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ICTs for Whose Development?

*A critical analysis of the discourses surrounding an ICT for
Development Initiative for a group of microenterprise entrepreneurs
operating in the Jamaican tourism industry:
Towards the development of methodologies and analytical tools for
understanding and explaining the ICT for Development Phenomenon*

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ABSTRACT

ICTs for Whose Development?

*A critical analysis of the discourses surrounding an ICT for Development Initiative for a group of microenterprise entrepreneurs operating in the Jamaican tourism industry:
Towards the development of methodologies and analytical tools for understanding and explaining the ICT for Development Phenomenon*

This is an interdisciplinary qualitative study which uses an exploratory research design and builds on Fairclough's Critical Discourse Analysis methodology to analyze the discourses surrounding an Information and Communication Technology (ICT) for livelihood development project in Jamaica, introduced by the United Nations Development Programme – the Jamaica Sustainable Development Networking Programme (JSDNP). The primary objective of this project is to provide the poor in Jamaican communities with access to, and training in ICTs. In this research, I specifically focus on the discourses surrounding the JSDNP Cybercentre Project for a group of microenterprise entrepreneurs in the Jamaican tourism industry to access the epistemological assumptions of this project.

From the data collected it was found that at one level, the JSDNP Cybercentre Project encouraged specific ways of acting and organizing congruent with the configurations, processes and structures of corporate firms of industrialized countries, by representing the achievement of livelihood expansion through the use of specific ICTs in a particular way which excluded other discourses. The particular ways of acting and organizing promoted by the Cybercentre encouraged the use of non-indigenous technologies, undervalued indigenous technologies and excluded the indigenization of non-indigenous technologies.

These discourses were incompatible with the operational and structural configurations of trans-temporal poor entrepreneurs interviewed and were more favourable to the non-poor and spatio-temporal ones. One of the wider implications of the discourse therefore was that they play a fundamental role in

perpetuating entrenched inequalities through the preservation of social practices, along with their associated systems and structures.

It was also found that these modalities limited the operational processes of all microenterprise entrepreneurs who were exposed to the Cybercentre Project. These entrepreneurs have limited control over the configuration of non-indigenous technologies; their technological and creative capabilities are restricted; their ability to indigenize non-indigenous technologies impaired; and they are highly dependent on non-indigenous technologies (which themselves have a number of limitations).

Keywords: *Lloyd George Waller; Norman Girvan; Technology; Digital Divide; Information and Communication Technology; ICT, Development; Discourse; Critical Theory; Discourse Analysis; Critical Discourse Analysis; CDA; Fairclough; Tourism; Jamaica Sustainable Development Networking Programme; JSDNP; United Nations Development Programme; UNDP; Jamaica; Microenterprise; Entrepreneurs; Methodology.*

Preface and Acknowledgement

In the late 1990s to early 2000s several international development agencies began implementing various ICT for development initiatives in Jamaica. Many of these initiatives, some of which involved the use of ICTs to improve the livelihoods of poor Jamaicans, have been uncritically welcomed by the government, corporate Jamaica and civil society. At the time these international development agencies began promoting these ICT-for-development initiatives in Jamaica, I had begun positioning myself as an ‘authority’ in this field by constructing a discourse as an ICT-for-development consultant (an identity I had assumed). This identity was based on my knowledge of, and projected image of being knowledgeable about, ICT-for-development issues based on a Masters Degree programme had just completed at the University of the West Indies (Mona) which sensationalized and glamorized ICTs as a development panacea. By representing myself in this way, I was able to secure a number of employment opportunities in this space.

During that time, I had operated on the assumption that ICTs were inherently benevolent tools which could unproblematically and unequivocally engender development for all. In other words ICTs were simple tools which could do no harm to anyone but only good to everyone. It was an assumption which was influenced by the many institutional discourses which I was exposed to while doing my Master’s Degree. Indeed, these were the only representations of ICTs which I was exposed to, or allowed myself to be exposed to, at that time.

In the last five years, however, while doing this thesis, I have been resocialized/reoriented. I have come to realize that ICTs may not be the ‘development panacea’ that I had perceived them (the ICTs) to be or represented them as. I no longer socially construct ICTs as the simplistic ‘tool’ that I believed them to be and represented them as. Rather, throughout the life of this thesis, I have come to realize that ICTs may indeed be complex and multidimensional networks of tools, people and processes. In this thesis which may be problematic for some and beneficial for others. I will use this thesis to demonstrate this assumption.

This change in ideology is based on a number of objects, processes, events and phenomena to which I have been exposed since undertaking this thesis. For the most part, this has included a multiplicity of discourses on many areas of technology, development, entrepreneurship and critical ways of thinking about social life, its processes, organization, configurations, structures, institutions and operations.

Beyond these texts, however, there have been other forces that have contributed to this new emancipative discourse of mine. Here I am specifically referring to several social actors (subjects) who must be acknowledged for their role in either shaping this new and still evolving ideology of mine (represented in this thesis) or who have provided me with emotional, moral, spiritual, financial and intellectual support to complete this thesis.

First and foremost I would like to thank my parents Sybil and Lloyd Waller who have been very supportive in every way – morally, spiritually, and specifically, financially. Indeed, without their support I would have never completed this research project, nor for that matter, even undertaken it. I would also like to thank my supervisors David Swain, Sean Cubitt and Craig Height who have all provided consistent and timely, academic, logistic, administrative, intellectual and strategic guidance and direction. I am particularly appreciative of David Swain, who from time to time had to play the role of surrogate father.

I would also like to thank Pahmie Winter who adopted me on my second day in New Zealand and, whose motherly advice, complex motivational speeches, intense spiritual support and intellectually enhanced moral support will never be forgotten. If David and Pahmie were the surrogate parents, then Hume Johnson would be the sister. Hume is another Jamaican who was studying with me at the University of Waikato. Hume has played a significant role in keeping me intellectually stimulated, and emotionally grounded.

But my New Zealand family is indeed much bigger than the quintessential nuclear configuration of a mother, a father and children, it is an extended family. It also

includes: my other sister Tabita Kore who taught me that fun normalizes the mind; Ken (who died while I was on my way back to Jamaica – may his soul rest in peace) and his wife Judy Eru, both of whom would often welcome me into their homes on Sundays to chat and eat; Deena Kumar; Himesh Ranchod who was my “Everything you want to know about Hamilton New Zealand and some things you shouldn’t know Handbook”; as well as 何鹏 (Edmund), and 苏旭 (Jack) who kept me physically stable through rigorously exciting martial arts exercise routines and challenging squash matches.

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I would also like to thank my friends in Jamaica who took the time out to either call to check up on my well-being, prayed for me, or had me in their thoughts at all times. These included my extended family, as well as my friends Ann Hubbard, Dion Morrison, Karla Sue-Marriott, Merrick Richardson, Professor Anthony Harriott, Dave Grayham, Kenute Smith, Dawn Allison, Peter Jones, Paul Bourne, Donna Hope, Sonya Standley-Niaah, Izana Peart, and Deborah Hickling.

I would also like to thank the University of Waikato’s International Centre, the Department of Societies and Cultures, as well as the Department of Screen and Media. Specifically, I am most appreciative of Vivienne Kingsbury, Sonya Saunders, Dionne Taylor (International Centre), Beverly Campbell (Department of Societies and Culture) and July Rae (Department of Screen and Media) whose generosity and patience are limitless. Finally, I would also like to thank the New Zealand Government’s International Development Admittance Agency – NZAID – who provided partial funding for this PhD. Special thanks to Cecille Hemmings who had the privilege of proofreading this text.

This thesis is organized as follows. Chapter 1 outlines the research goals and objectives, research question, significance of the study as well as the theoretical

framework (and its epistemological influences) which guides this research. Chapters 2 and 3 both represent a review of various scholarships regarding technology for development. Specifically, Chapter 2 provides an overview of the main body of work on Jamaica's history with technology (production technology) for development while Chapter 3 presents the more current and global discourses on technology (information and communication technology) for development. Chapter 4 outlines the research design for this thesis. In this chapter, I focus on the methodology, methods of data collection, the sample and the methods of data analysis. Chapter 5, 6 and 7 are a discussion of the research findings. Specifically, Chapters 5 and 6 present and discuss the main themes which emerged from the data analysed, and Chapter 7 presents a discussion of the core theme.

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1

INTRODUCTION

1.1. OPENING NOTE

This is an interdisciplinary qualitative study which uses an exploratory research design and builds on Fariclough's Critical Discourse Analysis methodology to analyze the discourses surrounding an Information and Communication Technology (ICT) for livelihood development (ICTLEMD) project in Jamaica. This project is the Jamaica Sustainable Development Networking Programme (JSDNP) introduced to Jamaica by the United Nations Development Programme (UNDP) in 1998. The primary goal of this project is to enhance the capacity of people – especially the poor – in Jamaican communities to access, understand, distribute and utilize ICTs to expand their livelihoods. This, according to UNDP, is accomplished through cybercentres across the island which provides access to, and training in the use of ICTs. The project is one of many Sustainable Development Networking Programme's (SDNPs) operating worldwide which have been introduced to approximately 80 developing countries as a livelihood expansion model for developing countries. This investigation analyses the discourses surrounding several Cybercentres across Jamaica to gain some insights into the possible implications of this initiative for several microenterprise entrepreneurs operating in the Jamaican tourism industry, who have been exposed to the training offered at the Cybercentre.

This chapter introduces the thesis, the topic being studied and the epistemological roots. It is broken down into several sections. The first sections outline the goal and objectives of the research, the research questions as well as the significance of this study. Section two provides a conceptual definition of the key terms which will be used throughout this thesis. Thereafter, I outline the theoretical framework used to guide this research and the epistemological properties which contributed to the selection and use of this framework. Given the potential practical implications of this text in terms of the expected readership – policy makers,

students, ICT and management consultants – and what I believe to be the pedagogical currency of this thesis, I have attempted to keep the language as simple as possible and to clarify cumbersome, problematic or abstract concepts.

1.2. THE RESEARCH PROBLEM, THE GOALS AND OBJECTIVES OF THE RESEARCH AND THE RESEARCH QUESTIONS

1.2.1. The Research Problem

In the late 1990s to early 2000s, several international development agencies began implementing various ICTLEMD development projects in Jamaica in various areas such as agriculture, tourism, education and music, based on the use of non-indigenous technologies (see Golding and Waller, 2003). In many ways it may be argued that these initiatives have been inspired by the global discourses on ICT for development which represent ICTs as a development panacea (see Chapter 3). For the most part, these development projects have been uncritically received by the government, academia, corporate Jamaica and civil society. Although for many such discourses and the social practices they encourage are perceived as an opportunity, for others such as myself, (schooled in the discipline of development, and with knowledge of the history of development) the possibility may exist that these are the seeds of a possible emerging problem.

From my perspective such discourses and the social practices they promote, are indeed problematic for two reasons. First, Jamaica's history with non-indigenous technology for development (interchangeably - technology for development) initiatives has illustrated that although such initiatives have contributed to livelihood development and wealth creation for a few and the modernization of various spaces in the country, at least where infrastructure, manufacturing, mining, communication and agriculture is concerned, they (these initiatives) have also engendered widespread inequality, poverty, and unemployment for many (see Chapter 2 - Girvan, 1976, 1979, 1983a; 1983b; Mandle, 1985, 1997; Ventura, 1980, 1990, 1999). For example, according to Jamaican scholar Norman Girvan such initiatives have also contributed to the country's state of technological underdevelopment (in terms of skills), technological dependency and technological dysfunctionality (the ability to appropriately utilize and apply technologies for the

purposes of development) (Girvan, 1976, 1979, 1983a; 1983b). This situation, Girvan as well as other Jamaican scholars such as Arnaldo Ventura and Jay Ray Mandle argue, has had an even wider impact on the overall development of Jamaica. These issues will be discussed in detail in Chapter 2.

Secondly, and more recently, there are emerging claims that current ICT for development initiatives may be inhibiting the development of the developing world generally, and livelihood development for the poor in these countries specifically (see for example Luyt, 2004; Wade 2002; Ojo, 2004). Such alternatives suggest that the ways in which ICTs are represented, what is represented, what is not and who is doing the representations are problematic, and that the promise of ICTs may never be a reality for many people in the developing world. Furthermore, it has also been argued that in some cases these technologies may even contribute to the very same poverty, inequality and underdevelopment they claim to address. These issues will be discussed in Chapter 3.

Given these outcomes, I argue that there exists a genuine need to understand the configurations surrounding this new ICT for development drive in Jamaica and its possible implications for the people of Jamaica. And, I do so by focussing on discourse as a unit of analysis (process)¹.

1.2.2. Goals and Objectives of the Thesis

Based on the above problematic then, the goal of this thesis is to seek to understand and explain the discourses surrounding an ICTLEMD initiative of the UNDP, the JSDNP Cybercentre Project, and their implications for microenterprise entrepreneurs operating in the Jamaican tourism sector. I do this by critically analysing the discourses surrounding the JSDNP. The units of analysis (group) are a group of microenterprise entrepreneurs operating in the Jamaican tourism industry who have been exposed to ICT for livelihood training offered at Cybercentre across Jamaica. I have also drawn on the experiences of other persons involved in this initiative at both the policy and implementation level (Policy Makers and Project Managers) to achieve this goal. In achieving this goal, the

¹ Babbie noted methodologist argues that there are different types of 'units of analysis' which can be simultaneously analyzed to understand a phenomenon. These include aggregates, processes, groups individuals and institutions.

primary objectives of this thesis are (1) to identify, as well as to critically analyze the discourses surrounding the JSDNP Cybercentre Project, (2) to critically assess the implications of these discourses on a select group of microenterprise entrepreneurs in the Jamaican tourism sector who have been exposed to this project and (3) to develop an appropriate methodological and analytical tool for analyzing, understanding and explaining the possibilities or problematic of an ICT for development initiative.

1.2.3. The Research Questions

Mills (1959) tells us that as academics we need to critically analyze social phenomena and ascertain their effects on societies, groups and individuals in order to understand and make better sense of a phenomenon, and to describe and explicate them, not only for ourselves but for others. This will help others to be aware of the social relationships between themselves and the phenomena, and how 'it' (the phenomena) affects their lives. To these ends, and based on the aforementioned problems, this research sought to answer the following questions:

- a. What are the discourses surrounding the JSDNP Cybercentre Project?
- b. What, if any, are the implications of these discourses on microenterprise entrepreneurs operating in the Jamaican tourism industry who have been exposed to these projects?

The UNDP (which has several ICT for development projects in Jamaica) was selected from among a number of international development agencies undertaking ICTLEMD initiatives in Jamaica for a number of reasons, some of which are explained in section 4.6.1. of Chapter 4. The most dominant of these, however, was my familiarity with the processes and structure of this organization which made information easily accessible, especially documents and archival records.

While reading this thesis, it is important for readers to be cognizant of the fact that I have worked with this organization for almost four years in the capacity of consultant on ICT for development initiatives but not directly (but rather indirectly – setting in meeting and reviewing and providing comments on reports) the JSDNP Cybercentre Project. Although many, especially positivists, may argue

that such a politics can bias results, and perhaps they may indeed do, I believe that my knowledge of the inner workings of UNDP and the organization's ICT for development portfolio can be put into effective use in the analysis of the data collected. In addition to this, and more importantly, I have adhered to specific processes and utilized several tools known to minimize bias including more contemporary instruments such as reflection. Chapter 4 presents a more detailed discussion of this.

Of the many ICT for development projects of the UNDP, I have focused my attention on the Jamaica Sustainable Development Networking Programme (JSDNP), a Cybercentre Project which seeks to develop the capacities of Jamaicans to be able to access and use ICTs in the achievement of livelihood expansion. My interest in the JSDNP is based on the fact that at the genesis of my research, this initiative, more so than the others, had reached a stage which I considered ripe for analysis. The project had been in operation for more than three years (the longest of all the ICTLEMD initiatives).

My decision to focus on tourist entrepreneurs was accidental. Several entrepreneurs were interviewed for this study most of which happened to be tourist workers. Based on this pattern I had decided to focus on this group of entrepreneurs. This discovery was very welcome given:

- my previous knowledge of the tourism sector as a development tool based on a brief exposure to the topic during my undergraduate years at the University of the West Indies (Mona), Jamaica;
- the problems which many microenterprise entrepreneurs face in the industry with regard to competition and access to international markets, and the promise by several international development agencies that ICTs can address these problems;
- the relatively scant scholarly attention given to ICT for livelihood expansion in Jamaica through microenterprise development in the Jamaican tourism industry (a gap in the literature) and;
- the importance of the tourism industry to the development of Jamaica. This will be discussed in Chapter 5.

1.3. KEY TERMS USED IN THIS THESIS

There are several common terms which are used throughout this thesis which need to be defined and explained before we proceed. This will help the reader to understand what and who will be represented in this thesis, how and in what way they are represented and the meanings behind such representations. These terms include: *discourse*, *development*, *information and communication technology (ICT)*, *ICT for development and livelihood expansion*. Too often, in writings on ICT for development the key terms used throughout the publication are not defined. This often leaves the reader trying to place terms in a specific context. This does not do justice to the objectives of the writer as different people habitually ascribe different meanings to different words. I do not wish to follow this trend.

1.3.1. Discourse

This research project draws heavily on the works on discourse by Foucault (1972, 1977, 1980, 1981, 1984), Weiss and Wodak, (2002), Harvey (1996), Macdonell (1986), Purvis and Hunt, (1993), Fraser (1997) and particularly Fairclough, (1989, 1992, 1995a, 1995b, 1995c, 2003) and Chouliaraki and Fairclough, (1999).

Discourse, like many words in the social sciences is value-laden. Foucault (1972) argues that discourse is a way of constituting knowledge about a particular topic at a historical moment through language in speech and text (statements) which shape or are shaped by institutions, situations and structures. Words, he argues, are constituted by discourse, and these discourses help to identify a subject's characteristics and possibility. Discourse provides an image about the reality of the subject (individual, group, institution), and how meanings are constructed in certain situations.

Macdonell (1986) defines discourse as a process of social exchange which is organized around rules and regulations involving social intercourse; Harvey (1996) explains that it is a combination of languages bounded together to represent the world; Gee (1999) that it is the use of language to socially identify

and position oneself; and Parker (1992) “a system of statements which constructs an object” (Parker 1992: p.5).

Fairclough, (1989) whose definition of discourse I have subscribed to, discourse is the “whole process of social interaction of which text is just a part” (Fairclough, 1989: p. 24). Discourse includes language forms (written and spoken) which “operate conjointly with vocal and visual elements (depiction, gesture, graphics, typography), in the context of meaning-laden architectures, with the semiotics of action itself, and with music or other extra-linguistic auditory signs (Fairclough, Graham, Lemke and Wodak, 2004: 5). Discourse, Fairclough (2003) further argues, is not only preoccupied with the analysis of texts (eg books, transcripts, letters, pictures or the colour of a t-shirt, music, a dance piece, the lay-out of an office, the communicative process of social actors and so on), but is more a matter of discriminating the systems and regulations which govern bodies of texts and the processes which texts themselves govern dialectically.

Discourse also includes ‘other elements’ sometimes referred to as ‘social practices’, or ‘moments’ of social life or ‘extra-discursive elements’ (Fairclough, 1995a, 1995b, 1995c, 2003; Harvey, 1996). Moments, social practices or extra-discursive elements (used interchangeably in this thesis) are relatively stabilized forms of social activities. The literature identifies two different types of these moments. These are discursive practices and socio-cultural practices. Discursive practices include material practices, beliefs, attitudes, values, desires and institutions/rituals (Chouliaraki and Fairclough 1999: p. 28). It can also include power and discourse (Harvey 1996: p. 78), as well as forms of consciousness, time and space, objects, instruments, subjects and their social relations and activities (Fairclough 2001: p. 1; Fairclough 2003: p. 205). Socio-cultural practices are the wider socio-cultural, political, ideological and institutional structures and processes in a historical context (Fairclough, 2003; See also Weiss and Wodak, 2002). The concept of social practice allows one to capture the changeability and interactive flow between social structure, as well as social action and agency and the role of discourse in this context.

Discourse internalizes the other moments without them being reducible to each other (Fairclough, 2003). In other words, these elements are dialectically related in that they are the active entanglement of relations, interactive discussions, contradictions, permutations, difference combinations, interactions, argumentation, reasoning and reactions which is likened to the process of exchanging propositions (thesis) and counter-propositions (antithesis) to produce synthesis - a socially constructed truth (either someone's truth, an agreed-upon truth, an abstraction of the truth or an imposed truth). Therefore analyzing discourse requires a form of "dialectical thinking" (Harvey, 1996: p. 49). One needs to understand the processes, flows, fluxes, circulatory framework, and relations over the analysis of elements, things, structures and organized systems (Harvey, 1996: p. 49) and how, why and in what way they were constructed. One needs to also have an understanding that "elements, things, structures, and systems do not exist outside of or prior to the processes, flows, and relations that create, sustain, or undermine them" (Harvey, 1996: p. 49). For example, discourses may produce/represent an institution, a particular time or space, can be used to describe different institutions, time and/or space, continually make and remake institutions, time, and/or space, emerge from the action of institutions, time and/or space, capture phenomena within institutions, time and or space and can exclude a particular institution, time and or space.

Fairclough (2001) explains that discourse "features in broadly three ways of social practices" (Fairclough 2001: p. 2): as genres (ways of acting or action) – interacting through speaking and writing; as Discourses (ways of representing or representation) and as particular ways of representing the world and as styles (ways of being or identification) – "particular social or personal identities" (Fairclough 2003: p. 26). It is "the relationship of text to the event, the wider physical and social world, and to the persons involved in the event" (Fairclough 2003 p 27). The relationship between ways of representing, ways of acting and ways of being, within the context of social practices, is a dialectical one. Fairclough (2001) attempts to illustrate the link between these three elements of discourse in his 2001 paper *The Dialectics of Discourse* (and more comprehensively in his 2003 publication *Analyzing Discourse: Textual analysis for social research*). He is worth quoting in length:

Discourses include representations of how things are and have been, as well as imaginaries – representations of how things might or could or should be....In terms of the concept of social practice, they imagine possible social practices and networks of social practices – possible syntheses of activities, subjects, social relations, instruments, objects, space-time,...values, forms of consciousness. These imaginaries may be enacted as actual (networks of) practices – imagined activities, subjects, social relations etc can become real activities, subjects, social relations etc. Such enactments include materializations of discourses – economic discourses become materialized for instance in the instruments of economic production, including the ‘hardware’ (plant, machinery, etc) and the ‘software’ (management systems, etc). Such enactments are also in part themselves discursal/semiotic: discourses become enacted as genres....Discourses as imaginaries may also come to be inculcated as new ways of being, new identities....Inculcation is a matter of, in the current jargon, people coming to ‘own’ discourses, to position themselves inside them, to act and think and talk and see themselves in terms of new discourses.... Inculcation also has its material aspects: discourses are dialectically inculcated not only in styles, ways of using language, they are also materialized in bodies, postures, gestures, ways of moving, and so forth.

The dialectical process does not end with enactment and inculcation. Social life is reflexive. That is, people not only act and interact within networks of social practices, they also interpret and represent to themselves and each other what they do, and these interpretations and representations shape and reshape what they do. (p. 2-3).²

What Fairclough (2003) suggest here is it is possible to argue that particular ‘ways of representing’ social life (discourses) may in many ways be enacted in specific ‘ways of acting’ (genres or social practices), and inculcated in certain ‘ways of being’ (certain styles). They can be seen together in texts as what brings subject, objects and action – the cosmologies of a phenomenon – to the fore. This is how the link between discourse, genre styles and social practices capture the structure/agency/action link discussed above. Specifically, the linkages highlight and draw attention to the dynamics of agency as well as the cosmologies of many types of structures (abstractions, theories, and institutionalized structures of

² Fairclough however also admits that it is possible for new discourse to enter an institution without being enacted or for that matter inculcated.

knowledge (Harvey 1996: p. 55). This linkage also highlights and draws attention to how the dialectics of discourse regulate and are regulated by agency, structure and action. According to Fairclough (2003), focusing on discourse can provide inroads into these other moments of social life and how they are arranged around a social phenomenon – their cause and consequences.

The notion of social practices suggests that the entire world is thus not reduced to discourse as some scholars critical of discourse analysis techniques have argued (see for example Widdowson, 1995). Rather discourse must be understood dialectically in relations to the other moments (Fairclough, 2003). This dialectical process discourse can provide an understanding of these other moments as they (the other moments) all have some form of discursive property: and thus provides a researcher with insights into the discursive processes and the dynamics of other moments.

Fairclough also suggests that discourse can have various meanings and represent a multiplicity of subjects and objects based on the audience, environment, history, position of the producer, and the recipient. Through a communicative process, discourse can position and label people in different ways (Foucault 1972; Weiss and Wodak, 2002; Harvey, 1996; Macdonell, 1986; Purvis and Hunt, 1993; Fraser, 1997; Fairclough, 1989, 1992, 1995a, 1995b, 1995c, 2003; Hall, 2003). For example discourse can define the roles of social actors - as someone who can (or cannot) bring about a change in a condition or as someone who is (or is not) knowledgeable. It can also define their status, for example, as someone who needs (or does not need) help, as someone who cannot (or can) understand complex things or as someone who is (or is not) in the lower-class, middle-class, or upper-class. Discourse can also be used to define the significance or existence of social objects. ICTs, for example, have been defined by many international development agencies as important to the development of developing countries. In the same vein, the dialectical nature of discourse can permit social actors to position and label a discourse in different ways. For example, as is illustrated in this thesis, ICTs have also been defined by several scholars as tools which may threaten the development of developing countries.

Discourse can thus be viewed as socially constitutive of, as well as socially conditioned from constituted objects, subjects, processes, events and phenomena. For example, it is constitutive both in the sense that it helps to sustain and reproduce the social status quo, and in the sense that it contributes to transforming it (Fairclough and Wodak 1997: p. 258).

Discourse is also normalized by, and normalizes social practice. For example, many people act and organize through and around discourses in specific ways. Such action helps to shape and create discourses while at the same being shaped by discourse. They (the action) represent ways of acting and organizing, and produce and are produced by imaginary projections of new or alternative ways of acting and organizing (Fairclough, Graham, Lemke and Wodak, 2004). The knowledge society, bridging the digital divide, and ICT for development may be constructed as discourses that specify ways of (inter)acting which become modes of operation. At the same time ways of inter(acting) help to shape and redefine the notion of 'the knowledge society'.

The ability of a discourse to influence social practice or the other way around is dependent on the dynamics of power. For example, the power of an institution, a group or an individual can influence social actions and relations. Harvey (1996), argues that in such instances, discourses often crystallize into 'things,' 'elements', and 'insoluble domains' or 'systems' which assume a relative permanence within a social system and or among other discourses. In some cases they may become "part of the landscape of knowledge seemingly impermeable to change" (Harvey 1996: p. 81). Through the dynamics of power, some discourses can, for example, hierarchically position themselves above other discourses and, as Chapter 5 will illustrate, have the ability to marginalize and exclude these other discourses and regulate social practices. It is for these reasons that Titscher et al. 2000) argue that power relations play an important role in discourse. Accordingly, "[p]ower relations have to do with discourse....Society and culture are dialectically related to discourse: society and culture are shaped by discourse, and at the same time constitute discourse" (Harvey 1996: p. 148). The impermeability of a discourse, they argue, is also historical and should only be understood from such a perspective as well as in relation to the particular context within which they exist.

This they further argue is important as the dialectical nature of discourse makes possible certain social practices (such as resistance to a discourse) which can undo the impermeableness of a discourse (Purvis and Hunt, 1993). This will be demonstrated in Chapter 6.

1.3.2. Development

What constitutes development today has come to occupy a variety of discourses in various spaces and in different places as well as time periods. As a discourse ‘development’ is often used to represent “aspects of the world – the processes, relations, and structures of the material world, in ‘mental world’ of thoughts, feelings, beliefs and so forth, and the social world. Particular aspects of the world may be represented differently, so we are generally in the position of having to consider the relationship between different discourses (Fairclough 2003: p. 124). As a process, development represents ways of acting, being and organizing which both reflect the thoughts, feelings and beliefs of social actors about various subjects, objects, events, processes and phenomena and at the same time, influence and change ways of representing what constitutes development. Development may thus be seen as a discourse – the development discourse.

The ‘development discourse’ is a discourse which is indeed multidimensional, encompassing many different local as well as global representations, formal theories as well as informal ways of thinking, acting, organizing and being. Some of these discourses include neo-liberalism, neo-Marxism, Orientalism, Africanism, Islamism, Subaltern Studies, pan-Caribbeanism, pan-Africanism, (as well as other types of post-colonial discourses), post-developmentalism, cultural-hermeneutic or cultural studies, feminism, post-feminism, post-modernism, post-structuralism as well as the critical-dialectical, social-democracy, indigenous development and social movement approaches to development. It also included many others which are themselves permutations of these discourses. Critical-feminism for example represents one of these permutations.

These formal theories as well as informal ways of thinking, acting, organizing and being embody the more popular ways of representing what is development in the

contemporary global political economy. Neoliberalism,³ however, represents what many would consider to be the more dominant development discourse. Each discourse prefers a different way of defining and representing development. This ‘way’ is representative of a particular goal and objective of a group, institution or individual. This may explain why it is indeed possible to view development as a discourse which may be representative of “different perspectives on the world...associated with the different relations people have to the world, which in truth depends on their own positions in the world, their social and political identities, and the social relationships in which they stand with other people” (Fairclough 2003: p. 124). The relationships between discourses “are one element of the relationship between different people – they may complement one another, compete with one another, one can dominate others” (Fairclough 2003: p. 124). For example, development discourses manifest themselves in taxonomic forms which in many ways govern the relationship between different actors. Take, for instance, the term ‘the developing world’. In many texts it is used to represent a discourse which signify countries with high levels of poverty, underdeveloped, with uncivilized practices, poor governance, inadequate information, limited in terms of knowledge-based capabilities and so on. Countries which are represented as developing are therefore represented by many as having these characteristics.

Another term, ‘the industrialized world’, has been used in many texts as a discourse to represent countries which are wealthy, sophisticated, developed, knowledgeable and information rich, and civilized. The industrialized world is viewed and promoted by many texts as a model of what is development and what the developing world ought to aspire to be. Indeed, the dichotomy between the two, the model of the latter, the state of development and the question of agency (specifically those behind deciding who are developed and who are not) are all contentious discourses which have influenced social practices between and among these countries. More so, they are discourses which have influenced the concept of self by many people living in the ‘Third World’. There are also discourses (texts

³ According to the literature, within the spatio-temporality that this thesis was constructed, Neoliberalism is the dominant discourse (Escobar, 1995; Jessop, 2000; Fairclough, 2002).

on development, the comparative analysis of the lifestyles of the peoples of both worlds)⁴ which have also been influenced by social practices.

Indeed, many, such as Sen (1999) and Escobar (1995) have illustrated, such representations are debatable. Although this thesis will not address these debates (as a debate would certainly be outside the boundaries of the goals and objectives of this study) I have, however, maintained an awareness of these debates as some of the assumptions surrounding them (the debates) have been helpful in how I interpreted the data collected for this research (see Chapters 5-7).

From the above it is thus clear that in many ways the notion of development is built on a diversity of truths and a multiplicity of assumptions. Because of this diversity, if not uncertainty, many of the aforementioned development discourses are themselves often challenged by other discourses or social practices (material practices, beliefs, attitudes, values, desires, power, discourse, forms of consciousness, time and place, objects, instruments, subjects and their social relations and activities). Very often these discourses are influenced by annual paradigm shifts in leading development institutions, or by disgruntled scholars who display ideological discontent with a particular theory and/or informal ways of thinking, acting, organizing and being.

Consequently, possibilities of defining development (or accepting a particular definition) have over the years been problematic. Development as a discourse as well as a process is certainly not static, but rather eclectic. Rist (2002) brings to life the eclectic nature of ‘the development discourse’ when he correctly asserted that:

The images associated with it, and the practice it entails, vary from one extreme to the other depending on whether we adopt the viewpoint of the ‘developer’- committed to bringing about the happiness he wishes for others – or the viewpoint of the ‘developed’ – who is forced to modify his social relations and his relationship to nature in order to enter the promised new world. And that leaves out two further viewpoints: that of the technocrat with a brief to display the originality of the institution for which he works; and that of the researcher

⁴ Indeed, it is possible to argue that many of these texts and the way in which the peoples of these countries have been comparatively represented may have well been influenced by powerful discourses and social practices in what many people term the industrialized world.

determined to prove that his chosen parameters are the only ones capable of accounting for the phenomenon under study. (Rist, 2002: p. 2).

In other words, development means different things for different people in different places and different disciplines. In this thesis, I have used the definition of development which has been promoted and used by the United Nations and its various agencies in the last decade. According to these bodies, development is the process of enhancing human capacities. For them, it is “the range of things that people can do or be in life... The most basic capabilities for human development are to lead long and healthy lives, to be knowledgeable, to have access to the resources needed for a decent standard of living and to be able to participate in the life of the community” (UNDP 2005: p. 1). It is assumed by these organizations that the expansion of human capabilities will lead to the enlargement of societal choices and opportunities. This assumption is brought to life in the second paragraph of page 6 in the 2004 UNDP Human Development Report, (HDR) which states that “human development is the process of widening choices for people to do and be what they value in life (UNDP, 2004: p. 5). This in turn, it is argued, will provide social actors with inter alia greater access to knowledge, health, education, information as well as political and cultural freedoms, social security, equity, livelihood enlargement, and greater participation and security against physical violence and harm.

This definition may be said to emerge from decades of negotiations between and within the UN and other discursive interests couched in different spaces both at the global and local levels. Based on my knowledge of these debates, this definition represents what can be considered to be a compromise in that it can be said to incorporate the voices of the different interests. Many of these different interests have for decades attempted to be included in the official position of ‘what is development’.

The definition emerges from debates going as far back as the 1980s when development was looked at narrowly – the achievement of sustainable economic growth – and, measured only by Gross Domestic Product (GDP). In the late 1980s however, it was recognized by the United Nations (based on pressure by

these other interests) that many countries had failed to achieve sustainable economic growth and therefore a broader understanding of and greater variety of practices in development was needed. As a consequence, UNDP, specifically since 1990 through its annual Human Development Report (HDR) has manufactured a broader understanding of development. This definition, they argue, recognizes that economic variables are only one factor, and that people, including their politics and culture, should be at the centre of development (an institutional discourse). It is a definition which is based on the assumption that many people in the developing world, especially the poor, are limited in terms of the choices and opportunities offered to them in achieving a better life (a life of respect and value). Thus, developing one's competences (social, technical, mental capacities and capabilities) will help to broaden the range of options and alternatives offered to them in terms of accessing and effectively using objects, subjects or processes/services, thus allowing them to lead a life of respect and value.

It is a definition which has been adopted as the guiding principles in achieving the Millennium Development Goals to which many nation states are signatories and is considered an official way of defining what development is by powerful and dominant development institutions. Nevertheless, it is a definition which is even now still being contested by many, some of whom believe that 'other'; voices are still excluded. These include social movement theorists and radical factions of Islamism (See Rajagopal, 2003; see also publications in *The Middle Eastern Quarterly*, for example).

From my perspective, this definition by the UNDP draws together many discourses influenced by various contemporary and research-specific structures. These include academia, governments, various international non-governmental organizations (INGOs) as well as various local and global non-governmental organizations. This definition has been promoted by dominant institutions and events. Since the publication of the 1991 HDR, the definition has been used in several development publications around the world and has thus become the common criteria for measuring what is development. Over the years, it has influenced both social practices where development is concerned as well as other discourses. In many respects it has also evolved over the years to reflect emerging

discourses and changes in social practices (non-discursive factors). It is widely recognized by many nations, even beyond the Millennium Development Goals of the United Nations. For example, it provides several key discursive elements for the Kyoto protocols the UN Habitat summits, the Beijing Women's Summit. It also acts as a guideline for significant processes of the World Trade Organisation's World Information Property Organisation declarations, the World Summit on the Information Society, and the World Summit on Sustainable Development as well as many other planetary conferences and summits addressing development today. Thus, the definition has become naturalized in many spaces. According to Cubitt (2005):

Since 1989 and the fall of Soviet communism, the residual possibility of a global collapse of capitalism, implicit in Samir Amin and other dependency theorists and the motivating fear of Modernisation theorists, no longer obtains as an alternative route to development. The era of globalisation is also one of global capitalism. Therefore fundamentally capitalist indicators of development, as implied by the UN definition, are not only appropriate but unavoidable. At the same time, however, the legal restraints on free enterprise in developed nations (for example the restraint on monopoly) have now become available as models of ethical accounting in developing nations as well (Cubitt S, personal communication, December 29, 2005).

This may explain why this definition is widely used by the many government agencies and institutions globally. Based on my analysis of the main ICT for development policy documents, certainly, this definition is recognized in the norm in the ICT for development arena. As this research enterprise will demonstrate, the discourses of all institutions under scrutiny in this research project subscribe to and promote this definition of what is development or what it ought to be. A review of several documents in Jamaica outlining the country's development project – the modalities, objects and subjects envisioned and promoted to achieve development - also indicate that this definition has been a guiding beacon for the current and successive governments of Jamaica, all of them signatories to the United Nations Treaty.

Thus, for these reasons I argue that my usage of the aforementioned definition is thus both practically and theoretically crucial for this research project. Indeed, I find its use appropriate in avoiding both conceptual and contextual confusions

here regarding what is development. In my quest to locate possible injustices in the current development solution offered by international development agencies, there needs to be some yardstick with which to measure the success or failure of the use of this tool - to detect whether or not development is being advanced. In other words, I am working under the intellectual assumption that what the United Nations (and who they represent) says is development, ostensibly speaking and for the purpose of this thesis, 'is indeed development' and what they represent as ways of achieving development, can actually do so. This is in no way to suggest, as Sardar (1999: p. 45) has stated, that I, (like many Third World intellectuals) have instinctively been colonized by the West and have accepted their truth, "towards a single determined future" (Sardar 1999: p. 47) (albeit the history and geopolitics of Jamaica almost makes this an inescapable reality). Rather, my reasons for using their truth in reality an attempt to ascertain whether or not what they also say are the 'tools' for achieving development (ICTs) can indeed do so. Therefore, a comprehensive deconstruction of this discourse would put me outside the boundaries of this thesis. Thus, for the moment I will accept this definition of development and operate within a Western theme so to speak.

In using this definition I am, however, aware of its many limitations for those involved in projects contesting, deconstructing and resisting the dominant development discourse – the notion that it is a 'Western' conceptualization of what development 'should' be. I am also aware of the many attempts to contest, deconstruct and resist such conceptualization (Rist, 2002; Munck and O'Hearn, 1999; Sardar, 1995, 1996, 1997; Escobar, 1995). Rist (2002), for example, suggests that such a definition is a representation of Eurocentric presupposition of what development ought to be (see also various chapters in Munck and O'Hearn, 1999). According to these critics, such representations, can indeed cripple alternative forms of, and attempts to achieve development based on other 'Third World' type models. I am also aware of the many discourses with claims of the similarities between the UN's definition of development and the current construction of neoliberalism and the ideas regarding the spread of the neoliberal agenda under the UN's rubric of development, the application of development, and the policing of development activists.

I maintain a high awareness of, and appreciation for these post-development and postcolonial projects and their relevance not only to contemporary development thinking, but also for their contributory value towards this thesis. These discourses show how power in discourse and power over discourse can assign forms and limits to knowledge, influence social practices, marginalize groups and help to preserve social structures through a cultural elitist domination of the development agenda. Several ideas of various post-development as well as postcolonial thinkers such as Escobar, (1995) Rist, (2002), Munck, (1999), Tucker, (1999), O’Hearn, (1999) and Sardar (1999) have been instrumental in helping me to interpret the data collected for this thesis. These ‘ideas’ have helped me to better understand and explain the configurations of the social relations at play as they relate to the initiatives under investigation in this research. Certainly a more critical discussion of the aforementioned and subsequent definitions especially as they relate to the ICT for development discourse, based on the findings of this research, will unarguably form a large part of my post-doctoral studies.

For now however, and in this thesis I reiterate and therefore emphasize, the goal is not to contest, deconstruct and/or resist this definition of development. Rather, this research attempts to ascertain whether the recommendations touted by a dominant international development agency as ways of achieving ‘development’ (what many construct and represent as Western ways) - through the use of ICTs - can actually engender such ends, and, if not, what other possible outcomes may be. Ironically, and, in keeping with what many may consider my ‘western theme’, I have chosen to use their presumably ‘non-western’ methodology and methods of researching to investigate this phenomenon.

1.3.3. Livelihood expansion

One abstraction of development over the years has been the undertaking of processes to address the basic needs - livelihoods - of the poor. These needs include among other things air, water, food, shelter and clothing. This discourse has been the foundation of development and the agenda of the aforementioned definition of development for decades. It was one of the many pillars of the Marshall Plan as well as President Truman’s famous Four Point Speech which together “inaugurated the development age” (Rist, 2002: p. 71). Catering for the

needs of the poor is one of the more commonsense assumptions of the development process and the appeal of development. This is the way development is represented in books and the media. Thus, rather than being on the periphery, the poor therefore reside at the centre of development. This is the reason development initiatives launched by international development agencies in the past ten years, have been directly or indirectly aimed at assisting the poor by providing them with a variety of choices to contribute to their livelihoods. This has especially been the case in livelihood expansion activities.

Livelihood expansion initiatives are attempts to improve the basic needs, capabilities, capacities and social conditions of the peoples of the developing world, especially the poor, through the provision of various opportunities. Livelihood expansion activities very often, but not always, involve the construction of roads to allow villagers better access to markets for the sale of goods, the provision of water for agricultural or health purposes or the establishment/construction of schools to facilitate the transfer of knowledge. More recently 'freedom' (Sen, 1999) as well as information (McNamara, 2003) have become important basic needs and properties of livelihood expansion.

Livelihood expansion activities can also involve various forms of income generating enterprise exercises and here is where information in particular becomes important (I will discuss this in Chapter 3). These usually include providing the poor with access, materials, and/or knowledge-capacity development regarding ways and means to improve their standard of living and now with information about markets, suppliers, resources, the weather and so on. It is this second construction of livelihood expansion activity – income generating enterprises – in which I am interested.

Income generating enterprises, especially for the poor in the developing world, are usually described as a micro-enterprise, small-enterprise or medium-sized enterprise initiative depending on the aim of the activity and the number of beneficiaries. These enterprises are usually business development exercises which include among many other activities, providing people, especially the poor, with access to business opportunities, improving: the mode of operation of a business

or people; its/their operational efficiency; response effectiveness; resource capabilities and knowledge/information/communication capacities. This can sometimes be achieved through training, knowledge based development or the provision of access points to resources – capacity building activities. Although there is much debate over what constitutes a microenterprise, from much of the literature reviewed, microenterprise initiatives tend to cater for individuals, small families and/or small groups of five people or less working towards improving their living standards and socio-economic conditions. In Jamaica as in many developing countries, this has been the standard benchmark used to categorize a microenterprise. Thus, for the purpose of this research project, this is also the standard that will be used to describe a microenterprise.

1.3.4. ICTs and ICT for development, ICT for livelihood expansion and ICT for livelihood expansion through microenterprise development (ICTLEMD)

On UNDP's ICT4D Social Enterprise toolkit website, ICTs are defined as “tools that use technology to communicate, exchange and share information” (UNDP, 2003: p. 1). On that very same website, there is a link to a Sustainable Development Network Programme (SDNP) website – SDNP Technical Terms – which outlines several of these tools. Listed among these tools are: hardware such as the telephone, facsimile, video, television, radio, computer-based or computer-mediated modes such as email, chat and news groups, list-serves, CD-ROMs as well as software applications. This definition, explanation and examples of what ICTs are (UNDP-SDNP-JSDNP's usage of the term) was the one selected to be used throughout this thesis.

According to the UN, these tools can be used to achieve poverty reduction, livelihood expansion and contribute to the advancement of developing countries (UNDP, 2001a, 2001b, 2001c) human capabilities. The UN suggests that these tools can be used to provide persons with access to: potable water (*ICTs for water*); improve the conditions of women (*gender and ICT*); provide people with access to health care (*ICT for health*); improve access to educational services (*ICT for education*); enhance one's democratic rights and access to government services (*ICT for governance*) or provide the poor with access to resources which help in improving their basic needs, capabilities, capacities and social conditions

through capacity building activities (*ICT for livelihood expansion*). The expanded term '*ICT for livelihood expansion, through microenterprise development*' (*ICTLEMD*) extends the definition of the latter to capture initiatives which attempt to provide microenterprise entrepreneurs, especially poor ones, with access to business opportunities, improving: the mode of operation of a business or people; its/their operational efficiency; response effectiveness; resource capabilities and knowledge/information/communication capacities through the provision of ICTs repeated from above (UNDP, 2001b). *ICTLEMD-T* is specific to ICT for livelihood expansion, through microenterprise development in the tourism sector.

