhance the provision of research data that facilitate decision-making processes within the tourism industry sector. Publicly funded research projects thus study tourism with the industry's goals and objectives in mind (Tourism Research Council New Zealand (TRCNZ) 2001, p. 3). TRCNZ

⁶⁰ The term 'knowledge-based platform' in the tourism context was coined by Jafari (1988, unpub.; 1989, cited in Brown 1998, p. 5; in Carlsen 1998, p. 250; and in Weaver 2001b, p. 107; Jafari n.d.).

(Tourism Research Council New Zealand (TRCNZ) 2001, p. 6), comprised of senior representatives from the public and private sectors, acknowledges the need to undertake research with the following goals:

- To understand the customer base (in terms of visitor expectations, satisfaction, behavioural patterns, and preferences)
- To understand the industry (in terms of economic objectives, enhanced business practice, product development, and human resource requirements)
- To understand the need for sustainability (in terms of environmental, cultural and social resources upon which the tourism sector is reliant)

Ryan and Simmons (1999, p. 305) note that the current tourism market research strategy in New Zealand “... still implies a positivistic approach to the exclusion of alternative methods.” Projects and programmes carried out or commissioned by public agencies in the 1990s, emphasised national, regional, and local aspects of *sustainable tourism development* as an idea and concept rather than concentrating on particular forms of tourism. Commonly interpreted as Nature-based tourism (e.g. Tourism New Zealand (TNZ) n.d.), in the *public* forum ecotourism was (and still is) conceptualised as a *form* of sustainable tourism and as a *way* of achieving the goal(s) and objectives of sustainable tourism development (e.g. New Zealand Tourism Board (NZTB). Market Research 1993). Rather than studying ecotourism as a distinct phenomenon, the concept was (and still is) thus being dealt with within the broader perspective of sustainable tourism. This is evident in the list of research reports published by the Foundation for Research Science and Technology (FRST) Tuāpapa Rangahau Pūtaiao (n.d.), and in publications by the New Zealand Department of Conservation (DoC) Te Papa Atawhai (n.d.). While FRST reports tend to focus on economic issues regarding sustainable development, research carried out by DoC commonly highlights tourism impacts on the natural environment. However, DoC does not employ the term ‘ecotourism’ as a distinct tourism form, or concept (*Chapter Six*, section 6.4.6). The target outcome ‘sustainable tourism development’ is the focal theme in the majority of 62 tourism related research projects that were commissioned by FRST between 1995

and 2000; but ecotourism is mentioned or features as a distinct field of inquiry in only 10 % of the publications (viz. University of Auckland 1996; Ulrich Cloher 1997; 1998c; Kearsley 1999; Hayes 2000; Kearsley 2000).

On the other hand, a second research approach that can be labelled the *knowledge-driven approach* studies ecotourism in New Zealand as a distinct way of thinking, engaging in and experiencing tourism. Until recently this approach relied heavily on (non-commissioned) academic publications, (unpublished) dissertations and research projects that were the products of individuals, or teams of researchers who have a personal, or professional interest in the topic (e.g. Hall 1991; Kilty 1992; Hall and McArthur 1993; Garth 1997, unpub.; Higham 1998b; Lück 1998). It is thus argued that ecotourism as an autonomous topic, independent of sustainable tourism development, is examined foremost on the *private research platform*.

In respect of both platforms, the occasional direct link, bridging the theory–practice gap between industry and academia, exists in the form of research undertaken by operators who are also academics (e.g. McSweeney 1992). The existence of such a gap has been acknowledged by the Tourism Research Council (TRCNZ) (2001, p. 2):

The New Zealand tourism industry has been perceived as an infrequent user of research in its decision-making processes.

Exceptions that transcend the ‘conceptual boundary’ between the two research platforms in the 1990s, are for example Warren and Taylor’s (1994), and Gilbert’s (1997) ecotourism case studies and business characteristics/guidelines. Both publications were financed by the New Zealand federal government, with Warren and Taylor’s study funded through FRST. The latter publication is one of the few academic research projects in the 1990s with a *focus on ecotourism in New Zealand* that is based on a central government agency’s programme, or results from any of the national and regional tourism organisations’ initiative. The study makes, however, no mention of the Coromandel as a current or potential location for ecotourism development.

Characteristic of the more recent merger between the two platforms is a FRST funded research project that focuses on ecotourism. In September 1999 the Department of

Tourism at the University of Otago in Dunedin “... commenced a two-year research programme into the environmental values of ecotourists ...” (Carr and Higham 2001, p. 4) as part of the ‘Sustainable Tourism Programme of Research’ (ibid., p. 3). The focus of this particular project is on ecotourists as consumers and causal agents of tourism effects rather than on the theorisation of ecotourism as a label, concept, or form of tourism.

It is argued that both approaches and platforms have their origin in the way (eco)tourism developed in New Zealand. Influencing factors were (and continue to be): (1) The manner in which public institutions conceptualise progress in the tourism sector; and (2) the way in which the industry body practises its trade. The details are examined as ‘systemic elements’ in the conceptual models (*Chapters Five to Seven*) and shall only be summarised at this point. Due to New Zealand’s unique geography and socio-cultural environment both *Nature-based tourism* (e.g. Bellamy 1989; New Zealand Tourism Board (NZTB) and New Zealand Department of Conservation (DoC) Te Papa Atawhai 1993; New Zealand Tourism Department n.d.) as well as *cultural heritage tourism* (e.g. Mitchell *et al.* 1992) traditionally feature as common themes within the tourism sector, i.e. among tourists, operators, researchers and in the public domain alike. Concepts related to these two themes are *ecologically sustainable* and *culturally sensitive tourism*. Their conceptualisation is part of the spin-off effect triggered by the overarching ‘sustainability discourse’ and can be interpreted as recent ‘add-ons’ in the goal formulation of tourism development. Tourism plays an important part in New Zealand’s economy, and economic viability through growth traditionally was (and still is) the main goal of tourism development. Allan and Ball’s (n.d., p. 45) evaluation of the 1989 tourism industry conference supports this claim:

A key event for the industry, which set the scene for development till the end of the millennium, was the 1989 Tourism Industry Conference in Auckland, which took as its theme “Tourism 2000, New Zealand Grow For It”. This theme pervaded the entire conference proceedings and a target was set, based on “strong prospects for inbound tourism through the 1990’s

When it became apparent that unplanned and unorganised tourism development (and growth) can have adverse impacts on the physical and socio-cultural environments of

tourist destinations., “... sustainable development became a focus for tourism as a development tool” (Berno and Bricker 2001, p. 1). Gradually, the notion of *sustainable development* became *the* prevalent ‘official’ goal of tourism practice and development in New Zealand, thus creating a new feedback loop by linking the SD concept with a modified version of the boosterism approach. The new ‘sustainable economic growth’ paradigm encompasses the consideration of tourism development impacts and of ways of ‘thinking and doing’ ecotourism, while concurrently promoting (or at least acknowledging the relevance of) ecotourism research (e.g. Hall and Mitchell 1993; Hall 1994).

While operators, or tourists in the past may have inadvertently adhered to codes of conduct that fall into the category of potential ‘ecotourism guidelines’, ecotourism as a label characterising a particular tourism operation, activity, or experience, is a relatively recent phenomenon in New Zealand (e.g. Coventry 1993). The *status quo* of ecotourism research reflects this lead–lag development, a claim that is corroborated by a quote from Higham *et al.*’s (2001, p. 4) report:

The study of ecotourism is well advanced in the international context, particularly in countries such as Canada, Australia and the United States. No depth of detailed information exists in New Zealand where a lack of comprehensive analysis of the ecotourism sector is currently the case.

My hunch is, however, that the comment was written at the outset of the study. Since then ecotourism research in New Zealand has gained momentum. The International Ecotourism Conference, hosted by the Department of Tourism at the University of Otago in Dunedin in August 2002 (Hall 2002), can be interpreted as indicative of the growing relevance of ecotourism research in New Zealand.

Issues of *sustainable tourism development* remain, however, common and important research topics on a national level (e.g. Foundation for Research Science and Technology (FRST) Tuāpapa Rangahau Pūtaiao 2001a; New Zealand Tourism Board (NZTB) trading as Tourism New Zealand (TNZ) 2001a). Projects are often commissioned by FRST on behalf of the New Zealand Tourism Board (NZTB), with some of the research programmes targeting specific regional issues in the Coromandel

(e.g. Pacific Asia Travel Association Task Force *et al.* 1991; New Zealand Tourism Board (NZTB) 1995, p. 56).

On a national scale current research further suggests that ecotourism continues to be conceptualised and studied within the broader context of sustainable tourism development. This is echoed in the theme of New Zealand's International Year of Ecotourism (IYE) Ecotourism Conference, which was to be held in Russell in October 2002, but has now been postponed until 2003: "A Sustainable Approach for Tourism in the Tai Tokerau Region" (Enterprise Russell n.d.).

Publicly funded research programmes on sustainable tourism development typically focus on four (overlapping) topic areas:

- Environmental effects/impacts (e.g. Gordon *et al.* 1992; Cessford and Dingwall 1997; Parliamentary Commissioner for the Environment 1997; Barr and Slooten 1999; Cessford 1999a; b; Cessford and Dingwall 1999; Forer 2002; Hughey 2002a; b; Kearsley 2002a)
- Sustainable growth strategies (e.g. Fairweather 2002; Kearsley 2002b; Matunga 2002; Simmons 2002b)
- Community/Māori involvement/participation (e.g. Centre for Research Evaluation and Social Assessment 2002; Simmons 2002a)
- Eco-visitor/tourist profiling/perceptions (e.g. Higham *et al.* 2001)

Regional and local case studies carried out by FRST or DoC, which can encompass any, or all of the above mentioned topic areas, commonly examine the effects of tourism: (1) On tracks that are managed by DoC (e.g. Cessford 1998); (2) on endangered species (e.g. Constantine and Scott Baker 1997; Constantine 1999; de Freitas and Schmekal 2001); and (3) on specific regions, e.g. the sub-antarctic islands (e.g. Cessford and Dingwall 1996). Commissioned research programmes on sustainable tourism development (e.g. Kearsley 1999; 2000) continue to conceptualise ecotourism as a form of Nature-based tourism, with the focus on its effects on the (ecological)

environment as well as on visitors' expectations, experiences, and behavioural patterns in the broader context of sustainable tourism development:

This programme is designed to enhance our understanding of the social, environmental and economic processes that underlie the sustainability of the tourism industry. It builds upon previous programmes (U00506, U00605, U00805) and lays the foundation for continuing work. Specifically, it assesses the impacts of tourism in different environmental and social settings and monitors the responses of both visitors and residents to changing experiences with domestic and international tourism [...] Finally, a major review of the effectiveness of the eco-tourism sector and the attributes and expectations of almost a thousand eco-tourists has been completed across a nationwide sample of eco-tourism sites. Customers report high levels of satisfaction and an almost universal willingness to recommend their experiences to others. (Kearsley 2000, abstract).

Current research on sustainable tourism development now incorporates the notion of ecotourism as a potential vehicle for sustainable tourism development, frequently addressing issues related specifically to ecotourism. This finding is summed up by an excerpt from the abstract of Kearsley's (1999) parliamentary report on sustainable tourism:

Finally, the foundations have been laid for a major review of the effectiveness of the eco-tourism sector and the attributes and expectations of eco-tourists.

In a later article Kearsley (2000/2001)⁶¹ acknowledges the important role ecotourism plays for New Zealand's tourism industry and the country's tourists:

... This country has never been a venue for lager-lout mass tourism and probably never will be. Instead, we are at the forefront of a new mood in tourism which has more to do with knowledge and awareness and which is transforming the industry. Science, tourism and the knowledge economy are converging. Some commentators have described the new tourist as a pilgrim, seeking to understand the wider world through eco-tourism and heritage, for example, and to know themselves through testing their limits in adventure pursuits or by comparing their own culture with others. Certainly, in this country, the desire to learn about plants and animals and to encounter wilderness is motivating rapid growth in tramping and shorter walks among international visitors. This motivation is bringing tourists into closer encounters with science, in all its forms. In the natural world the spectacular growth of eco-tourism is matched by a desire not simply to observe scenery, but to understand the earth processes that created it. Modern zoos, conservation projects and the green

⁶¹ Depending on the URL, this article has three different publication dates: September 2000, December 2000 and September 2001.

imperative in hotel management reflect a growing ecological awareness in the new tourist, who is very much a green consumer.

In New Zealand a commonality that both – public and private – research platforms share, was and still is their case study approach. Typically the reports stress the importance of community involvement, exemplified by the following statement:

The emphasis is on socio-cultural resources and the natural environment (ecotourism) in a community based and mandated tourism reflecting Māori values (Ulrich Clober 1998c).

The wide spectrum of meanings regarding ecotourism continues to influence the application and practice of the term in ‘real life settings’ not only in the Coromandel but New Zealand-wide. Originality and variance of interpretations and applications under the umbrella term ecotourism are reflected in the titles and themes of research theses and academic publications. A plethora of labels like *eco-gateway* for Auckland’s city-ecotourism (Johnston and Lau 2002), *marine tourism* (e.g. Barr 1996, unpub.; McKegg 1996, unpub.), *wilderness tourism* (Higham 1998a), *wildlife (viewing) tourism* (e.g. Wilson 1993b, unpub.; 1994; Pearce and Wilson 1995; Young 1997, unpub.), *non-consumptive wildlife-oriented recreation/ tourism* (e.g. Alexander 1997, unpub.), *Nature (-based) tourism* (e.g. Hutching 1987; 1990; Brooker 1997, unpub.), *geotourism* (e.g. Keiller 1995, unpub.), *green tourism* (e.g. Anderson 1991, unpub.; MacKness 1992, unpub.), *(natural/cultural) heritage tourism* (Mitchell 1991; Mitchell *et al.* 1992), and *mountain scenic flights* (Westwood and Boyd 2002) are all associated with ecotourism (case) studies in New Zealand.

The case study approach entails and explains the dominance of an empirical and atheoretical rather than conceptual stance. With some exceptions (e.g. Anderson 1993, unpub.; Anderson 1995, unpub.; Cleese 1995, unpub.; Ward *et al.* 1996), the majority of ecotourism research projects is situated within the field of applied social science, examining ecotourism from a pragmatic viewpoint. Research like Alexander’s (1997, unpub.) thesis, bridges the gap between theorising and applying a concept to a specific situation. Three central areas of research interests can be identified from the literature:

- The *practice of ecotourism* at a regional and local level (e.g. Sanson 1994; Lewis 1995, unpub.; Mitchell *et al.* 1998; Price 1998, unpub.).

Case studies tend to focus on fragile natural environments, for example in the sub-Antarctic (e.g. Hall and Wouters 1994), or in coastal regions (e.g. Mottershead 1982, unpub.), and in particular on resource–user interaction and the effects on marine and coastal wildlife (e.g. Amante-Helweg 1995, unpub.; Kazmierow 1996, unpub.; Parkin 1996, unpub.; Bejder 1997, unpub.; Barton *et al.* 1998; Wright 1998; International Fund for Animal Welfare 1999).

- A second research focus is on *modelling user profiles*, i.e. demographic, psychographic and behavioural patterns of ecotourists (e.g. Barton 1994, unpub.; Cessford and Dingwall 1994; Pearce and Wilson 1995; Woods and Moscardo 1997; Bulbeck 1999), with the emphasis on visitors' satisfaction levels (e.g. van Aalst and Daly 2002), and some of them questioning the possibility of defining *the* ecotourist (e.g. Carr and Higham 2002).
- A third research sector investigates *educational aspects* of ecotourism experiences, i.e. the effectiveness of environmental interpretation (e.g. Bowden 1991; Mitchell 1991; Schänzel 1998)

Although the output of ecotourism specific research is increasing, the lack of a national certification programme continues to fuel the debate surrounding the meanings of the term, thus retaining the confusion of 'what is' and 'what is not' ecotourism. For example Heron (1995) and Pearson (1998) both stress the need for a national ecotourism strategy, and Bonzon-Liu (1999, unpub.) makes specific recommendations regarding an ecotourism accreditation scheme. Higham *et al.* (2001, p. 35) comment that "TIANZ initiatives to develop quality standards for Eco/Nature Tourism and support for the Green Globe 21 accreditation programme will contribute to the professional development of the ecotourism sector." Hall's (2003b) forthcoming chapter on 'institutional arrangements for ecotourism policy' may be indicative of the growing recognition that a national ecotourism strategy is required to pool resources and unify action.

Ways of understanding resources and actions in the ecotourism context are explored in the following chapter. *Chapter Three* outlines the strategy, and specifies the methods and tools that are used to gather the data required to understand how ecotourism is currently conceptualised, experienced and lived in the Coromandel.

Chapter Three

Methodological Holism

The dichotomy between theory and research is an artificial one (Neuman 2000, p. 61).

The introductory chapter dealt with the question, ‘What *can* we know?’, while the previous chapter covered existing theories, concepts, and perspectives in regard of the theoretical approach as well as the pragmatic realisation of the subject areas of the thesis. This chapter is about “Knowing *How* We Know [emphasis added]” (Maturana and Varela 1998, p. 17). Following the bootstrap hypothesis (*Chapter One*, section 1.3.2), the chapter lays out the underlying assumptions of the methodology (termed ‘methodological holism’) that I use in this study. It further outlines the way the inquiry is conducted, by describing and justifying the research methods, tools and techniques that are employed to collect and to make sense of the data. I hope that the methodology chapter also reflects the attempt to achieve the *reflexivity* required by the Socratic Method (*Chapter One*, section 1.3.2), i.e. a self-awareness of elements in the research process that are influenced by me as the researcher.

I agree with Kitchin and Tate (2000, p. 1) that “... the research process is not divorced from theory [emphasis omitted]”, and with Davidson and Tolich (1999, p. 6) who argue that “Research methods and social theories are inextricably intertwined.” Layout and content of this chapter thus follow May’s (1997, p. 34) claim that “... the attempt to separate *what* we do from *how* we do it, [...] is problematic.” The chapter addresses the *conceptual validity* of the ‘marriage’ between philosophy, theory and methodology, as well as validity issues regarding the *practice* of methods. It also engages in the question of *reliability* with regard to the study’s eventual findings and conclusions. Ethical considerations and moral responsibilities to participants are dealt with in *Chapter Four* (section 4.5) and in the ‘Application for Approval of a Research Proposal’, which is included in the *Appendices*.

Chapter Three is divided into three sections. Outlining the links between the theoretical framework and practical applications of the methodology, the first section (3.1) depicts underlying *assumptions* and *principles* of methodological holism. By stating the theoretical foundation of methodological holism, the chapter reflects the attempt to abolish what Ackroyd and Hughes (1992, p. 179) call the “... division of labour between theorists and researchers ...” Section 3.2 delineates and justifies *ways of asking*, i.e. it addresses questions in terms of which sources and what kinds of data provide the empirical evidence, trigger debate and generate knowledge, how information is obtained, and why specific data sources are chosen. The concluding section (3.3) makes allowance for Kitchin and Tate’s (2000, p. 35) claim that “*Construct* and *analytical validity* both relate to the methodological integrity of [the] study [emphasis added].” The section focuses on *ways of interpreting and presenting* the findings, i.e. on the strategies that are employed to analyse and understand the data, justifying the ‘joint venture’ between specific analytical and interpretative approaches.

3.1 The Philosophical, Ideological and Theoretical Framework

Hill’s (1981, p. 38) tenet provides a justification for my starting point in the construction of the methodology:

Only you can provide the philosophical answers that will have meaning and lasting value in your future work as a geographer.

The chapter thus begins with the construction of *my* philosophical, ideological and theoretical fabric of methodological holism. It reflects a “... bridge-building attempt [that] fuses the twin aims of ‘how’ (understanding) and ‘why’ (explanation) in social research” (May 1997, p. 15). One main objective of methodological holism is to overcome the reductionist representation of real world phenomena, as well as the limited *vis-à-vis* perception individuals have of the world.

3.1.1 Underlying Assumptions and Principles

The origins of ‘knowing’ are perception and cognition. Methodological holism contrasts with the idealist notion of Maturana and Varela’s Santiago theory of cognition (*Chapter One*, section 1.3.1), which views reality merely as a construction of

the mind. The methodology pursued adopts the *ontological assumptions critical realism* is based on. Critical realism claims that cognition reflects a ‘mixed’ reality, consisting of components that exist independent of human thought, while concurrently being altered and complemented as the result of continuous and selective mental processes performed by the human mind. Utilising Bhaskar’s concept of critical realism (*Chapter One*, section 1.5.3), the system’s reality is thus composed of different ‘actual’ realities, and can be interpreted as ontologically and epistemologically open (Reed and Harvey 1992). A detailed discussion of Bhaskar’s philosophy in regard of the system’s reality follows in the next chapter (section 4.1).

Following O’Brien and Kollock’s (1997, p. ix) argument that the production of reality, and in particular the nature of social reality, “... will vary across time, across cultures, and from one person to the next”, imagination and representation of these realities are viewed as contextual, situational and individual products. Presuming that the answer to the question, ‘What is real?’, lies within the acknowledgement of complex realities that are composed of as many layers of meaning as there are people involved in their creation, I wish to incorporate the Derridean notion of contextual relations (section 3.3)

I have argued that the study is positioned within *applied social science* (*Chapter One*, section 1.4.3); yet it also contains an element of *basic research*. The part that aims at advancing fundamental knowledge focuses on the possibilities and limitations of the systemic perspective and the chaoplexity paradigm in the social sciences. In both instances the generated knowledge is of exploratory rather than explanatory character. The findings rely heavily on the use of a mixture of different – foremost descriptive, interpretive and critical – methodological approaches within *applied social research*. Studying human behaviour and interaction, as well as reciprocal effects of human activities on the non-human environment, positions the *type of research* in the realm of *qualitative social science*. Hansen’s (1998, p. 45) statement that “... there may be some overlap between these two categories of methods” hints at the possibility of a (partial) coincidence between qualitative and quantitative approaches. I claim that there is in principle *no* clear-cut distinction between quantitative and qualitative research. Any measured quantity

requires an attached unit to acquire a meaning beyond the abstract mental concept of numbers.

Rather than trying to conduct and analyse a mere ‘number count’ within a purely empirical-analytical approach, the research aims at *understanding* the meaning – and thus the qualitative and subjective interpretation of these variables. The strategy is based on the *verstehen* concept, an interpretive approach to social science that can be traced back to Weber and Dilthey (Neuman 2000, p. 70; Norton 2000, p. 42). The study is ultimately *critical* as well, seeking to change human and non-human landscapes by suggesting possible improvements regarding socio-cultural, economic, political and ecological processes and relationships. Using Habermas’s (1989) division of scientific inquiry into empirical-analytical, historical-hermeneutic and critical-emancipatory research, the emphasis of the methodology thus falls into the latter two categories.

In particular within Comte’s and Durkheim’s positivistic empirical-analytical approaches to social science, but also within the historical-hermeneutic tradition of Weber’s interpretive approach, research is generally claimed to be value-free (Kitchin and Tate 2000, p. 23; Neuman 2000, p. 70). This assertion is repudiated, and by adopting Sarantakos’s (1993, p. 20) argument that “Qualitative researchers reject fundamentally the notion of objectivity”, the methodological approach of this thesis is based on the *epistemological assumptions of subjectivity* (May 1997, p. 12; Mansfield 2000) and on Haraway’s *situated knowledges*:

For the qualitative researcher, social reality does not exist objectively but is created in interaction and through interpretation, of which the researcher is an integral part. [...] Our [social] world is something we make, not something we discover [...]. In this sense, objectivity is impossible in qualitative research (Creswell 1998, p. 20).

The modernist idea of the existence of one absolute (or universal) truth is thus discarded in favour of a postmodern approach. Based on the *axiological assumption* (i.e. the role of values) that the nature of the study, as well as the nature of information gathered from the field, is value-laden (Creswell 1998, p. 76) and biased, this ‘new’ way of understanding emphasises ‘relative and temporary truths’. This assumption corroborates the notion within critical (social) theory that the differences between

facts, values and people's experiences cannot be sustained (McCarthy 1991, p. 45; May 1997, pp. 36-37).

In the Coromandel, values originate in pluralistic moral outlooks (*Chapter One*, section 1.8.2) of different worldviews people hold (*Chapter One*, section 1.5.2). Through my interaction with people, I also influence viewpoints and beliefs in the Coromandel, contributing to the continuous change of implicit and explicit moral values and standards. The methodology used in this study thus constitutes a 'postscientific' approach "... which acknowledges the position of scientist as agent and participant [emphasis omitted]" (Kitchin and Tate 2000, p. 16).

Regarding human behaviour, my methodology adopts an intermediate position within the *structure–agency* debate (Graham 1997) by accepting "... that there is a play-off between structure and agency, recognising that individuals make their own decisions but that these decisions are framed within broader [societal] structures" (Kitchin and Tate 2000, p. 26). Decision-making processes, as well as the enactment and the effects of these decisions, are captured in a case study (section 3.2) that employs *social theory* as the theoretical framework. But rather than interpreting social theory as *one* body of knowledge, methodological holism is based on the idea that social theory is "... a system of interconnected abstractions or ideas that condenses and organizes knowledge about the social world" (Neuman 2000, p. 40).

The critiquing part of the research aims at designing idealised models of ecotourism and SETD. Utilising *critical (social) theory*, one research objective is the critique of existing structures, processes, relationships, and patterns:

Critical theory approaches the question of the relationship between people's everyday meanings and the generation of social theory by not assuming that there is a truth that we can reach as researchers by simply concentrating on the techniques of social research [...] it would not regard research results feeding back into social life as a 'problem' for researchers (May 1997, p. 37).

Methodological holism rejects, however, the common association of critical social science with the structuralist framework of Marxist approaches (Kitchin and Tate 2000, p. 14). In particular, it abandons the notion within structural functionalism (*Chapter*

Five, section 5.4) that “Society is a system of interdependent parts that is in *equilibrium* or balance [emphasis added]” (Neuman 2000, p. 60). Instead, it adopts the poststructural claim “... that meaning is not fixed but is constantly on the move [...] and that subjectivity does not imply a unified, and rational human subject but instead a kaleidoscope of different discursive practices” (Peet and Thrift 1989, p. 23).

Choosing, or rather composing the most appropriate methodology to conduct qualitative research begins with the insight that “Those undertaking qualitative studies have a baffling number of choices of traditions” (Creswell 1998, p. 3). Their diversity is reflected in the multitude of classification schemes that are founded on different schools of thought (Sarantakos 1993, p. 6; May 1997). This study is based on two complementary definitions of qualitative research:

Qualitative research is multimethod in focus, involving an interpretive, naturalistic approach to its subject matter (Denzin and Lincoln 1994, p. 2)⁶².

and

Qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex, holistic picture, analyzes words, reports detailed views of informants, and conducts the study in a natural setting (Creswell 1998, p. 15).

Adopting a systemic perspective (*Chapter One*, section 1.6), methodological holism seeks to capture the quality of structures and their functions, the processes within and between structures, interlocking relationships and emerging patterns on different scales (*Chapter Four*, section 4.2.2). In the introductory chapter it has been argued that these objectives require a pluralistic approach, based on the idea of methodological triangulation (Denzin 1989; Decrop 1999; Oppermann 2000). Although generalising the benefits of methodological triangulation does not remain unchallenged (Sarantakos 1993, p. 156), the chosen path of inquiry is viewed as beneficial to the course. The methodology employs a conglomerate of methods and tools derived from different research approaches (section 3.2).

⁶² Denzin and Lincoln’s use of the terms ‘interpretive’ and ‘naturalistic’ in conjunction is interpreted as the attempt to form an alliance between (humanistic) ‘anti-naturalism’ and (analytical) ‘naturalism’ (Kitchin and Tate 2000, pp. 19, 23), rather than using them as opposing binaries that are mutually exclusive.

3.1.2 The Conceptual Framework

Research methodologies interfuse each other, but the part of the research that aims at identifying and understanding structures can be termed the most mechanistic, ‘quantitative’ and ‘objective’ component of the inquiry. In Habermas’s taxonomy it reflects the empirical-analytical category best, and provides ‘baseline’ information like sampling frames (*Chapter Three*, section 3.2.3) of structural system elements (*Chapter Five*, section 5.3.1). The empirical-analytical category can also provide the epistemological framework for regression analyses, which establish (numerical) correlations and ratios of distribution. Following Collins’s (1984, p. 340) line of thought, the study’s findings are, however, *not* based on statistical generalisations (section 3.3):

Much of the best work in sociology has been carried out using qualitative methods without statistical tests. This has been true of research areas ranging from organization and community studies to microstudies of face to face interaction and macrostudies of the world system. Nor should such work be regarded as weak or initial “exploratory” approaches to those topics.

Instead, the focus is on *understanding* and *critiquing* phenomena and their relationships. “This does not mean that qualitative data analysis is based on speculation or on vague impressions. It [...] [is] systematic and logically rigorous, although in a different way from quantitative or statistical analysis” (Neuman 2000, p. 417).

Within *inter-method triangulation* (Denzin 1989) I have identified three ‘pillars’ on which the methodology rests. They reflect the research dimensions and are interconnected. The *latitudinal* approach (Davidson and Tolich 1999, p. 108) constitutes the first pillar, which investigates the spatial and locational dimension of phenomena. *Stratifying* and *cross-sectional* (Neuman 2000, p. 30) methods are employed to collect and analyse information that refers to the distribution, composition and functionality of structures. Operating in the temporal dimension, the complementary *longitudinal* approach forms the second pillar. Following the seasonality patterns of tourism in the Coromandel, *time-series research* (Davidson and Tolich 1999, p. 208; Neuman 2000, p. 30) picks up variances of processes (*Chapter Five*, section 5.3.2) by collecting data in *panel* and *trend studies* (Sarantakos 1993, pp. 6, 135, 180) at different times of the year. The third pillar

focuses on mental phenomena and their physical manifestation with a temporal filter, studying decision-making processes and their implications by interpreting interactions and relationships between key players.

The interpretive component of the methodology delivers the most qualitative and subjective research results of the study. It accepts and accentuates the existence and validity of differential perceptions, imaginations and representations of phenomena (section 3.3). The interpretative approach follows the argument that there is “... no permanent, overarching justification for knowledge claims, and there are no permanent criteria for distinguishing knowledge from belief or opinion” (Smith 1992a, p. 102). “Rather, knowledge is constructed through how we investigate and examine the world” (Kitchin and Tate 2000, p. 23). Human cognition, and the existence of ‘free will’ (*Chapter One*, section 1.8.1) in conjunction with environmental-societal conditioning, are viewed as the causes of different attitudes, values and behaviour, thus leading actors (including the researcher) to ask different kinds of questions, and to a multitude of ways to find satisfying answers.

3.1.3 The Logical Framework

Changing tack slightly, the *way of reasoning* (*Chapter One*, section 1.5.3) constitutes the manner of “..., how one conceptualizes the entire research process” (Creswell 1998, p. 77). It is the *direction* of abstraction that characterises “... the logical processing of information [...] into knowledge and how theory and practice are connected” (Kitchin and Tate 2000, p. 19). In *Chapter One* (section 1.5.3) Kant’s transcendental idealism was employed to refute the common *methodological assumptions* that “Qualitative research, [...], is inductive: it generates theory from (purportedly) atheoretical observations” (Davidson and Tolich 1999, p. 117). Transcendental idealism also repudiates the assertion that “In a qualitative methodology, the researcher starts inductively, [... and] overall, the qualitative researcher works inductively” (Creswell 1998, p. 77). Instead, it is argued that the evaluation of data emerges from inductivism and its atheoretical stance, as for example in grounded theory (Glaser and Strauss 1967; Strauss and Corbin 1990; Strauss 1991; Glaser 1992), *as well as* from a deductive, theory-driven approach (May 1997, pp. 32-33). It is argued that the debate of theoretical versus

experiential knowledge loses momentum in the context of qualitative research. This assertion is implicitly reflected in Neuman's (2000, p. 419) statement:

... qualitative researchers create new concepts and theory by blending together empirical evidence and abstract concepts.

Logical reasoning within methodological holism thus follows Kitchin and Tate's (2000, p. 23) suggestion that "Anti-naturalists use a mix of inductive and deductive research strategies" On the basis of my experience I claim that the emerging design of the system model is the result of conscious *and unconscious* choices between the two directions of logic.

However, methodological holism further challenges the assertion that 'cerebral' (deductive) and 'experimental' (inductive) logic are the sole 'drivers' of theories on the social world. Both procedures assume "... that we can derive theories of the social world independent of our preconceptions or values ..." (May 1997, p. 32). May has summed up some of the major problems that both deductivism, as well as inductivism face. First, "The ways in which we conduct our research is inevitably affected by the social context in which it takes place" (ibid., p. 34). Second, "... the results and practices of social research also feed back into social life" (ibid., p. 36). In addition, it is asserted that *both* ways of reasoning are also confronted with the logic of falsification, or what Popper (1974, title) called "The Problem of Induction". It is argued that abstractions, generalisations, and theory-building are 'relative' rather than 'absolute' constructions of the human mind. As a product of *logical reasoning*, the various theory-building steps 'fall victim' not only to 'in principle subjectivity', and a remaining degree of 'uncertainty' (*Chapter One*), but are further influenced by the presence of Kuhn's (1962; 1972) (scientific) paradigm(s). Abstractions and generalisations are not only based on logical reasoning but are also a product of *intuitive reasoning*, a mental phenomenon that is implicitly reflected in Agger's (1991, pp. 29-30) postmodern attempt to characterise methodology:

Methodology can be read as rhetoric, encoding certain assumptions and values about the social world. Deconstruction refuses to view methodology simply as a set of technical procedures with which to manipulate data. Rather, methodology can be

opened up to readers intrigued by its deep assumptions and its empirical findings but otherwise daunted by its densely technical and figural findings.

Empirical evidence is thus interpreted as the visible ‘backbone’ of my research results, but it is *not* the exclusive ‘substance’ used for modelling in the design phase. In a transformative process, ideas, hunches, questions and hypotheses are turned into knowledge (Neuman 2000, p. 11). However:

A question still remains: why do researchers decide to collect such data in the first place (May 1997, p. 31)?

Based on personal experience I argue that *intuition*, my *personal motives* and *experiences* unavoidably accompany me throughout the research process, adding further subjective elements to the study. Beliefs and attitudes, interests and preferences, influence the formulation of research questions, the adoption of philosophical stances and ideological perspectives, as well as the utilisation and evaluation of existing theories and methodological approaches:

Why would a researcher use one of these [ideological] perspectives? Ultimately, it turns, I believe, on the personal concerns of the researcher (Creswell 1998, p. 78).

These idiosyncrasies are an additional source of subjective variables, ‘relative truths’, and different types of fallacies (Carr 1992, p. 278). They cause ‘personalised’ ways of collecting, encoding and decoding data. Being aware of my ‘personal engagement’, I try to minimise the dangers of *overgeneralising* (especially in the context of a *halo effect*), of *observing selectively*, and of *premature closure* (Neuman 2000, p. 5).

While personal motivation is interpreted as an undesirable (yet ineluctable) factor that contributes to the subjectiveness of research results in the research process, intuition is viewed as an essential and advantageous part of methodological holism. Inevitably it also prompts biases, but at the same time it triggers creativity and lateral thinking. “The concept of intuition is philosophically controversial; it is often taken to be something private, something inexplicable, something almost irrational, a kind of vision that overrides argument and cannot be communicated” (Sokolowski 2000, p. 35). However:

Intuition is [also] increasingly recognized as a natural mental faculty, a key element in the creative process, a means of discovery, problem solving, and decision making (Intuition Magazine Online n.d.).

Again referring to my own experience, intuition is a research tool that cannot be used at will. It sets in unexpectedly and accompanies me almost like an external guiding force. It cannot be managed in a schedule, or prearranged and tested. Like personal preferences, intuition introduces a subjective element with regard to selection criteria, parameters, and any choice I am faced with during this study. Intuition seems to generate a different kind of knowledge, one that is not a function of a particular method you use to acquire it. Schellnhuber (1998, p. 135) points out that “... integrated modelling [...] sometimes appears to be less a science than an art, which primarily draws on intuition and imagination.” But intuition does not only play an important role in the conduct of the study. It is assumed that it also influences behavioural patterns of the ‘subjects’ of this study, thus affecting the researcher–informant rapport, actor–network relationships and decision-making processes. It is argued that Sokolowski’s (2000, p. 35) plausible phenomenological explanation of intuition as ‘the phenomenon becoming present to us’, describes the process, but stops short of explaining its cause, or onset. In section 3.3 the claim is made that ‘reading between the lines’, i.e. a researcher-induced abstraction as well as the contextual and situational interpretation of data, is not only an inevitable component of social research, but is just as valid and credible as a source of ‘building material’ for modelling as the deductive empirical-analytical approach. Einstein (cited in Stone and Stone n.d.) went so far to say “The only real valuable thing is intuition.”

Table 2 recapitulates the philosophical, ideological, and theoretical assumptions of methodological holism depicted in this section, while the next two sections focus on the pragmatic and technical details of the methodology.

Table 2 The framework of methodological holism

Assumptions and Principles of Methodological Holism		
Philosophies		
Parameter	Question	Assumption
<i>Ontology</i>	What is the nature of reality?	Critical realism
<i>Epistemology</i>	What is the relationship between the researcher and that being researched? What is the nature of knowledge?	Subjectivity Situated knowledges
<i>Axiology</i>	What is the role of values?	Moral pluralism Research and knowledge are value-laden and biased
<i>Human behaviour</i>	Structure–agency debate	Play-off between ‘free will’ and environmental/societal conditioning
Paradigms of reasoning		
<i>Logic</i>	What is the mental direction of the research process?	Transcendental idealism Inductivism and deductivism Intuition
Perspectives		
<i>Ideology</i>	Systemic/integrative thinking Postscience Postmodernism Poststructuralism	
Theoretical framework		
<i>Realm</i>	<i>Social science</i>	
<i>Type of Research</i>	Basic research	Applied research
<i>Theory use</i>	Systems theory Chaoplexity	Social theory Critical theory
Procedure		
<i>Category</i>	Analysis: Empirical-analytical	Interpretation: Historical-hermeneutic Critical-emancipatory
<i>Type</i>	‘Quantitative’	Qualitative
<i>Dimension</i>	Spatiality and functionality: (Latitudinal approaches) Stratifying and Cross-sectional studies	Time-series research: (Longitudinal, or temporal approaches) Panel and Trend studies
<i>Tradition (section 3.2)</i>	Mental: (Psychological approaches) Thought Behaviour	
Case study		
<i>Approach (section 3.2)</i>	Evaluation research Action research Impact assessment research	
<i>Method (section 3.2)</i>	Social survey	

3.2 Generating Data

The issue for us as researchers is not simply what we produce, but how we produce it (May 1997, p. 28).

The interpretation of human behaviour is essential for the major aims of the study, i.e. an understanding of decision-making processes and their implications is crucial for the research process. The ‘voice of the people’ therefore constitutes the main source of empirical evidence disclosing the ways people think and act, the reasons for their behaviour, and the effects of their actions/inaction. *Soft data* in the form of impressions, words, sentences and images comprise the bulk of *primary information*. Interpreting ‘soft data’ implies a study in cognitive psychology that complements the field-specific endeavour. The qualitative information gathered and used in the research process is usually ‘unstructured’, and consists of spoken, written, and graphical information, as well as other nonverbal communicative elements (i.e. visual cues like symbols, gestures, posture, and facial expressions). Close *context dependence* and *precise knowledge* of the information generating process (including its focus, strengths, weaknesses and limitations) are the main arguments for favouring *primary data* (Kitchin and Tate 2000, p. 39). The methodological sources of (foremost, but not exclusively) primary data are a *social survey* and *ethnographic studies* (Sarantakos 1993, p. 266) in the form of *participant observation* (sections 3.2.3 and 3.2.4) within a *case study* (section 3.2.2).

Secondary material is predominantly obtained from public, personal and administrative documents, as well as from formal studies and reports that include *contemporary data* (Sarantakos 1993, p. 206). Classification schemes of documents are controversial (May 1997, p. 161). In the temporal sense, the information sources used in this study cover the present-day situation, retrospective data and forecasts, i.e. predictions of anticipated change. (Internal) reports (some of them classified as confidential or in draft form), brochures, academic publications, maps, legislative bills and acts, operators’ and communities’ websites, as well as a few (confidential) emails between operators, complement the social survey as sources of qualitative *secondary data*.

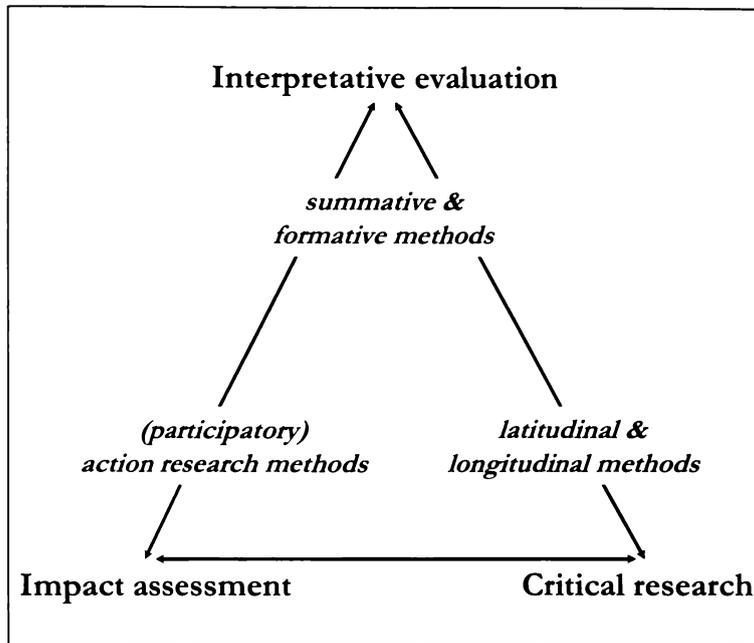
Socio-economic as well as demographic ‘quantitative’, or *hard data* supplement the data collection with numerical figures. They are obtained from some of the

abovementioned documents, as well as from the national Census, from public national, regional and local statistics, and from one informal statistic on tourism development, compiled privately by a tourism business owner.

Gathering information is not a ‘one-stop’ enterprise, but reflects a continuous effort to update the database and validate the findings. Apart from directly accessing information sources, the interviews themselves (can) result in the availability of additional informants and documents (section 3.2.4). Inferences rely on published and open-archived information; conclusions may remain incomplete, where data are *closed* (i.e. unobtainable) or *restricted* in their use (Kitchin and Tate 2000, p. 226). ‘Closed’ data include limited access to files, as well as verbal non-disclosure of information. This is the case if interviewees decide not to share information that would be relevant to the study (section 3.2.4), or if they impose restrictions on using the data (*Chapter Four*, section 4.5). The *absence* of meanings is also utilised in the interpretation process (section 3.3).

The social survey (section 3.2.3) as the predominant information generating method is based on three interlocked research approaches (Figure 10). The approaches are described in the next section.

Figure 10 Interlinked practical research approaches



3.2.1 The Practical Framework

Within the main research goals and anticipated outcomes of this study (*Chapter One*, section 1.4.3), one objective is to find out *how* ecotourism and sustainable (eco)tourism development are conceptualised and practised by involved, or affected parties. My secondary focus is on *whether* decision-making processes are implemented to the satisfaction of stakeholders. The underlying questions correspond to the ‘problem areas’ spelled out in *Chapter One*, section 1.4.3. The attainment of these objectives positions the research within an *interpretive evaluation* approach. The study uses Smith and Glass’s (1987, p. 31) definition of evaluation as “... the process of establishing value judgments based on evidence.” Longitudinal methods are employed to collect empirical evidence of temporal processes, such as changing imaginations, interpretations and practices of ecotourism and sustainable tourism development (section 3.2.4). Evaluating the *status quo* as well as monitoring fluctuating behavioural patterns combines *summative* and *formative evaluation* methods. “Evaluation research provides a critical way of examining [social phenomena] [emphasis omitted]” (Davidson and Tolich 1999, p. 123).

Thus, evaluation is linked to the *critical* part of the research approach, which seeks to develop and provide knowledge that has the potential to improve conditions. Davidson and Tolich's (1999, p. 122) argument "... that research should do more than understand the world, that it should help change it [to the better]", is associated with (*participatory*) *action research* (PAR), which Burns (1990, p. 252) defines as:

... the application of fact finding to practical problem solving in a social situation with a view to improving the quality of action within it, involving the collaboration and co-operation of researchers, practitioners and laymen [sic].

Apart from developing key indicators of SETD, and suggesting future research strategies (*Chapter Eight*), the study aims at raising consciousness among stakeholders of problem areas regarding the conceptualisation and practice of ecotourism and sustainable (eco)tourism development. It is argued that the goal to increase public awareness of the potentials and the pitfalls of ecotourism can be achieved foremost through the participation of those who are being studied in the research and decision-making process. The procedure ensures the integration of ordinary, popular (Neuman 2000, p. 25), or common knowledge. Neuman includes the participatory element in his definition of PAR even more explicitly than Burns (1990):

Action researchers assume that knowledge develops from experience, particularly the experience of social-political action. They also assume that ordinary people can become aware of conditions and learn to take actions that can bring about improvement (Neuman 2000, p. 25).

Based on Winter's (1987, p. 2) assertion, action research:

... challenges a scientific method of inquiry based on the authority of the "outside" observer and the "independent" experimenter, and it claims to reconstruct both practical expertise and theoretical insight on the different basis of its own procedures.

The procedure includes the application of key elements derived from Participatory Action Research (PAR) (Selener 1998), Participatory Rural Appraisal (PRA) (Chambers 1994a; b; c), and Rapid Rural Appraisal (RRA) methods (Dunn and McMillan 1991). Utilising action theory (Werlen 1993), the claim is made that the 'ideal' goal to empower people is realised by trading my 'investigating' role for a 'facilitating' position during focus group interview sessions, which concentrate on the evaluation of

ecotourism and sustainable tourism development as concepts. The strategy allows for *a reversal of learning* by acknowledging local people's expertise. Listening instead of lecturing *offsets biases*, "... maximising the diversity and richness of information" (Dunn and McMillan 1991, pp. 5, 8, cited in Chambers 1994b, p. 1254). The *sharing of knowledge*, or information, in the form of perceptions, interpretations, ideas, concepts and expectations by using flexible and adaptive methods, further enables the facilitator to be *self-critically aware*, and to modify her/his own behaviour (Chambers 1994b, p. 1254).

The action research component of this study stops short of being *participatory* in the sense that the researcher is not proactively involved in implementing change. Methodological holism conforms, however, to Burns's (1990, cited in Sarantakos 1993, p. 8) other criteria of action research. The study is *collaborative*, since it allows researcher *and* practitioner to draw conclusions, and make suggestions for improvements. It is also *self-evaluative*, since the research process itself is constantly modified and adjusted to cater for experienced shortcomings, or flaws in its design.

The study's *situational* element, which "... diagnoses a problem and attempts to solve it" (Sarantakos 1993, p. 8), links it to the third research approach, which is employed to answer the question *how* the *status quo* of ecotourism development, as well as the consequences of changes, affect individuals, communities and the non-human environment. These questions are addressed in an *impact assessment* approach, which in turn is tied to the *interpretive evaluation*. The impact assessment studies socio-cultural, economic and ecological effects, encompassing the *status quo* situation, as well as the likely consequences (and their predictability) of (planned and unplanned) changes. The reciprocation and interdependency of the three approaches is depicted in Figure 10.

3.2.2 The Case Study: Linking Theory and Practice

Following the main research tradition in the social sciences, the field research is based on a *case study*. It resembles the 'heart' of the methodological approach, but in contrast to Sarantakos's (1993, p. 258) claim that a case study "... is geared towards an intensive analysis of single cases (or a few cases) in their own right, often with little relationship

with each other or with the social context”, the case study is viewed as the most appropriate way of connecting:

... the micro level, or the actions of individual people, to the macro level, or large-scale social structures and processes (Neuman 2000, p. 33).

Even though I disagree with Sarantakos’s characterisation of a case study’s objectives and limitations, I accept his definition of a case study as a research model, or design rather than merely as a method of data collection (Sarantakos 1993, p. 259). A case study’s main distinguishing characteristics comply with the primary goals and objectives of this study, with the idea of methodological triangulation, and with the key criteria of the chosen research approaches:

- The case study adopts an *integrative* perspective by investigating wholes in their totality and not just individual aspects, or variables of (sub)units.
- It uses inter- and intra-methodological triangulation (Denzin 1989), primarily to obtain a ‘complete’ picture of a situation, and to minimise, avoid, or prevent errors and distortions. The case study is thus *open* with regard to all aspects of the research process.
- The case study is *communicative*, perceiving reality as emerging in interaction between the actors. The respondent is interpreted as an expert, and not just as a source of data.
- It studies relations of a *typical* case in its *natural* state, i.e. not in an artificially constructed setting, but as they appear in everyday life.
- The case study investigates a *specific example* within a particular time and space frame (Hartfield 1982; Lamnek 1988a; b, cited in Sarantakos 1993, pp. 153-154, 259, 261; Kitchin and Tate 2000, p. 225).

The ‘unit’ in this case study is the Coromandel Peninsula. Identifying a region, rather than a person, or family, one business, or a particular community as a ‘single unit’ and a ‘typical case’, classifies the chosen approach as a ‘set of individual case studies’, as well

as a ‘study of relationships’ in Robson’s (1993, p. 147) typology. Sustained losses of details regarding the individual person are accepted in favour of a more general picture of sustainable (eco)tourism development that can be transferred to communities and regions with comparable settings and similar potential for ecotourism development.

According to Kitchin and Tate (2000, p. 225), “... in the main, case studies are qualitative in nature, using observation and interviewing as methods of data generation. However, case studies can also be quantitative in nature or use a mix of both sorts of data.” Making the case for the findings of this study, empirical evidence consists primarily, but not exclusively of ‘soft data’. My choice of method incorporates two modes of data collection in the field, viz. a *social survey*, which is “... the most commonly used method of data collection in the social sciences, ...” (Sarantakos 1993, p. 157), and *participant observation*.

3.2.3 The Social Survey and Ethnographic Inquiries

While the case study model represents an interface between theory and practice by directing research “... towards specific cases in real-life settings” (Kitchin and Tate 2000, p. 213), the actual fieldwork of gathering the data, carried out in the form of a social survey and participant observation, is the *practical realisation* of the study. The survey is the social scientist’s preferred *direct* method of obtaining information (May 1997, p. 81; Neuman 2000), and encompasses a wide range of research methods (Davidson and Tolich 1999, p. 126). In this study the survey is conducted in accordance with Ferber *et al.’s* (1980, p. 3) definition as a “... method of gathering information from a number of individuals, a ‘sample’, in order to learn something about the larger population from which the sample is drawn.” Although “... surveys have their origin in the positivistic tradition ...” (May 1997, p. 83), surveying is viewed as a valid qualitative research method (Neuman 2000, pp. 247, 286). I have expanded the spectrum of techniques employed, to *straight* (Kitchin and Tate 2000, p. 220) and *participant observation*, *questionnaires*, *individual* and *group interviews*, as well as *focus group research*. The inclusion of different techniques reflects Denzin’s (1989) idea of *intra-method triangulation*.

A combination of face-to-face in-depth interviews and self-administered questionnaires (a blank sample is attached in the *Appendices*), which are delivered personally by the researcher, are used to obtain a full and rich dataset. If an appointment with potential interviewees cannot be arranged, these are complemented by postal questionnaires. This procedure allows for a standardised ‘rigid’ approach and relatively researcher independent responses, as well as for the moderation of the interviewing process and clarification of questions (Sarantakos 1993, p. 159). The survey in conjunction with participant observation captures ‘factual knowledge’ of the research subjects, their imagination, interpretation and application of terms and concepts, in the form of shared experiences, expressed feelings, opinions, thoughts and preferences, as well as their relationships and activities in a variety of settings. The main justification for this procedure is the anticipated *closeness* of the researcher with social reality by becoming a part of the research environment (*ibid.*, p. 153).

The purpose of the questionnaire is to collect some basic and ‘standardised’ information that complements the relatively ‘unstructured’ data obtained in interviews and observations. Despite an anticipated low(er) response rate, the anonymity of self-completed (face-to-face meeting and mail) questionnaires is preferred, considering the (political and social) *sensitivity*, the *personal character* and the *social desirability bias* (Neuman 2000, p. 257) of some of the questions. Using *primary* and *direct* questions (Sarantakos 1993, p. 162), the questionnaire’s emphasis is on a *normative* approach “... concerning the values and intentions of the subject(s)” (Kitchin and Tate 2000, p. 7). The questionnaire uses *standard format*, *quasi-filter* and *full-filter* questions (Neuman 2000, p. 262). Seeking a mix of *descriptive* and *analytical* answers (Kitchin and Tate 2000, p. 49), it employs a blend of *factual*, *opinion* and *preference* questions, as well as a mixture of *open-ended*, *partially open* (Neuman 2000, p. 260) and *closed* (or closed-ended, pre-coded, fixed-alternative) questions (Sarantakos 1993, p. 164).

The factual questions include *knowledge* questions, which are crosschecked via *sleepers* questions. Both factual as well as opinion questions, include *contingency* questions with *screen* (or skip) *options* (Neuman 2000, p. 259). In order ‘not to put people off’ (May 1997, p. 94), the personal section, which includes the *classification questions*, is located at

the end of the questionnaire. Closed responses are measured on *nominal* (i.e. non-ranking) *Bogardus Social Distance* scales, as well as on attitude and preference continua of *ordinal* (i.e. ranking) *Likert* scales. Apart from *forced-choice alternatives* between agree/disagree options, questions use *matrices* (or grids) to obtain *ratings* (or rankings) (Neuman 2000, pp. 263, 270).

The self-completion questionnaires and personal interviews complement each other, and all interviewees are encouraged to complete the questionnaire. A cover letter (i.e. the Participant Information Sheet) and a Consent Form accompany both the questionnaire and the interview. The questionnaire is distributed with a stamped and addressed envelope. A Reply Slip and an envelope are included in written invitations to participate in an interview⁶³. Whereas the questionnaire follows a *funnel sequence* (Sarantakos 1993, p. 161), the structure of the interview is context dependent. Length and layout are adjusted to cater for particular circumstances. Its format varies depending on its type (i.e. individual or group interview), and its style can even change while in progress, to adapt to respondents' specific reactions and answers.

Interviews and participant observation may overlap, especially in informal, or covert, participant observation settings. Interviews with individuals are complemented with group sessions and focus group research. I use focus groups as a form of group interviewing that involves interaction amongst participants (Morgan 1997, p. 12). The labels 'focus group research' and 'focus group methodology' have many connotations. Gibbs (1997, p. 2) has identified some of the main features of focus groups that emerge from the social science literature:

- Organised discussion (Kitzinger 1994)
- Collective activity (Powell *et al.* 1996)
- Social events (Goss and Leinbach 1996)
- Interaction (Kitzinger 1995)

⁶³ The cover letter, consent form and the reply slip are attached in the *Appendices*.

My main rationale for gaining an insight and extracting data via a ‘social gathering’ is the idea that people behave and respond differently in diverse social settings. Group dynamics can thus result in emotional processes different from those in individual encounters. On the one hand, the social and cultural context of a group discussion may encourage individuals to reveal particular thoughts and feelings, which they might not have expressed in individual interviews. On the other hand, group settings may prevent individuals from speaking freely. Group dynamics and emerging power relationships can also influence and change opinions and beliefs of individuals, making it potentially difficult to identify and distinguish individual viewpoints in a group setting. Presumed advantages of focus groups can thus become disadvantages and *vice versa*. Using individual interviews *as well as* focus group sessions, compensates for the anticipated trade-offs of both focus group research and individual interviews. Initial contacts with potential participants of focus groups are established through personal referrals, as well as through self-initiated approaches of individuals and groups.

I did not employ the *Delphi Technique*, which is mentioned as an envisaged research strategy in my ‘Application for Approval of a Research Proposal’ (page 441). During the planning stages and the pilot study of my fieldwork I realised that the Delphi Technique is *not* an adequate tool in the context of my research goals, objectives and the employed methodology. The Delphi Technique’s principle is founded in “... the Hegelian dialectic of thesis, antithesis, and synthesis, with synthesis becoming the new thesis” (Stuter 1998). In contrast to the Delphi Technique’s purpose of achieving consensus, one goal of conceptual modelling is to capture and represent the variety of opinions and beliefs without changing ‘actual realities’ (*Chapter Four*, section 4.1). Utilising the Delphi Technique would constitute a *deliberate* researcher-induced attempt to alter ‘actual realities’, and would thus result in undesirable modifications of the conceptual *status quo* model.

Before starting the main survey in the Coromandel, the methodology’s suitability and applicability regarding all techniques and tools was examined and refined in a ‘test run’. The *pilot study*, constituting a small-scale replica, and serving as a rehearsal of the main study (Sarantakos 1993, p. 277), assesses the effectiveness of sampling methods, the

structure and style of the interview, as well as layout, format, and the process of administering the questionnaires. In particular, the interviewees' commitment and interest in the study, patterns of variability in the given answers, the degree of difficulty and variations in the interpretation of questions, the logical transition, the smooth flow and possible skip patterns of questions, as well as the timing of interviews is pre-tested and evaluated (Kitchin and Tate 2000, p. 53). A full 'mini-run version', involving approximately twenty participants, was conducted in Raglan, a small town and sea resort on the West Coast of the Central North Island in New Zealand. The processes of data generation, interpretation, and analysis was self-evaluated *and* appraised by (some of) the interviewees to iron out any significant problems.

The *sampling frames* of my social survey rely on *statistical data*, with *satisfactory* sampling frames depending on the *availability*, *quality* and *suitability* of the wanted information. While the *availability* of information requires the accessibility of records and databases, as well as the data actually being obtained, the *suitability* of information is contingent on the data's ability to serve their expected purpose. It is argued that the *quality* of statistical data is determined by two attributes, viz. their *accuracy* and their *precision*. Both accuracy and precision in turn rely on the *credibility* of utilised *sources*, as well as the *validity* and *reliability* of the survey design, i.e. the data collection and analytical methodology, and the employed methods and tools.

While the selection of data sources, which are discussed below, does not pose a concern in respect of the quality of statistical data, both the availability and suitability of information are sometimes problematic. Depending on the variable, sampling frames cannot always be established. Other sampling frames overlap and fluctuate in size due to temporal processes and boundary crossings, which are discussed in *Chapter Five* and in particular in section 5.3.2. The *sampling method* thus varies (section 3.2.4), and depends on the particular sampling frame (i.e. its availability and suitability, as well as its size), the motivation and commitment of interviewees to participate in the study, and on the practicability of recruiting respondents and conducting interviews (section 3.2.4). Difficulties with individual sampling frames are addressed in subsequent

paragraphs through a qualifying commentary accompanying the figures for each variable.

In my case study sampling frames are sought for the following variables: (1) The permanent and (2) semi-permanent residential population; (3) *whānau*⁶⁴ representation and (4) affiliation in the Coromandel; (5) ecotourism related businesses; (6) public bodies and private associations, as well as Public–Private Partnerships (PPPs) involved in (eco)tourism; (7) and last but not least (eco)tourist numbers. In respect of the population’s ethnicity I focus on the two major ethnic groups in the Coromandel, viz. Pākehā and Māori, while concurrently neglecting a differentiation within these groups, other minority groups, or individuals. The omission of system elements in the modelling process is in accordance with the nature and the objectives of conceptual modelling. The procedure is discussed in *Chapter Four*, section 4.1.

Statistical figures are – where possible – obtained from two groups of sources (Table 3):

- Federal and regional public and private bodies (including PPPs) that publish official tourism statistics in form of reports and databases, the information being available and accessible electronically, online, or as hardcopies
- Tourism business associations that operate as Tourism Marketing Networks (TMNs), or as Visitor Information Networks (VINs) in the Coromandel, the data being accessible online, or published in information brochures

However, in particular the latter group can only provide partial information. Statistical data compiled by TMNs and VINs on tourism related businesses are commonly limited to fee-paying members of the respective association. One example of the *incomplete availability* (or *non-coverage*) of sampling frames is a database compiled by the region’s most influential TMN, the Regional Tourism Organisation (RTO) Tourism Coromandel (TC). Currently representing around 220 mainly small tourism operations, the RTO is the largest business organisation in the region (Archibald and Board of

⁶⁴ Tribe (or nation)

Tourism Coromandel 1999, p. 11), and maintains the most comprehensive (yet incomplete) listing of tourism businesses. Only those businesses that hold membership are accounted for. My experience with one particular local Visitor, or Tourist Information Centre (*) serves as an example of *unobtainable data* on the grounds of *refusal* or *non-response*. The initial promise to provide a membership list was later withdrawn (page 153). Both scenarios present the researcher with the challenges resulting from *inaccessible*, or *closed* – and thus *insufficient data*. Structures and functions of these organisations, as well as processes, relationships and ‘fluid boundaries’ that link the private with the public sector, are modelled at the macro and meso scale level in *Chapters Five and Six*.

Where sampling frames cannot be established, or can only partially be derived from official sources, additional statistical information is sought from two further groups of potential sources:

- Unofficial (and unpublished) tourism statistics, privately compiled by one operator (*)
- Industry representatives, viz. individual ecotourism related business operators

With regard to the latter group, the interviewing and surveying process is also used to establish, complement, or complete sampling frames. Information provided by business operators is anticipated to have a *snowball-effect* on my database, i.e. on my knowledge of key players involved in, or affected by ecotourism development, thus influencing the size of sampling frames. Table 3 provides an overview of data sources that I employ to obtain (preliminary) sampling frames. Estimates of sampling frames derived from these sources are presented and discussed next.

The only *predetermined*, relatively precise sampling frames are those of the permanent resident population (i.e. of the total and the Māori population respectively). Nevertheless, statistical figures are at variance. Numbers for the total actual permanent population in the Coromandel vary between 25,176 and 28,008 (Statistics New Zealand (SNZ) Te Tari Tatau 2001c, pp. 33, 35, 37, 39, tables 4, 4a, 5, 5a), 41,600 (Archibald

and Board of Tourism Coromandel 1999, p. 6) and 59,997 (Statistics New Zealand (SNZ) Te Tari Tatau 2001a, p. 15, table 1).

Table 3 Data sources of sampling frames

Name	Details
Government agencies	
Federal government agencies	
Statistics New Zealand (SNZ) Te Tari Tatau	New Zealand's official statistical agency
Information Network for Official Statistics (INFOS)	Federal government database
Tourism Satellite Account 1997 (TSA97)	
Tourism Satellite Account 1997-99 (TSA97-99)	
Provisional Tourism Satellite Account 1998-2000 (TSA98-00)	
Census 1996	
Census 2001	
The Ministry of Tourism	Federal government ministry
Tourism Research Council NZ (TRCNZ)	
Regional public organisations	
Thames–Coromandel District Council (TCDC)	Regional council
New Zealand Department of Conservation Te Papa Atawhai (DoC)	Waikato conservancy
Hauraki Māori Trust Board	Representing 12 Coromandel iwi
Tourism Marketing Networks (TMNs) & Visitor Information Networks (VINs)	
Tourism New Zealand (TNZ)	National Tourism Organisation (NTO)
Tourism Coromandel (TC)	Regional Tourism Organisation (RTO)
Regional and local Tourist/Visitor Information Centres	Visitor Information Network (VIN)
DoC Tourist/Visitor Information Centres	
(1) 100% Pure: New Zealand Nature Network (New Zealand Tourism Board (NZTB) n.d.)	Examples of business associations (1) National (2) Regional (3) Local
(2) Coromandel Adventure Company (Jewitt n.d.)	
(3) Whitianga Visitor Information Centre (2002)	
Individual business operators	
(*)	Tourism operator statistics
(*)	Interviews with individual operators

The extent of discrepancies depends on the source and employed attributes like time frame ('Census usually resident population count' versus 'Census night population count'), and on spatial boundaries. The largest variation arises from the use of different political boundaries, viz. the General Electoral District boundary and the Territorial

Authority (TA) boundary respectively. The values can thus only provide an *indication* of absolute numbers and are of limited use in the context of the employed qualitative methodology. Depending on the applied age limit, approximately 22-27% (Statistics New Zealand (SNZ) Te Tari Tatau 2001a, p. 18, table 2) have to be subtracted from these figures in order to arrive at an estimate for the adult population only, which comprises my sampling frame.

Following the holiday seasons – and thus the seasonal pattern of tourism demand, the semi-permanent population is estimated to fluctuate on any given day between 700 during off-season and 28,000 in holiday peak times. These numbers apply to “... “absentee owners” who own residential property in The Coromandel but occupy or rent out their properties only at popular holiday times” (Archibald and Board of Tourism Coromandel 1999, p. 6). The huge discrepancy of this figure alone suggests that seasonal peaks and troughs of visitor influx demand careful consideration in respect of tourism and infrastructure development and management (*ibid.*).

Determining a correct figure of Māori representation and iwi affiliation in the Coromandel is even more difficult than précising a sampling frame of the whole population. At first sight it seems to be a simple exercise of extracting numbers from existing databases. According to the New Zealand Census 2001, 3,597 (3,615) Māori are part of the resident population (Statistics New Zealand (SNZ) Te Tari Tatau 2001b, p. 33, table 6; 2001c, pp. 35, 39, tables 4a, 5a) in the Thames–Coromandel District. Between 36 and 40 % of them are children (Statistics New Zealand (SNZ) Te Tari Tatau 2001b, p. 39, table 7). The Māori population in the Coromandel is represented by the Hauraki Māori Trust Board, which “... is made up of twelve iwi groups and covers the entire Hauraki Plains and Coromandel Peninsula” (Taylor 2002). Table 4 depicts these iwi and their membership figures for 1996 and 2001. The numbers include those individuals who affiliate with the respective iwi, but do not reside in the Coromandel.

However, these statistics have to be treated with caution. A federal government publication on the collection and use of iwi data comments that “Some people will

affiliate to an iwi but may, for various reasons, not identify as Maori” (Ministry of Education Te Tāhuhu o te Mātauranga 2002). Others affiliate simultaneously with two, or more iwi (Statistics New Zealand (SNZ) Te Tari Tatau 2001d; e; f). The clear-cut distinction between different iwi, *as well as between Māori and Pākehā*, thus becomes blurred. Duplications and omissions may occur. Qualifying comments in the Census databases further highlight problems due to methodological changes when collating previous figures with recent values (Statistics New Zealand (SNZ) Te Tari Tatau 2001e, footnote 2).

Table 4 Iwi Affiliation of people of New Zealand Māori descent in the Coromandel (adapted from Statistics New Zealand (SNZ) Te Tari Tatau 1996, table 1; 2001f)

Iwi	1996	2001
Ngati Hako	594	927
Ngati Hei	306	363
Ngati Maru (Marutuahu)	1,500	2,604
Ngati Paoa	1,872	2,397
Patukirikiri	27	60
Ngati Porou ki Harataunga ki Mataora	81	591
Ngati Pukenga ki Waiau	102	273
Ngati Rahiri Tumutumu	66	90
Ngati Tai	186	177
Ngati Tamatera	1,392	1,869
Ngati Tara Tokanui	195	330
Ngati Whanaunga	264	396
Hauraki (Coromandel) Region, not further defined	420	246

In addition to the above stated situations, problems arise from perceptual and spatial boundaries that remain unclear and are subject to a political discourse:

It isn't always easy – especially in Coromandel electorate where I know some councillors become exasperated by the number of iwi, including some with competing land claims (Fitzsimons n.d.).

... and clarified that his brief was to identify Iwi and Hapu boundaries of Ngati Whanaunga only. Such a mapping system was a difficult task in that the question of identification of boundaries between Hapu and Iwi within a short time, was unrealistic (Thames-Coromandel District Council (TCDC) 2001, p. 5).

In respect of (eco)tourism businesses, some of the reasons responsible for the incompleteness of sampling frames have been outlined in preceding paragraphs. None of

the sources mentioned in Table 3 features the labels ‘ecotourism’ or ‘ecotourist’ as classification units. My research findings furthermore indicate that the label ‘eco’ in the tourism context is ill-defined in the Coromandel (*Chapters Five to Seven*). The tourism related variables that *are* used in official statistics do not allow for an estimate of ecotourism related businesses in the Coromandel. This particular sampling frame is thus established through personal referrals, and by utilising the ‘snowball effect’ in interviews and questionnaires. During the time the research was conducted, the number of businesses that affiliate with ecotourism and operate in the Coromandel fluctuated between a dozen and twenty inbound operators for multiple reasons. Higham *et al.* (2001, pp. 4, 12) point out that the ecotourism sector in New Zealand is in the early stages of development, with ecotourism operations proliferating, thus making it more difficult to identify and differentiate the ecotourism segment within the wider tourism market. Specific examples of ‘borderline’ operations that I encountered during my fieldwork corroborate the claim that there is no fixed number of ecotourism ventures. These businesses and the processes that are responsible for the variation in numbers are examined as part of the modelling process in *Chapters Six and Seven*. While the models demonstrate that any sampling frame is of relative and temporary validity, the main arguments relating to ecotourism businesses are summarised at this point in a tentative and non-exhaustive list:

- In the Coromandel there is no accreditation programme, or ‘green branding’ policy in place that defines (or excludes) a tourism venture as an ecotourism business⁶⁵. As a consequence neither an official nor an unofficial database of ecotourism related businesses exists for the Coromandel.
- Depending on the perspective and the situation (operator, tourist, competitor, researcher, etc.; peak season/off-season experiences, etc.), businesses do and/or do not qualify as ecotourism ventures.

⁶⁵ Arand’s (1995) report for Tourism Coromandel can be interpreted as an attempt to establish guidelines for a possible accreditation programme.

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- Due to the organisational and operational structure of bodies that compile relevant databases, entries of *any* tourism businesses in the Coromandel remain incomplete.
 - There are tourism businesses that offer both ‘ecotourism’ as well as ‘unsustainable’ and/or ‘mass tourism’ activities and services.⁶⁶ These businesses cannot be classified conclusively.
 - Businesses ‘appear’, ‘disappear’ and ‘reappear’ on the ‘eco-scene’, with some of them following seasonal tourism demand patterns. Other operations were (presumably) economically unviable and vanished altogether during my field study.
 - Operators may change their business focus. In the course of my fieldwork, there were business owners who modified the tourism product, or were about to change their product palette altogether, thus defying any attempt to classify their business operations. Others were just about to launch a new business that might be affiliated with ecotourism. The whole industry sector is constantly ‘in motion’.
 - Some operators run their businesses from outside the Peninsula. Instead of regular and scheduled services, they offer their products in the Coromandel only on demand, while concurrently operating in other parts of the country, or pursuing a different profession altogether.
 - There are initiatives and consultancies that do not (yet) qualify (in my view) as business ventures, neither in the legal nor in the practical sense.

A preliminary sampling frame of public, private and public–private partnership organisations that are interested in, involved in, or affected by (eco)tourism is established through the analysis of secondary data sources *and* personal referrals. The following organisations fall into this category: Thames–Coromandel District Council (TCDC), Tourism Coromandel (TC), the regional Visitor Information Network (VIN), the Waikato Conservancy of DoC, the Coromandel Taxpayer Association, Coromandel Watchdog of Hauraki (a grassroots activists’ conservation group), and the

⁶⁶ The clichés are used to highlight the lack of a clear-cut distinction rather than an attempt to classify tourism products and experiences on a binary scale.

Hauraki Māori Trust Board. I have listed the names of these organisations to demonstrate how sampling frames can overlap. Associations like TC, or VIN are also potential candidates of (eco)tourism related businesses, thus belonging concurrently to two different sampling frames.

The final sampling frame that needs to be ascertained is that of (eco)tourist numbers. It was pointed out earlier that ‘eco’ in the tourism context is not used as an official label, or concept for any specific goods, services, activities, experiences, or behavioural patterns in the Coromandel. There is thus no record, or database of ecotourist numbers, and all tourists in the Coromandel are initially treated as potential ecotourists and possible consumers of ecotourism related products. The sampling frame thus comprises all tourists who visit the Peninsula.

The following two tables (Tables 5 and 6) depict tourist/visitor numbers in the Coromandel for 1999. The statistical figures are derived from two different sources, viz. Tourism Coromandel and New Zealand Statistics. All figures are based on overnight staying tourists in the Coromandel and reflect ‘bed nights’. I have used the same labels for categories as they appear in the original source. *Italics* reflect figures that I have deduced from the numbers and comments that are provided in the original source. While most figures are at variance, smaller discrepancies can be neglected. They are explained in footnotes accompanying the original source. **Red** numbers indicate large discrepancies and suggest that the figures might be incorrect (typographical errors?) since they do not correlate with the other statistics.

Table 5 Visitors in the Coromandel (values adopted from Archibald and Board of Tourism Coromandel 1999, pp. 19-23)

Year	Domestic visitors [bed nights]	Average stay [nights]	International visitors [bed nights]	Average stay [nights]
1999	<p>750,000</p> <p>(text in original source)</p> <p>~500,000</p> <p>(Figure 1 in original source)</p>	2-3	<p><i>120,000</i></p> <p><i>to 187,000</i></p> <p>~ 100,000</p> <p>(Figure 1 in original source)</p>	2.1

Table 6 Visitors in the Coromandel (values adopted from Statistics New Zealand (SNZ) Te Tari Tatau 2002a; b; c)

Year	By organisation/area	Total [guest nights]	Average stay [nights]	Domestic visitors [guest nights]	International visitors [guest nights]
1999	Tourism Coromandel	588,189 (588,190)	1.93	420,050	167,988
1999	Thames–Coromandel District	537,477	1.99		

It is argued that the actual number of annual visitors in the Coromandel can *not* be deduced from these tables. Since some tourists (presumably) stay overnight in more than one place, the division of ‘bed nights’ by ‘average length of stay’ is not equivalent to the number of individuals who travel around the Peninsula. Furthermore the numbers do not account for day excursionists, with the majority of them presumably being domestic tourists.

Tourism Coromandel (Archibald and Board of Tourism Coromandel 1999, p. 21) estimates an influx of 7,500 international and domestic visitors per day for most of the year. During the peak summer period (from Christmas to Anniversary Weekend) numbers are estimated to increase on average to over 30,000, mainly domestic, daily visitors in the region. These figures may swell over the peak New Year week and amount to 60,000 to 90,000 visitors per day (ibid.). Davies (1997) speaks of 800,000 visitors per year in 1996/97. Not only does the numerical value of this particular sampling frame show extreme variations that follow the seasonal pattern of tourism demand, but the identity of its content also continuously varies. Every visitor in the past and present becomes part of a virtual community that could be interpreted as the total sampling frame. *Spatial sampling* (page 151) addresses the issue of fluctuating sampling frames where quantity and quality constantly change.

3.2.4 *The Fieldwork in Hindsight*

Designing the conceptual and practical framework of the research methodology was one matter, while the application of tools and techniques in the field was a different affair altogether. The fieldwork, i.e. the intersection of theory, methodology and practice, required *flexibility*, *interpersonal* and *organisational skills*, as well as *trade-offs* with

the anticipated rigidity of the research process. The challenge for the “... methodological pragmatist ...” (Schatzman and Strauss 1973, p. 14) is to convert the ‘simple and logical’ layout, format and structure of the survey’s ‘blueprint’, into action in a ‘complex and messy’ (*Chapter Four*, section 4.2.3; *Chapter Seven*) ‘real-world’ setting. The realisation of complexity turned out to be a valuable experience by itself, but the attempt to merge theory with practice at times also seemed to be an ‘oxymoronic’ enterprise. Intentions contrasted with outcomes. Predetermined categories either overlapped, displaying fuzzy boundaries, or they disappeared completely. Unexpected opportunities arose, but occasionally disappointments dampened my enthusiasm. In retrospect, the theoretical design of the methodology was thus *not* rigorously applied in the actual implementation of methods. Details explaining this statement are provided in a qualifying commentary in the following paragraphs.

Doubts concerning the validity of the procedure emerged periodically, i.e. whenever I became aware of the blurred role that I adopted during the surveying/interviewing process. The initial stage of *building rapport* had the purpose of gaining the informant’s *trust* and encouraging her/him to ‘open up’. I did not encounter any *freeze outs* (Neuman 2000, p. 356), but during every interview I sensed how basic (demographic) aspects of my personal identity like age and gender, as well as my German cultural background and accent affected my relations with informants. (One operator (*) used the word ‘German’ thirteen times during the interview session). The biggest discrepancy in terms of *closeness* and the (preferred) *attitude of strangeness* (ibid., p. 355) existed between interviews with German tourists and people of Māori ethnicity. I continuously struggled with the goal to remain neutral and to minimise *interviewer bias*, while concurrently being involved in social interaction, dealing with a diverse range of people, whose appearances, personalities, reactions, and responses were not supposed to influence the research process. However, dealing with ‘real people’ in a natural setting, caused the repeated breakdown of the artificial ‘wall’ between ‘outsider’ and ‘member’.