On the aforementioned ICT4D Social Enterprise toolkit website the organization claims that “the inclusion of ICT strategies in development programs such as the UNDP indicate that there is now an acceptance that ICT can assist in achieving broader development objectives.” (UNDP, 2003: p. 4). This is indeed a true indication of how normalized is the assumption that ICTs can engender development. Following Cubitt however, and as will be demonstrated in this thesis, the aforementioned list of ICTs upon which these assumptions are made – ICTs as tools needed to achieve livelihood expansion and development – may be seen as inadequate and does not capture what Cubitt refers to as “the complexity underlying the simplifications of dominant ICT for development discourse” (Cubitt, S, personal communication, December 29, 2004). According to Cubitt (2005), ICTs include:

- computers and wireless devices, peripherals and storage instruments;
- software applications;
- network infrastructures and the technical protocols they require such as SMTP, TCP/IP, FTP; particularly significant are security (SSL) and privacy (P2K) protocols for e-commerce and commercial surveillance (cookies etc) and
- legal and regulatory frameworks such as patents, copyright etc (i.e. these are not contextual to ICT: they are integral) (Cubitt, S, personal communication, December 29, 2004)

What is also important, Cubitt suggests, is the interrelationship between these components, how they are articulated into a network and how the network affects and is affected by social practices. This suggests that ICTs are much more than tools. ICTs are actually a wide range of infrastructures, instruments, objects, processes, protocols, metacodes and devices which when combined

facilitate the creation, retrieval, storage, processing, analyzing, management and dissemination of information. Cubitt (2005) is concerned that “documents which do not address this range of activities in something like the breadth of this taxonomy are mystifying the technologies, and obfuscating the political decision-making which goes into the design” and, I argue the distribution configurations of technologies. According to him, the narrow definition used by UNDP which many individuals, groups and institutions world-wide have adopted as commonsense, neglects what he refers to as “ key issues in ICT policy, removing them from public debate and development strategy discussions” (Cubitt, S, personal communication, December 29, 2004). As this research illustrates, at least with respect to the cosmologies of the study, Cubitt’s concerns are well founded as the consequences of this have been counter-developmental (see Chapter 5).

1.4. THE SIGNIFICANCE OF THE STUDY

Lincoln and Denzin (2003) argue that “[t]he social sciences have undergone a kind of crisis in purpose, with more thoughtful practitioners daring to question” what is the purpose of social research and who does it or should it serve (Lincoln and Denzin 2003: p. 6). Thus this section outlines the significance of this study.

At the global level, Duncombe and Heeks (2002) argue that despite the importance of ICT for livelihood development in developing countries, “little work has been undertaken” regarding the possibilities of ICTs for livelihood development. What exists are what Muller-Flacke (2002) describes as “of anecdotal nature” (Muller-Flacke 2002: p. 2). What does exist also does not address the issues of power, knowledge and discourse and the socio-cultural and historical dynamics of the ICT for development phenomenon, issues which hve always been significant to the development process. This research attempts to address this gap. Thus at the global level, it is expected that this research project will:

- a) provide researchers, policy makers and those involved in implementing ICT for development initiatives with insights regarding the implications of

the dominant ICT for development discourses on microenterprise entrepreneurs generally and specifically in the space of tourism;

- b) develop an alternative way of theorizing about ICT for livelihood expansion through microenterprise development and specifically in the space of tourism; and
- c) identify key variables and the association between these variables (in the space of ICT for livelihood expansion through microenterprise development and specifically in the space of tourism) which can be used by researchers in more empirical and representative research projects aimed at analyzing the cause and effects of ICTs on the peoples of the developing world, and/or to explore other elements or aspects of ICT for development (gender, health, education, governance, environment, etc.), other organizations (governmental organizations, civil society, etc.), other sectors (such as energy, healthcare, immigration, textile, fashion, etc.) and/or in other countries. Such an approach may be used to test the reliability of the findings which emerge from this qualitative research (which uses an exploratory design) or to see how widespread the findings described in this research really are.

At the local (Jamaican) level no research has been done on ICTLEMD despite the many projects which have been and are being implemented. Therefore we have no way of ascertaining the effects of these technologies on the lives of the Jamaican microenterprise entrepreneurs. It is therefore hoped that this research and subsequent publications will help those involved in all forms of ICT for development research, planning and implementation at various levels, discover alternative ways of socially constructing ICT for livelihood development possibilities and outcomes. This, I believe, can contribute to more efficient policy making. It is also hoped that this thesis will educate people to the way discourse is used in social life and how it can be used to influence social practices by social actors. For Chouliaraki and Fairclough (1999), such knowledge helps people to accentuate those aspects of social life which enhance human life and change or mitigate those aspects which are detrimental to it. (Chouliaraki and Fairclough 1999: p. 4). I thus use this thesis to encourage, “discourses of resistance” (Purvis and Hunt 1993: p. 489) in ICTLEMD. Richardson and Adams St. Pierre (2005)

suggest ‘writing’ as a way to engender such change. Writing, they argue, can “disrupt the known and the real”; it is a form of “stimulation” (Richardson and Adams St. Pierre 2005: p. 967).

In undertaking this thesis I am aware that changing discourse may not mean changing other moments such as desires, deeply held fantasies and beliefs (Harvey, 1996). “This does not mean that the struggle to change discourse is redundant, merely that such struggles function as a necessary but not sufficient moment for change to occur elsewhere” (Harvey, 1996: p. 90). Given the dialectical nature of discourse in relation to the abovementioned other moments of social life, changing discourse presents a starting point for change in the other moments. This research project seeks to start that process by shifting attitudes and drawing attention to the discourse process, the importance of language and other moments and the power dynamic which can undermine the development process itself.

1.5. THE THEORETICAL FRAMEWORK

1.5.1. The Place of a Theoretical Framework

For various reasons, which I will shortly discuss, I used Critical Theory as the theoretical framework to guide this research project. My choice here, as will be explained later, is based on several epistemological influences.

Theoretical frameworks are an important part of the research process. According to Cubitt (2005):

A theoretical framework is a self-conscious set of (a) fundamental principles or axioms (ethical, political, philosophical) and (b) a set of rules for combining and applying them (e.g. induction, deduction, contradiction, and extrapolation). A theoretical framework defines the objects of a discourse, the permissible ways of thinking about those objects, and so determines the kinds of knowledge about the objects that can be produced legitimately within the framework” (Cubitt, S, personal communication, October 6, 2005).

A theoretical framework thus guides the research material used, methodologies, methods of data collection and analysis of the data and is instrumental in guiding research objectives as well as in the construction of a set of research questions.

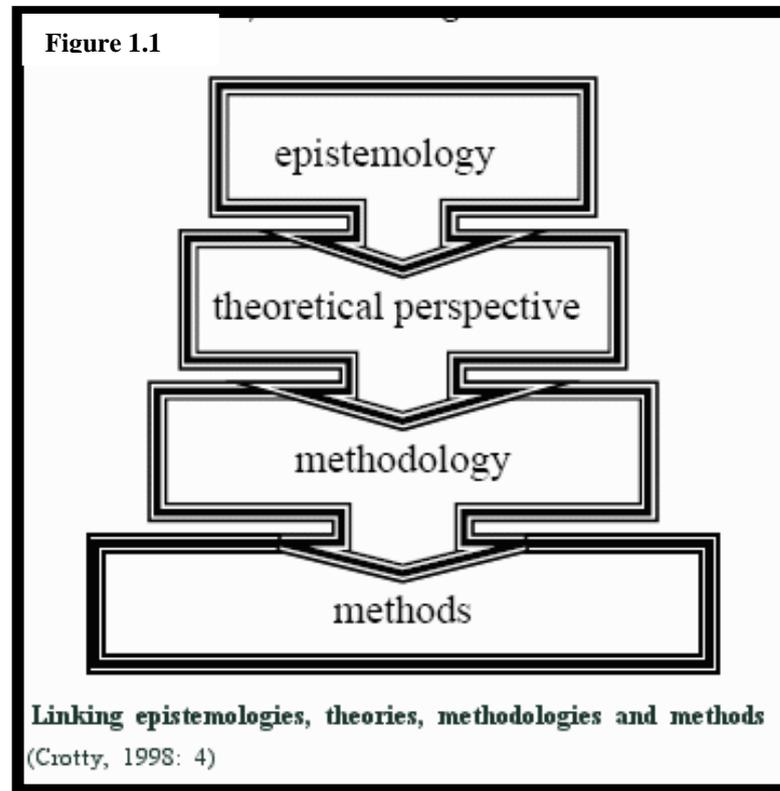
Theoretical frameworks are the entire cosmologies of belief-systems, value-systems and ideological perspectives of an individual and are often influenced by ones knowledge (based on life experiences) and their awareness of social life. In other words, “what it means to know” (Crotty, 1998: p. 10), or in philosophical terms, epistemology. Not many scholars have been able to capture this intertwined linkage between epistemology and theory, nor for that matter their connections with methodology and methods. There are however some good if not brilliant attempts such as Hughes (1990: p. 11) who, for example, tells us that:

The relevance of the philosophical issues arises from the fact that every research tool or procedure is inextricably embedded in commitments to particular versions of the world and the knowing that world....no technique or method of investigation is self-validating: its effectiveness is from a philosophical point of view, ultimately dependent on epistemological justifications....Research instruments and methods cannot be divorced from theory (Hughes 1990 p. 11).

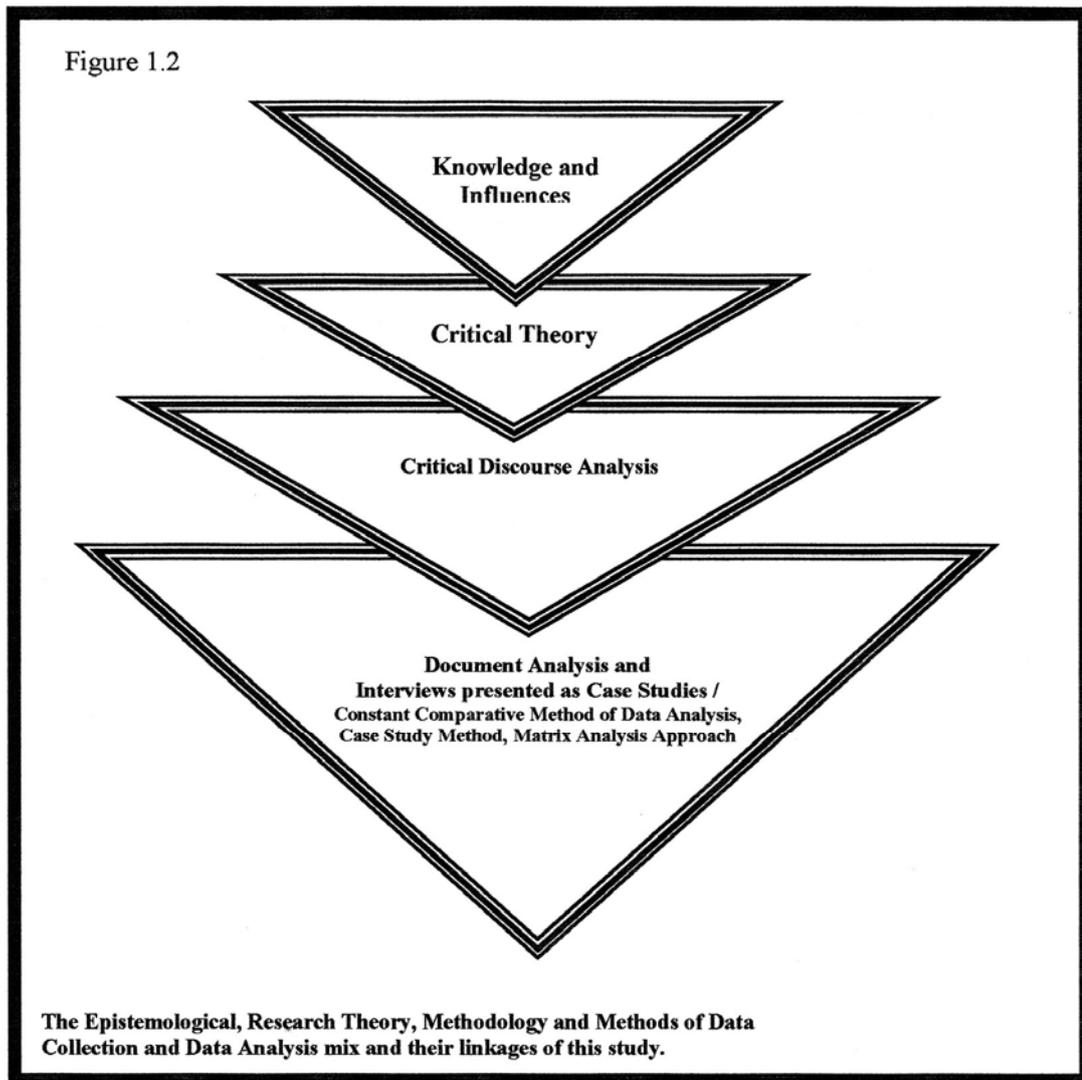
There are also others such as Neuman, (2000), Tolich and Davidson, (1999), Sarantakos (1993) as well as Denzin and Lincoln, (2000) as well as Crotty, (1998). Crotty’s work is however foremost in my mind because of the simple way in which he has captured these linkages, packaged and presented them for social sciences struggling to comprehend and more importantly deconstruct their associations. Crotty (1998), argues that “epistemology bears mightily on the way we go about our research” (Crotty 1998: p. 9). Indeed, this is a view which I also appreciate and see as important to any research project.

Crotty (1998) argues that the decision to use a particular research methodology for data collection is anchored in the assumptions and theoretical perspectives researchers may have about being in and knowing about the world. Such an ideology fertilizes a number of epistemological and ontological questions about ourselves as researchers, what we are trying to achieve, as well as how and why we are trying to achieve it. This ontology/epistemology, theory, methodology and

methods relationship is illustrated in Figure 1.1. Note, however, that Crotty has not made direct reference to ontology in his scheme. According to him the two are interdependent – “ontological and epistemological issues tend to emerge together” (p. 10). In other words they are not conceptually separate. Ontology is integrated within the epistemological experience.



I have come to find Crotty’s approach to meet my needs in this particular research as I am in strong agreement that knowledge of the research process influenced by texts and experiences suggests that methodologies and methods are indeed related to epistemological, theoretical and political/philosophical stances. Thus it was used as a guide throughout the research process. Figure 1.2 outlines the framework used in this study and how it influenced the research design. It is an adaptation of Crotty’s schema. This chapter and to some extent the next two (Chapter’s 2 and 3) addresses the first two levels – epistemology and the theoretical framework – while methodology and methods will be dealt with in Chapter 4 and the output in Chapters 5 through 7.



1.5.2. Origins and Key Elements of Critical Theory

Critical Theory (which Crotty argues has elements of constructionism and subjectivism) has been criticized for its tendency to impose the voices and values of the researcher on the groups being studied (Denzin and Lincoln 2000: p. 332). Critical theory is thus considered as any approach which politicizes qualitative research and has been labelled as political since it seeks to “upset institutions and threatens to overturn sovereign regimes of truth” (Kincheloe and McLaren 2005: p. 433). Charles Mills (1959) tell us that some critics often tend to judge the scholarly work of social scientists “according to whether or not its conclusions are gloomy or sunny, negative or constructive. The sunshine moralists want a lyric upsurge, at least in the end: they are made happy by a sturdy little mood of earnest optimism, out of which we step forward fresh and shining” (Mills 1959: p. 78). Mills however goes further to say.

But the world we are trying to understand does not always make all of us politically hopeful and morally complacent, which is to say, that social scientists sometimes find it difficult to play the cheerful idiot (Mills, 1959: p. 78).

Chouliariki and Fairclough (1999) in many ways share the same view when, in their justification of their critical approach, to analyzing discourse they paint a bleak picture of the world today, a world filled with injustices (see also Chapter 1 of Fairclough, 2003, as well as pages 5 - 6 in Fairclough, Graham, Lemke and Wodak, 2004). As social researchers, we need to understand the possibilities of a social phenomenon and the problems which it may encourage. In Jamaica, for example, an analysis of the country's history with technology of development by Norman Girvan using an Marxist approach (which has many characteristics of Critical Theory) revealed that although many Jamaicans have benefited from various non-indigenous technologies for development initiatives in terms of livelihood enhancement, most have not and have instead experienced unemployment, poverty and unequal access to resources. Indeed, in this time and place such an approach is again needed. Therefore I have chosen to use critical theory as the theoretical framework for this research.

Critical Theory, Agger (1991) explains, was developed by the Frankfurt School to "explain why the socialist revolution prophesied by Marx...did not occur as expected" (Agger 1991: p. 107) and "the changing nature of capitalism" (Kincheloe and McLaren, 2005: p. 434). It soon blossomed into reaction against the role of positivist social sciences. At the level of theory, these critical theorists accused positivism for accepting the world not simply as given but as necessarily given in the form understood by contemporary society, and as intrinsically rational (and therefore understandable by scientific rationality). Critical theory opposed these terms with the argument that the world as given is contingent (and therefore open to historical change) and intrinsically irrational because it is contradictory (i.e. understandable by dialectics).

Critical theory, on the other hand, focuses on unearthing domination, self-interest, control, hegemony and issues of power. In so doing, critical theory also attacks projects in elitist social research and promotes emancipative exercises in self-

reflection and self-criticism as the researcher is asked to question the ways in which he or she undertakes research projects and advances theories.

Kincheloe and McLaren, (2005) describe critical theory as an approach which:

...analyses competing power interests between groups and individuals within a society – identifying who gains and who loses in specific situations. Privileged groups, criticalists argue, often have an interest in supporting the status quo to protect their advantages; the dynamics of such efforts often become a central focus of critical research...critical research attempts to expose the forces that prevent individuals and groups from shaping the decisions that crucially affect their lives (Kincheloe and McLaren, 2005: p. 437).

A similar description of critical theory appears in an article by Fairclough and colleagues:

Critical social research draws upon the resources of social science to address the most pressing social problems of the day: those aspects of the structure, organization and functioning of human societies that cause suffering, injustice, danger, inequality, insecurity, and self-doubt. It has long been an assumption of critical social science that these dysfunctions are products of human invention and can therefore be changed through human intervention. It is a central concern and responsibility of critical social research to show the contingency of existing social arrangements: to expose to scrutiny claims of inevitability, claims that the way things are is the way they have to be. The critical objective is not only to identify and analyze the roots of social problems, but also to discern feasible ways of alleviating or resolving them.

Of course critical social scientists can claim no special expertise in curing social ills, but we can certainly reflect on what the problems are and how they might be resolved. Such findings will ideally have resonance for, and be taken up by, other social forces which may be able to change social life for the better. Also, critical researchers do not stand outside social life. We are a part of it, and our critical reflections are also properly seen as critical self-reflections on our own positions, motivations, and actions (Fairclough, Graham, Lemke and Wodak 2004: p. 1).

Alvesson and Deetz, (2000) postulate that the agenda of critical theory is:

1. Identifying and challenging assumptions behind ordinary ways of perceiving, conceiving and acting;

2. recognizing the influence of history, culture, and social positioning on beliefs and actions;
3. imaging and exploring extraordinary alternatives, ones that may disrupt routines and established orders;
4. being appropriately sceptical about any knowledge or solution that claims to be the only truth or alternative. (Alvesson, and Deetz, 2000: p. 8).

Critical theory is thus an emancipatory process which is committed to engaging oppressed groups in collective, democratic theorizing about what is common or different about their experiences of oppression and privilege....A constant focus is given to the material and cultural practices that create structures of oppression” (Denzin, 1998: p. 332). It is an approach which gives the oppressed a space to speak, to tell their story. This process is dialogic and collaborative as the researcher assists the oppressed through data analysis and interpretation.

Over the years, (specifically during the era in qualitative research that Denzin and Lincoln (2005) refer to as ‘the crisis in representation’ or others ‘the discourse turn’)⁵, scholars such as black critics, culturalists, queer theorists, post-structuralists, postcolonialists, postmodernists, feminists and post-developmentalists, to name a few, have refined critical theory and method, adding a number of concepts which enhances Critical Theory’s analytical capabilities. Foucault (1972, 1977, 1981), Habermas (1984) and Derrida’s (1976) for example, have introduced the importance of language in undertaking critical research. This transition termed the ‘discursive turn’ is committed to the analysis of “opaque as well as transparent structural relations of dominance, discrimination, power and control as manifested in language” (McKenna, 2004: p. 10) and thereby encourage “more practically just ways of using language” (Fairclough, Graham, Lemke and Wodak, 2004: p. 5). Exemplary examples of the application of this discourse turn have included the analysis of:

- Marketization and global capitalism

⁵ Denzin and Lincoln (2005) tell us that during this era (the mid 1980s) “researchers struggled with how to locate themselves and their subjects in reflexive texts. A kind of methodological Diaspora took place, a two-way exodus. Humanities migrated to the social sciences, searching for new social theory, new ways to study popular culture, and its local ethnographic contexts. Social scientists turned to the humanities, hoping to learn how to do complex structural and post structural readings of social texts. From the humanities, social scientists also learnt how to produce texts that refuse to be read in simplistic, linear, incontrovertible terms (p. 3).

- Problems of gender identities
- Unjust social relations - class
- Problems of national identities
- Imposed knowledge
- The oppression of minorities
- Organized violence
- Incivility
- The hegemonic transnational institutions and their control of nation states and social actors
- Global surveillance, issues of privacy and the manipulation of identities and social practices through global information and communication technologies

Many of these areas are governed by new rules, regulations in books and guidelines, speeches, contracts, rule accords, memorandum of understandings, resolutions, agreements in text/documentations and visual images from interaction, conversations with specific vocabularies and terminologies as well as sounds from television, radio and internet broadcasts which influence social behaviour – how people act and organize. Fairclough et al (2004) have come to conclude “that such issues and problems are, to some significant degree, problems of discourse” (Fairclough et al 2004: p. 2).

It is argued that through a critical analysis of discourse, researchers are able to make better sense of contemporary social problems to analyze, understand and solve them (Fairclough et al 2004). In so doing the researcher questions the power structures which maintain the status quo, identify whose power, whose knowledge, who controls the power and the knowledge, how they came to control it, who are the marginalized and the exploited, why are they marginalized and exploited, how were they marginalized and exploited, who orchestrated this marginalization and exploitation exercise and for what reason, what are the hegemonic forces at play, and, most importantly, what role does discourse play in these processes (power in discourse and power over discourse in a historical, socio-cultural and political context). The objective of this critical analysis of discourse remains true to critical theory - how can we challenge and oppose the system, with the aim of bringing about some sort of positive change? In asking these questions, history and biography play an important role.

Mills (1959) tells us that any “social study that does not come back to the problem of biography and history and their intersections with the social structure has not completed an intellectual journey” (Mills 1959: p. 4 and 143). As said by McNamara (2003: p. 8) ICT for development research “rarely includes an effort to absorb lessons from earlier, and sometimes unsuccessful efforts to introduce technologies into developing countries (e.g., automation of government ministries, television for education, radio for rural extension)” (McNamara 2003: p. 8). He has advocated for the incorporation of the historical analysis in ICT for development research suggesting:

Since the success or failure of these earlier efforts most probably had similar underlying causes, such as the enabling environment, appropriateness of the technology, human and institutional capacity, the structure of local and global markets, etc., there is much to learn from these earlier efforts (McNamara 2003: p. 8).

Guided by the critical perspective, I have incorporated a historical analysis in this thesis which I present in Chapter 2. This helps to set the context within which this research is undertaken. In many ways then, this research project goes beyond the normative levels of analysis present in the existing body of knowledge surrounding ICT for livelihood expansion through microenterprise development research (see for example O'Farrell, Norrish, and Scott, 1999; Muller-Flacke, 2002; Duncombe and Heeks, 2001, 2002; Bayes, Braun, and Akhter, 1999; Lawson and Meyenn, 2000; Lefebvre and Lefebvre, 1996; Barton and Bear, 1999), as well as those spaces specific to the tourism industry (Biggs, Goussard, Constance, and Bytheway, 2000). Indeed, the use of critical theory to tackle ICTLEMD generally and specifically within the space of the tourism industry of the developing world and the focus on discourse as a unit of analysis represents an original and alternative way of approaching this phenomenon.

1.6. CONCLUSION

It is hoped that this research will offer an alternative approach to understanding not only ICTLEMD but also other aspect of ICT for development spaces such as gender, education, agriculture, governance etc. Those involved in such projects

need to be cognizant of these 'other discourses' to fully comprehend the complex and multidimensional dynamics of the many spaces of ICT for development. Such an approach may provide an understanding of, and help in extending the range of choices about, and opportunities regarding the possibilities, potentialities and implications of ICT related projects. It is thus hoped that this research will provide policy makers with tools for shaping more holistic policy frameworks in implementing and managing ICT for livelihood development projects not only in Jamaica, and not only in the tourism industry, but possibly also other parts of the world and in other industries as well. It is possible to argue that the approach taken in this thesis, using Western methods of analysis to critique Western constructions of ways of achieving development through the eyes of a 'Hybrid' aware of postcolonial discourses and drawing on these discourses as interpretive tools may represent a new way of revealing the ways in which particular meanings are constructed through specific systems of representation or discourses and as such may shed new light on new and traditional problems. In the next chapter, using the historical method, I will attempt to provide an overview of the main body of knowledge regarding Jamaica's history with technology for development with a specific focus on the discourses surrounding the use of non-indigenous technologies in this context.

A HISTORICAL AND ANALYTICAL OVERVIEW OF JAMAICA’S EXPERIENCE WITH FOREIGN TECHNOLOGY FOR DEVELOPMENT

2.1. INTRODUCTION

In a recent study of ICT for development initiatives around the world – projects and research enterprises – a concern was raised by McNamara, (2003: p.8) that “ICT for development research rarely includes an effort to absorb lessons from earlier, and sometimes unsuccessful efforts to introduce technologies into developing countries (e.g., automation of government ministries, television for education, radio for rural extension)” (McNamara 2003: p. 8). Accordingly:

Since the success or failure of these earlier efforts most probably had similar underlying causes, such as the enabling environment, appropriateness of the technology, human and institutional capacity, the structure of local and global markets, etc... there is much to learn from these earlier efforts McNamara 2003: p. 8).

Influenced by the important arguments raised by McNamara above, as well as the criteria outlined by criticalists for a successful critical research enterprise, in this chapter I provide an overview of the main body of knowledge regarding Jamaica’s history with technology for development, using the ‘Historical Analytical Method’ (the use of reports, letters, archival records, texts capturing and original accounts of historical events, artefacts, newspapers and so on to analyze and interpret social facts and events located in history). This approach seeks to better understand a contemporary phenomenon by tracing its roots. Specifically, I focus on the events, processes, objects, and subjects surrounding the use of non-indigenous production technologies for development in Jamaica – technology for development. In so doing, this chapter attempts to establish a connection linking the existing discourses and social practices surrounding the ICTLEMD Project – the JSDNP Cybercentre (introduced to Jamaica in 1998) - to Jamaica’s history with technology for development. In this regard, the aim here is to identify possible patterns and structures which can be used to understand current discourses and social practices.

2.2. DISCOURSES ON TECHNOLOGY IN THE HISTORY OF DEVELOPMENT IN THE LATIN AMERICAN AND CARIBBEAN REGION: SOME ASSUMPTIONS, CONTRADICTIONS AND REACTIONS

In the 1950s conventional wisdom had it that “capital” was the magical ingredient needed to stimulate and sustain development in the poor countries. In the 1970s that ideological role has been to a large extent assumed by technology. We are now being told to a large extent that the single most important factor distinguishing the developed countries from the underdeveloped is the so called “T” factor – the ability to develop scientific and technological knowledge and to apply it systematically to the rapid explosion of the physical environment so as to produce an ever more abundant stream of desired material goods. And the same uncritical attitudes which before characterized the faith in capital as a development agent have in large measure been transferred to technology. Never mind that the specific relationships between technology, the political and social economy, and the alleviation of human suffering in concrete social situations have not been worked out. What is important is that technology, like capital and education, is something we must have if we are to enter the modern world, its very presence will cause strange and wondrous things to happen Girvan, 1976: p. 153)

My historical analysis of Jamaica’s record with non-indigenous or foreign technology for development (including, among other things, livelihood development) starts with the above quote taken from an article by Professor Norman Girvan - noted Caribbean scholar – which was written in 1974 and published in 1976 (which, at the end of this thesis will almost seem like a document published only last week). The assumptions present in this text – concerns about the notion of non-indigenous technologies for development – had at the time represented a set of counter arguments in Jamaica (linked to several Latin American scholars) that emerged in response to the imposition of an emerging discourse and social practice from the United States suggesting that non-indigenous technology (which Girvan defines as technology born or produced in a foreign land or region or pertaining to or intended for the natives of that land or region) was something the developing world must have if they were to enter the modern world. At the time many who promoted this philosophy were either influenced by or considered proponents, supporters of, or sympathizers to the Modernization Theory of development.

2.2.1. The Modernization Theory of Development

The Modernization Theory had emerged in the 1950s with several prescriptive assumptions about how countries emerging from colonial rule could achieve development and ‘modernity’ through modernization⁶ (Akpan, 2003: p. 261). As stated by Latham <http://www.mona.uwi.edu/government/> (2000), the Modernization Theory had its origins in the intellectual works of Walt Whitman Rostow and saw its genesis as a policy framework for Third World countries in a lecture given by him in Fort Bragg North Carolina in June, 1961 (Latham 2000). At this lecture, Latham (2000) claims that Rostow had highlighted the growing global communist threat facing the United States (U.S.) in the post World War 2 era. According to Rostow, many poor countries were beginning to turn towards Soviet communist ideals as a solution to their underdeveloped state because they were led to believe that such a doctrine could address their problems of underdevelopment – the promise of communism. According to Latham (2000), Rostow argued that the Soviets were offering communism as an attractive solution to the social and economic crisis which many poor countries were facing. Rostow represented communism as a weapon of the enemy of the U.S. – the Soviets. Rostow argued that that the promise of communism was used as a tool by the Soviets to expand their reach globally during the Cold War. Soviet communism in Cuba, armed challenges in South Vietnam and the Philippines, left-leaning governments in Indonesia, Guatemala and Iran as well as civil war in the Congo were only some of the many global shifts which Rostow used to support his arguments.

Rostow further argued that swift and decisive action was now needed by the United States of America to save the peoples of the ‘Third World’ from exploitation by the enemy. This was necessary as during that time many Third World countries were emerging from what they thought was the last vestige of colonial rule – the independence movement – and, were confused and thus vulnerable. The swift and decisive action he recommended was to promote a better alternative than what the Soviets were representing as the best solution to the problems of underdevelopment that these countries faced, communism.

⁶ Schech and Haggis (2004) correctly point out that the lines between these three are blurred.

Rostow managed to raise a level of concern among many U.S. policy makers that unstable “regimes and impoverished, discontented populations, many American policy makers argued, could only provide fertile ground for Marxist revolutionaries” (Latham 2000: p. 1). For Rostow, this intervention, the solution to this problem, was a creative process of modernization based on a model promulgated by him in his book *The Stages of Economic Growth: a Non-Communist Manifesto* (Rostow, 1960). According to Rostow, it was a model which emerged from his comparative analysis of life in the developing or Third World⁷ and the industrialized world or First World (both used interchangeably) which suggested that the development of the latter could only be achieved if they (Third World countries) were to follow the patterns of the former.

According to Latham, (2000: p. 2), in the heightened anxiety which existed in the post World War 2 era, when the Soviet Union “pledged support for the ‘sacred’ struggles of colonial peoples and promised to defend wars of national liberation...theories of ‘modernization’ proved particularly appealing to policy makers hoping to contain [the] revolutionary expansion” (to Latham 2000 p. 2) of Soviet communism. Others such as Lucian Pye, Daniel Lerner and Wilbur Schramm had joined Rostow’s cause and started to develop models of development based on the assumptions and principles of the Modernization Theory (Schramm, 1964; Schramm, and Lerner, 1976; Pye, 1963). Thus, as with the case now with the war in Iraq, scholarly inquiry “became more policy-oriented as the wartime partnership between government and university scientists was extended and the state supported research projects specifically intended to produce knowledge useful for solving military and strategic problems” (Latham 2000: p.4).

Modernization Theory was based on the assumptions that underdevelopment or lack of development in the developing world was a result of the traditional norms, technologies, values, attitudes and behavioural processes that existed among the people of these countries. More specifically, ‘Modernization’ was based on the assumption that a deficiency in the knowledge of the peoples of the developing world is partly responsible for underdevelopment (Schech, 2002: p. 13) and “the urge to develop economically and socially usually comes from seeing how the

⁷ The term ‘Third World’ when used today usually (but not always) represents both developing and underdeveloped countries.

people of the well-developed countries or the most fortunate people live” (Schramm, 1964: p. 42). In other words, for these countries to become modern, they had to adopt Western ways of life. This could be accomplished through the transfer of knowledge and techniques from the industrialized world (Rostow, 1960; Stewart, 1978). According to Munck (1999a), what this really meant was that everything would be for the best if developing countries and their people followed the US model to the letter. Merrill (2001) also shared this position when he suggested that the Modernization Theory was a “development strategy based on the transfer of North American capital, technology, and values” (Merrill, 2001: p. 181). So too does Ojo (2004) who argues that:

Modernization theory presumed that the transfer of capital goods, technologies, industries and Western norms to the developing countries would bring rapid economic productivity and social development in the developing countries, which were considered to be ancient and primitive. ...Through exposure to Western values...people in the traditional societies would become civilized and active participants (like people in modern Western society). They would also develop a psychological pattern ...called empathy.

Empathy, ...allows the individual to internalize the process of modernization by not only being able to cope with change, but expecting and demanding it...It is the psychic nexus of all the attitudes and behaviour necessary in a modern society. With higher empathy, people would be able to move out of their traditional setting and expand their horizon. They would be able to adapt to Western ways of life and culture faster, especially with the continuous spread of ideas of social mobility and changes such as urbanization, literacy, and other Western belief system in the mass media. Once this happened... these institutional developments (which had already occurred in Western nations) would lead to a take-off toward modernization. In other words, modernization is westernization. A nation is developed and modernized [or developed] when it perfectly resembles industrialized Western countries in economic structures, socio-political institutions, cultural behaviour and social-cultural attitudes to science and technology” (Ojo, 2004: p. 140).

One of the main arguments of Modernization Theorists was that the successful use of advanced technologies in the U.S.A. had engendered an age of reason, prosperity and industrialization. Advanced technologies were thus associated with rationalization and progress. Those countries without such technologies were considered non-rational and non-progressive. The non-progressive nature of these

countries, the socio-economic problem they faced, was based on their internal cultural and institutional dynamics.

The attainment of reason, prosperity and industrialization was held to occur as a natural progression through several stages of growth. According to Rostow, (1960), countries would move from a traditional society to the preconditions of take-off (a transitional stage) then to take-off, which would then lead to the drive to modernity and finally an age of mass consumption.

Traditional societies were dominated by subsistence activity. According to Rostow, this included low productive output (based on U.S. terms), pre-Newtonian science and technology as well as ideology, agrarian economies, traditional methods of trading and production practices, and the limited use of capital for productive processes. Societies which were observing the preconditions for takeoff are in the process of transition towards development. They have a somewhat more sophisticated trading system which expands to trading outside the country. There is a shift away from agrarianism as elements of entrepreneurship and modern mode of manufacturing begin to appear. So too are saving practices, investment activities, risk taking and the emergence of institutions for the mobilization of capital. Local political organization begins to take shape and replaces traditional structures of colonialism.

Take-off begins when these societies begin to switch from an agricultural mode to a manufacturing one. Economic growth and technological development in industry begins and becomes normalized. Investments and savings begin to rise from 5 % of the national income to 10% or more and new industries begin to expand rapidly and generate employment for some and more income for others, especially the emerging entrepreneurial class. The private sector begins to expand and steadily grows in a sustainable way which generates more savings to finance further investment. Modernization embraced the classical economic model and free market capitalism which saw the market operating with as little government interference as possible. The role of the government was reduced to encouraging: massive transfers of capital and technology from the industrialized world; the development of more substantial manufacturing sectors and investment in the country's own savings; foreign aid and foreign investment.

Once take-off is achieved and mastered, countries then move toward the “Drive to Maturity”. Rostow refers to this stage as ‘maturity’. With maturity, a society moves beyond the original industries which fuelled its take-off to new creative industries. During this stage there is sustained progress as modern technologies are incorporated in the socio-economic structures of the society. New industries accelerate, firms absorb non-indigenous technologies easily, production improves, there is more social cohesion, the country is established as an international entity and there is a shift from being dependent on external goods and services to being interdependent. More technologically complex practices begin to emerge in the productive processes. A country then shifts towards an age of ‘High Mass Consumption’ which is the culmination of the drive to maturity. Here, high per capita incomes allows greater access to consumption goods - consumerism becomes a dominant practice. According to Rostow, at this stage, the consumer’s sovereignty reigns. There is a greater proportion of the population in skilled employment and social welfare and security transcends the drive towards technological development. In short, the basic needs of the peoples of the society are satisfied. Resources are directed towards the production of services for the consumers. There is domination of the service sector.

For Rostow as well as many other proponents of the Modernization Theory, at the age of high mass consumption, countries will command the mastery of techniques and the possession of useful knowledge necessary for prosperity. This mastery, Modernization theorists proclaimed, could be packaged and exported to the developing world therefore saving them from the many stages of economic growth. They could ‘leapfrog’⁸ many of the stages and thus ‘takeoff’⁹ and become ‘industrialized’.

By the early 1960s, modernization became the dominant development paradigm of the time, and was marketed by many U.S. policy makers and intellectuals as the ultimate solution to underdevelopment in the developing world (Latham, 2000) and, had a significant influence on social practices in the developing world as well.

⁸ *Leapfrog was an actual term used by Rostow in his book to represent how countries could skip over several of his stages of development.*

2.2.2. Social Practices in the Developing World: The Application of the Modernization Principles - introducing 'T' and plotting a course towards an age of 'High Mass Consumption'

As mentioned earlier, the Modernization Theory or Modernization for short (big M) had ushered in what many scholars profess to be the 'catch up approach to development' by encouraging 'Third World' countries to model their development on the processes, trajectories and dynamics of the 'First World'. Such an approach had influenced development conceptualizing and social action in many different countries, in both the developing and developed world. According to Akpan (2003) in his contribution to the ongoing debate on the cosmologies of the Modernization Theory (in an attempt to illustrate how the theory was applied in the developing world), "policy prescriptions were given accordingly and policy makers in many countries embarked on projects aimed at replacing 'traditional' values and attitudes with Western concepts" (Akpan, 2003: p. 263). In other words, much of the Cold War foreign policies of the USA were shaped by the Modernization theory and theorists (Latham, 2000). The proponents, supporters and sympathizers of Modernization, intellectuals, powerful policy makers and institutions in the USA as well as in the developing countries significantly influenced several development planning policies in a number of African, Latin America and Caribbean countries in this regard.

The dominant literature, which focuses mostly on the experiences of Latin American and African countries suggests different types of modernization-influenced models namely 'production technology-transfer model' and the 'information-transfer model' or the 'the mass media model'. Both models were based on a 'one-size-fits-all philosophy.

The production technology-transfer model was based on the premise that production technologies and techniques transferred to the Third World from the First World would provide the peoples of the Third World with the knowledge and skills to improve production processes. Under this model, the governments of Third World countries (which Rostow had stated plays an important role in modernization process) were encouraged to welcome U.S. Transnational Corporations (TNCs) to establish factories and plants in their countries. One scheme which was influenced by Modernization was the transfer of tractors to the

developing world, specifically African countries, to address what was deemed ‘the tractor divide’ – the divide between the amount of agricultural machinery in the then Third World and First World.

The mass media model, which is inherently linked to the contemporary ICT for development model (and which I would like to focus on here because of this connection) uses communication technologies such as the television and the radio to transfer information from the industrialized to the developing world about modern ways of being and acting. As Daniel Lerner put it, communication had taught people in the developing countries to expect progress and a better life; now it could teach them how to get it (Schech and Haggis, 2004: p. 208). Many proponents of this model believed that providing the peoples of the developing world especially the poor with knowledge about ‘modern’ ways of doing things would lead to improvements in the conditions of the peoples of these developing countries (Lerner, and Schramm, 1967; Pye, 1963; Ojo, 2004). These were commonly referred to as the ‘information-transfer model’ or the ‘the mass media model’. The mass media model was based on the “grounding work of Daniel Lerner (1958) and Wilbur Schramm (1964)...following the United Nations’ 1958 declaration call for a program of concrete action to build up press, radio broadcasting, film, and television facilities in countries in the process of economic and social development” (Ojo, 2004: p. 139). It is brilliantly summed up by this quote by Schech and Haggis (2004):

William Schramm...maintained that communication’s role was to “implant and extend the idea of change, to raise the aspirations of...people so that they will want a larger economy and a modernized society”.... Radio’s one way, centralized mode of communicating and dispersing information was ideally suited to this top-down approach typically of modernization theory, which taught to teach Third World people “to take part in planning and governing; to tighten their belts, harden their muscles, work longer, and wait for their rewards” ...Essentially, this model of communication assumed a modernizing elite at the national level (themselves previously informed by the “modern” experts of the West) who would cajole, exhort, and educate the backward and traditional masses to follow their path of modernization (Schech and Haggis, 2004: p. 209).

Schech and Haggis (2004) give us an example to demonstrate this model in action:

A group of farm-leaders meet once a week to hear a radio talk by an expert, then discuss what to do about the suggestions he makes under the guidance of a village community worker ((Schech and Haggis, 2004: p. 209).

By the early 1960s, providing communication technologies and transferring production technologies to the developing world became what many scholars such as Rostow believed was one of the constructive and creative processes of modernizing these countries.in many parts of the world. According to Schech, (2002: p. 15), it was believed that the “unique contribution of mass communication to the development process was to galvanize the population of a particular society, and thus create a climate for development...based on Western know-how” (Schech, 2002: p. 15). It was considered the “most important medium of” educating the developing world (Oshima, 1976). Outfitting the developing world with communication technologies such as radio for example, was one way of providing the people of these countries with information regarding modern values needed to change their attitudes. (Schramm, 1967).

At the global level various international organizations such as the Peace Corps, the United Nations Economic Commission for Latin America, the United Nations Conference on Trade and Development (UNCTAD), and the United Nations Educational, Scientific and Cultural Organization (UNESCO) were encouraged to spread modernization. UNESCO, for example, was mandated to “supervise the programme of concrete action that was aimed at building communication facilities in developing countries” (Ojo, 2004: p. 140), and had organized a number of meetings of experts to achieve these goals. According to Ojo (2004), by 1964 UNESCO had declared that ‘information media’ were indispensable in the progress of the developing world. It “urged every country, especially African countries, to include communication development plans in their national development policy agenda” and “introduced a metric system to track each country’s communication development” (Ojo, 2004: p. 141). Interestingly, this tracking system is similar to UNDP’s current Technology Achievement Index which emerged out of the 2001 *Human Development Report* on ICT for

development. This index tracks the information technology development of countries.

The literature also seems to suggest that by the mid 1960s, many African and Latin American countries began investing in communication technologies with the hopes of achieving the promise of modernization (Ojo, 2004: p. 141). Those who could not afford these technologies were provided bilateral aid and loans to procure or lease these technologies. In African countries, for example, many communication transnationals from the industrialized world were paid millions of dollars by the governments of various developing countries for components necessary for leapfrogging and take-off (see in Boafo, 1991). For example, according to Ojo (2004), during the modernization era, Nigeria, a country which was struggling to source funds to address problems in their tourism, healthcare, education and agricultural sector, up to US\$200 million was directly spent on communication technologies. Similar arguments were supplied by Dunn (1995) regarding social practices in Caribbean countries. Not much empirical work has however been done in this region. Much of what exists has been theoretical with piecemeal accounts.

Several elites¹⁰, (both in the industrialized and the developing world, - intellectuals, consultants, business professional and politicians – took advantage of their status and became self appointed modernizers. They were paid millions of dollars for negotiating agreements with Transnationals and other foreign firms for the procurement of equipment and leasing arrangements. Some elites in the developing world even became distributors of foreign technologies which they themselves leased or sold to local businesses and government for profit (Leys, 1996; Frank, 1981).

Unfortunately, however, for “the previously colonized countries, the anticipated economic growth was not to occur” (Akpan, 2003: p. 263). The promised development through the provision of information regarding modern ways of being and acting, either through technology-transfer or information-transfer

¹⁰ The definition used by www.dictionary.com which defined elites as ‘a group or class of persons or a member of such a group or class, enjoying superior intellectual, social, or economic status’ is the one which will be used throughout this thesis.

models influenced by Rostow's Modernization Theory did not manifest in the way its marketization had predicted (Frank, 1982; Stewart, 1978). Some scholars argue that instead many of these countries spiralled into debt and economic decay (Ojo, 2004). According to the literature reviewed, countries such as Nigeria and Ghana for example, "became seriously indebted after investing a significant amount of national capital and funds on these communication technologies, which were not useful to them" (Ojo, 2004: p. 142) and "never materialized in any economic advantage or social benefits" (Ojo, 2004: p. 142). There were even claims that Modernization as a practice had even contributed to the further marginalization of groups of people in developing countries (Frank, 1971; Obadina, 2000; Rodney, 1981). Latham claims that even a number of Americans shared these views. These volunteers had volunteered to implement various modernization initiatives around the world. On their return to the U.S.A., they rejected Washington's notion that Modernization could "produce dramatic, sweeping, and transformative progress abroad" (Latham, 2000: p. 13). This position taken by the volunteers was based on their experiences in the developing world.

One explanation offered was by Bofo (1991), who argues that the "kernel of the know-how, skills and capacity to manufacture the equipment remained in the hands of a few industrialized countries and their communication TNCs" (p. 110). In other words, whereas modernization had promoted the use of advanced communication technologies to achieve development, the peoples of the developing world were hardly and insufficiently provided with the knowledge and skills needed to understand how these technologies work, to effectively absorb (modify), use, and diffuse these technologies to bring about development. These views, which were expressed by many Modernization opponents, were, however, exactly the same as the stance taken by its proponents. Proponents of modernization argued that the failure of the approach was largely due to the types of resources and rules which existed in the developing world and the historical lack of resources and expertise which they had caused – a structural discourse (Latham, 2000). This would include the legal and regulatory system, organization of family, education, material, value and group systems, institutional framework and among other things the infrastructural dynamics. Schramm (1964) for

example was of the belief that once these structural inadequacies were addressed, modernization could be achieved.

Modernization was, however, not a failure for all in real terms. For example, many persons did significantly benefit from the various initiatives that modernization had promoted. For example, “media companies were the chief beneficiaries of the modernization programs” (Mosco, 1996: p. 123) which in reality translates into the elites - those who own the media companies, their stakeholders and affiliates in the developing and developed world. Latham (2000) also supports such claims. According to him in some instances, modernization had fostered a lucrative and long-lasting alliance between the foreign business and those local elites who Frank (1967) refers to as the *comprador bourgeoisies*. In Latin America for example, various “U.S. investors and Latin American elites enriched themselves at the expense of the impoverished peasantries” (Latham, 2000: p.8). It was largely for these reasons that many Latin American intellectuals bitterly criticized the Modernization Theory on several ideological, empirical and epistemological grounds. They suggested that the Modernization Theory and the models it promoted were top-down and nothing more than another mechanism of Western and in particular American imperialism, exploitation and control through knowledge and power. These Latin American intellectuals had conceptualized an alternative reality which they claimed modernization encouraged.

2.2.3. The Latin American Response: Dependency Theory and the Re-conceptualization of the Modernization Theory

At the time most of the criticisms came from a group of Latin American scholars to whom the literature commonly refers as the Latin American Dependency Theorists or simply *dependency theorists*. Very little criticism emerged from African scholars, many of whom are only now putting the pieces together. And much of what emerged from the Caribbean has never been popularized. These Latin American critics included among many, André Gunder Frank, Samir Amin, Raúl Prbisch, Theotonio dos Santos, Paul Baran, Walter Rodney, Rweyemamu and Fernando Cardoso (Frank, 1966, 1967, 1969, 1970, 1977; Lall, 1976; Larrian, 1989; Vernengo, 2004; Kay, 1989). Several dependency theorists had reacted negatively to the assumptions of the Modernization Theory, rejecting it outright

(Larrain, 1989; Kay, 1989). Some dependency theorists claimed that modernization's focus on the internal/local dynamics of the developing world was an incorrect approach as external/global dynamics were to be blamed for the underdevelopment of the developing world (Amin, 1976). This of course also included what they claimed to be their underdeveloped technological capacity (Stewart, 1978; Frank, 1981).

Akpan (2003) describes the main assumptions of several dependency theorists:

Dependency theorists such as André Gunder Frank and Dos Santos argued that underdevelopment is created by the unequal relationship of exchange and dependence that exists between core countries and those on the periphery. According to them, dependency is a product of an active process of unequal economic power relationship between two countries or groups of countries, and it comes in three forms: colonial, financial, and technological-industrial. Underdevelopment from the perspective of dependency can be summarized as follows: The very process that leads to economic growth and development in rich countries results in underdevelopment in poor, mostly formerly colonized countries through negative terms of trade, the debt trap and technological-industrial dependency (p. 263).

Based on these assumptions, Akpan argues, the dependency theorists prophesized that leapfrogging and take-off would not occur, and that such an outcome was impossible for many countries because their dependent relationship with others was draining the financial resources needed to invest in the preparatory exercises necessary for leapfrogging and for takeoff (Kay, 1989). There were also claims that each type of modernization model "carries with it the transfer of values and institutions" (Avgerou, 2000: p. 6) which were counterproductive to the development process of many Third World. Other critics of modernization argued that the models which the theory promoted sometimes did not meet the need of the peoples of the developing world. According to Stewart (1978), for example, many of these technologies were inappropriate for the needs of Third World. According to Rodney (1981), the consequence of this scenario has been the further underdevelopment of these countries.

This was also realized by Schramm himself who Ojo (2004) says "eventually criticized his own work (1964) and the modernization approach" and "argued the failure of the development initiatives in the developing world was due to the total

applicability of the Western-model of development in these countries” (Ojo 2004 p. 147). Schramm, Ojo claims, soon concluded that Modernization worked better as a description life in the Western countries than as a predictor of social and economic change in non-Western countries.

Quick to defend U.S. foreign policy, the Dependency Theory was attacked by U.S. academics and sympathizers in the developing world who had benefited from what modernization had to offer. The attacks were multidimensional and on many levels – from academics and policy makers. For example, at one level, it was claimed that the theory was, among many things, tautological; theoretically, not rooted in any deductive theory, contradictory, static, economistic, and at another level mechanistic, incorrect in its assumption of the monolithic structure of imperialism; stagnationist, and lacked empirical evidence or empirical fallacy (Frank, 1992: 133; See also in Kay, 1989; Muravchik, et al, 2002; Rosenzvaig, 1997; Munck, 1999a)¹¹. There are, however, those who argue that the real reason for dependency’s dislike, and its eventual demise, was its Marxist roots and elements of communism such as Amin ‘delinking’¹², all of which were a threat to US hegemonic power especially in the Latin American and Caribbean region (Munck, 1999a). Indeed this is a view I also share.

Despite its demise there are still many sympathetic to dependency. It was viewed by many developmentalists in various parts of the developing world as an invaluable analytical framework for explaining development and underdevelopment. Dependency provided an alternative model which challenged the assumptions behind ordinary ways of thinking and perceiving development.

¹¹ Munck (1999), however, tells us that there are different conceptualizations and interpellations of dependency and argues that much of the criticisms levelled at the dependency theory have been against Gunder Frank’s conceptualization and do not apply to all conceptualizations such as those of F.H. Cardoso.

¹²Delinking, required the developing world to cut all relations with the industrialized world and concentrate on their own internal issues pursuing alternative national development strategy which in most situations resembled a socialist project or what can be referred to as covert socialism. It would require declining terms of trade; downward competition to attract foreign investment; eliminating many of the corporations with deep rooted investments in many developing countries and depriving them of their wealth. Such an alternative was considered heresy by North American elites and thus as an explanation of the relationship between developing and industrialized countries, the dependency theory therefore became a somewhat “potent brew”, which sought to place the blame of underdevelopment at the feet of the hegemonic capitalistic industrialized countries of the world.

Dependency had highlighted and drawn attention to the influences of history, culture, and social positioning on beliefs and actions with regard to the process of development. These truths have become important elements in contemporary development theorizing (Mandle, 1997; James, 1997; Munck, 1999b; 2002, Castells, 1996; Wade, 2002 Blakemore, and Dutton, 2003; Burnand, 2003). It was these factors which made dependency an attractive model to many in the developing world in search of an alternative way to conceptualize development other than that which the Modernization Theory and its proponents had offered. And, Jamaica fell into this group.

2.2.4. The Reaction to the Modernization/Dependency Debate in Jamaica: The Focus on Technology

Like many developing countries, Jamaica was also smitten by modernization. According to Girvan, (1983a), modernization had:

...led to the preoccupation with increasing the quantum of transfer from the developed to the developing countries, improving the terms of transfer, and raising the share of gross national product (GNP) and government expenditure that developing countries devoted to science and technology activity (p. 10).

Girvan was specifically referring to production transfer-of-technology model (technology transfer). As mentioned earlier, very little substantive literature exists on the mass media model and thus it is difficult to report on it. Therefore in this section I will report on the technology-transfer model only as like the mass media model, understanding the configurations, similarities and differences can provide some insights into the contemporary ICT for development phenomena in Jamaica.

In Jamaica as in many other parts of the Caribbean, several multinational corporations had taken up the opportunities offered by the modernization frenzy in much the same way that communication TNCs operated under the mass media model in several African and Latin American countries and how ICT firms now operate under the current ICT for development models in various parts of the world. With the help of the Government of Jamaica and other local and global agents, these multinationals had established firms and plants in the island under various technology-transfer-for-development models which were based on the

uncritical wholesale adaptation of modernization policies promoted by USAID. For example, in 1965 Robert Lightbourne, the then Minister of Trade and Industry, had introduced several proposals to encourage US mining, manufacturing, tourism, as well as banking and insurance firms to establish branches in Jamaica under various development models which encouraged Foreign Direct Investment (FDI) and to take with them, among many other things, their technologies and production techniques. Some Jamaican scholars believed this was significantly influenced by Rostow's Modernization Theory (Jones, P. personal communication, February 10, 2006; Ventura, A. personal communications July, 13, 2004; Taylor, O. personal communication, March 11, 2006). There is however no consensus on this as there are those who share a different view (Witter, M. personal communication, March 9, 2006). Certainly, such a position (FDI initiatives in Jamaica influenced by the Modernization Theory) is indeed not far-fetched given that several archival records which I have reviewed in preparation for this chapter have indicated that much of the vocabularies and terminologies surrounding these FDI models were similar to the Modernization Theory's prescriptive chants of development, specifically the characteristics of production technology transfer models – 'leapfrogging' and 'take-off' through 'technology-transfer'. In the height of their operations, between the 1960s and the 1980s, a handful of Jamaican intellectuals influenced by the dependency debates had opposed the Government of Jamaica's policy of uncritically adopting the modernization philosophy wholesale. These intellectuals argued that the internal configurations of Jamaica which was shaped by its history and geography (external forces) were obstacles inhibiting successful implementation and execution of the modernization model in its existing form. This Girvan offered as a compromise between the internal and external divide between Modernization Theorists (the former) and Dependency Theorists (the latter)..

One set of arguments which emerged from this group was the issue of non-indigenous technology for development. And, one scholar which championed this discourse was Norman Girvan. Girvan (1983b) defined technology as 'knowledge, skills, methods and procedures associated with the production of socially useful goods and services from products of the natural environment' (Girvan, 1983b: p.

9). At the time of his publication, development was popularly referred to in terms of economic growth – higher productivity, incomes, savings and investments and Girvan, and economist, was preoccupied with production technologies¹³, the issue of the choice of technology as well as “the organization of production and the structure of social relations of production associated with particular production technologies” (Girvan, 1983b: p. 18).

Girvan did not deny the potential possibilities of technology transfer from the West to the developing world as promoted by Rostow’s Modernization Theory. For example, in a paper entitled “Working Notes on Technological Capability” Girvan (1981b) highlighted and had drawn attention to technology policies in Japan and South Korea which had contributed to the modernization of these countries. For example, Girvan argues that in Jamaica:

technology transfer was affected through the sending of thousands of students to study engineering in the West. The major sectors where technological development took place were agriculture, especially domestic food and silk production’ and capital goods industries associated with armaments, the railways and electric power (Girvan, 1981b: p 33).

Girvan however notes that in both the Japanese and South Korean cases, the government played a “critical role” in “initiating the process and providing the conditions under which” non-indigenous technology transfer type policies engendered development (Girvan, 1981b: p. 343)

Girvan claimed that this was not the approach being taken by the Government of Jamaica. Instead unmodified, untailed, non-indigenous technology for development models promoted by the Modernization Theory which were being implemented in Jamaica. This he believed was problematic and argued that “the importation of a developed-county technology, especially in unmodified form, does not necessarily lead to self-sustaining development and can exacerbate the

¹³ Girvan (1983b) defined this type of technology as the physical and chemical process of production...the materials, tools, implements and machines that are associated with these processes and structures in which they take place...the knowledge about, and the skills associated with, both the abstract and material elements of production and the people processing the knowledge and the skills, and the institutions within which they are organized (p. 15).

social, economic and environmental problems of poor countries rather than attenuate them” (Girvan, 1981b: p. 11). Girvan (1976, 1979, 1983a; 1983b) further suggests that the current internal configuration of Jamaica which emerged as a result of the country’s geography (the country’s closeness to the United States of America) as well as its culture (the meanings, values and ways of life of a particular group as well as the social practices which produce meaning (Schech and Haggis, 2004: p. 21) which has been significantly influenced by the country’s rich history of European colonialism, imperialism, and plantation slavery¹⁴ was not conducive to effectively or efficiently absorbing unmodified non-indigenous technologies and promoting development. Similar sentiments were forwarded by several other Jamaican scholars (Boodraj, 1995; Mandle, 1985, 1997; Ventura, 1980, 1990). Consequently, Girvan concluded that as a result of these specific internal configuration Caribbean countries such as Jamaica:

...cannot easily be expected to duplicate the stages of development in the technological history of developed countries. This is precisely because of the structure of relationships which presently exist between Third World economies and the economies of the developed capitalist countries, and the historical structures by which these structured evolved (Girvan, 1983b: p. 35).

Girvan further concluded that given the current internal configurations of Jamaica the adoption of such an unmodified non-indigenous technology for development model would only serve to perpetuate the country’s state of technological underdevelopment through the encouragement of dependence on foreign technologies and led to many social ills such as unemployment and poverty.

For Girvan a more appropriate approach would see technology transfer policies which fit and can enhance the internal configurations of Jamaica and the capacity of the Jamaican people. This meant developing the technological capabilities of the people so that they would be able adequately, effectively, and efficiently to absorb non-indigenous technologies to meet the development needs of the

¹⁴ According to Girvan this had led to country’s dependence on foreign technology, and its state of technological underdevelopment, both of which had consequently contributed to the inequality, unemployment and poverty that existed in the country (Girvan, 1976, 1979, 1983a, 1983b). These three outcomes were viewed as deeply if not intricately interwoven and mutually supporting.

country. The Government of Jamaica (GoJ) Girvan also argued would need to play a leading role in this process as only they had the organizational resources and power to do so effectively. His thesis was supported by scholars across the Caribbean in the heyday of dependency theory and even up to today but never popularized internationally in mainstream development literature..

To support his claims, Girvan undertook an analysis of Jamaica's history with non-indigenous technology for development. Based on Munck's (1999b) taxonomy of dependency discourses, Girvan's methodological framework would have perhaps been somewhat dissimilar to that of Gunder Frank and Walter Rodney whose recommendation was reformist/structuralist in that it had called for reforming the capitalist system both internationally and nationally. It was also dissimilar to the radical approach of Amin, Theotonio Dos Santos and Ruy Mauro Marini which promoted the replacement of the capitalist system with a socialist system (Munck 1999b p. 60; See also Vernengo, 2004). Instead, Girvan's approach was similar to that of Cardoso and Faletto (1979). It was a historical and dialectical approach which, linked the external and internal forces that impacted on the evolution of Jamaica. The next section will discuss Girvan's thesis.

2.3. JAMAICA'S HISTORY WITH NON-INDIGENOUS TECHNOLOGY AND THEIR IMPLICATIONS FOR DEVELOPMENT

Writing in the 1980s, Girvan claims that the world had witnessed three major global shifts in technological advancements. These are: the 1770s to the 1860s - the industrial revolution; the 1860s to the 1930s - the development of large-scale plant technologies, and the 1930s to 1980s - revolutionary developments and innovations in communications technologies. He advances an argument which suggests that these shifts have contributed to the economic development of some countries and the underdevelopment of others. Both outcomes, he argued, were interrelated. Jamaica was deliberately constructed as an underdeveloped country whose underdevelopment was a necessary result of its economic relations with Europe and North America (external forces) a state which was perpetuated by specific internal configurations which were themselves dialectically linked with these external forces. To qualify his arguments Girvan provided a historical map

of Jamaica's evolution in relation to the three shifts in global technological advancements.

2.3.1. Enter non-indigenous technology

Girvan's analysis starts in the 15th century. According to him, virtually all technologies that existed in Jamaica, prior to Christopher Columbus' famous visit to, and the extended stay of the Spanish in the Taino-populated country were deemed by the Spaniards as inferior in every way, while European technologies were represented as superior. These indigenous technologies, Girvan postulates, were subsequently replaced by Spanish (non-indigenous) technology during this, the first recorded period of Jamaica's experience of colonial and imperial rule and introduction to foreign influence. During this era, the Spanish destroyed most of the Tainos' technology— their handmade tools of wood, stone, bone and shell; the Taino's knowledge of medicine, fishing, wood and stone carving, writings on tree bark and on stones. Spanish technology was declared the appropriate tool necessary to accomplish the goals of the Spanish Crown – colonial expansionism, and the creation of great wealth through the productive process (Gardner, 1971), and it was said to be more efficient, and effective in achieving such needs. Over the period, Spain introduced to Jamaica shipbuilding, gold mining, and lard-making technology to replace the techniques and tools used by the indigenous people to undertake such projects (Lowe, Brown and Magnus, 2000).

These activities continued until the 1650s when the agents of British rule found their way to Jamaica (having been repelled by the Spanish forces in Cuba) and, took control of the island from the smaller Spanish numbers here. This change in regime, consolidated by the Treaty of Madrid in the 1670s, marked a new era of colonialism. A change in ownership did not, however, mean a change in European policy with regard to technology or discourses as a comparative analysis of several historical documents indicates that the importation of technologies from Europe for production, consumption and organizational processes continued steadfast. (Green, 1988; Williams, 1984; Satchell; Gardner, 1971). Foreign (now British) technology was represented as 'the' most superior of the technologies that have ever existed in Jamaica (Satchell, 2002). It was at least more powerful than

the remaining Taino artifacts and Spanish tools which had now become normalized/naturalized.

The era also marked the introduction of masses of Africans to be used as slaves in Jamaica for the production of sugarcane (Green, 1988). This ostensibly inexhaustible supply of effectively free labour reduced the demand for advanced technologies to replace scarce and expensive human labour.

2.3.2. Jamaica and technology for development during the industrial revolution

During this era (1770s-1860s) the world witnessed the emergence of revolutionary production technologies in many countries. In parts of Europe, for example, this included Lord Townshend's crop rotation technique, James Hargreaves's Spinning Jenny, and most importantly, the revolutionary steam engine.

In Jamaica, however, there were no recorded cases of local developments in production technologies. Rather, all technologies used for the production of sugar were still British in origin (Williams, 1984) – foreign technologies – and, with the advent of the industrialized revolution, more foreign technologies were being introduced to Jamaica as means of improving the productive processes of sugar. There were, however, several technologies used by the slaves for their production purposes (small farming and cooking) which they created themselves, based on designs of technologies used in Africa. These technologies were, however, considered inferior by many slaves and represented as such by the Europeans whom many slaves perceived as those with the power to define social life (Girvan, 1983a). Satchell, (2002), noted Jamaican historian, also shares this view.

2.3.3. Jamaica and technology for development during the development of large-scale plant technologies

The second period of technological development was during the 1860s-1930s. According to Girvan (1983b), around the world, this era saw:

the development of large-scale plant technologies, the rise of oligopoly and monopoly as a typical form of industrial organization which were to radically alter the economic environment within which the process of innovation took place...At the same time, the process of technological change and the development of innovation became far more formal, more

professional and more institutionalized, with formal engineering and applied science assuming strategic importance. In a number of high-technology areas such as chemistry, pharmaceuticals, metallurgy and electrical energy, invention became the business of full-time professionals working with industrial research and testing laboratories and supported by linkages with universities and basic scientific research (Girvan, 1983b: 36-37).

In Jamaica, the period saw the end of slavery. Many foreign technologies were introduced to duplicate some of the productive processes of the now freed Jamaicans. The end of slavery had seen the mass exodus of labour from many of the plantations. A system of indentureship replaced slavery. This attracted labourers from England, and many parts of Asia. The ex-slaves were defined as undeveloped by Western standards. Several British missionaries provided technical assistance in the form of training and capacity building to address this problem. According to the literature, it was thought that by providing the ex-slaves with the knowledge of Western ways of acting and being, these "underdeveloped people would modernize. Much of this knowledge transfer took the form of basic education – imported British grammar school system, comprising "reading 'riting', and 'rithmetic" (Girvan, 1983b; See also Green, 1988; Williams, 1984; White, 1983).

Green (1988), complains that the education which was provided to the ex-slaves was not totally representative of what was offered in Britain. Areas such as science and technology (indigenous or otherwise) were excluded from the instructional process. Instead, many educational institutions in Jamaica at that time offered an array of agricultural courses and all had agricultural grounds on which many students were required to work as part of their matriculation requirements. White (1983) suggests that it was the missionaries' belief that anything beyond basic reading, writing and agricultural knowledge was beyond the reasoning of the ex-slaves. Williams (1984) notes that after slavery the rationale for educating the black population was so that they would remain within agriculture in order to provide a steady labour force for the existing plantation owners. What emerged was, in reality, an educational system that created a labour force to support the emerging bourgeois class in Jamaica, which still comprised of former plantation owners and other Britons involved in colonial government. The educational system was thus viewed as important insofar as it provided the black

population with the capacity to conduct business transactions with the colonial masters.

Interestingly, even among the children of the former plantation owners and other Britons, who did receive a higher standard of education than the ex-slaves, such scientific and technological instruction was also non-existent. Rather, disciplines such as literature, law and politics were taught in their place. Cubitt (2005) however reminds us that this was not uncommon in British colonies and, drawing on the work of culturalist Gauri Viswanathan, who in her study of British colonialism reexamines colonial religious conversion, he reminds us that these humanist-type disciplines were taught in order to convince the educated classes among colonized peoples that the political and cultural values and achievements of the colonizers were of higher value than those of the colonized (Cubitt, S, personal communication, December 29, 2005).

2.3.4. Jamaica in the third period of the global technological revolution

This period of technological development begins after World War One and continues through to the time period where this chapter started – the 1970s. During this era, the world witnessed revolutionary developments and innovations in communications technologies. This period also saw the birth of the computer, remarkable mechanisms for the processing, storage and retrieval of information. The period also saw increased efforts in R&D, (Girvan, 1983b. p. 36). As stated before, there were also increased foreign direct investments and the transfer of material technologies from TNCs located in several industrialized countries to developing countries under U.S. foreign policy schemes influenced by the Modernization Theory (Girvan, 1983b).

By now sugar represented only one of the many agricultural exports of Jamaica. It was an industry whose productive processes were still dependent on the importation of technologies and technical support from Britain. Many other production technologies from the USA were introduced to Jamaica, either by Jamaican elites, U.S. firms or an alliance of the two. Some of these U.S. technologies were introduced to support other industries such as mining, manufacturing, and tourism, other areas in the agricultural sector (for example

banana)., as well as the construction of factories to assemble U.S. goods (Girvan, 1971, 1976)..

As mentioned earlier, during this era Jamaica was deeply engaged in aggressive foreign direct investment activities aimed at generating capital, promoting employment, and alleviating poverty through the model of knowledge and technology transfer. Unfortunately, however, during this period such a reality did not manifest itself as the technology transfer initiatives of TNCs did not trigger the modernization and development envisioned by Jamaican policy makers or promoted by U.S. ones either. Girvan, (1983a) notes one of the main reasons for this:

A welter of restrictive clauses and devices to protect the secrecy of the core technology ensured that the recipients never acquire effective knowledge about or disposal over the technology, nor the opportunity to engage in 'learning by doing', or to engage in their own R&D. (Girvan, 1983a: p. 42)

According to Girvan, (1983b) these outcomes came as a result of Jamaica's history with non-indigenous technology for development. As stated before, such a history created a set of circumstances which, among other things, undermined the technical ability of many Jamaicans to understand the true outcomes and possibilities of non-indigenous technology, to know what effective/appropriate technologies are and to adequately negotiate for these effective/appropriate technologies that meet the needs of all Jamaicans and/or for the development of Jamaica. Many self-appointed specialists negotiating with the TNCs had limited knowledge of the options, real costs and benefits associated with the choice, diffusion and adaptation of advanced technologies imported from industrialized countries. Very limited research was done as many of these specialists (and those whom they represented) were eager to ensure their own interests and had uncritically bought into the technology-transfer principle of Modernization. Consequently, many of the technology transfer initiatives led to the procurement of old and outdated (second-hand) technologies, skewed renting and leasing arrangements as well as trade arrangement in favour of TNCs.

In many ways then, TNCs profited significantly from these initiatives through the sale of technologies, payments for technical advice, rental of technologies and the use of cheap labour for the production and assembling of products. The Jamaican elites (many of whom had formed hegemonic alliances with foreign firms) also benefited significantly from the arrangements which led to these outcomes through contracts for the redistribution of technologies, the establishment of plants, the provision of training and other legal, information and consultancy services.

The consequence of the events of this era in Jamaica, Girvan argued, was the perpetuation of the existing dependence on non-indigenous technology as well as the technological underdevelopment of the country. Another consequence observed by Girvan was the prevalence of widespread poverty and unemployment in Jamaica. This, he argued, was in part inherently linked to Jamaica's history with non-indigenous technology for development and the country's state of technological dependency and technological underdevelopment, viewed as both a cause and a consequence. These conclusions drawn by Girvan (1983b) were also supported by Mandle (1985, 1997) as well as Ventura (1990, 1991) in their study of Jamaica history with non-indigenous technology and development.

The next section will explore Girvan's assumptions and conclusions in more depth the cosmologies of technological dependency, technological underdevelopment and their links to the underdevelopment of Jamaica.

2.4. TECHNOLOGICAL DEPENDENCE

2.4.1. Jamaica and Technological Dependence

Girvan (1983a), Mandle (1985, 1997) and Ventura (1990, 1991) argue that Jamaica suffers from technological dependency. The literature distinguishes between two different types of technological dependency (Stewart, 1978). These are: technological dependency which leads to development-dependent development, and technological dependency which contributes to technological underdevelopment and technological dysfunctionality. Technological underdevelopment is defined by Girvan as "the weakness and underdevelopment

of local science and technology institutions and, equally important their lack of integration with the local socioeconomic system especially the productive system” (Girvan, 1983a: p. 33-34). Technological dysfunctionality refers to the inappropriate application of non-indigenous technology to address a local need or the application of inappropriate technology. According to Girvan all three are interrelated and mutually supporting in “a system of technological condition” (Girvan, 1983a: p. 47).

The type of technological dependency which Girvan referred to was the latter of the two. This is the type which is influenced by as well as influences technological underdevelopment and technological dysfunctionality. Technological dependence, Girvan (1983a) tells us, is not the same thing as technological importation. According to him, a “country can import technology without becoming dependent on imported technology” (Girvan, 1983a: p. 34). They are dependent when there is a “structural propensity or continuous and systematic reliance” (Girvan, 1983a: p. 33) on technologies for local consumption, production and for organizational purposes. They are dependent when these technologies are used wholesale with “insignificant internal adoption and modification” (Girvan, 1983a: p. 34). They are not dependent when they are modifiable and adoptable as they become usable and in some cases reproducible.

Technological dependency is viewed by these scholars as a product of an ideology which is a large part of the Jamaican culture. It is an ideology, they argue, which has influenced the ways foreign technologies were represented throughout the country’s history – as superior and as a problem solving tool. These representations have been influenced by hegemonic forces over the years, have acquired a level of permanence and have also significantly influenced social practices. According to Ventura (1980) from stories passed down for generations there is a strong belief among many Jamaicans that foreign objects, subjects and phenomena are superior and that these objects, subjects and phenomena could address the problems of underdevelopment that the country then faced (in the same way they were represented as solving the problems of Jamaica over the years). Girvan (1983a) postulates that this belief made the Modernization Theory

an attractive offer and led to the uncritical acceptance of the Modernization model among many Jamaicans.

For Girvan (1980a) as well as Ventura (1990), the model was, however, problematic for many reasons. As stated before, Jamaica's history of colonialism and plantation slavery had undermined the capacity of many Jamaicans to understand the nuances of foreign technologies and their impact on the productive processes of the country, and to properly negotiate for these technologies. In addition to this, Girvan and Gillian (1990) have argued that such a model did not provide the knowledge of how to effectively modify the technologies transferred to engender development. In some cases the agreements governing the social practices of the local firm's use of the non-indigenous technology had clauses prohibiting this practice. For example, according to them and based on an examination of the terms of technological agreements in Jamaica during the 1970s:

...contractual arrangements for technology transfer are frequently circumscribed by various restrictive clauses aimed at preserving the suppliers' technological monopoly, which have the effect of inhibiting the recipients' effective assimilation, adoption and generation (Girvan and Gillian, 1990: p. 91).

Instead, modifications and upgrades were regulated by firms in the USA or their representatives – elites in the developing world. Ventura (1980) theorizes that that this was allowed by the Government of Jamaica largely because many so called technocrats were unaware of the significance of modification as they were not trained either as developmentalists or technologists but were products of the British education system which still foregrounded politics, literature and law, a policy which the Government of Jamaica is only now beginning to expand significantly to focus more on science, technology and innovation.

Girvan (1983c), even years before his work with Gillian (Girvan and Gillian, 1990), had found this social practice to be problematic. According to him:

...recipients of foreign technology should be concerned with acquiring not only the production systems that embody techniques and are the products of the application of technical knowledge.

They should also be concerned with acquiring the technical knowledge itself – or more properly, an understanding of the technical principles that underlie the system and of the way in which these principles have been applied, including the reason why specific ways of an application have been used. In the absence of this the recipient will not be able to operate the system efficiently, or to expand or modify it, and still less to replicate the system locally. Hence the recipient will remain entirely dependent on continued technological imports to provide the goods and services required for these activities. Moreover, as new generations of technology give rise to new and/or modified production systems the recipient will have no choice but to negotiate for the purchase of these systems and to pay the going prices. In these circumstances one cannot speak in any meaningful sense of a transfer of technology having taken place.

More generally, it can be said that the degree of effective transfer is synonymous with the degree to which the imported technology is assimilated by the recipient organization and host environment. (Girvan, (1983c: p. 5).

Two issues are raised here. First, that without the knowledge of how to use and manipulate non-indigenous technologies, local actors would be subjected to being monopolized and controlled by foreign entities through power relations of control and domination. This includes monopoly of supply and intellectual property rights. This has been a concern of Latin American Dependency Theorists such as Frank (1966), those preoccupied with technology and development generally (Stewart, 1978), in the Caribbean as well as Jamaica (Girvan 1983b; Mandle, 1987). The second issue has to do with the need to develop the indigenous technological capability to absorb and effectively diffuse non-indigenous technologies. Indeed, ‘need to develop the indigenous technological capability’ is intricately linked to the first issue.

A technological capability is the ability of an individual, a group or institution to understand, use, manipulate and absorb technologies, especially non-indigenous technologies, to meet their specific needs.

Girvan (1983a) argued that such a capacity is indispensable to the development process of a country. Indeed there are many National Systems of Innovation theorists whose empirical work can be used to validate Girvan’s claim (See for

example Dalhman and Frischtak, 1993, Nelson, 1993). The next section will discuss the notion of technological capability

2.4.2. Technological Capability

According to Girvan, (1981) technological capability is dependent on the stock of resources in a given society - human resources, knowledge, tools and instruments and the institutions of a society. It is a concept which is designed to “capture conceptually, precisely the idea of competence, of being able to understand, and hence control, the way in which a new technology is deployed for socioeconomic ends” (Korac-Kakabadse, Kouzmin, and Korac-Kakabadse, 2000: p. 172). This is usually measured by the flow of patents, which is often used to infer something about the quality of R&D capacity: investment in training, and the number of R&D institutions.

It also consists of the capacity to identify the most relevant technologies required for a particular purpose, to acquire them on the best possible terms, and once acquired, to assimilate and/or modify non-indigenous technology internally for the purpose of development. Ultimately, it includes the ability of an entity (firm, community or country) to create innovations from within and to apply these innovations internally as well as to market them commercially. Girvan believes that non-indigenous technologies can only contribute to the long term productivity of a developing country if local technological capabilities are in place, and if the transfer of the non-indigenous technology facilitates this process through the transfer of knowledge about how to modify and effectively use transferred technology.

Girvan (1981b) noted that technological capability had five components:

1. The existence of people with a foundation/training in the basic (scientific) aspects of knowledge relevant to the particular area of concern
2. The possession by these people of a certain amount of operational experience
3. The existence of an organization in which the skills are resident and which can harness and deploy them in pursuit of given goals

4. A Probsensol (Problem sensing and solving) mechanism within an organization. This is more than just R&D. It includes as well the organization's sensors or mechanisms for monitoring the internal and external environment, the information systems and channels linking the sensors with the planning and the goal-setting centers within an organization, these centers themselves and the centers where problems identified are studied and solutions sought. It is in this last the R & D really falls.
5. There is a certain complex of values and attitudes which are important with respect to approaching problems. These include *inter alia* those values and attitudes which inform successful organizational designs and operation, and those which relate to motivation, efficiency and hard work. (Girvan, 1981b: p. 42).

These components are also acknowledged by Mandle (1985) and Ventura (1990). They have, however, expanded this list within the context of technology transfer policies to also include the process of learning.

2.4.3. Learning to build Technological Capabilities

One important aspect of developing a technological capability is the process of learning either by doing or using (Girvan, 1981, 1983a; Lall; 1988; Kim, 1997,). Girvan (1981a) was primarily preoccupied with the process of learning-by-doing. *Learning by doing* refers to the accumulation of knowledge gained through carrying on repetitively the same kind of activities. Learning is an organic process, it is about a flow of learning about problems, opportunities, enterprises conceptualized within the context of how change might be made, and, in some cases regarding how a particular object, subject, process or phenomenon works. Learning, then, plays a fundamental role in the way people acquire substantial expertise and are able to use knowledge.

The idea behind the concept of learning is built around the notion that developing the capability of a social actor's technical skills and knowledge encourages social actors to design themselves as social learning systems. Through this process which also includes trial and error, capabilities are expanded through experience. However, experience is only one aspect. Learning may involve learning-by-operating or learning-by-doing and changing technology; more deliberate learning may involve learning through training (Bell, 1984: p. 190–201). Through the

development of technological capabilities, for example, social actors become aware of new things and the trajectories – operations, industries, cycles, tools, elements and so on. This awareness opens their eyes to a new way of looking at the world, and in many cases they become a change force and begin innovating and creating. In other words the learning process is dialectically associated with one's innovative capacities (Girvan, 1983a; Longenecker, Moore, and Petty, 2005; Nelson, 1993; Lundvall, 1992; Freeman, 1995). As it relates to technologies, social actors are better able to effectively absorb new technologies and use the knowledge acquired effectively in the utilization and diffusion of these technologies. In other words, they are better able to assimilate, modify absorb, diffuse foreign knowledge and use it to enact change.

Learning, Girvan (1983b) argues, is a factor which contributes to continuous technological change. Such a system, he suggests, plays an important role in promoting economic growth and social development but, was in many ways absent throughout Jamaica's history of productive technology. For example, as slaves the people of Jamaica were not allowed to 'tinker' with the productive technologies of the time. Neither were the free slaves allowed to interact with these technologies at any substantive level during the second shift in global technological advancement. During the third shift - which was his main unit of analysis – Girvan had argued that the policies surrounding the use of technologies represented as promoting development had remained the same. The ex-slaves were still not allowed to interact with these technologies (machines, hardware) at any substantive level which would encourage them to learn to duplicate these technologies and adapt them to local environmental and cultural traditions.

Girvan views this exclusion as having inhibited the development of an indigenous technological capability of many Jamaicans which has affected the capacity of people not only to duplicate technologies but also to modify these technologies effectively. As earlier stated, this has given rise to a situation of technological dependency and the inappropriate use of technologies. However, the outcome or consequence can also be viewed as a cause. Girvan (1983a) also suggests that the absence of an indigenous technological capability inhibits the development of local technological activities, which are deprived of the major areas of practical

work in the socio-economic system. He further suggests that “it frustrates the emergence of linkages between technology institutions and producing enterprises” (Girvan, 1983a: p. 34).

In his analysis of the non-indigenous technology for development projects existing at that time and undertaken by the Government of Jamaica as well as several local firms (encouraged under several modernization schemes), Girvan argued that previous technology transfer initiatives did not promote efficient learning and thus underdeveloped the indigenous technological capability of many Jamaicans. According to him, this underdeveloped indigenous technological capability is also itself both a cause and a consequence of the inappropriate use of non-indigenous technologies to achieve developmental needs. Girvan (1983b) concluded that:

The adaptation of inappropriate foreign technology and the occurrences of an inappropriate pattern of technical change biases the functioning of the social economy in particular ways. These characteristic biases run counter to the requirements of a process of genuine economic development (Girvan, 1983b: p. 91).

This illustrates how Caribbean countries such as Jamaica with scarce indigenous technological capabilities have had, out of necessity, to resort to importing technology as a principal means of engendering technical change in their productive structure (a practice which in many instances still continues today).

However, non-indigenous technology for development policies which were offered to countries such as Jamaica by foreign firms had also not encouraged effective learning which was necessary for many in Jamaica to be able to understand and thus modify these technologies to meet their productive needs. According to Girvan (1983a), these are the types of policies which are inappropriate – technological dysfunctionality. The inability to detect the inappropriateness of a technology is a product of a weak indigenous technological capability. All this, Girvan (1983a) argues, contributes to technological underdevelopment and a need to import further foreign technologies which, in turn, further deepens the indigenous technological inability to understand, adapt and innovate. What all this suggests is that the relationship between technological

underdevelopment, technological dysfunctionality and technological dependency is a dialectic one.

Girvan (1983a, 1983b) thus concluded that Jamaica's evolution from the time of Christopher Columbus to J.F. Kennedy did not develop the necessary indigenous technological capabilities necessary for effective absorption and effective diffusion of new technologies offered by the modernization-influenced projects which were being implemented in Jamaica during the late 1960s to early 1980s (Girvan, 1983b: p.47). He further argued that the processes surrounding the modernization-influenced projects also failed to develop these capabilities. Consequently, they only served to perpetuate and deepen technological dysfunctionality, dependency and underdevelopment.

Similar arguments are promoted by Ventura (1980, 1981), who describes Jamaica's history as one which has seen the "non-development of indigenous technological capabilities" (Ventura, 1981: p. 26). According to him, the need and thrust for a local technological capability has never seriously been cultivated (Ventura, 1980, 1990). According to Girvan (1983a, 1983b) and Ventura (1980, 1981) more than a century of colonialism and technological dependence has created a situation where many of the children of the slaves have become accustomed to and comfortable with the importation of non-indigenous technology. Although there are a few who are technologically capable (primarily the elite), not enough exists to engender the kind of synergy required to enable development (Mandle, 1985). Girvan (1983a, 1983b) and Ventura (1980, 1981) as well as Mandle (1985), used this discourse to explain a number of problems in Jamaica regarding the country's level of technological development. These included:

- the aforementioned inability of many Jamaicans to adequately negotiate with suppliers for technologies that meet the needs of all Jamaicans (functional or appropriate technologies) and/or for the development of Jamaica (Girvan, 1983a). These would include negotiation for direct foreign investment (the use of trade marks etc), contractual supply of management-related technology, sale and installation of 'turnkey' plants,

procurement of machinery, engineering and feasibility consultancy as well as technical assistance and advice (Girvan, 1983b: p. 57-61);

- the inappropriate use of technologies in Jamaica's productive system as well as the ineffective use of some of these technologies;
- why few Jamaicans (up to the mid 1980s) owned international patents, technology license or trademarks;
- the weak culture of science and technology or an environment which would be conducive to the development of new-to-the-world technology; and
- the limited technical know-how and knowledge about the creation of mechanisms necessary to effectively modify, assimilate or create the advanced technologies necessary to catalyze development.

2.5. TECHNOLOGY, UNDERDEVELOPMENT AND POSSIBLE SOLUTIONS

Girvan (1983a) argues that Jamaica's history with non-indigenous technology was "extremely destructive in human terms and resulted in technological arrest in retrogression" (Girvan, 1983a: p.38). Referring to the Jamaican circumstances at that time, as stated earlier, he argues that the outcome has been technological underdevelopment (which is also recognized by him as the cause of technological dependency and dysfunctionality all of which is dialectically linked to the development of the country). In other words, Girvan (1983a) made a dialectic connection between the underdevelopment of Jamaica and the system of technological condition itself operating in Jamaica. According to him technological dependence, technological underdevelopment and technological dysfunctionality together create a system in which each component is a cause and a consequence of each other and each is simultaneously a cause and consequence of underdevelopment. The system causes underdevelopment and, the underdevelopment which the system causes, contributes to the preconditions for underdevelopment itself.

Girvan (1983b), Mandle (1995) and Ventura (1990) have all recommended a number of strategies which they claim can break the system of technological condition which they blame for the underdevelopment of the country. These include investing in the educational system at all levels (developing the technological capabilities of the people of Jamaica), joint programmes with research and development establishments, more research and development initiatives, the provision of specialist workshops and facilities to sensitize both private sector firms and public sector organizations about the dangers of non-indigenous technologies for development, the need for a technological capability and the importance of dynamic linkages between and among sectors. The state is identified as the key actor in this process.

The role of the state in the process of technological development is a key issue in Girvan's thesis. He puts forward the argument that governments should adopt "long-term strategies and policies for national capacity-building in science and technology" (Girvan, 1994: 17). Based on a comparative analysis of several documents developed between 1981 and 1994, these strategies include: (1) the coordination of assimilation processes and the adaptation of imported technology, technological innovation and technological diffusion by government agencies supported by firms and research and development institutions; (2) joint projects with research institutions, science and technology professionals, NGOs, educational institutions (universities and technical schools) to develop the technological capabilities of the Jamaica people to harness reason and scientific know-how with the aim of solving problems and (3) the provision of subsidized training as well as research and to develop legal and regulatory framework and well as standards to facilitate technology and development (Girvan, 1994). These joint projects should be managed by the Government of Jamaica and would help in reducing per-government costs of "generating new technology, making possible more R&D and more innovations" (Girvan, 1994: 21).

Only recently has the GoJ implemented projects and programmes aimed at implementing these recommendations (Waller, 2005). The reasons for this slow start are multidimensional, ranging from problems of ideology to lack of political will to problems of resources. Consequently Jamaica is regarded by the United Nations as technologically underdeveloped (UNDP, 2001). The possibilities of

ICTs does however suggest that a solution to this problem has been found (UNDP 2001a, 2001b).

2.6. CONCLUSION

The aim of this chapter was to provide readers with a background and overview of the main discourses surrounding Jamaica's historical experiences with non-indigenous technology. Such historical analyses contemporary Social Scientists argue can help researchers better understand the contemporary configurations of a phenomenon. The chapter has identified a history of discursive constructions of technology which share an undervaluation of indigenous technologies and technological capability and the mystification of non-indigenous technologies, in particular the discourse of technology transfer propounded by modernisation theorists. It has demonstrated that technology transfer was originally a discourse which progressed to social action through the stages outlined in Fairclough's theoretical model of discourse. One of the main observations of this historical analysis of Jamaica's record with non-indigenous technology for development is that technology policies and initiatives which fail to encourage the development of the indigenous technological capabilities of the peoples of Jamaica may only serve to perpetuate such outcomes. Certainly policies which lack such characteristics stall the possibilities of 'leapfrogging' and 'taking off' into the 'age of mass consumption'. The next chapter explores the main arguments promoted today regarding the possibility of ICTs in this regard.

**PROMISE OF ICT FOR DEVELOPMENT AND THE
POSSIBILITIES OF LIVELIHOOD EXPANSION
THROUGH MICROENTERPRISE DEVELOPMENT**

3.1. INTRODUCTION

In the last chapter, I provided a historical overview of the body of literature (and its epistemological and ontological influences) which has been preoccupied with Jamaica's experiences with non-indigenous technology for development. This chapter now provides an overview of the current global discourses on another type of technology now being promoted as a development tool – information and communication technology (ICT). Such discourses have epistemologically and ontologically influenced ways of acting, organizing, representing and being in Jamaica where development is concerned today.

In addition to providing an overview of the current global dominant discourses on ICT for development, I also outline those discourses specific to information and communication technologies for livelihood expansion through microenterprise development (ICTLEMD), a genre of the dominant ICT for development discourse. I will highlight and draw attention to both the dominant and alternative discourses on ICT for development. These alternatives, I argue, have several implications for existing ways of thinking about ICT for development generally and specifically in terms of ICTLEMD as well as ICT for livelihood expansion through microenterprise development in the tourism industry (ICTLEMD-T). The principal aim of this chapter is to introduce the key epistemological and ontological elements which have influenced how I have interpreted the data collected for this research.

3.2. THE LEAD SINGERS: INSTITUTIONAL DISCOURSES OF ICT FOR DEVELOPMENT

3.2.1. ICT for Development

Contemporary discourses on non-indigenous technology for development (non-indigenous to many Third-World countries that is) focus attention on the use of Information and Communication Technologies (ICTs). Such a discourse and the associated technologies behind the discourse, have emerged in an era that has seen rapid shifts on a global scale in the way in which information is shared, the productive processes are enacted and how people communicate. Arguably, this may very well be constructed as the fourth period of major technological transformations (Chapter 2 discusses the first three periods).

This discourse emerges from a series of World Bank empirical and theoretical work on the use and implications of ICTs in the developing world during the early to mid 1990s (See for example Hanna, 1991, 1993 and 1996). The discourse was popularized by scholarly texts such as Mansell and Wehn's (1998) *Knowledge Societies: Information Technology for Sustainable Development*. It was put on the development agenda by many different forces. These include policy texts such as the World Bank's 1998 *World Development Report* titled 'Knowledge for Development' as well as UNDP's 2001 *Human Development Report* titled 'Making new technologies work for human development'. Projects to popularize ICTs as a development tool also include events such as the 1997 Global Knowledge Partnership Conference in Canada, the 2000 Global Knowledge Partnership Conference II in Malaysia, and the 2002 Global Knowledge Partnership Conference III in Addis Ababa, Ethiopia. Such popularization projects continues today with the World Summit on the Information Society. In addition to this, it has also included the formation of institutions such as the DOT-Force which was created in 2000 and the UN-ICT Task Force created in 2001 as well as policy actions such as those outlined in the UN's Millennium Development Goals (UNDP, 2006). Many of these policy actions have been put into practice by international development agencies, governmental organizations and civil society bodies with the implementation of ICT for development initiatives in many developing countries around the world and there are several articles on the digital

gateway community of the World Bank's Development Gateway website under the key word MDG.

As mentioned above, there are many other different bodies (scholarly and policy texts, development agencies, governments, and so on) that promote the use of ICTs for development. In this section however I will focus on three of these bodies – all development agencies – whose discourses I believe best represents (and has significantly influenced) the ICT for development phenomena. These bodies are the World Bank, the United Nations Development Programme (UNDP) and the United Nations Conference on Trade and Development (UNCTAD). These organizations have helped to shape ways of acting, organizing and representing development as well as ways of thinking about being developed in many countries around the world.