In the course of one and a half years (i.e. between spring 1999 and autumn 2001) I repeatedly spent time in the Coromandel. Data were collected in bouts that varied in

duration from daytrips to several weeks. In *Chapter One* (section 1.1) I have outlined the seasonal patterns of tourism development in the Coromandel. Following the anticipated variations regarding the influx of tourists, observations were made, interviews conducted, and surveys handed out during the tourism peak season over the Christmas holidays 1999/2000, the summer/autumn (February/March 2000) and spring (October/November 2000) shoulder seasons, as well as during the off-season in July and August 2000. Visits during the winter months coincided with the New Zealand mid-year school holidays in June/July. Public holidays like the Easter break in April, Queen's Birthday weekend in early June, and Labour Day weekend in late October provided special situations, characterised by sudden and short rises in tourist numbers. These long weekends were utilised primarily to identify and collate changes in attitudes towards tourism development. During the following year (2001) I repeated my visits to complete the data collection, and to identify any changes regarding business operations, attitudes, or behavioural patterns. A few shorter trips served the purpose of collecting outstanding data, obtaining the permission to publish sensitive information, and clarifying issues. The clarification involved mainly those statements made by operators and public servants that contradicted existing policies, or were difficult to transcribe because of poor audiotape-quality.

The first stays in the Coromandel, as well as those following longer breaks behind my office desk, usually required an initial brief period of *defocusing*, in the course of which I tried to just 'be' in the Coromandel, experiencing (and enjoying) the scenery, while talking to people without consciously discriminating between anyone. Subsequently I focused on *sampling frames*, *sampling methods* and the selection of *field sites*. The emphasis was on *longitudinal research*, which featured *unique* interviews (Sarantakos 1993, p. 180) in *trend studies*, complemented by a few *panel* studies. In a *stratified approach*, specific groups of the population were targeted. As the initial knowledge regarding group sizes of key informants was limited, *non-random* sampling techniques were chosen. However, targeting specific groups of the population (like tourists, residents, operators, public/private agencies, etc.) reflected a *stratified* (random) sampling approach without knowing the exact size of the sampling frame. It should be noted that, due to practical

reasons, any sampling was limited to persons who could both speak and understand English and/or German. This restriction prevented me from integrating the viewpoints of many Asian and some European visitors.

With operators and representatives of public and private agencies the *snowball* effect had the highest success rate in determining, or rather estimating the actual sampling frame. It was concurrently used as the predominant sampling technique, complemented by *deviant case* and *sequential* sampling. *Snowball* sampling also triggered *theoretical* sampling (Sarantakos 1993, p. 273) as an ‘add-on’ technique. Due to the relatively small number of ecotourism related businesses, the *ratio* of sample size to sampling frame of this particular group reached almost *saturation level*. Although the number of tour operator varies (*Chapter Five*, section 5.3), the ‘core’ of approximately one dozen ecotour operators could be surveyed. Tourists and semi-permanent residents, whose numerical presence in the Coromandel is subject to large seasonal fluctuations, were recruited mainly by using the *baphazard* (accidental, convenience, incidental, chunk, or grab sampling) and *purposive* sampling techniques (Sarantakos 1993, p. 137; Neuman 2000, p. 196).

Setting up my strategic and operational ‘headquarters’ in 1999 and in 2000 at one particular backpacker accommodation in Whitianga, suited not only my budget constraints but also turned out to be invaluable in terms of sourcing and accessing budget travellers as key informants. Many backpackers in the Coromandel – as these tourists refer to themselves – travel once around the Peninsula and inevitably end up staying at a popular tourist ‘hotspot’ like this particular hostel. This habit translates into ‘pockets’ of information, almost guaranteeing access to one ‘whole’ sampling frame (which in reality constantly changes in size and composition) within a set timeframe. In this particular case *spatial* sampling (Sarantakos 1993, p. 136) complemented the non-probability sampling techniques.

The actual surveying location, or *field site*, varied and included all major townships around the Peninsula. I conducted interviews at hostels and motels, in cafés, in offices, at people’s homes and in the street. Interviews and observations took place while

participating in ‘ecotours’ (*) and ecotourism related activities, as well as while sunbathing on the beach. I interviewed and observed people with diverse socio-economic and educational backgrounds, individually and in focus group research settings. The interviews were primarily the result of my proactive engagement in locating, contacting and recruiting potential interviewees. However, they also took place on ‘the spur of the moment’, without any planning prior to the event, or ‘official’ recognition of the interview situation. Some interviews were even initiated by ‘bystanders’ who were keen on contributing their thoughts.

The main strategy during the interview session was to observe and listen, while limiting the talking to the necessary minimum. I believe that I successively gained the respondents’ trust by *personalising* the questions, avoiding the use of scientific jargon, and displaying an *acceptable incompetence* (Neuman 2000, p. 359). Employing mainly *direct primary* and *secondary* questions, *prompting*, *probing* and *padding* techniques (Sarantakos 1993, pp. 159, 162; Kitchin and Tate 2000, p. 217) were used to trigger, expand and cross-check answers. Although the protocol of the *in-depth interviews* varied, these were usually *unstructured* and *non-directive*, consisting of *open-ended* (i.e. unstandardised) *descriptive*, *structural* and *contrast* questions (Sarantakos 1993, p. 178; Kitchin and Tate 2000, p. 213; Neuman 2000, pp. 370, 373). Interviews varied in length from 10 minutes to 2 ½ hours, with a mode value of approximately 1 to 1 ½ hours. Many of these interviews were recorded, but there were also quite a few individuals who did not want to be audiotaped. In these instances, as well as in a *complete membership* role (Adler and Adler 1978), taking field notes had to replace the tape as the main recording procedure. I not only adopted multiple roles but also tried to attain *empathy* (Neuman 2000, p. 356), as well as to emulate the argot of some of my key informants. Depending on the particular interview situation, my degree of *involvement*, the level of *disclosure*, as well as my *presentation* varied and shifted on a sliding scale between:

- The authorised academic, who conducted, monitored and directed the prearranged interview in a non-judgemental manner without revealing my own opinions

- The overt facilitator of group discussions, who mainly listened and moderated the conversation
- The ecotourist among other ecotourists, being officially introduced as a researcher, communicating/interacting with and observing other ecotourists, while participating in an eco-activity
- Planned, as well as unplanned covert participant observation, which often included informal conversational interviews, or rather chats with individuals and groups of tourists

My role as a *complete participant* (Denzin 1989) (i.e. in my function as a covertly participating observer) generated invaluable data that would otherwise not have been accessible. I adopted this particular role primarily in informal conversations with individuals and during group discussions. The settings could be characterised as ‘chats amongst tourists’, often without even knowing everyone’s name, or background. It is argued that in these cases covert participant observation was a legitimate, valid and morally sound research practice. The strategy was *nonreactive* (Babbie 2001, p. 304) and *unobtrusive*. It took place in public, or open spaces, and the anonymity of the person(s) observed was maintained (Kitchin and Tate 2000, p. 36).

The other end of the scale was occupied by isolated cases of unobtainable (or *closed*) data due to a lack of cooperation on the part of the interviewee. An example was the manager of a local Tourist, or Visitor Information Centre, who had initially promised to supply further information. In the end the informant felt that it would be inappropriate on ethical and legal grounds under the Privacy Act, to release a membership list. *Closed* data is related to the phenomenological concept of *absent* profiles (section 3.3.2). What people do not do, say, or reveal can also have ‘meaning’. The interpretation of non-existing information is problematic and arguably of an extremely subjective nature. Nevertheless, I tried to incorporate ‘absent data’ into my research findings. Their use relied on the interpretation of the *context* as well as on *intuition*. Both variables played a major part in the interpretation of present *and* absent data – and thus in the design of the system model.

In total approximately 50 ‘official’ interview sessions were held, two thirds of which were recorded on 30 ninety-minute tapes. These were supplemented by innumerable informal conversations. From the 200 questionnaires that were handed out or mailed, 195 participants agreed to fill in the questionnaire. I posted questionnaires to tourists who preferred to complete them at home, as well as to a few operators and representatives of public institutions I initially forgot to provide with the survey. With 31 completed and returned questionnaires the computed *active response rate* (Neuman 2000, p. 267) was only 16%. A ‘non-respondent’, who I met again by chance, stated one reason for the low return rate. Being asked whether she had remembered to fill out the questionnaire and drop it into a letterbox, the answer was:

Oh, I completely forgot about it. Don't know where I actually have it. I think I might have lost it [analogous quotation] (Anonymous).

It is speculated that the ‘holiday mood’ might have contributed to the inaction. Despite the low active response rate, *adequacy* in the sense that the available amount of information reached *saturation* (Morse 1994, p. 230), was confirmed by combining the data collected in observations, interviews, questionnaires and documentary research.

3.3 Making Sense of the Data

The methodological part of the research process is completed by ‘making sense’ of the raw data through *categorisation* and *connection* (Dey 1993, cited in Kitchin and Tate 2000, p. 229). This section describes the analytical and interpretive approach, as well as the process of relating the micro data derived from the survey to aggregate data describing properties of the whole system (Byrne 1998, p. 72). The section outlines methods, tools and techniques that are employed to *interpret* the situational and contextual *meaning* of the empirical data, as well as methods employed to *infer conclusions*.

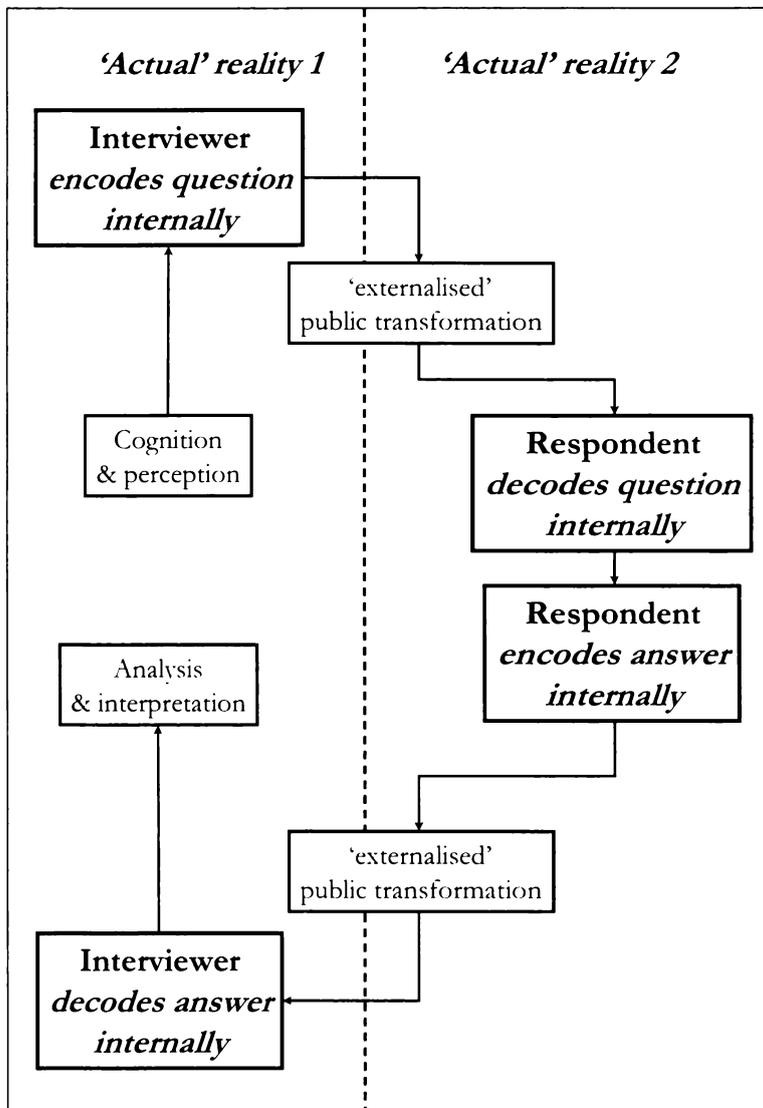
3.3.1 Symbolic Interactionism

The interpretation of qualitative data “... draws heavily on impressions, descriptions, and quotes” (Davidson and Tolich 1999, p. 117). These describe, represent and reflect people’s thoughts and (inter)actions, their relationships and (social) events. Neuman (2000, p. 16) argues that “In qualitative research, the analysis and interpretation of data

blend together”, but “... no single qualitative data analysis approach is widely accepted” (ibid., p. 418). The evaluation of empirical *survey* data in this study follows Foddy’s (1993, p. 22) model of question–answer behaviour. The model, which functions as the basis for Figure 11, is derived from Blumer’s (1967; 1969) symbolic interactionist theory. The model is based on the assumption that questions and answers are encoded and decoded by the interviewer and the respondent in a four-stage process.

It is argued that encoding and decoding of *any* data involves a two-step transformation process. By transforming conscious perceptions of external objects and events *internally*, phenomena are recollected and represented as memories and imaginations within the researcher’s and the respondent’s minds respectively. *Categorical thinking* then forms a transition, or interface to the subsequent *public transformation* of these mental images, which converts the complex and ‘messy’ experience into a simplified version, made intelligible for ‘outsiders’ by abstracting and ‘essentialising’ phenomena (Peet 1999, p. 3). Representations are expressed in the form of categories and verbalised in generalising statements. According to Ragin (1994, p. 107), the main aim of interpretation and analysis is to “... examine patterns of similarities and differences [of ‘externalised’ data] across cases and try to come to terms with their diversity.” I wish to include the aim of ‘conceptualising and communicating generalisations’ as an additional objective in particular within the scientific paradigm. Following Fetterman’s (1989, p. 68, cited in Neuman 2000, p. 441) argument regarding the accessibility of (social) reality, it *would* only be possible to perceive, analyse and interpret *outcroppings*, i.e. data emerging from the ‘visible’, or perceivable *surface reality*. Phenomenological reflection, as a method to overcome this restriction, is discussed in the following section.

Figure 11 Encoding and decoding data



3.3.2 Phenomenological Reflection

Attempting to surmount the ‘visual range’ of symbolic interactionism in order to access (at least partially) ‘subsurface’ social realities, the analytical and interpretive strategy of this study employs *phenomenology* as the overarching philosophy. The phenomenological attempt to classify tourists’ experiences has been made before (Cohen 1996; Cohen 1979b, cited in Holden 2000, p. 41). Phenomenology claims to recognise “... the reality and truth of phenomena, ...” (Sokolowski 2000, p. 14), while concurrently leaving room for multiple realities and truths as envisaged in Bhaskar’s critical realist stance, as well as for Haraway’s situated knowledges.

The phenomenological paradigm of *reflection* and the idea of *intentionality* are the philosophical precepts that are utilised to interpret data. Phenomenology focuses on the *essence (eidos)*, i.e. on *identities*, or *meanings* of phenomena as wholes. “Perception, [...], involves layers of synthesis, layers of manifolds of presentation, both actual and potential” (Sokolowski 2000, p. 20). The phenomenological analysis of manifolds of phenomena necessitates the inclusion of the phenomenological theme of *presence and absence*. Revealing the essence of a phenomenon through *eidetic intuition* means discovering the multiplicity of possible profiles in a process termed *eidetic reduction* (Thinès 1987, p. 615). However, the ability to purify introspection (Smart 2000, p. 269), as one critical aspect of phenomenology, is called into question. Phenomenology assumes the researcher’s fundamental capacity to detach, or disengage her- or himself from the *natural attitude* by adopting the contrasting *phenomenological attitude*. The implied potential to reflect on phenomena in a ‘neutralised’ manner (Sokolowski 2000, p. 47) is doubted. Based on arguments and concepts presented in *Chapter One* (sections 1.3.1 and 1.4.2) – in particular Kant’s transcendental idealism, Chew’s bootstrap hypothesis and the ‘human barrier’ paradox – the achievability of absolute *phenomenological reduction* is repudiated in this study. It is replaced with the notion that the researcher can only strive for the suspension of initial (*mental*) *intentionalities* s/he intends to contemplate.

Accepting the relativity of phenomenological reduction leads in the first instance to analytical results that reflect mono-perspectival researcher-centred (or single-layered) manifolds of phenomena. Generated empirical data constitute the presence of a phenomenon, i.e. empirical data are tantamount to *filled intentions*, whereas *closed* and *restricted data*, as well as *negative evidence* (*Chapter Seven*, section 7.4.1) are the objective correlates to absence, or *empty intentions* (Sokolowski 2000, p. 33).

3.3.3 Interpreting Processes, Reconstructing Associations and Capturing Networks

Experiencing the varying blend of what is present and what is absent, or hidden in a phenomenon, reflects dynamic perceptual modalities. The *profile*, or temporarily individuated representation (Sokolowski 2000, p. 19) is thus neither static nor a ‘final’ result. Categorical boundaries are transient, and identities are “... –fluid, contested and

negotiated” (Norton 2000, p. 272). The change of identities (Friese 2002) is examined within the *phenomenographic* paradigm of *processes* by focusing on *relationships* between objects and events.

Processes and relationships signal a ‘connectedness’, and phenomena are thus not interpreted as isolated objects and events, but as parts of emergent wholes. In order to understand the reciprocity between *wholes* and *parts* from a systemic perspective, the *hermeneutic circle of verstehen*, which is affiliated with phenomenology (Sokolowski 2000, p. 224), is employed to *reconstruct*, or reconstitute wholes. The ‘spirit’ of hermeneutical inquiry has been characterised by Barnes (2000, p. 336) as “... the recognition of the importance of interpretation, open-mindedness, and a critical, reflexive sensibility, ...” Interpreting the identities, or meanings of a phenomenon’s ‘independent’ *pieces* and ‘non-independent’ *moments* (Sokolowski 2000, p. 22) in the context of interconnected subsystems within larger structures, identifies associations and reciprocities within a system and among its parts.

Functionality and consequences of relationships are examined within actor–network theory (Callon 1986; Latour 1986; Callon 1991; Law 1992; Thrift 2000), which captures the contingency and quality of associations within actant networks (Grint and Woolgar 1997, p. 24; Thrift 1999b, p. 38). Actor–network theory not only analyses strengths and weaknesses of associations but also completes the phenomenological ‘profiling’ of present and absent identities by emphasising gaps and uncertainties (Thrift 1999b, p. 57). “... actor–network theory’s ‘ethnographic’ principle of following the actors, the networks and where the actors say they end” (ibid., p. 37), also correlates with the phenomenographic approach, which maps “... the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of [phenomena], ...” (Marton 1986, p. 31).

3.3.4 Deconstructing Layers of Meaning and Revealing Chaos

Gordon’s (1997, p. 3) assertion “That life is complicated may seem a banal expression of the obvious, but it is nonetheless a profound theoretical statement – perhaps the most important theoretical statement of our time” is pertinent to the claim that the

social dynamics encountered in ‘real world’ settings result in complex configurational patterns in system models. It is argued that objects, events, processes and relationships change their identities, or meanings, depending on the *perspective* and the *situational context*. Networks transmute through the “... redefinition of one local knowledge by another that results from a host of different, rhizomatically multiplying agendas” (Thrift 1999b, p. 37). Employing the social theory of space and the theory of the space of flows (Castells 2000, p. 440), and introducing the dimension of intersubjectivity (May 1997, pp. 14, 38), eliminates the danger of framing actor–networks as static and discrete entities (Latour 1997; 1999; Law and Hassard 1999; Thrift 1999b, p. 38; Hetherington and Law 2000).

The researcher’s positionality (Jackson 2000, p. 9) and her/his situated knowledge initially result in a mono-perspectival ‘tunnel vision’. The interpretative closure is thus supplemented with the postmodern and poststructural paradigm of *deconstruction and discourse analysis*, which displays an affinity with hermeneutics (Barnes 2000, p. 335; Sokolowski 2000, p. 224). Recognising multi-perspectival identities of objects, events and relationships allows the researcher to identify and understand permeable boundaries, as well as the multiple, overlapping and shifting *layers of meaning* within discursive networks (Gregory 2000a, p. 180) that accompany phenomena in spatial, temporal and mental dimensions. However, Derrida (1981, p. 93, cited in McCarthy 1991, p. 97) points out that the practice of deconstruction is of a political nature – and thus subjective: ““It is not neutral,” he assures us; “it intervenes.” ” The researcher–respondent relationship is accounted for by applying Hollway and Jefferson’s (2000, cover) ‘psychosocial understanding’ of subjectivity (in particular in *Chapter Six*, section 6.3), which involves the conceptualisation of “... researcher and researched as coproducers of meanings which are amalgams of unique biographies and socially available discourses and practices.”

Following Kauffman’s (1996, p. VIII) line of thought that “The complex whole, in a completely nonmystical sense, can often exhibit [these] collective properties, “emergent features” that are lawful in their own right”, these emerging (in principle deterministic, but practically indeterministic) patterns of organisation and predictability patterns

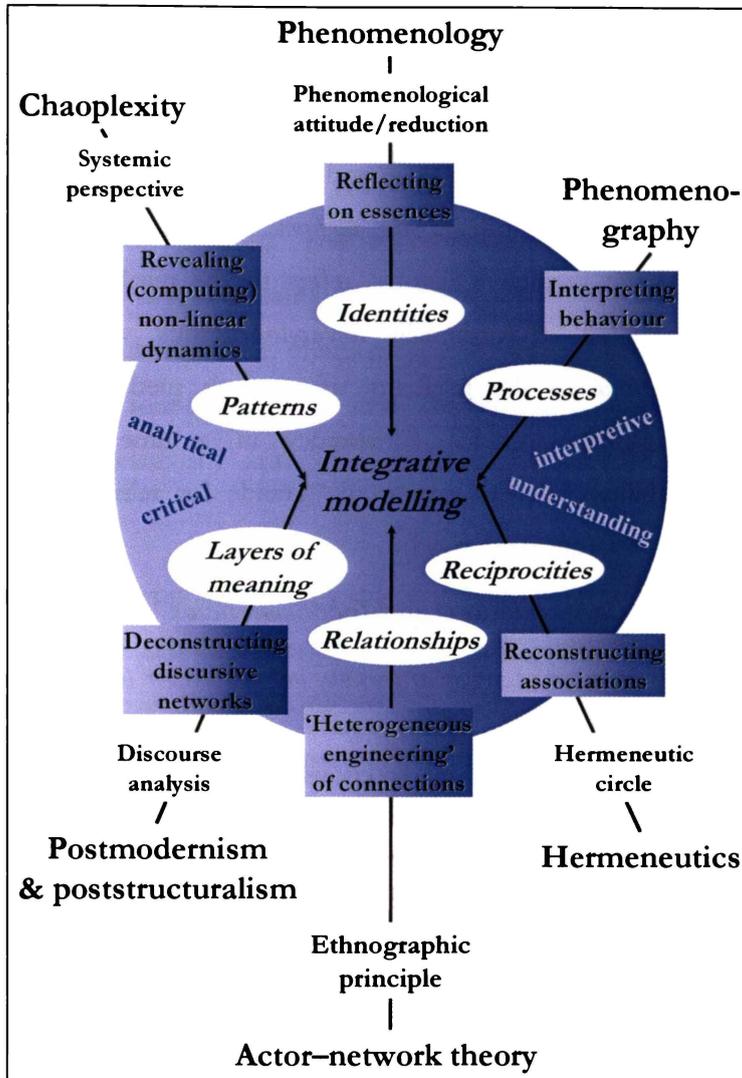
constitute the ‘order hidden within chaos’. They are analysed within the chaoplexity paradigm. The ‘problem’ with the chaoplexity paradigm is, however, its inherently deterministic and reductionist nature (*Chapter One*, section 1.7). It is argued that Byrne’s (1998, p. 72) attempt “... to import the quantitative methods of chaos studies in the physical sciences into the social world”, does not make the analysis of social systems ‘more holistic’. Statistical inference to handle data still reduces social reality to a correlative (not causal) analysis of a predetermined number of variables, which possess a fixed number of descriptive key attributes with prescribed values. In imitation of the term phenomenological reduction, I am inclined to coin the phrase *chaotic reduction*, describing an analytical procedure that is based on the assumption of rational and conditioned human behaviour.

The analysis employed in this study, attempts to ‘break’ the reductionist barrier, taking the idea of chaos in a social system one step further. The analytical strategy evaluates ‘social chaos’ and possesses *exploratory* as well as *innovative* characteristics. The procedure is based on *relational qualitative thinking* rather than adopting quantitative computational procedures. By assuming the influence of an existing *free will* on human activity and interaction, as well as by consciously *avoiding premature closure* of affecting variables, their attributes and values, the attempt is made to predict (the existence of) and experience *inherently random system behaviour* (*Chapter Four*, section 4.4.2). The graphical representation of ‘social chaos’ in this study is related to *iconological modelling*, which, according to Reed and Harvey (1996, p. 309), “... is rooted in a *pictorial method*, in visual correspondence rather than in deductive reasoning.” The graphics also correspond with the phenomenological approach to identities and meanings:

In a real sense Panofsky’s aesthetic epistemology [i.e. the iconological method] parallels the phenomenological and analytic process the scientist uses when trying to interpret the meanings of the graphic images whose unfolding maps the chaotic evolution of a system (Reed and Harvey 1996, p. 310).

Figure 12 depicts the employed data analysis strategies. The illustration reflects how individual approaches are interlocked in an iterative cycle of analysis and interpretation, with each approach supporting, affecting and complementing all other strategies.

Figure 12 Integrative modelling of qualitative data: An iterative cycle



CAD software (Microsoft Corporation n.d.-a; b) and two qualitative data analysis computer programmes aid the analytical and interpretative strategies. Maani and Cavana's (1999) 'conceptual network builder' helps in the design of graphic displays, while the code-based theory-building programme NVivo (Qualitative Solutions and Research 2000) is used to code-and-retrieve information, organising data in 'nodes' and 'connection-trees'. However, the capacities of both programmes are not exhausted and they only play a minor role in the analysis process, mainly by assisting the mental process of coding, categorising and memorising data.

Whereas the arguments supporting the *theoretical validity* of analytical strategies have been put forward in this section, the reliability issues relating to the *practice* of data evaluation and interpretation are an ongoing endeavour, taking place during the fieldwork and while aggregating, analysing and collating the information. In a self-critical evaluation process I use Golledge and Stimson's (1997, cited in Kitchin and Tate 2000, p. 35) differentiation in *quixotic*, *diachronic* and *synchronic* reliability within the deductive parts of the inquiry. 'Quixotic' refers to the reliability of an individual method on the grounds of continually unvarying results, while 'diachronic' and 'synchronic' both refer to the reliability of research methods in the temporal dimension. In the first instance consistency in a time continuum reflects methodological stability, whereas 'synchronic' stands for reliability within a given timeframe (Kitchin and Tate 2000, p. 35).

3.3.5 *Reconciling Contradictions and Inconsistencies*

Things should be made as simple as possible, but not simpler (Einstein, cited in Buchanan 2000, p. 113).

'Prestructural' thought is related to the directions – rather than positions – adopted by phenomenology, phenomenography and hermeneutics. At first sight the unification of prestructuralism with poststructural (philosophical) idealism might appear to be a fruitless and unwinnable battle. The relationship is a complex one (Pratt 2000, p. 625), and the question how (or whether) phenomenology fits into the development of postmodern philosophy has been asked before (Sokolowski 2000, p. 202). I do not agree with the idea of *parsimony*. Instead, I argue that the integrity and credibility of holistic conceptual modelling would suffer, if philosophical concepts were omitted, or neglected in order to streamline, or simplify the research. The claim does not violate the original version of the principle of Occam's Razor⁶⁷, and is supported by van Fraassen's (cited in Musgrave 1998, pp. 1092-1093) statement:

... simplicity is a pragmatic virtue of a theory which has nothing to do with that theory's truth or likelihood of being true.

⁶⁷ *Pluralitas non est ponenda sine necessitate* (Entities should not be multiplied unnecessarily).

Based on the assertion that the nature of reality remains unknown (*Chapter One*, section 1.3.1), the attempt to reconcile apparent tensions between contrasting viewpoints initially includes the rejection of any ontological and epistemological closure within pre- and poststructural thinking. At the epistemological (and ideological) level both define "... the nature of consciousness from within the framework of a philosophical theory ..." (Smart 2000, p. 269). The two directions of thinking (i.e. pre- and poststructural thought) describe reality, truth and knowledge from different ends in a polarised spectrum that could be characterised by the cleavage into the opposing binaries 'absolutism, foundationalism and realism with extreme fundamentalist tendencies' versus 'relativism and idealism with radical sceptical and nihilistic tendencies'.

On the one hand, concepts like Kant's logical functions (or *a priori* judgements) and Sartre's 'non-positional' self-awareness (McGinn 1987, p. 694) are derived deductively (in Kant's analytical sense). Both belong into the 'prestructural era' and are affiliated to realism and existentialism. Kant's transcendental idealism displays an affinity with the phenomenological concept of 'eidetic intuition', while Sartre's existentialism is related to the concept of 'intentionality', the basic tenet in phenomenology. Both the existence of Kant's 'pre-reflective consciousness', as well as Sartre's 'freedom of choice' are difficult to 'prove'.

On the other hand, the poststructural notion of 'contingency' and 'indeterminacy' (Pratt 2000, p. 625) are inferable inductively. Positionality and (inter)subjectivity in our *Lebenswelt*⁶⁸ are 'real world' phenomena that can be experienced. Their derivation reflects Kant's dogma of 'synthetic truths' (Quine 1951). The resulting (mediated, or constructed) realities comprise 'layers of meaning' and 'situated knowledges'.

I share Quine's (1951) opinion, who suggests that the boundaries between analytic and synthetic truths, as well as between 'speculation' (or metaphysics) and 'verification' (or reductionism), are blurred. It is argued that, at the epistemological level, the empirical

⁶⁸ German for 'lifeworld', or the world in which we live

study has to be open to all possibilities regarding human decision-making processes and the way(s) we perceive, imagine and conceptualise reality, truth and knowledge.

At the ontological level pre- and poststructural philosophies make contrasting claims regarding existence and reality. Both ‘intentionality’ and the concept of ‘essence’ are based on the realist (and materialist) notion of an objective reality and truth, independent of human perception and existence. This assertion can neither be proven correct nor can it be disproved. Poststructural thought, on the other hand, is based on the anthropic principle and adheres to an anthropocentric perspective. Ontologically, poststructuralists adopt a solipsist stance by negating the existence of a ‘reality’ outside human perception: “A post-structuralist understanding that conceptualization both frames and regulates social reality – literally brings reality into being - ...” (Pratt 2000, p. 626). I argue that this (extreme) interpretation of ‘constructed realities’ represents a ‘Münchhausen effect’, where the baron pulls himself out of the bog by holding on to his own hair.

Even if the construction of reality were not limited to language, the (logocentric) consequence would be that perception (and thus conceptualisation) themselves are products of our perception. Reality would be ‘created’ out of nothing and perpetuate itself, a precept that reflects a *perpetuum mobile* with a cycle that neither requires an external trigger to start ‘the motion’ nor a continuous ‘fuel injection’. Such a concept of reality makes no sense and constitutes a *reductio ad absurdum*. Instead, the claim is made that the human mind is ‘trapped’ between image and reality. The (assumed) chronological process of consciousness, perception, imagination and finally conceptualisation, represents an *attempt* to reflect the ‘real’ rather than bringing the ‘real’ into being.

I thus argue that poststructuralism has to stop short of making ontological assumptions. However, using the idea of ‘constructed realities’ and ‘layers of meaning’ within Bhaskar’s concept of ‘actual realities’ (*Chapter Four*, section 4.1.2) makes sense, and does not compromise postmodern and poststructural thought at the epistemological level. Epistemologically my methodology thus unites critical realism

and poststructuralism by accepting and accentuating differing ‘positioned’ realities of individuals. The system’s realities within critical realism ontology are explored in *Chapter Four* (section 4.1.2).

3.3.6 The Quintessence of Methodological Holism: Modelling Reality and Truth as Relative Concepts

Methodological holism stresses the importance of a pluralistic and interpretive approach based on methodological triangulation. Rather than being trapped “... between fundamentalists, who believe they have found truth, and relativists, who refuse to pin it down, ...” (Fernández-Armesto 1998, p. 3), the methodology seeks to employ appropriate concepts to find answers to specific questions, or aspects of the study. While critical realism serves as the backdrop at the ontological level, the methodology merges and integrates diverse paradigms at the epistemological level to achieve a holistic *verstehen* of the problem ambit.

The essence of phenomena is ascertained within the phenomenological paradigm of *reflection*, while the phenomenographic paradigm of *processes* is employed to interpret system dynamics. Resulting discursive networks of relationships are examined by deconstructing layers of *meaning* and reconstructing the *associations* among individual elements (or people) and between subsets (or groups of people). The application of the chaoplexity paradigm describes changes associated with *deterministic chaos* (*Chapter One*, section 1.7) within non-linear system dynamics, while the postmodern paradigm of contextual and situational levels of meaning is employed to identify *inherently random* behaviour (or *absolute chaos*) (*Chapter Four*, section 4.4.2).

The concepts listed below overlap and share common properties:

- Layers of meaning
- Qualia
- Multiple identities
- Situated knowledges

- Constructed realities
- Actual realities
- Positionality
- (Inter)subjectivity
- Reflexivity

The notions embedded in these concepts encompass the acceptance (and presumption) that human consciousness and perception of reality is an individualised process, viewing the outcome of imagination and representation as a personalised and unique experience. The concepts account for ‘how things are’ in a relational and relative manner, i.e. they allow for subjectivity and interpret research results in a situational context.

The following *Part IV* of the thesis depicts the application of methodological holism in the field. At the outset (*Chapter Four*) of the actual system model design, the model’s configuration is conceptualised and the jargon, as well as ‘scientific metaphors’ of chaos and complexity are described. The metaphors are indefinite (Thrift 1999b, p. 35), and in accordance with Game and Metcalfe (1996, p. 50) it is argued that “... metaphor works with indeterminacy to keep meaning safe from the final clarification [...]. [...] metaphors in knowledges cannot be processed, always maintaining reserves of wisdom beyond our present understanding.”

PART IV

APPLIED RESEARCH: THE DESIGN OF THE SYSTEM MODEL



Chapter Four

Conceptualising the Model's Configuration

The sciences do not try to explain, they hardly even try to interpret, they mainly make models (Neumann 1961, p. 492).

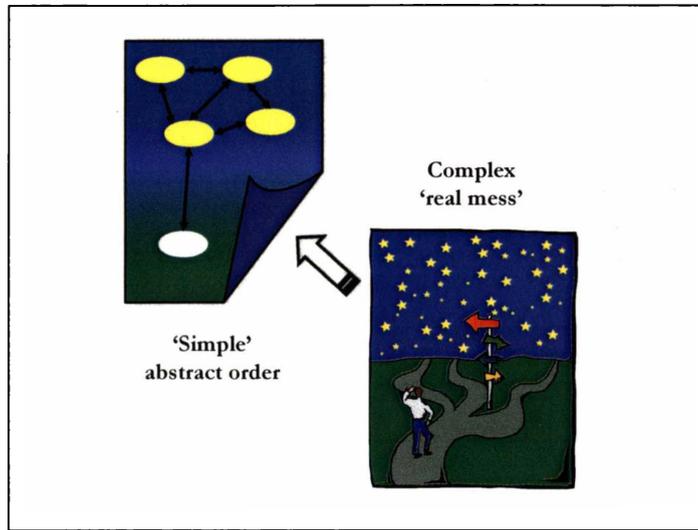
In *Chapter One* the systems approach and methodological holism were justified as research strategies to study emerging patterns of ecotourism and SETD in the Coromandel. The previous chapter dealt with the design of the data collection process by developing methodological holism as a means of moving beyond the diachronic analysis of systemic evolution. Emphasis was placed on the rationale for gathering *specific* information, providing an insight into the data generating and analysing strategies. In both chapters it was pointed out that an exclusively analytical approach is rejected in favour of an integrative and interpretive research strategy. In this chapter the focus is on the abstraction and conversion of available data into a system concept consisting of categories and hierarchies that do justice to the intended holistic approach to be used. The classification scheme serves as the matrix for the subsequent utilisation of the actual data in the following three chapters (*Chapters Five to Seven*).

4.1 Generative Mechanisms in Model-Building

The system model is a multidimensional and multi-layered cobweb-like representation of 'real world' phenomena (Figure 13). It does not mirror reality precisely. Like any conceptual model, it:

... attempt[s] to catch the spirit of the original in its entity, but not necessarily to reproduce the proportions of the real counterpart. [...] a conceptual model will reflect correctly the topology – the composition and connectivity – of the system to be simulated while the metric– the actual numbers along the dimensional axes involved – is of inferior interest (Schellnhuber 1998, p. 138).

Figure 13 Conceptual modelling (clip art from Microsoft Corporation 2002)



It is anticipated that a high degree of isomorphism (i.e. a ‘reality check’) can be achieved in a calibration process consisting of the continuous and iterative comparison with existing data, as well as additional and complementary inquiries, if required. However, describing an open or semi-open system that is coupled with an external environment faces a *closure problem*. To achieve closure, the design of the conceptual model follows Schellnhuber’s (1998, p. 136) suggestion on how to realise the imperative of *weak endogeneity*. Only those internal and external system entities are considered that have an effect on the issues in question, while concurrently being influenced by relevant system components. All other external and internal system elements are exogenised and truncated, or neglected.

It is neither within my reach nor my intention to give a *complete* account of ecotourism development in the Coromandel, but rather to identify the different perspectives and interpretations of patterns in the system’s dynamics, as these evolve in the course of time. Identifying and accounting for system components and processes that are *pertinent* to the research question achieves *relative* comprehensiveness (Schellnhuber and Wenzel 1998). Concurrently the validity and feasibility of a holistic systems approach, as well as the applicability of the idea of chaos and complexity in a human–activity system, are tested and demonstrated.

Once the system has been modelled and described, the concluding *Chapter Eight* builds on the representation of data with a *synthesis* of the data analysis. The synthesis entails the interpretation of the system's behaviour with the intention to develop and suggest a set of SETD key indicators, and to make recommendations in terms of future research strategies.

4.1.1 The Coupling of Realities

The reader is about to witness the most recent changes the *model* of ecotourism and SETD in the Coromandel is undergoing. She or he induces these changes by contributing personal and original 'data input'. The result is an altered interpretation of the researcher's system model, the new version reflecting the reader's conception and imagination of the researcher's account. This process of deconstruction and reconstruction, of imagination and interpretation, reflects an inevitable and continuous transformation of data. The argument that the reader creates a separate system model is based on Bhaskar's (1978) philosophy of critical realism (*Chapter One*, section 1.5.3) and on Blumer's (1967; 1969) symbolic interactionist theory (*Chapter Three*, section 3.3.1). Discrepancies between the reader's and the researcher's reality of the system model do not, however, necessitate mutually exclusive model versions. These can (and hopefully do) overlap. These presumptions have implications on the validity, accuracy and precision of my model design, and require an answer at the outset of this chapter to the query *what kind* of reality the model actually represents, and *whose* reality it reflects.

4.1.2 The System's Reality

With reference to Bhaskar's (1978) three domains of 'the real', 'the actual' and 'the empirical', it is presumed that at the highest level 'real reality', representing 'everything there is', exists on two planes. Using the terminology of critical, or transcendental realism (*Chapter One*, section 1.5.3), it is argued that on a transitive⁶⁹ level, antecedently established and subsequently derived knowledge is anthropogenic and inherently subjective. Arguments for the existence of a subjective reality have been brought

⁶⁹ Bhaskar (1978) employs the term 'transitive' in the sense of 'reproduced and transformed by humans'.

forward in *Chapter One*. Existing in an intransitive⁷⁰ realm, a second complementing component of ‘real reality’ is the objective nature of being, which is independent of human existence and perception, while concurrently being the object of scientific inquiry⁷¹. The limits of accessing this intransitive dimension – and thus the assumed ultimate incomprehensibility of ‘real reality’, have been outlined in *Chapter One* and are expressed in Goethe’s (cited in Barrow 1993, p. 273) poetic account:

*SEANCE OR SCIENCE?/What man does not know/Or has not thought
of/Wanders in the night/Through the labyrinth of the mind.*

The following epistemological presupposition is inferred by this ontological premise. It is argued that the ‘actual reality’ of every human being is a part of, but always smaller than Bhaskar’s ‘real reality’. It is not only anthropogenic but also anthropocentric in nature, relying on actual and potential sense perception and thought. Utilising auxiliary theories, impediments to objectivity of any individual’s ‘actual reality’ have been sketched (*Chapter One*, sections 1.3.1 and 1.4.2). ‘Actual realities’ of individuals are distinct, but can intersect and intervene, i.e. partly coincide and influence each other. During the research process the scientist changes her/his ‘actual reality’ by collecting, deconstructing, analysing and interpreting information. Based on synthetic evidence and analytical ‘truths’, as well as on intuitive reasoning, the attained information is coordinated and ‘reconstructed’ by generalising and systemising observational and experiential primary and secondary data (section 4.2).

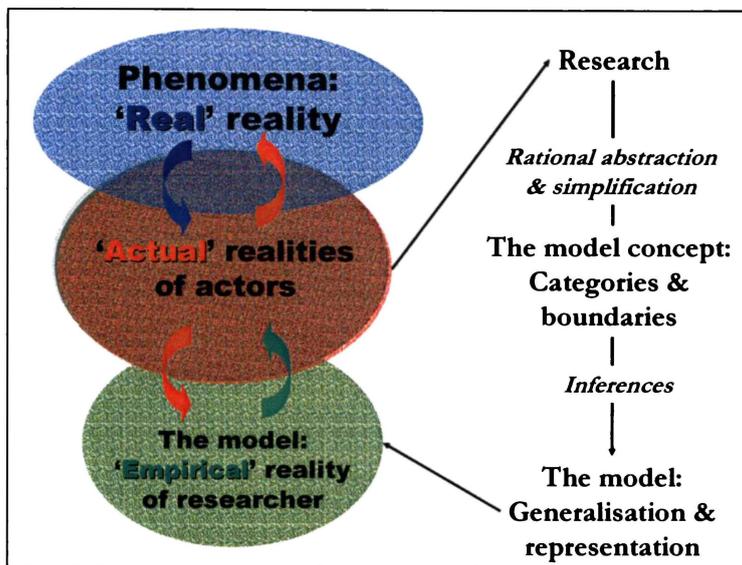
The empirical evidence for this study is partly derived from the ‘actual realities’ of participating interviewees. By incorporating the acquired ‘empirical reality’ into the researcher’s ‘actual reality’, designing the system model represents an amalgamation process. In this merger of realities the heterogeneous body of data is, however, subjected not only to analytical and interpretative processes, but the course of action concurrently involves aggregation, simplification and abstraction, viz. the collected information is filtered, or ‘sanitised’ and categorised. The final result, detailed in the

⁷⁰Bhaskar (1978) employs the term ‘intransitive’ in the sense of ‘independent of humans’.

⁷¹The realists’ assumption that an external world exists, independent of any observer, constitutes a *petitio principii*, which for practical reasons shall be accepted as correct.

next chapters, is the system model of ecotourism and SETD in the Coromandel. It reflects a mix of my interpretation of individuals' 'actual realities', my own 'actual reality', and my interpretation of the 'empirical reality' of ecotourism and SETD in the Coromandel. Figure 14 summarises the various filtering stages and processes that are involved in arriving at the model stage.

Figure 14 The path to the system's reality



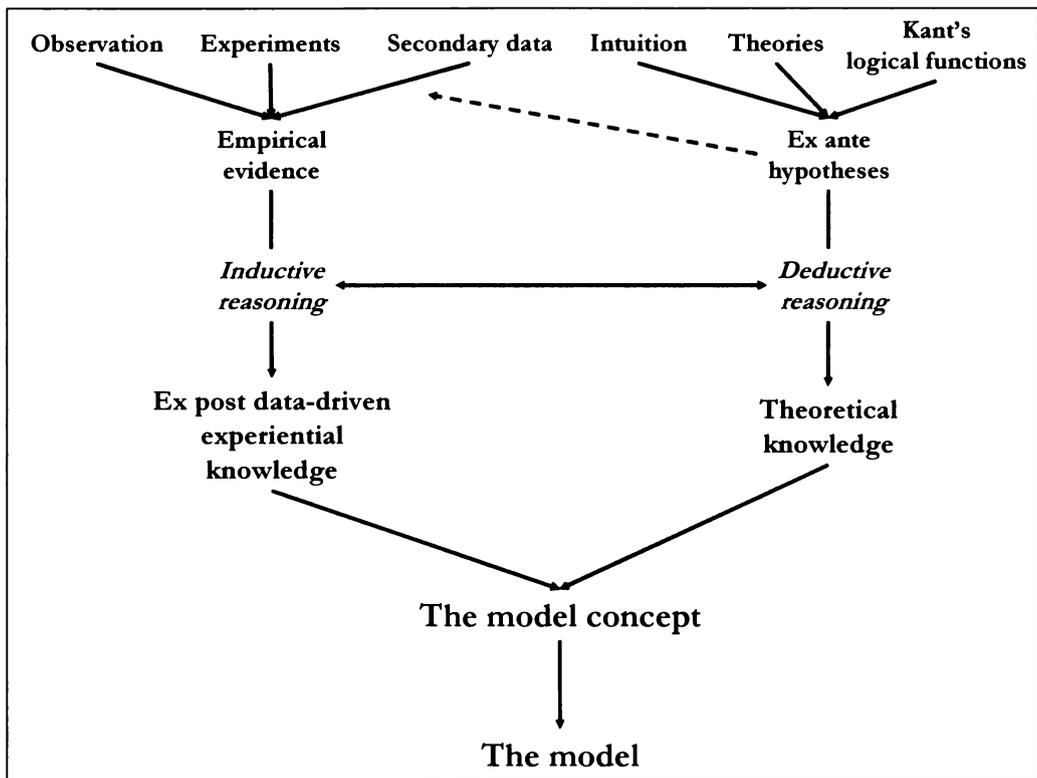
4.2 The Reference Frame: Conceptualising the Model Design

The intention of 'rational abstraction' (Sayer 1992), depicted in Figure 15, is to generate a *spatiotemporal, functional and interactive*⁷² system model. Research results are converted into a representation that is accessible to and intelligible for other people. At the outset, conceptualising and designing the model involves the differentiation and stratification of phenomena. The produce is a taxonomy of categories and consequently boundaries, both of them being simplified and 'artificial' edifices, i.e. human made fragmented and incomplete representations of reality. The systemic compartmentalisation is either an *ex post* 'data-driven' classification system, based foremost on synthetic evidence, i.e. on conclusions derived in an inductive process from empirical data sources, or the

⁷² A distinction is made between functionalism, which only attempts to explain linear relationships and processes, and interactionism, which encompasses linear and non-linear behaviour, as well as non-communicative effects (section 4.4).

distinctions are analytical ‘truths’, and stem from mental concepts like intuition, ideas and *ex ante* hypotheses, based primarily on deductive reasoning (*Chapter One*, section 1.5.3; *Chapter Three*, sections 3.1.3 and 3.2).

Figure 15 The process of rational abstraction



The first approach reflects the phenomenographic research method (*Chapter Three*, section 3.3), which aims “... specifically to discover categories from the data, [and] not to analyse in terms of predetermined classifications” (Francis 1993, p. 73). A second type of categories is *predetermined* by Kant’s ‘logical functions’ (Randall 1998; q.v. *Chapter One*, sections 1.3.1, 1.5.3), or through the utilisation of existing theories. *Ex ante* hypotheses in turn, influence the data collection process (dashed line in Figure 15). The operationalisation of both data sources is reciprocal. Inferences hence culminate in the (iterative) modification of the model, a process in motion, which for the researcher only stops with the binding of the thesis.

4.2.1 *The Functional System: Differentiation and System Hierarchies*

A socio-economic, cultural and ecological system account of ‘real world’ phenomena considers any complex and asymmetrical outcomes of underlying assumed simple and invariant laws. Somewhere on the way between the simple Platonic perspective and the complicated Aristotelian view, ‘symmetry-breaking’ occurs (Barrow 1993, p. 161; q.v. Figure 6, p. 44). Even though the terminology of ‘systems thinking’ and chaoplexity stems from the natural sciences, it is argued that rather than emulating quantitative approaches of the ‘hard’ sciences, the reconciliation of observed complexity and assumed simplicity in the social and the ecological realm defies an exact mathematical explanation and requires a qualitative description. Words and graphics (*Chapter Three*, section 3.3), rather than formulae, are required in the attempt to approximate the (presumed) key driver of the system, viz. human behaviour, adequately.

At the highest level, principal elements, or components of *this* system model are *events* and *entities*. Their variables are used to describe this system’s properties. Entities are phenomena that ‘*are*’ and exist in space, while events represent things that ‘*happen*’ in time, characterised by (physiogenic, or anthropogenic) change. Both elements exist on different scales (section 4.2.2) and are intrinsically linked. It is assumed that connections between events, as well as between entities, can be either of a putative causal and explanatory nature, or purely accidental, reflecting a contingent concomitancy.

Key variables used to describe the system model’s entities and events are:

- Structures
- Processes
- Relationships
- Patterns

The term *structure* is used in two ways. It can refer to a system element that has ‘substance’, for example a policy document, or a tourguide. These structures are dealt

with within the conceptual framework of a materialised socially and culturally constructed reality (Jackson 2000). However, the variable ‘structure’ is also applied to immaterial (or mental) components of the system like thoughts, feelings and ideas. In *kaupapa Māori* thinking *te taba kikokiko* (the physical reality) resembles physical structures, while non-physical phenomena are described within the concept of *te taba hinengaro*, the mental reality of the environment (Park 2000, p. 25).

Processes are interpreted as the physical *and* mental mechanisms leading to effects, or events, which characterise the changes in the system’s dynamics – and thus the behaviour of the system’s properties. Unlike the Newtonian concept of process, which proposes ‘time reversibility’ in mechanical processes, a key property of social processes is their irreversibility (*Chapter Seven*, section 7.1). In Western minds the arrow of time is linear and unidirectional, with social systems not just ‘functioning’, but ‘evolving’ chronologically (Adam 1994; 1995) and progressively. However, Einstein’s (cited in Davies 1995, p. 70, and in Conner 2000) claim suggests that ‘our’ perception of time might be a figment of our minds:

Subjective time with its emphasis on the now has no meaning...the distinction between past, present and future is only an illusion, however persistent[!]even if a stubborn one.

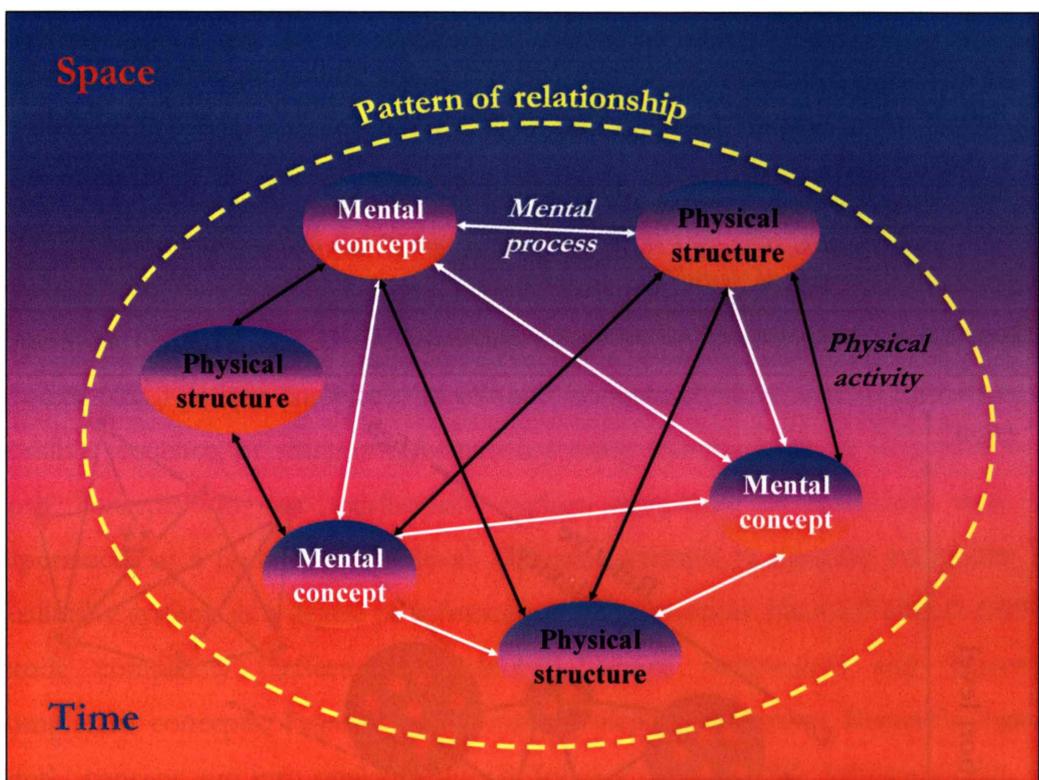
Relationships represent information carrying links between entities that have the potential to bring about change as opposed to those links, where the only connections between entities are ineffectual corresponding properties. A relationship reflects a causal connection, where two system components are in resonance with each other. The resonance can bear the characteristics of a dependency or the (reciprocal) conditioning of variables. If the consequence is known, but the cause cannot be established, the link is interpreted as a ‘black-box’ relationship.

Number, location, distribution and functions of structures, the character of relationships, and the configuration of processes create recognisable spatiotemporal *patterns*. These patterns of organisation are the synergistic properties of the system, which cannot be explained by reducing them to their constituents, but require a holistic

approach instead. Intertwined web-like structures, processes, patterns and relationships are referred to as *networks*.

Figure 16 illustrates the nomenclature and the configuration of *this* model's systemic categories as discrete spaces (section 4.3) within the space–time continuum. The graphic exemplifies a pattern of relationships resulting from processes between mental concepts and physical structures.

Figure 16 Systemic categories



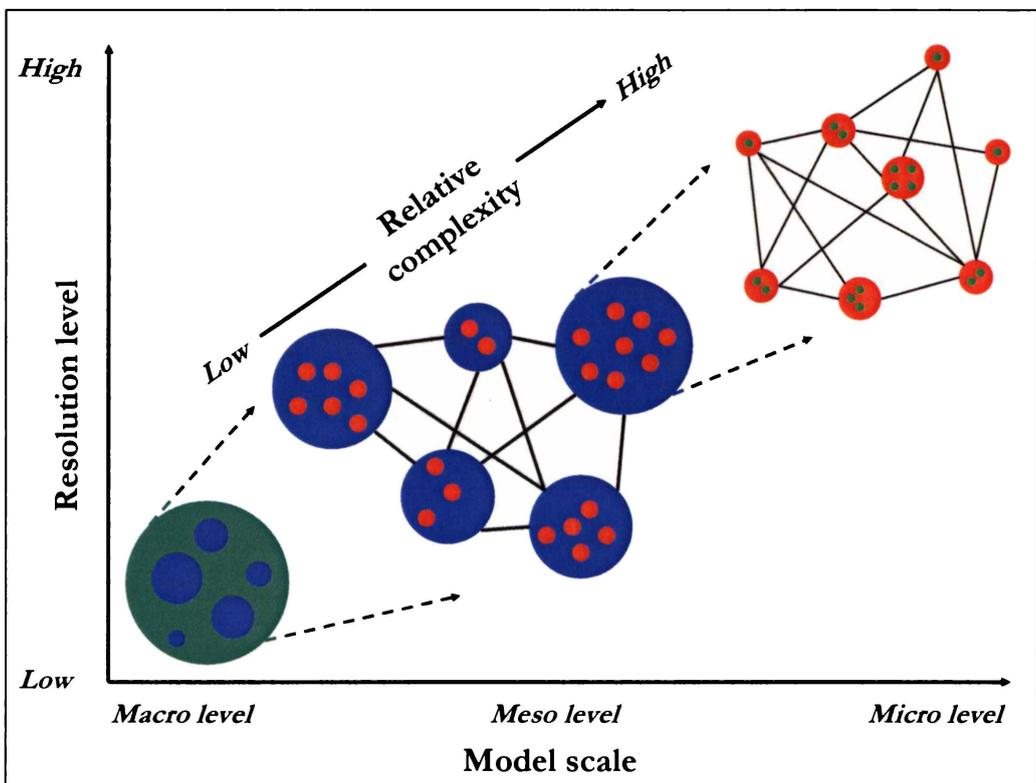
4.2.2 Methodological Scaling

Depending on the objective and the context, constituent elements are modelled at different scales (Figure 17). The scale determines the resolution level at which phenomena are represented. Scale is conceptualised as a methodological device and “... emerges [...] in the fusion of ideology and practice” (Delaney and Leitner 1997, p. 97). This model depicts subsystems at the *micro scale* level of individual entities, as well as on a *meso scale* of group structures, whose relationships and interactions create network

processes and patterns. The resolution level of the entire system as a whole is referred to as the *macro scale*. The scale determines the level of detail, and is therefore of particular interest when it comes to modelling interactions between and amongst individual structures, processes, relationships and patterns. Theoretically, resolution levels are *ad infinitum*. Any refinement of details will, however, ultimately reach a practical limit. Since the length of the shortest possible message describing a phenomenon will vary with the level of detail revealing information about it, *coarse graining* (Gell-Mann 1994, p. 30), the process of specifying the level of ‘magnification’, has an immediate influence on the ‘relative complexity’ of a phenomenon, a concept that is discussed in the next section. Methodological scaling seeks to achieve what Boulding (1956, cited in Checkland 1981, p. 9) calls the ‘optimum degree of generality’:

Somewhere however between the specific that has no meaning and the general that has no content there must be, for each purpose and at each level of abstraction, an optimum degree of generality.

Figure 17 Methodological scaling and coarse graining



4.2.3 *Simplicity and Complexity*

Is the world simple or complicated? It depends, of course, who you ask (Barrow 1999b, p. 109).

The nature of a system's structural configuration, *or* its dynamics, are said to be either simple or complex. This statement also applies to different resolution levels of the system's nested subsystems. Before the modelling scale and the system's behaviour are conceptualised in the two following sections, it is necessary to clarify the meaning of the two opposing terms *simplicity* and *complexity*. Various authors point out that both of them are elusive and defy all attempts to be defined conclusively (Johnson 1997, p. 290). "... – it is not simple to define "simple" " asserts Gell-Mann (1994, p. 28).

The complexity of purely quantitative data can be determined by applying the mathematical concept of computational complexity, i.e. as the shortest possible solution time (Gell-Mann 1994, p. 28). Computational complexity is, however, context dependent (*ibid.*, pp. 28, 33). Alternatively, a quantity termed algorithmic information content (AIC) defines complexity in terms of compressibility of data to their shortest possible sequence, or string of information content (Barrow 1993, p. 163). However, both concepts do not satisfactorily explain complexity of qualitative data as experienced at a human–activity level. Different attempts to measure complexity in qualitative systems as a degree of 'informational condensation', like Gell-Mann's (1994) 'crude complexity', 'effective complexity', 'cultural complexity', and 'potential complexity' concepts, Pagels's 'thermodynamic depth' concept, or Bennett's 'logical depth' concept, run into similar problems (Johnson 1997, p. 288). Johnson's (*ibid.*, p. 290) statement summarises the dissonance that exists between defining and employing complexity: "We think we know complexity when we see it, but we strain at a definition."

This model treats ecotourism in conjunction with SETD as a socio-ecological system, and foremost as a human–activity system. It is argued that at a human–activity level complexity is not only a *relative measure* in comparison to different qualitative data sets but is also inherently *observer and context dependent*. The terms 'simplicity' and 'complexity' thus have to be treated as *arbitrary and subjective measures* of the schema (i.e. the length of

the compression), describing the information content of a phenomenon at *given* resolution levels (section 4.2.2). Discourse analysis and interpretation of human activity, encounter and interaction (i.e. physical behaviour and products of the human mind such as thoughts and feelings, but also documents, etc.) are situational, contextual and perspectival products. The interpretation of a phenomenon's content and its qualities depends on the observer's perspective. It is her or him who determines the degree of complexity or simplicity respectively. *Relative complexity* arises when the observer perceives, imagines and interprets qualitative phenomena like human decision-making processes and actions as disorderly and asymmetrical (or incompressible), and associated dynamics as irregular, random and unpredictable. The 'relative complexity' label *can* thus conceal simplicity 'waiting to be revealed'.

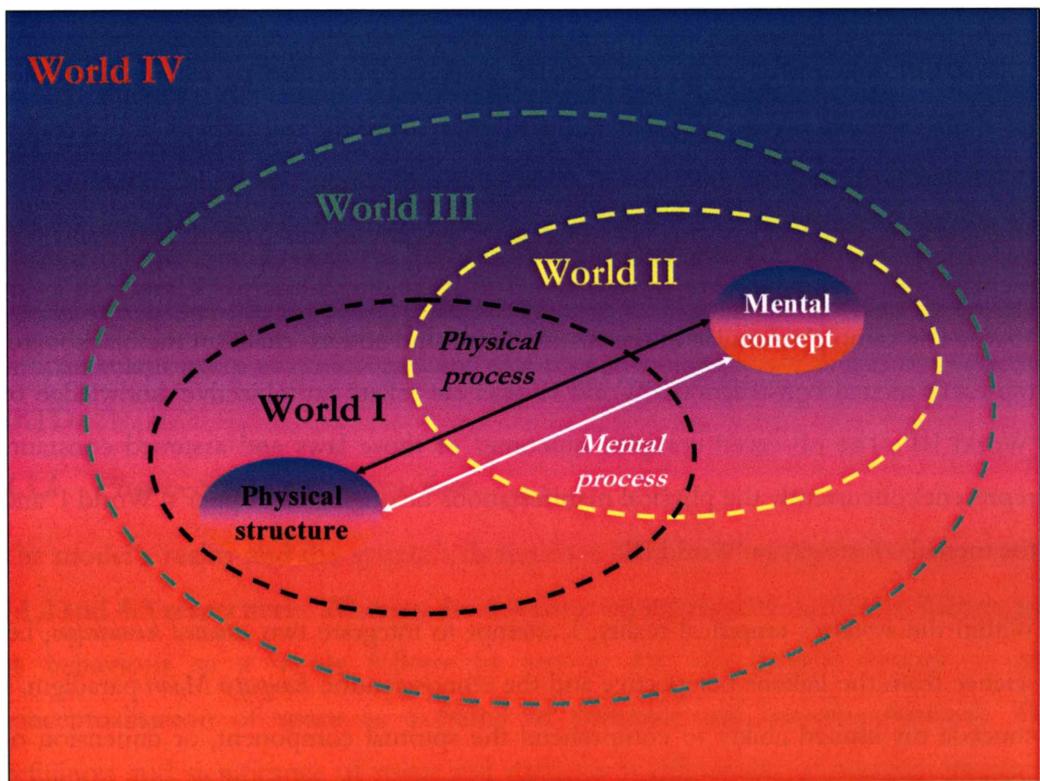
According to Davies (1989, p. 22), complex systems often, but not always, possess certain character traits: First, their structural configuration consists of a large number of constituents, a fact that results in a high degree of freedom. Second, complex system dynamics are predominantly non-linear (section 4.4.2), resulting in a high degree of individuality and diversity; and third, complexity appears abruptly rather than emerging gradually. It is argued that in the human context the possibility to abbreviate the individuality and the degree of freedom of choice a phenomenon displays, is inherently subjective and can only serve as a measure of 'relative complexity'. In other words: The system under scrutiny is situated in a definably relative complex environment. The characteristics of human decision-making processes are viewed as contributing factors to a perceived 'relative complexity' in a human–activity system. They have been discussed in *Chapter One* (section 1.8.1) as well as in this chapter (section 4.4.2), and will resurface in the micro scale model in *Chapter Seven*.

4.3 The Spatiotemporal System: System Dimensions

In section 4.1.2 the system's 'empirical reality' was characterised. Whereas the system's categories (section 4.2.1) are employed to identify the *functionality* of the system's empirical reality, an extended version of Popper's (1979) taxonomy of *dimensions of reality* serves as a framework of *continuous* spaces to accommodate the system's *discrete*

spaces and *spatiotemporal patterns* (Figure 16, p. 177). The term *continuous space* is employed to describe real and imaginary dimensions in a multidimensional coordinate system. *Discrete spaces* are the result of a specific zoning system at a particular scale (Wilson 2000, p. 15). I have complemented Popper’s (cited in Werlen 1993, p. 30) system of three worlds by adding the space–time continuum as World IV. The spatiotemporal dimension represents the reference frame within which the system operates – and thus evolves (Figure 18).

Figure 18 System dimensions



The system’s social and natural⁷³ entities and events hence occur in four interrelated and interconnected worlds. The physical dimension resembles Popper’s ‘World I’ in so far as it comprises the (quantitative) spatiotemporal location and distribution of material structural phenomena. The change, or flux of the system entities’ configuration, occurs in the (added) spatiotemporal dimension of ‘World IV’. These

⁷³The term ‘natural’ is employed to represent non-human physical, biological and ecological processes.

dynamics (or processes) determine the system’s condition. Mental concepts, such as (perceived) *functions* of structures, and spatiotemporal *patterns* of relationships are part of the mental faculties of human consciousness, cognition and intellect, which are equivalent to ‘World II’ in Popper’s extended modern version of dualism. In *my* system model ‘World II’ is made up of three basic intellectual properties, or processes: Thinking, feeling and willing. Mental processes are reflected in the perception, imagination and interpretation of phenomena. Underlying hypotheses of this study fall into this category, as well as the *decision* to utilise certain background theories and assumptions the study is based on.

The fourth domain is Popper’s ‘World III’, which is expanded to accommodate not only ‘objective knowledge’ but also that particular part of the researcher’s ‘actual reality’ that consists of the *actual* theories and assumptions informing this study. Assuming that an ‘objective reality’ exists, the ‘laws of Nature’ governing this part of ‘real reality’ are mental constructs, which are often claimed to be mathematical in character (Stewart 1995). The ‘simple’ formulae in the researcher’s mind and as ‘chalk on the blackboard’ represent mental constructs of ‘World II’ and *can* reflect an ‘objective’ knowledge of ‘World III’. The observed complex outcomes of those laws and assumed constants represent concurrently the physical manifestations belonging to Popper’s ‘World I’ and the mental constructs in ‘World II’.

Within the system’s empirical reality, I attempt to integrate two *situated knowledges*, i.e. science from the Pākehā perspective and the ethnoscientific *kaupapa Māori* paradigm. I concede my limited ability to comprehend the spiritual component, or dimension of *whakapapa* in *kaupapa Māori* (*Chapter One*). I acknowledge, however, its relevance within the ‘actual reality’ of individuals, *hapū*⁷⁴ and *iwi* for decision-making processes regarding ecotourism and SETD, as well as its inherent interdependence and interconnectedness with ‘World I, II, III and IV’. The modern scientific paradigm ascribes neither to an ontology nor does it have an epistemology that could accommodate *te taha wairua*⁷⁵.

⁷⁴ Clan, extended family or section of tribe

⁷⁵ The spiritual dimension (Park 2000, p. 25)

Western science has developed neither a methodology nor a method to investigate, access, or describe a possible spiritual dimension. It ignores, or discounts the possibility that anything exists beyond phenomena that comply with ‘laws’ of Nature and *can* thus be ‘known’ via the ‘scientific method’. This conviction is firmly anchored in the currently accepted standard model of reality (Gribbin 1996, p. 188), which only accepts particles, forces and resulting processes as real. However, from a *kaupapa Māori* perspective *whakapapa* does not constitute a *separate* supernatural reality; but instead *whakapapa* penetrates any boundaries that Western science has ‘declared’, existing in all four worlds and transcending ‘our’ conception of a unidirectional time arrow.

Entities and events in these four worlds and their dimensions, as well as emerging spatiotemporal patterns, do not exist in isolation. They are intrinsically linked; the transformation of mind processes into physical activities being maybe the most obvious connection between the ‘Mental’, the ‘Physical’ and the ‘Spatiotemporal’. For a Pākehā researcher the genealogy principle of *kaupapa Māori* might possibly be the most difficult relationship to understand and integrate in a system model of ecotourism and SETD.

4.3.1 Phase–Space and Attractors

The model’s reality and the system’s dimensions have been conceptualised in sections 4.1.2 and 4.3 respectively. Whereas the discourse on interactions within the system, and its behaviour as a whole follows in section 4.4, this section focuses on the conceptualisation of space as a frame of reference and ordering principle. The definition and significance of space and spatiality is still subject of ongoing debates in geography, as well as in social theory (Werlen 1993; Soja 1996; Benko and Strohmayer 1997; Crang and Thrift 2000; Noble 2000). It is not my intention to engage in the discussion. It is, however, argued that the system’s dynamics create and change *spatial formations* (Thrift 1996; 1999a) with time. A concept of space thus cannot be treated as separate from time. From a holistic system’s point of view, a concept of space for a socio-ecological system model has to fulfil four requirements. It has to:

- Encompass the physical locality of concrete spaces, as well as imaginary, or metaphorical spaces
- Allow for ‘subjective’ and ‘relative’ spaces
- Cater for flows and translocations of spaces and within spaces
- Account for spaces within spaces, i.e. for fluctuating and overlapping demarcations between spaces

Obviously the conceptualisation of space has to move beyond a positivistic locational analysis, where social and personal spaces (Buttimer 1969) are static and momentary expressions of a society’s, or an individual’s condition at a given point in time. I employ Poincaré’s *phase-space* concept (Penrose 1991; Gleick 1997; Stewart 1997; Stewart and Cohen 1997; Stewart 1999), also termed the space of the adjacent possible (Penrose 1991; Kauffman 1993; Gleick 1997; Stewart 1997; Stewart and Cohen 1997; Stewart 1999), where spaces are conceptualised as *imaginary* (mathematical) dimensions in a n-dimensional⁷⁶ coordinate system. The concept of ‘phase-space’ represents the multidimensionality of the entire range of all possible things that could happen in a system; sometimes also called state space, or condition space (Byrne 1998, p. 173). By employing methodological holism, the phase-space concept displays the following characteristics:

- Entities and events constitute a spatiotemporal system (Gregory 2000b, p. 768). However, the phase-space concept discards the notion of Hartshorne’s absolute space (Smith 1990) in favour of a concept where space is *relative* to the system’s entities and events (section 4.2.1). The ontological premise of relative space is process philosophy (Gibson-Graham 1996; q.v. *Chapter One*, section 1.5.1).
- Space is *relational* in the sense that spaces emerge during processes, which are the result of relationships (Harvey 1996).

⁷⁶ An indefinite number

- The concept allows for a *qualitative description* of the system’s condition as opposed to quantitative mathematical spaces in ‘spatial analysis’.
- It accommodates the idea of *interconnected and interdependent networking*, as expressed in:
 - The theory of the space of flow (Castells 2000, p. 442)
 - Network analysis (Haggett and Chorley 1969)
 - Actor–network theory, or ‘actant–RHIZOME’ theory (Callon 1986; Latour 1986; Callon 1991; Law 1992; Thrift 2000)
 - Action theory (Parsons 1971; Werlen 1993)
- Phase–space treats *all* system dimensions (section 4.3) as *real spaces within the empirical reality* (section 4.1.2) *of the model*, thus acknowledging the duality (not the dualism) between the “... ‘*real, material, concrete space*’ and ‘*non-real, imagined, symbolic [or metaphorical] space*’” (Gregory 2000b, p. 771).
- It recognises “... *the presence of the Other within the space of the Same ...*” (Gregory 2000b, p. 771), i.e. the (reciprocal) penetration of spaces.
- The concept allows for the imagination and representation of *hybrid, or Third Spaces* (Soja 1999), where space is “Simultaneously real and imagined and more ...” (Soja 1996, p. 11). ‘Third Spaces’ cater for the imagination of a “... *somewhere else ...*”, or a “... *paradoxical space ...*” (Gregory 2000b, p. 771), a process that could be interpreted as the result of cognitive dissonance.

Qualitative properties (or values) of these spaces are not quantified and ‘calculated’ in numerical terms; but instead characteristics are interpreted as patterns and described verbally, as well as visualised graphically. The system’s behaviour determines the specific condition of the system at any point in space–time, which is illustrated by its coordinates in phase–space. The dynamics of the system’s fluctuating position in phase–space are illustrated via *trajectories* tracing phase transitions. These temporal

changes of the system's condition are reflected in the system's dynamic *phase portrait* (Stewart 1995, p. 116). The phase–space concept can accommodate any optional number of spaces, thus enhancing the exactness of the model. Spatiality and complexity are interdependent factors in the modelling process in so far as the inclusion of additional spaces results in a higher degree of complexity (Figure 17, p. 178).

The *basin of attraction* represents all possible system conditions (Capra 1997; Gleick 1997). If, however, the trajectories *converge* on a specific system state, i.e. on a defined range of behaviour – and thus a restricted part of the basin, the phase portrait will display cyclic as well as stable system behaviour. This system state is described as an *attractor* (Capra 1997; Gleick 1997; Stewart 1998). It is assumed that trajectories in a *social* system never cross each other's paths, i.e. the system's evolution is time irreversible, never displaying an identical state in two points in time (*Chapter Seven*, section 7.1).

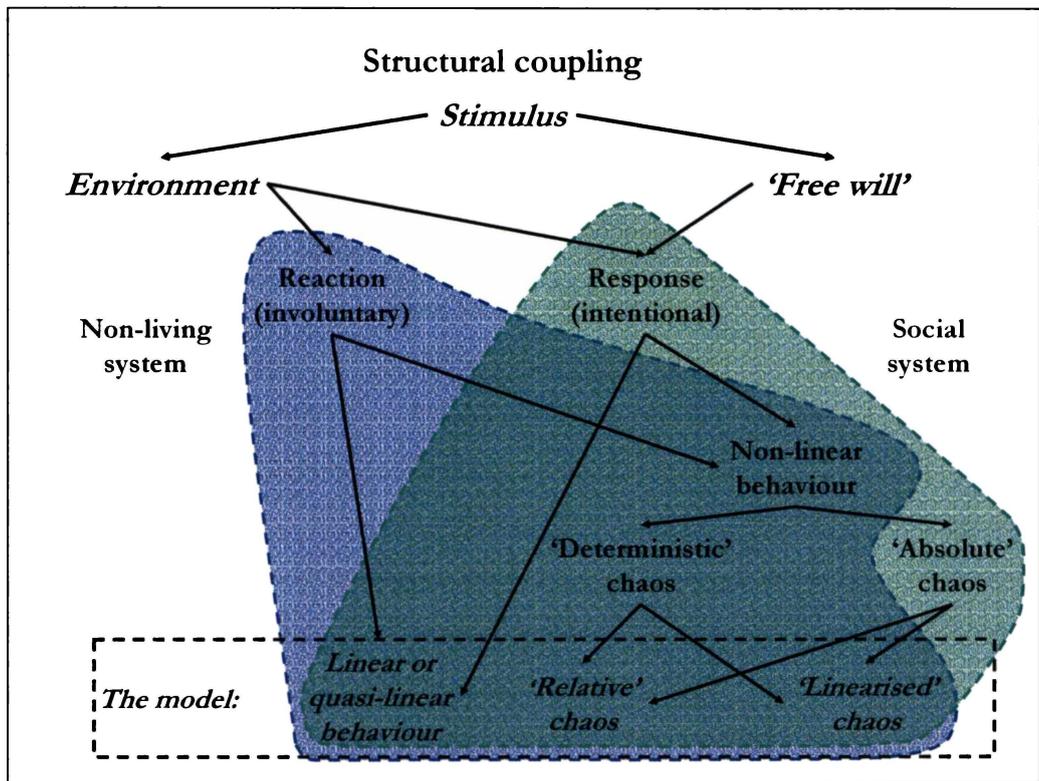
However, in a system *model* (which represents a simplified version of society and its dynamics), or in one of its nested subsystems, the trajectories may revert to a prior position. This may be the case if system components, or their variables, are omitted or neglected by focusing on a particular systemic aspect. The procedure simplifies originally complex behaviour and can linearise non-linear system dynamics (section 4.4.2). An example of iterative system states is the attractor depicted in Figure 33 (p. 283), where only one variable has been modelled in phase–space.