3.2.1.1. The World Bank

One of the key architects of this discourse is the World Bank, an institution which many have labelled neoliberal, based on its role in the implementation of several structural adjustment initiatives around the world and links with the United States of America (the nation which stands out as the uncontested quintessential neoliberal advocate, and a veteran in the development business) promotes the idea that ICT provides developing countries with access to vast amounts of knowledge from the industrialized world (World Bank, 1998a). This knowledge, propounded as doctrine, provides the poor and underprivileged peoples of the developing world with what is claimed to be the capacity to access international markets, world-wide databases, financial information and critical development information on subjects such as nutrition, investment, services, products, weather patterns, fertilizers and new technologies (all of which are critical to the development process). According to the World Bank, with the use of ICTs, poor and underprivileged people in the developing world should and ought to improve their livelihoods. This process (providing the poor and underprivileged of the developing world with access to the knowledge of the industrialized world), the institution suggests, should and ought to have an even wider impact on the development processes of poor countries.

The rationale behind the World Bank's assumptions is that by providing developing countries with access to 'quality knowledge' is that many people in these countries, particularly the poor, lack the knowledge needed to achieve development. According to the Bank "poor countries — and poor people — differ from rich ones not only because they have less capital but because they have less knowledge" (World Bank, 1998a: p. 1). This lack of knowledge causes markets to collapse and children to die of diarrhoea (p. 1). Knowledge is often "costly to create, and that is why much of it is created in industrial countries. But developing countries can acquire knowledge overseas" (World Bank, 1998a: p. 4). The Bank further states:

KNOWLEDGE IS LIKE LIGHT. Weightless and intangible, it can easily travel the world, enlightening the lives of people everywhere. Yet billions of people still live in the darkness of poverty — unnecessarily. Knowledge about how to treat such a simple ailment as diarrhoea has existed for centuries — but millions of children continue to die from it because their parents do not know how to save them (World Bank, 1998a: p. 4).

Based on this statement the people of the developing world seem to be living in darkness (without knowledge – despite hundreds of World Bank Policies in the past). To obtain light or knowledge these people will need to use the ICTs to transfer knowledge/light from the industrial world (which seems to have it in abundance) of the information needed to develop this knowledge. Additionally, it must be noted that the technologies which are usually promoted as those which can 'capture the light' are those which are owned, patented and regulated by corporations in the industrialized world – foreign technologies¹⁵. I will address the implications of such a discourse further in this chapter and in depth further in this thesis.

According to Valden, (2002a), this belief, this model of knowledge for development and the use of ICTs to acquire 'light' promoted by the World Bank (a model which has now preoccupied development thinking) originated from corporate experiences of Knowledge Management (KM) in the industrialized world. According to Valden (2002a), it is an "organizational management tool

¹⁵ These institutions promote the use of Foreign Technologies such as Microsoft Windows (the Microsoft Corp) Dell Latitude (Dell Corp), Nokia 3100 (Nokia Corp) and so on.

which has been successfully used by the Bank itself, other international organizations and corporations and, based on its successful use in these agencies, it was thus deemed appropriate as a development tool by the Bank” (Valden 2002a p. 2). It must, however, be noted here that this is a model which is based on the presence of several processes and structures regarding ways of acting and organizing in the corporate world of these industrialized countries such as communicating and interacting between and among, subjects, objects and processes through various ICTs.

The Bank, I am sure, is aware of this given that its:

concern with the connections between knowledge, development and ICTs is not altogether new. Some 30 years ago, key protagonists of the Modernization school focused their attention on the connections between knowledge, communication and development (Schech, 2002: p. 14).

Thus, this new discourse of the World Bank in reality merely represents a repackaging of its philosophy and ideas – old wine (to some extent¹⁶) in a new bottle – which may have been resuscitated by corporate experiences of Knowledge Management or perhaps brought to the forefront of the World Bank’s policy agenda after decades of work on ICT for development by the World Bank staff such as Hanna (1991, 1994, 1995, 1996). As well as being, hypothetically speaking, influenced by ICT TNCs. Certainly, a genealogy of the Bank’s experiences with ICT for development may unlock the real truth, agency and agenda behind the ICT for development explosion. This is indeed necessary and will be part of my post-doctoral work.

3.2.1.2. The United Nations Development Programme (UNDP)

The United Nations Development Programme (UNDP), another architect of the current ICT for development drive since 1992 (UNDP, 2002d) and a development

¹⁶ I say ‘to some extent’ because whereas the Rostowian Modernization model, which was adopted by many Third World countries including Jamaica during the post World War 2 era, had elements of a state led policy, the current approach has seen international development agencies and non-government agencies taking the lead. More recently, however, in some countries, power has slowly been transferred to the government. Jamaica is a good case. The government of Jamaica has, for example, developed the Central Information Technology Office, a government agency seeking to regulate and coordinate ICT for development activities.

agency which is considered the leading and most influential development arm of the UN, promotes the notion that ICTs have the potential to create jobs, improve access to basic services for development, increase the effectiveness of governments and facilitate the sharing of information with people, especially the poor and women, living in even remote parts of developing countries (UNDP, 2001a). The development agency represents ICTs as a “basic component of development, not a luxury” (UNDP, 2001a:p. 12). In other words, it is something that developing countries must have and, cannot live without.

In their 2001 Human Development Report which focuses on ICT for development, this arm of the United Nations suggests:

Technological innovation is essential for human progress...people can use technology to eradicate poverty. These breakthroughs are creating new possibilities for improving health and nutrition, expanding knowledge, stimulating economic growth and empowering people to participate in their communities....They are also altering how — and by whom — technology is created and owned, and how it is made accessible and used. A new map of innovation and diffusion is appearing. Technology growth hubs — centres that bring together research institutes, business start-ups and venture capital — are dotted across the globe, from Silicon Valley (United States) to Bangalore (India) to El Ghazala (Tunisia), linked through technology development networks. But these new networks and opportunities are superimposed on another map that reflects a long history of unevenly diffused technology, both among and within countries. No individual, organization, business or government can ignore these changes. The new terrain requires shifts in public policy — national and global — to harness today’s technological transformations as tools for human development (UNDP, 2001a: p. 27).

In the report UNDP had declared that ICT was indispensable in the development of the developing world and thus urged every country, especially poorer countries, to include ICTs in their national development policy agenda (Ojo, 2004: p. 141). In another publication, UNDP suggests that ICTs allow “leapfrogging, which means that in their development, countries and societies can leap across several generations and stages of technology, introducing and applying directly state-of-the-art technologies. Previously, such a process took several years, if not decades” (UNDP, 2001b: 4). Indeed, it may be argued that such a metaphor situates the approach of UNDP within the Modernization Theory or at least promotes what

Schech (2002) refers to as “the continuity of modernization thinking” (Schech, 2002: p. 13). It may thus be constructed as another ‘catch-up’ approach to development.

3.2.1.3. The United Nations Conference on Trade and Development (UNCTAD)

The United Nations Conference on Trade and Development (UNCTAD), yet another one of the many architects of the current ICT for development drive and an organization which has funded several non-indigenous technology-for-development projects in the last four decades (based on the contents of its Website), follows a similar line of argument. According to this development agency (and using the tourism industry as an example):

Globalization and new information and communication technology (ICT) are radically transforming the tourist industry. The demonopolization of information flows and the disintermediation brought about by growing Internet use mean that developing countries can now make the most of their tourism resources by targeting the potential tourist directly. Well used, ICT can make these countries more self-sufficient in constructing their own brand images and promoting their own tourist attractions and, by involving all concerned, can also reduce the usual capital flight. Developing countries can thus maximize their comparative advantage in this sector, adjust their tourism services to suit their own development strategies and become better integrated in the world economy. This potential rebalancing of the international tourism system is today becoming necessary as more and more tourists make use of the Internet.

The tourist industry is heterogeneous and fragmented. It involves many different players, both private and public, and draws on the widest possible range of cross-cutting skills. As in developed countries, cooperation mechanisms and public and private partnerships centered on ICT need to be established in order to enable new product ranges to be developed and make it easier to promote them on new markets. The question which now needs to be addressed is how to use local, national, sub-regional and global partnerships and alliances to maximize the benefits offered by the ICT medium ... The aim of the tool, the country platform, is to help countries to identify, standardize, coordinate and propose tourism and craft services in response to varying world demand.

ICT is one of the most effective ways of doing this, as it enables developing countries to take charge of their own tourist advertising, generate revenue for the local economy and remain competitive. Bridging the digital divide brings additional freedom and greater

autonomy to the destination countries. These countries can partially free themselves from "the tyranny of the transaction" ..., create their own tourist "brands" and promote their images according to their own national strategies. This would be in addition to existing systems for promoting tourism, while incorporating more of the local players who may be shut out of traditional packages. (UNCTAD, 2004a: p. 1).

Like UNCTAD, several other development agencies have also sought to illustrate how ICT can be used as a tool to address other sectoral problems which many developing countries face today. Some of these agencies include: the Food and Agricultural Organization (FAO) (Anderson, 1999); the United Nations Educational, Scientific and Cultural Organization (UNESCO) (Jensen, and Esterhuysen, 2001); International Institute for Communication and Development (IICD) (a newly created development assistance organization which focuses primarily on ICT for development) (IICD, 2005); the British Department for International Development (DFID) (KPMG, 2000); the Canadian International Development Agency (CIDA) (Kenney, and Hendi, 2000) and the United States Agency for International Development (USAID, 2005). And, some of these sectors include mining, agriculture, culture, education, governance and so on.

The next section will illustrate how and in what way these discourses (ICT for development) have influenced social practices in the developing world.

3.2.2. Social Practices and Empirical Research

Discourses on ICT for development are not merely rhetoric. In the last seven years, various bodies in many developing countries have bought into this technocentric and technological determinist approach to development. For example, a review of various policy documents reveal that many governments of the developing world have incorporated various ICT for development related projects in various aspects of their national planning agendas (UNDP, 2001b, 2002a; See also OECD, 2003 which provides an overview of hundreds of such initiatives).

In addition to ICT for development projects being undertaken in developing countries, there have also seen a number of 'empirical' studies undertaken in the developing world to ascertain the implications of these ICT initiatives. Some of

these studies have included: the use of ICT to address poverty in Bangladesh (Ahmed, 1998; Muller-Flacke, 1998; Bayes, Braun, and Akhter, 1999; Lawson and Meyenn, 2000); in Trinidad (Miller, and Slater, 2000) and other parts of the Caribbean (Chambers, and Boissiere, 1995); Colombia, (Mansell and Wehn, 1998), and other parts of Latin America (Proenza, 2002; O'Farrell, Norrish, and Scott, 1999); remote sections of the Middle-East (Hazan, 2002); in parts of China (Baark and Heeks, 1998); in South Africa (Benjamin, 2000), Botswana (Duncombe and Heeks, 2001c, 2002), Kenya (Moyi, 2003; Kibati, 1999), Ethiopia and Zimbabwe (Boer and Walbeek, 1998) and various other spaces in Africa (Barlow, 1998, Benjamin, 2000; Lefebvre and Lefebvre, 1996)

Many of these research projects have been funded by several of the aforementioned international organizations. Not surprisingly, the conclusions of a large number of these studies are indeed similar to the institutional discourses on ICT for development – that ICTs have the potential to lower transaction costs, enhance differentiation and change competitive scope; enhance democracy, improve environment conditions, improve health and education access, increase the productivity and performance of enterprises, allow them to participate in regional and global markets, reduce information costs and increase information quality. Such accounts specifically assert that ICT for development policies are particularly helpful to the poor and disadvantaged in the developing world. One area which has generated a great deal of excitement among policy makers and intellectuals has been the use of ICTs in the microenterprise industry of the developing world – ICT for livelihood expansion through microenterprise development (ICTLEMD) (O'Farrell, Norrish, and Scott, 1999; Muller-Flacke, 1998; Duncombe and Heeks, 2001c, 2002; Bayes, Braun, and Akhter, 1999; Lawson and Meyenn, 2000; Lefebvre and Lefebvre, 1996; Barton and Bear, 1999).

3.3. ICT FOR LIVELIHOOD EXPANSION THROUGH MICROENTERPRISE DEVELOPMENT (ICTLEMD)

3.3.1. The microenterprise industry and its significance for developing countries.

The importance of the microenterprise sector to the development processes of developing countries is thoroughly documented in the international development literature and has been acknowledged in all spheres of academia (See in Sebstad, Neill, Barnes, and Chen, 1995; Duncombe and Heeks, 2001a, 2001c, 2002; Honig, 1998; Mead, 1994, 1999). There is growing evidence of a significant causal relationship between entrepreneurship, economic growth and poverty reduction as well as livelihood expansion (Bridges.org, 2001). In Jamaica, for example, the microenterprise industry has been labelled an indispensable component of the economy (Witter and Kirton, 1990; Chen Young and Associates, 1994; PIOJ, 2000-2004) and microenterprise entrepreneurs have significantly contributed to the country's Gross Domestic Product and job creation annually (PIOJ, 2000-2004).

The microenterprise sector in the developing world contributes to the development of new and innovative techniques necessary for the evolution of a country's business processes and to the net generation of new businesses (Mead and Liedholm, 1998). For developing countries, the social gains from this sector ranging from poverty reduction, empowerment, and skill enhancement to the encouragement of community-based organizations such as co-operatives. It is for these reasons that this sector is viewed as indispensable to the overall progress of a developing country (Duncombe and Heeks, 2001a, 2001b, 2002; Dutta and Evrad, 1999; Government of Jamaica, 1997).

3.3.2. The Microenterprise Problematic and ICTs as a solution

According to the literature reviewed, microenterprise entrepreneurs in many developing countries, especially those living on or below the poverty line, face a panoply of social, economic and political problems and challenges inhibiting their capacity to achieve full potential (UNDP, 2001b; UNDP, 2001a, 2001b, 2001c; UNCTAD, 2001a-2003a; d'Orville, 2000; Moyi, 2004; Muller-Falcke, 1998; Duncombe and Heeks, 2001, 2002; O'Farrell, Norrish, and Scott, 1999; UNCTAD, 2001a-2004a; Barton and Bear, 1999; Biggs, Goussard, Constance and Bytheway, 2000; Mansell, 1999). For example, according to Muller-Flacke (1998), in many developing countries "product markets are small, access to manufactured inputs is limited, human capital is scarce, infrastructure is poor, financial markets are thin, macro volatility is high, the legal system functions

poorly” (Muller-Flacke 1998: p.18). In addition to this, it has also been argued that they are inhibited by restricted and unreliable access to information and communications services/networks; highly informal structures; poor communication skills and channels, ineffective business ethics and processes, little or no computer literacy; poor business skills, especially inadequate record keeping including financial recording; poverty and major transportation woes (Moyi, 2004; Duncombe and Heeks 2002; UNCTAD, 2001b-2004b; UNCTAD, 2001a-2004a).

In Jamaica, microenterprise entrepreneurs living close to, on or below the poverty line lack access to the many resources (financial, technical support, information and technological) needed to execute livelihood development. A large number of these entrepreneurs are illiterate and operate in the informal economy – the grey or black economy (Witter, and Kirton, 1990; Allen, 1993; McBain, Alleyne, Boodraj, and Hextall, 1994). This inhibits their access to various resources needed for microenterprise development (Katzin, 1959; Witter and Kirton, 1990). This is especially so in cases where legal documents such as tax numbers and business certificates are required (PIOJ, 1997-2001; McFarlane, 1997; IDB, 1997; Roberts, 2000; McFarlane, 1997; Honig, 1998; Statistical Institute of Jamaica, 1990, Davies, Fisseha, and Kirton, 1981; Anderson, 1992). These entrepreneurs are at a distinct disadvantage when compared to their formalized small to large enterprise counterparts or even the formalized elites and middle income microenterprise.

Recent global discourses on ICT for livelihood development have reduced the aforementioned problems and challenges which microenterprise entrepreneurs in developing countries such as Jamaica today face to a problem of ‘lack of information and knowledge’ and the absence of ways to acquire this information and knowledge. ICTs have been identified as one way of doing so.

According to one UNDP text:

ICT enables solution sharing between local people and communities, providing access to practical information on small business accounting, weather trends and farming best practices, for example. Timely access to market information via communications networks also helps farmers make astute decisions about what crops to plant and where to sell their produce and buy inputs. In

Chile, for example, an Internet network among farmer organizations has dramatically increased farmers' incomes by providing information about crop status, weather, global market prices and training. ICT is also providing unprecedented access to rural finance. The financial and information service network provided by Pride Africa offers micro-finance opportunities for local people and small enterprises that previously had no access to flexible financing due to rigid banking regulations and the information monopolies of government and large businesses (UNDP, 2001b: p. 17).

From this it can be inferred that ICT enhances the efficiency and competitiveness of enterprises especially those at the micro end, giving them the opportunity to compete even against their large counterparts (See also UNDP, 2001b). ICT allows these microenterprise entrepreneurs to compete as vendors in the global marketplace and to interact with global consumers at greatly reduced costs (UNCTAD, 2002a). This, in turn, enables them to generate income and increase earnings. Ostensibly, this has wider implications for poverty reduction and job creation, and thus an even wider implication for development in these countries. On the UNDP's ICT4D Social Enterprise toolkit website (UNDP, 2005), which they claim is a source of information for many groups, institutions and organizations in the developing world seeking answers to how to effectively enact ICTs to achieve enterprise development, the organization states that:

Enterprise development in developing countries requires adoption of ICTs by SME. Duncombe and Heeks conducted a study for DFID and found the most direct benefit (employment, growth and local capacity) within the ICT sector itself. Raising local ICT-sector capacity was identified as a key enabler for other sectors - government, private and NGOs - particularly those concerned with regard to implementing ICTs within wider poverty alleviation programmes - in health, education, environment, and governance (UNDP, 2005: p. 2).

There are several models which various UN institutions have proposed for achieving these goals (UNDP, 2005; UNCTAD, 2001-2004, SDNP, 1999). The most common of these models include the use of such technologies to build awareness about ICTs, providing access to ICTs, training people to use ICTs, encouraging developing countries to provide outsourcing services and promoting the use of ICTs in the electronic trade of goods and services. Each model has its own set assumptions about ICT for development which is linked to the general approach to ICT for development discussed above.

3.3.3. The Structural Problematic affecting Microenterprise Entrepreneurs

Those who promote the use of ICTs to achieve livelihood development highlight and draw attention to ‘structural problems’ – the resources and rules - which they represent as factors which usually undermine the use of ICTs to foster development (inclusive of inhibiting the poor from achieving livelihood development). These structural problems include: the affordability of ICTs (Mansell and Wehn, 1998; Hazan, 2002), lack of awareness about ICTs (Owen and Darkwa, 1999), access to ICTs (Duncombe and Heeks, 2001; Moyi, 2003), operational consideration of ICTs (Baark and Heeks, 1998), poor infrastructure to support ICTs (Latchem and Walker, 2001; O’Farrell, Norrish, and Scott, 1999; Barton and Bear, 1999), the technical knowledge/skills to use ICTs (Duncombe and Heeks, 1999a, 2001a, 2002), the lack of political will to implement ICT initiatives (Proenza, 2002) and the lack of management capacity and technical support from the private sector and government to regulate ICTs (Lefebvre and Lefebvre, 1996). Research specific to the implications of ICTs on microenterprise entrepreneurs in the tourism industry in the Townships of Cape Town in South Africa also promote this structural discourse (see for example Biggs, Goussard, Constance and Bytheway, 2000). In analyzing ICTLEMD these structural problems have been the main units of analysis. And, although this has become the norm in all spaces of ICT for development, there are alternative strategies. One alternative has been the focus on ‘discourse’ (for reasons discussed in Chapter 1).

3.4. ALTERNATIVES TO THE DOMINANT DISCOURSE ON ICTs FOR DEVELOPMENT

3.4.1. Alternative Discourses on ICT – The Issue of Representations

In her essay "The Link between ICT and Economic Growth in the Discourse of Development", Avgerou (2003) is critical of the way in which ICTs are marketed as a development panacea. In her analysis of the ICT for development discourse, Avgerou (2003) suggests that “there is hardly any evidence to date that delivers its promised results” of development (p. 385). She further states that:

The argument does not suggest that ICT is inappropriate for developing countries, but it does indicate the misguided nature of the universalist visions of economic and institutional development

that currently accompany efforts to promote the diffusion of the technology. These visions frustrate efforts to make sense of locally meaningful ways of accommodating ICTs in socio-economic activities. They prescribe what ICT is used for and restrict the scope for improvisation that is necessary for making technology a trusted actor amidst the negotiations which bring about effective course of action for change industry of government (Avgerou, 2003: p. 384).

Here, Avgerou (2003) is preoccupied not only with the structural problematic ICT for development but also with how these technologies are represented, that is, the discourse surrounding these technologies which structure and are structured by their application and implementation in development contexts.

There are indeed several other scholars who share a similar concern. Some of these include Valden, (2001a), Wilks, (2002), Thompson, (2004), and Wade, (2002). It is this body of literature which I draw on to help in my analysis and interpretation of the data collected. Emerging from such a concern are issues such as how and in what way the ICTLEMD by the World Bank, UNDP and UNCTAD influences or are influenced by hegemonic relations of control and power, how these representations preserve, are preserved by or destroy the status quo and the processes involved in them, and who or what (processes, objects, subjects, events, phenomenon) are foregrounded, backgrounded, marginalization, demonized, mystified, de-mystified, normalized/naturalized and camouflaged in these discourses and why as well as the configuration and implications of such discursive strategies.

Although those occupying this space have primarily been preoccupied with ICT for development generally and the governance structures of ICTs specifically and not particularly with ICTLEMD issues or for that matter tourism related issues, and, although much of what has been produced by them is based on secondary data and may not be considered by many, especially positivists, to be empirically sound, there is indeed much that can be learned from this alternative if not more holistic and empowering approach to studying ICT for development.

This learning process begins with the presentation of the work of Valden (2001a). Valden (2001a) suggests that the ICT for development drive is controlled by

dominant neoliberal groups who regulate knowledge and monitor information through the use of surveillance technologies. Using the World Bank as an example of one of these neoliberal groups, he suggests that this organization (the World Bank) has represented itself as a global knowledge bank. This has been accomplished with the establishment of websites such as the Development Gateway (a website that many would consider to be a powerhouse of information regarding best practices in ICT for development) and bodies such as the Global Knowledge Partners (an institution which many would believe to be an authority on ICT for development issues based on its membership of well-regarded professionals in the field of ICT for development).

According to Valden (2001a) through these bodies, the Bank has effectively represented ICTs as a tool to access development knowledge from the industrialized world. This has been a discourse which many have bought into, or for that matter tried or encouraged to fit into, out of ignorance about ICTs, about development and about ICT for development. For Valden (2001a), there is indeed a danger in this power over discourse which the World Bank now possesses, given the Bank's history and alleged role in the implementation of neoliberal policies of external domination that hurt the poor (Harrigan, Mosley and Toye, 1991) and led to the underdevelopment of the 'third world' (albeit heavily contested)¹⁷. Valden (2001a) has highlighted a legitimate fear that the institution has positioned itself as the centre of knowledge in a time where knowledge has become synonymous with power. The institution thus has power over development discourses. According to Schech (2002), however, (who is concerned with connecting notions of knowledge [modernization type discourses] and power [dependency type discourses] in the ICT for development discourse), "the World Bank's conceptualization of knowledge can be criticized for ignoring its political dimension, presenting it instead as a public good that is essentially innocent of power, but at the same time enabling" (p. 20) This control over discourse, Schech, (2002) contends, can mean that the institution is positioned to represent one

¹⁷ It is often argued by many scholars in or of the developing world that the Bank, through its structural adjustment policies, influenced several poor countries to implement policy initiatives which served the ends of U.S. TNCs at the expense of their own populations [see also Joseph Stiglitz' insider view (Stiglitz 2003)]. The consequences of the Structural Adjustment Policies (SAPs) intellectuals argue, have been high rates of unemployment, inequality and poverty as well as indebtedness, among many developing countries such as Jamaica. (Anderson and Witter, 1994).

position, or one group and not another, while at the same time foregrounding its knowledge, disqualifying other kinds of knowledge, and constructing development, development problems and those who they believe to be in need of development. In other words, it has the power to exclude and marginalize competing social practices, discourses, social actors and their knowledge. Schech (2002) further suggests that:

...the World Bank's self appointment as the manager of the creation, transfer, and management of knowledge...can be interpreted as another step in establishing the hegemony of Western knowledge, into which the profitable aspects of non-Western indigenous knowledge have been incorporated. It continues the dominant trend in development studies to construct the West as holding the key to the development of the South – first capital and technology, now ideas and knowledge. At the same time, the recipe of development through knowledge delivered through new ICTs sits comfortably with a long tradition in Western thought that seeks the solution of the world's ills, and ultimately, salvation, in technological breakthroughs (p. 19).

Valden's (2002) work has suggested that this is already a reality. According to him, the Bank has "framed poverty as a lack of knowledge, positioned its poverty alleviation objectives in an analysis of the knowledge economy and introduced the development sector to the corporate approach to managing and sharing knowledge" (Valden, 2002: p. 1). This corporate approach to managing and sharing knowledge is the knowledge of the industrial world. Other knowledge, such as the knowledge of the developing world, the knowledge of other ways of achieving development, has been effectively marginalized on a global scale. Valden (2002) explains how this is possible:

...neutral knowledge does not exist. As shown in Foucault (1972), knowledge accepted in society is the result of a negotiation of the intertwined relationships embedded in power and knowledge. Therefore, the new development paradigm is likely to be shaped by the institutions and experts positioned to exert the greatest influence and control. It is their knowledge and their understanding of the role of knowledge in development that informs the new development discourse (2002: p. 3).

In other words, those who are perceived as powerful and knowledgeable (because of their status and use of expert language which often packs a mighty polemical influential punch) are able to manipulate discourse and social practice. The World

Bank is often perceived in this manner. And this has always been the case. And, it may be noted that the discourse of the Bank itself contributes to this perception. For instance, the World Bank is housed in close proximity to the major institutions of US political life in Washington DC, those influencing its policies are likely to represent significant factions within the current dominant political groups in contemporary US orthodoxy on economic theory, international relations and political philosophy. For this reason the World Bank is indeed perceived by many as powerful and knowledgeable, since it is politically and geographically close to those sources that define both power and knowledge.

Valden (2002) has analyzed the discursive structures of the World Bank's Global Development Gateway (GDG). The findings of his analysis indicated that the GDG is used by the World Bank to frame and regulate discourses and social practices in many developing countries globally where ICT for development is concerned. This is accomplished through:

- the establishment of what is valuable ICT for development content as criteria for funding;
- the shaping of LDC's government strategies through representations of what ought and should be important ICT for development policy areas at conferences and forums;
- the standardization of software platforms through collaboration with ICT corporations such as Microsoft as well as the criteria for country gateway websites and
- the type of knowledge to be used in development by setting the agenda for dialogue as well as the terms of reference for agreements.

Valden (2002) contends that organizations and individuals have expressed concerns about the World Bank's new status. According to these critics, many important development issues such as the problems of neoliberalism, dependency and exploitation (and those who support the inclusion of such discourses) have been effectively marginalized by the Bank in its representation of ICT for development. The Bank, Valden suggests, seems to have "a closed attitude" and blinkered approach to development and seem to be operating with a perceived

notion that the Global Development Gateway (GDG) website will “replace existing information on the Web” (Valden, 2002: p. 11). These actions and this ‘project in marginalization’ is seen by Valden (2002) as an indication not only of how the Bank views and represents development and ways of achieving it, but also how it excludes competing discourses.

If this is true then such a position is indeed frightening as there is a certain level of arrogance and ignorance in assuming that the knowledge which the developing world possesses is of little or no worth and incapable of any sort of fecundity. This is certainly an indication of the value placed on the knowledge of the peoples of the developing world generally and the poor in these countries specifically. This should, however, not come as a surprise to the schooled developmentalist, given that the industrialized worlds and their acolytes, in addition to having the capacity for economic, political and military domination, have always exercised hegemony in the control of the whole infrastructure of the production of knowledge (Tucker, 1999). According to Tucker (1999), the “production of knowledge is one of the ways in which the West controls and even creates the Third World politically, economically, sociologically and culturally” (p. 7). Tucker is not alone in such thinking. Sardar (1999), for example, has always maintained that the real power of the West lies not in its great economic development and technological advances but in its power to define (Sardar, 1999: p. 44). Similar arguments have been promoted by Escobar, (1995) who suggests that this philosophy is what has contributed to the marginalization and exclusion of non-Western knowledge systems for years as well as Holtendahl et al, (1999) who have argued that “the reproduction of western hegemony is assured through long established practices of production and dissemination of knowledge” (9. 16). Certainly this represents an extension of such a process.

As stated before, while all this should not be surprising to the keen developmentalist, it is indeed ironic if not surprising that the World Bank's downplaying of the knowledge of the developing world has now become the doctrine and practice of this and other international organizations (see the UNDP's 2001 Human Development Report for example). This is a fundamental contradiction, given that some of these very same organizations, in other spaces

and through other bodies, have attempted to promote the importance of indigenous knowledge as local pathways for global knowledge (World Bank, 1998b, 2004a). Additionally, and possibly most importantly, is that one should not forget that the literature on the significance of the use and utility of indigenous knowledge in development has illustrated the dangers of not recognizing this type of knowledge in the development process (see Brokensha, Warren and Werner, 1980; Michie and Linkson, 1999; Yakuba, 1994).

Certainly, this is not the approach that the Bank takes. Valden's (2001a) analysis of the GDG suggests that the:

...GDG promotes a centralised, large-scale system, based on exclusive technology and governance, to organise a global knowledge flow. This raises concerns about the legitimacy, validity, and diversity of information and knowledge for development. The well funded global and country gateways with their compatible technical, editorial, and content management applications will promote a standardisation of development information and knowledge. Their content management systems will fit only certain types of information and knowledge, produced in certain languages and formats, and in ways that fit the topic taxonomy. The effect will be that development-related information and knowledge will be produced and presented to fit the emerging standard while information and knowledge that cannot be made to fit will disappear from the Gateway's 'radar screen'. This may be especially true for indigenous knowledge that cannot be organised and managed as 'western' knowledge (Valden, 2002: p. 10 - 12).

In other words then, representing development as something which is dependent on the knowledge of the industrialized world can, in many ways, lead to the loss of previous learning concerning ways of achieving development, threaten the diversity of indigenous knowledge and even possibly marginalize if not exclude such knowledge and systems required for development.

Valden concludes that the approach taken by the Bank's Development Gateway "may actually result in the de-legitimization, invalidation and loss of diversity of knowledge relevant to development" (Valden, 2002: p. 16). ICT for development, he suggests, should focus on the process of learning among the peoples of the developing world. They should be taught to manipulate information and knowledge and taught to create their own knowledge to meet their own needs.

Similar concerns were expressed by Wilks (2002) based on his analysis of the World Bank's Global Development Gateway's (GDG's) representation of development through the use of ICTs.

According to Wilks (2002), the Development Gateway "is in fact conceived, designed and operated in a way that systematically excludes certain voices and perspectives" (Wilks, 2002: p. 1). In attempting to validate his arguments he cites a comment by Michael Gurstein, Visiting Professor at the School of Management, New Jersey Institute of Technology, who at that time had stated:

there is, as many have observed, the very real danger (likelihood) of this having the result of crowding out/unfairly competing/defunding all the other "realities" – many of which may be closer to the interests and activities of folks on the ground or in the trenches – the NGO's, the implementers, the communities, the development activists (Gurstein, 2001 cited in Wilks, 2002: p. 4).

Wilks (2002) further suggests that through semantics, the Bank has strategically used specific terms and jargon to structure its themes, topics and focus on the Development Gateway Website to represent development in a manner which directs attention away from many critical issues such as the effects of neoliberalism on developing countries and their populations. Like Valden, he also suggests that this is evidence that the World Bank now has the capacity through its power in and over discourse to define, normalize, mystify or demonize objects, processes, subjects and their value as it sees fit. Thus, there is a distinct possibility that the Bank can reproduce networks of power in support of dominant discourses. This means that it can promote the interests of dominant groups, the exclusion of other groups and the preservation of social structures through the use of ICTs.

The discourses of the World Bank where ICT for development is concerned have also been of interest to Thompson (2004). Thompson uses the Critical Discourse Analysis methodology of Fairclough to examine current development constructions captured in various ICT and development texts of the Bank by analyzing the discursive structures of a World Bank senior personnel's speech. Based on his analysis Thompson (2004) suggests that the ways of talking about and doing development by the Bank where ICTs are concerned act as "both a

medium and the subject of discursive power” (Thompson, 2004: p. 1). He further suggests that the Bank’s representation of ICTs seem to suggest that ICTs:

...work to mediate development discourses at both the micro and macro level. At the macro level, ICT is structurally integrating communities into wider, uneven networks of power. Although usually remaining on the periphery of flows of knowledge and wealth, less developed countries (LDC’s) are nonetheless integrated involuntarily within global networks of capital, production, trade, and communication, increasingly mediated by ICT ... At the micro-level, power relations surrounding the development and use of ICT in development contexts are more ubiquitous (Thompson, 2004: p. 349-350).

Thompson (2004) thus suggests that the way in which the Bank represents the use of ICTs for and in development can indeed foster both global and local inequalities and “replicate a wider discourse of marginalization” (p. 350). Thompson, not unlike Valden, also sees the World Bank’s status in development today as the central nexus of knowledge. This status, he argues, emerged through its self representation as a ‘knowledge bank’ – a repository of knowledge – through its many writings on ICT, knowledge and development, its cadre of ICT for development ‘experts’ and the hundreds of ICT projects it has funded. Thompson’s conclusions are similar to those of Valden and Wilks. According to him, a number of the components of the World Bank’s discourse surrounding ICT and development:

...amount[s] to the creation and systematisation of a set of discursive relations which support and extend a markedly North American worldview. These relations are a fusion of ‘traditional’ developmental discourse – technocratic expertise..., combined with ‘poverty’ as an undisputable need for such expertise... – with more ICT-specific components, such as the assumption of ICT as a neutral force in development..., the display of expertise in the corporate terms with which ICT is often surrounded and discussed..., technological optimism bordering on determinism..., and a show of ICT pragmatic use on the ground, thus ensuring ‘results’...the appropriation and discursive deployment of ICT, with its association with progress and rationality, offers a powerful opportunity to further the interests of technocratic, often ‘mainstream’ stakeholders, acting as a magnifier for dominant discursive interests by creating new ‘subjects’ for objectification (Thompson, 2004: p. 21-22).

Wade (2002), in his analysis of the discourses surrounding the ICT for development space, offers a similar conclusion. According to him, the notion of 'ICT for development' "is like saying cheap books can cure illiteracy". He raises the important point that in reality "giving illiterate people cheap book does not solve illiteracy" and suggesting that ICT for development may just be another in a long line of fads.

For Wade, the current representations of ICTs as a development panacea by international organizations such as the World Bank may even be counterdevelopmental. The Bank, he argues, has in some instances projected cues the demagogic caricature regarding actual outcomes of ICT for development projects by overemphasizing, foregrounding and mystifying some aspects while backgrounding and excluding others. According to Wade, many ICT for development reports of the World Bank lack specificity; they do not provide information regarding the exact configurations of objects, subjects, events, processes and phenomena which are necessary to achieve success or avoid failures. Rather, 'success stories' and representations of leapfrogging are merely generalizations, and blurry ones at that (p. 445). Such omitted information, he contends, can provide insights into what worked or did not work for whom and under what circumstances and conditions.

One of the many examples Wade highlights is "The Networking Revolution: Opportunities and Challenges for Developing Countries - a World Bank policy paper on ICT." According to Wade, this document "talks about plans, intentions, and opportunities provided" through the use of ICTs. This document however "blurs the distinction between these and verified actions on the ground" (p. 446).

Wade further argues that:

Like much of the ICT-for-development literature, it talks about plans and intentions and opportunities provided...It talks about benefits not costs. It makes no comparisons between returns to investments in various types of ICTs and returns to other kinds of investments – in improving crop varieties in tropical Africa, for example. It largely ignores issues of sustainability, such as the financing of recurrent costs of computer servicing and training. And it explains cases of failure, when noted, in ways that protect the assumption that ICT investment is a top priority (p. 446).

Wade's work forces one to question the many representations of achieving development through ICTs offered by the Bank. Many of these representations have been based on so-called best practices and success stories similar to the one mentioned above by Wade. Certainly, in many if not all these reports, there is not much detailed information about what worked or did not work for whom and under what circumstances and conditions. Rather, what is presented are sweeping generalizations that the development of the 'Third World' can only be achieved with the technologies of the 'First World', or following in the footsteps of other developing countries who have attempted to do this.

Heeks (1996), however, is doubtful of this possibility. For example, he questions whether other developing countries can follow in the footsteps of India (a software development success story). According to him, the country's investments in infrastructure and education (something which that country has been doing for decades) have clearly positioned India to take advantage of the digital revolution in terms of software development. Even if it were indeed possible to follow in the footsteps of India (based on existing documentation by various international organizations) this may be problematic given that, and as Wade suggests, the representations about India's successes at absorbing ICTs are very abstract and seem to be exaggerations. They ignore the social and economic history, culture and politics of the country and present only a partial picture of the events on the ground – the positive picture and the opportunities – or as Mills would say the “lyric upsurge ... earnest optimism, out of which we step forward fresh and shining” (Mills, 1959: p. 78). They ignore the many problems which these initiatives have faced.

According to Wade the aforementioned World Bank paper “talks enthusiastically of the ICT programmes in the Indian state of Andhra Pradesh”. He cites a text from the World Bank report:

Andhra Pradesh was the first state in India to design a state-wide computerization programme covering all levels of the administrative spectrum from the smallest – Mandal Revenue Offices – to the largest...ICTs have provided opportunities for government to redefine the relationship with citizens by encouraging (1) economies resulting in efficient government, (2) personalized service, (3) equal access to government for all, (4)

speed and responsiveness, and (5) responsible and measurable government (Wade, 2002: p. 446).

Wade critiques the World Bank's representations in suggesting that:

The paper refers only to opportunities intended to be provided. According to my own informal survey of friends who live in Andhra (where I used to live), the changes on the ground are largely confined to (1) easier registration of property transactions, especially land; and (2) easier communication through videoconferencing between government ministers and the government secretariat, on the one hand, and district collectors, on the other – although at a very high cost per minute. All the other programs – such as computerized one-stop Integrated Citizens Service Centers (ICSCs) to handle services such as paying utility bills and property taxes, issuing certificates, issuing permits and licenses, providing information, and facilitating common transactions like changing an address and transferring vehicle ownership – hardly function (Wade, 2002: p. 447).

Wade further states that

Another World Bank ICT-for-development paper reports that an Andhra Pradesh program 'to computerize the issuance of caste certificates essential for obtaining government services and access to educational scholarships, managed to decrease the time for certificate issuance from twenty to thirty days to only ten minutes. My contacts in the capital city of Hyderabad suggested that the real time facing any real applicant is scarcely less time than before' (p. 447)

If Wade's findings are indeed valid, it is an indication of misrepresentations about the possibilities of ICTs (such as its leapfrogging properties) on the part of the World Bank.

Wade further suggests that a similar situation exists with the representations of an ICT for development telecentre initiative in Mexico. He highlights how an 80 per cent failure rate in the project outcomes of this initiative in Mexico was backgrounded in the aforementioned World Bank report to give an indication that leapfrogging was still possible with the right ICTs.

My own research in Jamaica has also revealed that discourse does indeed play an important role in shaping developmental outcomes. This empirical study sought to analyze the discourses surrounding an Information and Communication Technology (ICT) for livelihood development initiative in Jamaica, introduced by

the United Nations Development Programme (UNDP) – the Jamaica Sustainable Development Networking Programme (JSDNP). The primary objective of this initiative is to provide the poor in Jamaican communities with access to, and training in ICTs. In this research, I specifically focused on the discourses surrounding the JSDNP Cybercentre Project for a group of microenterprise entrepreneurs in the Jamaican tourism industry to access the epistemological assumptions of this initiative. Fifteen persons who were involved with the project at various different levels – Project Managers, Policy Developers and Beneficiaries – were interviewed in-depth and Fairclough’s Critical Discourse Analysis Approach was used as the methodology and dominant analytical tool.

At one level, it was found that the discourses surrounding the JSDNP Cybercentre initiative discouraged the indigenization of non-indigenous technologies, represented the achievement of livelihood development through the use of specific commercial technologies while at the same time marginalizing and/or excluding other more democratic (fluid/flexible) local ones. Based on this it was found that it is not only the lack of access, infrastructure, training and ICT-related resources that contribute to the inability or ability of microenterprise entrepreneurs operating in Jamaican tourism sector to use and or benefit from ICTs but also how this access, infrastructure, training and ICT-related resources involved in benefiting from ICTs were represented (the discourses) as well as the particular social practices which were encouraged by these discourses which the social practices themselves encouraged. For example, some entrepreneurs perceived the achievement of livelihood development being dependent on Dell Personal Computers and Internet Connection organized in a particular spatio-temporal configuration based on what they were told by Project Managers and what they had seen at project sites. Other more trans-temporal technologies such as the mobile phone were excluded from the list of livelihood achieving ICTs by those responsible for the management of the Cybercentre Project.

Consequently, and on one hand, these discourses were more favourable to the operational and structural dynamics of microenterprise entrepreneurs whose mode of operation was more spatio-temporal (existed in one place and was structured in a timely manner) and who could afford and access these particular configurations

of technologies which were represented as necessary for the achievement of livelihood expansion. On the other hand however, it was also found that the discourses were incompatible with the operational and structural configurations of those microenterprise entrepreneurs working in the Jamaican tourism industry that had represented themselves as poor (could not afford or access these particular configurations of technologies which were represented as necessary for the achievement of livelihood expansion) and lived a more trans-temporal business and social life (who had many different business at various locations and operated at varying unstructured times). Among many different things, what this suggested is that the discourses surrounding the JSDNP Cybercentre played a fundamental role in perpetuating already existing entrenched inequalities through the preservation of social practices, along with their associated systems and structures.

At another level it was also found that these modalities promoted by the discourses of the JSDNP Cybercentre limited the operational processes of all microenterprise entrepreneurs who were exposed to the Cybercentre Project. More specifically, these entrepreneurs had limited control over the configuration of non-indigenous technologies; their technological and creative capabilities were restricted; their ability to indigenize non-indigenous technologies impaired; and they were highly dependent on non-indigenous technologies (which themselves had a number of limitations). All this significantly undermined their true potential to achieve livelihood expansion.

3.5. Possible Outcomes

Wade sees developing countries being tied more and more tightly into hardware and software networks of global corporations because of the ways of acting, organizing and being encouraged by many discourses surrounding the ICT for development debate. And, escaping these networks, he believes, is increasingly difficult with organizations such as the World Bank and other influential development agencies representing ICTs and the knowledge of the industrialized world as a solution to the problems of the developing world and, developing countries both inculcating and enacting such a discourse. According to him, this is a new form of dependency which he refers to as 'digital dependency'. With digital

dependency developing countries become tied to ICT-related global capitalists for upgrades, updates and add-ons¹⁸. According to Wade (2002):

The technologies and ‘regimes’ (international standards governing ICTs) are designed by developed country entities for developed country conditions. As the developing countries participate in ICTs, they become more vulnerable to the increasing complexity of the hardware and software and the quasimonopolistic power of providers of key ICT services. Worse, the Western aid industry...may be reinforcing the overall dependency of developing countries (p. 444).

Wade reminds us of the cosmologies of an earlier campaign by several international organizations in the 1970s which sought to bridge another divide, the ‘tractor divide’. The tractor divide was the gap which existed between the developing and industrialized world with regard to tractors for agricultural production and development. It was argued by international organizations that development was dependent on outfitting the developing world with tractors. This discourse had influenced a number of policies to achieve this goal. The 1970s, for instance, thus saw policy documents developed to promote the transfer of tractors to developing countries from the industrialized world for agricultural development. According to Wade:

Developed countries had lots of tractors, African agriculture had hardly any: therefore the U.S. Agency for International Development (USAID), the British government, the World Bank, and the East Germans promoted tractors as a techno-fix that could avoid or help to moderate the institutional obstacles to higher land productivity in Africa (p. 450).

The exercise, however, failed in many parts of the Third World because of several problems which, Wade notes, were cited as cultural issues and insufficient political will. Ernest Mandel, for example, argues that agribusiness successfully capitalized LDC farming by engineering the shift from multi-crop subsistence farming, which was “indigenous” to cash-crop monoculture, This can certainly be seen as an outcome of the tractor transfer, and very possibly as a goal. (One result was the increased vulnerability of monoculture to pests, and hence the increase of famine – which, along with erosion and lowering water tables, could have been avoided if the agencies had listened to local farmers instead.)

¹⁸ A similar argument was also made by Castels (1996) regarding Africa’s position in the global information network society.

A number of elites in the industrialized world as well as the developing world did, however, benefit from several of these initiatives. According to Wade, although the drive to bridge the tractor divide was executed by various international organizations, it was instigated by tractor companies facing stagnant tractor sales in the industrialized world and who saw the developing world as a new market and a way to increase corporate profits.

Wade concludes that the dynamics of ICT for development may be playing out in the same way (p. 463), that it is the latest in a long line of development projects which the industrialized world uses as a way to reconfigure or redesign the South to meet their (the West) economic need through the use of international organizations.

There are others who also share similar views regarding the outcomes of the ICT for development drive. Bruno Lanvin, for example, the head of the World Bank's Information for Development Programme, has also connected the current discourses and social practices surrounding ICT for development to the Dependency discourse of the 1960s. According to him, "the debate over ICT integration once again raises the issue of developing countries technological dependence on the industrialized world" (Lavin in Burnand, 2003: p. 1). Blakemore and Dutton (2003), in a similar tone, have suggested that there is an emerging pattern of social relations in the ICT for development space which may lead to the technological dependence of the developing world on firms in the industrialized world. This technological dependence on multinational information technology corporations, they contend, is a concern for developing countries. According to them:

Even when nations are connected to the Internet the dependence on the IT companies of the West is considerable, since an IT infrastructure requires maintenance, enhancement, and new sophisticated levels of infrastructure security (Blakemore and Dutton, (2003: p. 10).

The consequence of such a discourse, Luyt (2004) believes, is the perpetuation of hegemonic relations of power and domination by one group (the industrialized world) over another (the developing world) or, at the local level, the rich over the

poor. Such relations Luyt hypothesizes may work to sustain global exploitation and global inequalities. To build a case for his arguments, Luyt convincingly draws on the discourses and social relations surrounding the ways ICTs can contribute to development as is promoted by international organizations such as the World Bank. According to Luyt, several developing countries have been encouraged by international organizations to establish inexpensive data processing institutions such as telecentres, and offer cheap outsourcing solutions to ICT-related multinational corporations such as Microsoft (many of whom are always on the hunt for cheap(er) resources – in this context, labour)¹⁹. Other developing countries, who are perceived as being unable to execute such projects because of what is represented as capacity and resource-related limitations, are encouraged to invite ICT related multinationals such as Cisco Systems to establish training centres in their countries to develop the technical skills of the people (thereby making available cheap labour to meet the outsourcing needs of the industrialized world).

According to Luyt, much of what is offered as ICT solutions can be considered low-end solutions – training in the use of low-end applications. Such training is not substantive enough to trigger any meaningful innovations and technological development. Not much knowledge-transfer can result from such an exercise since both data entry and telecentre work is low-skilled, and since developing countries are limited in what they can do because of licensing agreement protecting patents and copyrights. Thus, more advanced training such as programming (learning how to modify and create or re-create ICTs) is not encouraged. My own study of the JSDNP Cybercentre Project in Jamaica also led to similar conclusion.

Drawing on the history of development, in particular during the phase of mercantile capitalism, Luyt has suggested that the developing world is once again

¹⁹ The discourses surrounding data processing institutions by ICT for development proponents is that they ought to provide avenues for the generation of employment opportunities and income for the poor in the developing world. Some of these outsourcing solutions include data-entry and contact services as well as geographic information services, facilities which offer legal, business and market research, medical transcription, space to store information and data analysis for first world institutions. Jamaica for example has established over 50 large data processing institutions in the last five years and has also created an environment which encourages foreign investors to ‘set-up’ shop in Jamaica.

positioned as a distributor of raw materials, based on their location within the network of social relations surrounding ICT for development. According to Luyt:

Just as mercantile capitalism coveted the raw materials of Africa, Asia and Latin America, and industrial capitalism increasingly used it as a manufacturing platform; information capitalism has plans of its own for the South as a market and a site for offshore international processing” (p. 2).

Thus the ways in which ICTs are presented by developing agencies as tools for achieving growth is an unsustainable approach which can only work to benefit the multinationals or a few local elites in countries such as Jamaica. Jimba (2000), another critical of the current ICT for development discourse, would be in agreement with many of Luyt’s assumptions and conclusions. Jimba argues that giant computer firms, such as “Apple, IBM, Compaq, Packard Bell, Siemens, Microsoft, Dell and Epson” (p. 256) (whose technologies are represented as the tools for achieving development) stand to gain the most from the ICT for development discourse through contracts and agreements. Jimba predicts that this will result in “stifling” local technological capabilities (p 256). He compares the situation to the era of colonialism. According to him:

...one side-effect of colonization was the inability of the local intellectual class to build a body of knowledge on local innovations. Since they were linked up with the metropolises, the indigenous peoples were satisfied with products which were the result of the knowledge and information base of the colonizer. Thus the capacity for scientific research and analysis which will translate into a theoretical base for innovation became glaringly lacking among the colonized peoples.... This creates a situation where traditional ... knowledge is completely marginalized by Western science, thus creating a dependence on Western knowledge (Luyt, 2004: p. 256)

3.6. CONCLUSION

This chapter has provided an overview of two of many discourses (really genre’s) regarding the contemporary discourses on information technology for development. I have discussed the dominant discourse on ICT for development as well as institutional discourses regarding ICTLEMD. I have also sought to present an alternative discourse - one which is preoccupied with the ways in which ICT for development is represented by development agencies and the implications of

these representations. Based on these discussions, it is possible to argue that discourses do indeed play an important role in shaping ICT for development outcomes. Critically analyzing discourse is unarguably vital in the understanding of the ICT for development phenomenon because it functions 'ideally' as a space of debate between, as stated earlier, social structure, as well as social action and agency in terms of values, norms, and goals of activities in ICT or perhaps in thinking about and/or representing what kinds of ICT? for whom? to what purpose? Researchers therefore need to overcome the aforementioned hurdles and incorporate discourse in the already existing cadre of ICT for development units of analysis. Only then can one truly speak of a holistic approach to studying ICT for development and be able to understand as well as better explain this phenomenon. I have attempted to address some of these hurdles elsewhere (Waller, 2006) as well as to demonstrate one method of systematically analyzing discourse. The following chapter will discuss the methodology, sample, and methods of data collection as well as the techniques used to analyze the data collected.

4

A METHODOLOGY FOR RESEARCH IN LIVELIHOOD EXPANSION THROUGH MICROENTERPRISE DEVELOPMENT

4.1. INTRODUCTION

Thus far, I have presented my Theoretical Framework – Critical Theory – (Chapter 1). In so doing I have highlighted and drawn attention to the underlining elements of this theory, that is, the preoccupation with exposing discourses in the social arrangements around any given phenomenon, especially around social injustices such as exploitation, exclusion, oppression, marginalization and the preservation of existing social systems and so on through hegemonic relations of power among and between groups. In Chapter 2, I used the historical method, (the analysis of artefacts and records drawing on the works of Girvan, Mandle and Ventura) to show the presence of such practices throughout Jamaica’s history with non-indigenous technology (production technology) for development. In Chapter 3, I used the work of Valden (2001a), Wilks (2004), Ojo (2004), Luyt (2004), Wade, (2002) and others argue that there is a distinct possibility that such practices may existing in the current ICT for development discourses and social arrangements in various parts of the world. All this has helped to set the context and background for this research which, be reminded, attempts to understand and explain the discourses surrounding the JSDNP Cybercentre Project and ascertain the implications of these discourses on a select group of microenterprise entrepreneurs operating in the Jamaican tourism industry.

This chapter outlines the emancipative methodology (and supporting methods of data collection, sampling techniques, data collection strategies and methods of data analysis) used in this exploratory research. To accomplish this goal, I have used a exploratory research design and a qualitative framework because of the need to unearth deep data and thick descriptions of the discourses surrounding this initiatives, and to understand the social realities and social constructions of these

entrepreneurs (and their influences). This unearthing exercise was accomplished using the Critical Discourse Analysis Methodology.

4.2. EMANCIPATION: THE CRITICAL DISCOURSE ANALYSIS METHODOLOGY AND ITS SIGNIFICANCE FOR ICT FOR LIVELIHOOD EXPANSION THROUGH MICROENTREPRISE DEVELOPMENT RESEARCH

In Chapter 1, I indicated that discourse will be the unit of analysis (process) in this thesis and in Chapter 3 I argued that such an approach has been wholly lacking in ICTLEMD research despite its usefulness in understanding and explaining social life in other genres of ICT for development (See Chapter 3) I argued that discourses are a manifestation of social constructions, ideologies and relations which express both the normative stabilisation of and the radical changes that are taking place in social life, in particular their impact on social actors. Thus, in attempting to understand, describe, interpret and explicate social constructions, ideologies and relations around a phenomenon (which are often the goals of social research projects), discourse should be an important unit of analysis for the social researcher. This view is also shared by Fairclough, (2003) who further argues that this is especially the case for those researchers attempting to unravel the “radical changes that are taking place in social life” (Fairclough, 2003: p. 205) and to locate as well as address possible negative impacts of these changes on the lives of social actors. Such thinking is in line with the objectives of this research project.

In the last decade or so, many different tools have been developed to analyze discourse (see in Weiss and Wodak, 2002; Titscher, et al, 2000). Some can be described as Western (Weiss and Wodak, 2002; Titscher, Meyer, Wodak, and Vetter, 2000; Chouliaraki and Fairclough, 1999; Harvey, 1996 and other emerging Non-Western ones as well (Shi-Xu ,2005; Shi-Xu, 2006; Nandy, and Visvanathan, 1990). Because of this diversity, Weiss and Wodak (2002) have correctly asserted that studies in analyzing discourse are multifarious, derived from quite different theoretical backgrounds and oriented towards very different data and methodologies as well as epistemological influences. A taxonomy of these different tools however suggests that located within these differences (Western/Non-Western) there are essentially a multiplicity of other horizontal and

vertical differences (and similarities) as well. For example, on the one hand, there are those which focus on a detailed analysis of texts – the linguistic features of texts – an approach which may be considered to be narrow. On the other hand, there is a focus on the social aspects of text production, transformation, distribution, consumption and redistribution – focusing only on discourse – an approach which may be regarded as wide. Within these two poles, there also exist other poles – a normative and a critical approach. The former is an attempt to understand the configurations of a discourse operating within standard status-quo space – just describing a situation. The latter is specific to deconstructing hegemonic relations of power in and over discourse and how this undermines social justice and may be considered anti status-quo, challenging the status-quo so to speak.

In this research, I use a Western critical approach (which I argue has many important elements of Non-Western approaches such as deconstruction and transformation) and, which also fuses the textual with the social. This approach is Norman Fairclough's Critical Discourse Analysis (CDA) Methodology (Fairclough (1989, 1992, 1995a, 1995b, 1995c, 2003), Chouliaraki and Fairclough, (1999). Such an approach attempts to transcend these vertical and horizontal divisions by bridging the texts and social aspect of text production divide (Bloome and Talwalkar, 1997) and merging the normative and critical approach which exists within textual analysis and the social analysis of text production process. In addition to this, Fairclough's CDA approach also provides "a theory-method linkage that is absent in many sociological discussions of everyday life and language use and in many linguistic discussions of social dynamics" (Bloome and Talwalkar, 1997: p. 105). Fairclough describes his approach:

On the one hand, any analysis of texts which aims to be significant in social scientific terms has to connect with the theoretical questions about discourse (e.g. the socially 'constructive' effects of discourse). On the other hand, no real understanding of the social effects of discourse is possible without looking closely at what happens when people talk or write (Fairclough, 2003: p. 3).

Fairclough (2003) further states that “text analysis is an essential part of discourse analysis...discourse analysis is not merely the linguistic analysis of text” (p. 3). Rather, discourse analysis oscillates between the focus on specific texts and the focus on the relatively durable social structuring of language which in many ways is itself merely one of many elements of a relatively durable structuring and networking of extra-discursive practices – social practices and sociocultural practices. In other words, it is the slippage between content/description of text, their creation/production, distribution, projected (how texts are represented in terms of the different discourses, genres, and styles they draw upon and articulate together), transformation and their receipt – discursive processes. Thus for Fairclough, texts are connected to broader social structures, events, actions, processes and practices.

Fairclough’s CDA first made its début in 1992 with the publication of *Discourse and Social Change*. In this text Fairclough had introduced various critical approaches to discourse analysis which he consolidated in 1995 with the publication of *Critical Discourse Analysis*. His approach was made more robust in a joint project with Lilie Chouliaraki in a 1999 publication *Discourse in Late Modernity - Rethinking Critical Discourse Analysis*. Here he and Chouliaraki outlined a more focused and substantive approach to the critical analysis of discourse which was further refined over the years through approximately 20 publications influenced by the application of the methodology within the discipline of government and politics as well as media. His most recent publication *Analyzing discourse: textual analysis for social research* is a culmination of more than a decade of theorizing about, experimenting with, and developing methodologies for critically analyzing discourse.

Today, Fairclough’s CDA has been defined as a methodology which is fundamentally interested in analyzing opaque as well as transparent structural relationships of dominance, discrimination, power and control manifested in language (Weiss and Wodak, 2002). It is an approach to deconstructing society which aims to critically investigate possible social inequality as it is expressed, constituted, legitimized, and so on, by language use (or in discourse) (p. 15).

According to Chouliaraki and Fairclough (1999), the approach emerged from Critical Theory as a method for accomplishing the critical agenda, an aspect of Fairclough's CDA which sets it apart from other approaches to the analysis of discourse.

According to Chouliaraki and Fairclough, (1999) CDA emerged from critical theory as a method for accomplishing the critical agenda (The critical agenda was discussed in Chapter 1 Section 1.4.d. See also Alvesson, and Deetz 2000 p. 8). Thus CDA connects critical theory to an understanding of the ways in which people are unequally positioned. This done through an analysis of discourse, how people socially construct the meanings of objects and subject (and the influences behind these constructions) in the production and consumption of language in spoken and written form. In other words, a critical analysis of discourse explores the connections between the use of language and the social, historical and political contexts in which it occurs, how language is used in social interactions and how language influences social relations and practices.

CDA aims to investigate critically social inequality as it is expressed, constituted, legitimized, and so on, by language use (or in discourse). (Weiss and Wodak 2002 p. 15). This is the definition which I subscribe to and use in this thesis. It must be noted however, based on the discussions in Chapter 1 on 'what is discourse', that it is the intention of Weiss and Wodak that this definition also incorporate the other moments of social life – discursive practice and sociocultural structures.

CDA and particular Fairclough's CDA model is considered to be a type of qualitative methodology (Denzin and Lincoln (2005) which seeks to explore, understand, interpret as well as explain social issues (Fairclough, 2003). It is a methodology which in many ways extends Foucault's (1972) project in unravelling power relations through the analysis of "competing power interests between groups and individuals" (Kincheloe and McLaren 2003 p. 437) through an analysis of the dialectic relationships between discourse ... and other elements of social practice" (Fairclough 2003 p. 205) (locating power in discourse and power over discourse in a historical, socio-cultural and political context). In

addition to the influences of Foucault, the Fairclough CDA model also builds on the works of other social theorists such as Gramsci, (1971), Althusser, (1971)) and Habermas, (1984) as well as literary theorists such as Halliday, (1978) and Bakhtin, (1981) (see Chouliaraki and Fairclough, 1999). Many of these theorists and philosophers have even strongly influenced many Non-Western approaches to critically analyzing discourse (See for example Nandy and Visvanathan, 1990). This interdisciplinary/ transdisciplinary (Chouliaraki and Fairclough 1999 p. 16) aspect of CDA positions the methodology as a theory formulation instrument which synthesizes both linguistic and sociological conceptual tools so as to better analyze and explain the complex interactions, and interrelations between and among the communicators of social life (Weiss and Wodak, 2002: p. 7). This methodology “has established itself internationally over the past twenty years or so as a field of cross-disciplinary teaching and research which has been widely drawn upon in the social sciences and the humanities” (Chouliaraki and Fairclough 1999 p. 1) by both Western and Non-Western scholars.

Various reasons account for its popularity, First like its Non-Western counterparts, Fairclough’s approach to critically analyzing discourse also: identifies the possibility of domination, exploitation and other injustices; demonstrates the interaction among many forms of resistance; uses history to understand a current phenomenon; attempts to access the voice and tell the story of anyone who is subordinated in terms of class, caste, age, gender, geography, sexuality, health reasons and so on; access the tensions between technique and political commitment and most importantly fosters self reflection. However unlike these Non-Western approaches CDA goes much further in that it: possesses recognized, globally acceptable and established tools and instruments; it is flexible and therefore indigenizable; it is inclusive of other types of methodology rather than exclusive like Non-Western ones (Shu-xi, 2006); and it is more systematic.

It is important to note that the CDA methodology has been heavily criticized for being too interpretive and subjective with little room for objectivity: too political (see Widdowson, 1998). I am mindful of this and, as will be shown throughout this chapter, I have utilized several strategies in an attempt to minimize such bias.

4.3. THE OBJECTIVES OF CRITICAL DISCOURSE ANALYSIS

According to Fairclough (2003) CDA is a methodology whose objectives are to:

systematically explore often opaque relationships of causality and determination between (a) discursive practices, events and texts, and (b) wider social and cultural structures, relations and processes; to investigate how such practices, events and texts arise out of and are ideologically shaped by relations of power and struggles over power; and to explore how the opacity of these relationships between discourse and society is itself a factor securing power and hegemony. (p. 135)

He further states:

CDA is analysis of the dialectical relationships between discourse (including language) but also other forms of semiosis, e.g. body language or visual images) and other elements of social practices. It is particularly concerned ... with the radical changes that are taking place in contemporary social life, with how discourse figures within processes of change, and with shifts in the relationship between semiosis and other social elements within networks of practices (Fairclough, 2004:p. 1).

In so doing, CDA attempts to locate, describe, interpret and explain the nuances of unequal relations of power, dominance, hegemony, marginalization, exploitation and/or inequality (and other forms of social injustices) in or over discourse practice through an analysis of language and practice within a specific context. It seeks to understand and explain how these social injustices are initiated, hidden, transformed, reproduced, and legitimized, the agencies that generate, normalise, mystify, demystify, alter or change them, and their links to wider socio-cultural, political, historical, ideological and institutional contexts in an attempt to introduce to, and make humanity aware of, the influences of discourse and thus encourage participation in processes leading to positive change. Unmasking hegemonic relations of power, the agenda of Critical Theory, is a central exercise in the CDA process.

CDA often targets dominant groups or “power elites that sustain social inequality and injustice” (Weiss and Wodak 2002 p. 38) through social relations. CDA studies their potential for reproducing social structures and the consequence for social inequality. Such social power relations are based on preferential access to or control over scarce social resources by the dominant group. These resources are

not only material, but also symbolic and knowledge related. They include access to public discourse which Weiss and Wodak, (2002) argue is “among the major symbolic power resources of contemporary society” (Weiss and Wodak 2002 p. 87). CDA puts the voice of the power elite into question to reveal hidden needs, interests and agendas, demonstrating how they use knowledge in public discourse to control and dominate social relations that serve self interests, maintaining social inequality and injustice. CDA makes the marginalized aware of the dynamics of their social situation, position and circumstances and helps to make their voice legitimate and heard. This is done by uncovering ideological assumptions and clarifying the connections between the use of language, ideologies and the exercise of power/knowledge through a systematic exploration of the relationships between discursive practices, texts, social, socio-cultural structures, institutions, ideologies, and associated processes. According to Chouliaraki and Fairclough (1999) CDA is inherently beneficial in theorizing transformations by creating an awareness of “what is, how it has come to be, and what it might become, on the basis of which people may be able to make and remake their lives” (Chouliaraki and Fairclough 1999 p. 4). CDA then contributes to making a positive change to the lives of the less privileged and is thus well suited for this research project.

4.4. THE CDA PROCESS AND THE DISCOURSE DYNAMICS

The process of critically analyzing discourse requires a simultaneous understanding of the relationships between and among a specific set of discursive elements and activities – discourse dynamics - in relation to the phenomenon under investigation. These discourse dynamics include: discourse and social practices (discussed in Chapter 1 section 1), socio-cultural structures, social events, genres, conjunctures, inter-discursivity, inter-textuality and orders of discourse. The activities associated with understanding these discursive elements in relation to a social phenomenon are referred to here as the CDA process.

Socio-cultural structures or social structures are the recurring patterns of social behaviour which are not easily observable entities but rather abstract formulations. According to Fairclough, (2003) “an economic structure, a social class or kinship systems or a language” (Fairclough 2003 p. 23) are each representative social

structures. They are the concrete relationships between the various elements of a society; they define society and are defined by society. Any analysis of discourse and social practices cannot be complete without a comprehensive understanding of the social structures of the society in which the phenomena under investigation are located. Also of importance is the historical trajectory of the structure(s) as well as the individuals who comprise and compose the structure – social agents. In terms of this thesis those structural dynamics (social structures, history and agents) which are important to my analysis of the initiatives include among others, the Jamaican social class system, Jamaica's history with non-indigenous technology for development as well as the sectoral system (specifically tourism).

Social events are the “immediate individual happenings and occasions of social life” (Chouliaraki and Fairclough 1999 p. 22). Events are the activities which produce language (texts) and at times are themselves a part of this language. Social agents play an important role in the production of language. The production of language is often based on events – conversations, correspondence, declarations, agreements, etc. These events are interactions which can embody relations of power, relations which specific events often serve to normalize. They are a product of socio-cultural and political elements in a historical context. The computer training exercises of the JSDNP are examples of social events. So too, are the meetings between the implementing agencies and the international organizations – the UNDP. These events all produce language through integration and are made up of language. As I will discuss when I address the data analysis strategies used for this research project, discursive events are analyzed at three levels simultaneously: at the text level, at the level of discourse practice (where the researcher focuses on the production, interpretation and consumption of texts), and at the sociocultural or structural level (where the researcher focuses on the sociocultural structural dynamics of text production and discursive practice) (See below). The analysis is conducted according to these three dimensions outlined by Fairclough above.

Genres are “the specifically discursal aspect of ways of acting and interacting in the course of social events which are realized in actional meanings and forms of texts. So when we analyze a text or interaction in terms of genre, we are asking

how it figures within and contributes to social action and interaction in social events. (Fairclough 2003 p. 65-67). In other words, genres are a particular type of statement in particular discourses which are used in explicit situations such as when there is a specialized audience. In the context of this research, for example, genres can be seen as an explicit type of language, whether text, talk or visual, about ICT for livelihoods through microenterprise development found in letters, reports, other documents, or speech acts. Key themes which were common to this discourse included capacity building, the Internet, technical assistance, improving the lives of the poor, and empowerment. Each genre has its own set of rules and regulations whether informal or formal, and these rules and regulations are known by those who produce, interpret and consume these specific statements as meaningful.

Conjunctures, according to Chouliaraki and Fairclough (1999), are “relatively durable assemblies of people, materials, technologies and therefore practices (in their aspect of relative permanencies) around specific social projects in the widest sense of the term” (Chouliaraki and Fairclough 1999 p. 19). In the context of this research, the technologies used are the Jamaica Sustainable Development Networking Programme (JSDNP) of the UNDP, as well as the associated project documents of each around the initiatives, all form the conjuncture. Conjunctures involve many institutions at multiple levels. These include, at the surface level, the international organizations, the implementing agencies, and at the local level various business entities. Also involved are their respective functionaries, those persons responsible for policy development and monitoring of the initiatives (who I call policy personnel); those implementing the initiatives (who I call Project Managers) and those who benefit from the initiative (who I refer to as the beneficiaries). Conjunctures represent “intermediate organizational entities between structures and events” (Fairclough 2003 p. 23) and provide an indispensable source of understanding discourses and social practices.

Manifest intertextuality (intertextuality) is the presence within language of elements of other languages (and the voices of other persons) which are related to the production of language in many ways. For example, in addition to various discourses and genres being articulated together in this text, the text is also

influenced by and drawn from many different other texts - languages which include: discourse theory, development studies, information and communication technology for development, social construction of technology theory and the language of entrepreneurship. An understanding of the inter-textual nature of a discourse provides some insights into the processes and agencies at play in the construction of that discourse.

Constitutive intertextuality (interdiscursivity) is a process in which language (text) is drawn from different discourses and genres. This thesis, for example, represents many discourses – input through interaction with several supervisors over a four-year period who themselves represent various discourses and disciplines, input through interaction with the interviewees who also represent many discourses, and among other things, my own discourses, drawn from biographical, professional and educational life experiences.

Finally, one of the key elements in the discursive process is order(s) of discourse. An order of discourse is a network of a socially ordered set of genres, social practices and discourses associated with a particular social field. This is characterized by the shifting structure of relationships and flows between genres, social practices and discourse, how they are structured as well as their actions and interactions. In other words, it is how a discourse is positioned in a network of discourses, the relationships between these discourses, the factors which influence their position and relationships in the network, the way they interact, how they are influenced by, and influence other discourses and the dynamics of power in these relations.

4.5. ACTIVITIES INVOLVED IN CDA

Exploring language (written and spoken which operate conjointly with vocal and visual elements in the context of meaning-laden architectures, with the semiotics of action itself, and with music or other extra-linguistic auditory signs), to ascertain the aforementioned discursive elements is foregrounded in the CDA process of analyzing discourse. Language is the most fundamental of moments as it is “one of the key raw materials out of which specific discourses, understood as

bounded (sometimes strictly so) ways of representing the world, get shaped” (Fairclough, (2003: p. 2). There are several reasons for this. According to Fairclough, (2003), “language is an irreducible part of social life, which is dialectically interconnected with other elements of social life, so that social analysis and research always has to take into account language” (p. 2). In other words language constructs and is constructed by social life and social relations.

Language firstly provides a good description of structures, events, social practices, social elements, social networks, relations between and among people, between and among institutions, between institutions and people, and also discursive issues of power, control, dependence and subordination. Language also embodies and enacts all these activities in a concrete material form. Social researchers will testify to the fact that language can be an excellent source of knowledge about the dynamics of a particular social phenomenon. Stuart Hall (2003), for example, recognizes this in his suggestion that language “is a medium par excellence through which things are represented in thought and thus the medium in which ideology is transformed” (Hall 2003 p. 36) for language itself is incorporative of the particular biases and ideological presuppositions of its user(s). Language, according to Poster (1989) “is not simply a vehicle of individual expression, a tool to facilitate action, a means to determine truths and falsehood. It is instead an internally complex yet open world inextricably tied to social action” (Poster 1989 p. 129). Language thus helps to map social configurations, structural dynamics and complex relations. Additionally, language also influences social practices. An understanding of this link is important when analyzing the relationship between and among people in interaction.

Language influences social practices in many different ways. According to Weiss and Wodak, (2002) one way in which this is accomplished is through the regulation of conversations (turn taking) during negotiations. They suggest that power is exercised and negotiated through language. They masterfully capture the relationship between language and power and CDA’s fascination with language in this regard. According to them:

Power is about relations of difference, and particularly about the effects of differences in social structures. The constant unity of

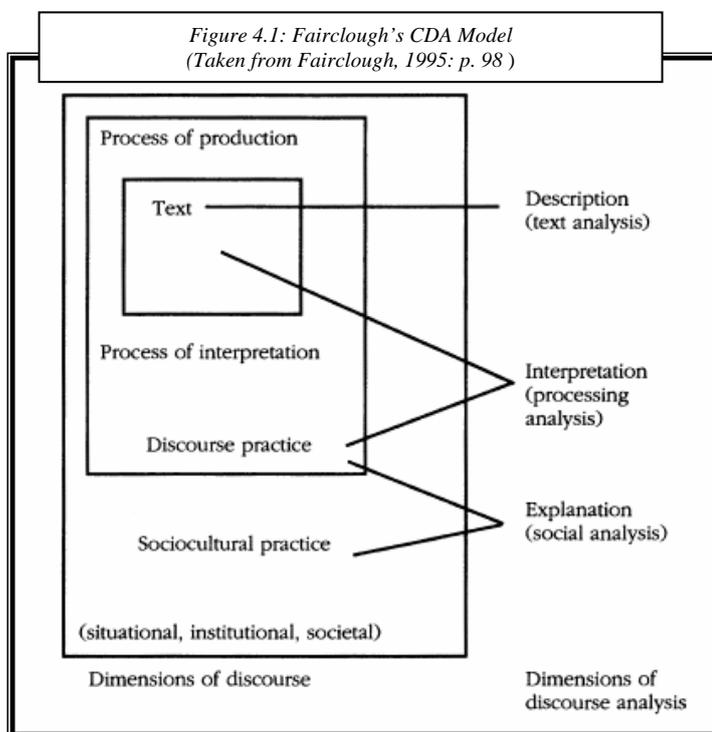
language and other social matters ensures that language is entwined in social power in a number of ways: language indexes power, expresses power, is involved where there is contention over and a challenge to power. Power does not derive from language, but language can be used to challenge power, to subvert it, to alter distributions of power in the short and the long term. Language provides a finely articulated vehicle for differences in power in hierarchical social structures (Weiss and Wodak, (2002: p. 15).

Thus language establishes regimes, regulations and rules and can confront and change these regimes, regulations and rules. There are indeed many examples of this process in the contemporary global society which sees various influential texts and/or powerful discourses embedded in and surrounding them change or changed by other discourses. These regimes, rules and regulations normalize social behaviour, ideas, structures and systems through the mystification of objects and subjects and social practices. This process of normalization can in many, but not all, cases bring about change “in our knowledge, our attitudes, values and so forth” (Fairclough, 2003: p. 8). Language is thus seen as a medium of domination and social force which may serve to legitimize relations of organized power: it is ideological. Ideology for many criticalists is viewed as an “important means of establishing and maintaining unequal power relations” (Weiss and Wodak 2002 p. 14). Language sustains or reproduces dominant ideologies thereby “establishing, maintaining and changing social relations of power, domination and exploitation” (Fairclough 2003 p. 9) (Examples of this were discussed in Chapter 2 regarding the World Bank's control over the ICT for development discourse).

For CDA, “language is not powerful on its own – it gains power by the use powerful people make of it” (Weiss and Wodak, 2002: p. 14) According to Fairclough, (2000), this is accomplished by hegemonic forces, dominant groups or institutions which “operate as incarnations of power” who exercise power in language through this process of mystification and normalization/naturalization (Harvey, 1996:p. 95).

Following Harvey (1996), Fairclough (2003) argues that these ‘forces’, ‘dominant groups’ or ‘institutions’ which operate as incarnations of power’ play an important role in the process of social change. They can play the role of a contributor or

inhibitor because of their power and knowledge to position social objects, subjects and practices, and by defining what ‘should’ and ‘ought’ to be the case (Chapters 5 and 6, will illustrate examples of this process). In so doing, they legitimize or delegitimize objects, subjects and practices usually by situating them as commonsense assumptions. Through forms of ‘language games’, these forces or groups determine, metaphorically speaking, the rules and goals of the games as well as its boundaries. Through this process of legitimization, foregrounded, backgrounded, marginalization, demonized, mystified, de-mystified, normalized/naturalized, dominant groups are able to “stabilize particular forms of power and domination”; or “reconcile and accommodate the masses of the people to their subordinate place” (Hall 2003 p. 27).



Although analyzing language is an important activity in the CDA process it is not the only activity. Language merely represents one level of analyzing discourse - the analysis of the actual text (analyzing letters, transcripts, documents, etc.) i.e. discourse-as-text. Language “figures in discourse as just one

system co-equal with” other elements (other levels) or other moments including discursive practices and sociocultural practices (Chouliaraki and Fairclough 1999 p. 51). It is the comparative analysis of these three levels – text (language), discursive practices and sociocultural practices which provides an understanding of the discourse dynamics of the social relations and actions around a phenomenon under investigation. Figure 4.1 illustrates the relationship between these elements, and the activities involved in the CDA process.

This diagram shows three distinct but intrinsically interwoven levels of analysis – the text level, the discursive practice level and the socio-cultural level. At the **text** level there is a focus on the language or texts – their discursive content – as well as the intertextual links and genres. The researcher looks at what is represented in the text. Here the analysis is at the descriptive level and in many ways, can be described as a form of linguistic analysis of texts (Fairclough, 1989, 1992).

At the **discursive practice** level - discourse(s)-as-discursive practice - the researcher analyses what are the factors (social relations, instruments or materials, objects, time and place, forms of consciousness, beliefs/values/desires and institutions/rituals (Fairclough, 1999, 2003: p. 205) which may explain the social constructions of an interviewee's response, for example, in terms of the production of texts. In so doing the researcher also analyzes the consumption and interpretation of texts and the transformations they undergo as a result of the interpretive process. At this level, an interpretation of discursive practices in relation to events, inter-discursivity, discourses, and orders of discourse is undertaken. Such information can provide insights into the production/distribution, consumption/interpretation, and transformation that a discourse undergoes (the influential elements and their configurations).

Finally, understanding the wider socio-cultural, political, ideological, institutional and historical context and structures surrounding the text – discourse-as-social-practice or the **sociocultural practice** – is an important activity in situating discourse-as-text with discourse-as-discursive practices. It is also important in identifying as well as explaining the discourse dynamics of a specific phenomenon.

The activities involved in the CDA process are, however, dependent on specific data sources, texts, data collection methods and procedures. In the next sections I will address these specific data sources as they relate to this research project. Thereafter I will outline the analytical process used to generate the findings presented in Chapters 5-7.

4.6. CDA DATA SOURCES AND SAMPLING TECHNIQUES

To undertake the CDA process required the selection of several individuals and documents relevant to the agenda and the objectives of this research. In this section I will address the individuals selected for this research and in the next section I will discuss the relevant documents which were the primary source of analysis. These were identified through various sampling methods. Merriam (1998) defines sampling as the selection of a research site, time, people and events in field research (Merriam 1998 p. 60). Deciding on a sample for research study is one of the crucial stages of the research process in that the sample used in research can have a significant impact on the trustworthiness of the findings. I will discuss trustworthiness in section 4.10 below. For this research, it was necessary to identify multiple sources from a diverse types of people involved in ICTLEMD initiatives at various levels. According to Mills (1959), using a variety of sources is what the social sciences is properly about as it allows the researcher to compare accounts and incidents. Selltiz, Wrightsman, and Cook, (1976) also share this position, arguing that the use of multiple voices provides “important shared patterns that cut across cases and derive their significance from having emerged out of heterogeneity (p.172). More recent literature (Gergen and Gergen, 2000) has also suggested that in order to enhance the credibility of the research, a researcher ought to remove:

the single voice of omniscience and to relativize it by including multiple voices within the research report...Multiple voicing is especially promising in its capacity to recognize the problems of validity while simultaneously providing a potentially rich array of interpretations or perspectives...Doubt gives way to the positive potentials of multiplicity (Gergen and Gergen, 2000: p. 1028).

Agger (1991) rightly points out that such an approach becomes an accounting of social experience from those multiple perspectives of discourse/practice, which is facilitated by the telling of small stories from the heterogeneous “subject positions” individuals and plural small groups” (p. 116). To be able to gather a sample of these heterogeneous participants, individuals and plural small groups operating at various levels surrounding the phenomena (which represent multiple sources from a diverse population), effectively required the use of both purposive and snowballing sampling techniques (See in Patton, 1990) as well as the use of

the theoretical sampling technique (See in Strauss and Corbin, 1998; Creswell, 2002, Charmaz 2000). Purposive and snowballing sampling techniques provide a researcher with the capacity to select participants relevant to the purpose of the research. Both are useful in generating information-rich cases that illuminate a study, elucidating variations, as well as significant patterns within those variations (Brott and Myers, 1999).

Patton (1990) describes such 'information rich cases' as "those from which one can learn a great deal about issues of central importance to the purpose of the research" (Patton 1990 p. 169). Merriam (1998) shares a similar position arguing that information-rich cases allow researchers to discover, understand and gain more insight on issues crucial for the study (Merriam 1998 p. 61). Such guidelines were instrumental in the selection of the cases used in this research and led me to information-rich sources of knowledge or more precisely, 'resources' for discourse analysis.

My background and previous exposure to the ICT for livelihood development space in Jamaica proved useful in using the purposive/judgemental sampling technique. Prior to undertaking this thesis, I worked for three years as an ICT for livelihood development consultant employed to the United Nations Development Programme (UNDP) in Jamaica. During those three years, I interacted with several other ICT for livelihood development consultants working with or for various other multilateral and bilateral organizations, government agencies as well as several local and global non-governmental organizations. While in New Zealand I maintained contact with this very small community through electronic mail and Internet Messaging. In addition to drawing on these individuals to assist me in the identification of information rich cases relevant to my research objectives, on my initial return to Jamaica to undertake my data collection exercise, I was asked to present at the Caribbean's first ICT for development Conference which was hosted by the Jamaican government, specifically the then Ministry of Industry Commerce and Technology (now Ministry of Commerce Science and Technology). It was at this conference that I met other individuals (resource persons – see below) with some knowledge of various areas of ICT for

livelihoods development but no one with specific knowledge of ICTLEMD or for that matter ICTLEMD-T.

From these sources, I was able to easily identify several participants relevant to the research objectives. Once these vital information-rich cases were identified, the snowballing technique was used to solicit others. The snowballing technique is a common sampling method used by qualitative researchers. In its simplest form, it uses existing interviewees to get contact information on other individuals relevant to the research. This approach was very useful in identifying additional contacts. Section 4.8 describes the procedures used for data collection. One activity was the identification of entrepreneurs to be interviewed based on recommendations by persons implementing the initiatives. Though these persons did provide some interesting information, much of what was said was similar to the position of those implementing the initiatives. Thus I got a sense that I was given a list of the “ideal” entrepreneurs to interview. These were entrepreneurs who presented an uncritical ‘sunshiny’ perspective of their experiences with the JSDNP. Based on the critical nature of the research, there was a need to locate other entrepreneurs outside of this circle who could be used to compare stories, or fill gaps which could be used to identify possible instances of social injustices and discourse dynamics of the initiatives. I was able to get the names of other entrepreneurs from those entrepreneurs whom I had interviewed. Indeed, this had proven to be a useful exercise in terms of getting diverse discourses regarding the dynamics of the initiatives.

In addition to the use of these two sampling techniques, theoretical sampling was also used to follow up on leads or specific intellectual gaps which needed to be filled to achieve my research objectives. Glaser and Strauss, (1967) describe Theoretical Sampling as "the process of data collection... whereby the analyst jointly collects, codes, and analyzes his data and decides what data to collect next and where to find them" (Glaser and Strauss 1967 p. 45). Although the purposive and snowballing techniques lead to the identification of key respondents, the data analysis process thereafter lead to what Charmaz, (2000) would refer to as the identification of gaps or holes in the data. I therefore had to “go back to the field and collect delimited data to fill those conceptual gaps and holes” (Charmaz, 2000

p. 519). At this point, I chose to sample specific issues only looking for precise information to shed light on the phenomena under investigation (Charmaz 2000 p. 519). Charmaz (2000) further states that “the aim of this additional sampling procedure (theoretical sampling) is to refine ideas, not to increase the size of the original sample” (Charmaz 2000 p. 519). The use of these sampling strategies led to the discovery and use of the sample described below.

4.6.1. The Participants

The data which were analyzed to generate the findings in the forthcoming chapters were directly based on information from thirteen of these participants, including myself.

Of these thirteen, seven were microenterprise entrepreneurs who benefited from the initiative (Microenterprise Entrepreneurs). The Microenterprise Entrepreneurs sample comprised seven Jamaican microenterprise entrepreneurs in the tourism industry, five females and two males, who were exposed to the training at the JSDNP Cybercentre Project – project beneficiaries. This essentially represented one hundred percent of Microenterprise entrepreneurs in Jamaica operating in the tourism industry who were trained and used the services of JSDNP Cybercentres across Jamaica (in rural and urban areas). I had also interviewed two additional entrepreneurs who I refer to as my control group. These entrepreneurs were exposed to other more indigenous ICT related training initiatives similar to the JSDNP Cybercentre Project.

In addition to interviewing the project beneficiaries, I also interviewed three persons responsible for implementing and executing the initiative. In the thesis I refer to these persons as ‘Project Managers’. One person from three of the seven active Cybercentres in Jamaica was interviewed – approximately forty percent coverage. To get a holistic picture of the Cybercentre project I had interviewed the one UNDP staff member who was responsible for overseeing the implementation and execution of the initiative (I have referred to this person in the thesis as a Policy Maker.

I had also sought the Counsel of individuals in Jamaica considered either as authorities/leaders in several areas related to the research project, or/and persons with advanced knowledge of the phenomena being studied, by virtue of their association with it. These areas and knowledge included ICT for development, ICT for microenterprise development, and the ICT for microenterprise development initiatives of the UNDP and IICD; microenterprise development generally and specifically – music, and tourism; technology for development in Jamaican studies and technical assistance. I have referred to these persons as ‘Resource Persons. These Resource Persons comprised academics, business leaders, and policy makers in government institutions and agencies proficient in the aforementioned sectors. The resource persons were primarily used in conjunction with the literature to interpret the data collected.

According to the principles of CDA, the author of a study must be self-conscious, and write themselves as a distinctive and recognisable voice into the study alongside his or her informants. I therefore put myself in front of the lens. I draw on my experiences working as a consultant in the Jamaican ICT for livelihood development circle generally, and for the UNDP specifically between 1999 and 2001. I believe that such intimate knowledge positions me to be able to tell this story well. Such an approach helps me to make sense of how the interviewees interpret and socially construct reality and the possible influences which may have contributed to such constructions.

4.6.2. The issue of size

Although many sympathetic to the positivist cause would perhaps argue that this sample size is small and that size has some bearing on the reliability and perhaps even the validity of the research findings, in actuality, at the policy and project management level, the cases which were selected to be analyzed represented a significant number of the persons involved with the planning and implementation of these initiatives (more than 50%). And, based on dialogue with Policy Makers and Project Managers, at the ‘beneficiary’ level, the sample collected represented the total population of microenterprise tourist workers who had participated in the JSDNP Cybercentre Project since its inception. Furthermore, readers should also be aware that Hatch (2002) notes that “no direct relationship exists between the

number of participants and the quality of a study” (Hatch 2002 p. 48). I was “less concerned with generalizing conclusions to large populations and more concerned with gaining insights into specific cases from which they can construct an understanding (rather than a statistical explanation) of broad phenomena” (Manheim, Rich and Willnat 2001 p. 315). In other words, what all this suggests is that the sample size used for this research, though ostensibly small, was intrinsically sufficient in generating substantive quality information needed to answer the research questions for this thesis. It must also be pointed out here that data collection continued to a point of saturation. In other words, I began to see or hear the same things over and over again, and no new information surfaced as I collected more data (Merriam 2002 p. 7; see also Strauss and Corbin, 1998).

4.7. THE CORPUS OF TEXT: REFELECTIONS ON METHODS DATA COLLECTION

4.7.1. The Instruments used in the Study

To understand, describe, interpret and explain the discourses and social practices surrounding the initiatives (the JSDNP Cybercentre Projects across Jamaica), an evaluation of several texts relevant to the research project was undertaken using a combination of data collection methods. These included: the examination of existing literature and archival records such as government documents, reports and project documents of the three international organizations, newspaper articles, correspondence and other available sources of communication; the use of unstructured face to face in-depth interviews as well as direct observations. The use of this combination of data collection tools was based on Chouliaraki and Fairclough’s, (1999) concerns about the limitation of CDA in terms of the focus on secondary texts only, and suggestion for the use of other qualitative methods of data collection.

4.7.1.1. Interviews and Ethnographic Reflections

For this research, semi-structured interviews (and direct observations) were conducted with several participants with an understanding of the discourses and discursive practices (discourse-as-text and discourse-as-discursive-practices) surrounding the initiatives.

According to Denzin and Lincoln, (2005) interviews and observations are the “most common and powerful ways in which we try to understand our fellow human being (Denzin and Lincoln 2005 p. 645). Both the use of interviews and direct observations provide “an invaluable tool for assessing the articulatory process in the practice and the specific function of discourse in it” (Chouliaraki and Fairclough 1999 p. 62).

Following Chouliaraki and Fairclough (1999) as well as Denzin and Lincoln (2005), the objective of the interviews and observations was to harvest concrete insights, understandings, meanings, constructions and perspectives of the interviewee’s own experiences or knowledge on various issues. These interviews provided me with the ability to critically observe text production and response through probes within the social practices that produce them and give clues to the social identities which are created by and with texts. The interviews also give insights into moments of power, institutions, rituals, material practices, as well as beliefs, values and desires (Harvey, 1996).

I have also drawn from six years of lived experiences and interaction (up to the completion of the writing) with the objects and subjects in the ICT for livelihood development space – years which, for the purposes of this thesis, constitute ethnographic reflections or recollections of observed realities. In other words, I have also put myself onstage. Such an approach has proven to be useful in terms of helping us as social researchers to develop rich understandings of what roles new technologies play in social life (Slater, Tacchi and Lewis, 2002; Miller and Slater, 2000).

These tools assisted me in obtaining rich, in-depth accounts of an event or an episode in the life of the respondent(s) to get an understanding of the location of discourses in relation to other discourses in a network of discourses (orders of discourses). They were also instrumental in identifying issues of power and its socio-cultural and political dynamics in a historical context. These tools provided an understanding of the participant’s material practices, beliefs, attitudes, values, desires and rituals, how persons construct their realities and the influences operating on them. These tools (interviews and observations) also captured the

ways in which individuals' constructions were influenced by powerful individuals and groups in society and the way discourse and language influence this process. Through the use of these tools, I was able to gather deep and rich information from respondents about the substantive meanings they give to a phenomenon. This information helped me to tell their stories in their own voice (Fairclough, 1992).

4.7.1.2. Documents and Archival Records

The study involved the analysis of texts at various levels to (a) identify additional discourses and (b) gain insights into the socio-cultural, ideological, political and historical contexts of the discourses discovered in the interviews. At one level were documents and archival records surrounding the research objects and subjects associated with the UNDP and IICD projects - a corpus of texts representing the "totality of discursive practice" (Fairclough, 1992: p. 227) – used to understand and describe the genres, discourses and social activities of the initiatives. At another level were texts capturing the socio-cultural structures of Jamaica in a historical context (See Chapter 2) and the global discourses on ICT for development (See Chapter 3). These were used to explain the discourse dynamics surrounding the initiatives.

The first group of texts analyzed consisted of the project documents of initiatives as well as other relevant reports and correspondence relating to the JDSNP Cybercentre Project. The sample included several UNDP project materials relating to their ICT for development initiatives in Jamaica, including policy framework statements, development assistance related documents as well as other material relevant to this research project. This multi-faceted approach sought to gather as much information as possible from all angles in order to acquire a critical impression of the social realities of these initiatives. These texts provided a descriptive analysis of the project structures, expected and projected outcomes, specific exercises, order of discourse and genres. What was of importance in this process of discovery was getting some insights into the social events leading up to the establishment of the initiatives, how they came into form, and what were the activities involved.

The central objective at this level of analysis was to identify possible instances of power, oppression, dependence, knowledge, control and dominance. This was done with the aim of unmasking ‘hidden agendas’ and analyzing competing power interests which may exist between groups and individuals within the Jamaican society. This process specifically sought to identify who gains and who loses with regard to these initiatives as well as the existence of particular social arrangements and the process by which such power plays operate (Kincheloe and McLaren, 2000).