4.4 The Interactive System

Structural coupling (Maturana and Varela 1998) in an interactive living and non-living environment distinguishes between *reaction* and *response* in a system's behaviour. From a teleological perspective a reaction is the involuntary (or automatic) behaviour governed by a conditioned *or* unconditioned *stimulus*. According to classical as well as operant conditioning, responses are also based on either conditioned or unconditioned stimuli (Atherton 2002). In contrast to reactions, responses are, however, restricted to the 'living world', and are always *intentional*. However, recent neuropsychological research

suggests that even intentional responses are not decided by human self-consciousness, but in “... automatic processes that happen outside our awareness” (Halligan and Oakley 2000, p. 38). There are probabilistic, manipulative, counterfactual and structural approaches to causation of human behaviour (Pearl 2000), but it would be beyond the scope of the thesis to explore them all. I have identified three basic types of system behaviour that are associated with human decision-making processes in this particular system. They fall into either one of the two categories, i.e. reactions or responses (Figure 19).

Figure 19 System behaviour



4.4.1 Linear System Behaviour

No matter whether behaviour is the result of reactions or responses, the system undergoes linear or non-linear changes. The system as a whole, or parts of it, can operate in a *linear* (or *quasi-linear*) fashion, events being the results of proportionate cause-and-effect relationships. This type of behaviour can “... be satisfactorily approximated as regular and continuous” (Davies 1989, p. 23). Linearity can be

depicted mathematically as a straight line (in Euclidian space). Requiring foremost causal thinking, linear behaviour can be described appropriately in a reductionist fashion within the Laplacian paradigm of deterministic predictability (Stewart 1995, p. 107). No matter how simple or complex the nature of a linear relationship between elements (and their variables) might be, mathematically the sum of, or the difference between any two particular solutions will always also be a solution.

The behaviour of a linear phenomenon can be analysed and understood by reducing it to its constituents. Roughly speaking, the whole is no more than simply the sum of its components (Barrow 1992, p. 193). Small changes in the system's condition result in proportionate and predictable changes of its 'output'. Putative, as well as contingent causality can bear the characteristics of single, multiple or causal loop relationships. Complex multivariate causalities are modelled as one cause having multiple effects and/or multiple causes leading to the same effect. Structures that interact in a linear fashion react or respond in a *predictable* manner.

4.4.2 *Non-linear System Behaviour*

The second major category comprises *non-linear* system behaviour, which is far more difficult to comprehend and to model. Non-linearity is best characterised by the fact that there is no proportionality between cause and effect (Gleick 1997, p. 23). The behaviour of non-linear systems *appears* random (and hence complex), and their information content is therefore incompressible. Mathematically speaking, the graph depicting non-linear behaviour deviates from a straight line. According to Rao (2000, p. 72) "Most phenomena on this planet obey nonlinear behavior, ...", and social phenomena are no exception. Informed by action theory (Werlen 1993, p. ix) and Sartre's existentialist 'free will' concept (*Chapter One*, section 1.8.1), it is assumed that structural coupling in social systems occurs as *responses* rather than *reactions*. However, no matter whether human behaviour is the result of environmental conditioning or of unconditioned intentionality, the effect can be non-linear and unpredictable (Figure 19).

On the one hand, minute differences in the system's condition can result in exponentially amplified changes that are *practically* unpredictable due to an infinitesimal uncertainty regarding the system's initial condition (Barrow 1992, p. 194). On the other hand, large deviations do not tend to increase further (Schulz and Hilgenfeldt 1994, p. 74). Whereas the behaviour of a non-linear system is *always* complex, the configuration of the system's components themselves can actually be both of a very simple or complex nature. However, even in the simplest non-linear system 'the outcome is never the sum of its parts', and the analysis of its behaviour requires a holistic approach (Davies 1989, p. 23). I argue that in this particular model two kinds of non-linear behaviour can be observed.

Those system dynamics, which are non-linear *and* dependent on initial system states, are *theoretically deterministic*, i.e. deterministic in principle. However, the system displays *apparently random* (or *pseudorandom*) behaviour caused by the *practical indeterminacy* of its initial conditions. The result is the *practical unpredictability* of the system's future trajectory and state in phase-space. This type of non-linear system behaviour is characterised by a combination of self-amplifying changes on a small scale and restricted changes on a large scale. As a result, trajectories that have moved far apart can reverse their movement and again approach each other in phase-space. On a macro scale, changes of the system's condition are limited. Within these confines, trajectories can, however, be arbitrarily entangled (Schulz and Hilgenfeldt 1994, p. 74). This type of non-linearity is also termed (deterministic) chaos (*Chapter One*, section 1.7) and is modelled within the chaos and complexity paradigm.

It is suggested that there is a second type of non-linear behaviour that has to be accounted for in decision-making processes within the human (or social) realm. Traditional economics reduces individual, societal and economical behaviour, however complicated, to a predictable and controllable set of interactions. It has been argued that the classical procedure of conventional modelling in the social sciences and in economics is the rationalisation and 'linearisation' (Stewart 1997, p. 72; Byrne 1998, p. 2) of non-linear phenomena (Capra 1997, p. 121). Humans are expected to act rationally and not affect each other's decisions directly (Ormerod 1998, p. vii).

However, based on the assumption of an existing genuine ‘free will’ (*Chapter One*, section 1.8.1), the claim has been made that in fact humans also make and realise decisions in a non-linear fashion (Ormerod 1998, p. viii).

I argue that human behaviour is complex, but not necessarily dependent on initial conditions as opposed to ‘deterministic chaos’, which relies on the causality principle in the same way that linear behaviour does. In the socio-economic realm the resulting system behaviour falls into a category called ‘evolutionary economics’ (Boulding 1981). Coining the term *relative randomness*, it is argued that in the human dimension the interpretation of behaviour as deterministic, stochastic (i.e. probabilistic), random (i.e. demonstrating an incompressible string of infinite possibilities), or chaotic (i.e. displaying deterministic randomness), depends on the specific perspective.

On the one hand, the observer might experience an apparent unpredictability in the subject’s irrational, *or* emotive⁷⁷ behaviour, due to the subject’s ability to change the course of action randomly of one’s own ‘free will’. On the other hand, the subject her- or himself might base the very same decision on a conscious (rational) choice, resulting from a previous ‘system condition’. The claim is made that this particular choice was predictable, but not without revealing the necessary background information to the observer.

From the subject’s point of view there is a reason (viz. the initial system condition) and/or an intention (viz. the anticipated future system condition) for the particular behaviour. Reason and intention convert the apparently random decision-making process into a maybe still complex, but definitely linear and deterministic cause–effect relationship. However, the subject might be unaware of initial conditions that determine the outcome of a particular decision-making process, thus experiencing and interpreting her/his own action (or inaction) as the result of an inherently random and ‘free’ decision. A *knowledgeable* observer would classify this behaviour as apparently random as opposed to inherently random, since the decision for change is the result of a *hidden system component or one of its variables*.

⁷⁷ It is hypothesised that irrational behaviour can be either emotionally stimulated or instinct-induced.

The ‘free will’ concept accommodates inherently random choices. It caters for individuals who believe in and are cognisant of their ability to choose consciously and randomly rather than arbitrarily; or in other words, where the only reason for arriving at a particular decision is the conscious choice to decide at random, rather than basing the decision on a previous system state or an impulse. ‘Free will’ also allows for an infinite number of choices, resulting in a maximal individuality that makes human behaviour ‘relatively complex’ in the sense discussed in section 4.2.3. Humans might be incapable of understanding and describing appropriately all facets of the rich and subtle diversity that human behaviour displays. It is, however, *not* the in principle lack of knowledge regarding the initial condition itself that causes ‘relative randomness’. Instead, ‘relative randomness’ is the result of the observer’s, *or* the subject’s ignorance in respect of how and why a particular decision was made (i.e. if the decision was caused by a previous system condition – and thus is intentional and *conditioned*, or if the choice was an inherently random one – and thus is intentional and *unconditioned*).

Like in any model, the system behaviour in this model is modelled from the designer’s (or researcher’s) perspective, and is thus based on *my* knowledge or ignorance respectively, regarding causal correlations. If the reason(s) for the system’s dynamics cannot be traced back to initial conditions being responsible for a particular change, or effect (i.e. no linear causality can be established), the system’s behaviour is treated as non-linear.

On the one hand, emerging behavioural *patterns* would indicate that an observed ‘relative randomness’ is in fact ‘apparent randomness’, thus falling into the category of (deterministic) chaos. On the other hand, ‘absolute chaos’, where anything can happen, is the postmodern vision of chaos (Byrne 1998, p. 26). Unconditioned intentional behaviour is modelled within the postmodern and poststructural paradigm of contextual and situational layers of meaning (*Chapter Three*, section 3.3).

Another cognate problem arising in the field of social science research is the reciprocal relationship between the researcher and the subject of her/his study (*Chapter Three*, section 3.3; *Chapter Six*, section 6.3). Based on the assumption that “... an unbreakable

coupling between the observer and the observed” (Barrow 2000, p. 7) occurs, the researcher can exert an unintentional influence on the interviewee, or the observed and *vice versa*, thus changing the course of action. This does not only hold true for face-to-face interview situations, but for all types of inquiries, such as questionnaires, conversations on the phone, informal chats, e-mails, etc.. Both apparent randomness and the ‘coupling’ effect fall into the category of environmentally conditioned behaviour (*Chapter One*, section 1.8.1), which can thus be interpreted and modelled as a linear(ised) or chaotic system.

4.4.3 Information Transfer and Non-Communicative Effects

Ecotourism as a concept, or form of tourism, as well as SETD as a planning objective, are subject to development⁷⁸ in terms of the phenomena’s conceptualisation and operationalisation in the Coromandel. The continuous flux is due to external influences that permeate and affect the system’s imaginary boundaries (*Chapter Five*, section 5.3) from outside, or change is due to internal factors that originate and function within the system. The system is in motion, and can hence be described as *dynamic* in its appearance. To understand the continuous fluctuation at the macro level, it is necessary to find answers to the following questions:

- Why and how does change in the system’s condition occur?
- What kind of changes does the system experience?
- What are the factors influencing the system dynamics, and (how) are they interrelated?
- Can the system’s behaviour be predicted?
- Can the system’s dynamics be controlled?
- What is the explicit understanding and what are implicit meanings of ecotourism and SETD within the system?

⁷⁸The term ‘development’ is used in a neutral sense as a synonym for ‘change’ or ‘evolution’, neither implying the positive notion of ‘progress’ or ‘good change’, nor ascribing a negative meaning like ‘environmental degradation’, or ‘cultural exploitation’ to the term.

- Does a coherent and conclusive conceptualisation and operationalisation of ecotourism and SETD exist within the system?

This section provides an answer to the first query, whereas subsequent chapters resolve the other questions. To understand the dynamics of the system as a whole, the general characteristics of information transfer within the ecotourism and SETD system have to be identified. It is important to realise that change can theoretically occur as *non-local* or as *local behaviour*. In the physical sciences (Barrow 2000, p. 158; Kafatos and Nadeau 2000) these two terms refer to the influence of observation as a causal agent on (potential) changes in the system. Non-local behaviour, or the “... ‘spooky action-at-a-distance’ ” (Davies 1989, p. 176) at the quantum mechanical level, has been used to argue for the inseparability of systems at the macroscopic biological level, where phenomena must be treated and can only be understood as coherent wholes (ibid., p. 178). Non-local behaviour is interpreted as a means by which observer-induced effects on a phenomenon can occur without the causal agent being in contact with the changed variable. Local behaviour on the other hand, is the ‘ordinary’ type of system behaviour, where interaction causes transformation.

At first sight, local behaviour appears to be the typical and exclusive type of interaction between and within networks, as well as between individual system components and their variables. However, ‘quasi-acausal’, or non-local behaviour, where an observed influence has an effect *without* information being transmitted between the two involved elements, also exists, exerting an impact on the system as a whole, as well as on its parts. The assertion of non-local behaviour is corroborated and exemplified in the macro scale model (*Chapter Five*, section 5.4.1), where “... the inevitable effect of the act of observation ...” (Barrow 2000, p. 160), or of participation in ecotourism, is caused by two elements being *incommunicado*. Since in the natural sciences the two terms ‘local’ and ‘non-local’ are *not* used in the same way the geography of space and places defines them (Duncan 1986; Urry 1988), I substitute them with *communicative* and *non-communicative*. In the following three chapters it is demonstrated that conceptual and operational changes to tourism development within and from outside the system can

affect ecotourism and SETD in the Coromandel directly or indirectly, as well as in a communicative or non-communicative manner.

4.5 Practical Limitations and Ethical Considerations

The nature of abstraction is simplification and fragmentation, an unavoidable process in system modelling (section 4.2). The applied holistic approach ‘counterbalances’ rational abstraction (Figure 15, p. 174), compensating for the inevitable loss of detail. For pragmatic reasons this system model is limited to the depiction of entities and events that are *relevant* to the topic and its specific research questions. Modelling is, however, not restricted to the obvious and salient key elements and their variables. On the contrary, the methodology pursued exposes the more subtle, elusive links and concealed system components (*Chapter Five*, section 5.3.4). Where elements serve multiple purposes, the analysis and interpretation focuses on multifunctional properties and links that are associated with ecotourism and SETD. Connections with other than ecotourism, or SETD related ‘real world’ phenomena (in particular different forms and concepts of sustainable tourism development) can be of a unilateral or reciprocal nature. They are interpreted and represented as (semi-)permeable boundaries within the system model.

The case study is based on multiple sampling frames (*Chapter Three*, section 3.2.3). Some stakeholder groups constitute relatively small target groups, thus comprising small sampling frames. Tour operators, accommodation and transport providers, governmental organisations and private–public partnerships, as well as grassroots initiatives with direct links to ecotourism (*Chapter Five*, section 5.3.1) all fall into this category. In some cases the size of the sampling frame or the nature of the comment would make it easy to identify individuals. Where the data are critical of personal interests, or do not support public views and practices of the interviewee or interest group, the information source is not revealed. Data emerging from cognitive dissonance are also treated with caution in respect of confidentiality issues.

In addition to these sensitive data, I have obtained confidential documents supplied by several sources. If the publication of information that does not correspond with

publicly expressed personal ideals and ideological convictions, could lead to the identification of individuals and parties (thus compromising the assured anonymity of research participants), the data are ‘cloaked’ in a way that prevents the identification of the data source. Preference is given to the guaranteed anonymity, protection, and integrity of contributors to this study, hence accepting a possible impairment of the model’s precision. Cloaked information (for example respondents’ names, locations, membership lists and statistical data) is identified with a star (*).

The ‘matrix’ of the system model depicted in this chapter is employed in the next three chapters to ‘materialise’ the concepts by filling the ‘grid’ with the outcome of analysis and interpretation of concrete empirical data.



Chapter Five

Macro Scaling: The Totality of the Environment

Whereas the previous chapter outlined the skeleton of the system model, the focus in the following three chapters is on the *operationalisation of the data*. The evaluation and interpretation of the empirical evidence flesh out the framework that was constructed in *Chapter Four*. Taking into consideration non-linear *emergent* system properties, it has been argued that the construction of an integrative (or integrated) system model relies on the differential approach of methodological holism (*Chapter Three*) when assessing the collected information. The problem of operationalising the data is summarised in the following paragraphs.

Linear system behaviour can be modelled by deconstructing, decategorising and decentering the collected material in a (postmodern, or poststructural) discourse analysis, *as well as* by analysing the pure data in the traditional reductionist sense. Interpreting the emergence of complex system behaviour requires, however, a different approach. In the case of emergent system properties the analytical strategy is *not* reversible. Synergistic as well as antagonistic effects can thus not be explained by tracing them back to simple constituents (Byrne 1998, p. 16). Hayles's (1991, pp. 16-17) assertion sums up this argument:

From the system's point of view, there is only the totality that is its environment. So strong is our belief in analysis, however, that we take the environment to be the artificial and the collection of factors to be the reality.

The holistic approach (*Chapter One*, section 1.5) identifies complex and non-linear patterns, but it reduces a phenomenon by focusing on the 'whole', "... typically overlook[ing] the interactions and the organization, ..." (Price 1997, p. 19).

Methodological holism, as developed in *Chapter Three*, incorporates the idea of 'deterministic chaos' and complexity, *as well as* contextual and situational levels of meaning in a partly 'absolutely' chaotic system (*Chapter Four*). The methodology recognises crucial interactions and (inter-)relationships between and within the 'Social'

and the ‘Natural’, as well as fluent transitions between systemic behaviour at the level of individual elements and the system as a whole⁷⁹.

In *Chapter Four* (section 4.2.2) the concept of *methodological scaling* was developed. In a first step of the design phase, this chapter employs the concept, creating an image of the system dynamics by identifying patterns at the macro scale level of the entire system as a whole. The macro scale model forms the backdrop (Figure 30, p. 265) for a comprehension of emerging networks, and patterns of interaction and behaviour between and within networks, nested subsystems and individual elements.

In accordance with methodological scaling more subtle processes and relationships, finer details – and thus higher degrees of complexity are progressively depicted in subsequent enlargements (Figure 17, p. 178). To this end the system is magnified on a continuous scale to identify the properties of subsystems (i.e. their configuration and behaviour) within the meso scale model and ultimately those of individual system entities and events, including the ‘egocentric’ perspective⁸⁰ of individuals. *Feedback loops*, *flow-on* and *lock-in effects*, as well as tiny changes in the system’s behaviour and their influence on the entire system as a whole, are identified.

Background noise (i.e. emerging properties that are irrelevant to the topic and research questions) is filtered in favour of emphasising system characteristics that influence ecotourism and SETD directly or indirectly. Interpreting the *status quo*, an optimised version is developed concurrently, reflecting the ‘idealised prototype’ of the existing system and its subsystems respectively.

As the result of a constant interpretative ‘dialogue’ between the ‘parts’ of the system and the whole of the system, the ‘big picture’ reflects foremost a *hermeneutic approach*. The interpretation is *circular and reciprocal* as it constantly moves back and forth between the meaning of individual phenomena, that of subsystems and of the system as a

⁷⁹The term ‘dynamist’ as opposed to analyst has been suggested to describe the methodological approach of chaoplexity (Byrne 1998, p. 177). Accordingly, the term ‘holist’ echoes the name of the process and would be the appropriate noun to describe the position of a researcher engaging in methodological holism.

⁸⁰It is argued that an egocentric approach is different from an egotistic attitude and can include selfish, as well as altruistic, or reciprocal altruistic tendencies.

whole. It is also *indeterminate* since there is no end to the feedback loop, and it is *mono-perspectival* in so far as it represents the researcher's interpretation of the situation (Bohman 1993, p. 116).

The first section of the macro scale model identifies the mental platform on which the system operates, as well as the spatiotemporal system dynamics of the system as a whole. Subsequent sections depict conceptual and operational patterns and boundaries, as well the level of dependency or autonomy in regard to externalities. Emergent features are identified and described in the context of their relevance for the system as a whole. The system's robustness (or sensitivity) is modelled in regard to its adaptability and self-maintenance abilities. The chapter concludes with an optimised version of the macro scale model.

5.1 The Operating Platform

With respect to the operating platform, ecotourism and sustainable tourism development in the Coromandel are conceptualised and operationalised on a *regional* and *local* rather than on a national level. Ecotourism and sustainable tourism development are practised in a *pragmatic approach* rather than from a theoretical perspective. Both Pākehā and Māori focus on the *practical application* of ecotourism and sustainable tourism development rather than ascribing to the theorisation of the concepts. Figure 30 shows, however, that an overlap between theorising and practising tourism exists in the form of an interface linking the two approaches, represented by the conceptualisation, planning and development sectors of tourism. The link between 'scientification' and practice of ecotourism in the Coromandel, as well as the concretisation of the pragmatic approach, are explored in subsequent paragraphs.

The current state of affairs in respect of ecotourism research on a national scale has been discussed in *Chapter Two* (section 2.4.2). Only a small number of research projects deal with ecotourism in the regional context of the Coromandel. The subject is studied at two fronts, with both of them examining ecotourism from a similar angle. Commissioned research programmes as well as independent research dissertations

commonly focus on pragmatic aspects of applied ecotourism rather than theorising the subject:

- The *ecological effects* of ecotourism are monitored by the New Zealand Department of Conservation (DoC), even though without explicitly labelling the causal agent as ecotourism: According to DoC, visitor impacts on natural area attractions in the Coromandel are surveyed on a continuous basis (Ward and Beanland 1994, p. 7). Leitenberger's (2001, unpub.) and Neumann's (2001, unpub.) dissertations are examples of regional case studies that examine tourism impacts on wildlife in the Coromandel. Neumann and Orams's (2002) conference paper is on a similar topic.
- In a report for Tourism Coromandel, Arand (1995) explores *environmental goals and the possibility of guidelines* for operators.
- Higham *et al.* (2001, p. 3) use Kiwi Dundee Adventures, a Coromandel-based operation, in a national survey that *profiles ecotourists* in New Zealand.

With the exception of one private initiative (The James Family *et al.* n.d.)⁸¹, nowhere within the Coromandel related literature is ecotourism mentioned explicitly as a vehicle for sustainable tourism development. This corroborates the argument elaborated in the next section that, in the Coromandel context, ecotourism on its own is *not* interpreted as a *means* by which sustainable tourism development can be achieved, or enhanced. 'Applied ecotourism' is viewed rather as a tool to minimise damages, summed up in the following statement made by an ecotourism operator:

... but the way I see it is that we really shouldn't do anything that is going to actually harm our environment. We've got to at least keep it as good as it is ().*

Within the pragmatic approach there are procedural differences between operators and organisations involved in tourism planning and development. Whereas public authorities like the Thames–Coromandel District Council (TCDC) and the Waikato Conservancy of DoC, as well as private, or semi-private sector organisations like the

⁸¹ The report does not use the term ecotourism but 'green' campsites instead. Some of the implications of the document's details are discussed in section 5.1 and in *Chapter Six*, section 6.4.5.

Regional Tourism Organisation (RTO) Tourism Coromandel, conceptualise and interpret (but *not* theorise) policies and regulations, operators tend to adopt a practical ‘just do it’ mentality. There are, however, overlaps⁸² between both approaches in so far as some of the operators are concurrently not only members of Tourism Coromandel but also proactively contribute to reports that delineate the concept of sustainable tourism development (e.g. Johansen 1999, unpub.).

In the New Zealand tourism planning and development context, the Coromandel is marginalised in the sense that the Peninsula is recognised neither as a distinct nor as a key tourist destination. Nationally, to the best of my knowledge no *planning and development strategy* focusing on tourism in the Coromandel exists. Neither the Office for Tourism and Sport (OTSp) nor the NZTB, which are *the* governmental tourism departments, or agencies respectively, engage in regional strategic tourism planning and development schemes aimed *specifically* at the Peninsula (Foundation for Research Science and Technology (FRST) Tuāpapa Rangahau Pūtaiao 1996). The strategic Portfolio Outline (SPO) for tourism, leisure, recreation and sport focuses on thematic issues rather than on regional aspects of tourism planning and development⁸³.

There are, however, governmental *marketing initiatives* that promote the Coromandel as a tourist destination, frequently in conjunction with other regions:

New Zealand will be divided into five macro-regions: [...] Central North Island Marketing Alliance (Rotorua, Waikato, Coromandel, Bay of Plenty, Taupo, Hawkes Bay, Ruapehu) [...] (New Zealand Tourism Board (NZTB) trading as Tourism New Zealand (TNZ) 2000b).

The NZTB’s (2001c) research website promotes the Coromandel as a tourist destination, and its marketing website (2001b) includes links to local websites that advertise tourism in the Coromandel. Both DoC (1998) and Tourism Coromandel (2001a) produce maps of the Peninsula that contain recreational information.

⁸² Overlaps and boundary crossings are discussed in section 5.3.

⁸³ SPOs are published by the crown entity Foundation for Research, Science and Technology (FRST) and “... create the link between the Government’s strategic directions as articulated in its High Level Goals and Target Outcome set, and the strategic requirements of the sector stakeholders as reflected in their stakeholder strategies” (Foundation for Research Science and Technology (FRST) Tuapapa Rangahau Putaiao 2001b, p. 1).

National tourism organisations like the Māori Tourism Development Board, the New Zealand Institute of Travel and Tourism (NZITT), the New Zealand Rural Tourism Council and the Tourism Industry Association New Zealand (TIA, TIANZ, or NZTIA) concentrate on coordination and collaboration within the New Zealand tourism industry, but consider the Coromandel neither as a separate key tourist destination within New Zealand nor do they make mention of the Coromandel as a region with potential for future tourism development (New Zealand Tourism Industry Association (NZTIA) and Ernst & Young 1998). In the private sector *national* endeavours to market the Coromandel frequently cover the Peninsula's recreational opportunities in conjunction with other regions (e.g. Jason Publishing 1998; 1999).

In a way almost diametrically opposed to the national neglect of the Peninsula's individual potential for tourism development, a lot of effort is poured into planning and development strategies at the regional level. The focus is on implementing cooperative marketing strategies and programmes that promote the Peninsula as a multidestinational holiday region. Tourism Coromandel proposes to market the Coromandel in conjunction with the 'Pacific Coast Highway', 'Hauraki Gulf' and the adjacent 'Hauraki Plains', 'Bay of Plenty', 'Eastland/Hawkes Bay' and the 'Central North Island 'Heartland' Area' (Archibald and Board of Tourism Coromandel 1999, p. 44). The 'Great Down Under Tour', a marketing partnership between 'The Great Southern Touring Route', 'Victoria Tourism' and Tourism Coromandel, encourages international travellers to visit both Australia and New Zealand (Archibald and Board of Tourism Coromandel 1999, p. 44; Geelong Otway Tourism (GOT) 2000, p. 3). Targeting shoulder and off-season travellers is one of Tourism Coromandel's priorities (Archibald and Board of Tourism Coromandel 1999, p. 43). The RTO emphasises the need for a diversification of market segments to surmount the "... most significant constraint facing further tourism development [...] [which is perceived as] the uneven distribution of utility capacity and the seasonal peaks and troughs of demand which occur in the most popular visitor locations" (Archibald and Board of Tourism Coromandel 1999, p. 6).

What the Coromandel should be pushing for, and we've said this for bloody years, is not worry about getting the numbers up huge, because the numbers they're talking about - they're gonna want to come when there's already a lot of people. We want the numbers; we want the accommodations filled up on the off-season, not on the on-season. The on-season's chock-a-block now. [...] We've got enough accommodation, but it's got to come at different times - we've got to get people to come at different times. And to get people to you know to realise that yeah the Coromandel's quite special, it's mid-winter but what the hell - it's a special place (operator).*

It is mainly Tourism Coromandel that coordinates promotional and marketing issues and efforts, exemplified by a statement made by one of the operators:

... I've got some journalists coming in on Saturday through [...]. Tourism Coromandel phoned me and said they were coming through the Tourism Board in Wellington ... ().*

An inequality is perceived in particular by some small-scale operators (*Chapter Six*, section 6.4.1), between a few relatively powerful and influential members of Tourism Coromandel and those engaged in the tourism sector who have no membership and little say⁸⁴. At the macro scale level the general perception of development aims in the Coromandel is distorted, and shaped by the uneven distribution of influence and power. Those in charge determine the content of public documents like Tourism Coromandel's strategic plan⁸⁵ (Adams and Tourism Coromandel 1994; Archibald and Board of Tourism Coromandel 1999). For outsiders, the report (especially since it is the only one of its kind) creates the impression that it represents and reflects the needs and interests of all parties involved in tourism in the Coromandel. Tourism politics and resulting inequalities in terms of power relationships are elaborated in *Chapter Six* (section 6.4.3).

There is, however, (almost) consensus of opinion amongst all stakeholders within the tourism industry on major goals. Sustainable tourism development is stated as a primary goal concurrently with the objectives to encourage and achieve a continued rise in visitor numbers, as well as the growth of the permanent resident population (e.g. Adams and Tourism Coromandel 1994; Archibald and Board of Tourism Coromandel

⁸⁴ These power relationships are looked at in the meso scale model.

⁸⁵ The second revised edition being published in 1999

1999). The statement made by an ecotourism operator exemplifies the convictions of representatives of the tourism industry:

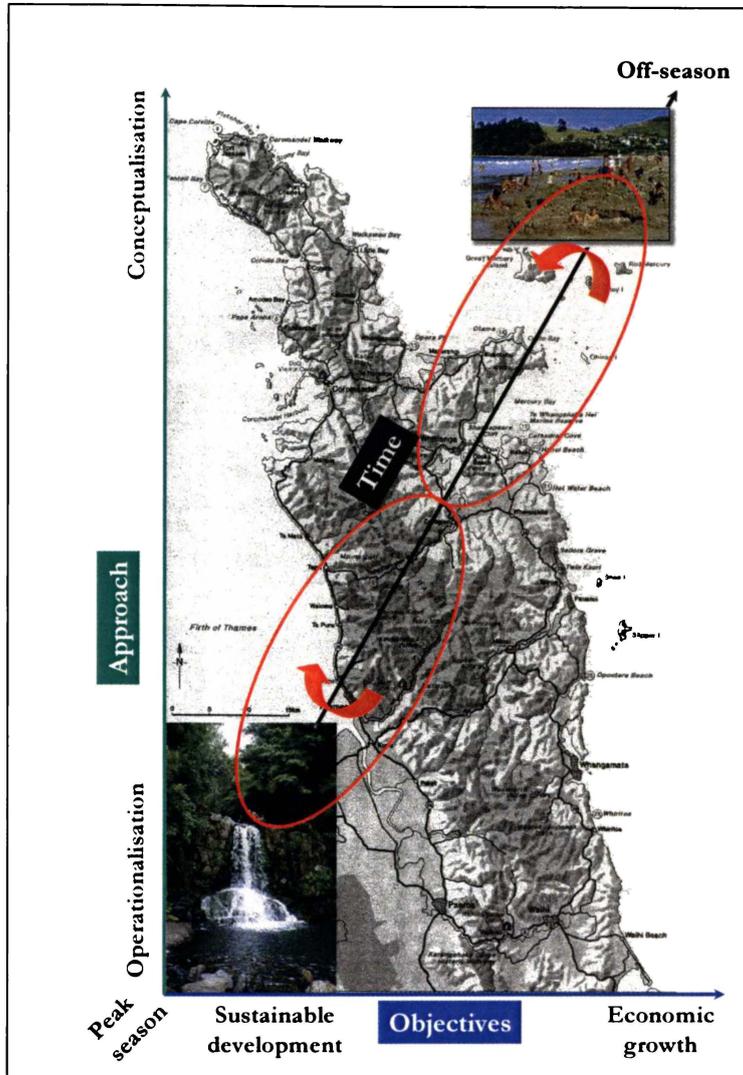
It's absolutely imperative that we need to increase our tourism but it has to be very monitored otherwise we will lose what we're marketing to the rest of the world, we'll lose that uniqueness ().*

The preference for either of the two main objectives of 'growth' and 'sustainability' varies amongst the different interest groups and in the temporal dimension. Whereas during the peak season and on public holidays, visitors and residents are more inclined to put sustainability first, the focus on 'tourism growth' amongst operators culminates during the off-season (Figure 20). These findings are based on differential preferences expressed in interviews and informal conversations at different times of the year. The results are elaborated in *Chapter Six*, and are also illustrated in Figure 21 (p. 216).

Figure 20 maps the periodically changing attitudes towards tourism development during the operationalisation of ecotourism in the course of the year. The pragmatic approach and the regional as well as local physical locality of the system represent discrete dimensions (or spaces) that shape the attractor's basin (*Chapter Four*, section 4.3.1). These two dimensions, the spatial distribution and the practical approach, are symbolised by the underlying DoC map of the region, which displays recreational opportunities on the Peninsula.

The five-dimensional phase–space diagram (*Chapter Four*, section 4.3) depicts the system's state as it oscillates between two focal conditions. The system's trajectory, which shows the cyclic flux in the temporal dimension of the phase portrait (*Chapter Four*, section 4.3.1), converges on the prevailing objectives of *conceptualising growth* during the low season and on *practising sustainability* during the height of the peak season. The photos symbolise the wish for economic growth during the off-season, and the desire for ecologically and culturally sustainable development during the busy time of the year.

Figure 20 Periodically shifting attitudes towards tourism development (images from New Zealand Department of Conservation (DoC) 'Te Papa Atawhai. Waikato Conservancy 1998; Bartley Internet and Graphics n.d.-b; c)



The following quote typifies the conundrum operators face:

*I'm not saying that we don't need to all keep and make it [tourism development] sustainable [...] it [business] can be very, very tough, because it is seasonal (*operator).*

The attractor (red lemniscate) demonstrates that both conditions are only momentary expressions of the system's state in phase-space, which continuously and periodically fluctuates between the opposing binaries in a state cycle that reflects the seasonal pattern of tourism in the Coromandel. Bifurcation points, which signal changes in the

system's state, are sensitive to and marked by seasonal peaks (for example summer holidays, Easter break and Labour weekend) and troughs in visitor flows, with phase transitions occurring gradually. The pattern is predictable in so far as it reflects a linear(ised) relationship between the periodic change in visitor numbers and holiday seasons. Concurrently the pattern assumes relatively stable attitudinal dynamics within the tourism industry, as well as from residents and visitors regarding the nuances within their pragmatic approach of SETD.

From the perspective of the Peninsula's tourism industry as a whole, ecotourism does not occupy a special or distinct status within regional tourism planning and development strategies⁸⁶. Instead, ecotourism is developed and marketed locally as well as from outside the Peninsula's physical and political boundaries by individual operators as a form of Nature-based and, to a lesser degree, cultural heritage based tourism. The validity of this 'individualised' approach is questioned by many operators, residents and visitors, who perceive the Coromandel as a potential ecotourism destination *par excellence* (see also Fairweather *et al.* 1999) and would like to see it marketed as such. At a national level *the idea* of a Tourism Marketing Network (TMN), targeting Nature tourism⁸⁷, has been commenced by the NZTB (2000a). Regional collaborative and cooperative efforts to promote ecotourism within a TMN, especially via the Internet, are studied at the meso scale level.

5.2 Conceptual Patterns

Within the pragmatic approach there are well-established ecotourism operators who view ecotourism and sustainability as two distinct issues:

But you see your word eco. I personally have always had a problem with the word eco. I look at it and say quite honestly that [...] to me there's heritage tourism, which deal[s] with history, historic matter of what's happening. European [and] Māori history, law reform [...] and then there's adventure tourism. But this word eco is used too literally. I personally believe it is and especially here on the Coromandel. But when you start talking sustainability, well that's different, because I look at [it]

⁸⁶ This assertion is substantiated in the meso scale model, and in particular in *Chapter Six*, section 6.4.3.

⁸⁷ The term 'Nature tourism' is used by the NZTB as a synonym for ecotourism.

*as being something that dictates in the future. Sustainability is totally difference [sic]
... (*)*.

On a macro scale ecotourism and SETD in the Coromandel *do not*, however, constitute separate issues; but instead ecotourism appears as a special form of tourism within the general goal of sustainable tourism development. Or in other words: One *integral* objective of ecotourism is to realise sustainable tourism development. Depending on the perspective, both phenomena, ecotourism and sustainable tourism development, were introduced to the Coromandel *and* concurrently emerged within the system's boundaries. Several versions regarding the origin of both terms were discussed in *Chapter Two*. (I coined the phrase 'sustainable ecotourism development' as such.) In the Coromandel, the 'seed' was imported, but 'sown' and 'grown' within the system. Intentionality and functionality, interaction and morphogenesis, are, however, influenced by internal *and* external factors (see also *Chapters Six* and *Seven*).

Even though the terminology originated outside the system's boundaries in the early 1980s (Beaumont 1998), some aspects of their implied meaning(s) were common practice amongst a few tourism entrepreneurs in the Coromandel as early as the mid 1970s (see quote below). According to these operators, the terms were used implicitly by embracing the ecological notion of ecotourism and sustainable development in individual approaches to tourism planning, development and practice. The terminology itself was imported and employed by 'outsiders' to characterise business ideologies and practices explicitly:

... Just opening the areas up so people can go [and] visit [...]. This was in the early seventies [...], but it's all based on Nature [...] and [...] so things sort of went from there and the way we look at the tourist, there was really nobody who is purely [eco], nobody, not even ourselves. [...] But we basically feel that we are giving the people a message about conservation because we are very much conservationists and hoping to impress people to go back and have another look at their countries ... ()*.

'Kiwi Dundee Adventures' is a typical example of a business that promotes incentive tours, educational tours and corporate tours, but does not utilise the term ecotourism in its marketing strategy explicitly. However, the business won the inaugural New Zealand ecotourism award in 1992 (Johansen and Poole 2000). Since the beginnings in

the 1970s some operators have adopted the terminology, because they either felt obliged to do so for ‘image reasons’ (*Chapter Six*, section 6.3), or business owners perceived an economic advantage by promoting their product(s) as sustainable (eco)tourism:

Like I said, there’s a lot of people they [are] using eco to get a little operatives of the use of eco [sic]. They are not eco in the slightest. Just it’s become a real catchword. We must have it in our information ... ()*

Other operators are actually hesitant, or even opposed to using the term ecotourism as a description of their business philosophy and practice:

... we do Nature tours but there’s that word eco [...] we kind of take it out ... ()*

Positive and negative experiences are communicated among all partakers, and can result in chain reactions and feedback loops. A constant exchange of ideas and experiences, in a network of processes and relationships, causes friction and competition, as well as coordination, cooperation and collaboration. Ecotourism activities change the knowledge base of participants, as well as their interpretation and application regarding the terms ecotourism and SETD. The details will be explored at the meso and micro scale level in *Chapters Six* and *Seven*. On a macro scale, it is the combination of these multiple and varied relationships and processes that affect and alter system boundaries. These are explored next.

5.2.1 Ecotourism

Contrasting Collier’s and Björk’s requests for a standardised definition (Collier 1997, p. 3; Björk 2000, p. 190) of terms and concepts, no coherent and conclusive description of ecotourism, or SETD exists at the macro scale level in the Coromandel. On the Peninsula ecotourism is what Valentine (1993) and D’Ayala (1995) call a fuzzy and elusive concept, surrounded by confusion (Björk 2000, p. 189). There are, however, general *tendencies* (Figure 21, p. 216) regarding the conceptualisation of both terms. Whereas the underlying distinct ideologies, which determine the ethics and practices of ecotourism, vary, and can only be modelled at the meso and micro scale level, ecotourism as such is viewed as a possibly positive endeavour. Ecotourism is interpreted as a concept, or form of tourism that has the potential to promote tourism

development, while at the same time enhancing lifestyles as well as sustaining the ecological and cultural environment.

The following two quotes represent the (Lockean) consensus amongst all parties on the relevance of the *condition* of resource bases for ecotourism, i.e. an *intact* natural and (to a lesser degree) cultural, environment:

I look on ecotourism as retaining the integrity of the natural environment, retaining the bush, retaining the natural coastal presence, being able to enjoy the uncluttered and unspoilt areas without expecting to have high rise buildings and huge condominiums to come back to. To be able to keep everything on a low-profile, compatible, sustainable way and environmentally friendly (representative of the 'Combined Taxpayers Coromandel' association).*

This finding contrasts with Sadler's (1988, cited in Butler 2000, p. 338) claim, who alleges that tourism's dependence on a healthy, or pristine environment is a myth. His assertion (made in the regional context of the Caribbean) does not hold true in the case of ecotourism in the Coromandel. As one operator put it:

The fact that it's [the environment] unspoiled is part of its charm ... ().*

From an economic perspective it is argued that rather than the Ricardian theory of comparative advantage, the Heckscher–Ohlin (HO) theorem 'explains' the Coromandel's potential for ecotourism development. Whereas the Ricardian theory suggests that the relative *efficiencies of production* determine a comparative advantage, the HO theorem "... posits that a country's *endowments of factors of production* [...] determine its comparative advantage [emphasis added]" (Sinclair and Stabler 1997, p. 126). The quote below exemplifies the general assumption that the comparative advantage of New Zealand is evoked by the heterogeneity of factor endowments, which function as drivers of (eco)tourism development:

The tourism industry and its stakeholders (such as local government) recognise that its competitive advantage in international markets lies with New Zealand's unique features: the natural environment (high quality environment, scenic beauty); a young dynamic image and sense of space, emptiness and freedom which are energising and revitalising; [...]. While emphasis on New Zealand's unique features as a competitive advantage implies a finite capacity for some activities at some sites, ...

(Foundation for Research Science and Technology (FRST) Tuāpapa Rangahau Pūtaiao 2001b, p. 3).

It is hypothesised that abundance and quality of the natural landscape and scenery in the Coromandel, in conjunction with the Peninsula's closeness to urban areas (foremost Auckland) as well as its easy accessibility, offer this advantage for ecotourism in comparison to other regions in the North Island.

From a teleological perspective it is neither exclusively the ecotourists' desire for an experience of a 'clean, green and pure wilderness activity' nor the exposure to, or immersion in an 'authentic cultural experience' that necessitates, or favours an undisturbed and unaltered ecological environment. On the basis of foremost informal conversations and participant observation, it is asserted that the majority of people in the Coromandel hold a bioethical viewpoint by crediting values to all of living Nature, which are worth protecting independently from any touristic, or other human activity.

There is, however, no unequivocal agreement on the question whether these biocentric and ecocentric values (Pepper 1984; Pojman 1998, pp. 93-134) are inherent *apart* from any potential use, or actual utility a living organism has for humans. This view is held by some of those spoken to in the Coromandel, and reflects Næss's (1973; 1998a, p. 134) "... *relational, total-field image* ..." of the environment, one of the initial basic principles of deep ecology, or ecosophy. For many of those who ascribe to deep ecology (without stating it explicitly), the essence of being includes a spiritual component, transcending "... the limit of any particular science of today, including systems theory and scientific ecology" (Næss 1985; 1998b, p. 137). For others, the worth of the natural environment is extrinsic and inextricably tied to a potentially (material) beneficial value for humankind, reflecting the [hu]man-in-environment image of the shallow ecology movement (Næss 1973; 1998a, p. 134). The debate (not only amongst people in the Coromandel) remains open whether the value of Nature "... *depends on a subjective valuer* ..." (Rolston 1998, p. 70), and is thus instrumental and ecological-relational, or if there is an objective and intrinsic, or autotelic value in Nature (Næss 1985; 1998b, pp. 141, 142).

The Western philosophical concept, or idea of moral pluralism (or expansionism) (Stone 1988) can be employed to take into account those stakeholders (and not necessarily just Māori) who subscribe to *kaupapa Māori* in their thinking implicitly or explicitly. From my (i.e. Western) perspective *kaupapa Māori* reflects a non-anthropocentric approach towards reality, which thus requires a different approach towards ethics and a different set of morals. From a *kaupapa Māori* perspective Stone's trees do have standing, and humans have obligations to the living world as well as towards inanimate structures like landforms and rock formations (for example waterfalls, or mountain summits) "... over and above those dictated by self-interest, ...", to use Leopold's (1989, p. 211) words. Informal conversations and the evaluation of the questionnaires revealed that many Pākehā also grant the natural environment and 'natural objects' that are non-living entities an intrinsic and spiritual value (Rolston 1991), a view that corresponds to the *kaupapa Māori* paradigm.

It is, however, unclear if there is a thought-transference between 'white' New Zealanders who have adopted the *kaupapa Māori* concept from 'indigenous' New Zealanders, or if the Western perspective in the Coromandel is, independent from Māori ethnoscientific thought, influenced by the suggestion that the inanimate natural environment can and should have standing on its own merits. The argument that the nonliving physical environment should have 'rights' to defend attributed inherent values, was introduced as an idea to U.S. environmental legislation in the early 1970s (Stone 1996, pp. 1, 146).

The way people in the Coromandel use the terms 'Nature' and 'environment' suggests that they (unconsciously) create a dualism by distinguishing between 'Nature' and themselves. The majority of humans (within the researched system boundaries) seem to *not* consciously consider themselves as being an integral and interactive part of the natural environment. The implied meaning of 'natural environment' for them is 'non-human environment'. They implicitly interpret 'ecological environment' as the biota in conjunction with the physical landscape. This interactive system thus includes processes and relationships between and within terrestrial and marine topographic and geological features, as well as the biological environment of fauna and flora, but it

excludes humans and human interaction. For some operators the physical activities involved in ecotourism offer the opportunity to (re-)establish and experience the link between humans and Nature:

Ok you can go for a walk on a track and that takes that eco tour a little bit further, now you're becoming part of the eco system by walking on it and feeling the true New Zealand looking at the fauna and flora ... ()*

I observed tourists (including self-declared ecotourists) who left their rubbish on trails and on the beach, or used detergents in streams. People (sometimes) seem to disregard their own (stated) beliefs and knowledge by mentally ‘detaching’ their actions (and foreseeable subsequent effects) from environmental processes. This kind of ‘environmental misconduct’ can be classed as cognitive dissonant behaviour. Maybe this is one reason why ecotourism is not perceived as an automatic tool that guarantees protection or restoration of the non-human environment or, as McIntosh *et al.* (1995, p. 370) put it, “... a form of travel that *responds* to a region’s ecological, social, and economic needs [emphasis added].” Ecotourism is rather interpreted as a ‘softer’ and ‘alternative’ form of tourism, which utilises the natural (and cultural) environment in a way that does *less harm* to the environment by leaving a smaller ‘ecological footprint’ (Wackernagel and Rees 1996) than other forms of tourism. The following quote reflects this interpretation of ecotourism’s anticipated low impact on the environment:

Well I probably think things like doing night walks and making people go into the bush and letting them listen to a kiwi, maybe listening to a possum or showing stuff like that, that's not visible during the daytime [...]. Taking them to, yeah local secret places maybe, I don't know, depends, ... ()*

On the one hand, there appears to be consensus that the Coromandel exhibits spectacular natural scenery and an ecological environment that bears unique characteristics. These endowments are viewed as opportunities that favour ecotourism development, entailing a potential for *sustainable (and thus positive) growth*⁸⁸. On the other hand, most people are also aware of the possibility *to abuse* the situation by utilising the term ecotourism merely as a marketing tool and label. This realisation is reflected in the opening statement of Tourism Coromandel’s strategic plan “Tourism is both an

⁸⁸ The oxymoronic notion of ‘sustainable growth’ is elaborated in the next section (5.2.2).

opportunity and a threat” (Archibald and Board of Tourism Coromandel 1999, p. 5), as well as in the following quote, which resembles many statements made by ecotourism operators:

... like I said, there's a lot of people [sic] they're using eco to get a little operatives of the use of eco. They are not eco in the slightest; just it's become a real catchword. We must have it in our information and they wouldn't have the first bloody clue about really Nature terms [sic] is all about ().*

Because of the inconsistent and contrasting conceptualisation and operationalisation of ecotourism (see also *Chapter Six*), it is interpreted as a human activity that, just like any other form or concept of tourism, needs to set standards and comply with rules, if it wants to achieve sustainable tourism development. These opposing binaries of ‘convinced’ (that SD is achievable) and ‘concerned’ (that SD is unattainable), of ‘enthusiasm’ within the ecotourism industry and ‘scepticism’ amongst visitors, reflect a rough image at the macro scale of the general conviction regarding ecotourism’s potential to contribute towards sustainable tourism development in the Coromandel (Figure 21, p. 216). Whereas tourists (at least in theory) prioritise ecotourism’s responsibility and potential to protect the natural and cultural environment by conserving and preserving the ecosystem’s integrity (*Chapter Six*, section 6.2), the tourism industry focuses on the economic opportunity spectrum ecotourism offers, an attitude expressed in the title of Gilbert’s (1997) book “Ecotourism Means Business”.

Those community members not actively involved in ecotourism as a business, are indecisive whether sustaining the ecological environment or maintaining socio-cultural integrity for the communities should have highest priority in the ecotourism context. With the exception of one operator (quoted below), none of the involved, or affected parties expressed the notion that ecotourism could potentially contribute to the *enhancement*, or *restoration* of the quality of the natural (or ecological) environment. It can thus be concluded that *parties usually identify ecotourism as a passive measure to sustain the environment* rather than a proactive tool to improve the situation (Weaver 1998, p. 16). Referring to his/her proactive engagement as a ‘radical’, or ‘deep ecologist’ (my interpretation), or “keen conservationist” (* operator’s words), and discriminating between ecotourism and environmentalism, one well-established operator commented:

The whole concept of sustainability is not quite the right word. [...] As I said we are enhancing, we're not sustaining. Nothing much to sustain, we're enhancing, we are building it up; we are improving it all the time. The word sustainability belongs to already [pause] in areas in existing native forest, or eco systems shall we say that people want to exploit without damaging. That's where the sustainability comes in, [pause] argument, there's no such argument here. [...] We're building up you see, enhancing. ... Well we've nothing to sustain here you see, we are creating something worth sustaining ().*

The operator thus consciously makes a clear distinction between ecotourism as an educational experience and business enterprise on the one hand, and his/her work as a conservationist, or rather 'restorer' of the natural environment on the other hand.

The thinking of tourists (but not necessarily their actions, see *Chapters Six and Seven*) is rather sceptical of potential environmental benefits. With their views tourists lean towards the precautionary principle (O'Riordan and Cameron 1994; Rao 2000) within the *pessimisation paradigm*⁸⁹. By way of contrast operators are proactive, setting up and running ecotourism businesses, firmly anchored in their enthusiastic and optimistic vision of ecotourism's possible contribution towards sustainable tourism development. When it comes to evaluating the impacts of tourism development on their lives, the residential population generally makes no distinction between the different forms of tourism. In regards to ecotourism, residents have neither the business focus of operators nor do they experience any potentially destabilising effect or actual negative impact on the environment as customers. Rather than favouring economic growth, they are inclined to subscribe to the idea of a set system state within the *stabilisation paradigm*, which allows for sustainable management of a predetermined *status quo*.

In Orams's (1995, p. 4) continuous ecotourism spectrum the conceptualisation of ecotourism at the macro scale level tends towards the 'low human responsibility pole', and aligns with the 'passive contribution of ecotourism by minimising the damage'. Both sets of attitudinal and priority binaries are stereotypes that are located at opposing ends of a scale. As the discourse on system boundaries reveals (in section 5.3, as well as the meso and micro scale models in *Chapters Six and Seven*), attitudes and priorities in

⁸⁹ Schellnhuber's (1998, pp. 48-127) paradigmatic approach or concept of SD has been discussed in *Chapter Two*, section 2.3.2.

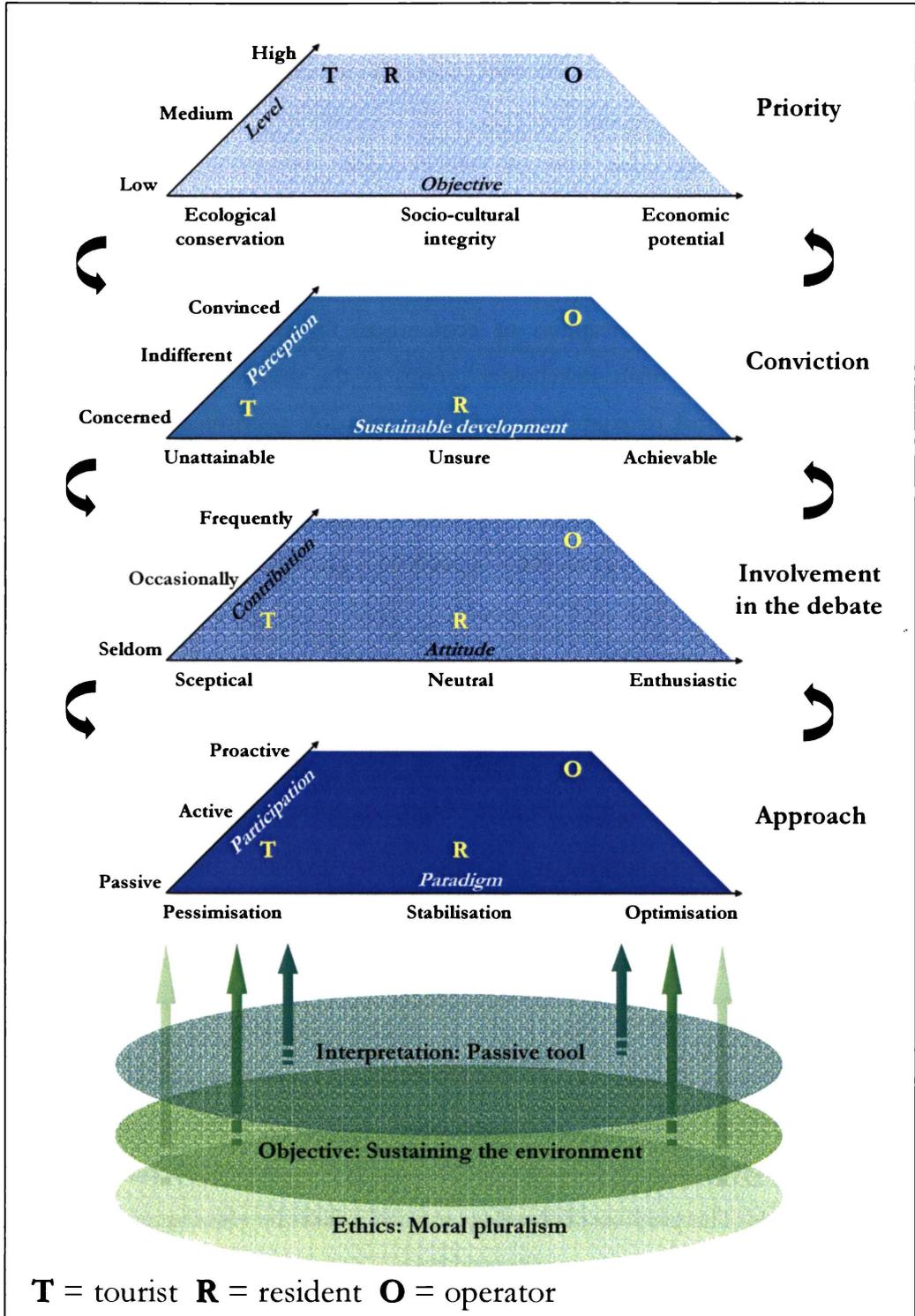
reality constantly shift. The extremes usually represent neither *continuous* ‘actual world’ perceptions of individuals or groups nor do they exist in isolation from each other. The text also outlines how the affiliation with a category can iteratively vary, i.e. tourists can and do become tourguides and residents, while residents may turn into operators, and operators may adopt the role of tourists. The perception, imagination and interpretation of specific activities and experiences associated with ecotourism are also modelled at the meso and micro scale level.

Summing up people’s conception of ecotourism, Figure 21 maps a momentary position of the three main stakeholder groups at the macro level with respect to ecotourism’s potential to contribute towards sustainable tourism development. The illustration captures a *static and approximate* snapshot of the continuous flux of people’s ideologies, attitudes, perceptions and priorities, oscillating between the *pessimisation* and the *optimisation paradigm* in a seven-dimensional phase–space diagram.

Three dimensions, or sectors, constitute the discrete spaces of the attractors’ basin: (1) The goal to sustain the totality of environmental development; (2) the interpretation of ecotourism as a passive measure to achieve this goal; and (3) the recognition of moral pluralism. Within these spaces the system’s dynamics are modelled in four continuous dimensions, or spaces, consisting of: (1) The different sustainability ideologies (the ‘paradigmatic approach dimension’); (2) the nature and level of participation (the ‘involvement dimension’); (3) beliefs and opinions (the ‘conviction dimension’); and (4) the level of importance regarding specific preferences (the ‘priority dimension’).

The position within each of these spaces is modelled regarding two main attributes, which emerge from the data. With the exception of the ‘level’ attribute in the ‘priority dimension’, which represents an interval level measurement on a nominal scale, attributes are given polar values plus an intermediate option on a nominal and/or qualitative scale. The purpose of the diagram is to reflect the *prevailing* position of the main parties within each space.

Figure 21 Conceptual patterns of ecotourism's contribution towards sustainable tourism development



The chosen scaling technique does not allow for an exact positioning of stakeholder groups; but instead it emphasises the *tendency* of stakeholders to occupy certain regions in a phase–space portrait, as well as their *relative position* – and thus their proximity, or distance to each other. Positions refer to the *nature* of the respective attribute, but not to a magnitude. Values represent the most common positions emerging from the data and are distinct, uni-dimensional and mutually exclusive (Sarantakos 1993, p. 70), but they are *not* exhaustive.

System trajectories (which are not included in the diagram) depend on relationships – and thus on processes and dependencies between the depicted dimensions, or spaces, as well as on their (possibly perceived hierarchical) order, or importance. The (imaginary) system trajectories represent an additional fifth continuous dimension, reflecting temporal changes of the system’s condition, while converging as attractors on the depicted point attractors. Reciprocal influences and their effects are modelled as network patterns at the meso scale level.

The sets of points marked in the diagram as T for *t*ourist, R for *r*esident and O for ecotourism *o*perator, represent ‘nested’ point attractors. In conjunction, each party’s positions in all four spaces constitute the system’s point attractors. While the greenish arrows depict the aggregation of multi-sectored cumulative influences on these simulation cells, the red arrows symbolise dynamic and reciprocal coupling between the spaces.

5.2.2 Sustainable Ecotourism Development

SETD in the Coromandel cannot be treated as an isolated issue concerning only ecotourism. The conceptualisation of SD in the ecotourism context is influenced by attitudes towards tourism development in New Zealand on the whole, and conforms to objectives stated in tourism strategy proposals at the national level (Tourism Industry Association New Zealand (TIA) 1999b). The theoretical grounding of sustainability and sustainable development in the Coromandel appears to be the widely cited Brundtland Report (World Commission on Environment and Development (WCED) 1987), with its emphasis on sustainable economic progress being transposed

onto the tourism sector. One answer from a ‘host for visitors’ (the respondent’s self-characterisation in the questionnaire) supports this interpretation and exemplifies the focus on economic development:

A financially [sic] self supporting tourism industry providing work and self employment as a result of natural assets that are provided by an environment that is not altered by farming or mining and is still in a natural state before the arrival of settlers (Anonymous, answer to Question Two: What do you believe ecotourism means?).

A comment made by the New Zealand Minister of Tourism confirms the emphasis on economic growth, while concurrently highlighting the abandonment of the purist version of Jafari’s (1988, unpub.; 1989, cited in Brown 1998, p. 5, and in Carlsen 1998, p. 250; Jafari n.d.) *advocacy platform* and a pragmatic *boosterism approach*, which “... focuses largely on tourism’s economic contribution and promotes it as a major means of development without considering any other factors” (Brown 1998, p. 5). The qualification of sustainable tourism development as an *inherently economic* endeavour is explicit in the minister’s statement:

The overall strategy will be focused on the sustainable development of the tourism industry – not just economically but environmentally, culturally and socially (Burton 2000).

At the local level the community’s well-being is also equated with economic growth in the tourism sector:

... [with] regard to the community well-being and the need to be able to develop economically and again tourism is very much a part of that (TCDC representative).*

The conceptualisation of SD in the ecotourism context in the Coromandel reveals awareness by all parties of the mandatory status the objective to achieve SD holds, here exemplified by one statement made by a local operator:

... you know it will kill the Coromandel if they start putting up huge high rises ...
(*).

Unlike many other economies, tourism economics, and in particular the enterprise ‘ecotourism’, is recognised as “... a wholly-known subsidiary of the environment”

(Wirth, cited in Raven *et al.* 1998, p. vi). One reason for an intensified ecological awareness might be the ‘fact’ that ecotourism economics provide direct feedback mechanisms that signal the degeneration/exploitation or maintenance/enhancement of resource bases. Presumably in contrast to other tourism sectors, an ‘ecological shift’ towards the *stabilisation paradigm* exists in people’s *consciousness*, with the emphasis on the *idea* of a “... satisfactory [...] coevolution of the ecosphere and the anthroposphere ...” (Schellnhuber and Wenzel 1998, p. VII). The potential of tourism development to be a blight or blessing is reflected in the following statement:

The presently booming tourist industry is both a blessing and a potential disaster for the wildlife and ecological values of the Coromandel (Brickell 1999a, pp. 31-32),

... while the next sentences highlight the move towards the stabilisation paradigm:

Good management can, however, allow for sensible and sustainable development without diminishing or destroying these wildlife values. The notion of exploitation is finally and at last becoming recognised as a monster of the past (Brickell 1999a, p. 32).

The *practical* focus remains, however, on the technocentric (Pepper 1984) and ‘weak’ (O’Riordan 1981; Pearce and Butler 1993; Turner *et al.* 1994) interpretation of SD as ‘continuable growth’ (Sharpley 2000, p. 2) within the *optimisation paradigm*. The notion to interpret sustainable development as ‘continuous growth’ in the *local* and *regional* context of the Coromandel has been characterised (or criticised?) as “Parochialism and self-interest ...” (Archibald and Board of Tourism Coromandel 1999, p. 7) by the RTO:

The community is protective of its special lifestyle and can be expected to resist significant changes, especially where conflicts between natural and built environments are perceived (Archibald and Board of Tourism Coromandel 1999, p. 7).

Modelling the conceptual *details* of SETD in the Coromandel on a macro scale also reveals, however, a *binary* and, in addition, *fuzzy* perception and conception of the idea of SD in the ecotourism context. The data (exemplified in the following quote) suggest that the common interpretation of ‘development’ is ‘positive economic growth’, which

is equated with ‘progress’ and results in polarised binaries of the oxymoronic synonym *sustainable growth*⁹⁰ for SD:

... achievement of the expected increased numbers of both residents and visitors will depend on the extent to which the special experiences of the Coromandel are protected – and promoted ... (Archibald and Board of Tourism Coromandel 1999, p. 6).

The next quote, taken from the questionnaire reflects the business owners’ conceptualisation of SETD within the *optimisation paradigm*.

One that works in harmony with the environment without changing, or altering its natural asset[s] and beauty so all can see it (Anonymous, answer to Question Four: What do you believe sustainable tourism development means?).

A comment made by a DoC employee reveals (and exemplifies) the two major issues people in the Coromandel have in mind, when considering beneficial and detrimental effects of tourism development. These are the *scale* (or quantity) and the *nature* (or quality) of development:

So I think it's [...] scale that worries people and also to make sure that the planners and the development is well planned so we don't actually spoil it [the environment] ().*

The *conceptual level* of both quantitative and qualitative aspects of tourism development is elaborated in subsequent paragraphs. The discussion is preceded by the theoretical underpinnings of SD. Irrespective of a particular perspective, or interpretation of SD, it is suggested that there are three main aspects comprising the *theoretical level* of SD. They are related to the questions of *why* SD is perceived as a desirable goal, *what* needs to be done to attain SD, and *how* strategies to achieve SD can be implemented:

1. The *intent* of SD, i.e. the specific purpose and objective(s) of SD, is based on the teleological account and reflects the *philosophical and ideological perspective*, which can be modelled within the paradigmatic approach of SD.

⁹⁰The idea that sustainability and continuous or infinite growth are contradictory terms if they appear in conjunction (Friend 1992, cited in Sharpley 2000, p. 2) is based on the neo-Malthusian paradigm in environmental or ecological economics. It has been suggested, however, that in open systems the Second Law of thermodynamics might not apply (Bertalanffy 1969; Prigogine and Stengers 1984).

2. The *means* to achieve prescribed goals and objectives, i.e. the defined measures, represent the adopted *methodology* to accomplish the set tasks.
3. Ways of applying prescribed *strategies*, i.e. feasible procedures to implement necessary steps, constitute the required *methods, tools and techniques* of SD.

The binary conceptualisation of SD in the ecotourism context is embedded in the answers to these three questions. The intention of SETD represents a fundamental teleological strategy and is best characterised by the quotes “Finding a balance” (Archibald and Board of Tourism Coromandel 1999, p. 7) and “*wanting the best*” (Schellnhuber 1998, p. 68). Whereas the first quotation reflects people’s recognition of what *should* be the primary objective of SETD in the Coromandel, the second statement is the predominant driver of people’s *actions*. Accuracy and validity of both findings are effectively qualified by two observations: (1) Interviewees commonly did not – neither in quantitative nor qualitative terms – specify what ‘balance’, or ‘the best’ stand for, and for whom (or what) they ‘want the best’. (2) The perceived phenomenon of cognitive dissonance furthermore limits the precision of the transformation process from expressed thoughts and feelings into action. Stating the goals and observed activities, or behavioural patterns are not always ‘mirror images’.

Nevertheless, a general conceptual pattern of SD goals and objectives does emerge from the study. In conjunction, the (opposing?) binary of *continued growth* and *protection of assets* is interpreted as a concomitant prerequisite for a maximisation of possible benefits. Individually, both concepts are based on an optimistic attitude and the assumption that ‘the best possible’ can actually be achieved, thus approximating the *optimisation paradigm* (Schellnhuber 1998, p. 67).

There is a notable difference in the way these two objectives are conceptualised. Whereas ‘sustainability’ is equated with ‘protection’ (i.e. preservation, conservation and segregation⁹¹) in a qualitative sense, ‘development’ is interpreted as ‘continuous growth’. Growth in turn is quantified in terms of anticipated visitor numbers and

⁹¹ Schellnhuber (1998, p. 100) argues that segregation “... aims at a stepwise *disentanglement of nature and civilization* ...”.

behavioural patterns of tourists (such as the number of visitor nights, choices of accommodation types, seasonal booking patterns, expenditure habits and activity preferences), as well as increasing profit margins and revenue. The desired qualitative objectives within the ‘protection goal’ are *unspecified* limitations and restrictions (Archibald 1999, pers. comm.). They are broached in the next but one paragraph and modelled at the meso and micro scale level.

Within Schellnhuber’s (1998, p. 67) overarching *optimisation paradigm*, in the Coromandel defenders of the quantitative equation ‘development = growth’ subscribe to the *standardisation paradigm* (ibid., p. 56). They suggest a controlled coevolution of economic and ecological landscapes, based on the establishment of absolute norm values and set standards. Concurrently cultural and historic landscapes play only a minor role in ‘sustainable development thinking’. The Resource Management Act 1991 (RMA) is instrumental in seeking to achieve these goals (page 254). However, the comment below reflects the notion amongst some operators that the RMA does not accomplish its objectives. The second part of the quote further demonstrates how ‘politics’ in the Coromandel work (or rather not work) in the eyes of some of the tourism operators:

Have you driven into Pauanui? When you drive in there you’ll get an idea of where the resource management bill is not working [...] All creeks, and I’m pretty sure this is in the Resource Management Act, all waterways and creeks are supposed to have a buffer zone and these guys are felling them right to the creeks, right to the swamps everywhere ...

If you owned ten acres of land yourself and you want to put in a road you’ve got to go through the Resource Management Act, but the big boys they can do whatever they bloody want ... ()*

Two additional ‘sustainable development paradigms’ are noticeable in the Coromandel. The periodically recurring *pessimisation paradigm* tends to emerge temporarily during the peak season, and is notable especially amongst residents and visitors in – then crowded – tourist centres. The *pessimisation paradigm* is based on the precautionary principle and the wish to ‘prevent the worst’ (Schellnhuber 1998, p. 75). This attitude is reflected in visitors’ and residents’ perception and interpretation of peak season landscapes. The second supplementary paradigm can be attributed in particular to those Māori

representatives who promote intra- and inter-generational needs by ascribing to principles of ‘fairness’, ‘justice’ and ‘equity’. This call for comparative endowment with resources and opportunities is an ongoing yet marginalised demand in the tourism context, especially amongst Māori and small-scale business entrepreneurs. Comparative endowment is characterised by the *equitisation paradigm* (ibid., p. 87). Those (business) parties who subscribe to the *equitisation paradigm*, also frequently advocate *ecopreneurship* (Collier 1999), and embrace the notion of conceding intrinsic worth to non-human and inanimate elements of the natural environment.

The answers to the two remaining questions regarding the methodology and methods to achieve SD are conceptualised in a rather unspecific way. Quantitative measures are the common *theoretical* approach to *restrict* tourism development, e.g. limitation of visitor numbers, numbers of tour groups and group sizes, restricted access to sites, conditions for site developments, building codes, etc.. However, recommendations on ‘what to do’ fall short of the ‘prescription’ of concrete figures and actions. Some *practical* methods to implement set standards (i.e. limitations, restrictions and other conditions) have been developed by DoC (1996; q.v. *Chapter Six*, section 6.4.6), but lack cooperation and collaboration with the tourism industry (*Chapter Six*, section 6.4.1). By defining *environmental quantities*, or *aggregated functions* as *sustainability indicators* (Schellnhuber 1998, p. 58), both the theoretical approach, as well as the practical implementation, are based on the *standardisation paradigm*. The discrepancy between theory and practice amongst ecotourism business owners, tourists, residents, and public as well as private organisations will be more closely examined at the meso scale level. There is, however, general agreement over the fact that (tourism) politics in the Coromandel lack vision and ‘drive’ when it comes to planning and implementing sustainable development strategies. One operator doubted the general feeling that tourism development can only be managed, but not planned, or influenced in terms of tourist numbers visiting the Coromandel:

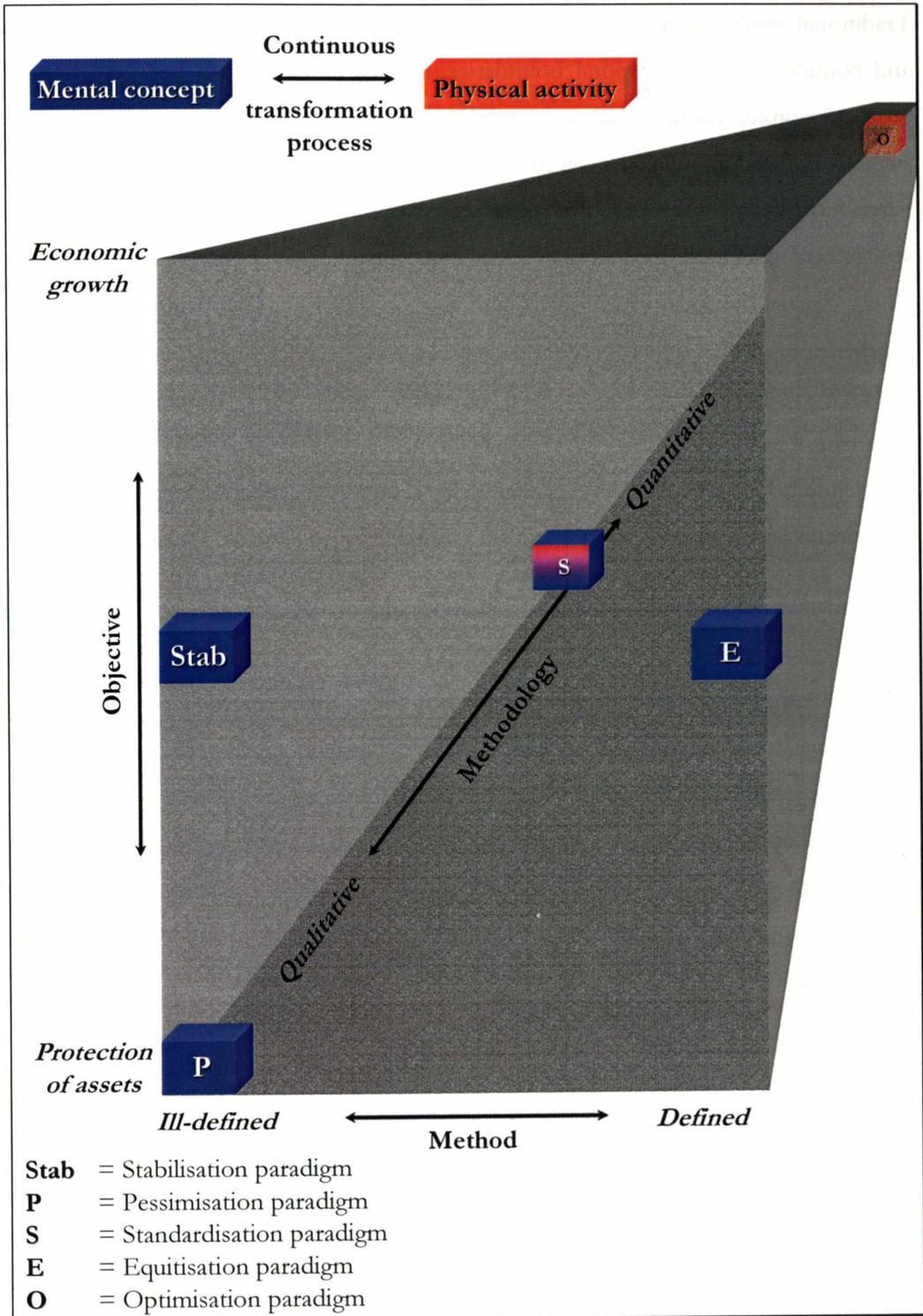
This is absolute crap that we cannot have an effect on the numbers of people here, but like I said to you before, it's up to the local bodies, they must really take some responsibility as to say where, how much more development are we going to have,

because you see if you control development, you control how many people are going to be in the Coromandel ().*

Figure 22 depicts the realisation of the five paradigmatic approaches to SETD in the Coromandel at the macro scale level. Within the national objective of sustainable tourism development, which represents the discrete space of the attractor's basin (and thus the whole cube), the five paradigms occupy different spatiotemporal patterns in phase-space. Modelled in the four continuous dimensions of 'objective', 'methodology', 'method', and 'activity', the illustration of partly coinciding paradigms demonstrates that these philosophies exist neither independently nor completely separately. Instead, they possess overlapping characteristics and share attributes and values in their application, as well as influence each other in the Coromandel. Point attractors (the cubes) characterise each paradigm's prevalent position in the phase portrait. The figure depicts a stereotype situation frozen in time, which in reality is in constant flux. The crossing of boundaries is discussed in the next section (5.3.2), while the reasons for members of particular parties to subscribe predominantly to a specific paradigmatic approach of SETD are studied in the meso and micro scale models.

Within the *optimisation paradigm* (O), adopted foremost by the tourism industry, well-defined quantitative measures like marketing strategies are used to promote economic growth. The *pessimisation paradigm* (P) practically represents the opposite position, and reflects foremost ecotourists' imagination of SETD in the Coromandel. DoC is the *active* placeholder of the *standardisation paradigm* (S) by issuing concessions and setting limits (*Chapter Six*, section 6.4.6), whereas private bodies like Tourism Coromandel predominantly promote (but neither conceptualise nor implement) the establishment of absolute norms. The RTO could thus be labelled as *passive* placeholder of the *standardisation paradigm*. Iwi support a community-based approach, advocating equal opportunities and participation within the *equitisation paradigm* (E). However, they also subscribe to the economic growth concept within the *optimisation paradigm*. Attitudes within local communities reflect a 'limits-to-growth' philosophy (Meadows *et al.* 1972; 1995) by favouring the idea of stabilising development within the *stabilisation paradigm* (Stab).

Figure 22 Positioning of paradigmatic approaches to SETD in the Coromandel



5.3 Boundary Patterns

Traditional system analysis would, as a first logical step, demarcate the system's discrete and continuous spatiotemporal boundaries, as well as distinguish between physical, socio-economic, cultural, political, etc. environments (Figure 4, p. 25). The data suggest, however, that *any* system boundaries are 'figments of imagination'. Environments are arbitrary references to surroundings (Leiper 1997, p. 160), and spaces can reflect artificial demarcations between the 'Same' and the 'Other' (Philo 1992). Spatial boundaries thus do not cater for the 'Other' within the 'Same'. Furthermore, both – environments and spaces – only exist as static snapshots of the system's evolutionary condition in phase-space. The division into categories is a legitimate method for focusing on subtopics, but "... the distinction is artificial for, in reality, the boundaries between the categories are indistinct and their contents merge" (Mathieson and Wall 1982, p. 3).

The previous two sections (5.1 and 5.2) have shown that the conceptualisation and operationalisation of ecotourism and SETD in the Coromandel represent *dynamic* patterns rather than static descriptions, normative prescriptions, or standardised definitions. In this section it is argued that these patterns not only reflect an evolving – and thus continuously changing system but furthermore an *open* system. Its boundaries can be described as permeable, temporary and fluctuating, existing in an n-dimensional phase-space where the 'Other' meets the 'Same' (represented by the binaries inside the arrows in Figure 23 and Figure 24). "*This involves recognizing the presence of the Other within the space of the Same*" (Gregory 2000b, p. 770).