The texts outlining the socio-cultural structures which were used to explain the discourse dynamics surrounding the initiative are represented in Chapters 2 and 3. These were books written by several authors explaining Jamaica’s evolutionary trajectory and structural evolution and the current dynamics of the country’s class and sectoral structures and their historical influences. A great number of these texts were academic material relating to Jamaica’s condition and instances of technological dependence, experiences with previous non-indigenous technology for development initiatives, and the causes/consequences of the country’s condition of technological underdevelopment. Of interest here were the social events leading up to the establishment of these initiatives – power struggles, power in discourse and power over discourse and its impact on current practices. Also of interest was the current structure of the microenterprise sector and its historical influences. Such information provided the means with which to “absorb lessons from earlier, and sometimes unsuccessful efforts to introduce technologies” (McNamara 2003 p. 8). As Chapter 2 has illustrated, the spatio-temporality of discourses provides a location for changes and trends which may assist in explaining how people socially construct social objects and subjects and the factors which influence these constructions (Mills, 1959). According to Mills, “every social science or better, every well considered social study, requires a historical scope of conception and a full use of historical materials” (Mills 1959 p. 145). These texts were complemented by current global discourses on ICT for development (see Chapter 3).

Throughout the years, documents and texts have been identified as indispensable sources of historical data (Kaplan and Maxwell, 1994; Miles and Huberman,

1994, Denzin and Lincoln, 2005). Although documents and archival records provide an indispensable tool for capturing discourse-as-text and discourse-as-social-practice, they do have their limitations in terms of the type of information one can gather about a discourse. This is particularly the case for interpreting how discourses are produced (the activities and influences behind text production), interpreted and received (how people view and socially construct the text and various influencing factors) by individuals or groups in a society (Chouliaraki and Fairclough, 1999). Chouliaraki and Fairclough recommend the use of other data collection methods. In this research these other data collection methods were interviews and direct observations.

The documents and archival records as well as the transcripts from the interviews were the primary sources used for understanding the genres and discourses surrounding the initiatives. CDA provided tools for describing the social relations and interactions between and among the subjects and objects associated with the initiatives (discourse-as-texts). The interviews further provided insights into the discursive elements such as conjunctures, events, orders of discourse, intertextuality and interdiscursivity. From these sources, I was able to interpret the factors that contributed to the production of the texts (and their influences) - (discourse-as discursive-practices).

Both the interviews as well as several historical documents regarding Jamaica's history with non-indigenous technology for development - the wider socio-cultural, political, historical, ideological and the institutional contexts (discourse-as-social-practice) – were of significant contributory value in explaining the discourses and discursive practices, orders of discourse and the existence as well as influence of power in and over discourse. These multiple methods of data collection reflect an attempt to ensure “a broad sense of the overall frame of social practices which the discourse in focus is located within...[and] the practice or social practices which the discourse in focus is a moment of, with particular regard to the dialectic between discourse and other moments” (Chouliaraki and Fairclough, 1999: p. 61).

4.8. PROCEDURES FOR UNDERTAKING ICT FOR LIVELIHOOD EXPANSION THROUGH ENTERPRISE DEVELOPMENT RESEARCH: SUPPORTING THE CDA AGENDA

The interviews and follow-up interviews were conducted over a period of approximately three years and had several phases. This extensive fieldwork assisted me in extrapolating from various texts the “knowledge about different moments of a social practice: its material aspects (for example, locational arrangements in space), its social relationships and processes, as well as beliefs, values and desires of its participants” (Chouliaraki and Fairclough 1999 p. 62). It also provided insights into the “interdiscursive articulation of different genres and discourses” (Chouliaraki and Fairclough 1999 p. 63) as well as the conjunctures, thereby opening the doors to an understanding of various dynamics of power - power relations and power struggle.

4.8.1. Phase 1: Establishment of a Control Centre

The data collection procedure commenced with the establishment of a control centre located in my home office in Kingston, Jamaica. The Control Centre was fully equipped with broadband Internet connection, a mobile and land unit, a desktop and laptop computer, a fax machine and software which I had configured to meet several need specific to conducting the study. It was from here that all arrangements were made with the participants regarding venues, dates and times for interviews, and also with other persons for sourcing material (documents) relevant to the study.

4.8.2. Phase 2: Preliminary Discussions

Preliminary discussions were held with my supervisory panel to help with the development of an interview guide. Further discussions were held with peers and authorities in various fields associated with the research area (Resource Persons) while in Jamaica. The aim of this process was to fine tune questions, identify resource materials, as well as potential participants.

4.8.3. Phase 3: The Pilot Study

Subsequent to the formal interviews, a pilot study (Simulation) was undertaken with several persons similar to those who would have been interviewed for the

actual study. The aim was to determine the appropriateness of the interview guide as well as to refine the questions to be answered. This dress rehearsal for the main study sought to assess the structure and clarity of the interview questions as well as other issues such as time, and layout. The dress rehearsal led to several amendments in the interview guide.

4.8.4. Phase 4: The Actual Study

The formal interview itself included several basic steps. First, an initial meeting was held with the participant through telephone conversations and/or electronic mail. The aim of this was to introduce myself to the potential participants, brief them on the nature of the study, solicit their willingness to participate in the investigation and note their issues or contentions (For example, whether they would allow audio recordings of the interview as against hand-written notes only). This preliminary contact was also used to establish a convenient date, time and appropriate venue for the interview to be conducted. An introductory letter and an information sheet outlining the nature of the studies, procedures for data collection and rights of the participants were sent to the participants either by electronic mail or fax. A consent securing the written approval of the participants, and again outlining their rights was also sent to the participants. Additional copies of these documents were also taken to the interview sessions. The consent forms were distributed, completed, signed and returned to the researcher. A copy of the form was also given to the participants. There were, however, some participants who gave verbal informed consent. These were largely persons interviewed over the phone because they were located in remote areas of Jamaica and thus, due to time, access and financial constraints, could only provide consent and be interviewed over the telephone.

The next step was the interview itself. Each interview began with a statement outlining the aims and objectives of the research project. I again asked the participants whether there was any need to clarify the research project or interview process. Each interview lasted between forty-five and ninety minutes and was conducted at venues convenient to the participants. From the research question, several interview questions were initially developed to guide the process. Although Phases 1 and 2 led to the evolution of the interview guide, the interview

process itself also contributed to the consolidation of the guide as new illuminating issues emerged. Through these questions, I was able to freely probe, and explore subject areas through dialogue. It was necessary to conduct telephone, email and instant messaging follow-up (cross checking) interviews as a means of investigating new dimensions which emerged and intellectual gaps in the primary evidence. This was useful in gaining further clarification, understanding and explanation of the discourse dynamics surrounding the initiatives.

I am conscious of, and in agreement with the views of Gallivan and Keil 2003 p. 38) who suggest that participants often withhold information especially if it is contentious information, because they perceive such views to be (as we say in Jamaica) ‘undiscussable’ or because prior history has shown them that such negative feedback will be ignored. Being a Jamaican national, however, enabled me to understand the talk (lingo) and expressions easily. And using CDA provided me with the tools needed for unearthing deep hidden data. Thus the interviews almost resembled conversations without any obvious hierarchical relationship, control of discussion, and overuse of knowledge or power dynamics. I was, however, mindful of my own discourses, expression and language during the interviews and constantly reminded myself of the argument of Alvesson and Deetz (2000b) that says:

“The intellectual role [...] of the critical researcher consists in creating the conditions that allow an open discourse between different social actors and not in establishing a superior insight or an authoritarian truth” (Alvesson and Deetz 2000b p. 155).

Each group of participants was asked varied questions, in some instance in accordance with their background. Thus the interview guide was sectionalized with targeted questions for each category of participants. This strategy emerged from the pilot study which highlighted the possible limited knowledge that specific types of participants might have, based on their level of education and involvement with the initiative. This was further illustrated in the initial four interviews. There were, however, several common questions relevant to the objectives of the research which ran through all interview guides.

Most of the interviews conducted were tape-recorded. As already stated, both verbal and written permission were sought from the participants before any conversations were recorded. Some participants were however reluctant to be taped and thus, an electronic hand held computer device or paper was used in some instances to record the conversations. Due to geographic location, availability of the participant and time, some interviews were conducted over the telephone, mobile phone and MSN messenger. This was particularly the case when additional answers to questions which were raised during the transcribing process were needed. The telephone, mobile and MSN interviews were rarely conducted with the entrepreneurs and frequently with resource persons. Naturally, these interviews were limited in terms of observing body language and immediate environmental influences. This was, however, taken into consideration in the data analysis process.

Several of the interview questions formulated for this study were constructed to access narrative-episodic knowledge about the dynamics of these initiatives as it relates to the research question and agenda. According to Flick (1998), “episodic interviews yield context-related presentations in the form of narratives, because these are closer to experiences and their generative context than other presentational forms...they make the process of constructing realities more readily accessible” (Flick 1998 p. 107). I am in agreement with Flick about this and saw the absence of this as one of the drawbacks of existing ICTLEMD research (See for example UNDP, 2001b; UNDP, 2001a, 2001b, 2001c; UNCTAD, 2001a-2003a; d’Orville, 2000; Moyi, 2004; Muller-Falcke, 1998; Duncombe and Heeks, 2001, 2002; O’Farrell, Norrish, and Scott, 1999; UNCTAD, 2001a-2004a; Barton and Bear, 1999; Biggs, Goussard, Constance, and Bytheway, 2000; Mansell, 1999).. As will be illustrated in the upcoming chapters, special attention was “paid in the interviews to situations or episodes in which the interviewee has had experiences that seem to be relevant to the question of study” (Flick 1998 p. 107).

The exercise itself was not only one of discovery on my part but on the part of the participants also. According to Fairclough (1995c), “connections between the use of language and the exercise of power are often not clear to people, yet appear on closer examination to be vitally important to the working of power” (p. 54).

People's description of a phenomenon, an activity, an event or someone else can provide a picture of such relations. I found that this was by far the most rewarding exercise of this thesis. In asking many of the questions outlined in the research question, I had encouraged many of the participants to critically reflect on their own social discourses and positions in relations and orders of discourse surrounding the initiatives.

4.9. DATA ANALYSIS AND INTERPRETATION

As mentioned earlier, the CDA methodology has been heavily criticized for being too interpretive, not analytical and subjective with little room for objectivity (see Widdowson, 1995). In other words it is a methodology which is too political, prone to bias and weak in terms of rigour. For many contemporary qualitative researchers however, objectivity is questionable and the multiplicity of truths which politics brings to a research is sometimes welcomed. What is really of importance for many contemporary qualitative methodologies are issues of trustworthiness and rigour as well as a sound process of analysis. Following Widdowson (1995), in some ways I agree that Fairclough's CDA in its existing form may perhaps be questionable in this regard especially in terms of its analytical capacity despite Fairclough's counter claim (Fairclough, 1996). Thus I have attempted to address this problem by juxtaposing Fairclough's CDA with other methodological and data analytical tools to develop an approach to critically analyzing discourse which is somewhat more trustworthy and rigorous.

This juxtaposition is made possible by what Fairclough describes as the fluidity of his CDA approach. According to him, like many other qualitative methodologies one of the strengths of his approach to analyzing discourse, his methodology, is that it may be used in conjunction with other methodologies such as ethnography. In my use of this tool (Fairclough's CDA approach) to analyze the discourses surrounding an ICT for development initiative in Jamaica for microenterprise entrepreneurs operating in the tourism industry I have found this to be true. For example I was able to juxtapose Fairclough's CDA with various elements of Strauss and Corbin's, (1990, 1998) Constant Comparative Analysis of Grounded Theory, Yin's (1994) Case Study method approach, and Miles and Huberman's

(1994) Matrix Technique. This ‘bricoleurian’ approach (Denzin and Lincoln, 2005). Bricolage or the bricoleurian approach is “emergent construction that changes and takes new forms as the bricoleur adds different tools, methods, techniques of representation and interpretation to the puzzle” (p. 4) or the mixing of methodologies and methods of data analysis to suit a particular research agenda – proved to be useful.

4.9.1. Level 1

Data Analysis and interpretation was an ongoing and simultaneous process during the life of this research project. The texts – transcripts from the interviews and field notes and relevant documents (all of which were in electronic form) – were analyzed repeatedly to identify relations and patterns in the discourses and social practices as they relate to the research objectives. The software programs Microsoft Excel and Microsoft Word were modified and used to develop several macro type matrices in which these texts were inputted. With Microsoft’s macro functions, these matrices allowed me to probe the discursive elements of the transcribed texts, constantly comparing them against the literature (theoretical framework and contextual framework) and the research objectives.

The analysis was a unity of three levels of examinations, that is, the actual text (discourse-as-text), creating the texts (discourse-as-discursive practice) and the larger social context which may have influenced the creation of the texts (discourse-as-social-practice) which takes into consideration the underlining socio-cultural and power structures in society (Fairclough 1992).

First, the transcripts, field notes and related documents were each analyzed looking at vocabularies (wording and metaphors), semantics, utterances, grammar (transitivity, modality) to identify “representations, categories of participant, constructions of participant identity or participant relations (Fairclough 1995 p. 58) of subjects, objects, social positions, how subjects and objects were positioned, and instances of relations of power in the use of language. The analysis shifted to “looking at collocations, patterns of co-occurrences of words in text, simply looking at which other words most frequently precede and follow any word which is in focus (Fairclough 2003 p. 131). Of specific interests were the

genres to which the discourses belonged, whether the texts conform to that particular genre, the intertextual linkages, semantic relationships, how elements of social events (processes, people, objects, means, times, places) were represented” (Fairclough 2003 p. 133), the absence or inclusion of specific characteristics in the genre, generalizations, how events were ordered, the angle which is being taken, what is emphasized (foregrounding) what is not (backgrounding) and, among other things, what were the main presuppositions of the generic and discursive configurations.

I then connected these texts (documents and transcripts surrounding events and conjunctures - at the micro level) to the discursive practices around their formation. Here, I analyzed the production, distribution, consumption, transformation and interpretation of the texts. In so doing, several questions were asked while reviewing the corpus of text. Some of these, taken from Fairclough (2003: p. 193-194), included:

- What is the discourse in the text?
- What genre is this discourse a part of?
- What social event, and what chain of events, is the text a part of?
- What social practices/discourse or network of social practices/discourses can the events be referred to, be seen or framed within (interdiscursivity)?
- Is the text part of a network of texts - a mix of genres (intertextuality)?
- What genres does the text draw upon, and what are their characteristics (in terms of activity, social relations, and communication technologies)?
- How is difference treated in the text?
- Are particularly significant relations of equivalence and difference set_up in texts?
- Which voices are included/excluded?
- Which voices are backgrounded/foregrounded?
- Which voices are directly/indirectly reported?
- What extensional, propositional, or value assumptions are made?
- What are the predominant semantic relations between sentences and clauses (causality, reason, consequence, purpose, conditional, temporal, additive, elaborative, contrastive/concessive)?

- Are there higher-level semantic relations over larger stretches of texts (e.g. problem-solving)?
- What type of statements are there (statements about facts, predictions, hypothetical, evaluative)?
- What are the features that characterize the discourses which are drawn upon (semantic relations between words, collocations, metaphors, assumptions, grammatical features)?
- What elements of represented social events are included or excluded, and which included element are most silent?
- How abstractly or concretely are social events represented?
- How are processes represented?
- What are the predominant processes types (material, mental, verbal relational, existential)?
- How are social actors represented (active / passive, personal / impersonal, named / classified, specific / generic)?
- How are time, space and the relations between 'time-space' represented?
- What styles are drawn upon in the text, and how are they textured together?
- Is there a significant mixing of styles?
- What do the authors commit themselves to in terms of truth??
- To what values do authors commit themselves?
- What are the order of discourse?
- What are the power relations?
- Who are the agents of power and who are not?
- What are the connections between the use of language and the exercise of power?
- What are the binary oppositions and what do they imply?
- What insinuations are being made and how are they influenced?
- Whose interests are served in the way texts are positioned and whose interests are negated?

This process helped me in understanding how things were socially organized (the institutions and institutional systems) how interviewees socially constructed the social relations, subject and objects surrounding the initiatives, the factors which

influenced these constructions (of which discourse is of central importance), who it influenced, who influenced whom and to what end, the role hegemonic social structures and agents (within a historical socio-cultural and political context) played in this process. This understanding was further connected with macro level sociocultural practices. This included the role of wider ideological processes and power structures (the underlining power relations which might be reproduced, how they facilitate the exploitation and marginalization of groups) as well as possibilities of change and resistance.

The field notes, transcripts and related documents provided sufficient information in this regard. They were also compared against each other and against the existing literature (Chapters 1-3) to identify the orders of discourse, network of discourses and how these discourses were structured in this specific network. The genres and discursive configurations were compared with the social practices of various discursive events to identify possible links and power relations, cultural influences, and the order of discourses based on historical, social, institutional, and situational influences. Understanding how discourses were internalized by the other moments and the contribution of this process to the production, distribution, consumption and interpretation of texts was a key activity at this level of analysis.

The process helped me in identifying and explaining the causal and circular logic at work - how and why powerful discourses and powerful agentic forces “shape beliefs, fantasies and desires so as to regulate practices of institution building that set the stage for material production and reproduction activities that in turn construct social relations that finally return to ensure the perpetuation of power” (Harvey, 1996: p. 82).

The Matrix approach of Miles and Huberman simplified this analysis process. With matrices I was able to sort the data into increasingly manageable displays. Two types of matrices were developed to manage the data, a Case-Ordered Effects Matrix and a Theme-Ordered CDA Matrix. The use of matrices such as case-ordered effect matrices (ordering by type – entrepreneur, policy maker, and implementer) was useful in helping me to avoid aggregation and keeping the data distinct.

With the Case-Ordered Effects Matrix, each initiative was treated as a case study in and of itself – Case N - and the participants, documents, conjunctures and the discursive event (captured in the field notes) were themselves treated as a case study – Case n (Yin, 1994). The case n's were compared against others within the Case N's and thereafter both Case N and case n were compared. The case study method provided insights into simultaneous and multiple interrelated activities, discourses, social practices, dynamics of interactions and power relations surrounding the initiatives. In situations such as this research project, where 'the case' involved multiple actors and institutions, the case-study method helps in understanding and analyzing the dynamics of interactions.

The nature of the case study method enabled me to focus on specific events to reconstruct the details of these proceedings and activities as they occurred over time and in space. In a sense, the case-study approach was like an examination of halted reality in putting together events and activities. It allowed snapshots of moments in an ongoing process which, thereafter, the researcher interprets with the aim of explaining the phenomenon under investigation. In less abstract terms, with the case study, once the facts of an event or an activity were collected, they were then explored, examined and compared with other similar situational occurrences to draw out these and other conclusions. This analysis of the dynamics of each case contributed to an understanding of the comparative (similar/dissimilar)²⁰ dynamics of the cases. This process provided the means of clustering, sorting, identifying and isolating cases, and cause and effect themes related to the discursive configurations and issues I have discussed above.

I was able to observe the characteristics of these themes and cases sometimes simultaneously. This method provided a means for data reduction and the understanding of patterns. The matrices also provided a means for observing separate and combined predictor or antecedent themes which were critical contributors to the cases and the phenomenon under investigation. The literature (Chapters 1 through 3), my field notes, and transcripts from several Jamaicans

²⁰ In saying this however it must be noted that the cases and themes were not simply lumped together, summarizing simple similarities and differences, but rather a detailed analysis was undertaken of the nature, context, structure and the levels of similarities and differences between and among variables and the basic social processes of cases.

who are authorities in various areas on which this research focused were consulted to help me make sense of the data.

4.9.2. Level 2

This process led to the emergence of conceptual and analytical discursive themes. Once these themes emerged, the analysis moved from the case level to focus more on grouping these themes and mapping their characteristics with the aim of understanding their relationships, linkages, dynamics and effect as they relate to specific discourses, orders of discourse, social practices, genres, relations of power, power in discourse, power over discourse and the use of intertextuality and interdiscursivity to enhance this. At this level both discourse-as-discourse practice and discourse-as-sociocultural practice were taken into consideration in the construction of more definitive themes and possible consequences. All this was done through a Theme-Ordered CDA Matrix. Table 4.1 below is an example of the Theme Effects Matrix.

Question	Respondent/ Answer	Discourse-as-Discourse Practice	Socio-cultural Practices	Theme	Consequences
1					
2					
3					

Appendix 1 provides an illustration of a one of several Theme-Ordered CDA Matrix used for this study. This Theme-Ordered CDA Matrix shows the analysis of several themes which emerged from the Case-Ordered/CDA Matrix and focuses on the transcripts of the entrepreneurs interviewed for this research who were exposed to the JSDNP Cybercentre Project.

During this process of exploring emerging themes, case configurations were, also taken into consideration in order to be able to see linkages across themes and cases (cause, effects, outcomes and their temporal sequences) through decomposition and restructuring of individual cases in relation to other cases and a recompilation of the parts in a manner which allowed me to observe linkages and network of relations between and among themes and the associated discourse dynamics.

At this level, an understanding of the cases/themes, network of connections and relationships was undertaken. This led to the grouping, further ordering, amalgamation/clustering of some cases/themes and the expansion of others during a process of constant analytical comparisons similar to Strauss and Corbin's constant comparative analysis of the Grounded Theory Methodology. The field notes, information from the resource persons interviewed and available research and theory – the literature - were all consulted again to compare and contrast these causal connections, disconnections, and constructs which may conflict with, as well as support the emerging data. At this juncture tentative conclusions, hypotheses and themes emerged which led to the collection and analysis of additional data to test against initial conclusions, hypotheses and themes. Soon new conclusions, hypotheses, themes emerged as others collapsed into each other, based on commonalities between and among language usually associated with specific issues found along horizontal, vertical and diagonal lines. Here, common assumptions were forged together and deviant cases or differences or divergent voices explicated as I began to write, re-write, re-assess the new conclusions, hypotheses and themes emerging from the matrix.

Within this matrix, I attempted to identify shared meanings in discourse, as well as common ways of socially constructing objects, subjects and phenomena as well as possible differences (isolated for more deconstructive analysis) which would be outlined in texts capturing analysis and interpretation from which the main and core themes would be drawn. This was indeed helpful in interpreting new emerging themes and their network of connections to specific cases.

In this data analysis/interpretive process I was mindful of my own discourses and the approach taken for this research project. For example, the CDA process has been criticized for being biased and for focusing on the interpretation (influenced by presuppositions) and not on the data. Indeed, the works of several postdevelopment, poststructural studies and critical theory researchers and theorists have influenced me, and this has framed my thinking in looking at the cases and themes. According to Miles and Huberman (1994):

We all have our preconceptions, our pet theories about what is happening. The risk is taking them for granted, imposing these willy-nilly, missing the inductive grounding that is needed. We do not hold as strongly as Glaser (1992) that all predefined concepts should be abjured in favour of solely 'grounded theory' emergence" (Miles and Huberman 1994 p. 208).

I tried to keep an open mind to what might emerge through the use of these combined strategies. This was instrumental in grounding my analyses of the data while I was generating meaning - interpreting, describing and explaining. It was also helpful in making conceptual/theoretical coherence, through the process of constant analytical comparisons comparatively looking at and trying to understand themes, patterns, relationships, associations and causal networks with causal connections drawn from multiple analysis) in the interests of data reduction and pattern coding, and making as well as understanding contrasts and comparisons of degrees of effect among the cases and themes. This process led to the evolution of concepts into constructs and then into theories which account for "the how and why of the phenomena under study" (Miles and Huberman 1994 p. 261).

4.10. LIMITATIONS OF THE STUDY AND ATTEMPTS TO MITIGATE THESE LIMITATIONS

This research is confined to the discourses and social practices surrounding a specific UNDP initiative in Jamaica. It is based on the interview transcripts of 13 persons interacting with the initiative at various levels, my field notes and several documents which made up the corpus of text analyzed for this research. I focus on one country – Jamaica; one international organization – the UNDP; and one sector – tourism; one element of development – ICT for Development; and one aspect of ICT for Development (livelihood development through microenterprise development). The sample selected for this research is based on value judgement. Thus, the overall approach used to pursue this research project is indeed qualitative. Such an approach is often far less concerned with observing 'representative' cases than it is with observing cases that will yield the insights that it seeks" (Manheim, Rich and Willnat 2001 p. 315). Although this raises questions of validity as well as reliability, as will be illustrated below, the study can act as a good guide for others seeking to undertake other elements or aspects

of ICT for development (i.e. gender, health, education, governance, environment, etc.) analyzing other organizations (governmental organizations, Civil Society, etc.), other sectors (such as energy, healthcare, immigration, textile, fashion, etc.) and in other developing countries (Barbados, Tonga, Chile and South Africa and so on) based on several elements used to ensure trustworthiness.

4.10.1. Trustworthiness

The qualitative research approach has been criticized over the years for being political, subjective and possibly biased as a result of its 'supposed' lack of rigor and objectivity. However, one must question whether objectivity is ever possible. Should academia refuse to critique social systems in order to improve them? Can research be apolitical? I believe the answer to these questions is 'no'. Many, such as Rundall, Devers, and Sofaer (1999), would disagree with me and would indeed seriously question the accuracy of my research findings, claiming that they are informed by a small group of people and based on personal judgement calls. In reflecting on the research, I can certainly understand such an argument. Thus in this research I made every attempt to adhere to some rigorous and substantive empirical systematic standards established by the qualitative research doctrine (Lincon and Guba, 1985; Erlandson, et.al, 1993; Carson, et.al, 2001; Patton, 1990; Denzin and Lincoln, 2005). In this regard, I have utilized some of the many strategies developed over the years for qualitative research to improve on the trustworthiness of the findings of this investigation. Thus I am confident that the findings are indeed trustworthy, and that the research process used is a good guide for others wanting to study other people in other sectors exposed to other types of ICT for development initiatives by other international development agencies in other countries.

According to Janesick (2000), trustworthiness attempts to achieve "procedures that are simultaneously open-ended and rigorous, and do justice to the complexity of the social setting under study" (Janesick 2000 p 379). Trustworthiness has to do with the soundness of the research. According to Linclon and Guba (1985), trustworthiness has to do with how one persuades "his or her audiences that the findings of an inquiry are worth paying attention to, worth taking account of"

(Janesick 2000 p 290). Trustworthiness includes elements such as credibility, confirmability and transferability/replicability (Lincoln and Guba, 1985)

4.10.2. Credibility

According to Lincoln and Guba, (1985) it is possible for researchers to lend credibility to a study by engaging in five different activities. These include:

1. activities that make it more likely that credible findings and interpretations will be produced;
2. an activity that provides an external check on the inquiry process;
3. an activity aimed at refining working hypotheses as more and more information becomes available;
4. an activity that makes possible checking preliminary findings and interpretations against archived “raw data”;
5. an activity providing for the direct test of findings and interpretations with the human sources from which they have come (Lincoln and Guba, (1985a: p. 301).

These activities were undertaken in this research projects. For instance, several peer consultations were conducted with the supervisory panel and colleagues throughout the course of the study. Issues such as the sample, methodology, methods, the theoretical framework and the framing of the study were discussed in order to establish credibility through pooled judgment.

In addition to this, another attempt to ensure credibility, was to collect data from various sources. Such an approach helps to test the reliability/credibility of the findings through the cross-referencing of accounts (Erlandson, et al, 1993; Carson, et al, 2001). This is enhanced with the use of a diverse sample – people from different backgrounds interacting with the phenomenon at various levels. In the case of this research project, this proved to be an excellent tool to compare and validate incidents, accounts and claims, thereby separating out fact from fiction and identifying contradictions. Selltitz, Wrightsman, and Cook, (1976) have stated that if several respondents occupying widely different positions, “agree on a statement, there is a much better ground for accepting it as true than if only one of these respondents makes the statement... On the other hand, contradictions among the reports of apparently reliable participants provide important leads for further

investigation” (Selltiz, Wrightsman, and Cook 1976 p. 301). Based on the discussions in the above sections this was indeed the case of this research project.

4.10.2. Confirmability

Several strategies and tools were used to ensure the confirmability of the data collected (Weighing the Evidence). Confirmability is concerned with the extent to which the inquiry process is documented to confirm the research procedures. To ensure confirmability with each interview I sought to verify the information which was previously given by other participants about a specific incident or phenomenon (especially in the case of suspect data) without divulging source dynamics. Additionally, outliers (exceptions and events) were also carefully analyzed to understand the dynamics of the situation. In some cases, I actively attempted to seek out disconfirmation of what I thought was true to both refute and refine constructs which I had developed.²¹ Archival records were also consulted on a number of occasions during this verification process. These processes were instrumental in helping to build better explanations for the phenomenon under investigation and in the verification and confirmation of conclusion. Specifically, negative cases led to reworking my ideas, concepts and constructs several times.

In addition to this, another technique used to enhance *confirmability* was the establishment of a chain of events through a scrupulously kept “Audit Trail”. This was done with the use of the Contact, Calendar and Task function of Microsoft Outlook and uploaded to my Yahoo account. The Audit Trail provided a clear and defensible link for each step from the raw data to the reported findings. Many of the steps used prior to, during and after the data collection procedures were made as operational as possible. The audit trail provided descriptions of the research process, critical incidents, documents, interview notes, audio tapes, daily journal, and the outcomes. This audit trail also shows how the raw data were gathered, how the analysis was carried out and how the findings were derived from the data analyses. The sections above outlining the procedures used in this research the methods of data collection and the sample capture represent the bulk of the

²¹ This was possible because I had the privilege of visiting Jamaica twice. The second visit was an extended 15 months giving me time to conduct the necessary investigation.

information which can be found in the 'Audit Trail'. The record of the inquiry process, copies of all taped interviews, documented discussions, notes from interviews and hard copies of all transcriptions have been maintained by the researcher.

4.10.3. Transferability or Replicability

Transferability or replicability is concerned with the readiness of both researchers and users of research findings to optimize the utilization of research elsewhere. Such an undertaking is dependent on "solid descriptive data," or "thick description" (Patton, 1990) which the interview procedure for this study provided. This was also facilitated through the use of the Audit Trail where the researcher thus establishes a traceable and documentable process (Lincoln and Guba, 1985).

4.11. CONCLUSION

This chapter sketches a qualitative CDA approach to ICTLEMD. It provides a starting guideline for the use of the critical approach as an alternative to the current normative approach promoted by several institutional discourses. It is hoped that this Chapter has demonstrated the importance of deconstructing discourse, the discourse/text links, and the utility of Fairclough's CDA model as well its fluidic characteristics. Given the power dynamics of development I believe that Fairclough's CDA model would be an appropriate methodology for scholars in trying to understand and explain social life. The chapter thus also provides a starting point for serious reflections on ICT for development research and research findings in the last five years by those operating within these specific institutional discourses. Such an exercise, it is hoped, will encourage an awareness of the use of language in the execution and implementation of development initiatives as well as how these initiatives are received. I call this seminal approach the *Kumina and Dinky-Mini* approach to Critical Discourse Analysis.

I liken this research methodology to the Jamaican traditional dance ritual – Kumina and Dinky-Mini. This fluidic (constantly moving) ritual contains hypnotic poses, many gyrations and acrobatics, to the beat of mesmerizing drums, enchanting chants, and the brewing of exotic potions to awaken spirits of

resistance and change. This is indeed similar to the exciting processes and mixture of research tools I have used in this study. The Kumina and Dinky-Mini rituals are about spirits of positive change, much like the change I seek to achieve through this thesis. The next three chapters show the end product of this ‘multiculturalist ‘ approach in the analysis of an ICT for development initiatives in Jamaica.

5

SPINNING WEBS OF MEANINGS: LIMITING OR EXPANDING SOCIAL LIFE THROUGH REPRESENTATIONS OF ICTS

5.1. INTRODUCTION

This chapter has two objectives tied to the goal of this thesis. The first objective is to highlight the many discourses surrounding the operations, structures, processes, challenges, and trends of microenterprise entrepreneurs operating in the Jamaican tourism industry. The second objective of this chapter is to report on the findings from my analysis and interpretation of the corpus of texts collected to answer the research questions posed in Chapter 1.

In this chapter I argue that the deployment of discourse at the policy level of the projects under investigation has influenced several ways of acting and organizing among the entrepreneurs interviewed for this research which may have contributed to unequal outcomes for various groups of entrepreneurs and various types of entrepreneurs at different socio-economic levels. In other words, while the JSDNP Cybercentre Project may have contributed to what many of the project participants considered to be the expansion of livelihood choices and opportunities, for some entrepreneurs in many ways it limited those of others.

5.2. TOURISM, DEVELOPMENT AND TECHNOLOGY

5.2.1. A Synthesis

Globally speaking, the tourism trade is, and has always been regarded as a major development activity for many developing countries (Sinclair, 1991; Harrison, 1997; UNCTAD, 1998, 2005a, 2005b). According to UNCTAD, for example:

For many developing countries, and particularly the LDC's, the small economies and the island developing States, tourism provides a significant potential for poverty reduction, economic growth and development. It is often their primary source of hard

currency and is also one of the largest sources of employment (UNCTAD, 2005a: p. 1).

It has also been suggested that:

...if properly incorporated into development strategies, the tourism sector can be a cornerstone of new productive systems aimed at eradicating poverty and integrating the developing countries into the global economy (UNCTAD, 2005b: p. 2).

Such a view has been the general ideology and discourse of many in Jamaica insofar as tourism and the development of the country are concerned. Tourism has been an important component of development planning in Jamaica for decades, and many policy documents and academic research enterprises have indicated that tourism contributes to the development of the country in many ways (Boxill, Taylor, and Maerk, 2002).

Thus, it is common knowledge among many Jamaicans that without the tourist coming to: see the hilly and dense limestone landscapes of many spaces in the country; taste the specially seasoned, tantalizing, spicy, Jamaican jerk pork, chicken, or fish; hear the seductive lyrical humming of Jamaican artistes at one of the many Reggae festivals held annually, or smell the sweet, hypnotic aroma of high grade marijuana, life for many in Jamaica would be difficult. Many Jamaicans know and believe this as it has become 'commonsense'.

The importance of tourism to the developing world lies not only in its contributory value to livelihood development, the generation of foreign exchange, job creation and poverty reduction but also its spill-over and multiplier effects on other sectors of a country's economy. These sectors range from agriculture (the farmers supplying produce to the hotels), entertainment (local artists performing on the grounds of various hotels) and the craft industry (local artisans constructing memorabilia for tourists wishing to take a part of Jamaica back with them).

Information and communication are indispensable elements in the world of tourism. In the search for great destinations, the global traveller often requires information about places and often communicates with tourist workers to acquire

such information. In the search for great destinations, an emerging trend has seen the increasing use of ICTs by the global traveller.

In reaction to this trend, as well as to global discourses on tourism, many tourist operations around the world, particularly the medium to large ones, including several in Jamaica (as well as most government bodies regulating and mediating this industry) have swiftly modernized their modes of operation. Thus, over the years many of these enterprises have either bought, connected to, or leased technologies such as Computer Reservation Systems (CRS), Global Distribution Systems (GDS), Hotel Property Management Systems (PMSs), Planetary Hotel Booking Systems (PHBS) and Internet Websites (to name a few).

According to Buhalis (1998a, 1998b, 1999), tourism businesses around the world have had to undertake several projects in business process reengineering to meet this demand, leaving some industry analysts to conclude that tourist destination places will find it difficult to compete effectively unless they use ICTs. Such projects have been, and are being implemented with the use of some of the world's most advanced information and communications technologies (ICTs) (Buhalis, 1998, 1999, 2000; Standing and Vasudavan, 2001). These ICTs have been used to market, advertise and promote tourist related products and services.

The marketing of tourist related products and services are only one aspect of the use of these technologies by tourism entrepreneurs. It has been argued that specific ICTs and associated processes such as the Internet, emailing, over the counter software programmes and hardware peripherals have also been used by tourist entrepreneurs for many different activities to “generate more jobs and revenue for the local economy, and keep up with the competition” (UNCTAD, 2005b: p. 2). This includes the use of ICTs in the identification of local linkages, services and products; locating new suppliers and materials; the search for resources offered by government, non government programmes or other entities; or locating opportunities for collaborations.

Readers should also be aware that entrepreneurs use ICTs as well. ICTs are also used by tourist workers as a tool for the generation of external information about

external markets, opportunities, market changes and gaps in the market. It also includes the provision of Internet and email access to visiting tourists – which has increasingly become a standard package in hotels.

5.2.2. The Microenterprise Entrepreneur in the Tourism Trade

Not all tourist entrepreneurs have been able to migrate to the digital world and fully participate in the contemporary tourist trade (Bourgouin, 2002). Many tourist entrepreneurs in the developing world, especially those operating micro-businesses, face several access, knowledge-based, financial, infrastructural and resource related problems which inhibit their full participation in the contemporary tourism trade. One of the main problems which these entrepreneurs face today is lack of information. Bourgouin (2002) groups this information into three categories: external information, internal information and representational or what he calls ‘sent’ information. According to Bourgouin:

External information is information that is sought by the enterprise about the environment on which its commercial viability depends. This includes access to information about the market’s capacity to pay (the most frequently cited problem in sustaining small enterprises), market tastes, available support programmes and subsidies, financing possibilities, and information about competitors (Bourgouin, 2002: p. 198).

External information would include information about global markets, opportunities and competitors, loans and financing opportunities. External information also includes information regarding various government training programmes, loan or financing schemes, and support services such as capacity development organizations, information about local markets and opportunities – price changes, competition, local marketing, promotion and advertisement opportunities.

Internal information

...is generated by the enterprise itself for its own purposes and includes basic skills, product knowledge, business management skills and information storage. For the purposes of this research, skills needs and requests for training are included in the internal information needs grouping (Bourgouin, 2002: p. 198).

Internal information includes information generated within the enterprise such as billing and accounts, tracking suppliers, wages and benefits for employees and staff, customer records and partnerships with other local service suppliers. Representational or sent information is described in this way:

The third kind of information is sent by the enterprise to the market. This includes primarily marketing and advertising, as well as communicating needs and concerns to support organisations. Although all information is interlinked, each kind of information will be communicated differently and accessed differently by the enterprise. This suggests that a sound SMME²² support initiative would need to incorporate an information strategy that captures and takes advantage of this dynamic (Bourgouin, 2002: p. 198).

Information about the goods and services offered by the entrepreneur would be considered as representational or sent information.

Based on a review of other discourses on the information needs of the modern day tourist worker, such a discourse aptly describes their information needs.

Contemporary discourses on tourism and development suggests that this information need can be address by providing microenterprise entrepreneurs with access to ICTs (Biggs, Goussard, Constance, and Bytheway, 2000). With access it is prophesized that these entrepreneurs will be better placed to actively compete in the global tourism trade and generate sufficient income to address their livelihood needs and engender development. If this is indeed the case then, given the many activities to bring ICTs to the people of Jamaica undertaken by various bodies in the last five years, certainly microenterprise entrepreneurs operating in the Jamaican tourism industry are on the right path to livelihood development.

5.2.3. Jamaica: ICTs, Tourism and the Microenterprise Entrepreneur

Already in developing countries such as Jamaica, efforts are underway to bring this prophecy to fruition – to provide microenterprise entrepreneurs (including microenterprise entrepreneurs operating in the tourism industry) with access to ICTs (GoJ, 1996). Between 1998 and 2005 a number of initiatives and organizations have been established with a view to the modernization of the ICT

²² An SMME is the acronym for Small, Micro and Medium-sized Enterprise.

infrastructure and national ICT capabilities of Jamaica. The main bodies that have implemented such initiatives include the Government of Jamaica (GoJ); the private sector; educational, training research and development institutions; and various international development agencies.

5.2.4. The role of the Jamaican state in ICT policy making and implementation thus far

The Jamaican state has played a significant role in ICT implementation in the last decade or so. Three documents have guided the GoJ's action in the last decade where ICT for development is concerned. These are the 1996 *National Industrial Policy* (NIP), the 1999 *Five-Year Strategic Information and Communication Technology Plan* and the 2002 *Public Sector Modernization Vision and Strategy Plan 2002-2012* (GoJ 1996, 1999 and 2002). One of the overall goals of these documents is to develop the infrastructure and human capacities necessary to 'use' ICTs thereby taking advantage of the information revolution which would lead to providing the means for engendering development generally and livelihood expansion specifically (GoJ 1996, 1999 and 2002). An analysis of these documents, the activities behind their production, the outputs and outcomes, a process which I was fortunate enough to observe, sees their construction, inputs, contents and processes ostensibly linked to global discourses on the importance of ICTs to the modernization and development process of nation states. In many if not most instances, policy frameworks have been either influenced, guided or directed from agents, texts and/or discourses outside Jamaica. The 1999 Five-Year Strategic Information and Communication Technology Plan for example was entirely developed by United States consultants. There have however been a few locally developed initiatives by Jamaicans (who in some cases have been entirely influenced by global discourses and social practices and in other cases made the necessary modification to global techniques to meet the needs of the Jamaica people) which have been supported by the GoJ.

In the last five years the GoJ has been attempting to achieve the goals established by the GoJ. Their efforts have however been hampered by infrastructural and access related problems as well as by limitations in local technical capabilities. Despite these challenges, the GoJ has made some remarkable advances over the years towards this goal. These include the:

- phased liberalization of the telecommunications sector which broke the monopoly held by the British telecommunications giant, Cable & Wireless²³.
- provision of funding to enterprises for ICT related business activities;
- expansion of the national communication industry;
- provision of funds to upgrade several educational institutions;
- establishment of a several ICT specific educational institutions such as the Cisco Systems Regional Networking Academy;
- establishment of several government agencies to regulate the telecommunications sector; and
- providing various other government agencies with additional powers to monitor the telecommunications sector and various ICT initiatives.

According to the GoJ, the development of the country through the use of ICTs is dependent on a highly skilled workforce, equipped to deliver expert and professional services. In attempting to achieve these goals, the GoJ has provided support to several educational, and research and development Institutions to strengthen the local ICT capabilities.²⁴

Only recently, specifically between 2000 and 2005, has so much attention and investment gone into developing local technological capabilities and innovations by the GoJ. The GoJ, for example, has provided financial support to the local vocational training institute, The (Human Employment and Resource Training (HEART) Trust National Training Agency – for the establishment of a Regional Cisco Systems Networking Regional Academy (to provide training in computer networking). The government has also facilitated partnerships between HEART and other institutions in the USA and the UK with the aim of encouraging knowledge transfer for development. Examples include Furman University in the USA, and the University of Hertfordshire in the UK. According to the

²³ The phased liberalization was based on an agreement with the British telecommunications giant – Cable & Wireless (C&W) - which had a monopoly licence in Jamaica. The licence guaranteed C&W a market until 2013.

²⁴ The creation of a digital paradise has not been the only motivation of the GoJ. In every ICT for development document published by the GoJ there is reference to the need to fill an existing ICT employment gap in the industrialized world.

Government, many of these projects are aimed at providing the poor with training in and access to ICT to expand the livelihood opportunities and choices of these Jamaicans.

5.2.5. The Private Sector

Since the liberalization of the Jamaican telecommunications sector, the country has attracted approximately US\$1 billion in investments (Ministry of Commerce, Science and Technology, 2005). Several global telecommunication companies have started operating in Jamaica. Consequently as of March 2005, approximately 20 per cent of the people living in Jamaica have access to either a mobile phone or a landline (Ministry of Commerce, Science and Technology, 2005). In addition, a number of local Internet Service Providers have established a foothold in the country offering what many Jamaicans believe is affordable Internet access. The country is also host to quite a few call centre companies operating on the principle of outsourcing. These companies have brought to Jamaica various broadband-enabled services such as Voice-Over-Internet-Protocol (VOIP), Digital Subscriber Line (DSL), video-conferencing, teleconferencing, global roaming and so on.

In many respects, at least compared to parts of Africa and Central America, Jamaica boasts a fairly advanced telecommunication infrastructure containing a hybrid mix of wireless and wired technologies (UNDP, 2004).

5.2.6. Educational, Training, and Research and Development Institutions

Jamaica has three main universities, approximately fifteen Community Colleges and many private institutions offering ICT related capacity building training. Many of these institutions have established several new ICT related courses. Others have upgraded their current cadre of ICT related courses to meet shifts in global practices through partnerships with foreign training institutes and nationals. Most of these courses have been a fusion of indigenous and non-indigenous knowledge.

The country's premier research and development institution, the Scientific Research Council, has also played a role in building the capacities of many

Jamaicans to use ICTs through the development of curricula and ‘appropriate’ programmes designed by local and international consultants.

Additionally, a number of international institutes have also established satellites in Jamaica offering various ICT related courses based on non-indigenous components only. Three of the more predominant ones have been Microsoft, Cisco, and Novel. According to the Government of Jamaica, many of these programmes have contributed significantly to widening the opportunities and choices of the poor in Jamaica.

5.2.7. The Results

According to various GoJ reports the aforementioned initiatives have significantly contributed to providing access to many Jamaicans. This has been achieved mainly through schools, post offices and public libraries. As of January, 2004 there were thirty post offices with inexpensive Internet kiosks all around the island to complement the hundreds of cyber-centres owned by private enterprises and the three hundred thousand households across the island with Internet access. Additionally, there were forty-five parish libraries providing Internet access and sixty branch libraries. The GoJ has also introduced computers and the Internet in the classrooms of every school in Jamaica (Ministry of Commerce Science and Technology, 2003). In addition, fifteen per cent of Jamaican businesses were online as of February 2004. According to various GoJ texts this has all contributed to the growing number of people in Jamaica creatively utilizing ICTs to promote and market Jamaican products and services globally (GoJ, 2003).