As in any pattern existing in the social, or the ecological realm, "... the crucial dimension along which [irreversible] changes occur is time" (Byrne 1998, p. 14). Figure 23 depicts *general* categories that influence perception and interpretation of 'real world' phenomena, while Figure 24 shows *specific* ecotourism related boundary patterns. The arrows indicate distinct *abstract* categories that 'feed' the perception, imagination and interpretation of phenomena. The text inside the arrows signals the confluence of subcategories in 'real life' situations. Examples of 'blurred borders' between the

a tourism product and service, be it a structure, an activity, or an experience. Ecotourism and SETD in the Coromandel comprise conceptual and operational phenomena, which exist in different dimensions and have many interconnected facets and forms:

- In the environmental context: The natural scenery and the socio-cultural environment as resource bases, or tourist attraction nuclei
 - The geological, geomorphologic and ecological environment, as well as the cultural and historic heritage
- In the personal context: Physical activities, encounters and experiences
 - From the tourists' perspective: Nature and culture-based, recreational, as well as educational activities and experiences: For example Nature observation, sports, as well as adventure and thrill seeking activities (*Chapter Six*, section 6.2.1)⁹²; participation in traditional arts and craft manufacturing; engagement in restoration, conservation and preservation projects; experience of and involvement in cultural encounters
 - Promotional endeavours from the business perspective: For example as marketing strategies and networks, as labels on means of transport, as brochures and pamphlets, or as marketing and sales tools on Internet websites in cyberspace
 - The application of economic concepts within business operations, resulting in activities and physical structures, as well as mental concepts
 - From all stakeholders' perspectives: In the anthropological, or ethnographic context as a means of socio-cultural exchange

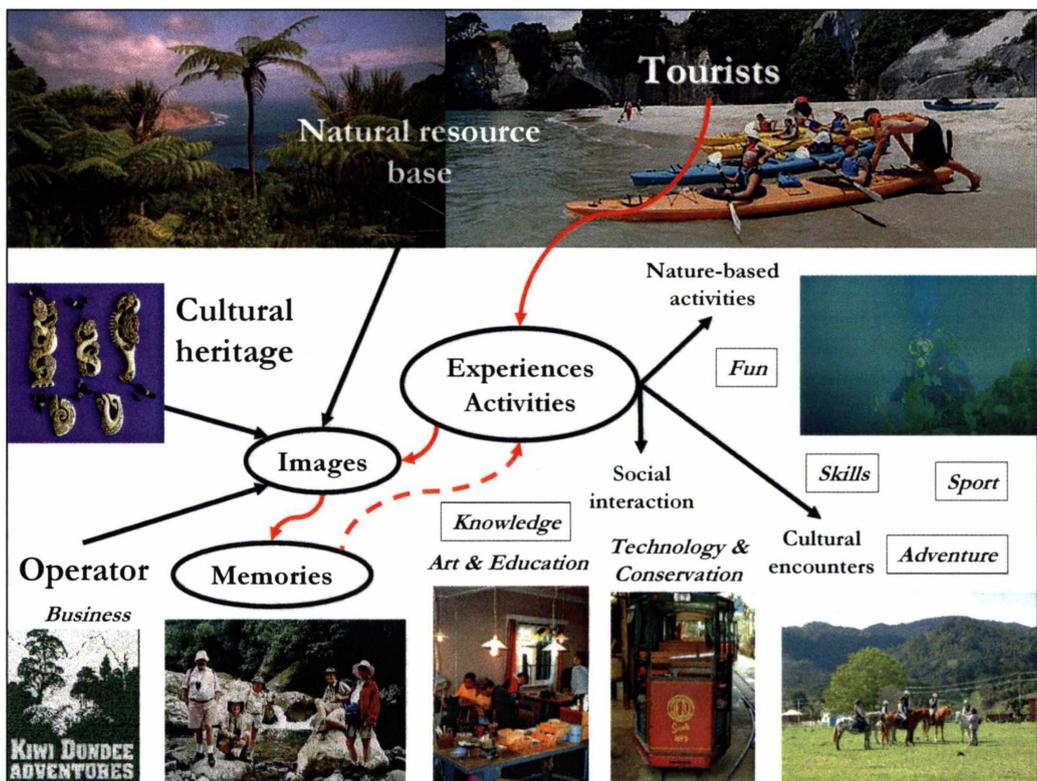
⁹²This observation contrasts with some of the definitions found in the academic literature, which suggest that adventure tourism and ecotourism, as well as certain aspects of sport tourism represent different facets of Nature-based tourism (Wearing and Neil 1999).

- In the institutional context: As regulatory frameworks, viz. policies, codes and guidelines, permits and concessions
- As mental concepts and experiences:
 - In the form of perceptions, imaginations, interpretations, and recollections, or memories of activities, encounters and experiences
 - As ideas, assumptions, hypotheses, theories and philosophies regarding the conceptualisation and operationalisation of ecotourism and SETD
- As physical *and* mental processes:
 - In the form of relationships and interactive processes amongst all parties involved, or affected by ecotourism, resulting in thinking, feeling, willing and behavioural patterns
- As the physical structures of ecotourism and SETD: For example booking, accommodation and other business facilities, means of transport, walking and biking tracks, campgrounds, outdoor gear, operators, tourguides and other employees, tourists, etc.
- As emergent dynamics and patterns, i.e. the combined effects (section 5.4) of complex phenomena like ecotourism itself

The appearance of ecotourism and SETD as theoretical (or mental) and practical (or physical) phenomena does not occur in isolation. On the contrary, the different aspects, or parts are interrelated and interconnected, linked via dependencies and interactions (Figure 25). The depicted aspects of ecotourism and SETD are furthermore linked to and influenced by ‘externalities’, i.e. by ‘the rest of the world’. Focusing on the (eco)tourist, the graphic exemplifies the complexity and different dimensions of ecotourism as an emerging phenomenon. The figure shows how images and memories are created as a result of physical activities, cultural experiences and social interaction. The ‘embodiment’ of ecotourism and SETD eventuates in the *structural, functional and interactive* configuration of the system. Initially, it is the structural

variable that enables the researcher to experience ecotourism and study emerging dynamic patterns of relationships and processes. Before the idea of a fluctuating permeable pattern, as opposed to rigid system boundaries, is justified by delineating the boundary dynamics, a portrayal of the *main* system structures and their functions follows next. It serves as a mental aid that enables the researcher to visualise and study ecotourism and SETD as phenomena.

Figure 25 Ecotourism as an emerging phenomenon (images from Thorne 1998a; 1998b; Thompson and Roberta 2002; Johansen and Poole n.d.-a; b; Krewitt n.d.; Pacific Coast Highway Marketing Group n.d.; Robson n.d.; Walker n.d.)

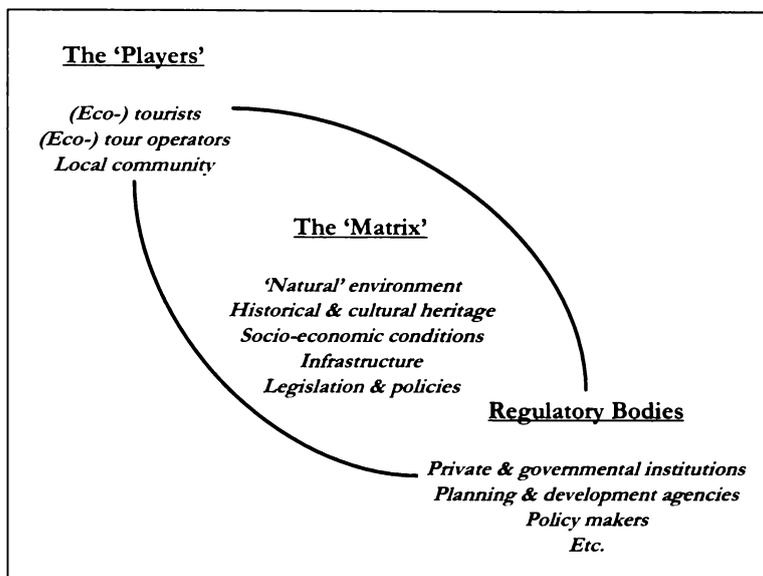


Ecotourism and SETD in the Coromandel can be described as remarkably *simple systems* with regards to the status (i.e. presence and functionality⁹³), quantity and configuration (i.e. location and distribution) of the phenomena’s *main system structures* at the macro scale level. They comprise the *visible* parts of the systems and their subsystems.

⁹³The sheer presence of ecotourism and sustainable tourism development does not by itself reveal anything about the phenomena’s influences and their relevance in regard to the system’s dynamics. Power relationships, as well as interactions and their significance for the system’s condition are modelled at the meso scale level.

Depending on the perspective, the ‘visibility’ and the ‘angle’ from which these structures are viewed varies. Tourists would perceive a different part of the spectrum than for example policy makers, local residents, or operators. Both phenomena are here treated as *one* system. Figure 26 depicts the key structural components from the researcher’s perspective in a simplified way. The graphic visualises the existence and interdependency of relevant structures, *without* specifying the links between the individual parts, and *without* differentiating between their spatial distribution, temporal presence, overlapping and changing boundaries, or the structures’ systemic influences.

Figure 26 The main system structures



Components and certain properties of the ecological (or ‘natural’) environment and the historical-cultural heritage, the juridical and socio-economic conditions, as well as the infrastructure are identified as the structural matrix of the system. The matrix also consists of those individual structures that bear direct and indirect links to ecotourism and SETD. Human agency is the fulcrum and *key driver* of the entire system. Only those properties of structural variables that are relevant to the understanding of macro scale system dynamics are specified in the following paragraphs.

Specific structural – and thus functional *keystone players* who – to a large extent – determine the system dynamics, are ecotourism enterprises, ecotourists, eco-

attractions, and other ecotourism related products. As aforementioned (*Chapter Three*, section 3.2.3), there are only between a dozen and twenty⁹⁴ ecotourism operators who perceive, as well as market and operate their tours and other products as *explicitly and exclusively* ‘eco’. The majority of these – exclusively ecotourism – operators offer Nature-based activities as their main (or only) service product. Some of them are physically situated in the Coromandel (i.e. are part of the residential population), whereas others operate ecotourism ventures from outside the physical and political boundaries of the Peninsula. Only a tiny proportion of operators either combine different goods and services or focus on the accommodation, or transport sector as (self-identified) ecotourism products.

The majority of ecotourism enterprises state, however, their engagement in ecotourism *implicitly* by relating their product range to ‘sustainable’ or ‘Nature-based’ forms of tourism. Concurrently they might offer additional tourism related goods and services outside the ‘eco’ label. Whereas most of those ecotour operators who live in the Coromandel, rely on tourism as their primary and often sole income source, some of the owners of enterprises who operate from outside the Coromandel, are part-timers and have second occupations/jobs, or other supplementary income sources.

The following picture of a biological cell is employed as a metaphorical analogy to describe (organismic) processes, relationships and emerging patterns that characterise the structural dynamics of ecotourism and SETD in the Coromandel at the macro scale level. A living cell is dependent on certain quantities and specific qualities of food, which enable it to thrive. If standards are not met within given limits, the cell’s osmotic pressure changes, and it either begins to shrivel or it bursts. The cell might be able to protect itself from external hazards via an impermeable coating, surviving nutrition deficiencies for a while in a state of suspended animation. The dormant phase is a temporary recess from its active lifestyle, in its attempt to survive either toxic levels or the deprivation of nutrients.

⁹⁴The processes responsible for the fluctuation in numbers are modelled at the meso scale and micro scale level.

From this *organismic* perspective, SETD is an *open system* that requires ‘food’. Just like a living organism, it needs, in order to exist, in certain intervals the right kind and the correct amount of external input. From a structural and functional perspective the system’s input consists foremost of tourists. The resulting foreign exchange plus national receipts represent, so to speak, the system’s food intake. Absolute numbers of visitors, their occurrence and frequency (i.e. their spatial and seasonal distribution), as well as their attitudes, spending habits and other behavioural patterns, are, simultaneously with the behaviour (in the systemic sense) of ecotourism operators, the predominant factors that *directly* and *instantly* influence the system’s ‘metabolism’, or dynamics.

The typical case scenario for ecotourists is the temporary identification with the ecotourism market segment *while* they are participating in an ‘eco’ package tour. In addition, quite a few tourists perceive themselves as ecotourists, no matter whether they are part of a booked group tour or travel as free and independent travellers (FITs). Self-declared FIT ecotourists typically engage in fewer, if any, commercial activities requiring bookings than their counterparts, who prefer to participate in ecotourism as members of a (guided) group consisting of other tourists besides their own travel companion(s). A third type of tourist participates in ecotourism activities (which may or may not be labelled as such) *without* identifying her- or himself as ecotourist.

The ecotourists’ place of origin does *and* does not reflect the general tourism trend in the Coromandel. While the outlook for domestic tourism is less optimistic than for international tourism development, nationally it still accounts for more than half of tourism’s total contribution to the GDP (Tourism Industry Association New Zealand (TIA) 1999a). The majority of ecotourists in the Coromandel are, however, international holidaymakers. Within the international market, ecotourism *does* stick to the general segmentation pattern (CM Research *et al.* 2000), relying predominantly on visitors from the UK, Australia, Germany and the USA.

The main ecotourism attractions are the natural resource base and the Māori cultural heritage in the Coromandel. From the ecotourist's point of view the Peninsula possesses three main attributes, which define the region as a desirable and enjoyable ecotourism destination: The perceived beauty of its natural scenery, the perceived natural state of the environment (and thus its 'wilderness' character⁹⁵), and to a lesser degree its Māori and Pākehā cultural and historic heritage. The predominant sites displaying these characteristics are forest parks, marine parks and reserves, which are managed by DoC (Trevor 2000, pers. comm.), as well as many of the public beaches. The role DoC plays in the ecotourism context is addressed in *Chapter Six* (section 6.4.6). In addition, there are also some larger private properties that bear the qualities mentioned above and are presently managed as forests, pastures or agricultural farmland (*Chapter Six*, section 6.4.5).

In contrast to most of the definitions suggested in the academic literature, ecotourism in the Coromandel is not restricted to Nature-based activities, or experiences that focus on the ecological environment. Nature-based activities and, to a lesser degree, cultural activities, based on Māori traditions, as well as accommodation provisions and transport services, comprise the bulk of ecotourism related products. Ecotourism also includes sports activities, thrill seeking and adventure tourism enterprises, the visit of culturally important sites, as well as the participation in, or experience of traditional cultural activities. The discrepancy between the implied meaning of ecotourism amongst academics (Beaumont 1998) and ecotourism practice in the Coromandel is highlighted in the meso and micro scale models. Using Dowling's (2001, p. 290) definition of 'environmental tourism' in a broad sense, I believe it is fair to say that, on a large scale, this term reflects a more accurate description of what people perceive and experience as ecotourism in the Coromandel. According to Dowling (*ibid.*) environmental tourism is not restricted to the *use* of physical and cultural spaces, but furthermore imparts environmental knowledge and includes applied environmental ethics. In Dowling's (*ibid.*) view environmental tourism is:

⁹⁵ Equates to 'level four' in Higham's (1998a, p. 29) 'New Zealand wilderness environment continuum and the four levels of wilderness'.

- Tourism *in* the environment
- Tourism *about* the environment (including the cultural environment)
- Tourism *for* the environment

Nature-based ecotourism includes a variety of land and water based activities and experiences. Cultural ecotourism in practice⁹⁶ is at present limited to regular carving activities and occasional, or rather sporadic guided and explanatory tours, visiting archaeologically, culturally, or spiritually significant sites. In the accommodation and transport sector, there are less than half a dozen service providers (*) who equate their tourism product with ecotourism. They are interpreted as additional *key variables* in the next paragraph.

Further structural, as well as functional *key variables*, which are associated with, but do not focus on, or specialise in ecotourism, include a range of *operational components* that supply the market and satisfy the demand (foremost service providers in the accommodation and transportation sector). Using a ‘green’ label, some regional coach line and minibus operators, as well as a few multiple star luxury lodgings are the representatives of this category.

Promotional structures, such as information, marketing and sales distribution networks, which create, foster, sustain and manage the demand, represent a second group of key variables. Their interaction with tourists is modelled in *Chapter Six* (section 6.2). In the Coromandel such structures are foremost Tourist Information Centres, which are located in all major towns on the Peninsula. Internet websites are another medium that operators employ to interact with tourists. Digital information is stored in cyber space, and is thus theoretically accessible from ‘anywhere’. Information on ecotourism in the Coromandel is also available in some other places outside the regional boundaries of the Peninsula, and in particular in Auckland. DoC visitor centres do not focus on marketing, but instead put the emphasis on the provision of factual information

⁹⁶ Local Māori initiatives would like to expand the range of culture-based ecotourism products (*Chapter Six*, section 6.4.4).

regarding the ecology of protected areas, campgrounds, huts, tracks, and other facilities managed by DoC (*Chapter Six*, section 6.4.6).

A *planning segment* focuses on research, planning and development of tourism. Public authorities and private sector organisations at national, regional and local level fall into this category. Legislative, jurisdictional and executive organs, as well as industry-driven regulatory frameworks, comprise the *administrative and controlling bodies* of the system. The last two categories are represented by TCDC, the RTO Tourism Coromandel, DoC and the Hauraki Māori Trust Board.

A group of *secondary structural variables* comprises individuals and organisations that have an active interest in, are involved in, or are affected by tourism in general. They *may* have an input in, i.e. direct or indirect links to ecotourism and SETD in the Coromandel. Grassroots initiatives, like Coromandel Watchdog of Hauraki, an activists' conservation group that began as an environmental anti-mining group, other tourism related businesses, the Coromandel Taxpayer Association, the permanent and semi-permanent population as well as various Hauraki iwi fall into this category.

A group of internal and external *oblique*, or *hidden* structural variables (section 5.3.4), which can indirectly but also directly influence the system's dynamics, is comprised of a diverse range of elements. Friends and relatives of previous and current tourists fall into this category. Apart from people, processes that determine national and regional socio-economic and political circumstances of the ecotourist's place of origin can be influential, but may remain unknown. Human actuated alterations of the natural environment, as well as natural hazards that change the environmental conditions in the Coromandel temporarily or permanently, are further examples of hidden, or oblique external factors.

Apart from those few operators who focus exclusively on ecotourism as a source of income, and who constitute only a marginal segment within the system's keystone players, the majority of structural variables are intrinsically linked with (and dependent on) the overall tourism development in the Coromandel. However, even these few exceptions do not exist in a void. Any changes in the development of tourism in the

Coromandel, does have implications for their businesses as well. As a matter of fact, the meso and micro scale models (*Chapter Six*, sections 6.3 and 6.4, and *Chapter Seven*) reveal how these operators can exert their *own* (over-proportional) influence on tourism development at the local level.

5.3.2 Spatiotemporal Flows: Vanishing Borders

The geographical and administrative borders of the Coromandel have been identified in *Chapter One* (section 1.1). However, the appearance of ecotourism and SETD in the Coromandel stretches far beyond any social, political and economic, as well as physical boundaries and mental constructs located on, or in the vicinity of the Peninsula. The phenomena's appearances fluctuate in a spatial and temporal, as well as conceptual sense, while internal as well as external 'boundaries' in phase-space are constantly being permeated – and thus shift. The pattern of boundary dynamics at the macro scale reveals complex and chaotic, as well as simple and regular behaviour. The contiguity between boundaries can result in 'crossing over' effects. (Ex)changes and their *chiasmata*⁹⁷ at system boundaries are either the result of a conscious choice or they reflect an involuntary 'leak'. Roles and positions are neither fixed in time or space nor in the human mind as the following examples demonstrate:

The most obvious expansion and contraction of boundaries occur as seasonal patterns during the holidays and the low season respectively. Seasonal dynamics have been outlined in *Chapter One* (section 1.1). From the industry's viewpoint, ecotourism in the Coromandel expands its conceptual and operational boundaries beyond the Coromandel during peak holiday times, when ecotourism businesses from outside the physical boundaries of the Coromandel operate on the Peninsula. Periodicity of quantitative peaks and troughs in the demand for supplies (i.e. for ecotourism goods and services) is accompanied by the adaptation of providers (i.e. the emergence of new and the expansion of existing business ventures). Periodicity in the Coromandel correlates with the general seasonality pattern of tourism development in New

⁹⁷ 'Crossing over' and *chiasma* (pl. *chiasmata*) are two terms borrowed from genetics. 'Crossing over' and its effects refer to the event and the results of processes that characterise the exchange of DNA, while *chiasmata* mark the location at which paired chromosomes remain in contact after 'crossing over' during the process of meiosis.

Zealand, which is influenced by known internal and external dynamics (Collier 1997, p. 167). Reoccurrence, regularity and linear causal relationships equate to a regular, cyclic and predictable oscillation of boundaries, as well as a crossing of the conceptual, structural and functional boundaries of ecotourism and SETD in the Coromandel.

Examples of boundary shifts are part-time ecotour operators who live outside the physical and political boundaries of the Coromandel. During low season or due to a lack of bookings, they may travel in the Coromandel as domestic visitors (as excursionists or as tourists), stay in the region as temporary residents (for example as bach⁹⁸ owners), or visit friends and relatives as VFR tourists. Other examples are international tourists who return and settle in the Coromandel as permanent residents. Then there are tour operators who, now as friends, visit former clients in their home countries, combining the trip with promotional activities. And finally there are tourists who become tourguides, or start their own business:

A lot of friends that come particularly from Germany you know come over here and visit, find they like it and stay for much longer than they originally intend. Some marry here so they become citizens of New Zealand and they've always got good input (representative of the 'Combined Taxpayers Coromandel' association).*

Others – for example students at local language schools – fall into several (tourist or visitor) categories simultaneously. As the example of one tour operator shows, even language schools themselves can have an (indirect) influence on sustainable tourism development:

Right, ok. My beginning of tourism started probably ten years ago when I was involved with setting up a language school programme for foreign students, so that's when it started 'cause I had to set up different operators around the area to help participate in their outdoor activity programmes. So then I started to realise that tourism bringing into the Coromandel [sic] it would be nice to keep it on a small scale, rather than on a huge scale ().*

Conversations with tourists suggest that some international tourists – in particular 'backpackers' – take advantage of the Peninsula's closeness to Auckland by travelling to the Coromandel 'accidentally' a few days before their scheduled flights home. Rather

⁹⁸ New Zealand English for holiday home, or cottage

unexpected, unplanned, and unarranged, they might temporarily cast the part of ‘ecotourists’ (page 270). It is argued that due to these spatial and temporal flows and ‘crossing-over’ effects between and amongst groups of involved, or affected stakeholders, concepts like Pretty’s (1995) ‘typology of participation’ can only reflect a snapshot of the situation by artificially creating static categories. Such models do not cater for multifunctional and varying roles people are engaged in. Ecotourists themselves are not necessarily *only* ecotourists. The case study conforms with Blamey’s (1997b, no pagination) finding that “ ‘Ecotourists’ are often found within the ranks of mainstream travellers, ...” (*Chapter Six*, section 6.2).

Occupying a place within *different* spatiotemporal patterns in the system, I am but one example of the ‘multifunctionality’ and ‘interactivity’ of ‘structural variables’ and their opportunities to cross boundaries. While I worked as a study and adventure tourguide, accompanying tours to New Zealand for German companies, I resided outside New Zealand. In my spare time and between ‘tours’, I travelled in the Coromandel as an international visitor and FIT. These tours triggered my family’s emigration to New Zealand. With a work permit and contract in my pocket, we began our New Zealand ‘adventure’ by cycling around the Peninsula. During this trip I perceived myself as an ecotourist. Years later, after having obtained permanent residency, I now visit the Coromandel as a researcher and as a domestic tourist.

Figure 27 exemplifies the almost infinite number of possible and actual ‘metamorphoses’ that are interpreted as ‘boundary crossings’. The illustration depicts a case of temporal, spatial and functional boundary crossings that are reversible in principle: The ‘identity’ of a canoeing ecotourist changes when he takes up a (maybe temporary part-time) position in the hospitality sector as a waiter. The last two clips symbolise his ‘final’ role as a new resident within the local community of his original tourist destination.

Figure 27 Spatiotemporal flows: Vanishing borders (clip art from Microsoft Corporation 2002)



While the figure depicts a hypothetical boundary shift, ‘real world’ examples are the owners of a backpacker hostel who bought the business only recently:

We were really both looking for a change of career and we didn't really know what we wanted to do so we went out for dinner one night and we discussed it and we decided having worked in the jobs we had where we worked with people that were very difficult to please sometimes [...] that we really would be ideally suited to the hospitality industry and we knew nothing about hotels, motels [...] we vaguely were aware that backpackers [existed] ().*

Boundary crossings – and thus the transformations during phase transitions, can occur rather abruptly *or* gradually. An operator, whose business becomes economically unviable – and there are a few of them (*Chapter Six*, section 6.4.1) – represents a critical point in the system's condition leading up to a systemic ‘catastrophe’⁹⁹ for parts of the system or for the system as a whole. New entrepreneurial initiatives evolve and may thrive only for a season. These occurrences and accompanying threshold values in relationships and processes, which result in altering and alternating structural and functional boundaries, are modelled and exemplified at the meso and micro scale level.

⁹⁹ Faulkner and Russell (2001) differentiate between self-inflicted *crises* and exogenously caused *disasters*.

5.3.3 *Perspectival and Positional Inconsistencies: Chiasmata and Lead-Lag Models*

What's in a name? that which we call a rose/By any other name would smell as sweet (Shakespeare, cited in Barrow 2000, p. 21).

That a label can deceive and an activity, or experience be sometimes 'just' tourism even if it is called ecotourism (and *vice versa*), is reflected in Shakespeare's poem. Boundary patterns between and amongst structural variables do not only possess permeable borders that can be transcended. The borders themselves can be fuzzy and ill-defined. *Within* discrete structural categories borders are pervious; they can shift and even vanish. This is the case when people concurrently 'wear different hats' and assume various parallel roles (Figure 28). There are ecotour operators who, at the same time, also play an active role within the RTO Tourism Coromandel. Furthermore they have interests and needs as residents, which might (and do) differ from those as tourism business entrepreneurs. In these instances, expressed thoughts do not always coincide with actual activities. The actions of individuals thus become complex and unpredictable; the *chiasmata* being characterised by a constant flux of interests, needs and behaviour. In Figure 28 the person in the centre symbolises an ecotourism operator who wears different hats simultaneously. As an *entrepreneur* s/he is interested in maximising profits. As a *resident* s/he might support ecologically detrimental decisions in order to create local jobs; while her/his environmental awareness might result in an active engagement as a *conservationist* in preservation and restoration projects.

The 'generalised' situation depicted in the figure is backed up by 'real world' examples. One of those is a local resident and former operator of a farm bike safari venture who is about to launch a sea-kayaking (ecotourism) enterprise, while concurrently managing a motel (*).

Figure 28 *Chiasmata* and lead-lag models (clip art from Microsoft Corporation 2002)

Tourists themselves can also adopt multifunctional roles. The implied binary in The World Resources Institute's (1991) heading (“Do’s and Dont’s for Environmentally Conscious Ecotourists”) is reflected in activity patterns of (eco)tourists in the Coromandel. Ecotourists are neither ‘automatically’ nor inherently environmentally conscious tourists. There are visitors who only think and behave as ecotourists *during* an activity or experience interpreted (by them) as ecotourism. While they are in the Coromandel, ecotourists might also engage in other tourism activities that are not ‘classed’ as ecotourism. ‘Participant observation’ suggests that – depending on their immediate interests and pursuits – behavioural patterns of tourists vary, for example in terms of consuming goods, littering, or disturbing wildlife.

In respect of businesses, there are opportunistic ecotour operators who have shifted their business into the ‘green zone’ for economic rather than attitudinal reasons regarding the ecological and cultural environment (*). Some of them ‘talk deep ecology’, while practising both the ‘leave no traces but your own footprints’ message in remote bush areas, as well as ‘mass tourism’ by taking large tour groups to crowded key attractions. An example is an operator who promotes ‘off-the-beaten-track’ Nature walks, while concurrently offering coach trips to Hot Water Beach on the east coast and to Rotorua, both being natural and cultural attractions respectively that can turn out to become ‘crowded experiences’ during the peak season (*).

There are other major attraction nuclei displaying shifting functional boundaries similar to the ecotourism/mass tourism experience at Hot Water Beach. Enterprises like Driving Creek Railway & Potteries (D.C.R.) in Coromandel Town may be interpreted as ‘off-the-beaten-track’ destinations during the off-season; and their visitation may then be perceived as ecotourism (related) activities and experiences. During the peak season or on long weekends, the same sites may more closely resemble traditional mass tourism attraction poles. The stated examples reflect a simplified representation of ‘entangled’ perceptions, imaginations, interpretations, and definitions, which, in reality, occur on gliding (perceptual and temporal) scales rather than constituting opposing binaries. Identifying an attraction nucleus as providing a ‘mass’ or ‘eco’ tourism product, is in reality a complex issue. Depending on many variables (for example the influx of tourists), differing perceptions and interpretations can exist simultaneously, or change (for example after a second visit). Memories ‘evolve’, and classifications can shift (for example when influenced by an exchange of impressions and experiences among tourists).

My idea of a ‘typical’ ecotourist, a ‘typical’ ecotour operator, or a ‘typical’ ecotourism activity or experience turned out to be an idealised myth. Many ecotourists in the Coromandel are ‘temporary’ ecotourists and take advantage of other tourism related products and services as well, while some (*) (but definitely not all) operators ‘preach the environmental gospel’, but practise the onsite application of ‘conventional tourism’ in the form of materialism and consumerism as opposed to ‘sustainable tourism’ (Farrell 1999). I encountered one operator whose national image and international profile ‘personifies’ the ‘pure’ ecotour operator and conservationist. Contradicting her/his own words, the operator offers conventional roundtrips to Rotorua and other touristic hotspots in addition to ‘eco’ products. The interview also provided a ‘classical’ example of cognitive dissonance:

Rotorua cultural experience is very, very pleasant. It's not really, it's for the mass market, we want something, which is not a mass market ().*

Models like Doxey's (1975) ‘irridex’ suggest that community benefits as one (possible) element of ecotourism are also prone to change. The evaluation of beneficial effects

(or detrimental impacts) depends on variables such as hierarchical power dynamics within the community, as well as on individual perceptions.

Other dynamics of structural boundary patterns are the result of conceptual and operational time delays as opposed to quasi ‘real-time’ effects. If the operationalisation (or actual practice) of ecotourism in the Coromandel is considered as the ‘culmination’ of the system’s evolution, boundary dynamics can converge on chronologically differing peaks. Examples of (temporal) lead–lags are depicted as generalised models in Figure 29. The dynamics have been simplified to demonstrate the *principle* of possible time delays.

The design of the graphic equates to four orthogonal Latin squares of order two and their superposition. The y-axis represents the conceptualisation and location respectively of ecotourism as a mental and spatial phenomenon. The x-axis depicts the chronological sequence. Nominal non-exhaustive values are used to describe the phenomenon’s position in phase-space from the operator’s (O) and the tourist’s (T) perspective. The business functions ‘planning & developing’, ‘marketing’, ‘selling’, and ‘operating’, as well as the tourist activities ‘travelling’ and ‘booking’, represent intermediate positions between the endpoints on binary scales, viz. *conceptualising* the idea of ecotourism and *doing* ecotourism, at home and at the destination. The purchase of an ecotourism product (‘booking’) can only take place when information regarding the product is available, i.e. once it is marketed.

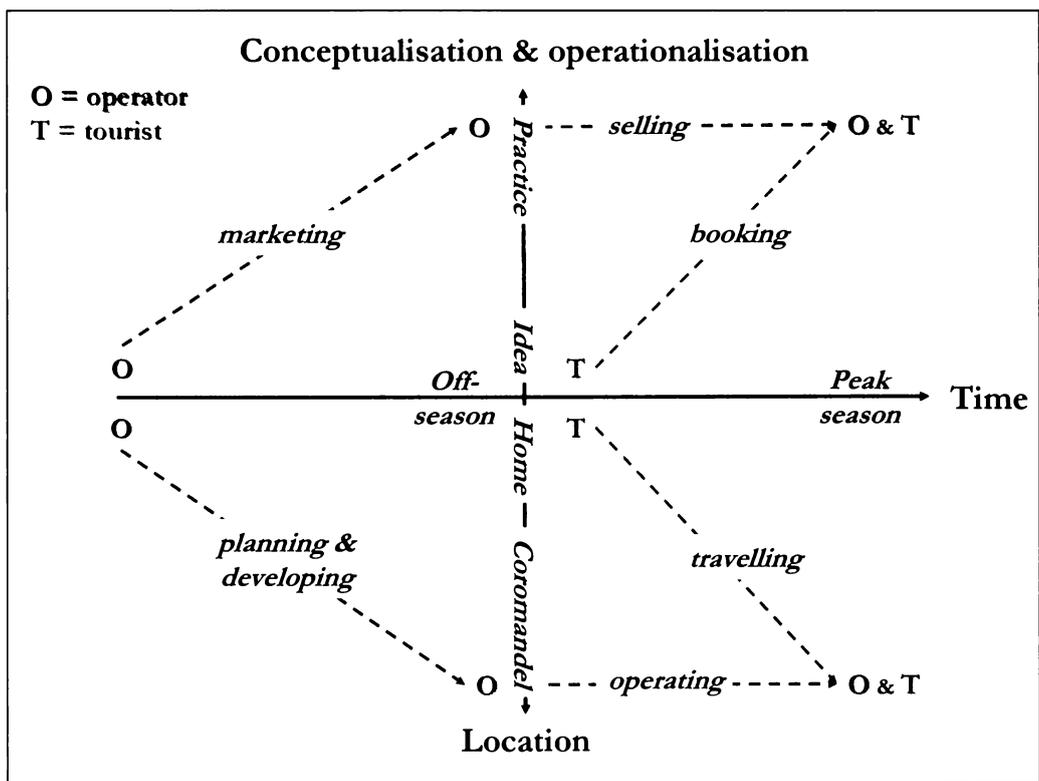
Starting on the right side of the y-axis, the graphic shows the time lag between the conceptualisation of ecotourism (and SETD) and the actual engagement in ecotourism related activities for those (mostly international) tourists who book ecotours in the Coromandel as part of their holidays (sometimes six months or longer) in advance. Ecotourism in the Coromandel exists as an issue on the minds of these potential (eco)tourists not only when they arrive in the Coromandel, where they are subsequently exposed to the various marketing strategies and information sources. If the topic has already been brought to their attention at home, e.g. via travel agencies, guidebooks and websites, multimedia presentations and television documentaries, or

through friends and relatives who have shared their travel experiences in the form of anecdotes, pictures and videos, potential ecotourists might plan for an ecotourism experience before they leave their place of origin:

... we started to have overseas people 'specially in particular Germans. They'd heard about the tourism and then they started their overseas press with journalists and radio shows and television shows ... (operator).*

Starting at the far left in the graphic, another phase displacement, as regards boundary fluctuations, can be observed with the emergence of additional part-time operators and any new operators. Business owners have to apply for permits and obtain concessions, as well as organise and market their product at least a few months if not years ahead of any anticipated ecotourism operation on the Peninsula.

Figure 29 Theory and practice of ecotourism in a lead-lag model



The system's trajectories are apparently simple, linear and predictable. As the following 'real world' examples demonstrate, they can, however, also be interpreted as simplified and 'linearised', or 'quasi-linearised' models of existing non-linearity.

5.3.4 *Hidden Complexities*

Complexity and non-linearity are *hidden*, if causal externalities have been linearised themselves (Ormerod 1998) to approximate and predict the system's development. This is for example the case when external causal agents like global market dynamics, or internal subsystems like human behaviour, are either not taken into account or have been simplified. Complexity and non-linearity in the system's boundary behaviour *emerge* at the macro scale level, when small (or large) changes in the initial conditions of externalities result in unforeseen and disproportional changes in the part of the system's trajectory that alters the system's boundaries. The variables associated with chaotic phase transitions then constitute *rogues, or chaos makers*. (Complex and non-linear decision-making processes and behaviour, emerging *within* the system's and its subsystems' boundaries, are modelled at the meso and micro scale level.)

Atypical changes in the system's initial conditions, such as the Asian economic recession and the recent devaluation of the New Zealand dollar, are examples of external chaos makers. Rogues can cause 'critical conditions' in the system's dynamics – and thus thrust the system on the brink of havoc. Chen and Kwan's (1997, p. 1) 'flying geese' analogy, which the authors use to demonstrate the linked nature of East Asian economies, can be extended to describe the interconnectedness of Australasian markets, as well as European and North American markets with New Zealand's tourism industry. Both events constitute 'singularities' in the system's dynamics, and are external factors in regard to the system's organisational closure. They can be interpreted as subsidiary variables within the ecotourism system in the Coromandel. It can thus be said that both the Asian recession as well as the New Zealand dollar devaluation constitute only 'small' changes of initial conditions *in the ecotourism context*. Whereas the crash of the *Little Tigers*' (i.e. the Southeast Asian countries of Hong Kong (China), Singapore, Taiwan and South Korea) economies had (temporarily) 'negative growth' effects on New Zealand's tourism industry as a whole, the small proportion of Asian ecotourists in the Coromandel resulted in only moderate losses for 'pure' ecotour operators.

It is hypothesised that additional amplified opportunities for ecotourism in the Coromandel may emerge from the North American market segment, caused or at least supported by the weak New Zealand dollar and the disproportionately high representation of North American and European tourists in the ecotourism sector. At the time this section was first written, a boost in tourism numbers was also expected to arise from the marketing effects of a film production in New Zealand (Land n.d.; Prime Minister Clark n.d.). ‘The Fellowship of the Ring’, the first sequel of ‘The Lord of the Rings’ motion picture trilogy, has now been screened, promoting “New Zealand’s unique diversity of landscapes within a small area ...” (Daily News (New Zealand) 2001). The movie has indeed proved beneficial as a tourism marketing tool. A statement of Wellington’s mayor confirms this claim: “There is no question that the Lord of the Rings has done wonders ...” (Prendergast, cited in Wellington City Council 2002). The prospective release date of ‘The Two Towers’ is December 2002, and this second sequel of Tolkien’s epic saga is expected to generate similar spin-offs for New Zealand’s tourism industry (Henzell 2002). The aforementioned events can trigger effects that constitute unforeseen deviations from the system’s average periodic (i.e. seasonal) fluctuation within its state cycle.

A last hypothetical example demonstrates that external stimuli influencing the system’s dynamics do not have to be physically located outside the Coromandel. Long-term climate changes, as well as extreme weather patterns, or other natural hazards can cause havoc and throw the system out of balance. For example flooding is the consequence of typical weather conditions during the Peninsula’s rainy season. Fortunately for tourism development, flooding, as a representative of potentially negative factors, has so far not been an obstacle during the peak tourist season.

The previously mentioned financial ‘meltdown’ in Asia, as well as the ‘plunge’ of the ‘Kiwi’ dollar, represent events that constitute unpredictable and unpreventable ‘crises’ within the system’s dynamics. They cause ‘symmetry-breaking’, where simple and predictable behaviour in linear economic development models is converted into chaotic and non-linear system dynamics. It is argued that crises triggered by *reactions* of the physical environment, like the hypothetical flooding, can be ‘analysed’ within the

(deterministic) chaos and complexity paradigm. Whenever unconditioned human *responses* are involved (*Chapter Four*, section 4.4.2), the system dynamics are, however, influenced by ‘absolute’ chaos; and any attempt to establish *original* causes has to move beyond Ormerod’s (1998) ‘butterfly society’ by deconstructing human behaviour in a discourse analysis (*Chapter Seven*).

The linearity *within* the ecotourism system is re-established, as soon as the cause for the rise and decline in tourist numbers, or a perceptual shift of ecotourism and sustainable tourism development, is identified and proportionality between cause and effect is confirmed. Whereas these two particular variables can now be taken into account in a modified version of the system model, new ‘hidden variables’ might lurk in the background. These can create unforeseen changes in the system’s condition, and compromise a linear or quasi-linear evolution – thus causing renewed chaotic behaviour. Externalities, as well as internal factors can trigger this kind of ‘turbulence’, which sends the system into an ‘upward or downward spiral’. The challenge to counterbalance disproportionate and unpredictable, or undesirable changes with suitable provisions is addressed in section 5.6.

5.4 Emergent Features: Dependency and Autonomy

The system is *open* and *dynamic*, with only *relative and relational boundaries* demarcating its spatiotemporal patterns. The questions then arise, *Why* the system exists and *how*, as well as *why* the condition of the system as a whole changes? At first sight these queries appear to find their answers in the four proposed functions *adaptation, goal attainment, integration* and *latency* (Hamilton 1983, p. 108) of social systems in Parsons’ (1951) *structural functionalism*. However, ecotourism and sustainable tourism development represent synergistic features within the tourism system. The complexity of their emergence transcends Parsonian structural functionalism. It simply cannot be known whether ecotourism and sustainable tourism development would have emerged in the Coromandel if these two phenomena had not existed and started to play a major role in the international tourism ‘arena’ prior to their appearance on the Peninsula. Their invention and implementation could not have been predicted and cannot be explained

by analysing structure and function of tourism development with the focus on the Coromandel alone.

By developing and occupying a niche market, the emergence and evolution of ecotourism and sustainable tourism development as spatiotemporal, physical and mental patterns, has created new conceptual and operational boundaries. *Emergence* is interpreted as the result of *autonomous* system behaviour; and autonomy is associated with *self-organisation* rather than isolation, as the characteristics and behaviour of boundary patterns (section 5.3) reveal. Both autonomy and emergence are, however, *not* consequences that appear ‘outside’ of rules governing the system’s dynamics. According to Stewart (1999, p. 241), the system *produces* emergent behaviour as a result of obeying its own laws. (In this context the question could be asked whether systems can actually *establish* their own laws.) A major problem associated with the comprehension of synergistic and antagonistic system properties, is the lack of a theory explaining what emergence actually is. “We do not have a good formal theory of emergence, ...” (Stewart and Cohen 1997, p. 72), but at least a promising concept is that of *complicity*, which includes the ideas of *evolution* and *self-modification* (*ibid.*). A rather vague definition of emergence is Dyson’s (cited in Barrow 1999b, p. 114) account:

Emergent behaviour, by definition, is what’s left after everything else has been explained.

Due to the limitations of human cognition (*Chapter One*, section 1.4.2), there is *no* way to work out the actual chain of causality by tracing emergent features back to their origins and underlying rules. It is argued that postmodernism and poststructuralism offer a means by which the question how ecotourism and sustainable tourism development came into being in the Coromandel can be at least tackled. Decentring and deconstructing both phenomena at all three scaling levels (i.e. at the macro, meso and micro scale level), reveal that both ecotourism and sustainable tourism development represent subjective and relative, as well as relational and intentional spaces. In these spaces categories and binary oppositions can only serve as approximations of the ‘actual realities’ of individuals. While the emergence of ecotourism and sustainable tourism development in the Coromandel reflects

autonomous system behaviour, both phenomena are concurrently dependent on their invention prior to their conceptualisation and operationalisation on the Peninsula. Autonomous behaviour is exemplified in the next section.

5.4.1 Autonomous Behaviour and Non-Communicative Effects

On a macro scale, human interest in the development of the system provides a partial answer to both ‘why’ questions that were put forward at the beginning of the previous section (5.4). From a teleological perspective the general aim of conceptualising and operationalising ecotourism and sustainable tourism development is to satisfy the needs and aspirations of all involved, or affected human partakers in the system. All individuals and parties contribute to the system’s dynamics by proactively pursuing their individual or group objectives in the form of either conditioned or unconditioned responses (*Chapter Four*, section 4.4).

At the macro scale level there is, however, a second type of autonomous system behaviour that defies a teleological explanation and could, at first sight, be termed functionalist self-maintenance. Utilising the three fundamental concepts of *reflexivity*, *recursiveness* and *regionalisation* in Giddens’s *structuration theory* (Gregory 2000c, p. 798), human agency at the meso and micro scale level *could be* identified as the cause of a ‘functional whole’. The ecotourism system does, however, display autonomous and adaptive behaviour as a whole, despite the fact that, as network relationships and interactions at the meso scale level reveal, not all activities, goals and objectives, of individuals and groups, are known by every involved and/or affected player.

Giddens’s *reflexivity principle* is compromised, when networks function in isolation from each other (and thus do not interact), yet are interconnected and interdependent in the sense that they influence each other, together determining the system’s fate. In *Chapter Four*, section 4.4.3 the effects that this kind of system behaviour has, were termed *non-communicative*. Non-communication is *not* a matter of “... spatially very distant events [that] now affect everyone: under conditions of late modernity and globalization” (Werlen 1993, p. 1). Furthermore, the effects do *not* ascribe to a functional imperative, as they reflect neither repeatable nor predictable instances of regularities. Two

examples corroborate this assertion, and depict the reinforced and prolonged *resonance* of non-communicative effects:

Conversations with tourists suggest that ecotourists tend to generalise their perceptions, imaginations and interpretations of a tour experience. They might have been in contact with only one ecotour operator in the Coromandel, but their memories reflect a mental conceptualisation of what ecotourism on the Peninsula stands for. On the one hand, positive impressions might result in further bookings with other operators, the wish to return, or the actual repeated visit(s). On the other hand, any negative experiences might result in no further engagement in ecotourism in the Coromandel and possibly the dissemination of bad memories of the ‘New Zealand experience’. The consequences of both positive as well as negative images can be *multiplier* and *spin-off effects*. Recollections create feedback loops that can be of a *catalytic* nature, or they may reflect *lock-in* effects, both of which are discussed and exemplified in the meso and micro scale models.

Those tourists who share their holiday experiences with friends and relatives or with casual fellow travellers influence the system dynamics as a whole by ‘telling the tale’. Their shared memories have the potential to either encourage or discourage others to engage in similar activities. Tour operators, with or without a connection to those ‘primary interpreters’ of ecotourism, will be affected by these word-of-mouth consequences, both beneficial and disadvantageous ones. These effects occur despite the missing actual contact, or information transfer between tourist and operator, both of whom will probably never even know of each other’s existence and experiences.

A second example is the listing of operators in popular guidebooks (for example the Lonely Planet, or the Rough Guide), where entries and ‘none-entries’ of tour companies have a major influence on booking numbers. Many FITs and potential ecotourists in the Coromandel rely on the information given in these publications (*Chapter Six*, section 6.2.1). Tourists use them as their ‘traveller’s bible’. A positive comment almost guarantees a constant flow of customers, whereas a negative remark can be detrimental for a business, especially if the reader group (or market segment) of

that particular guidebook consists of potential customers. I encountered more ecotourism operators who were not aware of the guidebooks' existence (and its relevance in terms of positive and negative references) than operators who knew of their importance. Those who knew of the guidebooks' marketing effects, were keen to be included in the latest edition, but did not consider bad publicity as a possibility. (Introducing operators to the idea of guidebooks as marketing tools is an example of researcher-induced changes in the respondent's 'actual reality'.)

In the case of a 'no-entry', no information is exchanged between the editor(s), or surveyors and the ecotourist. Yet simply the fact that a business is or is not mentioned, has an effect on the Peninsula's image as an 'eco' specific tourism destination, as well as on business volume and development – and thus on the system as a whole. Non-communicative effects are a part of what Moscardo (1998, p. 11) calls "... the power of tourism audiences to spread conservation messages around the globe."

5.4.2 Autopoiesis: Self-Maintenance and Self-Regulation

On the macro scale, linearity and non-linearity, simplicity and complexity, communicative and non-communicative system behaviour, add up to the *self-organisation* of the system. Already for Kant and Goethe self-organisation was a well-known system property in biological organisms (Capra 1997, p. 21). The concept of *autopoiesis*¹⁰⁰, "... defined as a network pattern in which the function of each component is to participate in the production or transformation of other components" (ibid., p. 202), accounts for non-communicative effects in *self-organising* systems. The idea of *autopoiesis* was initially used in a biological context to describe the organisation of life. It is suggested that it is also an appropriate concept to interpret the organisation of social systems, and in particular of socio-ecological systems. Ecotourism and sustainable tourism development fulfil Fleischaker's (1990; 1992) three criteria (which are *self-boundedness*, *self-generation* and *self-perpetuation*) for autopoietic systems.

¹⁰⁰ The concept of 'autopoiesis' in the biological sciences was published by Maturana and Varela (1980) in 1972 (Capra 1997, p. 97). The term itself stems from the two ancient Greek words *auto* meaning 'self' and *poiesis* meaning 'creation' or 'production'.

Ecotourism and sustainable tourism development create and modify their own boundaries (section 5.3). The system is *self-bounded* – and thus distinct from other tourism developments and from other social and ecological systems, while concurrently depending on and interacting with these systems. Conceptualisation and operationalisation of ecotourism and sustainable tourism development happen within the system, i.e. the system *produces* itself. *Self-generation* is interpreted as an *organisational* closure. The system is, however, open in the sense of being interconnected with and dependent on external variables (section 5.3), i.e. there is a flow and exchange of people, ideas, concepts, regulations, money, etc. across (imagined) system boundaries.

Direct and indirect spin-off and multiplier effects result predominantly from international tourism to New Zealand. Although there are neither any direct governmental incentives nor any support systems for ecotourism entrepreneurship (or ‘ecopreneurship’), operators do benefit from the NZTB’s offshore marketing strategies. Building on New Zealand’s ‘great Nature’ theme and the country’s ‘clean and green’ image, global brand building campaigns (‘The New Zealand Way’, ‘100% Pure New Zealand’), or the branding of the Silver fern as a symbol representing New Zealand, contribute to the Coromandel’s image as a Nature-based tourism destination *par excellence*. Targeting international market segments can, however, also create unintended adverse effects. An example is the effect images of the South Island can have on potential visitors from overseas. By relating pictures of the Southern Alps to the whole of New Zealand, some foreigners ‘get the wrong idea’ and portray the Coromandel as ‘snowy mountain peaks in a rough terrain and arctic weather conditions’. The process of ‘false image creation’ is exemplified by an operator’s statement:

Because Americans look at these photographs that they’ve seen for years and years and years and they say: Gosh we’re not going there in the winter because it must be all snow and ice ().*

Regional and local image building promotional activities, branding campaigns and labels like the ‘Pacific Coast Highway’, the ‘Pohutukawa Coast’, or the green and blue

oval shaped Coromandel logo resembling the Yin Yang symbol, also contribute to ecotourism marketing and development.

Ecotourism is further dependent on and takes advantage of conservation and maintenance work being carried out by DoC, which administers “... just under 30% of the Peninsula ...” (Wishart 1999, pers. comm.). DoC is responsible for protecting the Coromandel’s natural and historic resources, while concurrently encouraging recreational activities consistent with these values (New Zealand Department of Conservation (DoC) Te Papa Atawhai. Waikato Conservancy 1998; q.v. *Chapter Six*, section 6.4.6).

National legislation, in particular the Resource Management Act 1991 (RMA) and its amendment acts, enacted by the parliament of New Zealand, influence regional and district plans as well as policy statements, executed by the regional district council TCDC. The RMA functions in conjunction with the Reserves Act 1977, the National Parks Act 1980, the Conservation Act 1987, and the Wildlife Act and the Conservation Amendment Bill (No2) 1996. The Bill includes the Conservation Amendment Act 1996, the Reserves Amendment Act 1996, the National Parks Amendment Act 1996 and the Wildlife Amendment Act 1996. These statutes provide the political framework and the legal provisions for resource consents on land managed by DoC (Parliament of New Zealand 1991; New Zealand Ministry of Tourism 1993; New Zealand Tourism Board (NZTB) and New Zealand Tourism Industry Association (NZTIA) 1996). Permits for ecotourism operators to run a trade, or business on conservation land, are granted and issued via the Department, which has legal authority to charge concession fees in conservation areas, as well as the judicial power to prosecute entrepreneurs running illegal operations (New Zealand Department of Conservation (DoC) Te Papa Atawhai 1992; 1996).

Ecotourism and sustainable tourism development in the Coromandel evolve, replacing and transforming the attributes of their variables and the variables themselves in the course of time. In addition to external influences, the system thus displays *self-perpetuating*, or self-maintaining behaviour. For the sake of ‘completeness’ it should be

mentioned that ecotourism itself, and tourism development in general, have repercussions not only on the ecological, socio-economic, political, and cultural environment in the – metaphorically speaking – immediate vicinity of tourism but also on the primary and secondary sector, as well as on other non-tourism businesses in the tertiary sector.

5.5 Relative Robustness

Ecotourism in conjunction with sustainable tourism development in the Coromandel has been described as an open, dynamic and complex system at the macro scale level. The system's configuration and its behaviour display autopoietic characteristics. Its condition is influenced by the evolution of autonomous emergent features and non-communicative effects. The system's development is partially dependent on the initial conditions of hidden complex variables outside the system's previous boundary patterns. With the interpretation and application of 'sustainability' and 'sustainable development' depending on the particular (paradigmatic) approach, both concepts are relative and subjective measures of 'what is' and 'what should happen'. The question then arises: Can *sustainable* ecotourism development actually be defined, planned and/or modelled? Before the meso and micro scale models have been constructed, it is too early for a final answer. It is argued, however, that on the macro scale the concept of *robustness* conveys a partial 'yes' to the question.

5.5.1 Sensitivity and Flexibility

Whether a system's condition is stable (defined as homeorethic equilibrium (*Chapter One*, section 1.9), or homeostasis¹⁰¹), hinges on its ability to adapt to a changing external *and* internal environment. Robustness is introduced not as a measure of rigidity, but on the contrary as a combined measure of the system's *sensitivity* to changes, its *flexibility* to adjust to changing environmental conditions, and the *relaxation period* required to establish a new *Fließgleichgewicht* (German for 'dynamic balance') (Bertalanffy 1969). *Absolute robustness* would be realised if a system's trajectory was a point attractor in phase-space, i.e. if its condition would equate to a static (or 'chemical') equilibrium,

¹⁰¹ Earlier formulations were refined into the concept of homeostasis by Cannon (1932, cited in Capra 1997, p. 42).

where ‘nothing ever changes’. Absolute robustness would also be achieved if the system’s capability to adapt to an infinite number of changes would be inexhaustible with a relaxation time approximating zero. However, in an open, dynamic and complex system, such as the socio-ecological activity system of ecotourism development, only a *relative robustness* is realistic and desirable. Robustness is far from being a completely objective and ideology free measure of sustainability. It does, however, accommodate the paradigms underlying the various interpretations of sustainable development. It is argued that a high degree of relative robustness is one implicit objective underlying any current concept of sustainable tourism development, as well as ecotourism development in the Coromandel.

I have argued that *sensitivity* is one variable that can measure a system’s robustness. The condition of this system is determined to a large extent by its *economic sensitivity* to externalities on a macro scale. A stable (or economically sustainable) condition is foremost dependent upon the continuous flow of tourists. The influx of tourists in turn relies on a variety of factors that are partly removed from the influence and control of the system’s key players, some of which have been mentioned in sections 5.3 and 5.4. At present ecotourism development in the Coromandel ‘feeds’ on a relatively small proportion of all possible consumers (section 5.3). It is argued that diversifying the market segment by targeting underutilised international markets, as well as the domestic market, could decrease the level of sensitivity to the influx of tourists. The socio-cultural and ecological sensitivity to internal factors, such as the condition of the resource base (section 5.3), non-communicative effects, seasonality patterns, as well as absolute tourist numbers will be more closely examined in conjunction with other meso and micro scale phenomena.

Presumably the level of *flexibility* is often in inverse proportion to a system’s sensitivity. From an economic perspective this assumption is corroborated by the fact that operators who offer exclusively ecotourism products, who furthermore rely on their business as a sole income source, and whose clientele predominantly belong to a small market segment, are sensitive and inflexible in respect of systemic environmental changes. However, flexibility and sensitivity respectively, are not to be confused with

success or failure. A specialised ecotourism business operation, or a particular concept of sustainable development, can be highly successful even though both might be very sensitive to tiny systemic changes. Typical examples are some of the well-established operations with long and successful track records (*Chapter Six*, section 6.4.2). Success and failure (not only) in the ecotourism trade are linked to skills and expertise, as well as to network dynamics and the risks business owners are prepared to take. The factors corroborating this generalisation are modelled at the meso and micro scale level.

On the macro scale, ecotourism in the Coromandel, as an economic enterprise and development device, appears to be relatively flexible. A variety of different types of businesses, differential operational scales, as well as the ability to adjust the product range to changing demands, cater for changing markets, needs and interests of tourists (*Chapter Six*). However, ecotourism in the Coromandel focuses on the natural resource base, while neglecting the cultural heritage. It is argued that a diversification of ecotourism products and services, by proactively encouraging the utilisation of the cultural and historical resource base, would increase the system's flexibility to adapt to changing demands. The strategy would reduce the pressure on the natural resource base, as well as decrease ecotourism's dependence on suitable 'outdoor weather conditions'. This might in turn positively influence Tourism Coromandel's and DoC's common goal to spread the tourism season over the whole year (section 5.1, and *Chapter Six*, section 6.4.6). Network dynamics and personal decision-making processes that influence the current stagnation of cultural ecotourism are studied at the meso and micro scale level. The ability of individuals and communities to respond to changes, as well as the ecological environment's capability to react and adapt to external influences, are also modelled on a smaller scale.

5.5.2 Relaxation Period

The relaxation time is the time span required by a system to *react* and/or *respond*, in order to *adjust* to changing conditions. The relaxation time thus constitutes the temporal component of the system's sensitivity and flexibility respectively. In a dynamic system there is constant flux, and each change will presumably result in a different relaxation period. For the whole Peninsula, ecotourism's economic relaxation

period has so far not been seriously challenged. From an entrepreneurial perspective the system as a whole is registering a continuous and slow, but steady increase in business volume. The system has sufficient time ‘to relax’ (i.e. to adapt). Unique events in the system’s development like the Asian crisis and the effects of a strong U.S. currency and a weak New Zealand dollar have not destabilised the system, or (seriously) tested its capability to adjust. Depending on the scale and perspective, the economic, socio-cultural, and ecological relaxation periods of communities and individuals vary, and are thus modelled at the meso and micro scale level.

5.6 The Optimised Macro Scale Version: Coordination under Uncertainty

Improvement is associated with intended (or anticipated) change. It is assumed that planning is an essential tool if the wish to improve and control a situation, as well as to predict a system’s future development, is to be translated into reality. Two main aspects have to be taken into consideration when the objective is to modify, or redesign an existing model. The planner has to be aware of the *knowledge* and *ignorance* regarding the functionality and interaction of known and unknown variables, as well as of the *effectiveness* of recommended changes. It is argued that any ‘optimised’ (or ‘idealised’) version of the system model across scales involves prediction, and can at best be the result of an informed *and* opinionated *estimate*. Uncertainty is ‘the name of the game’. In economics this term is applied to “... situations where we are ignorant about the nature of future possible events and their probabilities, or where we know the possible events but not their probabilities” (Wills 1997, p. 224). The *exact* trajectory of *this* system’s dynamics is unpredictable in principle, since the involvement of humans includes “... a whole universe of *voluntative degrees of freedoms* that complement ...” (Schellnhuber 1998, p. 155) any deterministic system behaviour. Even the systemic wisdom of a hypothetical ‘Laplacian-Poincaré demon’ of the advanced non-linear type is notoriously uncertain, where unconditioned human behaviour causes ‘absolute’ chaos (ibid., pp. 150, 154). Planning in any case thus entails ‘risk taking’.

This is not to say that planning does not have a legitimate value, but rather that the validity and applicability of decisions should be subject to an ongoing and iterative

evaluation process, comparing proposed and implemented modifications of the model with the evolution of the system's 'actual' reality (*Chapter Four*, section 4.1.2). It is argued that any 'perfect' model has to incorporate the notion of a world that is neither 'ideal' nor fully comprehensible, or predictable in every detail. In planning and decision-making processes it should be acknowledged that individuals and groups judge events and their outcomes in relation to their individual perception, imagination and interpretation of the context and particular situation. Their responses can have more than a small-scale impact and will affect the fate of the system as a whole.

It is hypothesised that on a macro scale the inclusion of a research approach, complementing the pragmatic approach, could increase the system's robustness. Arguing for the author's own case, 'independent and objective inquiries'¹⁰² could identify the underlying paradigms and ideologies of different interpretations of sustainable tourism development *and* ecotourism. Newly acquired knowledge could be communicated to interested and/or affected parties, who in turn could utilise the information in decision-making processes that underpin planning and development strategies.

It is suggested that ecotourism research in the Coromandel should neither exclusively focus on marketing strategies (section 5.1) nor accentuate a top-down approach; but instead research should favour a community-based bottom-up approach in a holistic endeavour not only "towards congruence between theory and practice" (Ross and Wall 1999, title) but furthermore to raise the satisfaction level amongst all stakeholders (*Chapter One*, section 1.8.2). In a concerted action, strategies to identify common objectives of the various interpretations of the terms ecotourism and sustainable tourism development could be developed, as well as measures to attain desired outcomes and tools to implement defined means. Attention could be drawn to spatiotemporal patterns and hidden variables. Light could be shed on non-communicative effects.

¹⁰² I have used the phrase to juxtapose the researcher's 'outsider' role to an 'insider' or participant perspective of actual stakeholders within the system. The inverted commas signify that the phrase does not actually stand for complete objectivity and independence in the research process.

Researching spin-off and multiplier effects and their feedback loops, potential and actual cumulative impacts, as well as synergistic/antagonistic effects, could change the *ignoramus* state to the better by discovering causal (or etiological), correlative and teleological relationships between the individual's front-line involvement in ecotourism, and the behaviour of the system as a whole. The interface between organisations, operators and tourists will be more closely examined at the meso and micro scale level. It is argued that research undertaken in this manner could accomplish a transparency of processes and relationships. This in turn could foster the understanding for existing spectra of positions and attitudes that at present cover the whole range from an ecocentric 'deep', or 'radical' ecologist's interpretation (Næss and Rothenberg 1989; Seager 1993, p. 222) of ecotourism and sustainable tourism development, to the more 'shallow' anthropocentric interpretation of ecotourism (Acott and La Trobe 1998). Research could encourage attempts to attain consensus, and diminish or close the gap between different ideologies and paradigms. The validity of this suggestion is corroborated by findings regarding existing network patterns within the ecotourism phenomenon in the Coromandel. These are the focus of attention at the meso scale level in the following chapter.

Chapter Six

Meso Scaling: Network Patterns of Stakeholder Groups

‘Actual’ realities are plexus realities of interconnections, characterised by interdependencies and interactions amongst constituent elements. Only disconnected singularities (with neither a cause nor an effect) exist outside a networking reality and represent isolated events. Any two entities that interact, or affect each other are ‘connected’ – thus forming a pattern of organisation that can be represented as a ‘net’ of relationships and processes. Non-communicative effects (*Chapter Four*, section 4.4.3; *Chapter Five*, section 5.4) are *no* exception to the ‘rule’ and can be incorporated in network models. In respect of a network’s basic characteristics I reject Meadows *et al.*’s (1995, p. 227) claim that “A network is by definition nonhierarchical.” In this study network patterns are the expression of complex socio-economic, political, cultural and ecological intertwined processes, with blurred interfaces characterising the open and dynamic boundaries between ‘distinct’ categories. Network patterns of (eco)tourism development in the Coromandel thus reflect the spatiotemporal flows (*Chapter Five*, section 5.3.2) and (hierarchical) power relationships within the system.

Modelling network topologies of ecotourism development at the meso scale level focuses on linkages and flows between and within *groups* of network elements that are directly or indirectly involved in, or affected by ecotourism, rather than on individual entities. The network portraits thus *generalise* the perception of individuals. Network patterns are constructed by identifying common interpretations amongst *key* stakeholder groups. The nodes in these network representations are composed of *structural variables* (pages 230-240), viz. groups of human beings, the organisations they represent, legislative, administrative and operational documents they publish on paper, or on the ‘Net’ (such as policies, bills and acts, strategy plans, status reports and advertising brochures), cultural heritage sites as well as components of the non-human environment (i.e. natural attractions).

The network perspective is both a static ‘snap-shot’ as well as a dynamic representation of the system’s configuration and development. It depicts *dynamic links* in the form of processes, relationships and interpretations, while concurrently representing *static categories* of entities with fixed spatiotemporal boundaries. In a phenomenographic approach, the focus is on relationships and resulting processes in order to understand *how* parties arrive at certain decisions and *why* they have distinct imaginations of network patterns.

Modelling the heterogeneous and evolving perceptions of *each* individual is an impossible task. A compromise is reached by illuminating the *relational, relative* and *perspectival* character of these networks, as well as differential interconnections within multidimensional ‘webs of relationships’. This network characterisation justifies and validates an individual and a researcher-determined representation of salient homogenous features as momentary manifestations of discrete and impermeable category boundaries.

To ‘discover’ the multitude of perceived networks, ‘perspectival triangulation’ is employed. The process compares the perception and interpretation of ecotourism development and sustainable tourism development from varied angles, each perspective representing a group, or community of stakeholders – thus depicting a faculty that could be termed ‘group-consciousness’. Interwoven in the actor-centred network representation is the researcher’s analysis and interpretation of consequential effects of these distinct perspectives on the whole system. The recognition of prevalent collective system properties amongst keystone players results in the representation of multiple network layers, which *in conjunction* reflect a yet incomplete, but holistic approximation of collective ‘actual realities’.

Modelling ecotourism development at this resolution level displays two main characteristics:

1. The finer details of subsystems nesting within the depicted networks, such as *individual* human behaviour, are neglected. The resolution level also ignores the

reasons leading up to a particular decision that results in action or inaction of people. These nested variables will be studied at the micro scale level.

2. Each network consists of more than two interacting variables and is thus an example of the classical ‘three-body problem’ (Stewart 1997).

These network traits have two major consequences:

1. On the one hand, the involvement of *individual* human decision-making processes has been taken out of the equation in favour of representing common ‘group behaviour’. This means the idiosyncrasy of partially unconditioned, or ‘absolutely’ (i.e. contextual, situational and individual) chaotic human behaviour has been simplified, or, to be more precise, ‘linearised’. At the meso scale level human behaviour is interpreted as conditioned, and can thus be expressed within the chaos and complexity paradigm.
2. On the other hand, the interpretation and description of human relationships and processes as network patterns reflects the typical non-linear behaviour of any ‘three-body motion’. Human networks stand for *more than* just binary, or Boolean networks (Capra 1997). Nodes can thus have more than two distinct values. The system’s trajectory in phase-space is therefore not only chaotic but the number of possible system states is also infinite and indeterminate *in principle*.

The resolution level thus stands for complex and chaotic network patterns, where multiple attributes of human ‘nodes’, as well as directional links can have more than one value simultaneously. Changes of these values do not have to coincide temporally. For practical reasons the network description and analysis simplifies human behaviour by restricting the number of attributes and limiting the number of possible values to those that are relevant in the ecotourism context and the SETD debate.

Each network perspective thus emphasises particular links to ecotourism and sustainable tourism development. Concurrently, immaterial connections with tourism development, as well as other human activities and environmental changes, are dismissed. The representations focus on *collective actions* and *inaction* respectively, as well

as on attitudes, or perceptions as directional values between nodes. *Individual reasons* for a particular behaviour are modelled at the micro scale level. The labels used in the graphics usually reflect the jargon applied by the particular stakeholder group whose perspective is represented. The (metaphorical) overlay of these perspectives in the simultaneously developed optimised meso scale model depicts discrepancies between perspectives and suggests possible improvements.

The meso scale model is *not just* a model of ecotourism's market structure in the Coromandel. The emphasis is on understanding the implications of existing qualitative and subjective interpretations of ecotourism and sustainable tourism development; and economic sustainability is viewed as but one contributing factor towards SETD.

The endeavour to model complex, multi-perspectival and evolving network patterns, obviously has to move beyond graph theory (Chorley and Haggett 1974), which studies the physical system of links between points in a purely analytical approach. It is thus informed by actor–network theory¹⁰³ (Hetherington and Law 2000), as well as the social theory of space and the theory of the space of flows (Castells 2000, p. 440).

6.1 The Network Matrix

Figure 30 maps those characteristics of the macro scale model that serve as the matrix of ensuing network perspectives in the following sections. In the illustration, ecotourism development is interpreted as a composite market phenomenon embedded in the totality of the environment. The diagram focuses on the *main parties* involved in, or affected by ecotourism development, and their *predominant* interests, or involvement in the market elements of supply and demand, as well as on the *major possible overlaps* between operating platforms and different perspectives.

¹⁰³ Practical weaknesses of actor–network theory have been discussed in *Chapter Three* (see also Grint and Woolgar 1997).

Figure 30 The ecotourism phenomenon: Main overlaps between spatiotemporal dimensions, operating platforms and network nodes in a composite system model at the macro scale level

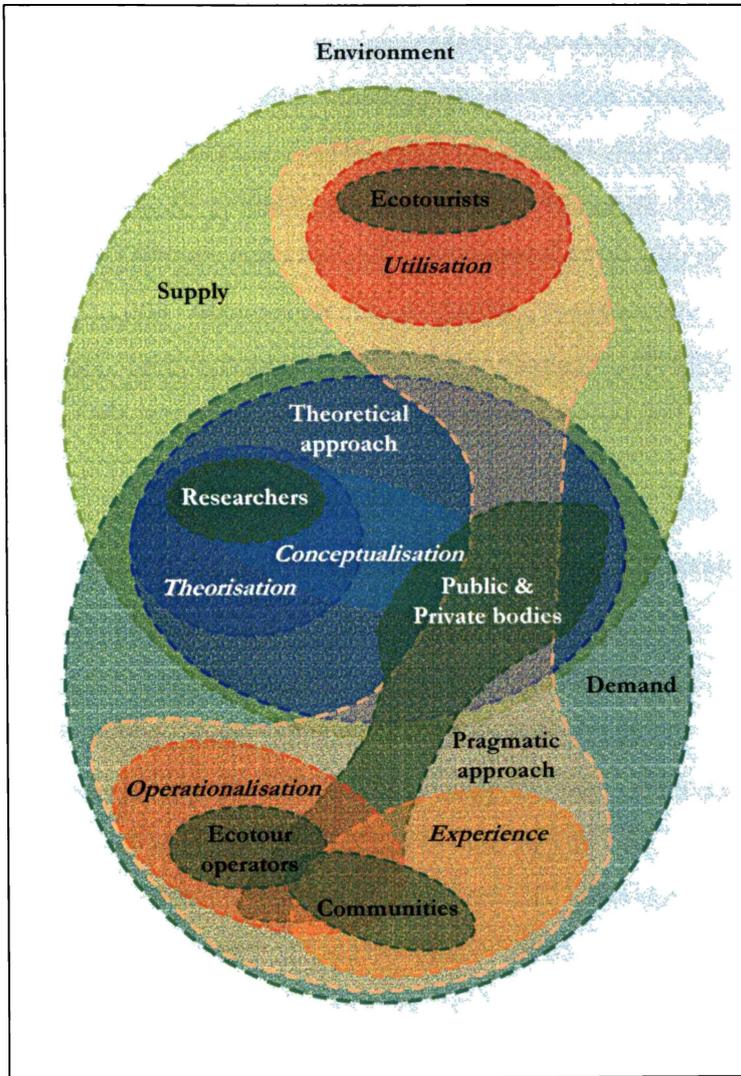


Table 7 Key to Figure 30

The system boundary	<i>Environment</i>
Market elements	<i>Supply</i>
	<i>Demand</i>
Approaches	Operating platform
<i>Theoretical approach</i>	<i>Theorisation</i>
	<i>Conceptualisation</i>
<i>Pragmatic approach</i>	<i>Operationalisation</i>
	<i>Utilisation</i>
	<i>Experience</i>
Network nodes	Stakeholders' perspectives

For example the concern of community members focuses foremost on ‘visible’ effects of ecotourism demand, an emphasis that is (*inter alia*) reflected in their perception, or experience of crowded, or busy areas in the vicinity of attraction nuclei during the peak season. In contrast, ecotourists are primarily interested in using, or experiencing attractions. Subsequent sections stress the perceived network structure of each node, represented by a group of stakeholders, by detailing its respective configuration. Dotted lines signify open boundaries. The lack of a line framing the environment reflects the coevolutionary dynamics of ecotourism and sustainable tourism development with the biosphere and human civilisation at large. The absence of a line thus stands for the system’s inherent connectivity with and dependence on global change.

6.2 Ecotourists: Characteristics and Behavioural Patterns

The first layer of the meso scale model represents the network perspective of ‘typical’ ecotourists in the Coromandel, depicting elementary components of ecotourism development in the Peninsula as a tourist attraction system (Gunn 1972; MacCannell 1976). Some of the ecotourists’ main characteristics have been mentioned in *Chapter Five* (section 5.3.1). In order to understand their involvement in and interpretation of ecotourism, the following description typifies ecotourists with reference to their demographic and psychographic characteristics, i.e. their origin, motivation and main (travelling) objectives. It also generalises ways of accessing *markers*¹⁰⁴ and ‘practising ecotourism’.

Categorising ecotourists does not do justice to the individualism I encountered, and can only serve as a matrix, with cases ‘falling off the edges’ at both ends of the applied scales. Problems surrounding any classification of tourists in typologies, or as market segments have been addressed in *Chapter Two* (section 2.4.1).

Employing methodological triangulation, the following identification and characterisation of ecotourists in the Coromandel is based on the evaluation of

¹⁰⁴ ‘Markers’ are information sources and comprise one of three basic components in a tourist attraction system. The other two are ‘nuclei’ and ‘tourists’ (Gunn 1972; MacCannell 1976).

information that has emerged from a variety of data collection methods. The conclusions are drawn from responses in (informal) conversations and (formal) interviews with individuals, in focus group sessions, as well as from answers and comments provided in questionnaires. Inferences are further based on experiences made while engaging in ecotourism activities and observing other participants, as well as on statistical data supplied by one operator (Elliott 1999, unpub.). Another operator (Johansen 1999, unpub.) provided a cultural segmentation that categorises and characterises international ‘ecovisitors’. The typology claims that differences in motivations to engage in ecotourism activities, and perceptions of New Zealand as a holiday destination, depend on the ethnic background.

Neglecting shifting boundaries (*Chapter Five*, section 5.5) and principal problems surrounding the definition of ‘ecotourists’, the data suggest that, roughly speaking, three different ‘types’ of potential ecotourists visit the Peninsula. The two main groups are represented by the ‘budget’ ecotourist, who stays in backpacker hostels, and the ‘luxury’ ecotourist, who uses upmarket lodgings. In both cases the ‘accommodation driver’ is indicative of operators’ classification of ecotourists. A third group that could be termed the ‘middle class domestic’ ecotourist is a fundamental component and key driver of (family orientated) ecotourism (page 319). However, only one respondent (* who is an employee in an ecotourism business) identified these visitors as a separate market segment within ecotourism. My access to ‘luxury’ ecotourists was limited, and the focus of my research is thus on the backpacker market as a major source of potential ecotourists.

For potential ecotourists within all three groups the major *overt motivation* reflects a pragmatic approach towards ecotourism. The wish to *utilise* the *natural environment* (Figure 30, p. 265) and, to a lesser extent, the cultural and historic heritage of the Coromandel, is their dominant rationale for thinking about ecotourism. Even those few tourists, who, due to their home environments, (initially) do not feel a strong connection to Nature, do seek the ‘natural experience’. This assessment is corroborated by one operator whose evaluation of ecotourists reflects the common notion within the industry sector:

... but people that come to the Coromandel are coming because of the Nature, so 99% are the visitors that are already half there because they do love Nature and they want to be coming. We get the odd ones, you know now and again, that have never been connected with Nature before - from New York City, real city guy and you can feel they're not very happy to sit and look at Hochstetter's frogs, or glowworms and that, but it's frightening to see them changing over that - it's really exciting - I find that really rewarding ().*

These three domains, i.e. the natural environment, the cultural attractions and the historic heritage, constitute the resource bases – and thus the *attraction nuclei*. Ecotourists (or ecovisitors as one operator (*) prefers to refer to her/his clientele) are in search of a *sense of place* and expect an *integrity and authenticity* of the local experience. From a demographic viewpoint the majority of ecotourists are *international tourists* from *Australia, North America and Europe (inclusive of the UK)*:

Japanese and Taiwanese have little domestic experience with ecotourism on which to develop an appetite and expectation for overseas travel. This is changing [...]. However, [...], Japanese ecotourism up-take is unlikely to extend much past one-day optional interpreted experiences for the time being (Jobansen 1999, p. 7, unpub.).

This is where mutuality and common grounds of ecotourists end. In subsequent sections a case is made out for the differentiation into two distinct groups of ecotourists in the Coromandel.

6.2.1 The 'Budget' Ecotourist

This section depicts a 'stereotype' image of (potential) ecotourists in the Coromandel who could be labelled 'budget round-the-world travellers', or 'FITs'. They commonly call themselves *backpackers*. A demographic and psychographic typology is followed by a 'behavioural framework' of backpackers that focuses on: (1) Interest and needs-based motivational patterns; (2) resulting activity and expenditure habits; and (3) on the provision and utilisation of information networks.

According to owners and employees of backpacker lodges, their guests are mainly international tourists who typically fall into the age bracket between 20 and 35 years.

And so cosmopolitan you know the young elite of the world [...] they are educated ... (owner of a backpacker hostel).*

Although backpackers and facilities catering for their specific needs make up a large proportion of the tourism market in the Coromandel, TCDC's (1999, p. 10) strategic plan draft only mentions "... High class, self-drive accommodation, ..." tourists as stakeholders "... who present new or challenging issues for the Council ..." (ibid., p. 9)¹⁰⁵. It remains unclear whether there are merely no issues to consider, or if backpackers are not recognised as a distinct group of visitors at all. Backpackers are often multi-destination travellers. Their main motivation to travel to the Coromandel is the desire to experience different places and to be physically active in unspoilt Nature, as the owner of a backpacker hostel characterises their motives:

... they are walkers; they are cyclists; they are outdoors people that enjoy space and the clean green. Yeah, they are good people. [...] They want exercise; they don't want to be passive participants; they want to get out [...] bike here and bike there ... ()*

In Gray's (1970) motivational typology they would thus fall into the *wanderlust* category. Backpackers on the whole are adventurous and self-confident, but prefer to travel to popular areas that are equipped with the familiar amenities of their home environments. In Plog's (1974) cognitive-normative model of a psychographic segmentation¹⁰⁶ they represent the *midcentric* personality type. Backpackers either travel alone or with a friend/partner. They make their own travel arrangements, create their own itineraries and are not only flexible regarding changes but expect and welcome *ad hoc* decisions. As one German backpacker put it:

We make decisions on the spur of the moment. If you plan everything in advance, you are only disappointed afterwards (translation from German).*

Backpackers stay, however, *on* a 'beaten track', and can be categorised as *pseudo explorers*. The 'search for adventure and unspoilt Nature' in an organised tour can be experienced as a physically demanding undertaking, deterring tourists from booking any further tours that may lead to physical exhaustion. One comment exemplifies this conflicting, or ambiguous experience of 'Nature' tours:

¹⁰⁵ It must be added though that the source document of the previous quote is a draft and not the final plan.

¹⁰⁶ I am aware of criticism regarding Plog's theory (e.g. Leiper 1997). Although the model cannot explain a tourist's reason for travelling to and in the Coromandel, it is argued that it is a useful tool to describe the 'backpacker's' personality.

... on Great Barrier Island it [the track] was so steep. We don't know yet whether we will do this [the Pinnacle hut track] because it also goes up and down. For three days we did that [walking the track on Great Barrier Island] [...] it was pretty tough ... and that with 18 Kg on the back (translation from German).*

In an interactional model of tourist behaviour backpackers are thus situated between the two categories of institutionalised and non-institutionalised tourists in Cohen's (1972; 1979a) theoretically derived typology. Possessing these particular attributes, backpackers can also be described as *incipient mass tourists* in Smith's (1977; 1989) theoretical approach.

When backpackers arrive in New Zealand, the Coromandel is often *not* part of their initial travel agenda, and their visit to the Peninsula is 'unplanned' (see also *Chapter Five*, section 5.3.2). One of the reasons why the Coromandel lies 'off-the-beaten-path' may be the popularity other regions in New Zealand enjoy with international visitors due to national tourism marketing strategies:

Coromandel is really the Cinderella sister when we compare it with the Bay of Islands, Rotorua, ... (tourism operator).*

The following statement is typical of the way visitors 'discover' the Coromandel:

... it [the Coromandel] just happened to cross our path. No, [we did not plan to visit the Coromandel beforehand] we just let things happen (translation from German).*

All of my interviewees had visited other regions in New Zealand prior to their 'Coromandel experience'. It can therefore be assumed that backpackers on the Peninsula are (generally) already familiar with information, transportation and accommodation networks in this country. Backpackers travel 'on a shoestring'. Their main motivation to engage in an ecotourism related activity is the *desire to be physically active in a wilderness area* (which is the tourist attraction system's main nucleus), or at least in a *relatively* undisturbed and unaltered natural environment, and/or to encounter and experience a cultural tradition. Even though they appreciate the Peninsula's natural scenery, *as well as* the diverse cultural heritage of Māori and Pākehā history, the emphasis for backpackers is on being active in the natural environment. *Recreational replenishment* is given the preference over educational enrichment.

Backpackers' expenditure pattern is 'simple' in terms of the main reasons underlying decision-making processes. Long haul and multidestinational, as well as prolonged 'globetrotting' in combination with a (usually) limited budget, makes backpackers very price conscious. The potential range of activities backpackers can and will engage in, is thus limited by their finances. The owner of a backpacker hostel describes how typical activity patterns of backpackers are (presumably) dictated, or at least influenced by budget constraints:

They also like [it] here because they can do a lot of things in New Zealand, things that don't cost too much. Like they can see the natural things; they can spend the whole day, or maybe a dollar across the ferry and a dollar back and then walk ().*

A contrasting statement (made by the same hostel owner) seems to contradict this initial assessment:

... they usually come from [a] more privileged background so they've got the money yeah ... ().*

Combined with my own experience of backpackers, and as a backpacker, the comment is, however, interpreted as an evaluation of their general ability to travel internationally, rather than her/his ability to 'blow a bottomless budget' on activities.

On average, backpackers do not stay in one location for longer than a few days and prefer half-day excursions, or day trips that incur no or low costs, and are thus perceived as affordable. However, not all backpackers stick to this 'standardised pattern'. It is not uncommon for individuals to stay in a backpacker hostel for a few months, or even longer. They might clean the premises, help out at the reception, or drive the shuttle bus for free food and/or lodging in return. Some may even become 'overstayers'. A comment of one of those 'tourist employees' in a backpacker lodge reflects the (perceived) fluid boundary (*Chapter Five*, section 5.3.2) between 'tourist' and 'local':

The place is almost empty. There are only four [guests] tonight. [Name of a guest] doesn't count. He has been here four [or for?] months and is part of the furniture (*).*

In her/his answer to my question regarding the current booking situation, the tourist did not only leave the other backpacker out of the equation but did not include her/himself either in the count.

Backpackers do not use the term ecotourism, but refer to activities and experiences by their actual names. In the Coromandel many ecotourism related activities and experiences are ‘for free’, or non-commercial. Backpackers do make extensive use of them, not only due to budget constraints but also because they prefer and enjoy what they perceive as non-consumptive behaviour.

‘Free’ activities backpackers relate to (but not necessarily label as) ecotourism include self-guided (overnight) bush walking trips, swimming, fishing, and cycling (if bikes are their mode of transport). Cycling has been discussed for example by Lumsdon (2000, p. 361) “... as a contextual component of the tourism offering, especially at the destination”, and has been evaluated as a means toward a sustainable transport network. Fishing has been suggested as a form of ecotourism (Holland *et al.* 1998; Cawthron Institute 2001), but “... has also generated a debate on the boundaries of ecotourism” (Holland *et al.* 2000, p. 346).

Backpacker hostels that hire out equipment for a minimal nominal charge, or lend bicycles, kayaks, or shovels (to dig holes at Hot Water Beach) for free, are very popular amongst their guests. Main ecotourism related activities booked by backpackers are scenic round-trips that offer stops to enjoy the natural scenery and to engage in Coromandel-specific activities. These encompass for example Hot Water Beach and the Cathedral Cove experience on the East Coast, Barry Brickell’s Driving Creek Railway & Potteries in Coromandel Town, as well as short walks while crossing the Peninsula on the (in)famous, but scenic gravel road called the 309 (a narrow and winding provincial state highway, connecting the two communities Coromandel Town on the West Coast with Whitianga on the East Coast). Sports activities like horseback riding, mountain biking, scuba diving, (wind)surfing and sea-kayaking are amongst the most popular Nature-based activities. Sea-kayaking, especially in (perceived) heavy sea, is also interpreted as an adventure, or thrill seeking form of tourism. Activities like rock

climbing, abseiling and river-kayaking are also perceived as ecotourism related activities, but for various reasons entrepreneurs do not (always) reach the backpacker market segment (sections 6.2.1 and 6.2.3).

The major *cultural* experience backpackers relate to ecotourism is the Māori carving tradition, which is commonly referred to as bone-carving. From my personal point of view (Pākehā and Māori) painters, potters and other craftspeople are also significant ecotourism entrepreneurs. However, the *empirical reality* ‘paints a different picture’. To me these ‘lifestyle artists’ seem to prioritise the ‘alternative lifestyle factor’ rather than the business element of their work. Their clientele, who comprise both domestic tourists and international travellers, also view them as artists rather than tourism operators. Tourists do not associate painting, sculpturing, or pottering with ecotourism. Although in some instances they are encouraged to engage in these activities, tourists categorise their visit primarily as a ‘shopping (for souvenirs)’ activity.

Whereas ‘unpaid’ ecotourism contributes indirectly to tourism development in the Coromandel, for commercial operations (economic) development only ‘happens’ if there are tourists who book and pay for an activity, thus providing income and securing economic stability (or survival). Due to the existence of plenty ‘free-riding’ ecotourism experiences and the large variety of commercial ventures, the backpacker’s *demand is elastic*, while her/his *price elasticity is low*. Targeting the market segment ‘backpacker’, ecotour operators can thus only charge low prices, with backpackers enjoying a *consumers’ surplus*. If the costs involved are perceived as too high, the operator will not be able to target the backpacker market segment successfully. As one backpacker put it:

It [walking a particular track ()] is also pretty expensive, NZ \$ 700 for ten days [...] if at least the food was included. [...] booked tours are tremendously expensive (* translation from German).*

Before backpackers can make a decision regarding the purchase of an ecotourism good, or service, they need to know of the product’s existence, i.e. they have to find, access and evaluate a marker before making a booking. It is argued that information links between operators and potential clients are not only an essential prerequisite for

bookings but are furthermore indicative of the cumulative and crucial image the Coromandel has amongst potential clients as an ecotourism destination. Although there are communities like Whitianga, which present themselves on the Internet as ecotourism destinations *par excellence*¹⁰⁷ (Chapter Five, section 5.1; this chapter, section 6.3), there is at present no indication that the Coromandel is regarded as an ecotourism destination *per se*. It is rather perceived and promoted as a region which offers excellent opportunities and future potential for ecotourism development. Feedback loops emanating from both ‘paid for’, as well as ‘free of charge’ ecotourism products are key drivers influencing the system’s development. It is hypothesised that the configuration and nature of information links between customers and service providers play a leading role in image building.

Figure 31 (p. 278) illustrates the typical *backpacker’s perception* of ecotourism markers, or information networks in the Coromandel. Focusing on commercial ecotourism, it depicts the three main layers that *can* be involved in gaining information regarding specific ecotourism related enterprises. The directional value of connecting lines is the ‘access to information’. Main information sources are *contiguous markers* (Gunn 1994; Leiper 1997, p. 157; Gunn and Var 2002). In Figure 31 they are represented as fellow travellers (backpacker 2), the backpackers’ favourite travel guidebooks, which are the Lonely Planet and the Rough Guide (*inter alia* Elliott 1999, unpub.), Information Centres (referred to as info centres) and the budget accommodation network (i.e. backpacker lodgings, DoC and private campgrounds, as well as youth hostels). Backpackers are starved for information, unsystematically, but intensively utilising all available information sources. They thus reflect *Type 1* in Datzler’s (1983, p. 211) empirical study.

Communal kitchen and lounge areas, as well as bunkrooms (or ‘dorms’ to use the backpacker jargon), support socialising amongst the tourists, who not only exchange information once, but tend to meet repeatedly (either planned or by coincidence). Backpackers often bond and travel together temporarily in smaller groups of newly

¹⁰⁷ The Internet website that promoted Whitianga as an ecotourism destination *par excellence* in 1999 has meanwhile been updated, and the explicit reference to ecotourism has been omitted.

formed friend- and partnerships, following the same tourist routes. It is ‘in’ having done certain attractions and activities. The following analogous citation is an extract from an informal conversation with a ‘fellow’ backpacker and sums up the nature of the reciprocal trading of advice:

In New Zealand you brag about the bungee jump you did in Queenstown, the hāngi and the Māori concert you attended in Rotorua, the hole you dug at Hot Water Beach and the night you spent on the beach at Cathedral Cove. It's the same all over the world. In Nepal it is the monastery you stayed at, the monk you visited, the meditation technique you learnt, or a particular track you walked that makes you an insider (anonymous tourist).

There is a (speculative) hypothesis called *personal Geltung*¹⁰⁸ that might explain the behaviour expressed in the previous quote. Its fundamental argument is that “... human behaviour responds universally to the interpersonal effectiveness in communication that I have termed *Geltung* and that the latter reflects a special feature acquired through evolutionary selection” (Wagner 1996, p. 12). It might prove to be an interesting path for future research on tourism behaviour. However, I admit that I dislike the basic assumption that implicitly serves as the foundation of this hypothesis, viz. “... that humans are genetically programmed to behave in a particular way” (Norton 2000, p. 207). Personally, the idea of *Geltung* only appeals to me, if evolutionary selection can be read in the Lamarckian sense, or outside genetic programming. *Geltung* could then reflect a changing selection of strategies we use in a social context as we reflexively learn.

Another theoretical framework in sociology that could be employed to study Jung’s assertion (page 33) in the context of how people transmit and receive information when they socially interact is *symbolic interactionism* (Blumer 1967; 1969; Foddy 1993, p. 19). One of its key assumptions is that “People create perceptions of each other and social settings. People largely act on their perceptions. How people think about themselves and others is based on their interactions” (Neuman 2000, p. 60).

¹⁰⁸ German for ‘respect, recognition and prestige’

When it comes to spending money on a booking, backpackers tend to rely on other backpackers' advice. Word-of-mouth information is regarded as the most valuable and reliable advice. One operator's (Elliott 1999, unpub.) privately compiled statistics also confirm this impression, which is mainly derived from interviews with backpackers and operators. Secondary sources for backpackers are travel guidebooks, the preferred one usually being the latest edition of the 'Lonely Planet'. Virtually every backpacker either owns a copy or, at least occasionally, uses someone else's. This particular guide is not perceived as a marketing tool, but as the written reflection of other backpackers' experiences. Travellers are aware that one can write to the editor and contribute one's own comments to add to, change and improve the next updated version. The guidebook is thus interpreted as a source of 'unbiased', or 'non-commercialised' information, and backpackers tend to compare their own perceptions with the authors' viewpoints.

Hostels and Information Centres form a second group of information sources. However, it should be noted that in the ecotourism context backpackers do not consciously distinguish between the networks of community-based Information Centres belonging to the Visitor Information Network (VIN), and DoC operated Information Centres. Activities can be booked in Information Centres as well as in most hostels, similar agendas driving the promotion of goods and services in both places. Although 'the incentive to sell' is usually commission-driven, the nature of services in Information Centres differs. Whereas accommodation providers often offer subjective advice in addition to the information content of brochures and pamphlets, Information Centres assume an 'objective' role. Their employees are not supposed to make judgemental or preferential distinctions when marketing different operators and selling their products. The Information Centres' objective position is, however, compromised when staff members do recommend businesses selectively, something I experienced when choosing a backpacker hostel in (*). As I later discovered, staff at the Information Centre preferred a particular hostel for personal reasons. My experience was but one example how 'personality clashes' can alter the system's dynamics.

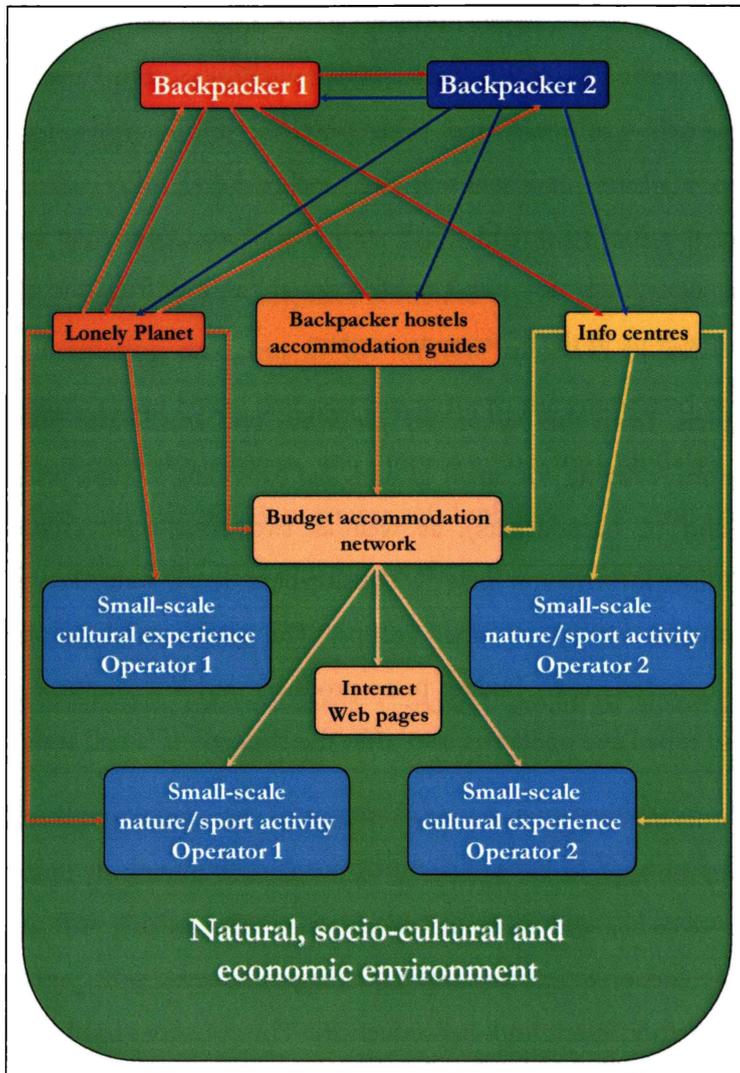
The World Wide Web constitutes a third information layer. Internet access to operators' websites is now possible in many hostels around the Coromandel, as well as in Cyber, or Internet cafés, which had started to emerge on the Peninsula at the time when this research was conducted. This potential link remains, however, mostly unutilised (or at least underutilised) by backpackers, who use the computer predominantly as a tool to stay in touch with friends and family via email. The node thus practically constitutes not only a unidirectional link but, from the operators' point of view, also a *cul-de-sac* in the ecotourism context.

Figure 31 depicts, from the *backpackers' perspective*, two small-scale Nature and sport activity operators (catering for small groups *and* providing budget-price services, the preferred option of backpackers), as well as two small-scale cultural experience operators and their information links¹⁰⁹. The attribute 'small-scale' does not necessarily refer to the tourism concept of 'small groups'. The label is used for operators whose ventures are characterised by budget price products and low business volume. Well-established and expensive operators also offer the concept of 'small scale' tourism.

All four operators in the figure are representative of 'the typical' small-scale ecotourism operator. From the backpacker's point of view links are commonly unidirectional: It is her/him who accesses the different sources, actively seeking information. Fellow travellers and guidebooks are the only information sources with perceived feedback loops, though with different lead-lag sequences. The connections shown demonstrate that information on a particular operator is not necessarily available from all potential information sources. Existing marketing strategies and other reasons responsible for the *irregular distribution of information*, are discussed in sections 6.3 and 6.4.

¹⁰⁹ A distinction between, and characterisation of different types of operators is provided in section 6.4.

Figure 31 The 'budget' ecotourist's information network



The illustration also reflects the *missing links between operators*. Operators neither refer clients to (perceived) competitors nor do they recommend each other, and sometimes they do not even know of a competitor's existence. (Possible reasons are also discussed in sections 6.3 and 6.4.) These 'missing links' and 'dead ends' entail that:

- Ecotourists have to go back to their original information source(s) in order to find a business that offers the activity, or experience they might be interested in next.
- Once potential customers become aware of what they perceive as random dissemination of brochures and other informative material, they will contact

multiple sources in order to ensure that they do not miss out on any offers and products.

From the viewpoint of the potential customer, the ‘worst case scenario’ of finding suitable tourism products would be a ‘trial and error’ approach, where failure and success are based on chance encounters. I suggest that improving existing links and creating new connections between operators and information sources, as well as amongst operators, would be beneficial for business development. It would simplify the tourist’s search for suitable activities and experiences, and enhance the image of the Coromandel as a professionally organised and networked tourism destination. The realisation of this endeavour relies on certain preconditions. Operators have to:

- Be aware of potential information sources
- Understand the relevance of networking and other promotional activities in regard to business development
- Consider it necessary to utilise potential marketing opportunities
- Have the (logistic, financial, intellectual, etc.) capability to utilise information sources adequately

Hindrances to possible progress in respect of the above aspects, as well as barriers preventing collaboration between operators, whose removal could potentially enhance the booking situation of small-scale operators, are addressed in subsequent sections.

In Figure 32 knowledge of the configuration and direction of information links (depicted in Figure 31) is utilised to model the chances of two ecotourism operators to get a confirmed booking. Although the operators are hypothetical candidates, the graphic serves as a heuristic device by generalising and exemplifying typical situations. Based on the availability of markers, the respective position of the two operators is modelled in a five-dimensional phase–space diagram. Each information source represents one dimension, all of which have the same two attributes. The conceptualisation equates to five orthogonal Latin squares of order two and their

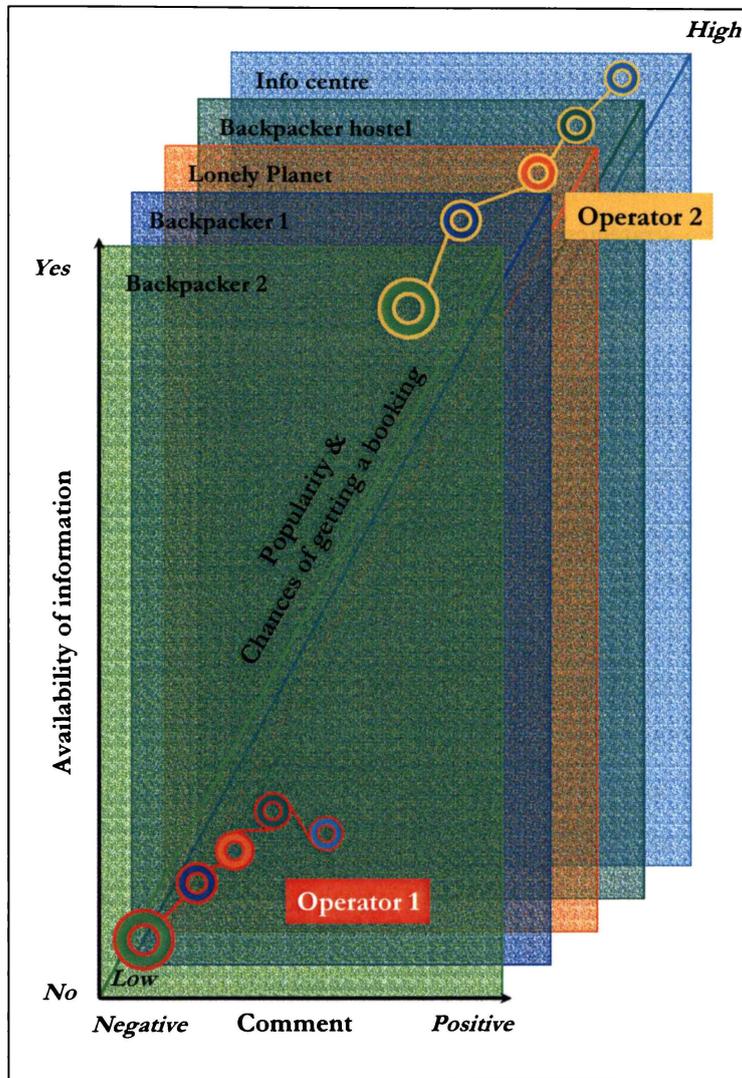
superposition. The y-axis represents the presence (or availability) of information for backpackers, and can have one of two nominal values, viz. yes or no. An entry on the x-axis depicts the quality of a comment regarding an ecotourism operator. Whereas the ‘availability’ value reflects a ratio level measurement of opposing binaries in a Boolean approach, with an absolute true zero (‘no’) as its lowest value, the ‘comment’ value transcends the binary code and allows for multiple values on a nominal scale¹¹⁰, which in this case is exhaustive. The position (or trajectory) within this diagram indicates a *trend* regarding an operator’s popularity and her/his *chances* of getting a confirmed booking¹¹¹.

For pragmatic reasons it is assumed that the same linear relationship between y and x values exists in all dimensions. Furthermore the diagram treats information sources as equally important, or influential, and does not cater for any hierarchical structure. It is hypothesised that determining the popularity level and differential utilisation of information sources, as well as additional attributes and fine-tuning of value correlations, would reveal variations that alter the precision, but not the accuracy of this conceptual model. The theoretical practicability of researching any operator’s *exact* position – and thus the degree of precision, is limited by several factors. First, it is impossible to question all potential ecotourists regarding their knowledge of an operator’s existence, or their experience with a particular operator. Second, the dominating influence of a particular information source is case-sensitive (i.e. contextual and situational) and depends on *individual* circumstances and preferences. Third, the nature of a qualitative comment is subjective and requires interpretation, resulting in an approximate position within the system’s phase portrait.

¹¹⁰ The characteristics of nominal level measurements have been addressed in the paragraphs preceding Figure 21 (p. 216).

¹¹¹ Although information about a particular operator might not be available and comments on her/his performance might be down the line negative, the chances of getting a booking can only approximate zero, and thus the lowest value on the resultant is ‘low’.

Figure 32 Booking chances for small-scale ecotourism operators



Both operators in Figure 32 stand for extreme cases at opposing ends of a scale measuring their *potential* business success. Each operator's momentary position is indicated in all five dimensions. In conjunction the five marks (coloured donuts) represent a static snapshot of the system's condition in phase-space. This particular phase portrait does not cater for temporal variations, and the trajectories thus appear as point attractors (*Chapter Five*, section 5.5) within different regions of the attractors' basin (which is the totality of all opportunities to get a confirmed booking). The development, or change in the course of time, is illustrated in the next graphic (Figure 33).

During my fieldwork I encountered examples ‘at both ends of the scale’. One ecotourism operator (*), reflecting the situation of ‘Operator 1’ in the diagram, had marketed her/his business exclusively on the Internet. In October 2000 the website had disappeared and the owner could not be contacted. The chances of finding clients had always been ‘extremely low’, and now approximate zero. There are also operators whose marketing strategies seem unconnected, or are adverse to the market segment they could potentially tap (section 6.4).

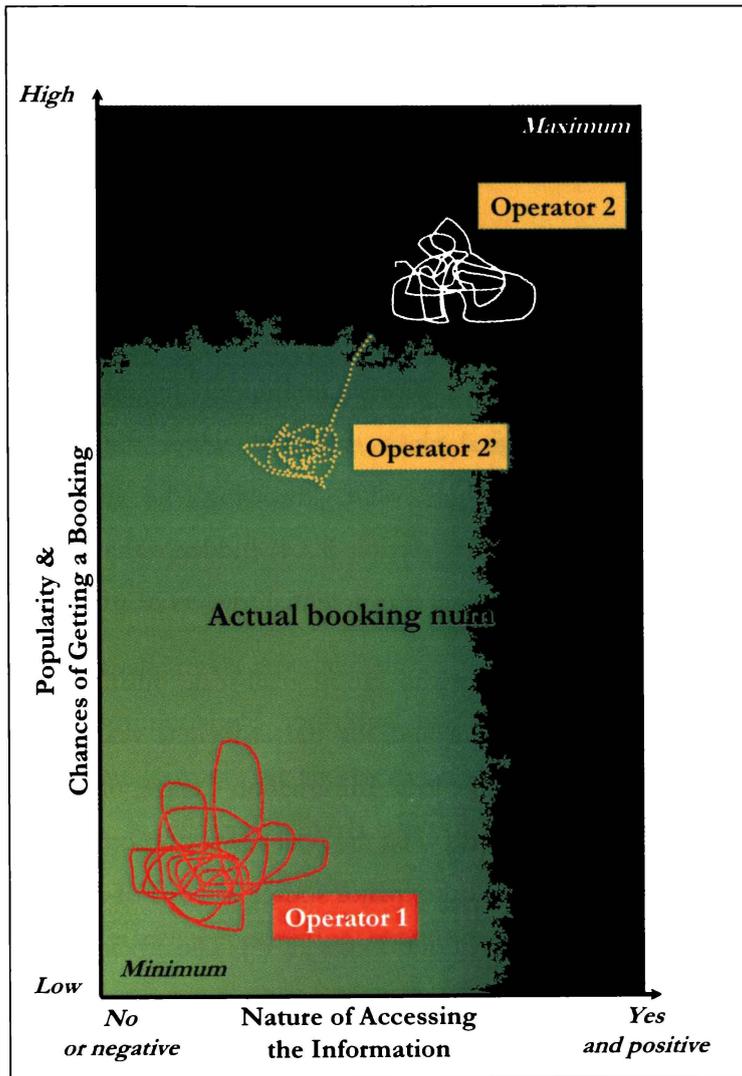
In Figure 33 the outcomes illustrated in Figure 32 are utilised to demonstrate the resulting chaotic distribution of actual booking numbers within a predicted range of bookings. While the value on the y-axis is taken from the previous diagram (Figure 32) and represents the operator’s (superimposed) position in phase-space, the entry on the x-axis refers to the nature of accessing the available information. The values of both attributes are of a qualitative and nominal nature. Whereas the ‘popularity’ value is measured on a continuous interval level scale, the ‘access to the information’ is measured on a binary ratio level scale (‘yes’/‘no’), *as well as* within the exhaustive continuum of an interval measurement. The latter one also resembles a ‘black and white’ picture by differentiating only between *negative* and *positive* ways of accessing the information.

The attractors’ basin is the maximal possible number of bookings over an arbitrary and unspecified period of time. The surface area of the Cartesian system of coordinates depicts the numerical value of these bookings in a cumulative manner by starting with the minimum of zero in the lower left hand corner, and reaching an unspecified maximum number of bookings in the upper right hand corner. The ‘knotty wool’ trajectories represent sequential occupancy of the design space.

The predictability of the attractors’ *regions* within the attractors’ basin – and thus the *range* of actual booking numbers, depends on the linearisation of previously non-linear variables (*Chapter Four*, section 4.4.2) and their correlation. The chaotic nature of both attractors and their trajectories is due to and accounts for the qualitative nature of the

chosen attributes. Chaos is also induced by the probabilistic *and* chance nature of actually accessing and using available information.

Figure 33 Predictability patterns of booking numbers



In *Chapter Seven* it is argued that these attractors include ‘absolute’ *and* ‘deterministic’ elements of chaos. An infinite list of factors influences (not only final) decisions. Some examples I encountered are given below:

- Design and layout of the brochure

- Like or dislike of fellow tourists or hostel owners who provide information and might make a comment about the quality of an activity, or product (i.e. the positive or negative nature of accessing the information)
- Budget constraints
- ‘Last minute’ decisions (for example favouring a spontaneously organised beach party)

It is further argued that ecotourists will not apply clear choice models when they lack knowledge of possible alternatives. The incomplete and in some instances fragmented nature of the information network thus contributes to the complexity and chaotic nature of decision-making processes. The dashed line in Figure 33 depicts a critical bifurcation point in a hypothetical phase transition, where the sensitivity to initial conditions has surpassed a threshold value, ‘throwing’ the attractor into another phase-space region. In *Chapter Five* (section 5.3.4) hidden variables and unforeseen external influences have been mentioned as potential triggers of such phase shifts.

A ‘real world’ example is a couple who ran a small-scale business operation in the ecotourism sector first in Kaikoura and for the last eight years in (*). They face plunging booking numbers from the local Information Centre, one of their two main sources of clients. The couple blames what they call a lack of motivation on the side of employees, for the downturn. The other major source is word-of-mouth marketing “... that’s probably where we get most of our clients ...” (*). The efficiency of the latter one has dropped with decreasing booking numbers. Not being able to afford offshore marketing “... advertising overseas gets too expensive ...” (*), circumstances worsened in the last years. Their business is now what the owners call “... unsustainable” (*), and they find themselves in the unexpected situation of not being able to afford rising local prices, especially on the rental property market. The situation of small-scale operators is dealt with in detail in section 6.4.1.

6.2.2 The ‘Luxury’ Ecotourist

Working within a space ‘defined’ by operator/tourist conceptions (page 267), the ‘middle class’ ecotourist is atypical for the Coromandel and virtually nonexistent. The ‘missing’ middle class ecotourist has implications for the positioning of ecotourism products in the marketplace, and is partially responsible for successes and failures of ecotourism ventures (section 6.4.1). The second ‘idealised’ type of ecotourist who is (according to respondents from within the industry sector) present on the Peninsula, is the international upmarket ‘luxury’ ecotourist. The engagement in ecotourism of this clientele is triggered by their taste for a destination-specific type of recreation, i.e. a (perceived) need that ecotourists cannot satisfy in the home environment. This main motivational difference in comparison with backpackers puts ‘luxury’ ecotourists into Gray’s (1970) *sunlust* category. Psychographically they belong to the same *midcentric* segment (Plog 1974) as backpackers, and like them, ‘luxury’ ecotourists are *incipient mass tourists* (Smith 1977; 1989). However, the standard and comfort of transportation and accommodation facilities reflects their greater discretionary incomes. ‘Luxury’ ecotourists typically make travel arrangements to popular places through agencies, thus representing the institutionalised ‘individual mass tourist’ in Cohen’s (1972; 1979a) model. Their long haul journeys are shorter in duration than those of backpackers, and their travel itinerary is relatively ‘fixed’, with fewer destinations on their agenda. ‘Luxury’ ecotourists display an inelastic demand, but then higher price elasticity in comparison to backpackers, permitting operators to charge *reservation prices* to this consumer group. Unlike small-scale operators who primarily rely on the backpacker segment, operators targeting this particular consumer group can thus benefit from increased profit margins:

Ecovisitors are elder, well-educated, professional people with high disposable income (and/or significant savings). They tend to live (and travel) either as couples or alone. Male/female balance is about even (Johansen 1999, p. 8, unpub.).

In contrast to backpackers, ‘luxury ecotourists’ prioritise *enrichment* over replenishment (Johansen 1999, unpub.). The last two claims are taken from a source that reflects the ecotour operators’ *assumptions* regarding their clients’ psychographic profile. In this case those presumptions correlate with my own observations. However, the adoption of

research results that are *not* based on local experience (or empirical data) generally creates problems. Possible consequences like false estimations or inaccurate predictions are highlighted in section 6.3.

Talking to ‘luxury’ ecotourists left the impression that not only their motives diverge from those of backpackers but they also access information about ecotourism in the Coromandel differently than their ‘budget’ counterparts. They reflect *Type 4* and *5* in Datzler’s (1983, p. 211) typology in so far as they prefer a directed search, based on needs specific requirements, by focusing on ‘neutral’ sources and carefully selecting supply oriented information. Favouring offshore marketing endeavours – and thus *generating markers* (Leiper 1997, p. 157), ‘luxury ecotourists’ attend multimedia shows, visit fairs and exhibitions, obtain information from travel agencies and read specific magazines *before* they leave their place of origin. This finding correlates with my own experience as a guide for study tours, catering for a similar clientele. Interviews and a privately compiled statistic by one operator (Elliott 1999, unpub.) reveal that preferred printed information sources encompass for example geographical and travel journals (Geo, National Geographic, *et al.*), as well as guidebooks (Polyglot, ADAC *Reiseführer*¹¹², Apa Guide, DuMont *Reiseführer*, *et al.*). The latter ones target a ‘middle aged, upper class’ audience interested in relaxation *and* education during their holidays. For ‘luxury’ tourists the existing network of Information Centres in the Coromandel serves as a *secondary* source of information, mainly to confirm what these tourists already ‘know’ before they enter the country, as well as for booking purposes.

Like backpackers, ‘luxury’ ecotourists are foremost international tourists, but they are on average older than backpackers, reaching into the ‘retired’ age bracket. Their interest in thrill seeking adventure and sport activities is limited, but this does not deter them from enjoying physical challenges like bush walking not only off the beaten track but also off *any* track. Educational hikes through dense bush and forest by eschewing paths and leaving no traces, is a ‘specialty’ on the programme of one of the well-established operators (sections 6.3 and 6.4.2):

¹¹² German for ‘guidebook’

... 'cause you know we just thought of the keynote area should be walking [...], but we basically feel that we are giving the people a message about conservation because we are very much conservationists and hoping to impress people to go back and have another look at their countries like Germany, or the US [...] to them to try and help their own nature ...

... not many Kiwis will go into an area that's not got trails. Yeah they might get lost. Especially the overseas people no way would they venture on the big wide tracks like for instance you walk the Routeburn, Milford those areas. OK they are beautiful areas stunning, but you are walking on big wide tracks, ...

... you know the old horse tracks laid up [...] years ago well when I reopened them I just reopened just so you walk through this was 25 years ago and then we just let it grow right back ... (operator).*

On the whole 'luxury' ecotourists have a greater interest in 'eco-educational' experiences than backpackers, and are the typical clients on excursions led by local Māori:

... yeah history is very much involved. [...] this is Māori history [...] and they sort of bring in the Māori aspect [...] and we have actually tried to encourage the Māori, the local Māori to get involved in what we're doing because we ask you know bring people in the Coromandel, who were a cultural experience here rather than take to Rotorua 'cause ... [sic] (operator).*

There are only a few multiple star 'luxury' accommodation facilities in the Coromandel catering for this clientele. One of them (*) concurrently offers (from the clients' perspective) ecotourism related scenic round-trips with explanatory comments provided by accompanying guides/drivers. In the academic literature these tours would fall into the 'study tour' category rather than qualifying as ecotourism. The management of another luxury lodge (*) collaborates with one of the well-established ecotourism operators. They market their products reciprocally and exchange clients. The implications of such concerted actions on the economic sustainability of ecotourism businesses are dealt with in sections 6.3 and 6.4.2.

6.2.3 An Analysis of Ecotourists' Impacts on the Market's Development

Ecotourism is a composite commodity: Planned, developed, marketed, purchased, and consumed in a complex manner; and experienced by a heterogeneous set of producers, sellers, consumers, and affected members of the host community. Utilising the findings

of previous sections, an extended analysis of ecotourists' influences on the market's development is constructed. It is argued that last minute decisions (section 6.2.1), non-communicative effects (*Chapter Five*, section 5.4.1), hidden variables (*Chapter Five*, section 5.3.4), spatiotemporal changes, and accompanying boundary crossings (*Chapter Five*, section 5.3.2), as well as chaotic human behaviour, which displays freedom of choice and spontaneity (section 6.2.1 and *Chapter Seven*), prevent any *precise* forecasting of market supply, or consumer demand.

Standard forecasting models may work at the level at which they are constructed (although poor specification of a model can let the researcher down). The problem is, however, that they usually *purport* to represent a total rather than reductionist world. These theoretical concepts presuppose a 'rational economic person' and are based on the 'axioms of consumer choice', which proclaim symmetrical consumers' behaviour (Sinclair and Stabler 1997, p. 47). Furthermore the equations use multivariate regression analyses to determine the relationship between variables and demand, presuming a consistently linear relationship between demand and determinants. A predictive model on the basis of econometrics such as multivariate single equation, or system equation models of tourism demand, is thus rejected in favour of qualitative analyses and interpretations (*Chapter Three*).

The qualitative methods used in this study constitute the 'antithesis' to econometric models, creating possible alternative scenarios by including my subjective interpretation. They follow McIntosh *et al.*'s (1995, p. 297) demand formula, which suggests a relationship between demand and the criteria comprising the attributes *propensity* and *resistance*. It is argued that any serious estimate of tourism demand has to take into account non-linear system behaviour. In sections 6.2.5 and 6.3 relatively 'simple' measures are proposed to increase the market share of those businesses that are at present economically unsustainable.

Employing simultaneously acting, as well as lagged psychological, sociological and economic variables, Figure 34 summarises the main differences in the decision-making process of backpackers and 'luxury' ecotourists with regard to their engagement in

commercial ecotourism activities. The diagram shows how ecotourism related businesses draw primarily on particular ‘types’ of ecotourists. It provides examples of activities that tap both market segments, and it shows two business categories that do not meet the demand ‘criteria’, thus ‘failing the market’.

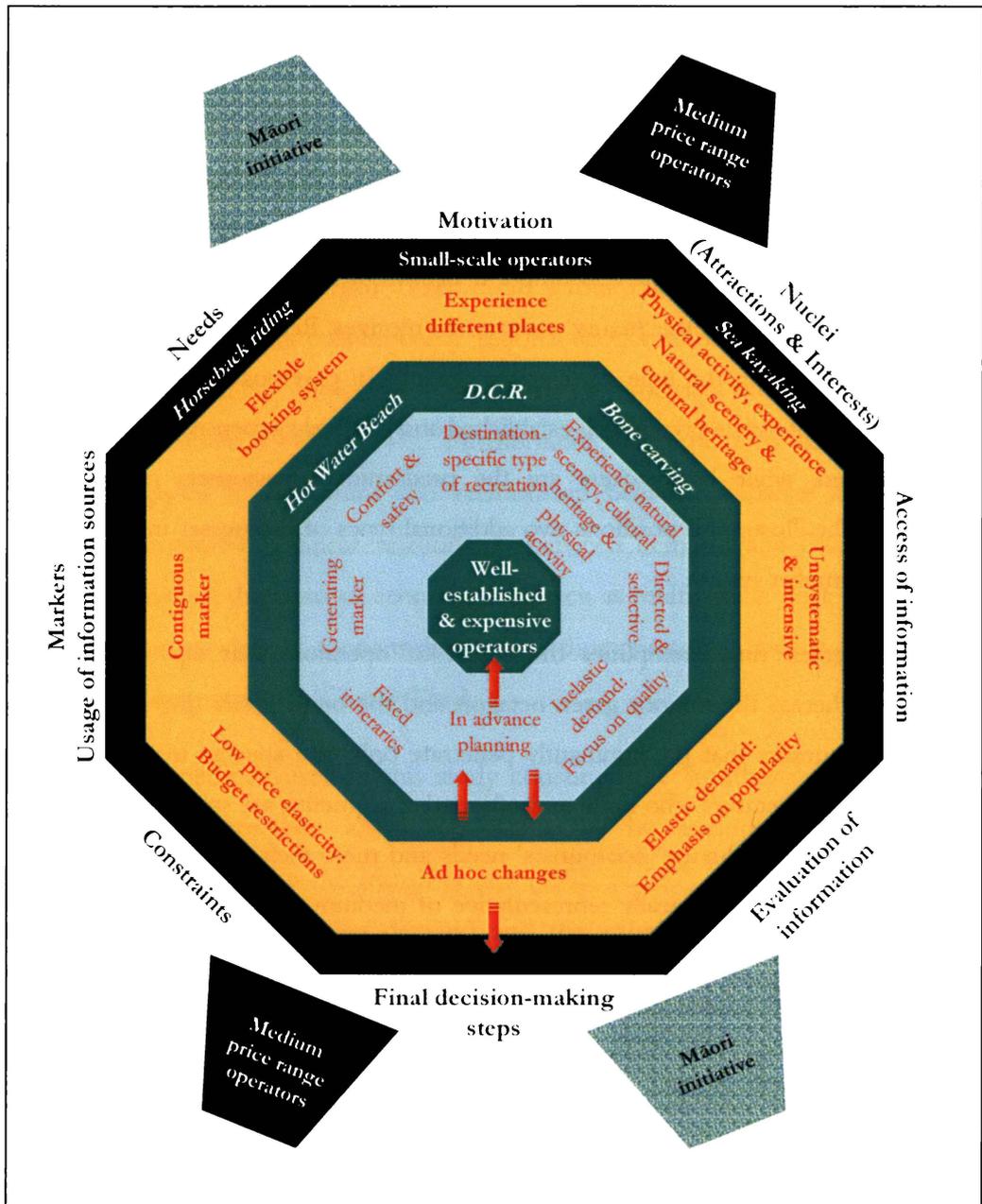
Each segment in the octagon represents one attribute that contributes to the decision-making process (red captions). Only keywords are used to highlight the different aspects, which have been elaborated in previous sections. The listings of nuclei are prioritised, i.e. the attraction, or interest at the top of the list is given the highest priority by the particular consumer group. Within the yellow ring main influences affecting backpackers in their consumption behaviour are depicted, while the inner light blue ring represents the ‘luxury’ ecotourists’ motives. Red arrows indicate tourists’ preferences regarding the type of operator (green). In previous sections the reasons why ‘luxury’ ecotourists favour well-established and relatively expensive operators have been outlined, while backpackers are the predominant customers of small-scale operators. The illustration positions two additional types of businesses involved in the ecotourism market system.

The inner green ring exemplifies the sector of operators that taps both market segments, whereas the interior green octagon and the outer green ring represent the types of businesses that predominantly penetrate only one specific market segment. Whereas those operators who draw on both market segments, are small-scale operators who also satisfy the ‘luxury’ ecotourists’ needs and meet their interests, the depicted ‘satellite’ operators are typically representative of medium priced goods and services, which are perceived as too expensive by backpackers, and concurrently fail to comply with one or several criteria that influence ‘luxury’ ecotourists’ choices. ‘Satellite’ Māori business *initiatives* and consultancies make up the other type of business venture that struggles to target ‘eco’ customers. They are labelled as ‘initiatives’ since they face problems to get their ‘feet off the ground’ as businesses in the first place.

There are also a few operators who are desperate and employ tactics and methods on the verge of legality (but which fortunately do not compromise any safety issues), to

save money and time in order to increase their profit margin. Sections 6.3 and 6.4 address these problems and the positioning of businesses from the owners' perspective.

Figure 34 The market position of ecotourism operators in a tourist attraction system



6.2.4 *Ecotourists and SETD: Ideals versus Practice*

The idea that the Earth is dead is giving way to the Gaia¹¹³ Hypothesis (Sheldrake and Fox 1997, p. 20).

Even though the ‘typical’ ecotourist ‘disassociates’ her- or himself from the natural environment by excluding humans from a definition of ‘Nature’ (*Chapter Five*, section 5.2.1), (potential and actual) ecotourists do not abandon the idea of a symbiotic relationship between anthroposphere and eco-, or biosphere. Quite on the contrary, Lovelock’s (2000) Gaia hypothesis, a geophysiological concept, or theory of the Earth resembling a living organism, mirrors ecotourists’ understanding of the implications arising from the intrinsic relationship between the environment and their own actions. However, rather than bold statements, behavioural patterns corroborate this assessment. One example is the backpackers’ attitude and actions in respect of discarding rubbish. Many backpacker hostels have a waste disposal scheme in place that encourages recycling. There is no doubt that most backpackers are familiar with the concept and abide by it. These actions could be attributed to conditioned behaviour, or peer pressure in a communal kitchen and lounge area. Although everyone’s actions can be observed in shared facilities, it is presumed that in principle there would be ‘no need to bother’, and I presume that ecologically sensible behaviour is the result of a genuine ecological awareness. Many tourists apparently realise that their actions might have more than instantaneous repercussions and can extend beyond the immediate vicinity. The owner of a backpacker hostel offers a brief yet apt description of their behaviour:

They [backpackers] are tidy. They don't throw rubbish around ().*

In their definitions of sustainable tourism development ecotourists focus on the conservation of natural resources. Two main aspects emerge from the questionnaires and interviews as elements of ecotourism: Experiencing Nature and ecological education. Operators also identify both aspects as the main elements of ecotourism:

¹¹³ (1) In Greek mythology the Earth personified as a goddess; (2) the daughter of chaos

Well, my understanding of ecotourism is educating not entertaining, educating the people about the ecology of the area (operator).*

However, not every ‘ecotourist’ is with the terminology. When asked whether they had heard the term ‘sustainable tourism development’ before, the options provided by two tourists during a combined interview session exemplify the occasional case of ‘ignorance’ regarding the concept:

... [does sustainable tourism development mean] that people return again and again (translation from German)?*

and

... [sustainable tourism development means] that there are marked walking tracks, so that people do not wander in a cross-country fashion (translation from German).*

When specifically asked (Question Six in the questionnaire), (eco)tourists do, however, include aspects such as economic viability, the preservation of cultural integrity and diversity, community involvement and equal opportunities, as well as the recognition of any spiritual significance of a place, as criteria of sustainable tourism development. Their approval of these ‘sustainability aspects’ is consistent with the consumers’ emphasis on integrity of a place and authenticity of an experience (section 6.2).

Globalisation has contributed to ecotourists’ enhanced knowledge and awareness of international, regional and local issues regarding the environment (Mowforth and Munt 1998). They know that their behaviour as individuals, and their indirect influence as members of a society, has repercussions on the natural, socio-economic and cultural environment, causing feedback loops that include effects on the human dimension. However, being part of *modern Western* society, the vast majority of potential and actual ecotourists are, like many inhabitants of industrialised countries at the end of the twentieth century, ‘torn between two lovers’, viz. materialism and consumerism *versus* environmentalism. Casting the role of ecotourists in the Coromandel, individuals might temporarily be able to escape from the normal routine of everyday life in their home country, or place of origin. However, societal pressures and environmental

conditioning, resulting in acquired behavioural patterns, continue to influence their decisions.

Regarding people's participation in ecotourism activities and their involvement in realising SETD, (not excluding myself) I perceived inconsistencies, or discrepancies between four activities of the human spirit, viz. the 'thinking, feeling, willing and doing' aspects of human behaviour. Ecotourists *know* what they should be doing, or not be doing. They are environmentally conscious and aware of the troubled concept of sustainable development, i.e. they have developed *sensitivity* for environmental issues. Contradictions between *expressed* environmental concerns and *actual decisions* resulting in carried out *actions* arise from the interplay of *zweckrational* reasoning and emotional intelligence, as well as from egoistic and (reciprocal) altruistic elements of human behaviour (*Chapter One*, section 1.8.1). These inconsistencies are reflected in one visitor's additional comment in the questionnaire:

That's where it gets tough! (Anonymous, answer to Question 18: What do you think about paying a higher price for tourism activities in order to achieve sustainable tourism development?).

Another respondent's answer typifies the conflict arising from the general agreement on necessary restrictions and the personal wish not to fall victim to such limitations, inconveniences, or financial burdens:

Encouraging tourism into the area without exploiting the natural environment i.e. the [sic] eco-tourism. Keeping the numbers at a manageable level as to not exploit the area. but [sic] at the same time keeping people coming as to keep a steady income to the area (Anonymous, answer to Question Four: What do you believe sustainable tourism development means?).

The same person ticked the boxes 'strongly disapprove' for Question 18 (What do you think about paying a higher price for tourism activities in order to achieve sustainable tourism development?), and 'strongly approve' for Question 19 (What do you think about a lower profit margin (e.g. fewer tourists, fewer and smaller groups) for tourism operators in order to achieve sustainable tourism development?).

Ecotourists undoubtedly possess an environmental ethic, and *tend* towards a biocentric conception of Nature rather than being caught up in a fixed anthropocentric worldview. Ecotourists in the Coromandel are nevertheless no more and no less genuine environmentalists, or radical ecologists than other fellow human beings. They generally tend to appreciate the benefits that ecotourism in the Coromandel has to offer, while concurrently avoiding, or disapproving any quantitative losses regarding their personal holiday experience. A German visitor ‘solved’ the conundrum by ‘discovering’ a rather unique (and in my view naïve) formula that defines sustainable tourism development:

For me sustainable tourism development means that those damages to nature, which are inflicted by tourists, are healed by nature itself (Anonymous, translation from German; answer to Question Four: What do you believe sustainable tourism development means?).

Apart from being original, the answer serves as a reminder that not all potential and actual ecotourists have the knowledge and analytical capacity to theorise the idea of sustainable development. (Although it could be argued that ‘Gaia’ might have been part of this particular conceptual definition.) The example corresponds with Higham *et al.’s* (2001, p. 4) finding that “In terms of environmental values, visitor profiles were found to be diverse with both experts and novices represented within the study sample.” The range of philosophical, scientific and pragmatic interpretations is thus complemented by *common* knowledge-based (as opposed to *informed* knowledge) conceptualisations.

There is also a direct link between ecotourists and ecotourism operators regarding not only visitors’ interpretation of ecotourism and sustainable tourism development but also between both outlooks on life. A quote from an interview with a tourguide exemplifies the (reciprocal) psychological effects arising from the relationship between host and visitor by highlighting the – in this case – unidirectional complexity of impacts that ‘eco’ experiences have on the behaviour and attitudes of visitors:

They get off the bus so blasé, dark glasses, you know just want to be Mr. Cool. But by the time they finish, these kids, we’ve got them so wound up, so excited about what Nature is about, what is available, that they are absolutely on edge and we get

so many letters, emails and faxes from them saying we've changed our minds and now they know what they want to do with their lives ().*

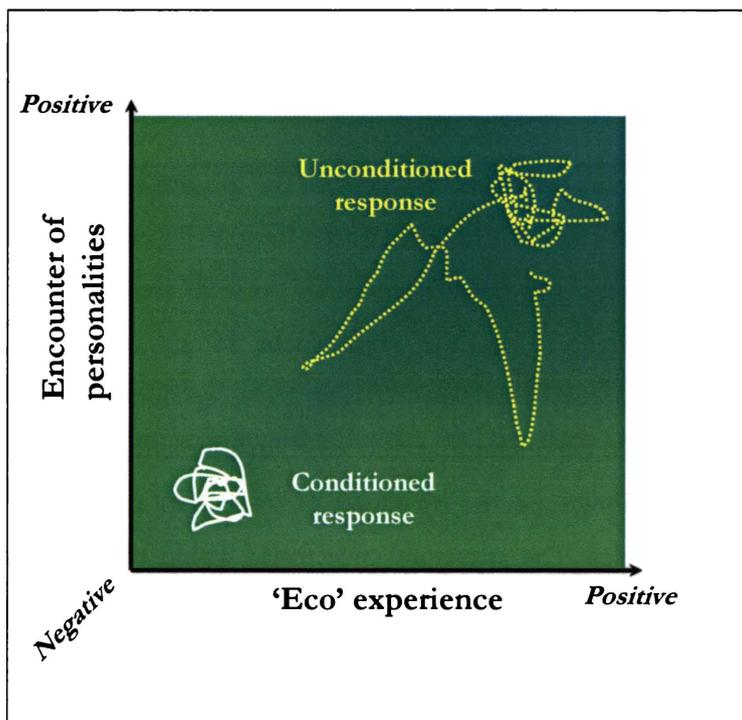
Shifting perceptions due to these influences are contextual as well as situational outcomes, and are thus case-sensitive in character. It is argued that they can be *understood* (within the concept of *verstehen*) rather than explained, or forecasted, as perceptions depend on the individual personalities of the people involved, as much as on the reasons why people meet and their particular awareness of each other. Furthermore the nature of the 'eco' experience, as well as any unforeseen events that might alter the original programme, for example an encounter with a creature belonging to a rare, endangered, or endemic species, but also accidents, cancellations, or unfavourable weather conditions, affect these value judgements in unpredictable ways. My personal experience, although not in the Coromandel, lends an extreme example, where the ecotourist gets told off by the tourguide for feeding a squirrel in a (Canadian) National Park, marries the tourguide shortly afterwards and ends up conducting adventure- and ecotours alongside her husband.

In Figure 35 the chaos paradigm, as well as the postmodern and poststructural paradigm of situational context, are applied to a 'simple' hypothetical systemic model that reflects the complex and chaotic nature of possible reciprocal behavioural and attitudinal changes triggered by the engagement in an ecotourism activity, or experience. Modelling the responses (*Chapter Four*, section 4.4) of an involved individual (this could be the operator *or* the tourist) in a three-dimensional phase-space portrait, only two attributes, i.e. the encounter of individuals and the 'eco' experience, are included as variables. The attractors' trajectories within these continuous spaces mark the system's configuration and temporal change by using two nominal scales with polar binary values. The attractors' basin is the total amount of all possible responses, resembling a discrete space and concurrently the third dimension of the model.

On the one hand, the depicted 'conditioned response' attractor reflects intentional and conditioned behaviour, with the trajectory remaining within a particular region of the phase-space as a result of negative experiences. On the other hand, it is suggested that responses can be 'absolutely chaotic' (*Chapter Four*, section 4.4.2) – and thus do not

necessarily stick to a pattern that can be explained within the chaos paradigm. The ‘unconditioned response’ attractor symbolises after-effects of positive events. Both types of responses occur in mental (i.e. rational and emotional) dimensions, as well as in the quality of actual behaviour (the ‘activity dimensions’ of human nature). It is hypothesised that fine-tuning the model’s ‘qualitative equation’, by adding n-numbers of external and internal attributes with exhaustive value scales, might reveal a finite number of possible conditioned responses but also an infinite number of unconditioned (and absolutely chaotic) responses. There are at least a dozen psychological theories (McIntosh *et al.* 1995, p. 171) that could be employed in theoretical and empirical research endeavours to study the phenomena involved in Jung’s ‘transformation of personalities’ process (page 33).

Figure 35 Shifting responses



6.2.5 Room for Improvements

Prioritising the objective of ‘economic viability’, recommendations in respect of sustainable ecotourism development focus on the Peninsula’s comparative advantage (Chapter Five, section 5.2.1). Utilising this common lead, it is suggested that

communities and businesses in the Coromandel could benefit from determining and implementing consistent and transparent measures of SETD in a *concerted* action. Guidelines, standards and policies should apply to all ecotourism operations and should be communicated to ecotourists. An ‘optimised’ model would ideally incorporate a *national* endeavour to conceptualise and implement SETD in conformance with *all parties’* needs and interests. It is hypothesised that such a proactive approach could potentially enhance the region’s (already positive) image as an ecotourism destination *par excellence*, converting the Peninsula into an ‘eco-destination’ *per se*. Additional research on product differentiation, as well as demand and price elasticity is necessary. On the basis of this study it is hypothesised that ecotourists, including backpackers, accept *access restrictions* and *price discriminations*, provided the following conditions are met:

- The results, or effects are visible and genuine, i.e. they *contribute* towards SETD
- Measures are communicated and tourists perceive quantitative losses (viz. limited access and/or higher expenditures) as *qualitative gains* regarding their experience
- It is further assumed that ecotourists accept measures that affect them negatively as tourists, if they interpret these as their *fair share* of bearing unpleasant, but necessary disadvantages towards environmental protection and maybe even towards restoring a previous ecosystem.

The biggest obstacle to overcome, before such an endeavour is practicable, is probably the dissension amongst operators regarding the concepts of ecotourism and sustainable tourism development, as well as a lack of networking and cooperation. These issues are addressed in the next section.

6.3 The ‘Eco’ Industry: Trapped between Ecological Visions and Economic Reality

In this section relationships and processes within the goods and services providing sector, as well as the industry’s perception of its clientele are examined. The section throws light on the web of interdependencies, which connect structures in the

‘ecotourism destination region’ Coromandel, and influence the system and its nested subsystems’ ‘actual realities’ (*Chapter Four*, section 4.1.2). Interwoven in the portrayal of the different industry perspectives is my interpretation of the current situation and its development.

The heading of section 6.3 suggests that there is *the* ‘eco’ tourism industry, representing the supply side as a homogenous part of the whole ecotourism system. As a matter of fact the contrary is correct, and in *Chapter Five* (sections 5.3.1 and 5.3.2) the heterogeneity and evolving character of structural and functional boundary patterns comprising, or influencing the ecological, economic and socio-cultural aspects of ecotourism goods and services, have been pointed out. This section examines perceptions and interpretations of existing operators in regards to SETD (including Māori initiatives and consultancies, as well as landowners with business interests but no established ecotourism venture). The nature of links that determine the dynamics of the system is subsequently examined in section 6.4. The implications of these connections are explored for distinct groups of stakeholders, as well as on the system as a whole.

Human behaviour is driven by *individual* motives and motivations. However, in terms of ecotourism activities and experiences, *common grounds* can be identified that influence the behaviour of tourists on the one hand, and operators on the other hand, in different ways. For ecotourists on the one hand, the engagement in ecotourism is a short-lived dream. The rationale to fulfil expectations is a matter of maximising financial and time investments in a *temporary situation* ‘away from home’ that requires the use of scarce resources. Holidays cost money as well as valuable annual leave entitlements. For operators on the other hand, ecotourism is their *everyday* life, while concurrently providing an income. The majority of operators interviewed make the claim that their environmental awareness in conjunction with a passion for the outdoors, as well as for Nature and wildlife in general, is the driving agent for their business engagement in ecotourism “... to share their favourite corners of the country they love and know so well” (Johansen and Poole 2000), as two of them formulate

their business objective in a brochure. Operators emphasise the educational role, or value of ecotourism:

My aim is to when people leave my place here they go away not just entertained, full stop, but educated as well as entertained so you make them ecologically aware else otherwise they would not be ().*

... we're talking about the Coromandel Peninsula and history, the destruction of the Kauri, the destruction of the land, digging up the gold and the gum, that's all about ecology and to me whenever we enter the Peninsula and start talking about the Peninsula that becomes a form of eco tour ().*

Some factors, like 'making money', or 'interaction with people from different cultures' that I expected to find on the basis of previous commentaries and observations, were not mentioned. My (subjective) perception was that, in particular with this subject group, in some instances operators felt whatever they said and did during the interview would have implications for their ecotourism ventures. These operators seemed to (unconsciously?) market their personality and their motivations to operate an ecotourism business during the interview session. On other occasions people appeared to be very open and honest about their motives, needs and experiences. Sometimes, 'reading between the lines' revealed different facets of a success story, or market failure, as well as of attitudes towards and interpretations of SETD. Interviewing operators in their business environment contributed to the lack of achievable neutrality. No matter whether answers were researcher-induced, monologues held during unstructured interviews, or information provided during informal conversations, the field survey could not always render the whole 'truth'.

Being aware of the 'objectification, or quantification problem' arising from the researcher–respondent relationship (*Chapter Three*, section 3.3), 'neutralising' the interaction between interviewer and interviewee was not an option. Consequentially my focus was on detecting and interpreting rather than eliminating inconsistencies. Controversies became evident if the content of brochures and other documents, the observed current and previous business activities, as well as differing comments from tourists, competitors and representatives of public, or private organisations did not

match with statements and assertions made by the interviewee, or the group that she or he represents respectively.

In *Chapter Five*, section 5.2, the systemic analysis of implied notions of ecotourism and SETD has highlighted some discordances and inconsistencies, as well as unifying conceptual patterns within the ecotourism system. The following statement, made by one of the ecotourism operators in the Coromandel, typifies the ‘eco’ industry’s focus on sustainable economic development as its major objective. It coincides with the announcement made by Mark Burton, the current Minister of Tourism, quoted on page 218:

Be careful. The word “sustainable” is now becoming another buzz-word [sic]. The concept is very laudable, and we need to become serious and forward-thinking [sic] as to how to apply this comparatively new concept. At best, it means that while we aim to encourage growth in tourist numbers, we also need to protect the natural environment from the possible damage that would inevitably result from the effect of lots of people using or passing through it (Anonymous, answer to Question Four: What do you believe sustainable tourism development means?).

It is argued that key ideas from the structure–conduct–performance (SPC) paradigm (Tirole 1988) can be utilised as a *starting point* to illuminate the system’s *economic sustainability* by examining the existing market structure, as well as ecotourism operators’ conduct and performance. The framework is, however, based on a “... model’s static equilibrium analysis and [the] assumption of [...] exogenously determined [variables] ...” (Sinclair and Stabler 1997, p. 113). It thus faces the “... problem of identifying [internal] causal linkages ...” (ibid.). In subsequent sections differing paradigmatic approaches to SETD and distinct foci on the various aspects of SETD between groups of stakeholders are identified. Elements from game theory are applied to analyse endogenously arising economic dynamics and the model’s economic disequilibria. Game theory is not a single theory; but instead the concept is divided in separate branches and comprises a set of theories, each one of them catering for distinct situational contexts – and thus having a different solution or solutions (Encyclopædia Britannica 2001). In the context of this research the applicability of ideas from game theory is, however, limited by the fact that its validity relies on *rational* choices – and thus consistent and (in principle) predictable human behaviour. “The

key link between neoclassical economics and game theory was and is rationality” (McCain 1999).

Operators adjust their conceptualisation and operationalisation of ecotourism and SETD according to their perception of ecotourists, referred to as ecovisitors (Johansen 1999, unpub.). The motive is evident: *Profit maximisation* within the *optimisation paradigm* requires creating, estimating and matching the market demand, which includes prerequisites like the knowledge of potential target market segments and correct positioning of the right product. The objective is clear and the strategy obvious. The approach is, however, based on assumptions regarding the psychographic profile of ecovisitors. This procedure is problematic, since there is no research available that characterises the ‘typical’ ecotourist in the Coromandel. Transposing findings from different locations can lead to imprecise *and* inaccurate estimates of market demands, based on false presumptions regarding the targeted market segment, or clientele. Concerns arising from the adopted model are specified at the end of this section, which addresses the problem of ‘consumer profiling’.

A definition of ecotourism, proposed by an industry representative in a plenum for operators, focuses on needs and motivations of ecovisitors, and includes all the ‘standard’ aspects of ecotourism, mentioned in *Chapter Two*. A statement from the same source regarding sustainability reflects the *precautionary principle* (O’Riordan and Cameron 1994) within Schellnhuber’s (1998, p. 75) *pessimisation paradigm*.

Sustainability – represents best practice [environment must come first] (Johansen 1999, p. 3, unpub.).

The characterisation indicates the contradiction between the industry’s primary objective to achieve economic growth within the *optimisation paradigm*, and the expressed (but not necessarily lived) aim to sacrifice potential income for the sake of environmental protection; a conundrum that has been addressed in *Chapter Five* (sections 5.2.1 and 5.2.2).

The answer to Question Two (What do you believe ecotourism means?), provided anonymously by one operator, exemplifies the antagonistic and problematic

relationship amongst those operators who hold the view (but do not express this belief in an open forum) that some of their opponents do not deliver a ‘genuine’ ecotourism product to ecotourism seeking customers. According to Wearing and Neil (1999, p. 1), the problems result from “... conflicting interpretations and convenient deployment of the term ‘ecotourism’”

Now a buz-word [sic], since environmentalism and then ecology became sort of fashionable. The proper meaning of eco-tourism is the education of tourists about the ecology (nature study) of a specific area. Unfortunately, it has become something of a “bandwagon”. Thus, we have a proliferation of tourist operators, who, while claiming that they offer eco-tourism, in fact are in the business of entertainment, or sensation-offering, using the ecology of their environment to promote their business (Anonymous).

Another operator expressed her/his feelings about ecotourism in the Coromandel more drastically during the interview:

... and I look at the Coromandel and I would like someone to tell me what ecotourism is on the Coromandel. [...] Where is the eco? You can say that the operators here consider themselves conservationists [...] but we all have to be conservationists and take this article [the environment] that we have [...]. But for someone to specifically say that they offer an eco-tour on the Coromandel Peninsula are talking shit because I do not believe they are. Nobody here has got something that is that unique, or is that refined that other [operators] do not have that you could call it eco. Now I know I stand to be shot by a lot of operators by that statement ... ().*

Contrasting the view expressed in the plenum¹¹⁴, a second answer, also regarding Question Two (What do you believe ecotourism means?), highlights the economic focus of ecotourism from the operators’ perspective:

A financially [sic] self supporting tourism industry providing works and self-employment as a result of natural assets that are provided by an environment that is not altered by farming or mining and is still in a natural state before the arrival of settlers (Anonymous).

It is argued that the tourism industry in the Coromandel has initiated debate, but has not yet come forward with one conclusive and uniform definition of ecotourism, or SETD. It is hypothesised that several factors prevent, or at least impede a unification of viewpoints and opinions. These factors include:

¹¹⁴ See quote on previous page, characterising ‘sustainability’

- The motivation, or perceived necessity to focus on *economic* sustainability
- A competitive market (section 6.4)
- A lack of research profiling ecotourists, and the resulting indeterminacies regarding the market demand
- The individualistic nature of operators' idiosyncrasies

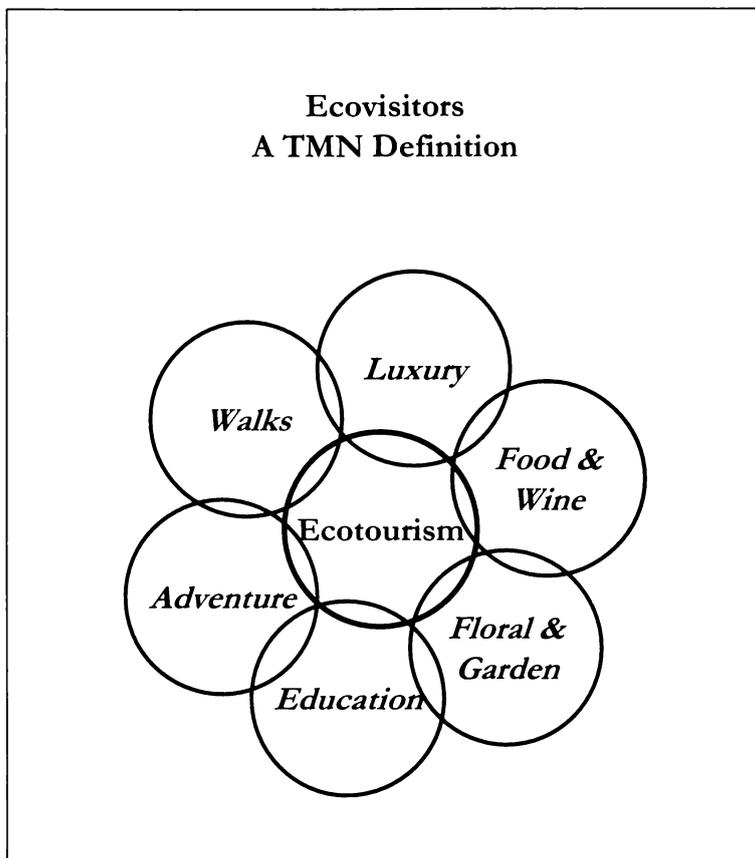
These circumstances contribute to the complex and varied interpretation, as well as the *modus operandi* of ecotourism and the concept of SETD. The idiosyncratic nature of one 'born and bred' Coromandel operator shines through in a statement made about the nature of sustainable tourism development. The quote concurrently highlights the fact that politics play a substantial role throughout the whole system, an aspect that is addressed in section 6.4:

I don't want to listen to some trendy left liberal deputy who talks about thousands of years into the future and people walking around in mud covered skirts and jandals [sic]. I want to talk about an industry where people can earn a dollar from it. They can actually earn a dollar from it and go forward. Now that's different from the trendy left and that's totally different from the full on development. It's middle ground and says you've got to keep some sensibility about it and that's where I'm at and that's where I'll stay ().*

Modelling a definition of ecotourism on the needs and motivations of ecovisitors is also seen (by most operators) as beneficial in respect of the industry's aim to target as many market segments as possible.

In Figure 36 suggested overlaps between a demand and supply driven definition of (applied) ecotourism, and an array of tourism experiences and activities in a Tourism Marketing Network (TMN), characterise the operators' perception that "... These overlaps are an opportunity to leverage the activities of other Marketing Networks to best effect" (Johansen 1999, p. 3, unpub.). The actual supply in the ecotourism market suggests that business decisions of operators fluctuate between actions based on idealistic (ecology-based) motives, and those affected by and effected under financial pressures, or derived from economic opportunities.

Figure 36 The ecotourism operators' perception of a tourism marketing network (adapted from Johansen 1999, p. 4, unpub.)



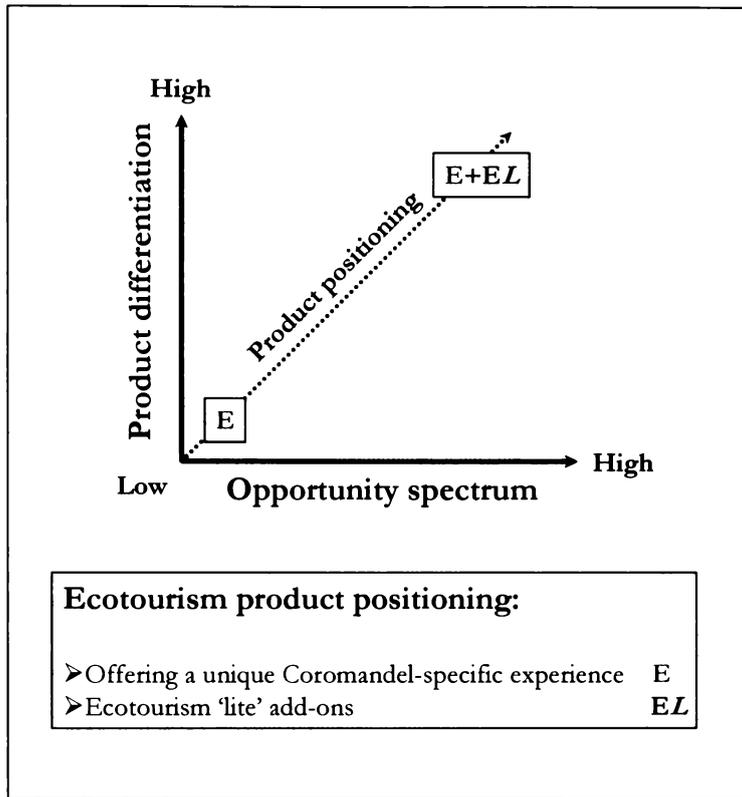
It is argued that a direct correlation can be observed between the successful economic growth of an ecotourism oriented business and increased product differentiation (Figure 37). An example is the 'Kiwi Dundee Adventure' enterprise. The business began (implicitly) as a 'pure' ecotourism venture. Still focusing on the natural environment, its owners have now expanded their range of services by providing round tours in mini coaches and 'non-', or 'pseudo-ecotourism' experiences (my interpretation). Next to 'traditional' scenic and cultural highlights, mass tourism 'hotspots' like Rotorua (my interpretation) are now available on request:

Rotorua highlights can be included if required (Johansen and Poole 2000).

Some ecotour operators in the Coromandel share my interpretation and have developed their own jargon characterising such 'eco-lite' add-ons:

Going for a tour round Rotorua is not an eco tour. [...] Going to the mud pools and that's become somewhat of a plastic [tour] ... ()*

Figure 37 The opportunity spectrum and its influence on the ecotourism supply



Business growth creates financial opportunities for investment; and the incentive of positive business development (interpreted as economic growth) appears to trigger not only the spatial expansion (i.e. tours offered to regions outside the Coromandel) and quantitative growth of ecotourism supplies but also the movement – and thus boundary-crossing (*Chapter Five*, section 5.3.2) – into other forms of tourism (e.g. Johansen and Poole 2000; Leach and Leach 2000). The dashed line in Figure 37 signifies that the relationship between the two attributes ‘product differentiation’ and ‘opportunity spectrum’ is not necessarily a linear one, but can be complex *and* chaotic, additionally being influenced by endogenous factors such as the personality and motives of the respective operator. The *exact* correlation is thus case-sensitive and requires case-specific research. The original ecotourism experience is not necessarily ‘watered down’ towards Orams’s (1995) ‘low human responsibility pole’, but ‘add-ons’

clearly reflect Honey's (1999) concept of ecotourism 'lite' products, "... where mass tourism practices are hidden behind a façade of ecotourism" (Preston-Whyte 2000, p. 168).

A different 'opportunistic' incentive not to expand, but to change the product (range) altogether, is the combination of lower costs and the perceived potential of specific ecotourism related attractions to draw customers. An example encountered by the author is a four-wheel-drive farm bike 'adventure ecotourism' enterprise, which offered tourists a self-drive experience on individual motorbikes through sand dunes in close vicinity of a bird nesting area. Once there, tourists assumed the role of (hobby, or amateur) ornithologists by observing a variety of native birds in their natural habitat. Apart from the obvious question whether such a product should qualify as an ecotourism attraction and experience, it is interesting to note that the venture is now being converted into a sea-kayaking enterprise with anticipated higher returns. The smaller 'ecological footprint' (Wackernagel and Rees 1996) is an appreciated by-product, but is not the causing agent for the change. Presumably the owner's degree of environmental awareness and concern has not changed.