The GoJ (2003) has also reported rapid growth in the ICT sector itself, specifically in data processing (low-end technologies) and a slow but steady increase in other relatively low value-added services such as call centres. There have also been some advances in a few high value-added services such as computer-assisted design and computer aided manufacturing as well as an attempt to promote the development of the local software industry and to market their applications internationally. Companies associated with the latter of these activities have primarily been engaged in software modification services, training and sales.

Despite these accomplishments, not all Jamaicans can access the technologies that are represented as the tools necessary to achieve livelihood expansion as there are still gaps in the system. The GoJ has actively attempted to seek the assistance of the international community to address these gap. And certainly several international development agencies operating in Jamaica have risen to the occasion by either funding several ICT for development initiatives, introducing their own or partnering with the government on new ones. Such initiatives range from training and capacity building to the provision of access and infrastructure.

Several of these international development agencies include the UNDP, FAO, UNESCO, UNEP, USAID, IaDB and the IICD (Golding and Waller, 2002). In each case these initiatives, which are all sanctioned by the GoJ main planning and development agency – The Planning Insititute of Jamaica - and themselves linked to the global discourses and social practices regarding ICT for development, smoothly fit within the schema of the ICT for development priorities of the GoJ. One such initiative is the Jamaica Sustainable Development Networking Programme (JSDNP) Cybercentre Project introduced to Jamaica by the UNDP in 1998.

5.2.8. UNDP’s Jamaica Sustainable Development Networking Programme

The Jamaica Sustainable Development Networking Programme (JSDNP) is today represented and viewed as an ICT for livelihood development project which was introduced to Jamaica by the United Nations Development Programme in 1998. The primary goal of this project is to enhance the capacity of people in Jamaican communities to access, understand, distribute and utilize information to enable them to sustain their livelihoods without harm to the environment. This, according to the UNDP, is accomplished through Cybercentres across the island which sets out to provide low cost access to, and training in ICTs for Jamaicans especially those who have been excluded from the existing digital revolution. The project is one of many SDNPs world-wide which have been introduced to approximately 80 developing countries. JSDNP is an extension of the Sustainable Development Networking Programme (SDNP) which evolved out of the 1992 Rio Conference on Environment and Development. In the “About JSDNP” section of the Website,

this is what UNDP has to say about the initiative. It is important to bear this text in mind when reading through the rest of this thesis:

The ongoing "Internet Revolution", which started around 1994, is dramatically changing not only the internal socio-economic and political structures of most nations, but also the way in which they relate to each other. The process of "globalization" has also been fostered and accelerated by the rapid expansion of the Internet and the extensive use of Information Technologies (IT) in the production, distribution and consumption of goods and services.

By the same token, the Internet has also promoted a process of "information democratization" by allowing citizens, organizations and institutions in most countries to publish and distribute, at a relative low cost, their own information and knowledge resources that, in many cases, deal directly with Sustainable Development (SD) issues, and help preserve, by the same token, Indigenous Knowledge.

The Internet and the widespread use of IT tools provide Developing Countries (DCs) with a golden opportunity not only to promote SD in a systematic manner but also to "leap-frog" themselves well into the 21st century. However, it is now evident that this process will not occur by itself or in an automatic manner.

In the last 5 years the impact of the Internet in DCs has been already substantial. We just have to remember that in 1995 there were only 3 African nations connected to the Internet. Today, all but a couple have full Internet connectivity. In a similar fashion, there are multiple ongoing initiatives funded by bi-lateral and multi-lateral organizations promoting the expansion of the Internet in DCs and the extensive use of IT on productive capacities and governance of the State. Finally, the private sector has entered into the picture and is investing in many DCs primarily on infrastructure and networking technologies - whereas so far most governments have shied away from this.

However, recent statistics indicate that, contrary to many expectations, the information gap between industrialized countries and DCs is growing. Moreover, within many DCs, the gap between "haves" and "have nots" is increasing at an even faster pace. Recent estimates indicate that the global number of Internet users is about 180 million of which only 14% are in DCs. In the African continent alone there are around 1.3 million users; of these almost a million are in South Africa alone. In other words, the average number of users is 6,000 people per country –once we exclude South Africa. Some analysts have described this process of uneven development of the Internet as the emergence of the 4th World in the global economy....

In this light, it is evident that the "Internet Revolution" and the increased use of IT tools have also created new issues and problems in DCs, issues and problems that need to be specifically addressed by developmental organizations and institutions.

These are some of the issues that the Sustainable Development Networking Programme has been addressing since its inception, by operating at the country level, launching and supporting local Internet sites, and building national capacities and knowledge resources (SDNP, 2001: p. 1).

There is much being said in this text. In many ways the extract is intertextually linked to various assumptions about development and technology, particularly the non-indigenous technologies for development era of Modernization discussed in Chapter 2 which has dominated development theorizing and practice for years. Of interest here, specifically as it relates to this thesis, however, are the implicit propositional assumptions.

First that the Internet can help preserve... Indigenous Knowledge. This assumption is linked to the global historical concerns by developmentalists specifically dependency theorists during the time of the dependency/modernization debate and more recently cultural studies theorists, that non-indigenous technologies often erode the indigenous knowledge of the developing world. This kind of predictive narrative foregrounded in the text may in many ways be an attempt by the UN to suggest that this technology – ICTs – is different from others such as production technologies which have been linked to the erosion of indigenous technology (See Chapter 2)

Second that the Internet promotes "information democratization". This discourse is in many ways linked to the suggestion that the Internet has the ability to make the voices of everyone heard. Third that the Internet is a developmental tool and has leap-frogging possibilities. In many ways, this discourse is intertextually linked to the ideas of Modernization discussed in Chapter 2. Fourth that leapfrogging through the use of the Internet cannot occur without the assistance of international organizations. This implies that the developing countries do not have the capacities to use the Internet to leapfrog and highlights the important role international organizations have in the development process;

Fifth that there is a gap between the developing world and the industrial world with regard to access to information, similar to the tractor divide discussed in Chapter 3. Like the tractor divide, the text suggests that there is a need to address this gap if the developing world is to catch up. The Internet and other IT tools are represented as the normal and seemingly only way to address this gap and that if the gap is not corrected, if the developing world does not 'log on' to the information super-highway, they will be left behind in the information revolution, and become even further 'underdeveloped' – so underdeveloped that we will have to invent a completely new term 'fourth world' and finally that only the Internet and other ICTs can save the 'third world countries' from becoming a fourth world.

In a nutshell, and as will be discussed below and in the next chapter, these are the discourses of the JSDNP today as captured in its Vision and Mission Statement as well as its Objectives.

Our Vision: Citizens actively making use of understandable, relevant information to enhance the quality of life within their communities for present and future generations.

Our Mission: To enhance citizens' capacity to access, understand, distribute and utilize information to enable them to sustain their livelihoods and socio-cultural values while conserving their natural environment (JSDNP, 2005).

Our Objectives:

- To introduce and connect public, private and non-government sector agencies to local and international sources of information on sustainable development utilising the Internet and other communication tools.
- To develop appropriate information services to support the implementation of local and national development plans.
- To provide information on Jamaica's environment and social and economic development via the Internet to the international community.

The target intended beneficiaries are poor farmers, small businesses, entrepreneurs in communities across Jamaica (JSDNP, 2005: p. 8) in villages across the island who are recruited through advertisement via word of mouth and posters.

According to two interviewees (Project Manager 1 and Policy Maker 2), the project was originally constructed as a capacity building and information dissemination project which connected information sharing to address poverty and environmental needs. Since 1999, however, the environmental ;social practices' aspect of the initiative has been backgrounded but not excluded, which is clear based on representations of environmental protection still present in the Objectives of the JSDNP initiative.

Based on my experiences with the initiative as well as discussions with many stakeholders, this representation captured in the Mission/Vision Statement and Objectives are merely rhetoric as what was spoken and what is done indicates that the initiative and specifically the Cybercentres are instruments which are only used to bring ICTs to the people to address poverty through training and access. This change in action was certainly apparent during my employment at UNDP. For example, UNDP staff with the responsibility of managing the JSDNP initiative (which includes the Cybercentre Project), who would attend environment related meetings with the Government of Jamaica and formed networks with environment related bodies, were instructed by the Resident Representative in 2000 to forge new alliances with emerging ICT for development bodies. In so doing the Resident Representative had discouraged JSDNP personnel from maintaining strong alliances with local environmental agencies and developed a specific environmental manager post for this.

Another example brings this point home. While employed to handle new ICT projects (excluding JSDNP related initiatives which were handled by the poverty specialists who managed the 'old' projects), including responsibilities relating with the maintenance of UNDP Jamaica country office website, I was asked by the Resident Representative in February of 2000 to move the JSDNP Project portfolio from the 'Environment' section of the Website and create another category, 'ICT for Development', to house it.

By December 2001 the JSDNP Cybercentre Project was totally represented and viewed by many inside and outside UNDP Jamaica as an ICT for livelihood

development project which provides basic training in, and access to ICTs in seven of the country's 14 parishes. Several key UNDP Policy Makers and Project Managers as well as Resource Persons associated with the JSDNP Cybercentre Project when discussing the initiative failed to include the word 'environment' in their description of the social processes surrounding the project, despite the retention of the Rio-inspired term 'sustainable development' in the JSDNP's title. As a matter of fact sustainability was viewed, thought of and represented as a way of achieving prolonged livelihoods.

Based on my observations while working at UNDP as an ICT for development consultant, this change in discourse was in many ways influenced by global discourses and social practices – policy changes in UNDP itself. For example, in 1998 SDNPs issues could be reached by clicking on the Environment hyperlink of the UNDP Global Website. Since the turn of the millennium SDNP issues are positioned under UNDP's ICT for Development portfolio. As a matter of fact the aforementioned quote taken from the Global SDNP website has no mention of the word environment. Although based on world trends, it is possible to argue that there is a taken for granted notion that development and modernity of any kind ought to include ways to preserve the environment.

The Backgrounding of and environmental discourse in with regard to SDNP has also been reflected in UNDP policy documents and other texts as well (UNDP, 2001a and 2001b). For example the *Choices* thematic magazine, a UNDP publication which features best practices, ran a special ICT for development edition in June 2000 in which the SDNPs were represented as an ICT for development project of UNDP. Interestingly, in this edition there was even an article about the JSDNP Cybercentre Project and its contribution to the development of Jamaica.

The discursive change may have been influenced by the wider global ideological shift in ways of achieving development which, as explained in Chapter 3, were brought on by the World Bank's 1998 *World Development Report* and UNDP's 2001 *Human Development Report* both of which focused on knowledge and information for development through ICTs. In the latter of these publications,

SDNP initiatives took centre stage as a UNDP ICT for development flagship initiative.

The recasting of the operational configurations of the JSDNP was met in Jamaica with no criticisms by the GoJ, the private sector and NGOs. There were a number of reasons for this uncritical reception, the most significant of which was the fact that the approach taken by UNDP has been a top down one. The government, private sector organizations and NGOs look to the organization for guidance. Based on my observations as well as discussions with various stakeholders while working at UNDP, these bodies view UNDP as an organization with ‘expert knowledge’ generally and specifically where ICT for development is concerned. The GoJ, desperate for the possible outcomes of the initiative, smitten by the mountainous data on the successful use of SDNPs throughout the world (as a result of UNDPs expertise), satisfied with the potential benefits of an Environmental Portfolio (which brought with it an Environmental Unit and more funds for projects) and knowingly limited in their capacity and knowledge where ICT for development is concerned more than welcomed the instructional policy framework which UNDP provided. Essentially then the initiative was accepted wholesale with no negotiation for modifications or localization.

The next section discusses the themes which emerged from the data analyzed regarding the configurations of the discourses surrounding the JSDNP Cybercentre Model.

5.3. THE FINDINGS

5.3.1. Awareness regarding the value of ICTs

From the data analyzed one of the many discourses surrounding the JSDNP Cybercentre Project shared by all interviewee participants was that *ICTs can actually make the lives of microenterprise entrepreneurs in Jamaica better through livelihood development*. This theme, as well as the others to be discussed (identified in italics), emerged from the data analysis process outlined in Chapter 4. To recap, this data analysis process involved the establishment of individual cases (Yin, 1994) and the identification of particular positions (discourses) being

presented in talk and semiosis. This involved looking at the many discourses which make up a text (intertextuality), representations of particular genres and identities (ways of acting and ways of being) and their inter-discursive links (the broader discourses from which these social actions were taken). It also included what was left out from the text, what was backgrounded and what was foregrounded/highlighted, what the main assumptions were and so on (Fairclough, 2003).

The process then included comparing and contrasting the many individual cases in a fashion similar to the constant comparative analysis method of grounded theory (Glaser and Strauss, 1967). With this approach the researcher looked for common assumptions, identifies intertextuality, discursivity, exclusions, what was foregrounded and backgrounded as well as what differences in representations exists. This analysis then shifted to a process or 'stacking' where the differences and similarities were grouped together in a matrix (Miles and Huberman 1994; Thompson 2004) to identify themes. The themes were then reduced through fusing differences and fusing similarities. These differences were looked at within the context of social practice (shared or different beliefs, values, forms of consciousness, institutionalizations, dominant influences, hegemonic forces and so on) in an attempt to explain the differences and or similarities and their implications. This was then taken within the context of the broader economic, political, socio-cultural and historical contexts, again looking at institutional discourses of hegemonic influences and agents throughout history.

The particular theme in this section (*ICTs can actually make the lives of microenterprise entrepreneurs in Jamaica better through livelihood development*) was a common assumption among all the participants interviewed. This discourse is best represented by three extracts taken from each of the different groups of people interviewed for this research in response to questions regarding the benefits of ICTs for microenterprise entrepreneurs operating in the tourism industry.

Certainly ICTs can help the poor in Jamaica, it is specifically helpful for the micro entrepreneur because it improves his efficiency, he is more effective, it makes him more productive, he

is more marketable and he is able to reach more markets and this allows him to generate an income to help him with his livelihood (Policy Maker 2).

As a tool for development it is very critical to the development of Jamaica. ICT really provides development opportunity for many. There are a lot of thing happening in Jamaica so providing access and access points is critical. ICT are benefits for everyone. (Project Manager 1).

Definitely [excitedly] ICT can certainly help in many ways. It opens a whole door of possibilities. You get to communicate with people all over the world you get to see what other people are doing and get an idea about what to do as well as how to do it. You can build you website so that people can find you, send information to you and ask you about your business. Entrepreneurs today have to have these technologies to keep records, to make our bookings and generally to give a sense of professionalism to our businesses. (Entrepreneur 10).

In many ways the language used in all three texts, the responses, and the discourse they represent, suggests that ICTs are tools that: (1) encourage professionalism; (2) ensure efficiency and productivity and (3) open global possibilities for the people of Jamaica. The language used here represents the way in which ICTs are mystified by UNDP globally, which itself is the dominant approach to ICTs by international development agencies and global ICT corporations such as Microsoft. In other words, these texts project the dominant global assumptions about ICTs (see Chapter 3). As will be illustrated below, these claims are in many ways based on the entrepreneurs' own experiences with these technologies at the JSDNP Cybercentre training, technologies which were themselves mystified by the Cybercentre management as business tools which can address livelihood problems generally. Indeed, such a discourse has apparently influenced the entrepreneurs into believing, socially constructing, acting and organizing on the assumption that ICTs are tools which can unproblematically solve the problems faced by microenterprise entrepreneurs in the Jamaican tourism sector.

The extracts are in many ways what Fairclough (2003) would refer to as the 'untransformed language' of institutional discourses distributed by those managing the Cybercentre Project. Untransformed suggests that they have a striking resemblance to the ways in which UNDP and other international development agencies, discussed in Chapter 3, represent ICTs. These discourses

emerge from a complex chain of events surrounding the project life – such as training activities and meetings which promote ICTs in this manner. An example of this would be the aforementioned extract taken from the “About JSDNP” section of the UNDP Website which suggests that ICT provides the peoples of the developing world with ‘a golden opportunity not only to promote sustainable development in a systematic manner but also to "leap-frog themselves well into the 21st century’, and that UNDP will help these countries to accomplish this goal because they cannot do it themselves.

Extra-discursive practice also played an important role in influencing these discourses. Here I refer to specific social practices and the wider economic, political and socio-cultural historical issues within the space of Jamaican entrepreneurship as well as in the Jamaican tourism industry (themselves linked to global discourses on tourism and development). Within such a space, ICTs are generally regarded as tools which enhance the efficiency and professionalism of an actor, a group or an institution. Examples of such extra-discursive factors are abound. One example includes the various workshops and seminars organized across Jamaica by different agencies responsible for the regulation of the tourism sector. These workshops and seminars include, but are not limited to, the training programmes of the Tourism Product Development Company (TPDCo), a limited liability company established by the Government of Jamaica to develop and improve Jamaica's tourism product. The functions of the bodies that organize these workshops include promoting global standards where the use of ICTs are concerned.

Further examples of extra-discursivity are the various expressions of entrepreneurial success (specifically job creation, organizational expansion, income generation and profit-making) through the use of advanced technologies by larger, more dominant hospitality businesses in various media fora across Jamaica. Such expressions are present among the discourses of tourist workers (labourers) in this entrepreneurial space in Jamaica and, to some extent, the medium sized and sometimes small entrepreneurs as well. Finally, the popularity of ICTs in the tourism industry is by and large also based on the demands of two other important factors, that is, the communications needs of tourists at

guesthouses, villas and hotels, and the need to interact with these places for accommodation arrangements and queries. Thus, in many senses ICTs in the Jamaican tourism industry have become “institutional/ ritualistic practices” (Fairclough, 1999, 2003). There is a belief that these technologies should and ought to work in an unproblematic, generalistic way.

One example illustrates the value of ICTs in Jamaica. It is taken from a report on the JSDNP Cybercentre Project by the UNDP, and constructed by a team of Jamaican consultants and local (Jamaican) UNDP Staff. According to the report:

The establishment of the JSDNP’s rural Cybercentres has impacted on a number of small business entrepreneurs and professionals around the island who have discovered the importance of information technology to personal growth and the growth of their business.... They benefit from training in computer fundamentals including word processing, sending and receiving emails and Internet at affordable rates.... One St. Andrew businesswoman, who in fact has her own computer in a home office, spends several hours each day at the Cybercentre. She appreciates the businesslike atmosphere, the convenience of having all the facilities within easy reach, and the assistance of the Cybercentre staff make it beneficial for her to operate from the location. She is currently developing a unique tourism product, and has had her flyers and a web page developed by the Cybercentre (UNDP, 2002b: p. 19).

The UNDP’s report, specifically the above extract, had also suggested (in a general way) that ICTs have had a significant positive impact on users’ ways of being, or identity, in the sense of encouraging professionalism, as well as their ways of acting, or modality, and their way of organizing in a very one-size-fits all matter-of-fact way. There was no mention of any form of qualitative or quantitative empirical work from which such generalizations were derived. Rather, only one entrepreneur was mentioned (out of the many who visit the Cybercentre daily).

Beyond the problem of validity, the language used in the text in many ways represents a uniform, ubiquitous model of ICTs which, as illustrated earlier, excludes other possibilities, one of which may be that ICTs, these non-indigenous technologies are problematic for the peoples of the developing world. Fairclough (2003) would describe UNDP’s assumptions, which were distributed and received at the policy, implementation and beneficiary level of the project in an

untransformed way, as either ‘existential’ and/or ‘propositional’ assumptions about “what there is, what is the case, what particular discourse includes assumptions about what there is, what is the case, what is possible, what is necessary what will be the case, and so forth” (p. 58). Such assumptions, he argues, are ideological and thus connected to hegemony and universalization through the exclusion of other possibilities and other voices. Through this exclusion the discourse helps to sustain “relations of power” (p. 45). According to Fairclough:

Seeking hegemony is a matter of seeking to universalize particular meanings to the service of achieving and maintaining dominance and this is ideological work. So for instance, texts can be seen as doing ideological work in assuming, taking as an unquestioned and unavoidable reality, the factuality of a global economy (Fairclough, 2003: p. 58).

Certainly the abovementioned extracts taken from the three different groups of persons interviewed for this research (which I have argued is representative of the belief and value of all interviewees) not only support Fairclough’s claims but also illustrate the far-reaching implications of the official discourse on ICTLEMD deployed through UNDP’s Cybercentre Project in Jamaica. The realities of this discourse is, however, much different from the picture the UNDP report attempts to impose upon the world and what the official discourses on ICTLEMD postulate. In many ways the possibility may exist that this reality is based on sampling bias, which as earlier stated, raises questions of validity. It may indeed be a bias which is influenced by the need to portray the Project as successful. This is evidenced by the report’s reference to ‘only’ “One St. Andrew businesswoman” (a tourist worker also interviewed for this research - with specific characteristics allowing her to benefit from the initiative) out of (as earlier stated) more than a hundred Cybercentre users across Jamaica.

The approach taken by UNDP, the situation described, is somewhat similar to Wade’s (2002) observations regarding representations of ICT for development in Andhra Pradesh, India by the World Bank. To reiterate, according to Wade, the way in which this international organization represented the use of ICT in the achievement of livelihood development was not representative of the total

experiences of all entrepreneurs and was at best ‘blurry’ (see Chapter 3). Certainly, this was the situation also found in my research.

For example, through the critical lens, it was found that although the entrepreneurs were of the belief that ICTs were of contributive and incremental value, and could, as the UNDP suggests, unproblematically contribute to their ‘personal growth and the growth of their business’, in reality the situation was that the initiative impacted differently on these entrepreneurs’ identity, on their modalities and in some instances was counterproductive in terms of actually engendering livelihood development. It was further found that entrepreneurs were coaxed into believing that their structural circumstances accounted for any deviations. In other words, structural circumstances (lack of access or infrastructure, for example) justified the inability of entrepreneurs to achieve livelihood development.

There are indeed many reasons why such misrepresentations or biases may have occurred. According to Heeks (2002) for example, describing what his observations of the ICT for development drive are, suggests:

Like sharks drawn to blood in the ocean, a whole host of consultants and academics, vendors and development organization staff have been drawn into the e-development arena by the scent of money. Others – like the serial divorcees convinced the next marriage will be the one that works – are drawn in by the hope that, this time, a real answer to the problems of development has been found (Heeks, 2002: p. 1)

The quote above suggests two of many possible factors which may explain this disconnection between the actual outcomes and the represented outcomes. Following Heeks, and keeping Wade’s experiences in mind, any two of these possibilities may be at play. For instance, one could argue that it may be the case of a legitimate belief in ICTs by the ‘development organization staff’ sincerely ‘convinced’ that these technologies can indeed achieve development (a belief which itself may have been influenced by ‘hype’ surrounding ICTs - the institutional discourses – (see Chapter 3). In addition, it could also be that many of the project managers are themselves unaware of Jamaica’s history with technology for development as well as alternatives to the dominant discourses being distributed by international development agencies such as the UNDP.

Indeed both situations may ignite a desire to conceptualize the JSDNP Cybercentre Project as 'being' successful.

With this in mind it may be argued that such a belief and desire may have influenced the choice of persons to be interviewed or influenced what objects, subjects, events, processes or phenomena are foregrounded and highlighted in official documents about the project. In other words, this belief and desire may have led a researcher to overlook (or not clearly see) the failures of an ICT initiative and focus on the successes instead.

There may also be a belief that ICT for development projects can attract considerable financial investments needed for the existence of development agencies or the preservation of consultancies and contracts. Thus, the need arises to represent project outcomes in a 'sunshiny' way which may not represent the actual on-the-ground activities and outcomes (in order to secure financial support for extending the project life and the life of the consultant, development worker or the development organization itself). Based on my observations of the World Bank Development Gateway project while working at UNDP in Jamaica, this has been the case whereby development agencies, government ministries and NGOs scrambled to prepare proposals to secure funding for ICT for development projects in Jamaica, projects on which their existence depended. The next section of this research discusses my findings on the actual-on the-ground activities and their outcomes.

5.3.2. Constructions of ICTs in the microentrepreneurial processes: Differences in uses and benefits

From the data collected it was also found that *several (but not all) the entrepreneurs interviewed for this research have applied the knowledge gained from the Cybercentre training and now apply ICTs during their post training life to their business process but only some have benefited from the application of this knowledge in terms of livelihood development.*

Indeed, based on the data analysed, it is possible to argue that the aforementioned discursive and extra-discursive sociocultural factors have played a major role in influencing the entrepreneurs interviewed for this study. For example, Entrepreneurs 8, 9, 10, 11 and 12 have been influenced into attempting to implement the knowledge gained from their exposure to the Cybercentre Project in many ways. These entrepreneurs have enacted social processes such as using personal computers for word-processing, desktop publishing, Internet searches, and email exchange. Such processes have also included actions such as printing, scanning, and faxing. Using the Case Study approach, the next section will attempt to demonstrate how and in what way the discourses surrounding the JSDNP Cybercentre influenced these entrepreneurs, treating each entrepreneur as an individual case – small n.

For the purpose of the sections below, the following distinction will be made. I identify poor, non-poor and middle-class social actors in Jamaica based on a combination of assumptions regarding symbols which range from language (representation of self), profession, socio-economic prioritization, level of education, access to resources, awareness of specific social spaces, as well as values, norms, and beliefs about social life represented in text and semiosis – cultural connotations and/or specific cultural or sub-cultural roles, norms and societal statuses. Each class and each group have their own rules, structure and styles of organizing. For example, in Jamaica the middle class is commonly described in a mixture of cultural and economic terms. Somewhat richer than the working class but by no means wealthy, the middle class typically owns small units of the means of production, employs staff other than their own family, have high school or tertiary education, and work in commerce, government or the professions.

5.3.2.1. Entrepreneur 8

Entrepreneur 8, a sole proprietor, by Jamaican standards may be considered your typical middle-class Jamaican businesswoman. She owns and manages a small home turned Guest House in the northern section of Jamaica, which is registered. She has been operating this business for a decade. This middle-aged entrepreneur has a staff of five, including her husband and son. According to her, the business

has been a success but she faces a number of challenges such as competition from other small hoteliers as well as from the larger ones. Entrepreneur 8 participated in one of the JSDNP Cybercentre Project's training courses. This course was an introductory course comprising nine sessions. According to her, the course content included an introduction to the personal computer, an introduction to Microsoft Windows, and Microsoft Office. It also included learning how to do Internet searches using Microsoft Internet Explorer and learning to send emails using Microsoft's hotmail and/or Microsoft Outlook Express.

In 2003, two years prior to my interview with her, Entrepreneur 8 had procured a Toshiba Satellite Notebook which she referred to as her "Communications Centre". It was the home/office notebook which had an Intel Pentium 4 Processor, integrated wireless, a 15" Diagonal XGA display, high speed wireless LAN, CD-RW/DVD-ROM combo drive and an 80 gigabyte hard drive. It was positioned inside the dining room on a small computer station beside a Hewlett Packard ink-jet printer and between the kitchen and the patio, from which there was a beautiful view of the Jamaican countryside, and it was visible from the entrance. According to the entrepreneur, during a follow-up interview with her in September of 2005, these technologies have become "indispensable" to her business life. With them she is able to "market and promote" her "business globally", develop ideas about products and services from the websites of other hotels and guest houses as well as basically provide some of the services similar to that of larger hotels and other guest houses, such as "providing guests with Internet and emailing facilities. She is also able to "communicate" with clients as well as "produce various business documents". And, most importantly (at least to her) her business has a "look and feel of professionalism" (Entrepreneur, 8).

In many ways, when one enters the room where the computer is kept, there is a sense of professionalism, a word which my self and many other people have come to associate with computers and computer peripherals positioned together in a way which resembles an office, a look which in the Jamaican business environment signifies efficiency, organization and structure. This was represented in the language of one project manager, who stated that "ICTs provide microenterprise entrepreneurs with the opportunity to be able to operate in an efficient and

professional way and gives them the power to interact with people in a way never thought possible” (Project Manager 1). Similar statements were also made by Project Manager 2 who, when asked whether ICTs could help entrepreneurs in the tourism industry, responded by saying, “Yes, it gives them a sense of formality and professionalism to be able to organize themselves in an efficient way by using programs such as Word to make letters, Excel for inventory system and to advertise themselves globally through the email” (Project Manager 2).

It is also possible to argue that Entrepreneur 8 also shares this view. For instance, the term “I run a professional business” was used by the entrepreneur not only during the interview but also several times before and after the interview. This may be an indication that the entrepreneur too shares this opinion about the connection between computers, computer peripherals and professionalism as well as the belief that others also share this opinion. Thus, the many ways of referring to the space and its occupants as a “Communication Centre” and positioning the Communication Centre in that specific space may have been a strategy used by the entrepreneur to represent her business in that light. In short, it was an attempt to position objects in a space to influence social actors’ perception about the organization of her business.

While at the guest house I had the privilege of inspecting this ‘Communications Centre’ and to observe how and in what way it was utilized by the entrepreneur as well as other guests. The Communication Centre allowed the entrepreneur to send and receive faxes, review the websites of her competitors (to keep up-to-date about trends), to get both internal and external information regarding market trends, changes and other activities. The Communications Centre also made possible the preparation of various business documents such as invoices, letters and receipts.

I was told by the entrepreneur that all guests were allowed to use the facilities of the Communication Centre. According to her ‘it’s a standard package in hotels these days’ (Entrepreneur 8). I myself used the Toshiba notebook computer during my stay there. I logged on to the website of one of the local banks and transferred some money. I also paid a bill. The Internet connectivity was facilitated by

wireless technology. This was my first interaction with this kind of technology in Jamaica and I was amazed by the fact that the Internet connection was remarkably fast. This to me was very impressive. I enquired about the Internet service provider (ISP) that the entrepreneur was using and it was disclosed by her that she was registered with an ISP which (was at that time) one of the more costly ISPs operating in Jamaica. I asked the entrepreneur about the motives which influenced her decision to use this ISP and she responded saying that it was the solution suggested by the Project Manager of the JSDNP (indicating that JSDNP suggested she use one of the most expensive options). According to her the bigger, more established ISPs offered a better and more reliable service than the smaller ones. I myself have had ISP hopping in the quest for reliable Internet connection at an affordable cost. In so doing I had exhausted my list of what I had perceived to be affordable and reliable connectivity. Thus, in many ways, I could appreciate this discourse. During this conversation Entrepreneur 8 began discussing her website.

She had recently had a website developed for her. This was represented by her as one of her major accomplishments as she had an Internet presence (Entrepreneur 8). The website was developed and maintained by the Cybercentre and was constructed based on the recommendations of the Project Manager. The entrepreneur had a personal financial arrangement with the Project Manager and thus I was not able to get the information about the cost of the service. However, she did say that the fee was reasonable. According to her the website was “the most important component of my business today” (Entrepreneur 8). There was an appreciation on my part for the presence of the website as its existence made it possible for me to visit and interview this entrepreneur who incidentally, due to her location (as well as the cost associated with visiting her, and her refusal to be interviewed over the phone), was not in my original batch of interviewees. Let me explain further.

My interview with her was conducted during a project visit for a consultancy. This consultancy was with the Jamaica Social Investment Fund (JSIF), a poverty alleviation programme of the Government of Jamaica. The project visit had required overnight accommodation for myself and two other consultants. Since I had planned to interview Entrepreneur 8 for this research project and the JSIF

project visit would have taken us to the parish of the interviewee's establishment, I decided to kill two birds with one stone. I thus recommended to the JSIF Procurement Officer that we seek accommodation at Entrepreneur 8's establishment.

The Procurement Officer had agreed to this once she was able to see some evidence of the establishment's accommodations since it was not one of the 'approved' JSIF accommodations. The Procurement Officer had also requested an invoice from the management of the establishment detailing the accommodation arrangements. Entrepreneur 8's website provided JSIF's Procurement Officer with visual verification. The Communication Centre facilitated information sharing between the establishment and JSIF – emails and faxes. According to the entrepreneur, this form of communicative process was something she learnt at the Cybercentre and something that she would carry out on a regular basis since she bought the Notebook and especially since she had the website developed and registered with an international travel service.

Entrepreneur 8 is of the view that she has benefited significantly from her exposure to the JSDNP Cybercentre. The entrepreneur's awareness of ICTs and what she represents, or was influenced into believing as her technological capacity to use these technologies have enabled her to put in place systems and structures as well as to enact processes which have improved her business activities. The connection of three different responses to various questions (or connecting three different thematic discourses – 'Awareness regarding the benefits of ICTs', 'Prior awareness of ICTs' and 'Claims of direct Benefits of ICTs') provides evidence of this.

Well, for those who are associated with the initiative, yes, the initiatives have a positive effect on us. When I started there I had started with several persons most of whom I hear are and have benefited from what we all learnt at the Cybercentre. Some of them, however, due to financial reasons cannot afford to get to the Cybercentre regularly and are not as fortunate like myself to be able to afford the computerization of their operations. But there are some services out there available to those persons.

I did not use computers or the Internet before if that is what you mean.

The training at the Cybercentre has been beneficial to us. Through this I have been able to set up my computerized office which, as you see, has helped the business significantly (Entrepreneur 8).

The term 'us' for example used in the first and third extracts suggests that the speaker's text incorporates the voice of others with whom he/she has interacted and whose discourses and associated assumptions are intertextually linked to the speaker and captured in the deployment of text. Thus in many ways, the language used in the first extract is authoritative in the sense that the entrepreneur believes that she has the power to speak for others in describing the social practices associated with ICTs.

The language also illustrates transitions, change and growth. For instance, the second and third extracts, although presented differently (due to their positioning within specific thematic spaces), were in fact taken from one text or one response where the entrepreneur was asked about her level of awareness about ICTs prior to the initiative. The syntax and lexis illustrates transitivity as the entrepreneur took the opportunity to foreground the notion that the training at the Cybercentre significantly contributed to the development of her technical capabilities to a point where she is able to "help her business significantly" (Entrepreneur 8). Thus, it may be argued that the belief that certain ways of acting and organizing (represented by the Cybercentre as common sense), the absence of other possible alternatives, no sense of critical appraisal of what was offered (based on a lack of knowledge on the part of the entrepreneur and, as will be discussed in the next chapter, on the part of the Project Managers themselves) contributed to the entrepreneur's own way of acting and organizing as well as representing social life in this context.

For example, the entrepreneur claims that this knowledge has contributed to an increase in guest arrivals. She also claims that her establishment is now better able to compete with other micro-businesses in the tourism industry and, even some of the larger players. In a telephone conversation the entrepreneur attributes an increase in revenue to these experiences. Thus, for this entrepreneur it is assumed ICTs were something beneficial and positive. Certainly then, it is possible to argue

that, from Entrepreneur 8's point of view, the JSDNP Cybercentre Project (which promoted the use of ICTLEMD) did contribute to livelihood expansion.

5.3.2.2. Entrepreneur 9

Another entrepreneur who claims to have benefited from the JSDNP Cybercentre Project is Entrepreneur 9. Entrepreneur 9 is a middle-aged female entrepreneur who believes herself to be in the Jamaican middle class. Entrepreneur 9 owns and operates a registered micro-business which is a tourist related theme camp²⁵. Her target market is North American Christians between the ages of 13 and 19. She is, however, known to entertain clients outside this market segment.

According to the entrepreneur her primary business needs are documents such as leaflets, booklets, calendars and flyers to market and promote her business. These business documents also include letterheads and fax cover sheets, as well as invoice and receipt sheets. The entrepreneur normally uses the telephone and mobile phone to communicate with her clients. But, does not conceptualize this technology as an ICT. For her an ICT is the expensive notebook computer which she is planning to procure because believes will make her business better. According to the entrepreneur:

It is expensive but [the Project Manager] says that it is the best alternative.... According to [The Project Manager] with [this].... I can do much more to connect with my clients and some other clients too (Entrepreneur 9).

Here, the entrepreneur suggests that since her exposure to the Cybercentre Project (with the Project Manager) she has realized (or been influenced into thinking) that she will need advanced technologies – information and communication technologies – to achieve livelihood development through microenterprise development. This advanced technology allows the entrepreneur to connect online and send email. Foregrounded in this text is the implicit association between 'advanced technologies' and the 'PC and Laptop'. It is assumed by the entrepreneur (whose perspectives and associated rituals are an extension of official discourse on ICTLEMD promoted by UNDP through the Cybercentre and

²⁵ I cannot reveal the type of theme camp Entrepreneur 9 has without disclosing the identity of the entrepreneur.

popular discourse of tourism institutions in Jamaica who have been influenced by global pro ICT forces) that these ‘advanced technologies’ are necessary to communicate with customers and potential customers. What is excluded in this text are other hardware possibilities such as the telephone and mobile phone (which if we apply Derrida’s notion of ‘Binary Opposites’ may perhaps be considered as basic technologies) both of which I as well as others (as will be illustrated in Chapter 6) have found to be more inexpensive and efficient means of communicating with persons overseas and less demanding of specific modalities and/or operational structures (as will be demonstrated below). This discourse also excluded alternative software possibilities such as Open Source software.

Entrepreneur 9 says that she has taken two courses at the Cybercentre in her region of Jamaica. “It was a refresher course”, she tells me as she was already introduced to computers a decade before during her undergraduate years at the University of the West Indies in the Department of Management Studies. According to her, the technologies have become more advanced since then, and thus there was a need for her to upgrade her knowledge. Less than a decade ago I was also introduced to several aspects of using the computers and based on what I was exposed to I had to agree with her observations. Entrepreneur 9 had done the 8-week basic introductory course (the courses normally run from 8-10 weeks at a time). According to the entrepreneur the first course included learning “the basic operations of the computer” the functions of the mouse, keyboard, monitor and CPU, operating “Microsoft Word and Internet Explorer” in terms of text “formatting, tabbing, aligning, inserting tables and columns and formatting” the tables and columns. She had learnt Internet searches and to use the email service using Internet Explorer and Hotmail (Entrepreneur 9).

The second course consisted of learning more advanced procedures. This included “learning the advanced features of Word such as “making letterheads, formatting letters and printing on envelopes, fax cover sheets, some brochures, agendas, calendars, resumes, mail merge, letters, graphs, organizational charts and other things as well” (Entrepreneur 9). Foregrounded in this text was training in the use of Microsoft to achieve the entrepreneurs’ livelihood goals. However, what was absent was reference to any other brand of technology indicating that Microsoft

may have been represented by the Cybercentre as the only tool for achieving livelihood development. I will return to this particular discourse further in this chapter.

According to Entrepreneur 9 this knowledge has provided her with the capacity to develop her own business documents, some of which she had brought to the interview meeting in Kingston Jamaica.

These business documents were smartly and very professionally done. Had it not been for my knowledge of the history and organizational structure of Entrepreneur 9's business and her operations, I would have believed that her company was a well established medium, if not large, enterprise which I would do business with. But then again this was the look that the entrepreneur was seeking, the look which was promised to her if she were to utilize ICTs such as Microsoft Word to develop business documents. As illustrated above "professionalism" was one of the many discourses which were intertextually linked to the use of ICTs such as Microsoft. Based on the business documents which I saw, indeed she had represented herself in this context.

The documents themselves were not produced by her but rather by a graphic design company for what she said was "a whole heap a money" [Translation: for a lot of money] (Entrepreneur 9). She had explained to me that the original copy was done by her in Microsoft Word based on what she had learnt in class regarding formatting, layout, and fonts and so on. They were altered at a graphic design company for a cost. According to the Entrepreneur another software programme was used to do this. It was explained to me, as I believed it was explained to her by the graphic artist, that Microsoft Word has several limitations and was inappropriate for creating the posters and calendars that she had envisioned would attract clients and thus contribute to her livelihood. These business documents are sent to Christian youth groups in North America and need to be attractive enough to entice clients.

Although the entrepreneur was made aware by the Cybercentre management about the benefits of using 'advanced technologies', she still relies on the 'unadvanced

technologies' for communicating and sharing information with potential and existing (potentially return) clients. In other words she still uses the telephone and mobile phone to communicate with her clients. Occasionally when necessary, she will correspond with them by email. Not thinking about the telephone and the mobile phone or being forced not to, is based on specific assumptions of ICTs encouraged by the way in which the Cybercentre represented livelihood development. Within this context there is the belief that specific technologies such as computers and the Internet fall within the rubric of ICTs and that the telephone and the mobile phone do not. And that the Internet and computers are all-encompassing and powerful in that they can be applied to all situations and circumstances. Based on this assumption, this one-size-fits-all model, the entrepreneurs are trapped into specific ways of organizing and acting without ascertaining the appropriateness of the technology or matching the technology to the specific needs of the entrepreneur. In other words, they exclude the needs of the entrepreneur. For those entrepreneurs who are unable to conform to these modalities and enact these identities, livelihood development becomes problematic.

According to Entrepreneur 9, these combinations of technologies made possible by her exposure to the JSDNP Cybercentre Project have been beneficial. She claims that "the feedback has been great" and she has received "quite a few clients" (Entrepreneur 9, 2004) as a result of these objects. Much more, she states, can be done to expand her business and improve her livelihood. All this, she explains, can be done with a website. Thus her next step is to get one constructed. She believes this will help her organizational image – giving it a look of professionalism. Unfortunately, however, although she believes that this combination of objects and instruments is necessary, it is a costly venture. The Entrepreneur explains all this:

I am sometimes unable to do all I want to do because I don't have enough money to do so. So even though you may see me in operation here there are still a number of things which can be done to make it better. I cannot afford the expensive ones because they run me some tings like 20 US a month and even more. And although we are a small operation it is every entrepreneur's dream to expand their operations. With the right money for example I

could afford things such as an Internet site and with this I could make a lot of money (Entrepreneur 9).

Of the many things which this text suggests, what comes to the forefront, is the entrepreneur's association of having an "Internet site" and making "a lot of money". It represents an extension of the official discourse of UNDP's SDNP programme concerning ICTs and the Internet as tools for livelihood development. However, the Cybercentre merely enforces or validates this assumption which has preoccupied organizing and acting in the Jamaican tourism industry and at the same time intertextually and interdiscursively linked to the same global forces, institutions and texts which suggest that Internet tools such as websites are indispensable to tourist workers. It is important to remember the above extract further on in this thesis.

5.3.2.3. Entrepreneur 10

The need for a professional look was also cited by Entrepreneur 10 as one of the benefits gained from their exposure to the JSDNP Cybercentre Project. Entrepreneur 10 can be described as a middle-aged male entrepreneur operating in the Jamaican tourism industry. Unlike Entrepreneurs 8 and 9, Entrepreneur 10 would not be described as your typical middle-class Jamaican (at least based on what I know about the Jamaican class structure).

My assumptions about the entrepreneur were supported by him as he also does not think of himself as middle-class. Rather, he would be better placed in the lower end of the middle strata or upper end of the lower strata. Entrepreneur 10 owns and operates his own registered and formal business. According to him he provides transportation or shuttle services – picking up tourists at the airport and taking them to their destinations and then dropping them back to the airport. He also takes them to various shopping and camping spaces or events. In addition to this he has other side businesses. These exist outside of his official business and outside the space of the tax net. Entrepreneur 10 connects tourists with private transportation needs to persons in Jamaica with motor vehicles to rent. He also offers boat and rafting rides.

The entrepreneur was encouraged by a JSDNP Cybercentre Project Manager to enroll in one of the training programmes which were offered at a community centre in the area where Entrepreneur 10 resides. According to the entrepreneur the training programme was represented as a phenomenon which would empower him with Internet and computer knowledge which would improve his business skills.

Entrepreneur 10 participated in the 8-week basic programme discussed above. According to the entrepreneur:

From the training and what I see not only at the big hotels, but among some other small business man in the tourism sector, computers and the Internet are important and critical to this industry and for us in the industry. It is the way of the world. We can connect to people abroad with the Internet and create business cards, brochures, letters and many other documents to give the business this professional feel. Do you see what I mean? It opens a whole door of possibilities. Entrepreneurs today have to have these technologies to keep records, to make our bookings and generally to give a sense of professionalism to our businesses. And if you have a website more doors open for you. People can find you, send information to you about and ask you about your business (Entrepreneur 10).

For him it was an “eye-opening experience”. It raised his sense of awareness about the power of computers and the Internet, how critical they are to business life, and how they could be used to help entrepreneurs make a living. They were viewed by him as magically important tools which contribute to livelihoods in Jamaica. Excluded from his discussion is the notion that ICTs can have any negative impact on the life of the entrepreneur or other entrepreneurs. He assumes, for example, that a website will provide more opportunities for his business, his livelihood, an assumption which, based on the main documents of the UNDP, is a discourse promoted by this international development agency. The microenterprise entrepreneur had used his own experiences with these technologies, the knowledge of other entrepreneurs close to him, the discourses surrounding these technologies and microenterprise entrepreneurs and global trends to draw these conclusions.

Although the entrepreneur was told (and believed) that it was important to perform processes in information exchange and communication between him and potential (or potentially returning) tourists using ICTs, he was unable to do so. The entrepreneur's busy work schedule did not permit him to actively engage the ICTs he was told would improve his business and thereby contribute to the expansion of his livelihood. These technologies included emailing, Internet searches, a website and so on. According to him, he did not think that the type of business that he had allowed him to effectively utilize these technologies. According to him, "My type of business is an up and down business and so it is difficult to do so". Entrepreneur 10, however, maintains an awareness of these technologies and how they can be very helpful for others working in the industry. What was useful for him though was the word processing software. He had a strong appreciation for these technologies, one of which, he claims, was useful in the expansion of his business.

According to the entrepreneur (perhaps regurgitating what was observed and heard at the Cybercentre and to some extent life experiences) ICTs allow an entrepreneur to develop business documents such as flyers, posters, receipts, and business cards. Based on his observations of the genres of the transport service in the Jamaican tourism industry these objects (the business documents) "gives your business a sense of professionalism" (Entrepreneur 10). The entrepreneur further stated:

...people in my industry prefer to deal with professionals because they believe that if you are professional you are more responsible. That is just the way how things are in this business. When I presented my business cards and flyers to the hotel people the response was very positive (Entrepreneur 10).