It is suggested that, despite different 'fractions' and 'coalitions' within the diverse group of ecotourism operators, the implied notion of SETD for the vast majority reflects the 'bioeconomic' concept of *maximum sustainable yield*. It is argued that the application of this resource management concept could combine the diverse range of operators' perspectives *within* a unified strategy. The concept constitutes a concession to operators' profit maximisation objective by achieving a compromise between profit maximisation (within the *optimisation paradigm*) and the precautionary principle (within the *pessimisation paradigm*). A fundamental precept would have to serve as the 'foundation-stone' by answering the question *what kind of world people in the Coromandel want on a local and regional scale*.

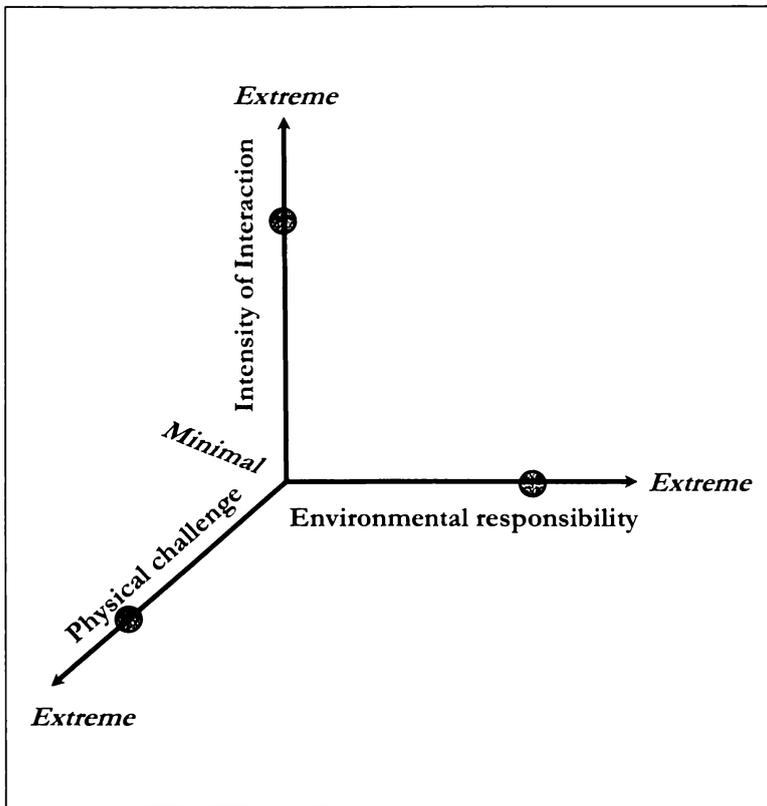
Expressed in more specific terms, the response to the question "Which environmental qualities are to be strived for and to be stabilized without thereby ignoring the pertinent socio-economic dimensions?" (Schellnhuber 1998, p. 99), could provide the

parameters for an unequivocal operational definition of SETD. Once the grounds have been established, the concept could be realised through external environmental impact assessments (EIAs) in conjunction with an industry-driven internal evaluation process. Complementing each other, both assessment approaches would presumably focus on the use of open access and common property resources, as well as the use of DoC administered Crown land by ecotourism operations. It is suggested that operators themselves could utilise simple (linear) aggregate models like Wackernagel and Rees's (1996) 'ecological footprint' analysis for self-assessment purposes. Outcomes could be employed in a grading scheme, resulting in 'eco' labels for specific ecotourism activities, certified by consumer and industry associations, grassroots initiatives (for example Coromandel Watchdog of Hauraki), or DoC.

However, for the time being, conceptualisation and operationalisation of ecotourism and SETD are modelled on consumers' behaviour and motivations (i.e. perceived actions and expressed interests and needs). The lack of research regarding the Coromandel-specific ecotourist has led operators to characterise their clientele by transferring results from theoretical concepts and empirical studies conducted in other locations. Operators are aware of some important character traits of their customers (section 6.2.2), for example the reliance of customers on referrals and the influence of word-of-mouth information. It is argued, however, that other assumed characteristics of their clientele are either too general or unfounded.

Industry representatives have suggested the adoption of Weiler and Richins's (1995) conceptual model that classifies ecovisitors by profiling participants of Earthwatch programmes in Australia as a valid method to characterise their own clientele (Johansen 1999, unpub.). Weiler and Richins use a spectrum of variables to position interests, needs and attitudes of ecotourists on binary nominal scales. Three attributes, viz. 'intensity of interaction', 'environmental responsibility' and 'physical challenge', are each defined by two polar opposites (viz. the values 'minimal' and 'extreme') (Figure 38).

Figure 38 The operators' perception of their customers (adapted from Weiler and Richins 1995, cited in Johansen 1999, p. 11, unpub.)



It is argued that there is no gain in assuming that ecovisitors in the Coromandel “... fall between mid-range and extreme on these three parameters” (Johansen 1999, p. 11, unpub.), and that further research is necessary to determine ecotourists' characteristics pertinent to the market.

6.4 The Configuration and Dynamics of Power Relationships in Tourism Politics

In section 6.2 the distinction was made between small-scale operators, medium price range operators, well-established, expensive operators, and Iwi initiatives and consultancies. This clear-cut distinction between different groups of operators does not, however, sufficiently reflect the operators' perspective of their position, or role within the system's configuration. Rather than attempting to distinguish operators psychographically, the focus is on relationships amongst operators, as well as between

operators, public, and private bodies. Table 8 categorises operators’ motivations and feelings. The ‘labels’ reflect their self-assessment of their own situation, i.e. their *perception* of their own business, their *attitude* towards and their *experiences* with other ecotourism entrepreneurs and public or private institutions. The table shows significant variation in operators’ evaluation of their position with regard to ecotourism development. The attributed values are based on statements made in interviews and ‘off the record’, as well as on my interpretation of nonverbal (i.e. mainly visual) cues, the evaluation of living conditions and by reading ‘between the lines’. For example housing conditions of operators varied from the ‘five star’ luxury accommodation to a caravan in a campground.

Table 8 Operators’ perceptions of themselves and of their relationships within the market

Operator categories	Self-assessment	Assessment of relationship with competitors	Evaluation of relationship with public, or private bodies
<i>Small-scale operators</i>	Enthusiastic, motivated, but isolated	Disjointed, fragmented	Lack of support and advice
<i>Medium price range operators</i>	Frustrated, disillusioned, unimportant, weak, alone	Subordinate or none	Unfair, antagonistic
<i>Well-established and expensive operators</i>	Self-confident, satisfied, influential	Organised, networked	Positive collaboration or neutral
<i>Māori initiatives & consultancies</i>	Waiting, lacking opportunities and resources	Excluded	Rudimentary
<i>Private land owners’ visions</i>	Motivated but also frustrated	None	Ignored or lengthy and inefficient processes

In the following sections the interplay between perceptions and attitudes, and resulting processes and relationships is analysed in regard to the configuration of the ecotourism market supply and the links between and amongst the different groups of operators. The ‘private land owner initiatives’ have been added as a separate group of (potential) ecotourism business entrepreneurs. At present these initiatives have only advanced to the ‘conceptual idea’ stage – thus constituting a potential market element. However, they do not yet occupy a ‘real’ position in the market place (section 6.4.5).

6.4.1 *The Marginalisation of Small-Scale Operators*

Small-scale entrepreneurs dominate the market place numerically. But conversely, from their viewpoint sheer size in numbers is reflected neither proportionally in the configuration of power relationships (i.e. their influence on ecotourism development) nor in profit margins, or total revenue made. The majority of small business owners spoken to, have either never been members of, or do not hold membership with the RTO Tourism Coromandel any longer. A statement made by one of the operators regarding her/his attitude towards Tourism Coromandel, outlines the reasons for not joining, or leaving the organisation. The quote echoes a view many ecotourism operators spoken to, hold towards Tourism Coromandel:

Tourism Coromandel as far as what my feelings are all they're concerning [sic] about is selling the Coromandel as fast as they can without considering what they really need to do before they do that ().*

Another operator's comment is exemplary of those small-scale businesses who would like to work with Tourism Coromandel, but have failed to do so for various reasons:

Yes I'm trying to [have contact with Tourism Coromandel] [...] It's very hard to get an appointment with them ().*

Not being part of an organisation that networks and coordinates marketing efforts regionally, initially saves money, but can also result in a lack of promotional activity and a perceived relative isolation in the market place. On a regional scale these operators are often not aware of each other's, or the RTO's existence, a situation that is reflected in the following comment by a spokesperson from Tourism Coromandel:

... it's interesting there are still a lot of people out there who come in and don't know that we exist, or what our function is, ... ().*

To satisfy the demand, small-scale operators provide a variety of ecotourism related products that are close, but not exact *substitutes* (such as horseback riding, mountain biking, guided walks, or carving) in the marketplace (section 6.2). Local ecotour businesses and those operating in close vicinity are thus perceived as competitors canvassing for customers in a competitive market. Competitiveness appears to be the main reason why collaboration and networking are virtually nonexistent. Networking is

also rendered more difficult if businesses offering a similar range of products and services, dispute each other's credibility as genuine ecotourism operators. Carving studios are but one example:

Well one is authentic and one's plastic. [...] Because bone-carving originally, bone-carving is actually originated from working with the hand and what energy you put through your hands into what you're creating it's authentic bone-carving. Using tools, or so called machinery is not really the real bone-carving (operator).*

Most of the operators spoken to, *support*, however, *the idea of networking* in principle, but fear losses in their market share if they cooperate with competitors. By lacking the advantage of pooled resources – and thus the means to implement efficient marketing strategies (section 6.2.3), many small-scale operators do not reach the whole market segment and run their businesses with only satisfactory (but less than optimal) yield. As one operator put it:

That's right that's what I'm saying, if you haven't got the information there, you haven't got the network, you're selling the Coromandel short of itself aren't you ()?*

Small-scale operators meet the demand criteria (section 6.2) more or less through 'trial and error' rather than through previous market analyses, or ongoing evaluations. Offshore marketing is unaffordable (section 6.2.1), and they feel disadvantaged and powerless against the well-established, expensive tour operators:

For small business people the big money moves in and you just have to move out. You just can't compete with the big bikkies¹¹⁵ ().*

Small-scale ecotourism operators in the Coromandel display a high degree of product differentiation, and it is hypothesised that companies would benefit from collaborating rather than being disadvantaged through the referral of visitors to other operators. Backpackers are unlikely to engage in only one or two activities while they visit the Coromandel. Usually they want to utilise the whole spectrum of available and 'popular' activities (section 6.2.1). It is assumed that conducting cooperative strategies in the form of reciprocal direct marketing by referring and exchanging customers would:

¹¹⁵ Vernacular for 'big dollars'

- Make use of one of the primary information sources and marketing tools, viz. the word-of-mouth effect (section 6.2.1)
- Improve the ‘information density’ at virtually no cost; i.e. tourists would not have to go back to their original information source in order to find out about subsequent potential ‘eco’ activities (section 6.2.1)
- Decrease the feeling of isolation amongst operators in the market place
- Increase customer numbers and thus revenue
- Create the sensation amongst visitors of the Coromandel as an ecotourism destination *par excellence and per se*, with a coherent and functioning network on all levels (i.e. transport, accommodation, activities and experiences)
- Strengthen the position of individual operators in their negotiation and collaboration with public and private organisations

It is in particular the relationship with bodies like DoC and Tourism Coromandel that small-scale operators perceive as unsatisfactory. Membership fees to join Tourism Coromandel are judged as too high; the process to obtain tourism concessions is perceived both lengthy (three to six months on average) and complicated. Permits, which, according to DoC’s (1992) guidelines, cost between NZ \$ 50.00 and 200.00, are viewed as too expensive and too restrictive¹¹⁶. There is a general feeling amongst small-scale business operators that these institutions do not provide the advice and support that operators anticipate. I have encountered a few operators who proactively avoid applying for DoC permits altogether by telling their clients that, while in DoC managed areas, they should please refrain from referring to them as tourguides, but instead consider them as information providing fellow visitors (*).

Small-scale operators who fall into the medium price range bracket are in the minority and find themselves in a difficult position. Their situation suggests the existence of a

¹¹⁶ A contradiction arising from discrepancies between written guidelines and verbal statements, made by a DoC employee, is picked up in section 6.4.6.

vicious circle to which this particular group of operators is exposed to (Figure 39). A lack of financial resources, to conduct a market analysis and invest in marketing strategies, is identified as one generating mechanism of this negative cycle. The result is very little promotional activity, with the focus on one or a few distributing channels only. There are no more than a few of these unfortunate operators (*), but those affected by a lack of success barely make ends meet. A typical comment is that their business is “... doomed ... [and] ... unsustainable ...” (*). They commonly blame *all* of the following factors for the economically unsustainable development:

- Rising costs for concessions:

... the bureaucracy for a starter is unsustainable. We get charged for all sorts of things that we can't afford ... ()*

- Their lack of influence in decision-making processes, as well as a lack of interest in small-scale businesses by Tourism Coromandel, an argument that is addressed in section 6.4.2:

We didn't feel we had any direct benefit (and no influence either [different speaker]) ()*

- A lack of interest on the part of Information Centres:

The Information Centre used to be [our main marketing tool] ()*

- The difficulties of a concerted action, i.e. very little or no collaboration at all with other small-scale operators:

We tried to get some unified action. We had a group going here for a couple of years back [...] advertise collectively and do other things, but it was very difficult to get people to focus, (just to work together [different speaker]), on the same objective ()*

The following quotation summarises the position of one particular couple. Many other medium price range operators *feel* that they are currently confronted with a similar situation:

Tourism is a sort of difficult thing here. There are so many people now that don't need to do it, that are doing it as a hobby, or something like that and they come to cut the prices ... ()*

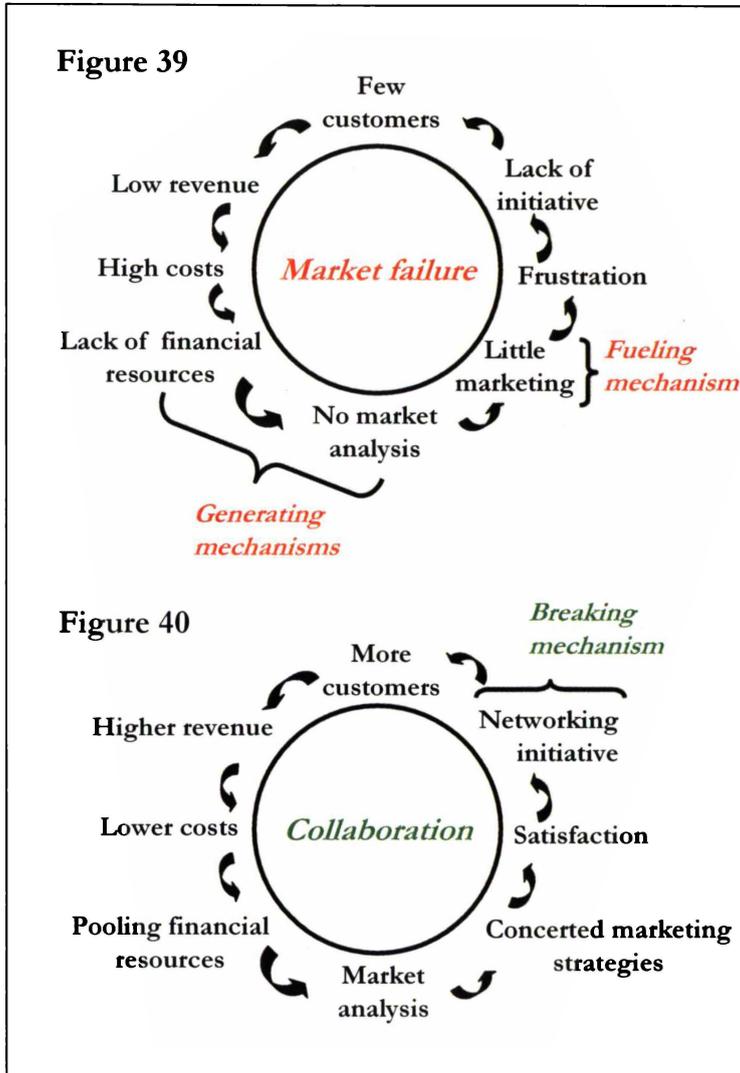
However, other data contradict parts of the quote, suggesting that most small-scale ecotour operators *do* indeed depend on tourism as a sole income source (*Chapter Five*, section 5.3.1). The example demonstrates how different perspectives can result in contrasting data – and thus different interpretations and findings. It thus confirms the importance of cross-checking data sources and triangulating data collection methods. The market failure of these particular medium price range and small-scale operators contributes to the pessimistic outlook and negative interpretation of their relationships with other operators and institutions (Table 8, p. 309). They tend to blame ‘the situation’, ‘the system’ and ‘the way things are’, but are neither aware of any mistakes they might make nor can they see a solution that could give their business development positive impetus. In section 6.2.3 and in the text accompanying Figure 34 (p. 290) possible reasons for their market failure have been outlined, while causation in ‘extreme’ cases is analysed towards the end of this section.

Game theory analyses relationships, actions and responses between competing companies, and aims at optimising the “... interplay between parties that may have similar, opposed, or mixed interests” (Encyclopædia Britannica 2001). It is suggested that elements from game theory could provide a research framework to decide “The crucial question when it pays to collude as opposed to competing” (Sinclair and Stabler 1997, p. 115). The principal difficulties in finding optimal interactive strategies, as well as the trade-offs of cooperative and non-cooperative behaviour, are illustrated in the predicament of Tucker’s ‘prisoner’s dilemma’ (Poundstone 1993).

In Figure 40 a *semi*-hypothetical model is depicted suggesting networking as a possible means to overcome obstacles towards sustainable economic development, and break the vicious circle in Figure 39 that (some) operators are trapped in. The model is semi-hypothetical, reflecting ‘real world’ situations in an abstract and generalised manner. The ideas encompassed in the proposed cooperative approach are partially realised by those well-established, expensive operators who successfully practise collaboration and reciprocal referrals with other tourism operators. Their combined efforts are, however, restricted to network marketing strategies and the exchange of clients between *different* sectors within the supply structure of the ecotourism system.

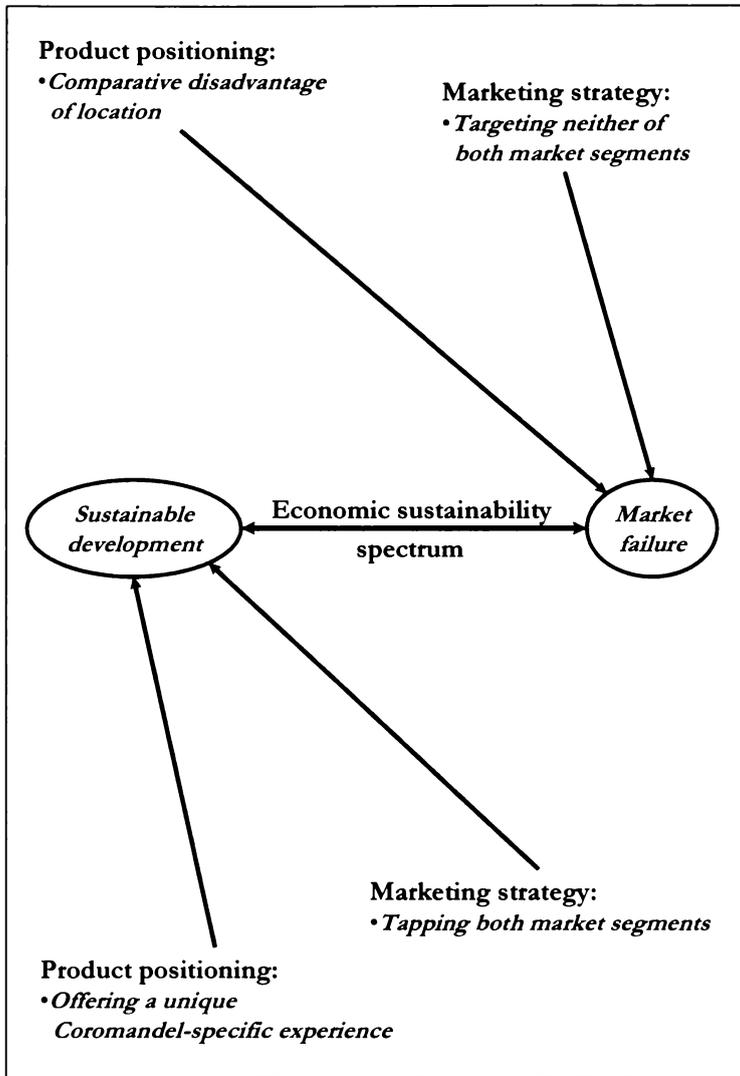
Figure 39 The vicious circle of market failure

Figure 40 Networking as a possibility to create a positive cycle



Before I turn to the well-established operators in the following section (6.4.2), the extreme situation of two small-scale businesses is considered, positioned at opposing ends on an ‘economic viability’ scale. They typify the reasons for economic success and failure respectively (Figure 41). ‘Extremely’ unsuccessful businesses in the ecotourism sector usually share two attributes. Their range of ecotourism products does *not* include a Coromandel-specific activity, or experience; but instead products compete with ecotourism goods and services offered in other parts of New Zealand (or the world).

Figure 41 The ‘extremes’: Small-scale operators meeting and failing the market



Typical examples are dolphin and whale watching cruises. The tourism industry in Kaikoura in the South Island has specialised in this attraction, and is renowned as *the* whale and dolphin watching capital of New Zealand. Kaikoura’s reputation gives the city an ascendancy over any other similar venture in New Zealand, a comparative advantage (with the exception of Sperm whale sightings in the Coromandel), which fits neither the Ricardian theory nor the HO theorem. Based on the supposition that consumers’ decisions are driven neither by time nor location constraints, it is argued that such an advantage, or ‘attraction lead’, stems from the tourists’ subjective preference for a place-specific product. If substitution under constraint is ruled out,

choices thus depend on psychological factors rather than on relative efficiency of production factors, or production factor endowments. Tourists ‘know’ that Kaikoura will satisfy a specific need, whereas from their perspective investing holiday time and money in ‘whale watching’ and ‘swimming with the dolphins’ in the Coromandel constitutes a ‘satisfaction risk’ and includes an ‘unknown variable’, viz. the quality of the ‘substitute’ product(s) in comparison to the ‘real thing’ offered in Kaikoura. The placement of such an attraction in the Coromandel is really a ‘displacement’, and results in a ‘locational’ and ‘psychologically driven’ comparative disadvantage. Potential customers have already made up their mind that they will “... do the whale watching thing ... [in Kaikoura, because] ... *that’s where you do whale watching in New Zealand*” (anonymous tourist). In combination with a lack of efficient and sufficient marketing strategies in place, these small-scale businesses are “doomed” as one operator couple (*) described their own situation in a self-assessment.

It is hypothesised that in these instances collaboration with other small-scale operators is *not* a sufficient measure to break the vicious circle. With their focus on marketing rather than strategic planning, the RTO Tourism Coromandel (TC) is also of little help:

But see from what I can pick up from what I get the feeling from Tourism Coromandel was doing is that they are concentrating on selling the Coromandel outside New Zealand. They’re selling it (tourism operator).*

We’re not here to prop up businesses that are going to fail and there’s a few out there (TC staff member).*

After three years the Board decided at that time it was probably time to move to a more marketing orientated approach (TC staff member).*

... and concentrate on our marketing ... (TC staff member).*

A market analysis revealing the disadvantageous positioning of the attraction as a critical factor in its market failure, might suggest a replacement of the original attraction with an alternative product, or product range as one possible planning and development strategy. Another option might be to specifically target the ‘luxury’ ecotourist market segment by initiating a ‘symbiotic’ relationship with those well-established, expensive ecotourism operators who actively seek to expand their palette

of ecotourism products (section 6.3; Figure 37, p. 305). In the particular case of dolphin and whale-watching cruises, networking between a small-scale operator and a well-established operator did take place in the past, but collaboration had ceased at the time of the interview:

What about that () fellow the dolphin guy [...] He's a guy we used to use ... (*) well-established operator).*

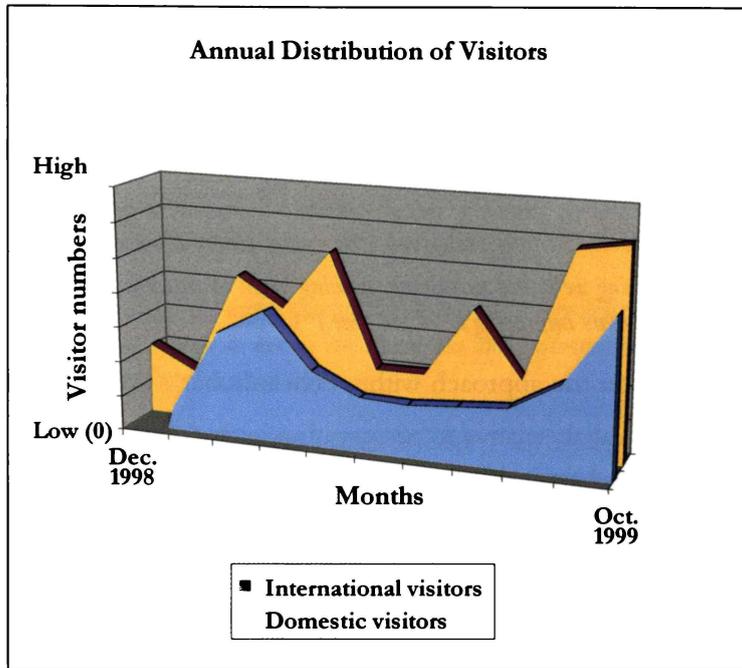
Collaboration with luxury accommodation and round-trip providers in the ecotourism sector could mean that particular products and services of small-scale operators are included as highlights, or optional add-ons in the itinerary. Since small-scale operators lack funds to finance their own overseas marketing strategy, it is argued that this is an inexpensive, but nevertheless efficient way to recruit and secure a steady influx of customers (depending of course on the success of the 'bigger' partner), while concurrently offering economic benefits to both the small-scale, as well as the well-established operator.

At the other end of the scale there are those small-scale operators who target both market segments (section 6.2.3) by offering a unique and Coromandel-specific attraction. They attract backpackers as well as the 'luxury' ecotourist by meeting all demand criteria (Figure 34, p. 290).

Figure 42 depicts 'real', but *relative* figures¹¹⁷ of an 'extremely' successful ecotourism business (*) that operates year round and attracted international visitors from almost 60 countries in 1999. The operator, who supplied the numbers, has been granted anonymity. Absolute figures have thus been omitted from the graph in order to assure that business revenues and profit margins are unidentifiable.

¹¹⁷ The figure for international tourists in December 1998 was not available.

Figure 42 The continuous success story of a small-scale ecotourism venture



On the one hand, the venture is a unique example, constituting a ‘singularity’ within the market, rather than resembling the typical case of a successful small-scale ecotourism business in the Coromandel. Several factors corroborate this argument:

- The economic success of this particular enterprise hinges on the access to a *third market segment*: A privately compiled statistic by the operator (*) reveals a visitation pattern contrary to the general trend. Instead of international visitors, who otherwise dominate the ecotourism sector, domestic tourists make up the majority of visitors in this instance. Because the business can rely on this third pillar, the classical seasonal midyear drop-off (in particular in international tourist numbers) is mitigated to a certain extent.
- An onsite survey in the form of informal conversations suggests that tourists enjoy a *consumers’ surplus*, i.e. the attraction offers high value for little money.
- Although the attraction focuses on natural scenery, the main activity and experience (a train ride) is relatively *weather independent*.

- The ecotourism product incorporates *environmental education* aspects, as well as *enjoyment* of a unique experience that does *not* require any physical activity.
- With their entrance fee, visitors contribute to a project, the goal of which surpasses the aim to conserve the environment by proactively *restoring* the original state of the ecosystem:

... we are enhancing we're not sustaining, nothing much to sustain, enhancing we are building it up, we are improving it all the time ().*

- The owner's eco-centric approach within Schellnhuber's (1998, p. 100) *stabilisation paradigm* is the radical alternative to preservation in so far as it serves the purpose to re-establish "... the *status quo ante*, i.e. of a "virgin" nature unspoilt by anthropogenic deformations and perturbations" (ibid.).
- Although it could be argued that this kind of ecotourism venture actually reaches or even *exceeds* Orams's (1995) 'high human responsibility pole', challenging Orams's theoretical claim that 'ecotourism is impossible' at this end of the scale, the majority of visitors paradoxically do not consider themselves as ecotourists. I believe they are correct in their self-assessment in so far as they represent a diverse mixture of demographic and psychographic profiles, with a variety of behavioural patterns, motives and motivations (i.e. interests and needs) that do not necessarily match traditional ecotourist classification schemes (e.g. Wearing and Neil 1999, p. 121).
- My subjective impression is that the business owner is philosophically a deep ecologist and practically a genuine ("keen"¹¹⁸) conservationist who does not compromise his eco- and bio-centric ideals. He applies the *precautionary principle* by putting the environment first ("by balancing development against environmental impact"). The deviation between my descriptive interpretation and the interviewee's self-evaluation is but one example of researcher-induced subjectivity

¹¹⁸ The specific content of this paragraph and the following quotation make it possible to identify the operator. The interviewee has granted his permission to publish the section from the transcript and asked me to consider including his alterations, which are accentuated in red.

during the data analysis process. The reasons for these discrepancies can be described by employing Blumer's symbolic interactionist theory and Foddy's model of question–answer behaviour (*Chapter Three*, section 3.3.1). The claim is made that excerpts from the interview corroborate both value-judgements:

As far as ecology is concerned I studied botany of course, as well as geology and I was deeply interested in native plants at a very early age ...

I began to learn about the awful devastating history of ecology destruction (during our colonial period) as I came to live on the Peninsula and I always wondered why there was no real native forest around here ...

So I was hoping that other people continue what I am trying to do and get the Peninsula back into some sort of shape again, get the birds back, the native trees and forest back. It's a remarkable beauty the Coromandel Peninsula and [I] want to make it even more attractive for tourists. ...

Tourists who come to my setup here, can't do much ecological damage because they are sitting in a train. ...

I've got a unique chance here to get my message across to people from all over the world. ...

Well my operation is extremely sustainable because when I die the National Trust inherits the native tree areas, the land that I've set aside for conservation [of] native trees. That's already been arranged. There's a covenant on the title, QEII National Trust [of New Zealand] will take it over on my death and protect the trees in perpetuity ().*

- According to local residents and representatives of local and regional business associations (*), the local community benefits from disproportionately high (in comparison with other local tourism ventures) spin-off and multiplier effects.

On the other hand, this particular business exemplifies the individualism of ecotourism entrepreneurs, a character trait typical of the people in the Coromandel. The uniqueness of this particular operation thus creates a paradox: While it corroborates the argument that categories cannot do justice to the diversity of human behaviour and the manifold facets of 'ecopreneurship' (*Chapter Five*, section 5.2.2), it concurrently reflects a unifying 'trademark' of these business people.

6.4.2 *Networking amongst Well-Established Operators*

‘On the other side of the fence’ are those ecotourism operators whose business domain embraces the ‘luxury’ ecotourist market segment. As aforementioned, the luxury/backpacker dichotomy is an ‘ecotourism artefact’ that reflects the operators’ perception of market segments, where ‘middle class’ ecotourists play a negligible role in their view. Distinguishing trademarks of the few well-established and relatively expensive ecotourism operators in the Coromandel are:

- Their scarcity
- Their success
- Their dominating influence on tourism planning and development on the Peninsula

Some of their business characteristics and practices have been mentioned in previous sections (6.2.2, 6.2.3 and 6.3). This section complements the picture from the operators’ perspective by emphasising their influential (and thus political) links within the industry. The entries in Table 8 (p. 309) reflect their relative satisfaction with the current situation. This group constitutes an example of positive effects that networking can have on the economic development of individual ventures. The business success is, however, not caused by an unequivocal approach. Rather than resembling a homogenous collection of likeminded operators, the group itself is comprised of a heterogeneous assemblage of individuals who are associated through similar goals and strategies to achieve common, as well as individual objectives. One major aim is to secure high revenue through quality rather than quantity, whereby high quality is not only defined in terms of sustainability but also as ‘luxury’, or ‘multiple star’ products:

We are talking about quality of the article and less numbers. We are talking about pricing the article up rather than down ().*

The product range varies, with some of the operators focusing exclusively on a single attraction (for example ecolodging, or guided walks), whereas others combine a range of goods and services in the ecotourism sector (for example deluxe lodging in

conjunction with scenic and cultural tours). Success hinges on targeting ‘their’ market segment through offshore marketing strategies (section 6.2.2). Pooling resources, the owners network, and are commonly involved in local and regional politics, while concurrently being influential members, or, in some instances, (former) chairpersons of the RTO Tourism Coromandel. The following quote reflects the way tourism politics ‘work’ on the Peninsula, an issue that is addressed in the next section (6.4.3):

... so I went into council and spent six years in District Council to make change the tourism [sic]. No good beating the drum on the other side and we got change [...]. I believe there is [sic] enough of us in the industry and we have a good inroads into District Council now and local Government, that we can actually start benchmarking what the industry desires ().*

Most of these operators also hold membership with TMNs like ‘The New Zealand Nature Network’¹¹⁹, or they belong to New Zealand Outside¹²⁰.

The following quote corroborates the argument that this particular group of business owners is quite aware of the beneficial effects of networking, and does make extensive use of cooperative strategies. The degree of collaboration varies, however, and is usually restricted to the reciprocal referral of clients to other operators who offer a complementary product rather than a potentially substituting attraction. The perceived economic advantage or disadvantage thus is the deciding factor for or against combined efforts:

... so yeah the networking is working on the Coromandel Peninsula. There’s no two ways about it and you’ve got to realise that the Board, the Tourism Coromandel Board and 90% of the people involved in membership, is [sic] riding with it, are very much aware of the sustainability of the industry. And they’ve got to be kept, be made aware all the time, like yesterday, tomorrow or the day after, but they are ... ().*

Anticipated and realised benefits from networking can also shift, as the case of one tour operator demonstrates. The operator used to get a substantial number of clients from a specific accommodation provider, but the process has now reversed its

¹¹⁹ A national association of New Zealand ecotourism operators, which operates under the patronage of the NZTB and its branding strategy, using the label 100% Pure New Zealand (New Zealand Tourism Board (NZTB) n.d.).

¹²⁰ A national TMN that utilises the logo ‘The New Zealand Way’ (Hobbs 1999)

momentum, and currently he recruits more customers (in terms of revenue) for the ecolodge owner than *vice versa*.

They actually make more money out of our tourists than what we do. That's true ().*

There are also a number of smaller 'semi-official' networks like 'The Coromandel Adventure Company' (Jewitt 1999; n.d.) operating on the Peninsula. These TMNs are initiated, owned and run by individuals, and function as commercial undertakings in their own right. Like the majority of networking initiatives, they do not focus on a particular form of tourism explicitly; but instead private TMNS encourage networking between and amongst different types of tourism and businesses implicitly:

... we're now forming a relationship right throughout New Zealand [with] coach tours and lodges ... ().*

The utilisation of TMNs by operators not only depends on:

- The estimated benefits of a membership
- The level of fees charged to place an advertisement
- But also to a large degree on ideologies, as well as on sympathies and antipathies amongst business operators

This last (bulleted) point appears to exert an influence on operators' choices to a great extent. I encountered 'extreme' differences in people's evaluation of one particular individual's personality and business strategy. It is argued that this purely subjective factor in a decision-making process can only be used as an indicator for existing sympathies and animosities in personal relationships, but not as a criterion to assess an individual's business strategy, or her/his interpretation of ecotourism and SETD. The following quote from an interview with a small-scale operator refers to a situation where a farmer and current owner of a private backpacker was forced to cooperate with the previous owner, who concurrently managed a DoC administered campground in close vicinity to the farmer's paddocks:

Six years we put up with him. [...] He wasn't a particular nice type ().*

The nature of personal relationships influences not only the operation of networks but also the system as a whole. This issue is addressed at the micro scale level in *Chapter Seven*.

At the beginning of this section it was argued that power relationships in the Coromandel influence ecotourism and tourism development in general. A correlation between business success and the efficacy of operators' opinions regarding tourism development strategies was also noted. It is suggested, however, that tourism development is not only influenced by external political agendas, but that tourism itself *generates* internal political processes on a local, regional and national level. Various authors (e.g. Richter 1983; Mowforth and Munt 1998) point out that, with few exceptions, "... there is still little consideration given to the[se] political aspects of tourism" (Brown 1998, p. 5). Here it is argued that the operation of networks in the Coromandel, i.e. their functionality and efficiency, as well as the conceptualisation of policies and the implementation of tourism planning and development strategies, depend *inter alia* on decision-making mechanisms that are not only determined via local and regional political processes, but are themselves of an inherently political nature. By focusing on key drivers of Tourism Coromandel's operation, the next section analyses empirical evidence that backs up this argument. In an economic sense, the RTO is viewed as the Peninsula's main tourism network. The prime assertion is that politico-social processes, which influence Tourism Coromandel's configuration – and thus its internal power relationships, determine decision-making processes within the organisation, which in turn influence the whole tourism system in the Coromandel.

6.4.3 Tourism Coromandel: The 'Hub' of Tourism Politics

In *Chapter Five* (section 5.1) the claim was made that the RTO Tourism Coromandel is the most influential body in terms of designing future tourism development strategies for the Coromandel. The organisation is an example of Public–Private Partnership (PPP) (Archibald and Board of Tourism Coromandel 1999, p. 11). Its main task is summarised in an operator's comment:

Tourism Coromandel's job is to encourage tourism. I hope they're succeeding ().*

Since the organisation represents many of the well-established ecotourism operators, it serves as an example of intertwined internal and external relationships and processes in tourism politics, and of political influences on the system as a whole. The Board members of Tourism Coromandel do not conceptualise ecotourism as a distinct form of tourism; but instead TC emphasises the Nature-based aspects of most tourism development in the Coromandel, thus incorporating ecotourism implicitly in the general goal of achieving sustainable tourism development on the Peninsula:

... our tourism is based around utilising the environment. Anyway that becomes ecotourism like short coastal walks, [...] KAUAEARANGA VALLEY, see [...] it's all part of that one process (TC staff member).*

Ecotourism is 'absorbed' within the conceptualisation of tourism development in general, and sustainable tourism development in particular. Consequences are the lacking recognition of ecotourism as a distinct form of tourism amongst those operators who do not identify their business with ecotourism explicitly, as well as a lack of knowledge regarding the term and its implied meaning(s) within local communities. The answer of one respondent, who is a domestic visitor and owns a bach in the Coromandel, exemplifies the ignorance common amongst those locals and tourists who are not involved in ecotourism themselves:

Wouldn't have a clue (Anonymous, answer to Question Two: What do you believe ecotourism means?).

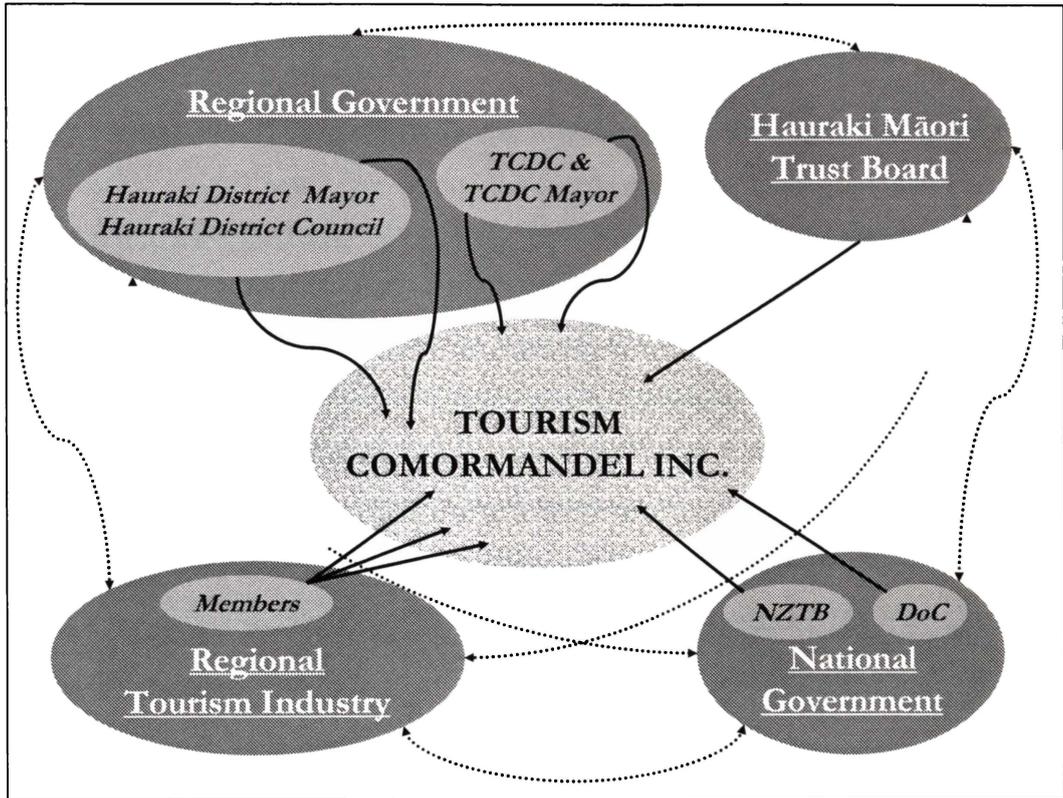
In the ecotourism context the questions must be asked:

- What are the objectives of Tourism Coromandel?
- Who controls the formulation and implementation of policies, as well as planning, development and marketing strategies?
- Who benefits from these decision-making processes?
- In whose interests are actions undertaken?

In Figure 43 the membership configuration of Tourism Coromandel is depicted, to show some of the more obvious mechanisms involved in tourism politics. The Figure

is based on information provided by an interviewee (*) and differs slightly from the Board's configuration outlined in TC's strategic plan (Archibald and Board of Tourism Coromandel 1999, p. 11).

Figure 43 The power division within Tourism Coromandel



Tourism Coromandel has evolved from an initiative started by the mayors of the two district councils. Its original size of 18 members was judged as too big to achieve consensus and make decisions:

... they had a Board of 18 people, who represented all sorts of interests and councils and wards [...] and they come up with something like 40 odd different suggestions for reaching the goal, which were taken on board ... ()*

Since then the Board has been reduced in size, and is now comprised of nine members and a Chief Executive Officer (CEO). The solid black arrows indicate the ratio between elected members and the respective group that they represent. Whereas the mayors of the two district councils together nominate one member, the other bodies designate a number of representatives that is equivalent to the number of solid arrows.

Despite the fact that territorial local authorities were always represented on the Board, TC's functions and authority were, in its initial stages, not recognised by the public sector. However, with the publication of the revised strategic plan for tourism in the Coromandel (Archibald and Board of Tourism Coromandel 1999) this problem has been resolved, and, according to one of its representatives, the organisation has gained political momentum and recognition:

We have now got to the stage that Council accepts ownership of it [the strategic plan] ().*

The organisation's structure, as well as its operation is, however, not undisputed. I have identified some of the major concerns that have been expressed regarding Tourism Coromandel's role and activities. In the light of existing dissatisfaction it is argued, however, that even in a democratic society there is no *perfect* setting that guarantees fairness, justice and equal opportunities to all involved parties. Evaluating these concerns thus constitutes a *critique* rather than criticism, as well as the attempt to determine 'the room for improvement'.

The 'interior design' of the Board superficially reflects a hub-like network topology (solid lines in Figure 43). The dashed lines signal, however, the hypothetical but also very real possibility of interference with the intended distribution of power and shared political influence. If Board members belong to more than one group that designates representatives, this 'multifunctionality' may cause:

- A conflict of interests
- The (unintentional?) misrepresentation (i.e. dominance or marginalisation) of one group – and thus a lopsided configuration of hierarchical power relationships

Both quotes on page 323 corroborate the argument of an 'all channel' network in tourism politics being reality. At first sight, the graphic representation with its central 'hub' suggests a non-hierarchical power structure. It is argued, however, that from an ethnic viewpoint the specific interests and needs of local iwi are underrepresented. If Māori are not *also* delegated via one of the other groups, they only have one out of nine

‘voices’. At present, adequate representation (in my view) of local iwi is only achieved *by chance*, i.e. if a designated member of any of the other public and private bodies involved happens to be Māori and/or affiliates with local iwi. While Māori are disadvantaged, local government representation clearly dominates, automatically occupying seats for more than half of the Board members. The Māori perspective and their ecotourism initiatives are discussed in section 6.4.4.

Apart from the potential for distorted power relationship within the organisation, due to ‘crossing over’ (*Chapter Five*, section 5.3.2) effects and the misrepresentation of local iwi, two popular apprehensions regarding the role of Tourism Coromandel exist on the Peninsula. The first objection concerns the way Tourism Coromandel is funded, expressed foremost by members of the public who are not directly involved in tourism. TCDC and the Hauraki District Council employ differential funding schemes, based on the allocation of different rateable bases; but roughly speaking the commercial sector through industry activities pays for 30% ‘of the rent’, and 8% of the costs are met through membership fees, while 62% of the funds are jointly raised by the two district councils (Archibald and Board of Tourism Coromandel 1999, p. 11; Mayes 2001, email). The finances of Tourism Coromandel fuel dissension, resulting in attitudes that trigger comments similar to the following quote:

Oh what’s Tourism Coromandel doing for my business, you know, or why are we subsidising tourism? And why am I as a ratepayer paying for the tourist industry ()?*

A second commonly held view, voiced especially by small-scale ecotourism operators, is that Tourism Coromandel is not doing enough for small-scale operators on an individual basis. The opinion constitutes an objection to the *purpose*, the *objectives* and the *operation* of the organisation. Tourism Coromandel acknowledges that this view is held in their constituent communities:

... there’s been a lot of controversy amongst the community about our existence ... (TC staff member).*

The above quote suggests that TC is aware of criticism. The following quote reflects the organisation's intent to implement changes in respect of its relationship with small-scale businesses:

... we are pretty keen on doing it right, but communication with the industry could be improved you know. I'm actually looking at this [...] to put on someone to work more with the industry and the community ... (TC staff member).*

A last issue I find worthwhile mentioning concerns the updated version of the strategic plan (Archibald and Board of Tourism Coromandel 1999). The report is vague in its specification of possible means to accomplish stated goals, and recommends a variety of *general* aims, but stops short of a detailed analysis of possible strategies to achieve specific objectives. Furthermore, it does not nominate explicit methods and tools to realise sustainable tourism development as the overarching key goal. Questioning the plan's 'substance', one operator commented rather drastically on its 'hidden agenda':

You see a lot of these plans for the next 20-30-50 years - it's all about money. Are you really ready to profit? ...

And the Tourism Board has a hell of a lot to answer for because of their slack programme ().*

Two possible reasons for the '2020' document's vagueness are suggested: An extensive consultation process, which involved the local community, preceded the formulation of the document. This attempt to unite multiple viewpoints might have prompted a 'fuzzy' definition of strategies in order to do justice to the range of beliefs and attitudes voiced in the process:

... about 25, 26 public meetings to which everyone was invited to come along to because they really want to find out what the community's expectations in tourism were and what fears of tourism, did they want tourism and what it was that they [want] ... (TC staff member).*

A second possible reason for missing precise recommendations could be what Schindler-Rainman and Lippitt (1980, p. 16) termed the "Failure to use expert resources or exchange know-how".

Within the wider issue of sustainable tourism development it is suggested that communities, operators and Tourism Coromandel's reputation would benefit from the abolition of the RTO's (sole) focus on marketing. Other objectives and responsibilities that could be introduced and incorporated in TC's charter, and become part of the organisation's functions, could include:

- Initiating and commissioning tourism research
- Informative community work
- Participatory community consultation
- Support and guidance for individual operators
- Establishing and coordinating tourism business networks
- Providing, or organising tourism related education for its members

The 'Agenda 21' (World Travel & Tourism Council (WTTC) 1995) and its implications for the tourism industry could serve as a 'foundation stone' of sustainable tourism development. In the ecotourism context this means:

- The recognition and integration of ecotourism as a distinct form of tourism in planning and development strategies could foster the environmental awareness within communities, and help dampening any unilateral boosterism approach amongst operators.
 - Ecotourism guidelines and codes of ethics, based on situational sensitivity and hypothetical imperatives within a pluralistic moral approach (*Chapter One*, section 1.8.2), could be developed.
- It is hypothesised that the perception of ecotourism as 'the lesser evil' (*Chapter Five*, section 5.2.1) would then shift towards an understanding of ecotourism as a potentially *proactive contributor* to environmental conservation and *restoration*.

- A community-based approach (Schindler-Rainman and Lippitt 1980; Murphy 1993) and the employment of PAR and PRA methods to achieve consensus, could influence the disposition to contribute to the funding of Tourism Coromandel positively, while concurrently lowering any ‘host irritation’ towards tourism development.
 - The endeavour should include the communication of potential and actual economic, ecological and socio-cultural spin-off and multiplier effects of (eco)tourism for the local community.
 - It should further foster the understanding that goals of sustainable tourism development are in the interest of local people as much as they affect operators and tourists, who demand “... that their environment be high-quality and pollution-free as well as interesting, ...” (Inskeep 1987, p. 119).
- Educative seminars regarding (eco)tourism’s (possible) contribution towards sustainable management and development of natural, semi natural and urban ecosystems, as well as socio-cultural landscapes, could be offered to the community. Information and education programmes could highlight the (potentially positive) role ecotourism *can* play within economic, cultural, human-ecological, ethical and aesthetic functions, or processes.
- The approval or rejection of tourism by host communities could be measured by utilising Doxey’s (1975) ‘irridex’.
- Tourism Coromandel could encourage networking amongst operators by setting up and maintaining a relational membership database, equipped with a search engine and online access to its members.
 - Utilising this database, Tourism Coromandel could proactively initiate contacts with operators, suggesting and liaising cooperative strategies.

- Simultaneously TC could support marginalised groups who wish to start tourism businesses on the Peninsula, by offering advice and establishing cooperative links.

This last issue is the topic of the next two sections, which discuss ecotourism initiatives by local iwi and private landowners.

6.4.4 Māori and Ecotourism

Understanding Māori needs, interests and motivations to engage in or reject ecotourism, and their interpretation of sustainable tourism development, constitutes, from the Pākehā researcher's point of view, more of an anthropological and ethnographic endeavour than a geographical inquiry. Based on Jung's assertion (page 33), it is assumed that the confluence of two fundamentally different worldviews into a bicultural society changes the identity spaces of both cultures. Grounded on this assumption it is argued that a study of the commodification and consumption of Māori culture by Pākehā tourists can only deliver legitimate research results if the *etic* operation, i.e. the researcher determined analysis, is counterbalanced by the *emic* evaluation of results by those being observed and studied (Norton 2000, p. 161).

However, despite a warm welcome and willing cooperation by individuals, local iwi and representatives of the Hauraki Māori Trust Board, I felt that my access to traditional knowledge was restricted. I also experienced a limited ability to understand current Māori thought (*Chapter Four*, section 4.3). The anticipated 'calibration' approach thus was an *attempt* rather than the realisation of a reciprocal sharing and evaluation of research results. More than any other part of this thesis, the cross-cultural research approach (Seuffert 1998, unpub.), which resulted in the interpretation of Māori involvement in ecotourism, thus relies on the phenomenological concept of *verstehen*, rather than reflecting explanatory theory, or a prediction of opportunities and obstacles for future ecotourism development. The following *description and analysis* of Māori ecotourism in the Coromandel is thus a *subjective value judgement* from a Pākehā perspective, and, despite best intentions, might not depict Māori 'actual' realities (*Chapter Four*, section 4.1.2) at all.

It is argued that researching Māori tourism necessitates the judiciousness that the stereotype picture of a ‘traditional’ Māori culture has to be abandoned in favour of a ‘hybrid cultural identity’ (Young 1995; Seuffert 1999, unpub.), which emerged as a result of colonisation and miscegenation, a process described by Taylor (1998, p. 2) as:

Two visions of Maaori identity – the “modern” and “traditional” – being situated on either end of a temporal continuum, [which] forced the ideological envelopment of “Maaori culture” within the “norm” of Paakehaa society.

Studying Māori engagement in ecotourism and sustainable tourism development also means investigating one culture’s perception and application of another culture’s concepts, a condition that is further complicated by the fact that both cultures occupy the same physical place, but different ontological and epistemological spaces. It is argued that both Māori and Pākehā have corrupted each other’s paradigmatic and pragmatic spaces. Following Young’s (1990, p. 55) argument that “Cultural imperialism involves the universalisation of the dominant group’s experience and culture, and its establishment as the norm ...”, it is asserted that during this ongoing assimilation process Māori have partially lost their ‘traditional’ identity, while concurrently adopting the modern scientific and materialistic worldview of Western societies. This is also evident in the discussion of sampling frames (*Chapter Three*, section 3.2.3). Pākehā society as the ‘dominating’ culture has, on the other hand, only just begun to acknowledge and gain a rudimentary understanding of the spiritual aspects of the ethnoscientific *kaupapa Māori* paradigm. Taylor (1998, p. 31) uses a far more drastic description of the results of colonialism and imperialism in the tourism context:

What remains of Maaori “culture” is the mythological and exotic fare of tourism: “stories and legends”, “songs chanted to the rhythms of their dances” and “traditional dress” – visual signifiers of nostalgia.

Ecotourism in the Coromandel thus faces the conundrum of having to meet different sets of expectations. Whereas ecotourists expect an ‘authentic’, ‘genuine’ and ‘sincere’ experience based on *their* imagination of (traditional) Māori culture, existing Māori enterprises and ecotourism initiatives are split between taking advantage of business opportunities by staging authenticity through mimesis of ‘traditions’, and their role “... as “spiritual” guides to nature” (Taylor 1998, p. 20).

It is tempting to apply an extended version of Castells’ (1997, p. 112) scheme to locate Māori environmental motivations within these categories (Table 9). However, in reality seamless transitions constitute the conceptual boundaries between these homogenised and rigid categories (*Chapter Five*, section 5.3), as well as between people who consider themselves as being of Māori descent, and those of a different ethnicity. I encountered individuals, communities and bodies (like the Hauraki Māori Trust Board), whose overlapping motivations, goals and objectives to engage in (eco)tourism development indicate potential contradictions. In some instances people concurrently:

- Want to capitalise on their cultural heritage
- Wish to protect their own space and identity
- Emphasise the necessity to conserve ‘Nature’ (*Chapter Five*, section 5.2.1), and/or their cultural and spiritual heritage
- View the spiritual character as the competitive advantage Māori tourism can claim over other forms of tourism in New Zealand (Ulrich Cloher 1998a)

Table 9 A Western interpretation of Māori involvement in ecotourism

Perspective	Label / Identity	Motivation	Goal	Objective
<i>Ethnocentric/ egocentric</i>	Individuals and local communities	Economic opportunities	Capitalising on cultural heritage	Establishing ecotourism businesses
<i>Ethnocentric/ anthropocentric</i>	Protectors	Pragmatic/ parochial reasons	Defending own space	Preserving, or enhancing the quality of life
<i>Anthropocentric</i>	Conservationists	Romanticising Nature	Enjoying natural spaces/ recreational purposes	(Re)creating wilderness areas
<i>Biocentric</i>	Deep ecologists	Applying environmental ethics/equality principle	Ascribing rights to non-human organisms	Environmental sustainability
<i>Holistic/ ethnocentric</i>	<i>Tino rangatiratanga</i> ¹²¹ / guardians	Spiritual task and tradition; looking after mauri of all natural resources	Ascribing rights to inanimate natural features	Maintaining <i>mana</i>

¹²¹The ‘sacred stewardship and governorship’ over land that is an integral part of Māori culture.

However, one has to be careful when interpreting and assessing the perceptions mentioned above, as terms like ‘Nature’, ‘place’ and ‘identity’ (might) have different meanings for the interviewed Māori than for the Pākehā researcher (Karetu 1990; Kearsley and Carr 1998, abstract and presentation). In traditional *kaupapa Māori* thinking a set of environmental ethics underlies the combination of the last two points in the bulleted list that precedes Table 9, i.e. the objective to preserve, guard and market the secular and the sacred values of the environment:

These [environmental ethics] embrace a holistic approach to the environment reflecting a reverence for creation as a totality, and the recognition of the interdependence between this and development; a recognition of the spiritual integrity of the environment; intergenerational responsibility; personal and collective responsibility in the utilisation and allocation of resources; a respect for traditional knowledge and values of Maori ancestors built on a recognition of the earth's spiritual integrity; the need to act as Kaitiaki, or servants to protect for future use these taonga (treasures). Utilisation [is] [...] premised on a distinctive economic ethic of reciprocity (utu) which believed that what one took from the environment one had to return in kind (Ulrich Clober 1998b, no pagination).

The theoretical approach to these idealised principles of sustainable development is, however, in practice compromised and sometimes corrupted by ‘environmental/ecological objectives’ that exist not only at the ‘deep’ but also at the ‘shallow’ end of a continuous ‘sustainable development scale’ (Acott and La Trobe 1998). I encountered various patterns that are relevant and offer room for improvement in the context of planning, developing and managing (sustainable) Māori ecotourism in the Coromandel.

Overall Māori rated the *potential* of ecotourism, and Māori ecotourism in particular, as positive. The case study revealed a small number of local rural Māori individuals and groups, whose main involvement in ecotourism can be described as ‘theoretical ideas’ rather than conceptual or practical initiatives. Only a minority were proactively engaged in tourism development in the form of consultancies (*), or ecotourism related business operations (*). Motivations expressed by these few existing entrepreneurs encompassed a variety of interests, needs and goals. Based on differing perceptions and interpretations of SETD, they pursued different avenues in their attempts to realise and implement ecotourism.

Although I did sense a certain *esprit de corps*, I did not experience what could be termed a ‘collective Coromandel Māoridom’ in the ecotourism context, but rather localised notions of identity, or *turangawaewae*¹²². Rather than representing and acting as a homogeneous Māori community, or social organisation, in the ecotourism context their “... common trait[s] were] embedded in a sea of differences” (Ulrich Cloher 1998b, no pagination). Several characteristic attributes of existing structures and relationships amongst Māori, and between Māori and Pākehā, prevent, or hinder the realisation of successful, sustainable and independent Māori ecotourism enterprises. These characteristics lead to inconsistencies regarding an operational definition of the terms ecotourism and sustainable tourism development, and their application in practice. The attributes are outlined in the following paragraphs.

Existing independent enterprises that can be categorised as successfully operating small-scale ecotourism related businesses (section 6.4.1) are carving studios. Though a variety of materials are used, the ventures are usually referred to as bone-carving studios. On the one hand, their localised concentration in Whitianga results in a competitive market structure with little cooperation, or networking amongst operators. On the other hand, the product’s uniqueness, reflected in the claim “Create your own Maori bone carving; only place in the country to do it!” (Designer Travel - Made for New Zealand. A Division of New Zealand Encounters (NZE) 2000), constitutes a comparative advantage in relation to other (eco)tourism products in the region. Offering a traditional cultural (and spiritual) activity to the consumer, bone-carving studios in Whitianga identify and market themselves as cultural heritage tourism enterprises rather than ecotourism businesses. The perception of carving as an ecotourism related activity originates from tourists’ interpretations, who, when specifically asked, identify and classify carving as cultural tourism, as well as ecotourism.

When it comes to carving, there is no regulatory framework in place. While the owners’ disparity of views regarding the term ‘authenticity’ spans a wide spectrum of opinions

¹²² The term “... refers to those places to which one has allegiance and a ‘right to stand’. In a wider sense, it embraces a person’s identity as a Maori – culturally, linguistically and emotionally” (Karetu 1990, p. 112).

and interpretations, they commonly dispute the validity of each other's approach regarding the materials used, the carving technique, the technology and tools employed, the permission for people to carve, as well as the design and spiritual significance, or value of the final product. The quotes on pages 305 and 311 referring to 'plastic' tours exemplify existing controversies. What none of the operators (or the tourists) questioned, was the right to commodify this particular tradition, a process that converts bone-carving as a cultural heritage into a revenue generating tourism product.

It is argued that image and identity creation of carving as a tourist activity can be explained with Hall's 'Circuit of Culture' (Hall 1997, p. 1). This system-based, integrative model demonstrates how meaning, language and representation in tourism interact and intersect to create different 'realities' (Morgan and Pritchard 1998, p. 17). It is further proposed that Kearsley and Carr's (1998, abstract and presentation) idea of a Cultural Impact Assessment (CIA) could serve as an internal and iterative tool for self-assessment, in order to determine the cultural sustainability of these ventures. It is suggested that a self-administered CIA could include an evaluation of the relationship between *mana* and *tapu* (Chapter One, section 1.5.3) by addressing *tapu* "... through *tika* (justice), *pono* (integrity, or faithfulness to *tika*) and *aroha* (love)" (Tate 1990, p. 90). It is argued, however, that a proper CIA is a situational and contextual product, and that only local *iwi* are competent and authorised to design and conduct such an evaluation appropriately. An adequate *supplementary* involvement of Pākehā individuals and agencies could be based on PAR and PRA methods (Chapter One, section 1.4.4).

Despite a perceived enthusiasm and willingness of individuals to develop Māori ecotourism in the Coromandel, the majority of initiatives other than carving ventures, are stuck in the design, or 'idea' stage. They are based on individual pursuits rather than reflecting combined communal, or regional ecotourism planning and development efforts. The isolated incidents of actual Māori ecotourism activities are restricted mainly to infrequent guided day tours, conducted as 'study tours' of traditional knowledge to sacred sites, or into the bush. The tours are subcontracted predominantly by 'well-established' Pākehā operators (section 6.4.2). The following quote is exemplary of the situation:

Where possible we involve our Maori friends in our experiences with great success. The Ecovisitor has not just come to see the beauty of New Zealand, they also have Expectations [sic] of meeting 'Real Kiwis'. Maori culture can be of great interest to some visitors but not all but if an interest is shown we take them to a Maori concert and Hangi [sic] [food cooked in the ground], using a Maori family that we have known for many years (Jobansen 1999, p. 18, unpub.).

The reasons stated by interviewees that (arguably) explain the failure to turn ideas and initiatives into viable businesses were manifold. The lack of financial resources and the dependence on existing Pākehā business structures and practices, as well as on Pākehā dominated TMNs was a common theme. It is hypothesised that the misrepresentation of Māori interests within tourism politics (section 6.4.3) contributes to a lack of power and influence, culminating in the inability to convert ideas into practice. The present absence of concerted action is evident in the 1999/2000 Annual Plan of the Hauraki Māori Trust Board. The report's only reference to tourism is the stated objective to "Determine whether or not the Board should pursue business in Tourism by carrying out an initial scoping exercise by 31 January 2000" (Hauraki Maori Trust Board 1999, p. 45). I also sensed a 'failure pattern' similar to that of other unsuccessful small-scale operators (section 6.4.1). Interviewees usually did not perceive a lack of research and knowledge regarding tourism planning, development and marketing strategies (identified by the investigator) as contributing factors to 'market failure'.

However, many individuals spoken to agreed that progress is currently being made in respect of the relationship between DoC and local iwi. Both parties agree that Māori involvement in decision-making processes, regarding tourism activities on DoC administered land, has increased. This issue is addressed in the concluding section (6.4.6) of the meso scale model.

6.4.5 Private Landowners: Initiatives Impeded by Bureaucracy

A last minority group worth mentioning in the ecotourism context are private landowners (*Chapter Five*, section 5.1) who have an interest in ecotourism development, but whose initiatives become entangled in a political and legal battle, resulting in a bureaucratic web of convoluted interests and positions. The involved landowners are typically farmers who possess large estates, which have become unprofitable as

agricultural land. Their intention is to enhance the viability of their properties by converting farmland into recreational public parks. Generally the owners' interests include an ecological awareness as well as financial motives. The sensitivity of the political process leaves these landowners in a 'Don Quixote position', a situation that is typified by the following quote:

The ARC [Auckland Regional Council] has made it clear publicly, when speaking to the Farm Park proposal that ARC would not proceed if EW [Environment Waikato] does not support it. [...] The EW chairman in speaking to the Farm Park proposal stated that he did not think that EW had a mandate to be involved in purchases, or leases of this kind ().*

The lack of an appropriate policy framework, as well as financial constraints due to inaction regarding the identification of potential funding sources and budgeting of sufficient funds, contribute to the unsatisfying status of current proposals, which appear to be 'frozen in time'. This assertion is based on confidential verbal statements made by various parties dealing with one particular case (*), as well as a confidential status report (*) regarding one such project, which was forwarded to me.

It is argued that the first essential steps towards the realisation of these proposed 'farmparks' have to focus on:

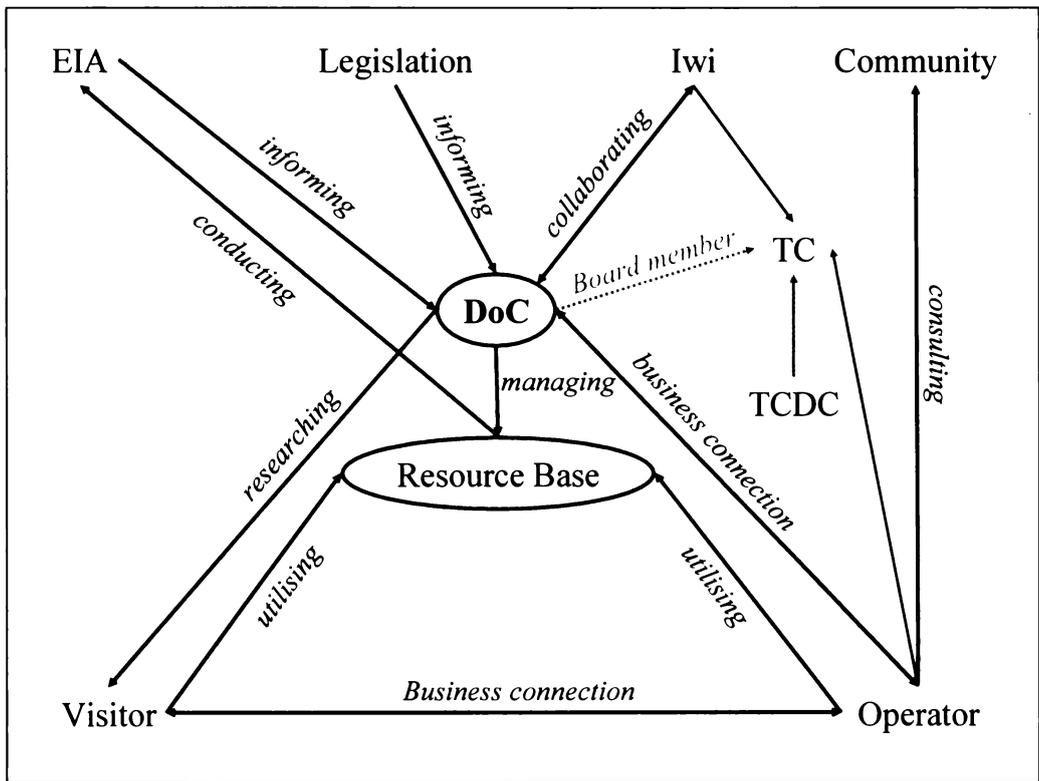
- The unravelling of the political jurisdiction by identifying competencies and responsibilities
- The recognition by involved authorities that such projects can have a catalytic potential to enhance and accelerate the process of sustainable (tourism) development in the Coromandel

6.4.6 The Department of Conservation: A Special Case

Private land plays at present only a minor role in respect of intact natural and cultural resources as the primary means for ecotourism (*Chapter Five*, section 5.3). It is DoC that is responsible for a large proportion of (mainly Crown owned) conservation and reserve land in the Coromandel (*Chapter Five*, section 5.4.2); land that not only forms the scenic backdrop for tourism but whose abundance, appearance and condition are

the predominant qualitative and quantitative measures of ecotourism’s *potential* on the Peninsula. The Department’s position within the tourism system, as well as its specific interests and engagement in the ecotourism context, have been briefly touched upon throughout this chapter. With the emphasis on DoC’s approach in the ecotourism debate, this last section of the meso scale model focuses on the difficult situation and the special role the institution fills as a mediator between different interest groups. The section sketches the Department’s main functions, its relationships with the various parties, as well as (eco)tourism related internal processes (Figure 44).

Figure 44 DoC’s involvement in ecotourism: The major links



Whereas the RTO Tourism Coromandel represents the political forum and *organisational hub* of tourism planning and development on the Peninsula in terms of public relations activities and marketing strategies, the role of DoC can be adequately described by the term *managerial hub* in the ecotourism resource context. With the focus on DoC’s function in regard to ecotourism, Figure 44 depicts the essential associations between the Department and key constituent system components. The graphic

illustrates a situation that leaves room for improvement. The emphasis with the connections is on key processes. The origin of the black arrows indicates where links are initialised, or established, while red arrows signify the membership on the Board of Tourism Coromandel (TC). The diagram shows the negligence of an existing link (the dashed red line), ‘missing links’ between TCDC and DoC (no line), as well as the nature of links between the Department and communities.

The following two quotes, taken from an interview with an ecotourism operator, sum up the generally strained relationship between DoC and ecotourism businesses:

The tracks would be like just sort of person wide, cut off at ground level by hand [...]. You get DoC doing something, they go in there and it's like as wide as this, they leave their stuff lying around. [...] Well you know DoC do a lot of things that to my way of thinking it could be better done, put it that way ().*

DoC does not use the terms ecotourism and ecotourist explicitly; but instead the Department classifies visitors and their activity patterns according to its own scheme:

I think of seven visitor categories that have been developed by the Department ... (DoC employee).*

From the Department's point of view the terminology surrounding ecotourism is an industry driven marketing tool rather than a reflection of activities in DoC managed areas:

No, we [DoC] don't really use the word ecotourism a lot. ...

But we [DoC] [...] we don't refer to it [DoC administered land] as the ecotourism resource. ...

And really it's [ecotourism] related to the industry component (DoC employee).*

The Department does, however, acknowledge its role as a provider of ecotourism's primary resource base, as well as of services and facilities that are essential prerequisites for (Nature-based) ecotourism to actually ‘happen’. Situated at the interface between the natural environment and human activities, the Department has to cater for varied and sometimes contrary opinions, beliefs, needs and interests, pursued by a diverse range of individuals and groups of people. Often ‘caught between the lines’ of the two objectives *protection of resources and assets*, and *provision of amenities and opportunities*, the

Department's (1992, no pagination) "... main job is to look after ..." the ecological environment, as well as the historic and cultural heritage of the land held in trust. At the same time its task is to provide a range of facilities and services to enable the recreational and touristic use of the land, while concurrently administering, controlling and policing the usage (New Zealand Department of Conservation (DoC) Te Papa Atawhai. Waikato Conservancy 2001, p. 7; q.v. *Chapter Five*, section 5.4.2).

In the tourism context DoC thus finds itself in the awkward position of having to balance needs and interests of individuals and groups that, by adhering to opposing (i.e. predominantly economic) goals, might have the potential to compromise the Department's conservation goals as well as environmental legislation (*Chapter Five*, section 5.4.2). DoC simultaneously has to ensure:

- The preservation of the *natural environment* by assessing *ecological impacts* and preventing detrimental effects of infrastructural development and tourism activities
- The protection of *historic assets* and *the cultural heritage* by determining *socio-cultural (and spiritual) implications* of touristic and recreational activities; a goal that is aided by the involvement of and the collaboration with local iwi and other community groups through consultation and participation in decision-making processes (section 6.4.4)
- The economic interests of *tourism operators*, i.e. satisfying the *supply* of the tourism market by processing applications and authorising (or declining) tourism operations and issuing (or denying) development and operation concessions¹²³
- Visitor satisfaction, i.e. the recreational and educational needs of *tourists and other visitors* by means of meeting the leisure *demand* of the tourism market, providing access, services and facilities such as Field Centres, campgrounds, tracks, huts, etc.
 - Visitor satisfaction concurrently includes the task of keeping a tap on volume, mainly through the regulation of locational and seasonal patterns of visitor distribution and their activities.

¹²³ "A concession or concession document means a lease, licence, permit or easement and the activity authorised by the document" (New Zealand Department of Conservation (DoC) Te Papa Atawhai 1996, no pagination).

In its aim to achieve these interlinked, yet in part contrary objectives, DoC relies on the input of various stakeholder groups, their collaborative efforts and on other data sources. Figure 44 illustrates the ways in which these bodies are associated with DoC and how links are utilised. From the ecotourism and SD perspective, the Department's position is characterised by a *limited influence* on tourism development, as well as a *relative isolation* within the tourism system as the following paragraphs reveal.

Three Field Centres and an Area Office operate in the Coromandel. They share workloads and responsibilities with the Head Office, which is located in Hamilton. Their lack of direct input in the development of visitor numbers in the Coromandel, as well as a (self chosen?) constrained control, or power over tourism planning, development and marketing strategies is reflected in the following two quotes:

... the Department of Conservation can manage the site, but we [DoC] don't have much influence over external forces ().*

We [DoC] have very little contact, eh contact with the like Tourism Coromandel, and virtually no contact at all with the local authorities up there ().*

It appears that, despite the Department's presence on the Board of Tourism Coromandel (section 6.4.3), official links are underutilised, or neglected. Based on the *normative approach* of the *standardisation paradigm* (Chapter Five, section 5.2.2), the Department only *indirectly* exercises some control regarding site-specific visitor numbers, for example by determining car park sizes, altering the number of bunk beds in huts, or by restricting access, and issuing (or denying) operational permits to commercial concessionaires. Rather than being proactive in its attempt to sustain the natural environment, the Department's authority in the tourism development context is thus confined to 'damage control' measures. The following excerpt from an interview with a DoC employee exemplifies the way the Department tries to cope with an increased visitor influx. The quote demonstrates DoC's limited ability to influence, or control visitor numbers:

Why do we build an 80 bunk hut? Because the 20 bunk hut, which was sort of developed into a 40 bunk hut, regularly had 60 people sleeping in it ().*

However, by developing new attractions, DoC proactively attempts to influence and balance the spatial and temporal distribution of visitor impacts in ecologically sensitive or crowded areas:

... what we [DoC] try and do is spread the load ... ()*

... and the other thing we [DoC] are trying to do is by upgrading our facilities we are actually spreading the season ()*

Apart from creating new opportunities and minimising environmental impacts by spreading the load, the Department thus also tries to satisfy a consumer and supplier perceived need for higher qualitative standards by upgrading existing facilities. However, the Department's ability to extend the range of available resources, or even to maintain the currently existing tourism infrastructure, for example the track and hut network, is limited due to financial constraints:

In lots of cases that's just not [sic] it's not possible because of the limited number of funds to develop new tracks ... ()*

The Department's input in terms of 'tourist quota' is also reflected in the way applications for commercial recreation enterprises are handled. Any tourism business activity on DoC administered land needs to be authorised by the Department (*Chapter Five*, section 5.4.2). In a first step, situational and contextual circumstances of prospective tourism development, and the utilisation of DoC administered land, are acknowledged in a community consultation process, which precedes any consideration of filed applications by DoC. The procedure thus 'counterbalances' the 'rigid' approach of unified quantitative determinants of Environmental Impact Assessments (EIAs):

They [the applicants] need to come through a process. Now that process is public orientated; so the Department vents it. It's then advertised. The public's submissions come in. So somebody who wants to set up guided walking business in the valley they have to apply gets notified [sic]. They have to consult iwi; they have to consult local authority and then DoC also ... ()*

The concessions policy consists of a set of provisions spelled out in an internal science and research report (Parr and New Zealand Department of Conservation (DoC) Te Papa Atawhai. Science and Research Unit 2000), and is based on legislation mentioned in *Chapter Five* (section 5.4.2). Licensees of recreation and tourism permits are granted a

non-exclusive interest in land, making provision for any activity on the land that licence holders are permitted to carry out. For operators the licensing process is summarised in two leaflets published by DoC (1992; 1996).

I identified three main problem areas in the way applications are actually processed. They constitute politically sensitive issues that offer room for improvement, requiring enhanced communication, cooperation and coordination amongst the involved and/or affected parties:

1. Nonexistent, or unused links between DoC, TCDC, Tourism Coromandel and NZTB (Figure 44, p. 341) result in the failure to cooperate and coordinate common objectives. The lack of communication can lead to counterproductive dynamics, including misunderstandings and missed opportunities to develop tourism in a sustainable manner. This *isolated* approach contrasts with the *inclusive*, or *integrative* approach anticipated by DoC (2000, email) itself (*Chapter One*, section 1.8.2).

Obviously, a sensible strategy would be to utilise existing links, and to establish additional connections between the involved parties. It is argued that the regular exchange of ideas, as well as cooperative strategies, would eradicate, or at least counteract and mitigate controversies, streamlining efforts to achieve common goals of sustainable tourism development. It is further hypothesised that the cultivation and consolidation of relations would have a positive influence on the efficiency and effectiveness of work and time commitments, as well as on public expenditure in the tourism sector.

2. The discrepancies between the government's and the tourism industry's focus on popular sites in their advertising and marketing strategies on the one hand, and DoC's perceived needs for conservation of these locations on the other hand, require deliberation in order to coordinate and balance economic and ecological goals at the local, regional and national level. The following quote typifies the situation:

One site [DoC] asked not to [advertise] because it's already [an] overcrowded [and] pressurised site. But because it's got [...] beach looking cave and rock, [...] it's a key marketing tool. Because people say: Gees, I want to go there. I visit the Coromandel to go and visit Cathedral Cove. And what we've said? We'd [DoC] like them [the NZTB] start pushing some other areas on the Coromandel and try to spread that load ().*

It is argued that sustainable long-term economic goals in respect of tourism development in the Coromandel can only be achieved by adhering to ecological and socio-cultural objectives that aim at sustaining the natural, cultural and historic resource base. Balancing and coordinating marketing and conservation strategies would be one step in that direction. Cooperation will not only require a mutual understanding of common goals and objectives but also networking and collaboration strategies that include an informed debate, the willingness and ability to negotiate, as well as compromises on all sides.

3. There is consensus of opinion amongst *all* involved parties that the handling of concession applications is at present unsatisfactory. The quote below reflects the Department's admission, whereas the operators' similar standpoint has been elaborated in section 6.4.1:

*The Department doesn't run the concessions very well at the moment (DoC employee *).*

According to a DoC employee (*) there are operators who are quite happy with the current situation, but there are also those who object to any kind of compulsory concession scheme. Some of these entrepreneurs manoeuvre on the fringe, or beyond legality. They use DoC land, but avoid lodging a concession application altogether¹²⁴. Contrary to its otherwise 'standardised' approach to conservation, and in contradiction to the Department's (1992) application guidelines (section 6.4.1), DoC seems to have no set fees; but instead each case is evaluated on its individual merits and on a cost recovery base:

¹²⁴ This last point is corroborated by statements made by operators themselves, and has been elaborated in sections 6.2.3 and 6.4.1.

But basically we [DoC] have a look at each operation and based on the guidelines we got we negotiate with the operator what we determine is an acceptable fee that they should be paying for their activity that is being carried out on the conservation, or reserve land ().*

It is hypothesised that the contextual and situational approach towards establishing concession fees bears the potential for biased treatment of operators. This can contribute to a (perceived) lack of objectivity and fairness, and an unnecessarily lengthened bureaucratic process. Small-scale operators themselves have expressed their concerns by raising these issues (section 6.4.1).

A second, related problem can arise from subsequent alterations of tourism activities, initially authorised by DoC in their *status quo ante* version. Unauthorised modifications (especially business expansions) can lead to a renewed clash between departmental conservation objectives and economic goals of individuals, or communities, resulting in additional friction between operators and the Department (an issue that has been discussed from the operators' perspective in section 6.3). The following quote taken from an interview with a DoC employee exemplifies the predicament:

He [] was one of the major operators on the Peninsula. [...] small numbers, but quite regularly and you know all through the year. Low numbers of people and we said ok [...]. If [*] brings 12 extra people or 24 people in two mini vans it's not going to make a huge difference [...]. [*] original application was for, you know up to a maximum of two mini vans [...], but then he got bigger he started to actually bring in 40, 60 seater coaches. But that did have an impact ... (*).*

The business in question is owned by the same operator whose words and actions did not match in all instances, and whose behaviour was identified as 'cognitive dissonant' (pages 212, 243). It is argued that the improvement of the concession procedure relies on the transparency, uniformity and efficiency of the process, as well as the affordability of permits for the applicant. Again only informed debate amongst all stakeholders offers the opportunity to minimise tensions by understanding and respecting each other's perspective and objectives. It is suggested that a *unified* concession fee scheme, based on business size, where new, or small-scale operators are charged a relatively low 'entrance' fee in combination with ongoing and flexible charges depending on business development in terms of volume and success (i.e. turnover,

returns and profits), as well as business impacts on the environment, could improve the relationship between DoC and operators. It is hypothesised that an additional ‘voluntary donation scheme’ could be beneficial for both DoC and operators. Accumulated funds could help financing the ongoing improvement of the tourism infrastructure. The scheme could furthermore be utilised as a marketing tool in the ecotourism context.

It is suggested that collaboration between DoC, Tourism Coromandel and TCDC regarding the conceptualisation and operationalisation of ecotourism could mitigate controversies and discrepancies in respect of objectives, methodologies and methods of SETD. It is further argued that the expansion of the existing reciprocal, but one-dimensional link between operators and DoC could improve the relationship between these two parties, consequently benefiting the differing objectives of SETD. At present the connection between the two parties is a purely commercial one, where the predominance of *opposing* objectives inevitably creates tension. The implementation of a discussion forum, where thoughts and ideas are exchanged in a cooperative manner, could improve the handling of the concession scheme. The present collaborative link between DoC and iwi could be expanded to include other community groups who have an interest in SETD.

6.5 Summing It Up

The previous section has again highlighted the fact that relationships and processes within and between interest groups are subjected to non-objective, personalised influences. The power relationships within the political ‘arena’ of tourism, as well as the dynamics of personal sympathies and antipathies, play a major role regarding the outcome of decision-making processes.

A flexible ‘fee scheme’ that allows for situational and contextual adaptations, leaving leeway for personal interpretation, can be seen as a positive *or* negative provision. ‘Personalised’ fee schemes and (hypothetical) ‘differential pricing’ policies are two examples of ‘individualised’ cost strategies, where producers and consumers pay for the same product differently. There can be no doubt that the (intentional, as well as

inadvertent) inclusion of subjective criteria in tourism planning and development adds to the complexity of the system's dynamics. Complex system dynamics in turn lower the chances of making *precise* predictions, regarding feedback loops and 'final' results of decision-making processes, for the system as a whole. The knowledge and incorporation of the existence and effectiveness of a 'subjectivity' variable can, however, enhance the *accuracy* of the conceptual model.

The clash of ecological and economic objectives (interspersed with socio-cultural issues), within the common goal of sustainable (eco)tourism development, is not an exclusive trait that only characterises the relationship between a few involved, or affected parties. Ideological, conceptual and operational discrepancies are the rule rather than the exception. They are typical of the relationship and processes between and amongst many individual stakeholders and interest groups within the ecotourism system. Even at the level of the human individual, the inner strife between opposing interests and needs, passions and beliefs, leads to inconsistencies between stated goals and objectives, and their transformation into practice.

A common theme emerging from the meso scale model is the apparent discordance between written statements, their verbal interpretations and the enactment, or implementation of resolutions. 'Idealised' principles of sustainable tourism development generally differ from the practised version. This holds true for official policies on a legislative level, as well as for theoretical and conceptual definitions of sustainable tourism development as expressed by individuals, or formalised by interest groups. In contrast to Fennell and Malloy's (1999) findings, applied ethics of ecotourism operators (and other stakeholders in the ecotourism system) do not seem to differ from those of other operators.

In this context the human factor plays the principal role when it comes to determining or predicting (or failing to determine or predict) the system's state in phase-space. Constituting the 'resultant' of an interplay between rational, irrational and emotional components of human intellect, human behaviour is an elusive, but powerful and dynamic variable in the system 'equation'. Its 'value' (and thus the system's trajectory in

phase–space) can only be estimated to a certain extent. Opinions, beliefs, passions, preferences, interests, and needs are embedded in, and emerge from cultural traditions, environmental conditioning and the (presumed) free human spirit. Motives and motivations are based on paradigms, or worldviews, influencing moral guidelines and resulting in societal norms and laws that affect the final outcome, i.e. human feelings, thoughts and actions. Furthermore the ‘value’ of human behaviour, far from being a ‘constant’, is prone to continuous change, as are its constituents and their relationships, as well as the varying degree of their influence.

Recommendations to improve the current ‘state of affairs’ primarily focused on the benefits of networking, cooperation and collaboration, as opposed to ‘isolated’ and competitive ecotourism development strategies. I suggested the minimisation, or elimination of uni-directional, dead-end and counterproductive links, through their conversion into efficient and effective connections between interest groups. Constructive connections can then be utilised as an essential technique, or tool to enhance the positive influence system variables *can* have towards the common goal of SETD.

Rather than comprising an exhaustive description and analysis of all involved parties, the meso scale model targeted those interest groups whose activities are *relevant and influential* in the ecotourism planning and development context, while concurrently neglecting subordinate organisations like the Coromandel Taxpayer Association, or community ‘watchdog’ initiatives, who at present only play a minor role in the debate. This value judgement is based on information regarding the various stakeholder groups that was gathered prior and during the fieldwork. The procedure of including (or excluding) interest groups in the model was thus an opinionated and evaluative process, with continuous adaptations reflecting new insights into the configuration and operation of network structures.

By analysing the dynamics of processes and relationships between and within associations of stakeholders, the focus of the conceptual model at the meso scale level was on the structure and functions of these *interest groups*, whereas the subsequent

micro scale model emphasises the influence of *individuals* within the SETD debate. In *Chapter Seven* attention is directed to resulting dynamics within and between interest groups, changes of the non-human environment, and on the development of the system as a whole.

Chapter Seven

Micro Scaling: The Level of the Individual

Thoughts survive if they work, if they propagate, if they find an appropriate milieu, a welcoming territory. Thoughts are the genius of the spirit. They will only maintain their appeal if they can form some kind of alliance with what we do (Goodchild 1996, p. 211).

Ecotourism, in the widest sense, turns out to be the study of the interaction and survival of thoughts and ideas in the form of enacted decisions and activities. The emergence of ecotourism as a phenomenon thus depends on individual human behaviour. Human activity is also viewed as the main *trigger* of subsequent changes within the ecotourism system. The micro scale model therefore focuses on human action, inaction and interaction with other humans and non-human variables. In the context of ecotourism and SETD it attempts to shed light on three questions:

1. What is *the nature* of decision-making processes at the level of the individual?
2. *How* do choices, made by individuals, affect the system's configuration, or state, and its operational dynamics (i.e. its position and trajectory in phase-space)?
3. Can those causal networks that are based on human decision-making processes and their effects be identified and *predicted* with accuracy and precision?

In previous chapters the mass of original data provided individual exemplars of constructs that allowed room for interpretive comments on variability. The underlying argument has been that we can collect and identify themes in respondents' commentary and intellectual rationalisations offered. At the micro level residual variation and the principles of variation are considered. It is argued that the identified subjectivity of decision-making processes at the level of the individual is 'messy' in nature:

And it's not that this is a mess created by the dirt that's on the microscope glass. It's that this mess is inherent in the systems themselves. You can't capture any of them and confine them to a neat box of logic (Arthur, cited in Waldrop 1993, p. 329).

Following Thrift's (1999b, p. 32) argument, which embraces the "... the Derridean notion that we live in an infinite web of meaning, ...", this mess is differentially distributed. To reinforce the assertions of 'messiness' in the social realm, sections 7.1 and 7.2 provide empirical evidence based on concrete examples of decision-making processes and resulting changes at the level of individual human behaviour.

It is argued that at the micro scale level concrete and detailed phenomena constitute (primarily) 'singularities' within the system's dynamics, while conceptual modelling concurrently results in the most abstract and generalised version of 'real' reality (*Chapter Four*, section 4.1.2). This apparent conundrum is addressed by identifying those general patterns within the system's dynamics that are the direct result of people's idiosyncratic behaviour. Taking into account human 'free will' and the idea of unconditioned responses, the number of sampling frames coincides with the number of individuals involved, or affected by ecotourism; i.e. each sample constitutes the equivalent of the sampling frame. At the other end of the scale, 'complete environmental conditioning' would result in just one sampling frame, comprising all individuals involved in, or affected by ecotourism. In 'real life', people's choices are presumably positioned in a continuous spectrum somewhere between these extremes. "Critical social science [therefore] mixes nomothetic and ideographic approaches" (Neuman 2000, pp. 75-76). *This model treats decisions as idiographic¹²⁵ occurrences; common denominators of their effects are subsequently identified in an interpretive and nomothetic¹²⁶ approach.*

Several major obstacles must be overcome in understanding, 'explaining' and modelling individual human behaviour at the micro level. These obstacles include:

- The sensitive dependence of human behaviour on initial conditions and our inability to know the *exact* nature of these first circumstances (*Chapter Four*, section 4.4.2; *Chapter Five*, sections 5.3.4 and 5.5)

¹²⁵ "A method stressing the individuality and uniqueness of phenomena rather than the similarities between phenomena ..." (Norton 2000, p. 329) in a descriptive approach (Kitchin and Tate 2000, p. 3).

¹²⁶ "A method stressing the similarities between phenomena, seeking laws, ..." (Norton 2000, p. 332) in an explanatory approach (Kitchin and Tate 2000, p. 3).

- The researcher's (and the participant's) ignorance regarding causal and acausal (or non-communicative) effects (*Chapter Four*, section 4.4.3; *Chapter Five*, section 5.4.1)
- Occurrences of cognitive dissonance (pages 212, 243)
- The existence of 'hidden variables' and a (multiplicative) lack of detailed knowledge on the part of the analyst as well as the respondents about externalities and their influences on the system (*Chapter Four*, section 4.4.2; *Chapter Five*, section 5.3.4)
- The subjective nature of one's self-perception and the perception of others
- 'Cross-border' linkages and 'leakages' (*Chapter Five*, section 5.3.2)
- The problem of 'disengagement', i.e. the (presumably) impossible separation of the researcher from the subject (and object) of his/her research

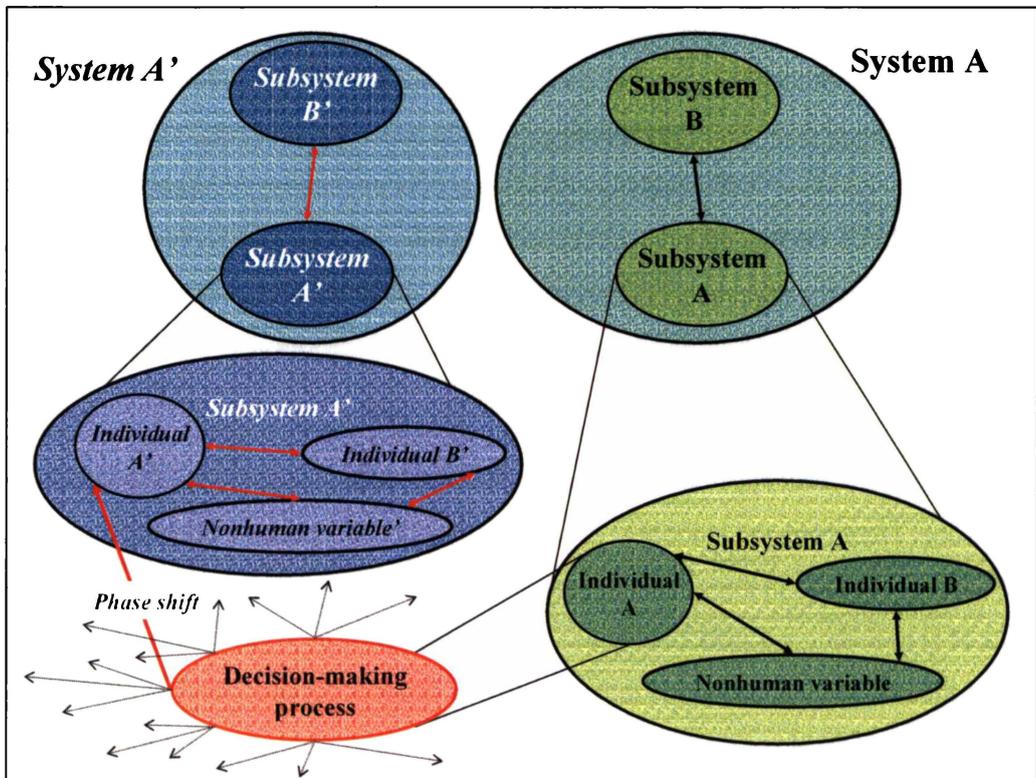
It is argued that these factors contribute to the complexity of human behaviour and emerging causal, as well as effectual networks that defy *precise* explanation and predictability. Utilising the concept of *verstehen*, I take a postmodern and poststructural stance by viewing each decision-making process as 'case-sensitive', deconstructing each participant's decisions individually on their own merits. The chosen approach stresses the relevance of the situational context and focuses on the identification of different layers of meaning, while concurrently *attempting* to unsettle underlying categories and patterns, resisting interpretative closure, and avoiding binary oppositions (Pratt 2000, p. 626).

The methodological approach suggests continuity between meso and micro scale modelling. However, the transition is characterised by different objectives. Instead of identifying common themes that are shared by groups of people, the micro scale model aims at recognising patterns that reflect the influences of individual behaviour on the whole system. In practical terms only a limited number of 'events', leading up to phase transitions in the system's configuration and dynamics, can be employed to investigate the nature of decision-making processes and the effects of enacted choices. These lead to the design of the micro scale model. While the model at this level thus displays the

least precision, accuracy is achieved by recognising the underlying *principles* of impacts and phase shifts.

In principle any thought and any decision results in a change of the system’s state, and links are always reciprocal. Not relying on any case-specific details, Figure 45 depicts (clockwise) how the decision-making process of one individual alters the system’s state from A to A’ in principle. The red arrows indicate that individual phase shifts *can* transcend the whole system, changing the dynamics of other individuals and those of non-human variables, as well as the behaviour of nested subsystems. The graphic generalises the decision-making process as a ‘multiple choice’ operation without distinguishing between predetermined, conditioned and random choices. Figure 45 reflects a closed-system approach, and stops short of showing influences *across* system boundaries.

Figure 45 The individual’s influence on the system’s state



The data (section 7.1) suggest that the behaviour of individuals *can* have an impact not only on individuals and non-human variables in close vicinity of the ‘actor’ but also on nested subsystems and the system as a whole. Decisions and their enactment can have immediate or lagged consequences (*Chapter Five*, section 5.3.3); the effects can be of a direct or indirect nature, and changes can be minute *or* significant for the system’s dynamics. By considering only the endpoints on continuous scales, the chosen binaries simplify a possible gradation in the process.

Examples of individual behaviour as causal mechanisms for alterations of spaces, landscapes and identities at the meso and macro scale level have been employed throughout *Chapters Five* and *Six*. Differential ‘micro commentaries’ also resonate around the theme of ‘differential impacts’. Instances are used at this point to demonstrate how individuals *trigger* the systemic development.

7.1 Differential Impacts of Individuals

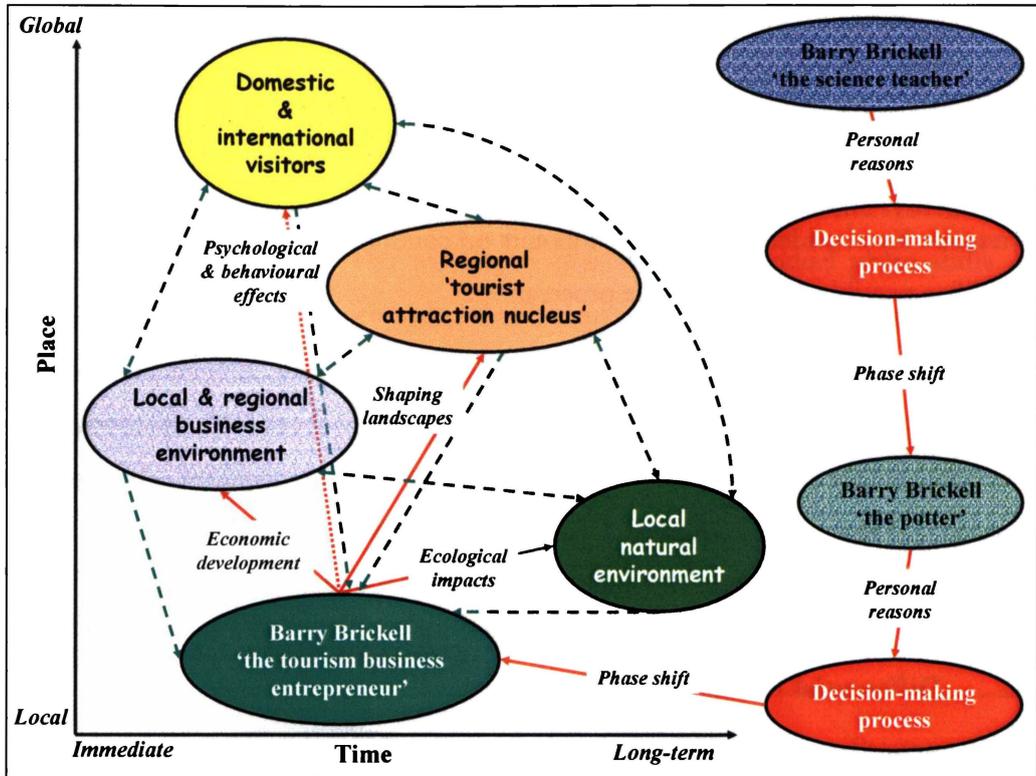
Referring to Barry Brickell’s unique enterprise Driving Creek Railway & Potteries (D.C.R.) in Coromandel Town, a representative of the ‘Combined Taxpayers Coromandel’ association points out D.C.R.’s impact on tourism development for the town and region:

... just been a catalyst for tourism here ... ()*.

This particular business serves as an example of *differential impacts*. Showing the *principle* of differential impacts, Figure 46 depicts only a few major developments that can be traced back to Barry’s decision to convert his pottery into the D.C.R. tourism venture. The figure also illustrates differential lead–lag sequences (*Chapter Five*, section 5.3.3) within a causal network.

While a strong economic impetus is perceived mainly by local businesspeople in Coromandel Town, indirect economic benefits can be felt throughout the region (for example day excursions to Coromandel Town from other places on the Peninsula). As a ‘tourist attraction nucleus’ the D.C.R. venture serves as an attracting pole for the whole Peninsula.

Figure 46 The reciprocity of differential impacts



The business not only appeals to day visitors from Auckland but also provides international visitors with an additional incentive to travel in the Coromandel. Informal interviews with D.C.R. railroad passengers suggest that visitors are (from my perspective positively) influenced in their thinking, regarding their ecological awareness, and their knowledge and understanding of ecotourism:

I didn't know it's not the real forest [primary vegetation] (analogues quote, anonymous tourist).

I think I might try pottery at home (anonymous tourist, translation from German).

Supported by Barry's (1999b, pers. comm.) own words, it is hypothesised that newly acquired environmental knowledge and sensitivity translate into a change of behavioural patterns (dashed red arrow):

First they are attracted by the train, but because the train is attractive here you've got them, you've got a captive audience to tap there and you can tell them something about the ecological history. They go back with their heads fully informed, they

probably appreciate that information, no one else can supply, it would seem, except me.

The survey data further suggest unison amongst *all* parties in terms of advantageous ecological impacts of D.C.R. This ‘common feeling’ was deduced from ‘nonexistent’ data, and by listening to people’s comments and questions during the train ride. Nonexistent data are interpreted within the phenomenological concept of reflection on ‘absent profiles’ (*Chapter Three*, section 3.3.2). In this case the lack of negative comments constitutes an absent profile, or ‘negative evidence’. Throughout my fieldwork I did not encounter anyone who doubted the *direct* beneficial effects Barry’s enterprise has on the ecosystem. (Examples of *indirect* negative spin-off effects are mentioned in subsequent paragraphs.) On the contrary, the enterprise is one of the few businesses other ecotourism operators (and thus potential competitors) mentioned as worth visiting. The following quote also exemplifies the effects of a personal liking (or disliking) for people, on the transfer of information:

Have you met Barry - Barry Brickell? [...] He’s a good mate of [mine]. Barry’s a real character ().*

Direct impacts on the natural environment are, however, restricted to the physical locality of the business, with benefits constituting long-term improvements rather than immediate consequences (Figure 46). It has been argued that in the social realm effects are irreversible (*Chapter Four*, section 4.2.1), and the claim is made that this is a principle that applies to any non-mechanistic system. However, with one of his activities Barry apparently achieves just that: Rather than conserving, or preserving natural scenery, he proactively tries to *restore* the ecological environment by planting and cultivating the original flora, thus *reversing* the degraded habitat’s state to its pre-mining and pre-logging condition:

... reversing the destruction cycle ... (Brickell 1999b, pers. comm.).

It is argued that success would, however, not compromise the principle of irreversibility, since the process would not reinstate any *identical* former condition.

The effects depicted in Figure 46, very easily become (accelerating and reciprocal) causes for further effects (green dashed arrows). For example Barry's particular approach towards sustainable, or rather restorative ecological development, causes the enhancement of the venture's image as a 'tourist attraction nucleus'. The diagram symbolises the idea that one person can cause the emergence of an open, dynamic, complex and adaptive (sub)system, its behaviour influencing the whole system and in turn the originator, or causal agent her- or himself.

There is a multifaceted causal and effectual network attached to these systemic phase shifts. Publicly stated reasons that 'caused' the establishment and development of D.C.R. are reflected in Barry's 'visions':

The Driving Creek Railway and Pottery complex [...] was started by Barry Brickell in 1974, after he acquired 22Ha (60 acres) of scrub-covered hilly land that he had visions of "developing" over the years. He had moved to Coromandel in 1961 as a 26 year old science teacher but resigned later that year to become a full-time potter. This was a pioneering move, as were indeed his other activities, such as restoring an old colonial house, planting a native shrub garden and building a miniature railway to serve his pottery workshop (Brickell 1999a, p. 1).

Originally, the railway was conceived as an all weather access to pine wood fuel and clay from the steep hills above to serve the potteries. Later it has become a major visitor attraction and has been substantially upgraded. In 1990 it obtained a licence for public operation (Brickell 1999a, p. 13).

Barry's personal convictions for establishing D.C.R. were only *part* of the initial conditions, which led to the conversion of the railway into a tourist attraction. However, for privacy reasons the details of other motives, obtained in an interview with someone else (*), cannot be stated. The additional information would complement, but not countervail the picture. My knowledge of these 'hidden' causes suggests that in this and presumably many other instances 'hidden data' may also have an influence on the system's dynamics.

It has been argued that it would be impossible to trace *all* causes of processes, their subsequent effects and resulting (reciprocal) relationships. Effects can become causes and *vice versa*, and indirect 'flow-on' effects demonstrate how even successful

ecotourism ventures that are commonly judged as positive examples of SETD can nevertheless inadvertently contribute to negative concomitant phenomena:

No, we've got problems here [Coromandel Town] and right round the Peninsula the problem of sewerage disposal. The other problem is water (a resident of Coromandel Town).*

According to the above quoted interviewee, seasonal peaks in tourism numbers and the lack of an adequate infrastructure (resulting in the inability to cope with the temporary influx), trigger both problems. They are (unintentionally) caused by the success of a tourism business that is otherwise seen as having beneficial impacts on the environment and the community.

Brickell's D.C.R. venture typifies how tourism projects result in a multitude of different causes and effects regarding their nature, their spatial extension and distribution, their influence on other (sub-)systems, as well as the chronological order and temporal duration of their developmental stages. Mill and Morrison (1985, p. xix) describe this system behaviour in more general terms:

The system is like a spider's web—touch one part of it and reverberations will be felt throughout.

The following two micro-case studies serve as examples, demonstrating the idea of *predictability* patterns of events within this particular 'cobweb' system.

7.2 Predictability Patterns

Conversations with backpackers suggest that horseback riding is regarded as a typical ecotourism activity in the Coromandel. The story of one couple who, as owners of a horse trekking ranch, is proactively involved in ecotourism, demonstrates the influence of the situational context on the decision-making process. The wife, who manages the business part of the venture, is originally from Australia. She now lives in New Zealand "... because of my husband" (*). Main reasons for the pair to get involved in horse riding as a business were not so much a possible business opportunity, but rather a range of very personal motives, where initial conditions can be traced back to childhood experiences:

My husband is horse mad and decided that he'd like to start up some sort of trekking operation. As a child he was never allowed to have horses. So he's made up for it now. [...] and also the tourism side of it. Because I come from, I come from an area, where I was in the hospitality industry and [here] I missed the people contact. I love the cows, but it [farming] was not quite the same ().*

The location Coromandel was chosen for private *and* financial reasons rather than being the purely calculated result of a cost–benefit analysis. The Peninsula's climate was seen as favourable for an existing medical condition, and the closeness to urban centres seemed to guarantee economic sustainability:

... and then we, well we decided that we wanted to go where the climate was a bit warmer. I suffer from (), so it was just better for me. [...] We just decided this is where we should go because of the tourism side of it. We knew that it was only two and a half hours in the vicinity and all that sort of thing was convivial for tourism people to come to the Coromandel because, you know, for the aspect of closeness to Auckland [...]. And also this side is always more touristy [...] than the other side of course (*).*

The example reflects the complexity of initial conditions, and the 'in principle indeterminacy' of the role private factors play in a profitability assessment of planned changes (and thus the system's expected development). Whereas outsiders could have estimated the economic potential, and predicted the venture's economic viability and ecological sustainability, private circumstances played a dominant role in the evaluation and decision-making process. These personal circumstances are case sensitive and might only be known to the 'research subject'.

Business success hinges not only on market externalities but further depends on the operator's educational and professional background, and can further be influenced by interests and engagements outside the tourism operation. In the case of the horse trekking ranch, a professional involvement in Internet-based business operations contributes to the continuous economic growth of the tourism venture:

We were concentrating mainly on the domestic market [...]. That's changed as well just in the last twelve months, because we've got an Internet site now and we are able to market it overseas [...] because they contact me via the Internet. I have got a really good site. I have worked on it for a long time and I have got little programmes in there, [...] where they can actually talk to me online at the same time [...]. I have got a business in town [] and it's an Internet-based company (*).*

Another rather extreme example of an operator who classified his/her (*) farm bike safari as an ecotourism venture, demonstrates the difference in the predictability of thought patterns (i.e. of mental decision-making processes), and the physical impacts of their outcomes on (in this particular instance) the ecology of the system. The main attraction for tourists was, in this case, the combination of adventure and Nature experiences (page 306). It is argued that many people would not consider this specific 'layer of meaning' of the term ecotourism as an option within most conceptual ecotourism spectra.

I argue that on the one hand, it would be nearly impossible to forecast the emergence of such an ecotourism venture, as it is based on unpredictable mental decision-making processes and choices of one individual; determinants being *inter alia* interests, preferences, beliefs, perceived needs, etc.. On the other hand, it is more likely that *effects* of this particular business can be predicted with a relatively high degree of accuracy and precision. Focusing on the effects, it is hypothesised that within a Community Impact Analysis (CIA) or Community Impact Evaluation (CIE), the *exact* nature of an outcry might be less predictable than the physical impacts on the ecology of the sand dunes and the bird nesting area. These could be determined in an Environmental Impact Assessment (EIA) or by estimating the Environmental Assimilative Capacity (EAC) (Sinclair and Stabler 1997, p. 171). It has been previously mentioned (*Chapter Six*, section 6.3) that for economic rather than moral reasons the operator has given up this operation and is considering founding a sea-kayaking venture instead. Again the mental concepts underlying this thought and subsequent decision cannot be generalised. They are unique, obscure and difficult or impossible to determine, whereas the anticipated effects are easier to forecast.

Yet another 'extreme' example of an operator for whom ecotourism stands for "... economic tourism ..." (*) corroborates the argument that 'layers of meaning' exist in a continuum that possibly has no boundaries. This respondent is so far from our received wisdom that the comment invites speculation. On the one hand, the definition may reflect a 'Freudian slip', an unintentional error that reveals subconscious feelings – and thus be truthful in essence. On the other hand, it could be the result of a

‘temporary malfunction’ under pressure; or the respondent was ‘phased out’ by the interviewer. Additional contextual and situational variables, like the nature of the business, or other comments made by the interviewee, do not provide a conclusive answer.

I did not experience responses indicating that ‘ecotourists’, after having undertaken the activity, find some activities inappropriately labelled, or environmentally unsustainable. There are, however, ample examples of operators who dispute *each others* legitimacy to use the ‘eco’ label. Some have been mentioned in previous chapters (for example the bone-carving studios on page 311).

How personal circumstances (which withstand any attempt at generalisation) influence the emergence and operationalisation of ecotourism business ventures, is demonstrated by two further examples. A couple who together founded a family owned and operated business, split up years later (*). Currently both partners are engaged in separate, but similar ecotourism related ventures. The former family business now consists of two competitive enterprises in the ecotourism domain. While the ex-husband did not mention his ex-wife’s business at all, the woman repeatedly referred to her ex-partner’s ecotourism venture (in a positive manner) during the interview. The couple’s complex personal relationship seems to be one determinant for their current business activities. It appears to influence not only the way they run their businesses but also their relationships (for example former mutual friendships) and interactions with other operators. Admittedly the last statement is based on only a few impressions, and not on ample empirical evidence, since I did not (seek to) gain sufficient insight into the personal lives of the interviewees.

Another (small-scale) operator, who owns a regional shuttle service on the Peninsula, concurrently sells, or arranges almost any tourist goods and services, from eco tours to jet boating, that are available in the Coromandel (Hart 2000a; b). It is hypothesised that economic pressure (and opportunities) are variables influencing the product range. Many other operators, displaying an infinite number of behavioural patterns in the

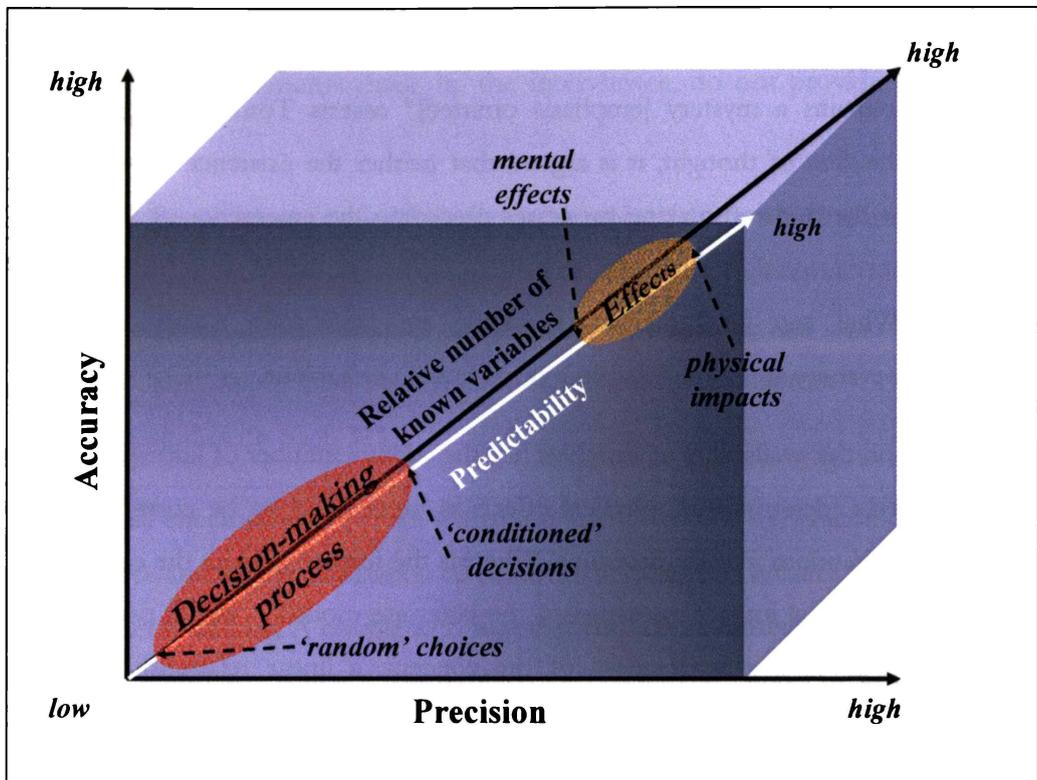
ecotourism context, ‘paint a similar picture’, i.e. one of contextual complexity, and situational dependency and adaptation.

“Free will remains a mystery [emphasis omitted]” asserts Tomberlin (2000, p. 1). Following this line of thought, it is argued that neither the existence of all layers of meaning nor the decision-making processes preceding the emergence of these layers, or their consequential behavioural patterns can be modelled and predicted with precision. What can be modelled, however, are *predictability patterns*. Figure 47 conceptualises these at the micro scale level of human behaviour.

Depending on the availability of variables (i.e. the relative number of known variables), the forecast of ‘deterministic’ physical effects is more likely to be correct than the prediction of ‘random’ human decisions. Whereas the former fall into the categories of social and ecological impact assessments, the latter are modelled within psychological theories. To enhance the clearness of the concept, a linear relationship between depicted parameters is assumed in the graphic.

It has been shown that decisions and actions/inaction of stakeholders are contextual and situational products that depend on a myriad of often ‘unknowable’ conditions. The effects of these processes and events/non-events are easier to predict and model than the progression of thoughts and emerging decision-making processes themselves. The farm bike safari was but one example of different layers of meaning in regards to ecotourism. The other operations depicted the typical situation, where personal ‘emotive’ rather than ‘rational’ economic, or ecological reasons led to the emergence and influenced the development of a particular ecotourism venture.

Figure 47 Predictability patterns in a human–activity system



The question remains whether and how *individual choices and actions* can, or should be influenced. The problem of (suggested) improvements of human behaviour is a philosophical, theoretical, methodological and pragmatic construct. By focusing on the nature of possible philosophical and procedural positions and their consequences, different perspectives and approaches are discussed in the next section.

7.3 Potential Enhancements?

Instead of *idealising* human action and interaction, it is argued that *realising* the relevance of the individuality of human beings with all resulting (restrictive) repercussions is essential for the recognition of possibilities and limitations of the modelling process. Rather than commenting on what could or should be done better, or different by the *individual*, I tried 'to make sense' of the complexities, or rather 'singularities' arising from people's backgrounds and their choices. My aim was to *understand* rather than to explain (or criticise) effects that decision-making processes and emanating actions have

on the systemic environment and its evolution. The micro scale model thus lacks ‘suggestions for improvements’. I feel it would be inappropriate and pointless to introduce an ‘idealised’ model of human behaviour at the micro level. This claim is substantiated below.

Any suggested changes at the level of the individual would either assume the possibility to judge each individual case on its own merits in an objective (and superior) manner, or indicate the attempt to standardise human behaviour, thus running contrary to my understanding of human nature. Standardisation occurs when one party is credited with the potential and authority to ‘know what’s best’ for other individuals. Both theoretical constructs (*viz.* situational and thus inconsistent judgements *versus* standardised solutions) imply that (at least in specific instances) self-determination is inferior to external directives, *i.e.* that an independent and objective observer and ‘valuer’ exists, ‘knowing better’ than the affected individual. In both instances, the acceptance of a ‘universal truth’, *viz.* that of the researcher (or an institution), is required. Throughout the thesis I have (implicitly) argued that defining ‘truth’ is a collective enterprise, reflecting an ‘unfinished (and maybe impossible) task’. A proposed standardisation at the micro level would contradict assumptions made and positions adopted at the philosophical, theoretical and methodological level of this thesis. Arguing for prescribed and/or standardised human behaviour would discard the notion of inherent subjectivity, complexity and ‘messiness’ in a human–activity system in multiplicative ways:

- Suggested ‘improvements’ would compromise the idea of human individuality and idiosyncrasies, as well as the concept of ‘free will’.
- Recommendations would (implicitly) ascribe to the idea of Kant’s categorical imperative, adopting the idea of a universal moral truth as a (presumed) fact. Proposed changes would thus imply moral monism rather than moral pluralism as an ethical stance.
- Wanting to improve choices made by individuals would disregard the notion of differential perceptions, imaginations, representations, and interpretations of the

world. The positivistic stance of one objective reality would replace my notion of many subjective ‘actual’ realities.

- Contrary to my methodological approach, suggestions would undermine (or at least neglect) the validity of situated knowledges.
- The concepts of ‘layers of meaning’ and contextual as well as situational behaviour would become ‘meaningless’.
- Suggested ‘improvements’ would also discredit, or ignore the existence of any ‘hidden data’ that respondents, but not the researcher, might be aware of.
- Recommendations at the level of the individual do not address the obstacles mentioned at the beginning of this chapter (pages 354-355).

At a pragmatic level, the procedural treatment of ‘potential improvements’ (i.e. telling people how to be, what to think and do, and how to do it) would favour a top-down approach rather than the anticipated methodological mixture that incorporates a bottom-up approach. By defining ‘right’ and ‘wrong’, and telling people what would be better for them as individuals, I feel I would adopt an educating role at best and a patronising position at worst, but definitely an (unjustified) superior role towards the people who shared their ideas and knowledge with me.

I realise that there are different reasons for and ways of influencing peoples’ behaviour, some of which may be legitimate and worthwhile in specific situations. Different circumstances cause diverse ranges of problems that entail different answers, or sets of answers; and there are situations where the behaviour of individuals requires a corrective (and sometimes drastic) intervention. However, rather than constituting a universal assessment, the preceding arguments focused on underlying principles of criticism, or measures that have the goal, or potential to influence, or alter individual human behaviour *in the context of this research*. It is (admittedly) a black & white picture, which leaves room for an intermediate position. In fact, I argue that desiring progress for a society necessitates an informed knowledge base, which emanates from research and *results in recommendations on changes*. A practicable solution that avoids both ends of

the spectrum (i.e. saying and doing nothing *versus* indoctrinating and patronising people) – and thus has the potential to make and implement recommendations for positive change, has been offered in the form of ‘ideas and suggestions’ at the macro and meso level. The proposed potential ‘enhancements’ constitute a compromise between the perceived necessity to improve a situation by triggering change, and the rejection of authoritative directives. By suggesting possible improvements, or general changes to (and for) groups of stakeholders, individuals are (implicitly) given the *choice* to consider these suggestions, and to accept or reject them without being scrutinised on an individual basis. The procedural construct of identifying problem areas for a group of people rather than individuals, mitigates a (perceived) authoritative top-down approach, and constitutes a pragmatic (as well as political and psychological) treatment of an arena of philosophical problems. But then ‘real life’ does not require theoretical solutions for every philosophical problem. Planning (sustainable) development is about ‘finding practical solutions’ to satisfy people’s perceived desires, interests and needs.

7.4 Linking the Models

Scaling *three* sets within *one* conceptual model depicting different properties of a ‘real world’ phenomenon, is an artificial but practical way to ‘chop up’ something into abstract edifices that is in reality ‘one whole’. Modelling the links between variables shows that causes and effects can reverse their functions repeatedly, and that phase shifts do not come to a halt within subsystem. Instead, changes transcend the whole phenomenon, which displays characteristics of an open, complex, dynamic and adaptive system. These last sections within the interpretive and analytical chapters *Five*, *Six* and *Seven*, represent the ‘risky’ attempt to identify commonalities at the level of the human individual that penetrate the whole system, thus constituting links and feedback loops within and between subsystems.

7.4.1 Common Denominators

If there is *a* common link between the three models, it is the action, inaction and interaction of human individuals that transcend the micro, meso and macro scale of the system in question. At all three levels human behaviour triggers, influences, or

determines the system's dynamics. Egoism (and maybe altruism) are main features characterising individual human behaviour, while cooperation and networking plays the dominant role at the meso and macro scale level of shared tasks, responsibilities and accountability between and amongst stakeholder groups. Generalisations at the level of the human individual always bear the danger of missing out on 'the exception to the rule' by either ignoring or being unaware of idiosyncratic behaviour of individuals, thus discarding any deviation from the established norm. The search for attributes all actors share, counteracts the observed and experienced richness and diversity of human behaviour, which creates a constant flux within sampling frames, as well as frequent and iterative 'boundary-crossings'. Investigating and understanding *everyone's* thought and actions in their *totality*, is an unachievable task. Conceptual modelling as an abstraction of reality thus contributes to an unavoidable error margin.

Naming common denominators is comparable with describing the *process* of painting a landscape while it still misses some details, rather than displaying the finished product (which would still be an interpretive representation rather than the 'spit and image' of any real scenery). Bearing in mind these qualifications, the findings nevertheless *repeatedly* and *consistently* indicate that two characteristics prevail in people who are involved in, or influenced by ecotourism in the Coromandel. It is argued that the compliance of all data with Golledge and Stimson's (1997) three types of reliability (*Chapter Three*, section 3.3) justifies the following abstraction.

The first inference is based on *negative evidence* (Neuman 2000, p. 435). Very rarely do practitioners, or other key stakeholders, use academic jargon within the ecotourism and sustainable tourism development debate, and there is no mentioning of paradigmatic perspectives. Interpreting this non-appearance of empirical evidence, it is concluded that a 'communication breakdown', or a 'linguistic gap' as well as different 'sets' of knowledge between researchers and practitioners exist. It is hypothesised that the majority of people are either unaware of their own ideological concepts and philosophical assumptions their beliefs and actions/inaction are based on, or that they do not communicate their thoughts for reasons that remain unclear within this study and would require further investigation.

Second, people implicitly accept the neo-Malthusian paradigm that underlies the idea of sustainable development, without (openly) questioning its validity. It is presumed that they are either unaware of the contrasting Cornucopian perspective and/or other objections to the idea of exhaustible resources (page 82), or they implicitly discredit the legitimacy of any alternative views within the tourism context.

Both findings link back to the arguments brought forward in *Chapter Five* (sections 5.1 and 5.2) that ecotourism and sustainable tourism development in the Coromandel are practised without an explicit conceptual basis. The findings indicate different agendas and an existing gap between academics and practitioners of ecotourism and sustainable tourism development. In the New Zealand context Speary's (1999, cited in Ryan 2000b, p. 221) and Plimmer's (cited in Ryan 2000b, p. 221) comments support the claim that academia is (from the tourism industry's position) somewhat 'out of touch' with what is happening at the 'front line'. It is argued that both parties could not only learn from each other, but that closing the gap would also ultimately benefit a common cause.

7.4.2 Fractal Dimensions

The interconnectedness of variables, across 'micro, meso and macro boundaries', reflects the continuity of 'real' reality. I suggest that, on the level of 'empirical' reality of the conceptual model, fractal dimensions can be identified. Caused by chaos, fractal geometry is a relatively new (mathematical) 'science of irregularity', where *statistical self-similarities* demonstrate the same kind of scale invariance associated with all phase transitions (Stewart 1995, p. 10):

Fractals reveal hidden regularities in nature. [...] We don't expect to find perfect fractals in the real world, any more than we expect to find perfect spheres. Both are mathematical ideals; real world versions will be imperfect (Stewart 1999, p. 131).

The identification of fractals would corroborate the argument of inherent connectedness between all variables (Mandelbrot 1977; 1983; Briggs 1992; Sornette 2000). The system under scrutiny is foremost a human–activity system, and fractal dimensions might neither appear statistically as number sequences nor physically as visible shapes, or objects. It is argued that the concept of fractal dimensions can,

however, be applied in a metaphorical sense as ‘social’ fractals, describing self-similarities regarding the system’s configuration and behaviour at different scales. The system’s main characteristics (viz. dynamic behaviour, resulting in complex and chaotic processes, relationships and patterns, openness across system and subsystem boundaries, and adaptive capabilities after phase transitions) have been identified as typical features of the system model in question. These properties can be found at the level of individual human behaviour, within organisations involved, or affected by ecotourism, and at the macro level of the system as a whole. I concede that identifying and defining these features as ‘social fractals’ in a human–activity system is (at this stage) a ‘play on words’, and will require further research. Main system characteristics can, however, be utilised in a practical sense. Based on these systemic key properties, the analytical results depicted in *Chapters Five to Seven* will be employed in the following chapter with the focus on developing a set of SETD key indicators.

PART V

RESEARCH SYNTHESIS



Chapter Eight

Evaluation and Recommendations

In the natural science, despite the complication of quantum mechanics and Heisenberg's uncertainty principle, it is often possible to say with complete confidence that a certain assertion is false. In the social sciences assertions of falsity with the same level of confidence can be made less frequently. Using conventional terms we can say that the data of social science are softer and therefore more difficult to interpret with certainty (Barnes 1994, p. 57).

This last chapter concludes the thesis with an evaluation of the research approach and strategy, as well as an interpretation and discussion of the research results. The research synthesis is divided into three sections. The first section (8.1) focuses on a retrospective assessment of *validity* and *reliability* issues relating to *theory* and *practice* of the research (Kitchin and Tate 2000, p. 35). The section summarises previous responses and provides additional answers concerning the hypotheses stated in *Chapter One* (section 1.9). To begin with, the next section (8.2) revisits problems surrounding the definition of ecotourism and ecotourist. Subsequently, the focus is on the development of a generic Environmental Performance Review (EPR) model. Based on the research findings, the emphasis is on a core set of *Environmental Performance Indicators (EPIs)* that are capable of 'measuring', monitoring and managing the degree, or level of sustainable ecotourism development. Although the two objectives of constructing and applying indicators are closely related, the emphasis is on the *design* of EPIs rather than on strategies how to implement and utilise them. Section 8.3 concludes the thesis with a *formative evaluation* (Neuman 2000, p. 28) of possible future research directions, and a recommendation of strategies in the planning and decision-making process.

8.1 Research Evaluation

Although theoretical and practical issues in respect of the *validity* and *reliability* of my research are treated separately, the various aspects are related and depend on each other. The first part (8.1.1) of this section examines the *theoretical and conceptual approach* of the thesis. With reference to the study's *face validity*, the field of study, the

identification of particular problem areas, and the focus on specific research questions are justified. The study's *content validity* is reviewed in regard to the definability of ecotourism as a tourism product and as a particular form of tourism, as well as sustainable ecotourism development as a tourism planning, development and management concept and objective. *Face* and *content validity* are associated, and relate to the hypothesis spelled out in *Chapter One* (section 1.9) that sustainable ecotourism development can be expressed as an operational theoretical concept and as a field of empirical inquiry. The *practical validity* as well as *reliability issues* regarding the empirical data collection and the interpretation of data are the focus of the second part (8.1.2) in this section.

8.1.1 Theoretical Validity

With regard to the study's *face validity*, it is argued that conceptual modelling of SETD can be identified as a scientific inquiry. The study conforms to Schellnhuber and Wenzel's (1998, p. VII) defining and discriminating elements of scientific research, which are completed and adapted to this study in the list below:

- The study has genuine research *subjects*, viz.:
 - The tourism product ecotourism and the concept of sustainable (eco)tourism development as 'real world' phenomena
 - The actors and their anthropogenic environments, i.e. involved, or affected individuals, public organisations, businesses and communities
 - The resource bases and nuclei of ecotourism, i.e. the non-human (or natural) environment, as well as the cultural and historic heritage of the destination
 - The dynamics of mental and physical experiences and activities of human encounter and interaction, as well as process changes in ecological, socio-economic, cultural and political environments
 - The relationships and networks resulting from these dynamics, linking the actors and their environments

-
- The emerging patterns, i.e. spatiotemporal configurations and variances of the phenomena's characteristics
 - The Coromandel Peninsula as the physical location of the inquiry
 - The study further has genuine research *objects*, viz.:
 - The construction of a philosophical, theoretical and methodological framework
 - The adoption of a systemic perspective
 - The employment of a conceptual modelling approach
 - The study also employs a genuine research *methodology*, viz.:
 - The application of qualitative, pluralistic and integrative research strategies by means of inter- and intra-methodological triangulation

In addition, the research serves a genuine *purpose*. The *raison d'être* transcends pure intellectual curiosity (as well as the objective to obtain a doctoral degree). Choices regarding the topic, the research approach and the research strategy, as well as the focus on specific problem areas and research questions are the result of different internal and external influences. My personal interests and preferences, direct and subtle societal forces, as well as the beneficial potential of research results to improve the current situation, drive the decision-making process in regard of selection criteria and procedure. Contributing societal interests and forces are reflected in:

- The 'general' notion and a growing (public) awareness that sustainable development is a *desirable* (and presumably mandatory) concept for the conduct of life
 - In the tourism context this claim is corroborated by the following two statements, both of which refer specifically to (eco)tourism development in New Zealand:

Eco-tourism is the result of an increasing awareness, worldwide, of the importance of the environment (Collier and Harraway 2001, p. 9).

Tourism sustainability has become an important concept ... (Collier and Harraway 2001, p. 159).

- The acknowledgement that both sustainable tourism development and ecotourism are *causes célèbres*, i.e. *debated* concepts, lacking unanimous definitions
 - This assertion has also been confirmed in the New Zealand specific context:

The term eco-tourism is not easy to define, however, and, has not yet been officially defined in New Zealand (Collier and Harraway 2001, p. 9).
- A continuous spectrum of viewpoints:
 - The wide range of interpretations and applications are consequences of missing definitions, and are interpreted as a non-satisfying, or ‘less-than-ideal’ *status quo*. Theorisation, conceptualisation, promotion and realisation of SETD thus reflect *conceivable* problem areas. Identification and definition of problem situations in turn signal that there is room for improvement, as well as the potential to formulate research questions.
- The notion that sustainable tourism development is a *feasible* concept that can be integrated in ecotourism as a particular form of tourism

Section 8.1.1 also evaluates the chosen research approach and strategy by revisiting the study’s *conceptual validity* in respect of the effectiveness, as well as shortcomings of methodological holism within a systemic perspective. The *conceptual validity* is connected to the study’s *face validity*. Both address the hypothesis – and *leitmotiv* of the study (page 53) – that ecotourism and SETD can be represented theoretically within ‘systems thinking’ by conceptualising and designing a (holistic) system model. The evaluation of the theoretical, conceptual (and methodological approach in section 8.1.2) thus considers the validity and feasibility of system modelling. The assessment of the approach is further refined to the question whether accuracy, scale and precision of the conceptual models produced, are adequate and sufficient.

The attempt to integrate the reductive system paradigm in a complex social lifeworld, inhabited by Frisch’s (1957) *Homo Faber* instead of a *Homo Fabricatus* (McCarthy 1991,

p. 153), has been made before, for example by Buckley (1968; 1998) and Habermas (1987). However, the ‘nature *versus* nurture’ (or ‘genetic *versus* environmental’) controversy remains an unsolved philosophical and scientific question (Fujita 1996). Problems arising from the challenge to reconcile tensions between the ‘messiness’ of ‘organismic’ social reality, and the simplicity of its representation as an abstract ‘mechanistic’ system network, have also been discussed previously, for example by Jackson (1991) and by McCarthy (1991). Another major problem arising when modelling complexities is the availability of relevant information and the context-dependent interpretation of the data’s meaning(s).

I believe that the main predicament we face in respect of conceptual modelling of human–activity systems is our limited knowledge and insufficient understanding of the human mind and consciousness. Innate restrictions of our mental faculties further contribute to these limitations. My ambition to integrate the (presumed) non-linear part of (unconditioned) human behaviour in a holistic system analysis thus faces two major challenges:

1. The inclusion of ‘free will’ and ‘layers of meaning’ in a complex model of (non-linear) human/Nature interaction prompt:
 - Inherently random system behaviour and less *predictable* outcomes of system dynamics than simple deterministic and linear networks would entail
 - Fuzzy, i.e. porous and shifting system *boundaries*
2. Theoretical and practical considerations limit the itemisation and analysis of details. The chosen scale, which determines the resolution level – and thus the complexity of representation, specifies the degree of *precision*.

Both challenges are linked. Accuracy and precision are interdependent factors in the modelling process. With regard to the model’s accuracy, it is argued that, from a systemic perspective, linearity within socio-cultural processes and within the dynamics of human/Nature interaction relies on several (reductive) assumptions. Linear system analysis caters for deterministic behaviour in (mainly closed) systems with well-defined

boundaries. ‘Unknowable’ variables and external influences are neglected, truncated, or excluded from the analysis and chaotic system dynamics are ‘linearised’. My study of the mental, physical and communicative/symbolic interactions regarding the ‘real world’ phenomena ecotourism and sustainable tourism development demonstrates that system boundaries in a human–activity system are *de facto* open and blurry, and that processes do include deterministic chaos, as well as inherently random elements. Despite the experienced difficulty of representation, I argue that the rejection “... of a society integrated solely via the unintended functional interdependence of consequences of action, beyond the consciousness of actors, ...” (McCarthy 1991, p. 155), allows for a higher degree of isomorphism (and thus accuracy) between the models and the ‘lifeworld’.

With regard to the precision of the models, there seems to be an apparent trade-off between accuracy and precision in conceptual system modelling. In *Chapter One* (section 1.9) it was hypothesised that non-linear characteristics limit the prognostic power of the model. My research has verified this hypothesis. However, in hindsight, I argue that linear models of social dynamics only *seemingly* display a higher degree of predictability (and thus precision) by simplifying the ‘complex’. While ‘linearisation’ *creates the impression* of a higher degree of precision – and thus better forecasting abilities of processes and their outcomes, *complex* system models of human interaction *reflect a more truthful account* of ‘real’ world events. They consider non-linear effects, and allow for ‘blurry boundaries’ and ‘layers of meaning’. The identification of non-linear system dynamics further makes it possible to specify the *limitations* of the system model and its predictive power more accurately *and* more precisely than in a linearised – and thus scaled down version. In my study *precise predictions* are replaced with *accurate predictability patterns* that take into account the ‘unpredictable’ (Figure 33, p. 283; Figure 47, p. 366).

The *theoretical* validity of the study has direct implications for the *practical* validity and reliability of applied research. It is argued that the philosophical, theoretical and conceptual integration of chaoplexity and poststructural thought into the research approach, avoids the oversimplification of complex phenomena by eliminating inappropriate binaries and other false dichotomy errors. The adopted systemic

perspective in conjunction with methodological scaling further enables me to distinguish between the attributes of single variables from features of a collection of these elements. The identification of emergent synergistic and antagonistic effects thus avoids errors of composition or division respectively. The *theoretical validity* of the study is linked to its *methodological integrity*, and a detailed discussion of methodological and practical aspects follows next.

8.1.2 Practical Validity

The issues covered in this part concern the *methodological integrity* of the study, as well as the *integrity of conclusions* drawn from the fieldwork. Summarising potential and actual sources of errors and biases achieves an assessment of the *construct validity* regarding data collection methods, tools and techniques. The soundness, or reliability, of the fieldwork is evaluated in view of assumed irrational and emotive fractions of human behaviour, as well as the engagement of the researcher in the research process. This part further evaluates the *analytical validity* in terms of the models' resemblance to the 'real world', or 'lifeworld' situation. It thus assesses the validity and reliability of the interpretive and analytical methods that are employed to understand the data and represent findings in the models.

In respect of the integrity of conclusions drawn from the research findings, the *ecological validity* describes the practical validity in terms of inferring generalisations from characteristics and occurrences of single phenomena across spatiotemporal, contextual and situational circumstances. The emphasis with the *status quo* model is on the potential of its predictive power regarding different settings, or case studies, while the operationalisation of the tentative 'state-of-the-art' scenario is evaluated with regards to the prospect of implementing proposed rectifications. The final aspect covered in this section concerns the *internal validity* of the research findings. The conclusions drawn are examined in terms of possible alternative interpretations of the research findings, and in regard to the hypothesis that 'problems' and 'solutions' are in constant flux (*Chapter One*, section 1.9).

In respect of the study's *methodological integrity* and *construct validity*, a basic precept I have tried to adhere to throughout my research is the attempt to avoid a fallacy called 'argument of tradition' (Carr 1992, p. 296). I did not want to conduct my research in a certain way *just* because 'that's the way it's always been done'. The study is based on a philosophical, theoretical and methodological framework that caters for the notion of 'unknowable', 'hidden' and 'absent' variables. The framework also encompasses the ideas of uncertainty, contingency and randomness, as well as 'multiple truths', 'layers of meanings' and 'actual realities' of 'real world' phenomena. McCarthy (1991, p. 157) rightly notes that "..., if it is not connected with action theory, social-systems theory is of limited empirical use, ...". Complementing a top-down approach with a bottom-up approach – and thus avoiding the fallacy of an argument *ad hominem*, is viewed as a prerequisite for the study's *methodological integrity*.

Throughout the thesis it has been argued that biases are not only unavoidable but form a genuine and valuable part of the data generating and interpretive-analytical processes. Consciously acknowledging and working within a subjective framework is viewed as essential in achieving *integrity of conclusions* and *analytical validity*. A 'typical' definition of a scientific strategy, which claims that "Science depends on rational discourse, based on the consideration of objective evidence, to arrive at a consensus of what constitutes truth in any given situation" (Carr 1992, p. 275), is thus rejected. Instead, it is argued that '(inter)subjectivity' and 'engagement', 'situated knowledges' and 'paradigms', individualised 'realities', 'truths' and 'meanings', the emotive and intuitive fractions of the human mind, as well as personal, contextual and situational circumstances induce subjectivity and relativity in the research process. These influences can *not* be discarded – and thus modify the methodological approach as well as the research results. Instead of labelling subjective and relative elements in a socio-scientific inquiry as methodological, or logical 'fallacies of ambiguity' (Copi 1986), they are incorporated in the conceptualisation of the research methodology. The idea of subjectivity and relativity in the research process has also been integrated in the actual fieldwork and data analysis, thus vindicating the study's *construct validity*.

In this study (opinionated) beliefs and ('factual') knowledge are not positioned at opposing 'subjectivity' and 'objectivity' poles on a binary scale; but instead it is argued that the systemic representation of the phenomena under scrutiny is the result of a complex research process, where analysis, interpretation and speculation exist in a continuum that reflects the 'human quest for knowledge'. Arguments that are derived from an appeal to authority, or an appeal to popular opinion are sometimes interpreted as 'fallacies of relevance' (Carr 1992, pp. 284-285). In my study the 'voice of the individual', *vox populi*, as well as the 'voice of authorities, or documents', *are* empirical evidence in a unique situational context. They resonate in a continuous spectrum of 'layers of meaning', resulting in the influence of 'multiple truths' on processes and patterns of relationships. In addition, the 'voice' of the researcher alters the interpretation, and determines the representation of present and absent data.

Methodological holism stresses a pluralistic and integrative approach, concurrently aiming at differentiating between an ambiguous use of language and 'layers of meaning'. By employing Blumer's model of symbolic interactionism (*Chapter Three*, section 3.3.1), it is, however, conceded that the possibility of identifying ambiguities is limited. These arise from the 'selective mode' and 'restricted operation' of the human mind, from equivocations, the interpretation of accents and emphases, as well as from nonverbal communicative elements. I argue that by pointing out the personal, contextual and situational relevance, as well as the limits of interpretive and analytical statements, the models display *reflexivity* and *analytical validity*. Maybe the most 'objective' results in this study are the identification of structures, and their temporal and spatial distribution, while speculating on social fractals can be said to be the most 'subjective' inference in the research process.

The study's *theoretical validity* and its *methodological integrity* are closely related to the *integrity of conclusions*. With regard to the study's *ecological validity* I differentiate between the conceptual research approach and the actual research results emerging from data. It is argued that the *theoretical validity* and the *methodological integrity* of the study 'sanction' the application of conceptual modelling and methodological holism in similar settings. Research approach and strategy are assessed as independent of the location of the

study, of particular problem areas and specific research questions. Research approach and strategy are thus judged as *transferable* and *generalisable*.

Inferring aggregate characteristics of SETD in the Coromandel from data referring to individuals (or documents and other information sources), as well as drawing conclusions regarding other ‘cases’ than the Coromandel Peninsula, are a different matter altogether. It is argued that the *ecological validity* of generalisations depends on the *reliability* of data in the sense Golledge and Stimson (1997) use the term (see also page 162).

On the one hand, theoretical and practical aspects limit the reliability – and thus the validity of generalisations. Popper’s (1974) ‘problem of induction’ confines the validity of inferences in principle. In addition, the sampling frame is, in most instances, greater than the sample size, and further inquiries could thus lead to differing results. Due to the interpretive character of claims and inferences, statistical comparisons are rejected in favour of descriptive characterisations and statements. On the other hand, my awareness of inconsistencies and cognitive dissonances, as well as my methodological efforts to account for contradictory, incomplete and absent data, justify the ampliative inference of synthetic evidence and ensure a high *ecological validity* in respect of this particular case study.

However, it is argued that research results cannot be automatically transferred to other communities, regions, or countries. This holds also true for proposed changes in ‘idealised’ models of SETD. The research explicitly shows that system dynamics are situation and context dependent, influenced by external and internal variables that differ across circumstances, time and areas. The task of verifying the validity of proposed changes, or adjusting the ‘idealised’ models to different circumstances, is linked to the *internal validity* of the study, which is discussed below. Verification and adjustment are also linked to *indicators of SETD*, which are the topic of section 8.2.

The last point in this section concerns the *internal validity* of research findings. Assessing the correctness of interpretations is a tricky business. It is argued that the underlying presumptions of this study not only imply the prospect of alternative interpretations of

the research data but also require acknowledging the fact that it is possible to draw different valid conclusions from the same results. Being locked into my own perspective includes a ‘personalised’ interpretation of other people’s perspectives. Inferences thus have to be of a subjective and relative nature, including those generalisations that result in ‘optimised versions’ of the current model.

One (theoretical) way of assessing the internal validity and ‘objectifying’ research findings, would be to conduct a parallel study that resembles the conditions of this study as closely as possible and is carried out by a different researcher. Employing the concept of *researcher convergence* (Cavana *et al.* 2001, p. 136) would *approximate* the degree of objectivity achieved in a clinical double-blind study in the medical sciences. As verification and validation strategies, attempts to ‘compare’ results, or ‘replicate’ research conditions, are, however, viewed not only as impracticable but also as impractical. The contextual, relational and temporary validity of statements regarding the qualities of social interaction is not interpreted as a negative trait. On the contrary, the realisation that my research results are provisional products reflecting local idiosyncrasies (Miles and Huberman 1994, p. 17), verifies the hypothesis that ‘problems’ and ‘solutions’ are neither absolute nor final, or fixed. Tentative solutions demonstrate that problem solving and answer finding strategies are part of an iterative and continuous cyclic process. The theoretical and practical validity and reliability of this study are prerequisites for the development of SETD indicators in the next section.

8.2 Key Indicators of Sustainable Ecotourism Development

Completing the circle, this section answers the question whether *sustainable* ecotourism development can actually be planned and modelled. By focusing on underlying societal forces, a set of key indicators of SETD within a generic model of an environmental performance evaluation strategy is developed. Assuming that sustainable development depends on the quality of environmental performance, indicators that evaluate SETD are thus termed Environmental Performance Indicators (EPIs). Environment is here used in the sense Allaby (1994, p. 138) has defined the term:

The complete range of external conditions, physical and biological, in which an organism lives. Environment includes social, cultural and (for humans) economic and political considerations, as well as the more usually understood features such as soil, climate, and food supply.

The neo-Malthusian paradigm of finite resources determines the necessity and sensibleness of developing EPIs. A fundamental precept guiding their design (and application) is the calibration of proposed indicators against the realisation of answer(s) to Lewontin's (1991, p. 119), Clark's (1989, p. 42, cited in Schellnhuber 1998, p. 46) and Blackburn's (1992, p. 25, cited in Schellnhuber 1998, p. 46) key question(s) in the (eco)tourism context. The questions address fundamental issues like 'how people want to live' and 'how a hoped for lifestyle in conjunction with satisfying touristic experiences in a desirable environment can be achieved'. Bakkes *et al.*'s (1994, p. 2) statement that the main "... purpose of environmental indicators is to steer action", highlights the necessity to link theory with practice. The development of a generally applicable indicator framework is based on a holistic perspective and systemic representation of SETD, as well as on the specific research findings emerging from the data of this particular case study.

It is argued that the justification, validation and utilisation of specific indicators depend on a preceding progressive (and iterative) analysis and interpretation of the particular situation, context and paradigm within which these EPIs are expected to operate. The identification, or definability, as well as the utilisation of indicators rely on:

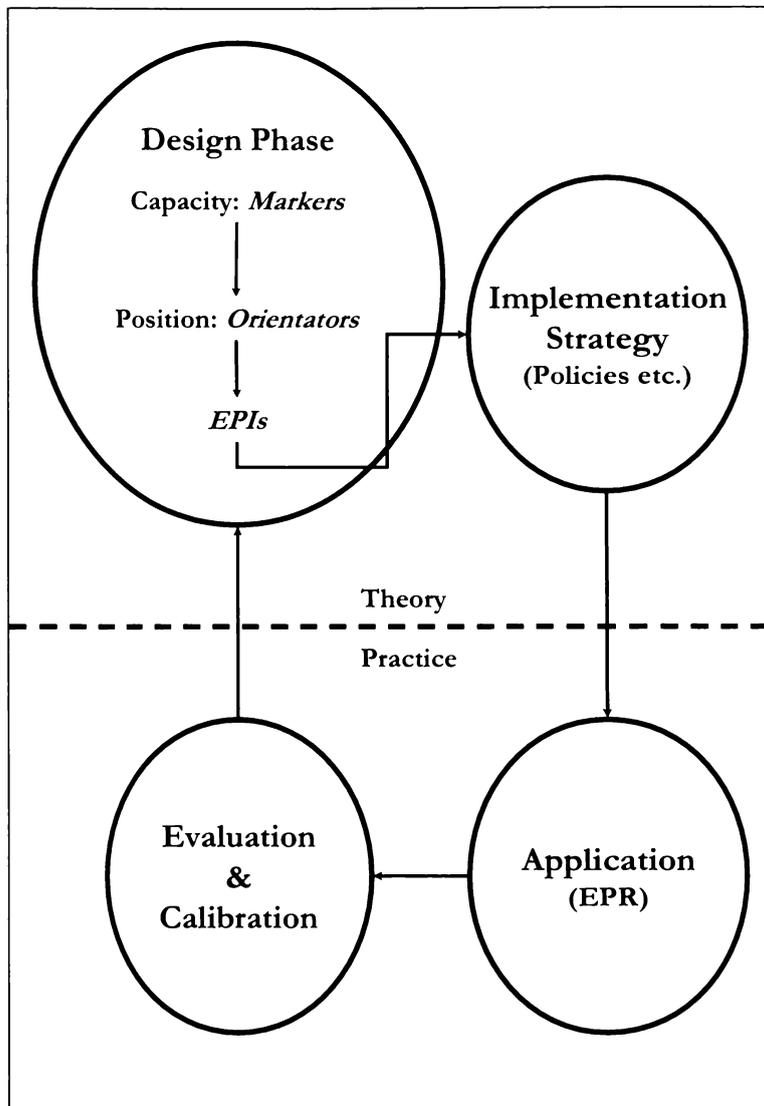
1. *Markers*, which signal the system's potential and actual capacity to identify and address problem areas
 - Markers thus reflect the ability of actors to analyse and interpret a system's condition, and define, or design appropriate EPIs. Markers also assess the actors' capacity to design and implement adequate strategies capable of monitoring, managing (and enhancing) the system's performance.
2. The evaluation of markers is followed by the commitment to *orientators*, which 'position' indicators in a spatiotemporal, aetiological and teleological, as well as paradigmatic sense.

- Orientators thus define the tasks of indicators by vindicating their validity and specifying their range of applicability.
3. Finally the actual EPIs are developed as a *set of decision-supporting criteria* that are employed to measure, assess, interpret and monitor a particular situation, or problem area from a chosen perspective with pre-determined objectives.
- While the vindication of indicators arises from the findings of the case study, as well as from the proposed paradigmatic approach to sustainable (ecotourism) development, their reliability, i.e. their effectiveness and efficiency, depends on the accurate and precise systemic representation of the particular ‘real world’ situation.

The nature and quality of EPIs is thus a complex product determined by a range of conditions, characterised by markers, orientators and perspectives, or paradigmatic approaches. Although these three key variables are treated separately, they constitute interdependent steps during the design phase. It is suggested that the design phase should be interlocked in an environmental performance evaluation that constitutes a feedback loop rather than a cul-de-sac. In a continuous learning cycle EPIs are tentative ‘end’ products, which are intermittently ‘calibrated’ in regular or irregular intervals. They are ‘updated’ against the system’s evolving condition (Figure 48).

Once EPIs are defined, an implementation strategy can be developed. The EPIs are then utilised to conduct the actual Environmental Performance Review (EPR). The last phase in the cycle consists of an evaluation of EPIs in respect of their applicability (i.e. their theoretical and practical validity and reliability), which closes the loop and can lead to the (iterative) modification of EPIs. It is argued that in (conceptual) system modelling the (re)design of EPIs should be based on a continuous comparison between ‘real’ variables (or ‘observables’) and simulated activities (or ‘simulables’) (Schellnhuber 1998, p. 148). An adjustment, or modification of EPIs, might include a revision of implementation strategies, or the renewed evaluation of the proposed ‘ideal’. The focus in this chapter is on the design phase itself.

Figure 48 Designing, using and probing EPIs



Section 8.2 is divided into four parts. The revision of definitional issues regarding ecotourism and ecotourist (section 8.2.1) is followed by an outline of preconditions for developing and implementing a sustainable (eco)tourism strategy (section 8.2.2). In section 8.2.3 the focus is on the nature of EPIs by defining parameters and attributes of markers, and outlining principal possibilities with regard to the indicators' orientation, or position. The section thus describes general characteristics of indicators and deals with prerequisites, as well as underlying assumptions and conditions that influence their definition, validity, reliability and applicability. Emphasis is laid on requirements for a successful detection and evaluation of *systemic* properties.

Addressing proposed tasks of indicators, this part further highlights their theoretical as well as practical significance and their limitations. The last part (section 8.2.4) suggests a paradigmatic typology of systemic environmental performance indices that integrates different perspectives, agendas and criteria of an environmental performance evaluation. In the ecotourism context the rationale of an environmental performance review is the evaluation of a sustainable tourism strategy. Developing such a strategy for ecotourism implies that a generally accepted and operational definition of ecotourism has been established and can be applied. The next section therefore revisits theoretical and conceptual issues that impede a clear-cut definition of the term ‘eco’ in the tourism context.

8.2.1 Revisiting Ecotourism and the Ecotourist

It is argued that a researcher-driven definition of ecotourism would add a ‘personal, but futile finishing touch’ to the thesis. The procedure would furthermore run contrary to my research goals, objectives and findings. One aim of the thesis was to create a model of contemporary conceptions and realisations of ecotourism in a regional context. The possibility to identify, or generate a ‘final’ definition of the term ‘eco’ was neither an anticipated nor an actual outcome of my research. The findings thus vindicate the hypothesis spelled out in *Chapter One* (section 1.9). Data suggest that any functional definition can only exist in the form of a temporary and tentative characterisation reflecting a particular situational context. It is argued that the validity and integrity of an operational definition relies on its acceptance by the stakeholders, i.e. by those parties and individuals directly involved, or affected by ecotourism. A statement made by a tour operator (although not from the Coromandel) supports this claim:

Defining “Ecotourism” a [sic] has proven to be a difficult task given all the different players attempting to define it. People tend to define things in terms that are beneficial to themselves, hence the variety of definitions (Merg 1999a).

I do not believe that adding yet another explanation whether or not (and why) something is or is not ecotourism can make a distinct contribution to the pool of already existing interpretations. If a conclusive and unambiguous definition is a desired

tourism planning goal, a *strategy* rather than the final product is required to solve the conundrum *how* to achieve consensus in a sea of opinions, beliefs, interests, needs and convictions. From a philosophical perspective the question how to ‘merge’ different worldviews and as many constantly changing ‘actual realities’ as there are people involved in the debate, then demands an answer.

Instead of providing a definition of ecotourism, my research demonstrates that ecotourism is conceptualised and defined within a range of mental and physical dimensions, which are interconnected and overlap. The possibility of employing different approaches *towards* a definition of travel in general has been acknowledged before. For example English (1986, cited in U.S. Congress. Office of Technology Assessment 1992, p. 2) speaks of “... a scientific, aesthetic or philosophical approach ...” .” Building on this insight and derived from my own research findings, a matrix that encompasses a limited number of criteria – and is thus both standardised and flexible at the same time, is suggested to identify the rationale underlying meanings of ecotourism:

The mental realm:

- Worldviews (the philosophical dimension of ecotourism, e.g. scientific, spiritual, religious approaches)
- Beliefs and convictions (the ideological dimension, e.g. ‘trees have standing’)
- Motivations and reasons (the teleological dimension, e.g. interests, needs, desires)
- Values and morals (the axiological dimension, e.g. aesthetics, ethics)
- Goals and objectives (the planning and development dimension, e.g. all facets of sustainable development)
- Expectations (the imaginative and interpretative dimension, e.g. experiences and recollections, or memories)

The physical realm:

- Resource use (the environmental dimension, e.g. impacts on the physical environment, the cultural heritage, fauna and flora, etc.)
- Ecotourism as a concept (the strategic, or behavioural dimension, i.e. *how* ecotourism is practised; e.g. ‘low impact’, or ‘small-scale’ tourism)
- Ecotourism as a form of tourism (the conceptual dimension detailing the category, i.e. *what* the product stands for and offers; e.g. adventure tourism, academic tourism, geotourism, etc.)
- Activities & services (the pragmatic and economic dimension, i.e. specifying demand and supply, e.g. trekking tours, wildlife photo safaris, cultural study tours, small-scale tourism, etc.)

I have listed ‘small-scale’ tourism as an example in two categories, to demonstrate how these distinctions can overlap. I suggest that the development and implementation of a national ecotourism accreditation programme could lay the foundation towards a definition of ecotourism. By providing a certification matrix, a national accreditation scheme could constitute a window of opportunity for communities to conceptualise and formulate operational definition(s) of ecotourism at the regional and local level. The framework would have to be rigid enough to accommodate and safeguard national interests and needs, which are expressed as goals and objectives. At the same time it has to be flexible enough to allow for modifications in order to adapt to ever-changing regional and local situations. Higham *et al.*'s (2001, p. 35) statement supports this claim:

Further initiatives may include the development of a national ecotourism association and an accreditation scheme based on the individual rather than the operation, by which operators, guides and interpreters can be professionally benchmarked.

Criteria similar to the ones mentioned above could be employed in the design of such an accreditation scheme.

It is argued that the acceptance of any national accreditation scheme at community level, and the willingness to make use of policies and guidelines, depend on a bottom-up approach. The offer to be involved in the decision-making process should thus

extend to all stakeholders. Despite aiming for maximal possible flexibility and adaptability, a certain degree of standardisation will be inevitable. When achieving consensus and standardisation is the ultimate goal, focus group research and the Delphi Technique could prove to be useful tools.

In principle, the above mentioned criteria can also be employed to identify and profile *the* typical ecotourist. Surveys can deliver motivational characteristics and demographic details; interviews and participant observation can generate psychographic segmentations. The researcher can draw mental maps and model behavioural patterns, thus arriving at an ‘accurate and precise’ picture of the average ecotourist. One might expect the ‘ideal’ ecotourist to resemble Grotta and Wiener’s (1992, title) target market:

The Physically Active, the Intellectually Curious [...] [and] the Socially Aware

Apart from a ‘mental and psychographic dimension’ one could incorporate a ‘temporal dimension’ that identifies ecotourists in accordance with their consistent compliance with set criteria:

*Before you go ... [...] While you are away ... [...] [and] When you return ...
[emphasis omitted] (Ecotourism Association of Australia membership brochure,
cited in Hall 2003a, p. 383).*

A commonly expected, or experienced behavioural pattern is expressed in Roe *et al.*’s (1997) title:

Take Only Photographs, Leave Only Footprints

However, the problem of identifying and defining *the* ‘ecotourist’ lays deeper. Its complexity is rooted in the nature of the task itself. Any characterisation of a ‘standardised’ clientele as consumers of the product ecotourism, and as participants in ecotourism activities and experiences, is based on several assumptions, exclusions and procedural problems in addition to those that put a stop to a final definition of ecotourism:

(1) If only consumers and participants of ‘recognised’ ecotourism operations and activities are surveyed (e.g. Barton 1994, unpub.; Higham *et al.* 2001), the research

strategy implies that a definition of ecotourism exists. The study thus relies on a preconceived idea of ecotourism. This procedure further entails that *potential* ecotourists who are currently not engaged in a tourism activity that has been labelled as such are (automatically) excluded from the investigation.

(2) When studying ecotourism, both quality and quantity of sampling frames of operators are relatively stable compared to the fluctuations that can be experienced when studying their clientele, viz. ecotourists. It is argued that a standardised definition of ecotourism is based on fewer generalisations than one that has to account for a constant flux of individuals and their idiosyncratic behaviour.

(3) When studying (and defining) ecotourism, the researcher can clearly distinguish between the subject and the object of his/her inquiry. Stakeholders who contribute to the ecotourism debate can be identified. The subject–object boundary becomes blurred when profiling ecotourists. The task entails that the object of the inquiry can (and commonly does) also become the research subject. This is the case when (eco)tourists (can) proactively influence the outcome of the study by stating their opinions. Thus the question of ‘authority’ becomes even more evident when profiling ecotourists than when defining ecotourism.

(4) My research shows that visitors may temporarily identify themselves and behave as ecotourists, while displaying ‘non-ecotouristic’ behavioural characteristics at other times.

Both issues of identifying and defining ecotourism and the ecotourist can easily end up in an academic–economic feedback loop, viz. when businesses “... align product delivery with visitor expectations ...” (van Aalst and Daly 2002, p. 2). When operators design their product for a particular clientele, and modify activities and services accordingly, the ecotourist defines (through the operator) ecotourism. If the researcher then profiles the ecotourist via the product, the feedback loop effectively constitutes a closed–system approach, whereas boundaries are in fact open. Bearing in mind the problems associated with the identification of principles that define ecotourism, and of criteria that characterise the ‘typical’ ecotourist, subsequent sections constitute the

attempt to design an EPR model that can be employed to implement a sustainable (eco)tourism strategy.

8.2.2 Preconditions for Sustainable Tourism Development

Various authors have pointed out that preconditions need to be satisfied before a sustainable (eco)tourism strategy can be developed and implemented (e.g. Dutton and Hall 1989; Rees 1989; Pearce 1995; Hall *et al.* 1997; Page and Thorn 1997). It is, however, conceded that the specification of any so-called preconditions already reflects a certain attitude towards, and a particular preconception of the idea of sustainable (ecotourism) development. The subjectiveness of preconditions becomes evident when comparing the overlaps between preconditions and subsequent markers, orientators, and indicators of environmental performance. Table 10 depicts the proposed *conditio sine qua non* for sustainable (eco)tourism development and groups them according to:

- The spatial and temporal dimension of the precondition
- The cognitive and emotive level of human intellect, as well as practical knowledge, skills and behaviour the precondition depends on
- The relation of the precondition to a specific virtue
- The predominant group of stakeholders in the (eco)tourism system, for which a particular precondition is relevant

Capra (1982; 1986; 1997) and Capra and Pauli (1995) emphasise the idea that, on a global scale and at the level of human consciousness, a radical change of our worldview is a fundamental precondition necessary to develop and achieve sustainable development objectives (the first criterion). They argue that such a cultural transformation equates to a ‘social paradigm shift’, which could change our mode of thinking about the conduct and practice of life. The new paradigm would be conducive to a set of ethics and values that result in environmentally friendly perceptions and attitudes. These in turn are essential for the development of concepts and practices that have the potential to attain genuine sustainable (ecotourism) development objectives.

Table 10 Preconditions for sustainable (eco)tourism development

Criterion/ Precondition	Dimension					Relevance
	Spatial	Temporal	Process	Mental		
<i>Conduct and practice of life</i>	Physical location	Time scale	Human activity	Level of cognition	Virtue	
<i>Human encounter and interactivity with the human and non-human environment</i>	Global	Continuous	Mental (theoretical)	Consciousness	Attitude	All affected, or involved parties
<i>Ascription to the Freirian (1996) theme of equity, fairness and freedom of choice</i>				Values/ethics	Morals	
<i>Definition/interpretation of sustainable (eco)tourism development</i>				Comprehension	Insight and knowledge	
<i>Cooperation and support to develop sustainability objectives</i>				Willingness	Commitment	
<i>Options/alternatives</i>						Perception
<i>Acknowledgement of the need for SETD at a specific scale</i>	National, regional, or local	Temporary	Theoretical and conceptual	Interpretation	Necessity, or needs	Tourism industry
<i>Coordination and collaboration (networking)</i>			Conceptual and practical	Competence	Capability	Visited/host community
<i>Integrative/holistic/strategic planning approach</i>			Practical	Operationalisation	Feasibility	Tourism industry
						Planners

It is contended that from an ethical and moral viewpoint the ascription to the Freirian theme of fairness and equity (Freire 1996) is a second essential virtue serving as a prerequisite of SETD (the second criterion). In the ecotourism context it can be expanded to attribute the freedom of choice to all stakeholders, and the right “... to conduct their own analysis of their own reality ...” (Chambers 1994a, p. 954), in order to satisfy their basic and their negotiable needs. The suggestion to include Freire’s scheme is linked to moral pluralism, which resurfaces as one of the associated concepts in the catalogue of systemic EPIs (Table 13, p. 405). The scheme is based on the idea that, in a multicultural environment, cultural and Nature-based ecotourism alike require

the acknowledgement and acceptance of diverse sets of morals. The recognition, as well as an imagination and understanding of the terms ‘sustainable tourism development’ and ‘ecotourism’ as ideas and concepts (which ideally are shared by all stakeholders), are considered to constitute a third criterion identified as a prerequisite for achieving SETD.

A fourth precondition is the level of commitment towards sustainability goals and objectives. Commitment is defined as the willingness to support any necessary processes, or changes, and to cooperate in the endeavour to accomplish the identified (and set) tasks. In order to be able to make use of sustainable (eco)tourism options, the consumer has to be aware of alternatives to non-sustainable tourism products (fifth precondition); and sustainable (eco)tourism development has to be recognised as an ‘in principle necessity’ and nonnegotiable goal (sixth precondition). The identified need for SETD can exist at different spatial scales, e.g. within a community, or at local, regional, or national level. At a competence level, the ability to coordinate activities and to network represents the seventh precondition. The feasibility to operationalise a proposed strategic planning approach constitutes the eighth and final criterion, suggested as preconditions for the development and attainment of SETD objectives.

Because of their subjective nature, these suggested preconditions in part coincide with markers and orientators (section 8.2.3), as well as with systemic indices (section 8.2.4) of environmental performance. It is hypothesised that the substitution (or neglect) of any of the outlined preconditions diminishes the chances to achieve the highest possible level in terms of sustainable ecotourism development. Examples are the replacement (*not* supplementation) of attitudes and voluntary actions with legislative measures. The implementation and enforcement of policies is (probably) necessary to regulate human activity at large. It is, however, argued that regulations signal a weak precondition for the attainment of SETD objectives, if they compensate for a lack of awareness, attitude, insight, or commitment.

8.2.3 *The Nature, Potential and Position of EPIs*

It is argued that the development, as well as the application of *any* set of environmental performance indicators that *assess, measure, or monitor* SETD is fundamentally a socio-political construct. Individual EPIs are *never* derived exclusively from a purely theoretical (i.e. logical), or scientific (i.e. experimental) analysis of a ‘real world’ situation. Instead, it is argued that they represent (tentative) results of dialogues and interpretations. Decision-supporting criteria in the design phase of EPIs depend on a value-laden interpretation and representation of the situation, as well as of underlying forces and causes that create and are responsible for the ‘less-than-ideal’ situation. Discourses and discussions lead up to negotiations and compromises that are directed and controlled by the (hierarchical) configuration and the dynamics of competing viewpoints and interests. These processes predicate choices, and perspectives are reflected in the socio-economic, political and scientific construction of definitions and criteria. The development and enactment of EPIs are thus the result of political activity, or ‘ecopolitics’ (Bührs 2000, p. 73).

According to Manning (1999) the development of EPIs faces two major hurdles:

1. The initial challenge is to identify competing values.
2. Subsequently, a forum for negotiation has to be established.

In addition, it is argued that the applicability of indicators is ultimately dependent upon their pragmatic utility (Manning 1992, p. 5). Bakkes *et al.*'s (1994, p. iii) statement that “Indicators should be developed according to their envisaged applications”, corroborates this claim. Indicators are therefore not only *political* but also *pragmatic* in nature. It is argued that they *can* reflect a mix of Peirce’s scientific elitist pragmatism, James’s psychologically personalistic pragmatism and Dewey’s democratically populist pragmatism (Rescher 1995, p. 712).

Value judgements are thus the canon for a pre-determined ideal course, as well as for the determinants, when devising concise criteria and objectives of SETD. Summing up, it may be said that EPIs are the complex product of logical reasoning and (social)

scientific inquiry, as well as of socio-economic and political processes that are influenced by power relationships. These dynamics are embedded in (entrenched) paradigmatic perspectives and ideological beliefs, as well as (perceived and actual) needs and interests of individuals, organisations, or communities. Although some indicators might measure a quantity, they are all qualitative in nature.

In respect of this specific case study, values (and thus EPIs) in the Coromandel have to comply with the conservation management framework provided by the central government in the form of national environmental legislation, as well as with regional and district plans (Ward and Beanland 1994, p. 20). The district plans in turn would presumably play a proactive role in designing EPIs towards SETD on the Peninsula. Subjected to beliefs, interests and needs of individuals, organisations, or communities, the interpretation and application of legislative provisions can, however, vary. Power relationships primarily among and within Tourism Coromandel, DoC, and a few of the well-established operators would (presumably) influence any final decisions on indicators of SETD on the Peninsula.

Although it is argued that EPIs are case-sensitive and process-specific (Bakkes *et al.* 1994, p. 2), my aim is the development of a general framework, or set of key indicators of SETD. The challenge is to ‘transform’ the diversity of environmental paradigms, ideologies and morals, as well as interests and needs of individuals and communities that are represented in the Coromandel, into a generic model of EPIs that can be applied under different circumstances and in different locations, or settings.

In a first step, *markers* are suggested as evaluation criteria of the *potential capacity* to develop and apply subsequent EPIs. Markers are borrowed from (but are not identical with) the concept and design of OECD’s (1996, cited in Bührs 2000) environmental performance reviews. They operate on different platforms, assessing ‘baseline conditions’ and ‘routine capabilities’ (Table 11). They are thus *descriptive* and *predictive* in nature. A successful identification of markers improves the design of EPIs, and allows estimating and maximising the potential capability of an Environmental Performance Review.

Table 11 Markers: The first step in the design phase of EPIs

Platform	Capacity	Marker
Knowledge	<i>Cognitive-informational</i>	Information availability
		Information transfer
Structural	<i>Cognitive-societal</i>	Public awareness & knowledge
	<i>Institutional</i>	Legislative & organisational framework
Operational	<i>Policy development</i>	Socio-economic & political dynamics
	<i>Policy commitment</i>	

On a *knowledge platform*, two markers reflect the *cognitive-informational capacity* of the system to develop EPIs. In principle, the potential to design indicators relies on a marker that characterises the availability (Ward and Beanland 1994, p. 23) and the quality of ‘on-line’ data, i.e. the degree of completeness, accuracy and precision of available information. Quality and design of EPIs further depend on the value of a marker that assesses the efficiency and effectiveness of information transfer between the actors, viz. users and guardians of the resource base on the one hand, and the designers, or users of EPIs on the other hand. The nature of the information required, essentially focuses on environmental conditions in respect of the resource base. Schellnhuber (1998, p. 146) notes that the task of converting data into appropriate and adequate EPIs relies on “... a perpetual stream of information ...”, linking the conceptual model(s) with reality, which “... helps to bridge the gap between theoretical and practical operation” (ibid.).

The successful utilisation of the cognitive-informational capacity in turn relies on the quality of markers that operate on a *structural* and on an *operational platform* respectively. The *cognitive-societal capacity* describes the public knowledge of environmental conditions, as well as people’s awareness of the necessity to develop EPIs, while the *institutional capacity* focuses on the configuration and the potential of the instrumental mechanisms (i.e. the legislative and organisational framework). The assessment of the political infrastructure includes the evaluation of existing acts, policies and codes of ethics, or conduct. Both capacities reflect the *perception* of an environmental condition, or situation, as well as the *willingness* and *ability* to analyse the available information adequately, identify gaps in the knowledge base, and develop appropriate EPIs.

On an *operational platform* these processes are assessed in respect of their *policy development capacity*. This last marker focuses on the dynamics involved in planning, developing, implementing and managing EPIs. The policy development capacity thus reflects power relationships, as well as responsibility and accountability patterns for researchers, policy advisors and planners. The marker can also include the assessment of a *policy commitment capacity*, i.e. the local, regional, or national reliability and credibility in terms of compliance with superior (for example national or global) regulations.

The next step in the design phase of EPIs involves their ‘positioning’. *Orientators* provide answers to the questions *what* kind of information environmental performance indicators are expected to provide, and *why* they are designed to measure, assess, or monitor specific system characteristics. They further describe the *tasks* of EPIs in terms of their desired time horizon, their spatial applicability, and their degree of complexity (Table 12). Orientators are thus *prescriptive* in nature. Indicators are not anticipated to fall into one category only. Instead, in a holistic EPR indicators coexist, and their ‘positioning’ can overlap. Orientators clarify and justify choices in respect of the paradigmatic approach, thus vindicating the validity of EPIs.

The kind of information supplied by EPIs can be categorised with the help of a *spatiotemporal orientator*, which positions the tasks of EPIs in a physical/locational sense, as well as within a timeframe. Indicators can evaluate the current state of affairs by describing the *status quo* of structures, or events. Such indicators portray the system’s state in a static snapshot, which can lead to simple ad-hoc and short-term strategies. A second option is the definition and application of EPIs that evaluate (internal and/or external) system processes and relationships by assessing system *dynamics*. This orientation also focuses on the current situation, but identifies and interprets processes and relationships responsible for the system status (i.e. its position in phase-space) *and* for changes.

Table 12 Orientators: The positioning of EPIs

Orientator	Parameter	Attribute	Dimension & variable	Prevailing value of EPI
Spatiotemporal	<i>Status quo</i>	Static	Spatial structures	Descriptive
			Temporal events	
	<i>Dynamics</i>	Change	Processes & relationships	Interpretive
		Emergence		
<i>Evolution</i>		Synergistic effects	Predictive	
Composition	<i>Simple</i>	Single value	Complexity	Analytical
	<i>Compound</i>	Additive data		
	<i>Complex</i>	Systemic/ integrative indices		Interpretive
Approach	<i>Paradigm</i>	'Exemplar'	Local consensus	Prescriptive

The third option is the employment of indicators that evaluate the overall *evolution* of the whole system, or any of its nested subsystems in the long run. By examining the system's dynamics over an extended period of time, the positioning of the spatiotemporal orientator can help assessing emergent features and predicting change. This particular orientator thus supports forecasts and the design of long-term concepts and strategies.

With respect to the compositional, or operational degree of complexity (Schellnhuber 1998, pp. 146-147) of EPIs, a *composition orientator* identifies EPIs as *simple*, *compound* or *complex* indicators. Simple and compound indicators are common practice in EPRs (e.g. Ward and Beanland 1994; Bennett *et al.* 1999; Harrop and Nixon 1999; Holt *et al.* 1999). In such an 'additive' approach, single parameters are used to 'measure' and analyse raw data. Simple indicators of SETD are for example visitor numbers, group sizes, track use frequencies, or an operator's annual booking numbers. Based on the

standardisation paradigm, simple indicators often reflect a ‘normative approach’ by committing to absolute norms, quota, or limits.

Compound, or aggregate indicators display a higher degree of complexity. They consider the combined and interrelated effect(s) of two or more causal agents. Doxey’s (1975) technique to interpret and position a host population’s acceptance or rejection of tourism on an ‘inter-cultural perception scale’, is an example of cumulative indicators of socio-economically, or culturally (un)sustainable tourism development. The ranking on Doxey’s irritation index, or irridex, depends on a range of impacts, or effects, triggered (or intensified) by tourism (development). Several individual factors contribute to a variety of carrying capacities, which are determinants for the position on Doxey’s scale (for example absolute tourist numbers, frequency and duration of visits, tourist behaviour and activities, the socio-economic distance between the visited and visitors, etc.). The different types of carrying capacities are themselves typical examples of simple, or compound indicators. Together, simple and compound indicators constitute the conceptual foundation for qualitative observations and quantitative measurements of ‘raw data’.

The highest degree of complexity is achieved in systemic indices of environmental performance. These *indices, or complex indicators*, evaluate holistic properties and emergent features of the system as a whole. Complex indicators do not exist in isolation. They combine the results of individual variables (Bakkes *et al.* 1994, p. 5), but move beyond simple additive measures. However, their feasibility relies on the definition and utilisation of simple and compound indicators. Reflecting the focus of my research approach, the subsequent set of generic indicators (section 8.2.4) is narrowed down to complex and systemic indices that signal the level, or degree of sustainable (eco)tourism development of the system as a whole.

A last orientator classifies indicators in respect of their rationale, i.e. their objectives and motives. Various authors have proposed a number of different schemes (Bakkes *et al.* 1994, pp. 6-7). I employ Schellnhuber’s (1998, pp. 48-127) classification scheme, which links the position of indicators to one particular perspective, or to a mix of

paradigmatic approaches. In principle, this *paradigmatic orientator* corresponds to Kuhn's (1977) localised sense of a paradigm, or *exemplar*. The paradigmatic position of indicators thus reflects consensus amongst a group of people on a particular problem-solving objective. The employed paradigm(s) assign(s) a specific significance to each indicator beyond its face value. However, rather than being purely prescriptive, this orientator provides options for a *pluralistic approach* and promotes an *informed choice*. The scheme conforms to Hunter's (1997) demand for an adaptive paradigm in respect of sustainable tourism development. The scheme *can* also avoid the dominance of a 'tourism-centric' (Hunter 1995; 1997) paradigm.

Individual characteristics of markers, orientators and EPIs overlap. As a matter of fact, markers and orientators themselves can function as EPIs. They are, however, treated as precursors for the development of EPIs since they directly influence the effectiveness and efficiency of subsequent EPIs, as well as the range (and consequently limits) of their applicability.

8.2.4 Systemic Indices of Environmental Performance

Markers and orientators represent valuation acts. Subsequent indicators analyse and interpret the system's condition and evolution by collating it with the pre-determined ideal. Descriptions, prescriptions and predictions are thus value judgements of 'what is' and 'what will be' in comparison to 'how things ought to be'. It is therefore argued that EPIs can neither be of universal nor eternal validity and reliability, but must have the capacity to vary. The contextual, situational and temporary 'truth' of a particular situation should be reflected in a flexible and adaptable design and (monitored) application of EPIs. Bakkes *et al.*'s (1994, p. iii) statement corroborates this claim:

The differences in indicator needs between different regions are not only caused by different social and cultural perspectives, but also by the stage of development and management of environmental problems. As countries develop, priorities shift over time, requiring adjustments of indicator systems.

As the name suggests, complex systemic indices are complicated indicators, which are comprised of overlapping, interacting and interdependent simple and compound indicators. Any attempt to categorise them is problematic. It is, however, argued that

(despite its simplification) a typology bears a practical value for the planner, designer and user of EPIs. A typology clarifies the perspective and the objectives of a particular approach for all involved parties. In ‘real life settings’ (the pendant to any typology) these indicators are associated, and do not exist in isolation. They should thus not be employed on their own to evaluate (eco)tourism development. Their validity and reliability depends on the consideration of *all* available indicators and their reciprocal influences.

The study shows that the system’s condition is prone to variation. EPIs reflect the change by depicting the level, or degree of SETD relative to an anticipated system state. I have identified six complex indicators that are symptomatic of the system’s current condition and reflect the system’s resilience, or buffer capacity to adapt to internal and external dynamics. The systemic concept of *relative robustness* was suggested as a paramount indicator of SETD (*Chapter Five*, section 5.5). I argue that this concept integrates the various paradigmatic approaches. Relative robustness is based on the notion that changes are unavoidable in a dynamic and open system. Consequentially EPIs reflect how well system dynamics are planned, managed and predicted. It is conceded that my personal engagement bears an anthropocentric and eurocentric tinge, inevitably creating a subjective balance between ‘wants’ and ‘needs’ of affected parties, when designing the typology of EPIs. In a global sense, the *disciplinary matrix* (Kuhn 1977) of the scientific paradigm also influences the typology.

Bakkes *et al.* (1994, p. 3) point out that all indicators are normative in the sense that they compare a condition, or process with a particular aim, or reference value. The suggested typology of this model caters for the presence of different objectives by classing them with a particular sustainable development paradigm (Table 13).

Table 13 Systemic indices and their paradigmatic orientation

Complex indicator, or index	SD Paradigm	Goal	Associated concepts	Examples of related theories & methods
Relative robustness	<i>Systems thinking</i>	High resilience / tolerance / buffer capacity	Sensitivity / flexibility / assimilative capacity Relaxation period	Conceptual modelling Evolutionary economics (Boulding 1981)
(Academic) research	<i>Stabilisation</i>	Knowledge Dynamic balance	Materials balance (Kneese <i>et al.</i> 1970) Agenda 21 (The Rio Declaration) Orams's (1995) ecotourism spectrum	Integrative/holistic planning approach
			Community approach (Murphy 1993) Moral pluralism	Participatory Action Research (PAR)
(Mental) distance	<i>Standardisation</i>	Understanding & appreciation Absolute values	Ecological Footprint (Wackernagel and Rees 1996) Carrying capacity Limits of Acceptable Change (LAC) Wilderness Purism Scale (WPS) (Kliskey 1992, unpub.) Environmental ethics	Consultation & communication strategy (Hutchings <i>et al.</i> 1998, p. 35) Legislation & internal industry regulation
Planning approach	<i>Pessimisation</i>	Conservation & preservation Minimising damages	Cautionary principle Limits to growth (Meadows <i>et al.</i> 1972) Environmental economics (Pearce 1976) Environmental Assimilative Capacity (EAC) Ecologically sustainable development of tourism (Carlsen 1998) Doxey's (1975) irridex	Environmental Impact Assessment (EIA) Community Impact Evaluation (CIE)
Cognitive dissonance	<i>Standardisation</i>	Correspondence Control and order	(Behavioural psychology; not explored in this thesis)	Environmental information & education

Table 13 Systemic indices and their paradigmatic orientation (continued)

Complex indicator, or index	SD Paradigm	Goal		Associated concepts	Examples of related theories & methods
Networking	<i>Optimisation</i>	Maximising benefits		Bioeconomic models Weak approach to SD Tourist attraction system (Gunn 1972; MacCannell 1976)	Cost–Benefit Analysis (CBA) Maximum sustainable yield analysis
	<i>Equitisation</i>	Balancing interests		Collaboration theory (Jamal and Getz 1995) Game theory	Coordination & cooperation Tourism Marketing Network (TMN)
Diversification	<i>Optimisation</i>	Profit maximisation	(Relative) independence	Market analysis Tourism Opportunity Spectrum (TOS) (Boyd and Butler 1996)	Expansion of product range and market segments
	<i>Pessimisation</i>	Security			
	<i>Stabilisation</i>	Reliability			

Users have the option to focus on one paradigm only. It is, however, hypothesised that researchers and practitioners would usually (unconsciously) use several sustainable development objectives simultaneously. The suggested set of complex indicators, or indices, serves as an *exemplar* rather than an exhaustive list. It conceptualises SETD from a systemic viewpoint and constitutes the precursor for simple and compound indicators, which focus on individual aspects within more complex issues. Table 13 includes some examples of current theories, concepts and methods that fall into the bracket of particular SD paradigms. Again, the apparent clear-cut distinction between different objectives and concepts is the result of (over)simplification, with the aim to achieve clarity and certainty in respect of their intention and practical utility.

The first complex indicator assesses the existence and quality of *research* on ecotourism and sustainable tourism development in terms of theoretical approaches or particular case studies. In principle, this indicator is based on the stabilisation paradigm of SD, with its main goal, or ‘ideal’ being the achievement of a dynamic balance. A lack of research limits the number of viewpoints, which could simplify an attempt to unify opinions. However, it also limits the amount and quality of available knowledge. The basic argument is that a lack of an academic (*as well as* non-scholastic) debate diminishes the chances of building *informed* consensus, and (can) result in a ‘wildcard’

approach to SETD. Theorisation and conceptualisation should precede the operationalisation of any concept, or strategy of SETD. This claim is corroborated by Schellnhuber's (1998, p. 49) assertion that implementing and practising SD by skipping theoretical deliberations results in the implementation of personalised and lopsided 'recipes'. Such 'wildcard' approaches are more likely to focus on goals of individuals than pursuing communal interests. The findings of my research verify this claim. It is argued that some of the unsatisfying aspects (listed below) in respect of my particular case study originate in a lack of research, and consequentially in a lack of common ground:

- 'Extreme' examples of ecotourism practices (page 306)
- The notorious and ongoing disagreement especially among operators on the meaning and relevance of the terms sustainable tourism development and ecotourism (*Chapter Five*, section 5.2)
- The (partially) unsuccessful operation, and weak integration of Māori ecotourism (*Chapter Six*, section 6.4.4) in a regional tourism development strategy
- The economic struggle of many small-scale businesses (*Chapter Six*, section 6.4.1)

These findings can be attributed partly to a lack of knowledge and poor knowledge transfer, or distribution, in respect of environmental conditions, capacities and dynamics. The (causal) links between the last two aspects (in the bulleted list above) and research on SETD are more of an indirect nature; although concrete reasons for these undesirable conditions, or system states, resurface in some of the other complex indices of SETD below.

Conducting research (or a lack of research) is directly linked to a second complex indicator, which focuses on the (*mental*) *distance* that exists between researchers, practitioners and affected communities, or individuals (pages 370-371). Existing knowledge has to be communicated effectively and efficiently in order to be 'active' and of any practical use, and one possible measure of the quality of communication transfer is the gap (or closeness) between involved parties. A gap can take on different

forms, i.e. it may constitute a knowledge gap, a communication gap, or a difference in goals, objectives and beliefs, etc.. It is argued that in attempting to decrease an existing rift by creating new links, and improving existing dialogues between academia and ‘front-liners’, the rigidity of a normative approach is of practical value. Defining norms and quota is associated with the standardisation paradigm of SD. Schellnhuber (1998, p. 56) calls it a ‘pseudo-paradigm’, because it “... is not rooted in some deeper theoretical systems principle,” The nature of research, the inference of conclusions and the distribution of knowledge are all related to this particular paradigm.

In the ecotourism context, the standardisation paradigm aims at identifying, or defining absolute values by setting norms that (presumably) characterise carrying capacities, or signal their overshoot in respect of SETD. In the context of knowledge exchange, the goal of standardisation is, however, *not* the elimination, or diminution of an existing range of opinions. On the contrary, a debate offers the opportunity to address differences – and thus for agreement. Although seeking awareness, comprehension and consensus is associated with rigidly defined standards, this does not necessarily imply a definition of quota in absolute numbers. Instead, discussion and collaboration among the parties can minimise ignorance regarding external variables and internal system dynamics. A dialogue can thus enhance the understanding and appreciation of (the reasons for) differing viewpoints. Closing a (knowledge and belief) chasm between parties can thus mean that standards are set in respect of *the nature and quality of decision-making processes*. These criteria will then (presumably) make it easier to agree on mutually accepted SETD goals, objectives and approaches. They are the prerequisites for successful policies and the implementation of strategies that achieve set tasks.

A case-specific example in respect of the attempt to ‘close the gap’, is the Māori Environmental Performance Indicator (MEPI) framework, and its specifications in regard to the recommended consultation and communication strategy (Hutchings *et al.* 1998, pp. 19, 35). The suggested indicators account for spiritual, philosophical, political and operational aspects of environmental monitoring (Royal and Independent Panel of Māori Individuals 1998, pp. 11, 34). The recommended adoption of an ‘inclusiveness principle’ in the consultation and communication strategy is interpreted as the request

to consider *all* stakeholders' viewpoints. Although there is no explicit mentioning of the scientific aspects of environmental monitoring, the framework thus includes the attempt to reconcile Māori and Pākehā perspectives and objectives implicitly. However, in the ecotourism context I have found no evidence of the MEPI framework being applied in the Coromandel.

The task of communicating differences and arriving at a consensus, or compromise is associated with the design and implementation of a planning approach. The *existence* (or absence) and the *quality of a planning approach* (Chapter Five, section 5.2.2; Chapter Six, section 6.4.3) together form a third complex indicator of SETD. This argument is based on the pessimisation paradigm, which aims at minimising damages and is related to the 'precautionary principle' (O'Riordan and Cameron 1994). Trying to 'prevent the worst' through planning and managing, resembles an 'anti-Murphy' strategy of SD (Schellnhuber 1998, p. 75). A number of different ('idealised') planning approaches to tourism development exist (Hall *et al.* 1997, pp. 19-21). Individually, they can all be linked to different paradigmatic approaches to SD. Rao's (2000, p. 69) claim that "The concept of sustainable development (SD) is essentially an interdisciplinary one", is my argument for advocating the adoption of an integrative (*viz.* systemic and holistic) planning approach within the stabilisation paradigm. The goal to achieve a dynamic balance also links this particular approach to the call for research.

The integrative planning approach is used to exemplify the concept of less complex indicators embedded as subsets in all of the main systemic indices of environmental performance. It is suggested that within an integrative planning approach a dynamic balance is achieved by incorporating an array of parameters. The quality and application of individual parameters can be evaluated through a set of standalone simple, compound, or complex indicators of SETD:

- At an environmental level, the consideration of socio-economic, cultural and ecological goals
 - Indicating a dynamic balance between environmental interests

- At a human level, the consideration of individual, communal and societal needs and beliefs stands for a dynamic balance of personal interests, intra-generational needs and situated knowledges
 - Acknowledging the relevance of fairness, justice, equity, etc. principles on moral grounds
- In the temporal dimension, pursuing short-term *and* long-term goals signals a dynamic sequential balance
 - Acknowledging present and inter-generational needs, as well as the rights (and obligations) of present and future generations
- On a theoretical level, the *proper* design of planning objectives and strategies, as well as methods and tools to implement the plan
 - Reflecting a dynamic balance and an integrative approach in terms of conceptualising and operationalising SETD

Based exclusively on the research findings, the degree of *cognitive dissonance* is suggested as a fourth complex indicator of SETD. It is hypothesised that people who say one thing, but do not act accordingly, display a behavioural pattern that can signal ignorance, incompetence, dissatisfaction, insecurity, uncertainty, or even (intentional) deceit regarding a concept and its application in question (Barnes 1994). It would have been beyond the scope of this thesis to investigate the causes in detail. Examples of obvious effects of cognitive dissonance in my case study are:

- Tourists who engage in ecotourism activities, but whose behaviour appears to be ecologically insensitive, or inconsistent (page 212, 242-243)
- The varying behaviour of tour operators who ‘talk eco’, but simultaneously offer a tourism product that can only be located beyond Orams’s (1995) ‘low human responsibility pole’ (pages 241-243, 306)

- Management plans and policies (or their non-existence), which can also trigger discrepancies between opinion and action
 - An example is DoC's (in some instances) inability to control tourist numbers. Despite exceeding estimates of carrying capacities, the Department's staff (sometimes) has to cater for growing tourist numbers by adapting, i.e. adding and expanding, facilities (*Chapter Six*, section 6.4.6), thus acting contrary to their beliefs.
- An expressed interest by public bodies in private initiatives and ideas contrasts with inaction, or delayed action, accompanied by a symptom called 'passing the buck' in respect of accountability and responsibility (*Chapter Six*, section 6.4.5).
- Small-business owners who emphasise the importance of networking, but fail to act accordingly for various reasons (*Chapter Six*, section 6.4.1)

The aim to reduce inconsistencies and incoherencies in behavioural patterns is, like the first indicator, associated with the standardisation paradigm. Correlating, or 'linearising' thought and action has the goal to 'inject' control and order into the system's dynamics.

An important fifth complex indicator emerging from the data is the level of *networking* among the tourism industry (*Chapter Six*, section 6.4.1; Figures 39 and 40, p. 315). Björk (2000) proposes co-operation and networking as one of the central themes, or dimensions of sustainable ecotourism development. In a regional analysis Annis (1992) stresses the potentially positive trend of evolving connectedness between and within environmental groups and grassroots initiatives. The 'networking index' is directly related to the systemic representation of sustainable ecotourism development. When balancing the pros and cons of networking, the focus is on internal system dynamics. The degree of proactive collaboration efforts reflects the extent of deliberate actions that introduce additional processes to the system's dynamics. The indicator thus estimates and judges the quality and effects of any links 'artificially' created within the system, on its subsystems and on the system as a whole.

The examples of successful and well-established operators on the one hand, and struggling small-scale operators on the other hand, demonstrate the relevance of forming alliances that coordinate and cooperate efforts, as opposed to (over)emphasising the competitive character of tourism ventures. Operators evaluate the ‘pros’ and ‘cons’ of both strategies in personal, or individual decision-making processes. The underlying attitudes and practices can be described as ‘extrovert’, ‘expansive’, ‘sharing’ and ‘connected’, or as ‘introvert’, ‘contractive’, ‘withdrawing’ and ‘isolated’ respectively. The value stakeholders place on networking is directly linked to their perception of their own business situation. Depending on the outcome of this self-appraisal of their position in the market place, operators (implicitly) associate cooperation and networking with the optimisation, the pessimisation or the equitisation paradigm. One problem associated with weighing the advantages and disadvantages of networking is the incomplete knowledge individual operators have of system processes and dynamics. Again, research could presumably mitigate the effects of ‘isolation in the market place’ and ‘cognitive uncertainty’.

The optimisation paradigm aims at maximising benefit, or utility in a normative way, and reflects a fundamental teleological strategy (Schellnhuber 1998, p. 67). Ecotourism operators ‘want the best’ for their business and choose, according to their preferences, beliefs and abilities, between competition and cooperation. It is argued that the motivation to ‘compete’ or ‘cooperate’ is first of all an egocentric one, and the final decision is hence also about balancing (one’s own) interests. This is the emphasis of the equitisation paradigm, which compares interests rather than defining norms, or standards. Both business strategies, competing as well as collaborating with potential competitors, are also related to the pessimisation paradigm of SD. It is argued that the possibility to exchange ideas, the chance to tap other operators’ clientele, and to source customers from Tourism Marketing Networks (TMNs), can offer a sense of security, minimise the adverse effects of ‘market isolation’, and lower the risk of ‘market failure’.

Small-scale ecotourism businesses often opt for ‘isolation’ and ‘independence’ by favouring (at least in practice) competition over cooperation. I believe the main problems (not only) some small-scale operators face, are a combination of professional

incompetence and inept personal skills, resulting in inadequate capabilities to run a viable business. Limited financial resources, as well as operators' (relative) lack of knowledge regarding externalities, and their inability to take all intrinsic system dynamics fully into consideration (*Chapter Six*, section 6.4.1), can further contribute to poor economic performance. This argument in turn links the 'networking indicator' to the four previous indices of SETD. It is suggested that networking can not only offer benefits from an economic perspective. In principle cooperation and collaboration have the potential to bridge the gap between the knowledge and personal goals of individuals on the one hand, and systemic 'realities' at the communal, local, regional and national level on the other hand. It is argued that networking has the potential to merge 'individual identities' and their specific objectives with common goals. Cooperation and networking can enhance stable coevolutionary system dynamics by creating positive emergent effects and feedback loops.

In the context of networking it is argued that the quality and utilisation of 'cyber networks' constitute a complex 'sub-indicator' within the 'networking index'. At the time the fieldwork was carried out, the potential marketing power of the Internet remained largely dormant, or underutilised. It is assumed that sales figures resulting from Internet- (or Web-) marketing will play a more important role in the near future. A cyber-space networking indicator could assess the quality (i.e. the effectiveness and efficiency) of websites and their hyperlinks, resulting chains of events, or dead ends, and other phenomena related to marketing, promotion and sales techniques on the Internet. Internet networks can be interpreted as electronic 'pseudo-networks', in so far as they constitute an administrative tool to manage 'real' human-activity networks. However, 'electronic' and 'real' networks are intertwined, their boundaries overlap, and they influence each other. Cyber-networks have the advantage that they can expand (not only physical, or locational) system boundaries. Their real (as opposed to assumed) potential to contribute to SETD has yet to be explored.

The sixth and last complex indicator that I suggest as a means of estimating the degree of sustainable (eco)tourism development is the level of *diversification*. It is mainly a hypothetical indicator. There is, however, some empirical evidence that expanding the

product range, or the diversification into other market segments enhances the economic viability of well-established operators (*Chapter Six*; section 6.3; Figure 37, p. 305). Although economic sustainability is only one aspect of SETD, it is argued that diversification in principle has the potential to enhance the system's robustness by raising its tolerance of changes in the system's dynamics – and thus the system's assimilative capacity. Diversification can have a positive effect on the long-term evolution of the system by lowering the risk of falling victim to 'catastrophic' influences of external, hidden, or unknown variables. It is thus associated with the goal to be, or to become less dependent on processes and events that are beyond one's control. Diversification can occur as an expansion of the product range within an individual business, or in connection with networking and alliances in the form of TMNs. As a business strategy, the main objectives of diversification encountered in the Coromandel are profit maximisation, reliability and security. These goals fall in the optimisation, stabilisation and pessimisation paradigm respectively.

The conceptual system models, the suggested 'idealised' models of SETD, and the generic model of systemic SETD indices verify a hypothesis hinted at in *Chapter One* (section 1.9). The hypothesis suggested that descriptions of system dynamics, prescriptions of improvements, and predictions of possible future system states are of a subjective and relational nature. All empirical data confirm that planning strategies have to rely on tentative definitions and answers that are contextual and situational products. These findings have direct implications on the recommendations for future research, which are the topic of the subsequent concluding section of the thesis.

8.3 Recommendations for Future Research

The interdisciplinary character of my research and the nature of conceptual modelling, with its associated concept of methodological scaling, imply that every aspect of this study can be expanded arbitrarily (Figure 17, p. 178; *Chapter Four*, section 4.2.2). Accuracy in modelling is achieved in a balancing act involving constant juggling between precision and abstraction. The chosen level of detail is a compromise between perceiving the complex 'real', and the feasibility of interpreting and converting the 'real

mess’ into a simplified model version of reality. The depth, with which individual issues are covered, is thus a product of personal preferences and of perceived pragmatic utility, limited by methodological and theoretical considerations.

Suggestions in respect of future research strategies are derived in a similar fashion. The recommendations made in *Chapters Five to Seven*, and the additional suggestions made in this section, reflect a combination of personal interests and a perceived need, or necessity to investigate certain aspects of this study further. I suggest that future research could broaden our knowledge by elaborating details of my study on a philosophical, theoretical, methodological and practical platform. Questions arising on these platforms interlock, and any additional answer can potentially enhance the accuracy of the model.

8.3.1 A Complex of Philosophical Questions

Many of the assumptions that my study is based on result from unresolved questions that are philosophical in essence. Some of them have been pondered on for millennia. I have tried to incorporate these ‘eternal riddles’ in the modelling process in a way that leaves room for differing outcomes. I concede that contrasting assumptions (or more accurate answers) can bear the potential to qualify my findings, or require alterations of internal system dynamics. I anticipate, however, that additional knowledge will neither discredit the integrity of the systems approach nor the *practical* validity and reliability of the conceptual models themselves. The catalogue of possible research tasks is infinite. Recommendations are thus limited to those questions I would like to embark on personally.

The most fundamental questions I have are of an ontological nature and concern our perception of reality: How do different paradigms and the employment of particular (scientific) disciplines and theories create and influence our understanding of reality? How and why do contrasting models of reality differ and where do they mesh? Does a ‘true’ reality exist independent of our imagination, and if so, is it accessible in principle? Any valid answers could obviously influence (and potentially alter) the *theoretical* validity

and reliability of conceptual models depicting human/non-human activity and interaction.

The ‘reality’ questions are directly linked to epistemological queries regarding the nature of knowledge. What counts as knowledge? Are there limits to knowledge? Is there, apart from a pragmatic utility, a philosophical ‘truth’, or theoretical validity in distinguishing between faith and knowledge? On a theoretical level, these conundrums are linked to the philosophy and physiology of the human mind. In my thesis I claim that intuition has guided me throughout my research. I would like to explore the nature of intuitive thinking, and how a ‘sixth sense’ alters our perception and understanding of phenomena, consequently influencing the research process and the researcher’s imagination and representation of reality.

Intuition in turn is connected to human nature, which has so far defied a conclusive explanation. In my study I presume the ‘in principle’ existence and action of ‘free will’. Absolute freedom of choice at the level of the individual is thus thought to influence decision-making processes, causing change independent of external triggers, and steering (in part) the system’s evolution. Whereas the dynamics and outcomes of deterministic chaos in ‘natural’ systems are predictive (in principle), ‘free will’ at the aggregate level of communities results in ‘social chaos’, which is characterised by an inherently random distribution of infinite possibilities. Those elements of ‘social chaos’ and their system trajectories that are based on ‘free will’ decisions can thus not be modelled *ex ante*. The effects of ‘free will’ as an active agent can be, however, described retrospectively within the chaos paradigm (Figure 33, p. 283; Figure 47, p. 366). Personally I am interested in (psychological and philosophical) investigations of the ‘free will’ concept as opposed to genetically, biochemically or environmentally conditioned behaviour.

In many natural systems researchers have observed processes that fall into a category called ‘self-organising criticality’. Across a diverse range of phenomena these processes apparently adhere to potency laws that are scale invariant – thus resembling fractal dimensions (Buchanan 2001). The identification of self-organising criticality in human–

activity (or social) systems would indicate the presence of deterministic chaos and the absence of absolute chaos. It is argued that ‘proving’ an entirely conditioned human behaviour would alter the internal system dynamics, but not the *representation* of system behaviour (Figure 19, p. 187; *Chapter Four*, section 4.4.2) in a model.

How we make decisions and why we behave in certain ways are questions associated with the problem of ‘free will’ and remain unanswered. Does egoism completely determine our actions or is the presumption correct that existing (reciprocal) altruistic elements influence our behaviour and coexistence? Are such character traits ‘DNA-wired’ or environmentally conditioned? The question how we should behave, not only in the ecotourism context, also still lacks a conclusive answer. Can a code of moral imperatives be identified within environmental ethics, or is my assumption warranted that moral pluralism necessitates and justifies different codes of ethics according to circumstances? Applied to the concept of sustainable (eco)tourism development, answers to these queries have implications for any legislative framework, as well as for internal industry regulations. Underlying assumptions of possible solutions to these questions thus provide the ideological and theoretical basis for codes of ethics for operators and tourists alike.

8.3.2 Theoretical and Methodological Pursuits

I have employed the philosophical perspective of ‘systems thinking’, the theory of ‘conceptual modelling’, and the idea of ‘chaoplexity’ in a qualitative research context. These concepts are commonly used within a quantitative research approach and the relative rigidity of mathematical applications. In the qualitative research context of my study they have to account for flexible and tentative interpretations of data, an experienced uncertainty, situated knowledges, and for multiple truths from a postmodern viewpoint. I suggest a further exploration of the ‘sutures’ between the application of these concepts in the natural sciences, economics and the social sciences. I would expect to find fluid boundaries at a theoretical, methodological and practical level.

Methodologically I suggest that the researcher's mediating role in detecting 'hidden variables', exposing the 'unknowable', and recognising external influences on system dynamics as well as on the prediction of future system states could be investigated further. Can the researcher use her/his 'expert' knowledge to merge academic perceptions with local knowledge and traditional belief systems? (How) can PAR techniques be improved and integrated in the legislative and organisational framework, to create shared visions among stakeholders in respect of (ecotourism) development goals, objectives and strategies? Can (or should) ingrained hierarchical power relationships and socio-economic inequities be eradicated? Are there ways of developing and implementing localised or regionalised (mutually accepted) definitions of ecotourism and SETD?

8.3.3 Practical Follow-ups

On a practical level I would like to further investigate the phenomenon of cognitive dissonance and in particular its implications on the validity and reliability of conceptual social system models. (How) can research account for discrepancies and inconsistencies in people's statements, thoughts, feelings and actions? How 'truthfully' can these processes be integrated and represented in a system model (of SETD)?

A related problem is the attempted merger between Māori and Pākehā goals and objectives. Ecotourists (who are primarily Pākehā tourists) expect authenticity regarding what they perceive as cultural ecotourism. In the Coromandel Māori and Pākehā live simultaneously 'side by side' in a (visual) space that resembles Foucault's 'heterotopia' (Hetherington 1997). Even if a 'hybrid culture' was the assumed and accepted reality, the questions remain whether and how authentic Māori ecotourism products can be developed and marketed. How can the adoption of a Western concept (viz. tourism) *not* change (i.e. compromise, or 'dilute') the cultural identity (viz. beliefs, values and traditions) of traditional Māoridom or, for that matter, of any other indigenous culture? Consequentially the question can be asked whether cultural ecotourism is an oxymoron when applied to traditional (or hybrid) belief systems.

Finally, but maybe most importantly it is suggested that the issues of cooperation, networking, and of forming alliances require further intensive research. The empirical data show a variety of networks operating at the personal, local and regional level. Conceptual models can display any aspects of these networks on different scales, from different perspectives, and in different dimensions. At the operational level of ecotourism ventures, a lack of proactive collaboration was identified as a ‘weakness’ in the system’s dynamics, contributing to the uneconomical development of individual enterprises. The reasons for these shortcomings were identified as personal, market related, financial and political in nature. It was beyond the scope of the thesis to explore the hierarchical structure of tourism politics in detail. I feel that I was merely able to ‘scratch the surface’ of political realities and ‘ecopolitics’ in the (eco)tourism development context. It is assumed that further investigations could discover ‘hidden’ networks and processes that operate in a very effective and efficient manner on and through tourism at a personal and informal level. It is hypothesised that such ‘undercover’, or covert operations can contribute to the exclusion of, or discrimination against, minority groups and less influential individuals. Laying bare and evaluating informal networks would touch an interesting but also highly sensitive aspect of social reality.

I would further like to explore the possibilities and implications for tourism development of what I call ‘positive networking’, a planning and development approach successfully trialled at corporate level by The Boeing Company (2001) in the 1990s. In order to coordinate the design and manufacture of the commercial airliner 777, the former managing director successfully developed and implemented a new and unique problem-solving strategy. Any difficulties encountered, caused, or identified by individuals, were owned, shared and tackled by the whole team. It is hypothesised that similar problem-solving tactics between competitors might benefit the mutual cause of achieving SETD, even if only one individual might (at first) experience and admit a singular problem. This claim is backed up by implications of non-communicative effects on the system’s dynamics and the resulting chains of (possible) effects (*Chapter Four*, section 4.4.3; *Chapter Five*, section 5.4.1).

‘Closing the loop’, I would like to reiterate the claim I made at the beginning of the thesis, i.e. that the Coromandel possesses potential for sustainable ecotourism development. Based on the empirical work, the conceptual models reveal the ‘strength’ of the Peninsula’s ecological, scenic and cultural resource bases as major (eco)tourism attraction nuclei. They also highlight, however, the system’s ‘weaknesses’, or lack of current sustainable development strategies in the ecotourism context. Meadows *et al*’s. (1995, p. 209) argument that “There are many ways to define sustainability” is still valid, and there are thus many ways of practising sustainable (eco)tourism development. To me, conceptual system modelling not only offers the means to identify and depict the complexity of issues that are responsible for these ‘different ways’. By outlining the system’s condition, modelling also has the potential to unveil the diversity of the many ‘messy’ realities, making them accessible to all interested parties. Combining the different perspectives of stakeholders in a conceptual system model, results in an amalgamated picture of structures, events and their (causal) relationships. Each individual can subsequently modify and complement her/his imagination and realisation of SETD by interpreting this new (academic) image of SETD. On a last note I argue that my research demonstrates that conceptual system modelling can make valid recommendations in respect of possible improvements. However, the study also shows why predictions regarding expected, or desired future system states can only be of limited precision.

PART VI

SUPPLEMENTARY SECTIONS



Appendices



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**DEVELOPING STRATEGIES FOR
SUSTAINABLE ECOTOURISM
DEVELOPMENT ON THE
COROMANDEL PENINSULA**

**PARTICIPANT
INFORMATION SHEET**

Principal Investigator: Rupert Holzapfel

Date: _____

You are invited to take part in a survey of individuals and organisations concerning ecotourism and sustainable tourism development on the Coromandel Peninsula. This project is being undertaken by Rupert Holzapfel of The University of Waikato. **Your participation in this study is voluntary.**

P.T.O.

Your participation in this survey will help the researcher to develop a better understanding of the implied meaning of ecotourism and sustainable tourism development. The survey aims at uniting a variety of viewpoints of ecotourism and sustainable tourism development. The anticipated outcome is to encapsulate interrelated yet contrasting goals and turn the objective of sustainable ecotourism development into a satisfying, realisable and cost-efficient strategy. The results of this research should contribute to sustaining and improving New Zealand's image as a desirable travel destination, ensure and maintain high standards of environmental quality and balance needs and expectations of all affected parties in the tourism system. About 100 participants are expected to take part in this survey. The questionnaire should take about 10 minutes to complete.

You are assured that your participation in this study is confidential. No names, or other information that could personally identify you will be used in any written reports produced in the course of the research. At any stage, you have the right to withdraw from the study and to decline to answer any individual questions in the questionnaire and/or the interview. If, after participating in the survey, you change your mind and decide that you would rather not be involved, you will have the right to request the erasure of any material you do not wish to be used.

All data collected and processed in the course of the study will be treated as strictly confidential and will be placed in a secure location. You have the right to request the return of your records after completion of the study.

The results of this research will be published in academic papers and a doctoral thesis and will be communicated to ecotourism operators and other public and private organisations involved in sustainable tourism development. If you wish, you may request a summary of the research findings free of charge when it is available.

This study has received ethical approval from **The University of Waikato Human Research Ethics Committee**. If you have any concerns about your rights as a participant in this study, please contact:

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CONSENT FORM

Participant's name: _____

I have read and I understand the Participant Information Sheet dated _____ for volunteers taking part in the study “Developing Strategies for Sustainable Ecotourism Development on the Coromandel Peninsula in New Zealand”.

I have had the opportunity to discuss this study. I am satisfied with the answers I have been given.

I have had time to consider whether to take part in this study.

I understand that taking part in this study is voluntary and that I have the right to withdraw from the study at any time and to decline to answer any individual questions in the study.

I understand that my participation in this study is confidential. No material, which could identify me, will be used in any reports on this study.

P.T.O.

I consent to my interview being audio-taped. YES / NO

I consent to the group discussion being audio-taped. YES / NO

I wish to receive a summary of the research findings free of charge. YES / NO

I wish to have my records returned to me after completion of the study.
YES / NO

I _____ (full name)

hereby consent to take part in this study.

Signature: _____

Date: _____

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Telephone +64-(0)7-858 4320 (Home)
Mobile +64-(0)25-286 5704
Facsimile +64-(0)7-838 4633
Email rupertho@waikato.ac.nz
<http://www.waikato.ac.nz/geog/>

REPLY SLIP

I would like to participate in the study “Developing strategies for sustainable ecotourism development on the Coromandel Peninsula in New Zealand”.

Name of participant: _____

Address: _____

Contact phone number:

Daytime: _____ Evening: _____

Signature: _____

Date: _____

Please post this Reply Slip together with the Consent Form in the stamped and addressed return envelope provided.



TOURISM SURVEY

1. Have you heard the term **ecotourism** before? Yes No Unsure
(Please tick one box.)

2. What do you believe **ecotourism** means?
(Please write a short statement.)

3. Have you heard the term **sustainable tourism development** before? Yes No Unsure
(Please tick one box.)

4. What do you believe sustainable tourism development means?
(Please write a short statement.)

5. Which of the following aspects do you believe are part of **ecotourism**?
(Please tick one or more boxes if appropriate.)

Environmental sensitivity of the visitor

Environmental sensitivity of the tourguide

Environmental sensitivity of the tourism business owner

Environmental knowledge of the tourguide

Environmental education programmes

Nature experiences

Cultural experiences

Respect for any spiritual significance of a place

Involvement of the visitor in environmental conservation projects

Sustainable tourism development

Other aspects (Please specify)

6. Which of the following criteria do you believe are part of sustainable tourism development ?						
(Please tick <input checked="" type="checkbox"/> the box in the column that reflects your belief.)						
	Very important	Important	Neutral	Not very important	Not important at all	Unsure
Resource conservation	<input type="checkbox"/>					
Economic viability	<input type="checkbox"/>					
Ecological sensitivity	<input type="checkbox"/>					
Cultural integrity	<input type="checkbox"/>					
Preserving cultural diversity	<input type="checkbox"/>					
Community involvement	<input type="checkbox"/>					
Equal opportunities for all involved persons	<input type="checkbox"/>					
Recognition of any spiritual significance of a place	<input type="checkbox"/>					
Other criteria (Please specify)						
_____	<input type="checkbox"/>					
_____	<input type="checkbox"/>					
_____	<input type="checkbox"/>					

7. What is your **connection** to the Coromandel Peninsula?
(Please tick one or more boxes if appropriate.)

- I live on the Coromandel Peninsula.
- I have family or friends on the Coromandel Peninsula.
- I have a holiday bach on the Coromandel Peninsula.
- I work on the Coromandel Peninsula.
- I own a business on the Coromandel Peninsula.
- I am a domestic visitor.
- I am an international visitor.

Others (Please specify)

- _____
- _____
- _____

8. Are you involved in **tourism** on the Coromandel Peninsula?
(Please tick one or more boxes if appropriate.)

- I am not involved.
- I don't know if I am involved.
- I am involved as a visitor.
- I am involved as a host for visitors.
- I am involved as an employee in a tourism related business.
- I am involved as an owner of a tourism related business.
- I am involved in tourism as a volunteer.
- I am involved as a tourism consultant.
- I am involved in tourism planning processes.
- I am involved in tourism development.
- I am involved in tourism decision-making processes.

I am involved in other ways. (Please specify)

- _____
- _____
- _____

9. Are you involved in **ecotourism** on the Coromandel Peninsula?
 (Please tick one or more boxes if appropriate.)

- I am not involved.
- I don't know if I am involved.
- I am involved as a visitor.
- I am involved as a host for visitors.
- I am involved as an employee in a tourism related business.
- I am involved as an owner of a tourism related business.
- I am involved in tourism as a volunteer.
- I am involved as a tourism consultant.
- I am involved in tourism planning processes.
- I am involved in tourism development.
- I am involved in tourism decision-making processes.

I am involved in other ways. (Please specify)

10. How important is **ecotourism** on the Coromandel Peninsula?
 (Please tick the box that reflects your belief.)

Very important	Important	Neutral	Not very important	Not important at all	Unsure
<input type="checkbox"/>					

11. How important is **sustainable tourism development** on the Coromandel Peninsula?
 (Please tick the box that reflects your belief.)

Very important	Important	Neutral	Not very important	Not important at all	Unsure
<input type="checkbox"/>					

12. What do you think about **tourism development** on the Coromandel Peninsula?

(Please tick one or more boxes if appropriate.)

I have no opinion regarding tourism development on the Coromandel Peninsula.

I am in favour of tourism development on the Coromandel Peninsula.
(If you choose this option please tick box a) or b) as well)

a) I do not prefer any particular type of tourism development on the Coromandel Peninsula.

b) I prefer a particular kind of tourism development on the Coromandel Peninsula.
(Please specify)

I am against tourism development on the Coromandel Peninsula.
(If you choose this option please tick box a) or b) as well)

a) I am against any type of tourism development on the Coromandel Peninsula.

b) I am against a particular kind of tourism development on the Coromandel Peninsula.
(Please specify)

13. Do you want your views on **tourism** on the Coromandel Peninsula to be considered in the planning and development process?

(Please tick one box. If you tick the second box please write a short statement on how you want to be involved.)

I do not want to be involved in the planning and development of tourism on the Coromandel Peninsula at all.

I want to contribute to the planning and development of tourism on the Coromandel Peninsula in the following way:

14. What kind of **tourism activities** do you enjoy most?

(Please write down your favourite tourism activities.)

First preference

Second preference

Third preference

Fourth preference

Fifth preference

15. What kind of **tourism experiences** are the most important ones for you?

(Please write down your favourite tourism experiences.)

First preference

Second preference

Third preference

Fourth preference

Fifth preference

16. What do you think about **limited access** to a site in order to achieve sustainable tourism development?
(Please tick the box in that reflects your belief.)

Strongly approve	Approve	Neutral	Disapprove	Strongly disapprove	Unsure
<input type="checkbox"/>					

17. What do you think about a **limited range of activities** in order to achieve sustainable tourism development?
(Please tick the box that reflects your belief.)

Strongly approve	Approve	Neutral	Disapprove	Strongly disapprove	Unsure
<input type="checkbox"/>					

18. What do you think about paying a **higher price** for tourism activities in order to achieve sustainable tourism development?
(Please tick the box that reflects your belief.)

Strongly approve	Approve	Neutral	Disapprove	Strongly disapprove	Unsure
<input type="checkbox"/>					

19. What do you think about a **lower profit margin** (e.g. fewer tourists, fewer and smaller groups) for tourism operators in order to achieve sustainable tourism development?
(Please tick the box that reflects your belief.)

Strongly approve	Approve	Neutral	Disapprove	Strongly disapprove	Unsure
<input type="checkbox"/>					

20. Something about **yourself**(Please answer the following questions, or tick the appropriate box.)Your **age** Please state your age _____Your **gender** I am female
I am male Your **ethnicity**

(Please state the ethnic group, or groups you belong to)

What **nationality** are you?

What is your normal **place of residence**?City _____
Country _____What is your highest **education**?

What is your **occupation**?

20. Something about **yourself** (continued)

(Please answer the following questions)

(For **Māori**)

Which **hapū** do you
belong to?

(For **Māori**)

Which **iwi** do you
belong to?

Thank you for your cooperation

THE UNIVERSITY OF WAIKATO

**HUMAN RESEARCH ETHICS
COMMITTEE (HREC)**

**APPLICATION FOR APPROVAL OF
A RESEARCH PROPOSAL**

NAME OF APPLICANT

Rupert Holzapfel

FACULTY

Faculty of Arts and Social Sciences

DEPARTMENT

Department of Geography

NAME OF SUPERVISORS

Associate Prof Lex Chalmers

Dr Judith Cukier

NATURE OF PROJECT

DPhil research

FUNDING SOURCES FOR THE PROJECT

This research project is funded through a departmental doctoral scholarship and the fieldwork will be supported by the Geography Department.

TITLE OF PROJECT

Developing research and decision-making strategies for sustainable ecotourism development¹²⁷ on the Coromandel Peninsula in New Zealand

DESCRIPTION OF PROJECT***Attachments:***

Copies of the research proposal and of a working paper, which was presented at the New Zealand Tourism and Hospitality Research Conference in December 1998 and has been published in the conference proceedings, are attached.

a. Justification:

The purpose of this research is to identify the implied meaning and to develop an operational concept of sustainable tourism development, with a focus on ecotourism on the Coromandel Peninsula in New Zealand. A pilot study will be carried out in Raglan, to test the methodology, tools and techniques. It is argued that sustainability and sustainable tourism development are subjective, but key terms within a set of unstructured problems and a continuum of differential interpretations.

Accommodating contrasting perceptions and perspectives in an iterative cycle of structured debates should enable all partakers of the ecotourism system to contribute to the future of the ecotourism enterprise, influencing and increasing the degree of sustainability and sustainable ecotourism development.

The project extends earlier research on the theoretical and conceptual framework of sustainable tourism development and ecotourism in New Zealand. The present research focuses on the four themes of economic viability and efficiency, ecological environmental quality, socio-cultural integrity and equity and community involvement and participation (e.g. New Zealand Ministry of Tourism 1992; Hall 1994; Warren and Taylor 1994; Dymond 1997; Gilbert 1997; Page and Thorn 1997; Kearsley and Mitchell 1998, abstract and presentation; Page and Thorn 1998; Pearson 1998; Ryan 1998).

This research project aims at initially documenting and finally uniting a variety of viewpoints of sustainability and development, encapsulating interrelated yet contrasting goals, turning the anticipated objective of sustainable ecotourism development into a

¹²⁷ Ecotourism will be used in this text as a synonym for 'Nature (-based) tourism'.

satisfying, realisable and cost-efficient planning and development strategy for all stakeholders. The application of a systemic, or holistic approach will allow for traditional and alternative values and beliefs, ethical and moral norms and ideologies from various cultural backgrounds to be incorporated into the decision-making process.

The original data of the thesis study will be collected by way of sampling. The research will yield qualitative and quantitative data. Systematic sampling will result in the stratification of samples. Within the strata a random sampling process is anticipated. The possibilities of systematic, non-response and Shenanigans biases will be taken into account (Carr 1992).

An analysis and synthesis of the generated information should allow for optimised trade-offs and the successful development and implementation of a decision-making model, reflecting the pluralistic approach by solving conflicts of interest and site specific needs adequately.

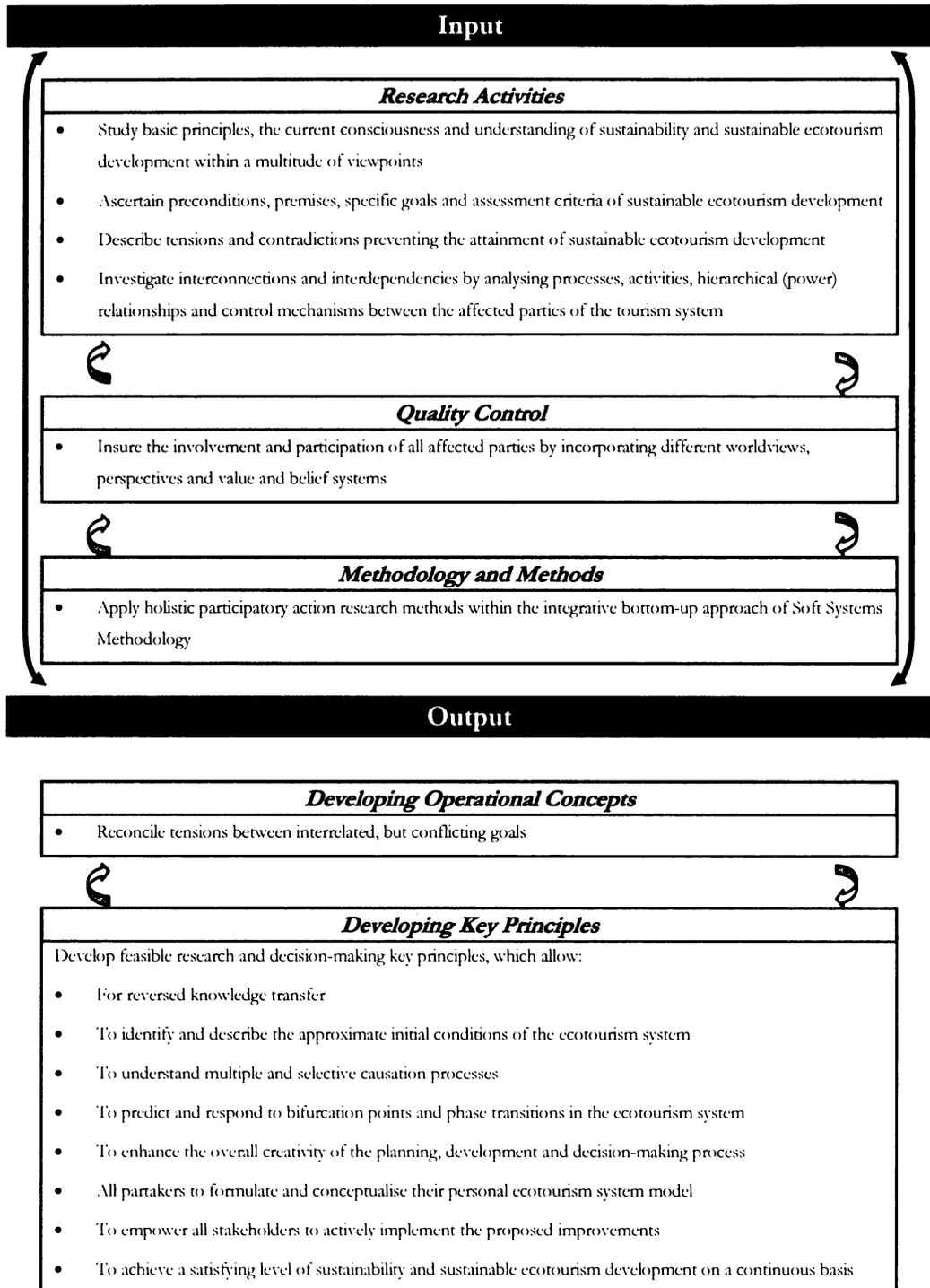
Based on the findings of the study a planning and development strategy will be promoted. Applying the underlying key principles of such a strategy will potentially reduce tensions and friction among the various stakeholders. The endorsement of the outcome by stakeholders and the level of satisfaction within the triangular relationship of host areas (including both natural and social environments), visitors and the tourism industry, regarding the sustainability and sustainable development of the ecotourism system, can be seen as a measure of “success”.

The resulting construction of key principles behind ecotourism development will have the potential to be adapted to local diversities in other communities as a viable solution for achieving, enhancing and maintaining the sustainability and the sustainable development of ecotourism.

The project should help to clarify theoretical issues by solving the original conundrum of defining and pursuing sustainable ecotourism development. The results of this research should contribute to improving New Zealand’s image as a desirable travel destination, insuring and maintaining high standards of environmental quality and balancing needs and expectations of all stakeholders in the tourism system.

b. Objectives:

Table 14 Flowchart of research goals and objectives



c. Procedure(s) for recruiting participants and obtaining informed consent:

Potential participants of this research project will initially be contacted either in person, by phone, e-mail, or post. In addition to personal contacts, some potential candidates may be found through an announcement placed on notice boards, in relevant publications (e.g. community letters), electronic clipboards and topic specific e-mail subscription lists and news groups.

A variety of local, regional, and national public and private sector bodies make up the strata from which potential candidates (the samples) will be recruited:

- Members of the wider local community, e.g.
 - Permanent and non-permanent residents, land owners and business entrepreneurs
 - Whānau¹²⁸, hapū, iwi
- Stakeholders in the tourism industry, e.g.
 - Members of professional bodies and trade associations
 - Commercial enterprises in the private sector, e.g.
 - Direct product and service providers in the mainstream tourism sectors
 - Support service providers
 - Marketing agencies
 - Non-profit organisations
- Representatives from professional institutions
 - Developmental organisations, e.g.
 - Organisations involved in planning, development and co-ordination
 - Agencies concerned with conservation and preservation of resources
 - Educational institutions and training establishments
 - Financial institutions
 - Public sector organisations (government agencies and public corporations)

¹²⁸ Family

- Visitors to the region
 - Domestic and international tourists
- Representatives from other inter-governmental, governmental, semi-governmental and non-governmental agencies and organisations as well as private initiatives and institutions involved in, or affected by ecotourism on the Coromandel Peninsula

The focus of the survey will be on regional and local stakeholders in the ecotourism system.

Where appropriate and feasible, potential participants will be contacted directly, e.g. in tourist destination areas such as tracks, backpackers, tourist information centres, cafes, etc.. They will be given a Participant Information Sheet (appendix I) and a Consent Form (appendix III).

In those cases where names and current addresses of potential participants have to be obtained beforehand, the initial contacts will be established by sending a letter providing information on the research project and the rights of a research participant (Participant Information Sheet, appendix I) to each individual or, where appropriate, group. Individuals who wish to participate in the project will be asked to complete a Reply Slip (appendix II) and a Consent Form (appendix III), which are accompanied by a stamped and addressed return envelope. They will be asked to return these to the researcher through the mail.

d. Procedures in which research participants will be involved:

Drawing on ideas from Participatory Rural Appraisal (PRA) methods and Participatory Action Research (PAR) (Chambers 1994a; b; c; Freire 1996; Rennie and Singh 1996) the study focuses on the application of a modified version of Checkland's Soft Systems Methodology (SSM) (Checkland 1981; Checkland and Scholes 1990) as a means of structuring a debate leading to key principles underlying decision-making strategies.

Participants will be involved in questionnaires, interviews and group discussions. A multiple-stage survey design followed by participatory action research methods will be used in this study.

The questionnaire survey:

Based on the Delphi Technique (Mowforth and Munt 1998), an iterative questionnaire survey will be carried out in the first stage. Each participant who freely consents to be involved in the questionnaire survey will receive a questionnaire to complete. The initial questionnaire will consist of multiple-choice questions, various measurement scales and open-end questions. It should take approximately 5 to 10 minutes to complete the questionnaire.

In-depth interviews:

When a close enough consensus has been achieved, using the Delphi Technique, an in-depth interview of individual informants selected from the original sample on the basis of their questionnaire responses will take place. However, it is expected that some individuals may refuse to be interviewed. Individuals who have not taken part in the questionnaire survey may nevertheless be involved in the interview survey as well as in the focus group research.

An interview guide will be developed for an open-ended, semi-structured interview. The interview guide will consist of a number of predetermined topics prepared by the researcher before the interview takes place. The interview will serve to engage the participant in a discussion about her/his sustainable ecotourism (development) expectations and experiences, the accompanying feelings, attitudes and beliefs that influence the perception, interpretation and understanding of sustainability, sustainable development and ecotourism.

Participants who agree to participate in this part of the study will be interviewed individually. Most of the interviews will be carried out face to face on the Coromandel Peninsula. These interviews may be conducted in the participant's own home, her/his temporary holiday accommodation, or in an office setting where privacy can be guaranteed. Each interview will take about one hour to complete. However some of the interviews, especially with tourists who have since returned to their countries of origin, may be carried out on the phone, or via netmeeting.

With the permission of the participants, the interviews will be tape-recorded and later transcribed. No tape recording will be used if the participant does not want the interview to be taped.

Focus group research:

Group interviews and debates among individuals and interest groups based on the ideas of Participatory Action Research (PAR) methods will preferably, but not exclusively, involve participants who have completed and returned the initial questionnaires, who have been interviewed individually and who volunteer to participate in group sessions.

The discussion will involve a description of current conditions, a comparison of conceptual models with operational models of “real-world” arrangements and an agreement on necessary trade-offs. It is anticipated that the bottom-up approach will unlock unutilised potential by achieving the synergistic effect of brainstorming, or ‘supersum’ thinking; that it will lead to an enhanced overall creativity in the decision-making process and result in optimised trade-offs. The final outcome should entail a definition of desirable changes and possibly result in constrained decisions about

implementing agreed changes (Checkland 1981). It is anticipated that the location for the group interviews and discussions will be a place as neutral as possible.

With the acknowledgement of all participants, the discussion will be audiotaped and later transcribed. No tape recording will be used if any of the participants does not grant permission for the debate to be recorded.

e. Procedures for handling information and materials relating to human subjects during the course of the study and upon its completion:

The researcher will keep all data collected in this research in a safe place, where they will remain confidential and safe from public scrutiny. Only the researcher and an assistant, who will help coding the questionnaires and transcribing the tapes, will have access to the raw data. The assistant will treat all data as confidential and will not discuss them with anyone other than the researcher. If requested, the audio tape will be sent back to the participant(s) when the study is finished.

No participants' names, or other identifying characteristics, will be disclosed in any of the written reports produced in the course of the research.

ETHICAL CONCERNS

a. Access to participants:

Current contact addresses of potential participants will be obtained through personal contacts and other means such as notices placed on notice boards, in relevant publications (e.g. community letters), electronic clipboards and topic specific e-mail subscription lists and news groups.

b. Informed consent:

In general the participants' agreement to participate will be obtained in writing before they fill out a questionnaire and before they are interviewed, or participate in group discussions (see appendix III). In some instances a conversation might "evolve" into an interview. In these cases the participant's agreement to use the information will be obtained just before, or during the interview.

c. Confidentiality:

All data collected and processed in the course of the research will be treated as strictly confidential. No names or other information that could identify any individual participant will be used in any written reports including the final DPhil thesis.

d. Potential harm to participants:

None, as long as confidentiality and anonymity are preserved.

e. Participants right to decline:

At all phases of the research, the researcher will make clear to prospective participants that their participation is voluntary, that they are free to withdraw from the research at any time, or to decline to answer any individual questions. If after participating in the survey the participants change their mind and decide that they would rather not be involved, they will have the right to request the erasure of any materials they do not wish to be used.

f. Arrangements for participants to receive information:

All participants will be asked if they wish to receive a summary of the research findings free of charge. They may request and receive copies of publications from the research at their own expense.

g. Use of the information:

Conference papers, journal articles, book chapters and a DPhil thesis.

h. Conflicts of interest:

None

i. Other ethical concerns relevant to the research:

None

ETHICAL STATEMENT

Ethical standards specified in the University of Waikato's policy guidelines for research involving human subjects will apply to this project.

LEGAL ISSUES

None

REFERENCES CITED IN THIS APPLICATION

All references cited in this application are included in the Reference List.

SIGNATURE:

Date: Friday, 28 May 1999

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