In other words, having and using these objects (business documents) represented specific ways of representing, acting and organizing. This extract also suggests that the ways in which diverse genres, discourses and styles were networked together had resulted in a high value being placed on instruments such as business cards, invoices, receipts, posters and flyers. These were used to define professionalism. Hotel and motel owners were more receptive to persons with a high level of professionalism because it was assumed that there was a relationship

between professionalism and responsibility as well as quality. This was the dominant way of doing business in the tourist industry. Based on how the entrepreneur represented the situation it would appear that it is a commonsense assumption which is sustained by relations of domination and regulated by those with the power to define the realities of relations among tourism entrepreneurs, in this case the hotel and motel owners. The instruments were thus important to the entrepreneur in shaping his identity as a professional businessman operating in the Jamaican tourism industry. ICTs such as Microsoft Word can create these instruments. Therefore for him a high value is placed on this software. Even more concerning is that it may be an indication of the Cybercentre's power to successfully influence and transform social actors and reshape social situations, processes and identities.

According to the entrepreneur he had always wanted various business documents but they were very expensive to develop in the area where he resides. When he was at the Cybercentre he was exposed to the processes of developing them and decided to get some constructed for his business. Entrepreneur 10 had developed the drafts of these documents using Microsoft Word and the Project Manager completed the process by making some amendments and printing them. The flyers and business cards were printed on card stock paper. These he stated were delivered to several motels and hotels surrounding his operations area. According to the Entrepreneur:

With some assistance from the Cybercentre staff, I was able to develop some flyers and business cards. I mean I did most of the work in Word and showed it to [the Project Manager] who was very helpful in making some adjustments for me. I was first doing some small cards only but then [the Project Manager] made some adjustments for me with the software, things that I have not learnt as yet, and I was able to get some posters as well as some business cards. [The Project Manager] got the business cards printed on these hard paper and here are the flyers [Glossy type paper]. I then redelivered them to some of the motels and hotels [in the area]. Yes, the response has been good; I have got a number of business as a result of this (Entrepreneur 10).

I have actually got a few new customers since I have started using more business documents, I have distributed some brochures and business card and that has got me 3 new hotels which I assist with the shuttling of people around (Entrepreneur 10).

The story and language used here indicates that the Entrepreneur believes that he has benefited from his knowledge from the Cybercentre Project. However, as will be discussed in the next chapter, there are many other issues regarding dependency and innovation in the language being presented here.

5.3.2.4. Entrepreneurs 11 and 12

Not all entrepreneurs however were able to speak of benefits from the use of ICTs as there were various degrees and forms of ‘dialogicality’²⁶ which were brought into focus through the CDA approach to analyzing texts. This was indeed the situation with Entrepreneurs 11 and 12. Entrepreneurs 11 and 12 are a husband and wife team. They operate a small informal and unregistered tour company in rural Jamaica which exists outside the tax net – a black market entity. They also operate other types of business ventures simultaneously. Both are literate, have a high school diploma and can be considered to be working class middle-aged Jamaicans. I conducted separate interviews with them on two occasions over what Entrepreneur 11 referred to as his ‘anytime phone’ - his mobile phone (A colloquialism to describe a piece of technology which has trans-temporal qualities). According to him it is this instrument that he does most of his business on.

Both entrepreneurs participated in one of the eight-hour introductory training courses offered by JSDNP. They were however exempted from paying any fees because Entrepreneur 11 was at the time working with the institution in which the JSDNP Cybercentre Project is housed. As a result of this association, Entrepreneur 11 and his wife - Entrepreneur 12 – were both also able to use the services of the Cybercentre for free. Both entrepreneurs believe that ICTs can expand their livelihoods and market this discourse in the community that they live in. According to Entrepreneur 12 for example:

The computer and Internet makes a great difference in the lives of people. I see where some people have used it to do a lot of things for their businesses in the same way how it has been used by the big hotels. You see in this business, it is something that we cannot

²⁶ The dialogue between the voice of the author of a text and other voices Fairclough (2003: p. 41)

live without. It is a do or die situation because all the tourists them on the Internet now all of them booking online. And in order for us to service we have to know how to use the Internet and the computer. With these technologies we are able to reach more people with a computer; we are able to respond to them faster. And this puts us in a position similar to the larger hotels. This can greatly help to add value to our lives, generate income, and make our business bigger....I for example do not have the time to go down to the Cybercentre and check my emails as regularly as I should so I have not benefited from these technologies per se however it is not the technology it is me.

There are other places in town close to where I operate which also have computers and the Internet but they are so expensive. Neither [Entrepreneur 11] or me or many of us struggling in this business can afford them. If it was not for the [JSDNP Cybercentre Project] we would not know about the use of the Internet and computer and we could not afford to use computers and send email. It is much cheaper than the ones at town. (Entrepreneur 12).

Similar arguments were present in the language of Entrepreneur 11. According to him:

ICTs are the way of the future, they can help us in so many ways. We can contact people, print letters, make invoices and letters. I know that it can work because I see where it has worked for other people.

If I had the time it would work for me. You see me. I am a man with other irons in the fire. This tour business is not the only thing that I do. I have a little shuttle bus that me and my wife run, we have a bar, I do a little selling on the side, I have a little drum pan which sell jerk chicken and things. So you see it is difficult for me to go all the way over there to check my emails regular and email is a thing that you need to check regular in order for you to connect with the people them. As a result of not being able to communicate with people overseas regularly I have lost customers. Yes, man, what are you saying, I have been contacted by this man and his wife about a friend visiting but I lost out on that work because I only see the email a week after it came. He had sent four emails and I guess he got tired of waiting on me and went somewhere else.

A solution to the problem is getting a Webpage. With the webpage they will have all the answers to the question about the services we offer, rates and other information but it is expensive. Another answer is getting a computer at home but that out of the question because that is even more expensive. We working on a plan to get one, though (Entrepreneur 11).

Like most of the other entrepreneurs, these perspectives can be seen as the untransformed discourses of UNDP's ICTLEMD discourse transmitted through the JSDNP Cybercentre Project. The statements “I for example do not have the time to go down to the Cybercentre and check my emails as regularly as I should” and “If I had the time it would work for me:” as well as “[s]o you see it is difficult for me to go all the way over there to check my emails regular, and email is a thing that you need to check regular in order for you to connect with the people them” suggests that both these entrepreneurs both assume that communicating with clients overseas requires specific ways of acting and organizing associated with occupying a specific space as well as time (Spatio-temporality). In other words, specific discourses were necessary to communicate with clients. Indeed, as suggested, this belief has led them to perform specific social processes with the intention of engendering livelihood development through the use of their access to the free technologies at the Cybercentre. Based on their efforts to use these technologies, as well as their desire for a website and a computer, it may be argued that this discourse (which the entrepreneurs uncritically accepted and sought to apply regardless of the fact that such a discourse was out of synch with their trans-temporal modalities), was one which they strongly believed in, in terms of the achievement of livelihood expansion. Regardless of this belief and desire, however, and even with ‘access’ to ICTs (in principle) these entrepreneurs were not able to benefit from the skills learnt from the Cybercentre project because of cognitive dissonance in modalities.

5.3.2.5. Entrepreneurs 13 and 14.

Two other entrepreneurs who, like Entrepreneurs 11 and 12, have not personally benefited from their exposure to the Cybercentre Project in terms of livelihood development are Entrepreneurs 13 and 14. Each entrepreneur was interviewed separately, one year apart, and at different locations, but were trained at the same Cybercentre. Both entrepreneurs have similar types of businesses in different areas of Jamaica. Entrepreneur 13 operates a small shop on the street corner selling products (Jamaican various memorabilia) which she buys from the supermarket in the more urban area of that rural region of Jamaica. Entrepreneur 14 also has a shuttle service and sells various items such as T-shirts and various craft items as well as marijuana. All businesses are unregistered and are in

simultaneous operation. They are the quintessential Jamaican hustlers. Entrepreneur 13 is a female between the ages of twenty-one and thirty while Entrepreneur 14 is a male aged 36. Both have high school diplomas and have identified themselves as ‘sufferers’ (a Jamaican term popularly used to describe the poor).

In an attempt to address their ‘sufferer’ status and to create opportunities for themselves these entrepreneurs attended the Cybercentre training. According to them, the Project Managers promised that exposure to this training would provide the entrepreneurs with the technical capacities – learning to use the computer - to address their needs. These needs included personal and business financing as well as marketing and advertising. Both entrepreneurs were enrolled in the first batch of Cybercentre trainees in their respective communities. This was the pilot study and thus the cost of the training was much cheaper than the entrepreneurs mentioned previously, who participated in the second and third batch of trainees. Both of these entrepreneurs experienced the 8-week introductory course.

Both entrepreneurs valued ICTs and were aware of their importance as a marketing tool and as a potential source of generating income. This is evidenced by the extra-ordinary number of references to ICTs as tools of global marketing and a source of generating income. Several of these terms used by Entrepreneur 13 included:

- The world is just a fingertip away. With the click of a finger you can access information and people can access information about you and your business. These are things that are important for us in this business, adverting for example, the Internet is a good way to advertise you service and advertising is important to us
- [The Project Manager] has shown me how you can market your services anywhere in the world in the same way the larger hotels do.
- With a website you can reach people overseas to show them where you are in Jamaica and what you offer
- I see how this computer and Internet thing is important and everybody more and more using it especially the kids them...is a good investment, it is a good way of making some money....It is a good money-making opportunity
- [Advertising over the Internet] can help us to make some money (Entrepreneur 13)

And those by Entrepreneur 14 were:

- It is something that I know can help you to make a lot of money.
- The Internet is a good way to make money.
- And that anyone interested in making money need to log on to progress.
- Money, Money Money. I am expecting to see Money when I shoot off. I see where it making money for the big hotels them and other small people I know. My time will soon come.
- ...and with [a website] you can advertise your goods and services all over the world.
- [A website] can be seen by clients anywhere in the world.
- So that I can market and advertise my business over the Internet (Entrepreneur 14).

This common commercial-type language (the untransformed text of the discourse of the official position, the dominant discourse of the UNDP) used by Entrepreneurs 13 and 14 (emphasising ICTs, specifically the Internet as a marketing and income generating tool), the difference between these two entrepreneurs and the others mentioned before and Entrepreneur 13 and 14's association with one specific JSDNP Cybercentre is an indication of what aspect of the discourse of the official position on ICTLEMD was foregrounded at that particular Cybercentre.

Being your typical opportunistic entrepreneur (and influenced by the representations of ICT for livelihood expansion by the Project Managers) this aspect of ICTLEMD was appealing to these entrepreneurs and could possibly have been used as a selling point to get them to buy in, which was achieved. The evidence of successful procurement of these entrepreneurs in this regard is evidenced by their future plans for the use of these technologies for livelihood development. For example, Entrepreneur 14 suggests that he can see himself “using [the Internet] in the future to sell craft items, roots (special Jamaican beverages made from plants), export some Jamaican T-shirts and all sorts of things” and Entrepreneur 13 can see herself “opening a Cybercentre in the adjoining district to train people and offer Internet access services” . In many ways the enterprise language used here, the simplistic way in which the entrepreneurs construct the utility and usability of ICTs, suggests a limited awareness on their part regarding the actual complexities of ICTs. In many ways, it is possible to argue that this discourse emerges from the unsophisticated, techno-centric and un-complex way in which the UNDP define, construct and

represent the use of what they define as ICTs for livelihood opportunity (see discussion in Chapter 1).

Certainly, in part, it is for these reasons (limited awareness of the cosmologies of ICTs) that these imaginaries never became a reality for these entrepreneurs. None of the entrepreneurs were able to bring these dreams to fruition. Neither were they able to utilise the knowledge gained from the Cybercentre training both because of their inability to afford the access charge for the Cybercentre, and time constraints. For example according to Entrepreneur 14:

...I neither have the time or the money to use it now. I work until late so by the time I am finished working the Cybercentre is closed. I want to buy a computer so that when I go home I can sit down and check my email and search the Internet. [The Project Manager] said that that was the best solution for me right now (Entrepreneur 14).

Here two things jump out. First, the words “I can sit down and check my email, build my website and search the Internet for opportunities” implies that the entrepreneur assumes, or was influenced into believing that being able to “check emails and search the Internet” is dependent on sitting. Much of this has to do with design discourse both industrial design of the computer and software design of the human-computer interface. For example, the industrial design of desktop computers are culture-specific configurations that are tailored to the needs of Northern countries in that their operations involve the use of specific advanced technologies (similar to those promoted by the Cybercentre) with modalities necessitating the preoccupation of a specific time-space, bodily positioning and organizational processes. The ‘desktop’ metaphor in human-computer interface design is native to Northern office workers who are spatio-temporal and are required to sit in a position to complete their day-to-day tasks. However, this modality of sitting for hours at a time is indeed alien to small farmers of the developing world whose livelihood depends on a modality of mobility. In the case of the Cybercentre, the laptop computer, a usual instrument of mobility, was represented as spatio-temporal in that, it was only useful in instances where connectivity was impossible because of the lack of a telephone line thus

necessitating a card to connect a user wirelessly using the laptop. It was not represented as a tool which could shift from space to space when necessary.

In both instances the desktop and the laptop (represented as a desktop) are represented as tools which are oriented towards an individualised mode of working such as sitting - it is very hard to stand and use a desktop computer or for that matter a laptop represented as a desktop computer. Thus the Cybercentres reinforces the in-built design discourses and assumptions of Northern hemisphere corporate capital which is built into the physical and software design of Dell/Microsoft as norms of behaviour based on the corporate office and individualist modes of working. Thus they embed imported expected normative conditions of work, leisure and normative livelihood patterns, based on the corporate office and the individualist ethos of North American capitalism.

The second thing which jumps out is that the Project Manager supports such an assumption by suggesting that the only solution is to buy a computer to facilitate the sitting. Similar assumptions about the use of the Internet were made by Entrepreneurs 11 and 12. Furthermore the operational processes represented in the discourses of Entrepreneur 9-10, which excluded alternative modalities, also suggest that they too assumed that there are specific spatio-temporal modalities to using the Internet or emailing to connect to people.

5.3.3. Case Study Summary

Many assumptions can be drawn from the experiences of Entrepreneurs 8-14. Among many things, the above cases illustrate the far reaching effects of the institutional dominant discourse on the lives of Jamaican entrepreneurs operating in the tourism industry. They reflect how institutional discourses have shaped the entrepreneurs' perception of navigating in the tourism industry. These entrepreneurs socially constructed ICTs within specific routinized behaviour, accompanied by a set of evaluative principles regarding what should and ought to be achieved through the use of ICTs within the context of livelihood opportunities through microenterprise development. This emerged from "an interplay between subject and object" (Crotty, 1998: p. 9). If we follow Valden, (2001a), Luyt, (2004) and Wade (2002), it may be argued that these constructions, which have in

many ways been influenced by how UNDP through the JSDNP Cybercentre represent the achievement of livelihood development, reflect the ways of acting and organizing compatible with corporate modalities of the industrial world, particularly those of the USA whose modalities have dominated and shaped the ICT for development landscape.

The cases illustrate how institutional discourses exert power over social actors by inculcating values and logics which they (social actors) do not question because of their lack of knowledge about ICTLEMD and their perception that the Cybercentre has an abundance of knowledge regarding ICTLEMD and power. This perception, I argue, is enforced by the use of expert language by the Project Managers during training sessions. This was realized in the language of Entrepreneur 8 who, when questioned about the technologies used in her establishment during a telephone conversation replied, “[the Project Managers] are the experts, they know everything...they can solve all problems”. For this entrepreneur as well as the others the knowledge of the project managers, the ICTs and their represented modalities were unquestionably of contributive value to their lives and this was inculcated in their consciousness. This discourse may be considered hegemonic given that the entrepreneurs were offered no other alternative, and that the uncritical language used by the entrepreneurs suggests their acceptance of these discourses as commonsense assumptions, which can be analysed as evidence of hegemonic relations of power in and over discourse.

This hegemonic discourse may also be viewed as an act in the use of language to further the interest of the agents of the Cybercentre as well as those who they represent, by forcing entrepreneurs to reason within the framework of the discourse of the official position. The case studies demonstrate how “the most effective use of power occurs when those with the power are able to get those who have less power to interpret the world from the former’s point of view” (Mumby and Clair, 1997: p. 184). One of the many ways in which this was done was through the mystification of specific technologies and technological processes and I will discuss this in the next section.

5.3.4. The Mystification of Specific Technologies and Technological Processes of Livelihood Expansion

An analysis of the aforementioned cases involving the constant comparison of texts and taking into consideration my own discourses (intertextuality and interdiscursivity) as well as possible extra discursive practices of the entrepreneurs (some assumptions about material practices, beliefs, attitudes, values, desires and institutions/rituals, power, discourse, forms of consciousness, time and space, objects, instruments, subjects and their social relations and activities) have led me to argue that the JSDNP Cybercentre Project promoted the notion that *livelihood expansion is closely associated with the configurations of specific technologies and their associated processes.*

The technologies to which I refer include hardware such as the Personal Computer Unit (PCU) specifically Dell Dimension Class, as well as Notebook Computers, the Dell Inspiron class (used at one of the Cybercentre's which I visited) or other computers with the name 'Intel Pentium' on the outside (which I believe were perceived to have been bought from commercial companies – no clear signs that they have been assembled in Jamaica). These technologies also include other hardware peripherals such as the Hewlett Packard or Canon Inkjet, Bubble Jet and LaserJet printers, Canon fax machines and a scanner. It also includes software programs such as the Microsoft Family – Microsoft Windows, Office and Hotmail. Finally these commercial technologies include connectivity solutions from the dominant or the larger Internet service provider in a market which was represented by the Cybercentre as offering a more reliable service than the smaller ones, but not cheaper. Based on the data collected, these are the technologies which were visualized, valued and represented by the interviewees as engendering livelihood development. What was not included were various freeware alternatives many of which can be found on the <http://www.download.com> website as well as various mobile and portable devices.

The configuration of the technologies present at the Cybercentre are representative of the commonsense assumptions of what combination of devices are needed to effectively utilize ICTs as captured globally in magazines, books, on television and institutionalized by business corporations and corporate type institutions such as the World Bank (see for example Valden, 2001) and other institutions utilizing

corporate models of operations, and management promoted by management texts. Tracing its genre lineage and intertextual connections would be far beyond the scope of this thesis. It is, however, in many ways linked to Entrepreneur 8's structural arrangements which resemble the configuration of technologies typical of the Cybercentre. This includes, for example, the use of the exact suite of software tools namely Microsoft. The absence of alternatives may suggest that such a discourse may have far-reaching hegemonic connotations and operates in favour of a particular set of technologies and technological processes and the subjects who benefit from these objects and their accompanying practices.

The processes associated with these technologies - the ways of acting and ways of being (social practices) include: the occupation of a space to use these hardware peripherals; specific positioning of the body in that space to use them. This may, for example, include being indoors or in an enclosed area, as discussed earlier, on a chair in front of a desk facing and using the computer (standing is also a possibility), positions which are normally practiced when using a PC or a laptop (the laptop was not represented as mobile/portable to the entrepreneurs). What this suggests is that the Cybercentre Project promoted a particular discourse about the use of ICTs to achieve livelihood development (which was a part of the discourse of the official position) which offered no alternatives such as standing and using a mobile device.

Such a discourse has been crystallize into 'things,' 'elements', and 'insoluble domains' or 'systems' which have assumed relative permanence within a social system and or among other discourses. From the data analyzed, they have become "part of the landscape of knowledge seemingly impermeable to change" (Harvey, 1996: p. 81) and this discourse has hierarchically position itself above other discourses based on the power behind it – the UNDP – and its interdiscursive and intertextual linkages Corporate configurations of working and organizing in industrial countries such as the United States and has successfully contributed to livelihood expansion for entrepreneurs in these countries. In many ways this discourse did more than just hierarchically position itself above other discourses, it marginalized and excluded these other discourses and in so doing, had played an important role in regulating the social practices of the entrepreneurs interviewed.

Such a discourse reflects the ways the entrepreneurs interviewed for this study had come to visualize the use of ICTs for livelihood development. This is evident by the organization of Entrepreneur 8's operational modalities, Entrepreneurs 9 and 10's desires to operate within specific boundaries and the exclusion of other possible discourses by entrepreneurs 11, 12, 13 and 14.

These discourses also gloss over the problem of access to ICTs: having the time and means to access ICTs; responding to emails in a timely manner; addressing software problems either directly or through technical support and having a complement of peripherals (printer, scanner and a fax machine) as well as connectivity solutions and software programs to facilitate this connectivity. Some examples of these software programs which the entrepreneurs identified with include Microsoft Internet Explorer, Microsoft Outlook and/or Outlook Express and Microsoft Hotmail, all of which were represented to all entrepreneurs as the only common sense ways of achieving livelihood development, with no discussion of the issues of cost, efficiency, suitability or adaptability.

Based on the texts of the entrepreneurs, and how social life is represented in them, many of them viewed these technologies as tools for expanding their livelihoods. This discourse suggested new ways of (inter)acting, inculcated new ways of being (styles) and promised new identities for the entrepreneur and his or her business (such as appearing professional through the use of business documents developed by these ICTs). These discourses promoted new ways of representing which were normalized through hegemonic relations of power and domination that existed between the Entrepreneurs, Project Managers, Policy Makers and ultimately the global network of relations. In many ways, based on my analysis of the network of practices surrounding the Cybercentre Project as well as the post project activities of the entrepreneurs, it may be argued that these discourses/social practices materialized in new forms of organizing.

In explaining these processes and their implications on the microenterprise entrepreneurs associated with the JSDNP Cybercentre Project, I will focus on how

one technology brand (and the modalities it encouraged) influenced this new form of organizing. The technology brand to which I refer is Microsoft.

5.3.5. Mystifying Microsoft: Regulating Social Life and Livelihood Expansion

The corpus of texts analyzed suggests that one of the specialized technologies represented as an instrument for the achievement of livelihood expansion was Microsoft (Windows, Office, Hotmail and their associated software).

My reasons for selecting Microsoft instead of Dell (another technology which was mentioned in the transcripts), for example, are multidimensional. First, Microsoft was one of the objects, processes and phenomenon the entrepreneurs had interacted/engaged with during and after the Cybercentre training. References to Microsoft or Microsoft-related products were made 46 times by those interviewed about the JSDNP Cybercentre cosmologies. Specifically, each interviewee made mention of Microsoft or Microsoft-related products at least once. Secondly, linguistically speaking, the term 'Microsoft' was extensively used in various accounts of the planning, implementation, execution and management phases of the project. Finally, and perhaps most importantly, there was also be a personal reason for selecting Microsoft.

There are many different representations of Microsoft both as a discourse and, dialectically speaking, as a social practice. For example, there are some, such as myself, who consider Microsoft a hegemonic force which imposes U.S. ideology, culture and productive processes on other countries through the software giants' strategic placement of its Windows operating system and other programs on various hardware peripherals such desktop, laptop and hand-held computers, and through its attempts to colonize the web, mobile phones and GPS systems in other emerging markets. There are others who see Microsoft as a corporate capitalist commercial giant spreading and regulating neoliberalism. Proponents of these two discourses frequently undertake projects to demystify Microsoft.

Then there are those such as Bill Gates (Microsoft's CEO) who idolize and mystify Microsoft, suggesting that it is a model for effective business development, the exemplar tool for corporate strategizing and exploration and a

paradigmatic source of and pattern for entrepreneurial success (see for example Gates 2005, 2006a, 2006b). There are also some who view Microsoft as an information and communication panacea, the cure for all business processes, for time, distance and space as well as addressing the many other spheres of social life (economic, political, military, health and so on). Microsoft describes itself as

...the worldwide leader in software, services and Internet technologies for personal and business computing. The company offers a wide range of products and services designed to empower people through great software -- any time, any place and on any device” (Microsoft, 2004: p. 1)

If we are to apply Derrida’s deconstructive tool of binary opposites, the term ‘empower’ suggests that people who are not using Microsoft are without power, powerless, or unable to enact power to engender change such as livelihood development.

Each abstraction is a representation of an outcome brought to life in and through discourse and each outcome is itself a product of representations of Microsoft. It is therefore dialectical. Taken together, these abstractions led me to question UNDP’s JSDNP Cybercentre model which sees Microsoft discursively constructed within it and assumptions about Microsoft which excluded negative constructions. Thus, there was a need, at least on my part, and influenced by my knowledge of technology for development, to deconstruct these discourses. The aim was to extend the existing assumptions by presenting alternative discourses to empower the locals with a deeper understanding of, and more critical relationship with technologies.

On my part I was driven by intellectual curiosity to ascertain which of these abstractions were a reality for the entrepreneurs associated with the Cybercentre Project and what socio-cultural factors contributed to these realities.

5.3.6. The Microsoft Discourse

According to Wensveen (2004):

Microsoft products can be divided into three categories: applications, operating systems, and additional server products. The applications include the Microsoft Office suite, but also Internet Explorer, Media Player, Visio, FrontPage, etc. The operating systems involve desktop and server versions of Windows. On the desktop we find Windows 9x/ME, NT Workstation, Windows 2000 and Windows XP, and at the server end we have Windows NT Server, Windows 2003 Server and Windows 2000 varieties such as Datacenter. The additional server products, e.g. Internet Information Server (IIS) and SQL Server, run on top of one of the Windows server products. They add services (e.g. webserver or database server functions) to the basic file, print and authentication services that the Windows server platform provides (p. 1).

Beyond the aforementioned abstractions, much can be said, and indeed has been said, about these products and Microsoft generally in many spaces of the Internet. The Anti-Microsoft website located at this website <http://members.aol.com/machcu/amsa.html>, is an example of this. Microsoft, as a software solution to address multiple needs, has influenced particular ways of acting, being and representing social life on a planetary scale and is itself influenced by them. As a discourse it shapes objects, subjects and phenomena and is also shaped by these forces. Despite its detractors, Microsoft has become the dominant choice of business professionals, development workers, scientists, students and many other actors across the planet. It is thus considered by its opponents and competitors as a force to be reckoned with.

In many ways it may be argued that Microsoft's dominance comes from the many devices (many of which – technological tools and ideas about creating technological tools, do not originate from Microsoft but are rather appropriated) which are used by the Microsoft Corporation to represent the software's power and usage. These devices include the use of strategic advertising on the Internet, in magazines and on television, multi-segmented marketing campaigns in various countries around the world and global promotional activities in schools, corporate offices and civil society organizations in the developing world. In these presentations, Microsoft is represented as ubiquitous and all-powerful, an indispensable tool for addressing the ills of social life and a solid solution for all

information and communication needs. These representations are accomplished with images usually associated with modernity – computers, satellites, binary codes, futuristic buildings and space age transportation. It is also accomplished with the use of language depicting “how things might or could be...projections of certain states of affairs...possible worlds (Fairclough, 2001: p.2). All this engenders excitement around the name Microsoft and its processes.

Consequently, Microsoft is inculcated as a new way of acting and being. It is materialized in language (talking about Microsoft), as well as bodies, gestures, ways of moving (using a particular stance, pose or position to interface with Microsoft on a hardware peripheral). It is also enacted as ways to act and interact within the network of social practices influenced by Microsoft (using the Internet, emailing and video conferencing). Practically speaking, this is a discourse which has indeed influenced planetary social practice. For example, on a planetary scale, the Microsoft presence is felt in approximately 85 countries around the world, from Argentina to Vietnam (at least on record (on Microsoft’s website). In analyzing Microsoft’s own account of its global presence, from which this figure is sourced, it is clear that only a handful of the smallest and poorest island nations are likely to have escaped Microsoft’s effective monopoly of operating systems and office software. With its new Starter version of Windows, however, and linkages to international development agencies such as UNDP, themselves present in over 150 countries, it is clear that that Microsoft plans to extend its market share in the poorest countries worldwide. Furthermore, as this thesis suggests, such an act would mean the expansion of the associated modalities associated with Microsoft, modalities which may have detrimental outcomes for the peoples of those countries.

This possibility may become a global reality in Bill Gate’s vision of “a world of software and devices that runs on Windows”, the words used in the 2005/2006 Microsoft global marketing campaign. This possibility becomes even more realistic if we follow Cubitt, (2006) who suggests that

- Microsoft is the de facto norm. Even users of other software have to open and send files in Word, Excel and PowerPoint. Many websites created using MS software will only open in IE.

Since they signed the MS/DOS deal with IBM, they have benefited from 'legacy', which some see as brand loyalty, others as market inertia.

- bundling - computers are now plug-n-play commodities. They come with the MS suite ready installed and defaults set (e.g. cookie preferences in IE, preferred browser, preferred mail client etc etc. Part of the EU and US monopoly cases derived from the bundling of IE with Windows.

The software itself discursively encodes western office efficiencies while at the same time suffering from 'bloat', the incremental addition of often redundant functions which however require increasing computer power to function, so that each new iteration of the software requires a newer and faster computer, thus sealing Microsoft's position with manufacturers who want to sell more and newer machines S. Cubitt,. (personal communication, January 22, 2006).

My experience with people and software, having lived for some time in three different countries and visiting many others, has led me to believe that many social actors socially constructed Microsoft as the commonsense software application and as the software tool necessary for the achievement of entrepreneurial success, business process reengineering, improving modes of communication and information sharing leading to, among many things, financial growth. In other words many social actors believe that using or owning any of the many software programs in Microsoft's product line is a representation of success. Social actors have thus been driven to acquire the software, to learn about the software and actually use the software to achieve the success the software promises. One place where this discourse is prevalent is Jamaica.

5.3.7. Microsoft in Jamaica

Microsoft has established several distribution centres across the island of Jamaica. It has also implemented a number of training facilities offering various forms of Microsoft Certification. Both legal and illegal versions of the software are preinstalled on all computers which are sold to businesses, government agencies or households in Jamaica. Additionally, the software is sold at every legal and illegal computer store islandwide and is used in almost all institutions. And one or more of the Microsoft's range of software products are taught in almost all educational institutions.

Interestingly, the cost associated with the software is anything but inexpensive. Yet despite this (and based on my knowledge of social life in Jamaica) no other alternatives are being offered on a grand scale by educational institutions, government and non-governmental organizations, international organizations, corporate Jamaica and/or civil society.

In many ways, then, it can be argued that in Jamaica Microsoft as a discourse and practice has crystallized into the systems and structures of social life. This has been accomplished with the help of powerful and hegemonic forces such as government agencies, international organizations and civil society (themselves influenced by global hegemonic forces). These bodies and the agents behind them have influenced the way in which many Jamaicans view software solutions. For those interviewed, who in this case seem to be representative of a majority of individuals and institutions in Jamaica, the use of Microsoft to address ICT related needs is common sense. Thus Microsoft has achieved a relative permanence and casual power within Jamaican social life. The discourses surrounding the JSDNP Cybercentre Project are an illustration of this.

5.3.8. Representations of Microsoft at the JSDNP Cybercentre.

From the data analysed, much of which was present in the language above (regarding representations of the achievement of livelihood development through the use of ICT), it was found that *the Cybercentre Project represented and promoted several components of Microsoft as the only software for achieving livelihood development. These components were accompanied with specific discourses.* This proposition is drawn from an exploration of the way in which events, structures and conjunctures were represented by the interviewees, as illustrated in the above cases, as well as my observation at one of the Cybercentre training sessions, my knowledge of being trained in Microsoft software, my involvement in training Microsoft software, as well as my awareness of the organizational processes and structural arrangement at several Cybercentres. These representations include:

- Communicating with people overseas can only be achieved through the Outlook Internet Explorer.

- Communicating with people overseas (potential clients) can only be accomplished with Microsoft Internet Explorer, Hotmail and Outlook Express.
- Internet Explorer can be used to search for important information that can help you in your business.
- Being able to use Microsoft software will make your business more professional.
- Livelihood expansion can only be achieved using a computer running Microsoft Windows and Office.
- Microsoft can be accessed only on a computer or a laptop
- Microsoft can be accessed only on a laptop and desktop computer occupying a dedicated space such as a in a room or an enclosed place and situated on a desk.
- Using Microsoft can lead to entrepreneurial success.
- Accessing Microsoft is expensive but the Cybercentre provides low cost access.
- Without Microsoft livelihood development cannot be achieved (See Appendix 1)

It is important for the reader to know that what is presented above are based on my own discourses (through interdiscursivity and intertextuality), fuelled by assumptions which are themselves encouraged by the analysis of the transcripts. From these transcripts, I was able to infer “representations, categories of participant, constructions of participant identity or participant relations (Fairclough, 1995: p. 58) of subjects, objects, social positions, how subjects and objects were positioned, how elements and social events (processes, people, objects, means, times, places) were represented” (Fairclough, 2003:p. 133) and instances of relations of power in the use of language. This helped me in the construction of the above representations of the discourse of the JSDNP Cybercentre. Since the process of analysis invariably means that the researcher must provide an inter-discursive framework for analysis, the fact that I have made my principles of analysis explicit provides adequate safeguards against distortion.

In many ways these discourse and their assumptions are strongly associated with corporate discourses (are a part of the corporate language) in the industrialized world especially, as stated earlier, those in the USA regarding ways of acting and acting effectively, and productively to increase profitability. What I am trying to say here is that these discourses are a part of a network of social practices or a genre chain compatible with the corporate configurations, processes and structures that exist in the United States of America.

Based on these similarities, there may indeed be a distinct possibility that such configurations, processes and the structures they encourage represent 'action at a distance' Fairclough (2003) and, ostensibly speaking, may in many ways validate Luyt's, (2004) assumptions that the current ICT for development drive as an action undertaken to configure the developing countries to the organizational needs of the industrial world - making the developing world compatible with the technological and operational dynamics of the industrial world to facilitate their (the developing world) on-going exploitation. It also validates Ojo, (2004) as well as Valden's (2001a) claims that the ICT for development drive is an attempt to create order – a new information world order so to speak – through hegemonic relations of power and domination in and over discourse which Fairclough would suggest is encouraged through language and more specifically, discourse.

These representations of what I assume were the texts used during an entrepreneur's life at the Cybercentre – the text which promotes the notion that certain nuances of Microsoft can engender livelihood development – were the only texts presented to the entrepreneurs. Although there are many possible permutations and configurations of imaginaries to draw on which can produce alternative texts, these were indeed not presented as options by the Cybercentre staff to the entrepreneurs. And thus, in all instances it was found that the entrepreneurs were not cognizant of, nor used these other possibilities/ alternatives (some of which will be discussed in the next chapter).

From the data analyzed it was also found that these discourses are themselves supported by, if not support, several extra-discursive elements at play -

discourse(s)-as-discursive practice, discourse-as-social-practice or social practices and socio-cultural practices respectively (together extra-discursive practice).

In order to understand text production, interpretation, transformation and reception I also had to come to terms and engage with these extra-discursive elements at play - discourse(s)-as-discursive practice, discourse-as-social-practice or *social practices and socio-cultural practices respectively*. I will address what I believe are the main elements below. There are many possible permutations and configurations of imaginaries to draw on. I will, however, produce those extra-discursive elements whose characteristics, I believe, are relevant to the outcomes expressed by the entrepreneurs under investigation and to the research questions this thesis seeks to answer.

5.3.9. Extra-discursive influences – the social practices and socio-cultural practices

It may be argued that the way in which livelihood expansion was represented by the JSDNP Cybercentre Project - in terms of being connected to the use of Microsoft applications – is intertextually linked to UNDP’s own approach to structuring its operations and processes, how the institution executes its operations globally (business processes) and its policy framework for executing its development objectives in the developing world. In other words, the discourse is linked to specific events, structures, order of discourses, genre and conjunctures and to stabilized forms of social activities.

This is captured by a number of social practices and explained in various discourses. Four of these representations are, however, of interest here. The first is the UNDP Operations Manual - a document which guides the office procedures and operations of UNDP worldwide. This document outlines various configurations and specifications regarding the use of Microsoft products to maximize UNDP’s office efficiency. The second is the UNDP policy framework that guides the Cybercentre Project globally as well as other framework documents developed to help Project Managers implement and manage UNDP-funded development projects. These documents establish guidelines for the use of Microsoft products and services by country officers around the world. The documents embody the philosophy that Microsoft can engender change. The third

is a text on the UNDP SDNP Blog Site *Softpanorama SDNP* uploaded by a UN programmer who calls himself *CowboyRobot*. According to CowboyRobot:

The UN now is a completely Microsoft-dominated organization. The Web sites are exclusively ASP/VB MS SQL Server, etc. There was some interest by a few of us to move toward PHP while I was there, but the bureaucracy is so thick, that once a standard becomes adopted, it's impossible to change (Softpanorama, 2004: p. 22)

The final representation is an image (below) taken from Microsoft's PressPass Website (a Website which promotes Microsoft's activities around the globe; it can be found on the UNDP website as well). The picture depicts Microsoft's Chairman Bill Gates (Left) and Mark Malloch-Brown, UNDP's Administrator shaking hands. It was taken on January 23, 2004 at the World Economic Forum meeting in Davos, Switzerland.



The Heading on the Website and subheading reads of the Website from which this picture was taken from reads:

UNDP and Microsoft Announce Technology Partnership To Combat Poverty in Developing Nations. Joint Initiatives Will Help Achieve Millennium Development Goals Through Technology Resources and IT Expertise (Microsoft 2004: p. 1)

The website press release cites Microsoft CEO Bill Gates to the effect that:

“Technology is a powerful tool that can help transform lives, economies and societies,” Gates said. “We’re committed to working closely with the UNDP to develop solutions that enable people to achieve their goals and strengthen their communities.

Under the agreement, Microsoft and UNDP will identify opportunities to build on their existing programs and resources, combining technology innovation with development experience to benefit the world’s poor. By strengthening community centers in developing countries, the partnership will play a valuable role in helping communities cultivate the skills required for success in today’s information society. UNDP and Microsoft are now examining potential jointly supported pilot projects in Egypt, Mozambique and Morocco, and will expand these efforts to other countries in the coming months (Microsoft 2004 p. 1).

These assumptions regarding an information society, the entire discourse presented here “UNDP and Microsoft are now examining potential jointly supported pilot projects”, “Microsoft and UNDP will identify opportunities” Microsoft’s commitment to “working closely with UNDP to develop solutions that enable people to achieve their goals and strengthen their communities” suggest many things. For example, it may be, as earlier stated, an indication of a hegemonic alliance to provide Microsoft with a foothold in those developing countries yet to be conquered or colonized. It may also suggest the legitimization and sanctioning of Microsoft as the tool for addressing the development problematic that developing countries face today. The language presented, UNDP’s own acceptance of Microsoft as, in a manner of speaking, ‘the commonsense development tool’ and the aforementioned illustrations of the JSDNP Cybercentre modalities and their implications on the entrepreneurs interviewed for this research, may be an illustration of the far-reaching dominance, power and hegemony of Microsoft in the development arena. Certainly, from the literature I have reviewed thus far, it would appear that no effort has emerged from within the UNDP to strongly contest the use of Microsoft.

I problemize this discourse, this one-size-fits-all model which suggests that learning how to ‘use’ Microsoft is the quintessential, unproblematic and unequivocal means of achieving livelihood development (and its accompanying

assumptions) on many levels, and in the next chapter will explore one of the problems with this marriage in more detail. In the next section, however, I will highlight and draw attention to another one of the problems illustrating its impact on the lives of several entrepreneurs interviewed for this research project setting the foundation for the discussion in the next chapter.

5.3.9. Microsoft for Livelihood Expansion for whom?

As mentioned earlier the JDSNP Cybercentre Project encourages specific ways of acting and organizing. And as also mentioned earlier, in many ways, these ways of acting and organizing are themselves associated with the specific technologies used at the Cybercentre. One of these technologies is Microsoft and some of these discourses fit within the positioning framework discussed above, such as sitting to interact with Microsoft Windows and Office around a desk, in a chair staring at a monitor, clicking a mouse to activate Microsoft menus, typing on the keyboard to write words in Microsoft, occupying a particular space for a specific time – the JSDNP Cybercentre’s representation of ‘using Microsoft’. From the data analyzed, it was found that promoting these Microsoft-related discourses contributed to specific ways of acting and organizing among the entrepreneurs, which had distinct outcomes for various entrepreneurs depending on their identity (role, status, their norms, and values).

For example, only certain types of entrepreneurs claim to have been able to perform and/or benefit from such a discourse. Specifically, the modalities which the JSDNP Cybercentre’s representation of ‘using Microsoft’ promoted were only appropriate for entrepreneurs who could afford the specific instruments, particular components that this discourse imagines, and operate within certain time/space (spatio-temporal) configurations (have an office space, can routinely access a space which is represented as necessary to interface with Microsoft) - have frequent access to a computer running Microsoft Windows, Office and Outlook Express with a printer and also have frequent access to high speed Internet connection.

Those entrepreneurs who fit this profile (such as Entrepreneurs 8 and 9 and to a lesser extent 10) were able to, as they claim, benefit from their exposure to the

Cybercentre Project. All these entrepreneurs shared several common characteristics; they were all middle class Jamaicans. They did not construct themselves as poor, were not visualized as poor and had all the elements which suggest that they were not poor or from the Jamaican working class – motor vehicle, clothing, diction, access to resources, and so on. In addition to this, all these entrepreneurs owned and operated one registered business, were structured in their business processes, frequently occupied a specific time or space and therefore they were able to fit the spatio-temporal configurations that the JDSNP Cybercentre’s representation of ‘using Microsoft’ encouraged – the utilization of ICTs requires occupying a specific space and time.

On the other hand it was found that Entrepreneurs 11-14, who did not fit the profile were excluded from benefiting from their exposure to the Cybercentre Project because they were unable to enact the ways of acting and organizing that the Cybercentre promoted. These entrepreneurs considered themselves to be poor, operated more than one businesses simultaneously, were unstructured in their business processes, frequently occupied many different times or spaces (were always on the go - very busy) and therefore were unable to fit within the spatio-temporal configurations that the JSDNP Cybercentre encouraged; they were trans-temporally configured.

In many ways it was not only about their inability to access and/or use these technologies per se that inhibited them from achieving livelihood expansion through the use of ICTs (the structural discourses discussed in Chapter 3). Nor was it only the technologies themselves (as is offered by Shoshana Zuboff groundbreaking text - *In the age of the Smart Machine: The future of work and power*²⁷ or some Social Construction of Technology Theorists). Rather it was the

²⁷ Shoshana Zuboff who in her groundbreaking text, *In the age of the Smart Machine: The future of work and power*, studied the impact of computers on the configuration of work in the USA. Using a triangulation technique consisting of interviews and participant observation methods of data collection, she concluded that technologies force workers to organize themselves in a particular way. In other ways, however, as will be illustrated in the next section, the findings here are dissimilar from those of Zuboff. For example, based on the data analysed, it was found that the ‘discourses’ and ‘extra discursive practices’ surrounding the network of objects, subjects, processes and phenomena of the JDSNP Cybercentre Project (technologies, actors, events and conjunctures) shape, regulate and are at the same time shaped (and to some extent regulated) by, the configurations (the discourses and extra discursive practices around its design, and how it is distributed) of technologies, actors, events and conjunctures.

combination of the two, fuelled by the institutional discourses which represented the use of specific ICTs (and processes related to the technology) to achieve livelihood development. This is evidenced by the fact that those entrepreneurs who believed themselves to be poor - Entrepreneurs 11 to 14 - *still* believe that ICTs are good for livelihood development, even though they could not access them. This suggests that the discourse is acting ideologically to normalize belief in ICTLEMD, even among those who do not benefit from it, and in fact stand to lose. As a result, these entrepreneurs could be said to be blaming their inability to utilize ICTs for livelihood development on their structural dynamics – inability to access or afford ICTs – when, in fact, it may be a consequence of what is represented as achieving livelihood development and how this is represented. At one level of abstraction, specifically the discourse level, it is possible to construct this as a problem of technological dysfunctionality – inappropriate technology. It seems that the modalities which are promoted by the JDSNP Cybercentre Project’s are inconsistent if not unfavourable to the organizational processes of the poor desperate trans-temporal entrepreneur in working in the Jamaican tourism sector. In the same way Valden (2002a) argues that World Bank’s ICT for development configurations will only absorb “certain types of information and knowledge” (p. 11), as mentioned in Chapter 3, the JSDNP Cybercentre project is configured to accommodate only certain kinds of entrepreneurs - those whose modalities are similar to the corporate dynamics of the USA.

What this suggests, then, is that the structural limitations faced by Entrepreneurs 11 through to 14 (those who have been inhibited from benefiting from or applying the knowledge acquired at the JSDNP Cybercentre) were encouraged by the way in which livelihood development was represented by the Cybercentre discourse. In other words, the types of technology which were represented as achieving livelihood expansion as well as how and in what ways these technologies were represented impacted on how these entrepreneurs socially constructed livelihood development as well as the social practices which these constructions encouraged. Other representations, which included other types of technologies and processes, and other alternatives were excluded from the language used by the entrepreneurs interviewed. Such alternatives include accessing public or shared PCs rather than privately-owned ones; and open source solutions of the kind supported elsewhere

in the developing world [for example the International Open Source Network an initiative of the United Nations Development Programme's (UNDP) Asia Pacific Development Information Programme (APDIP) which is supported by the International Development Research Centre (IDRC) of Canada]. Mobile phones could have been encouraged to be used to communicate with clients overseas. Such technologies have proven to be a useful tool in livelihood development (Cascio, 2005). This was made clear in the Jul 9, 2005 London Economist :

...when it comes to bridging the "digital divide" between rich and poor, the mobile phone, not the personal computer, has the most potential. "Emerging markets will be wireless-centric, not PC-centric," says C. K. Prahalad, a management scholar and author of "The Fortune at the Bottom of the Pyramid", a book that highlights the collective purchasing power of the world's 4 billion poorest people and urges firms to try to profit from it.

Mobile phones have become indispensable in the rich world. But they are even more useful in the developing world, where the availability of other forms of communication--roads, postal systems or fixed-line phones--is often limited. Phones let fishermen and farmers check prices in different markets before selling produce, make it easier for people to find work, allow quick and easy transfers of funds and boost entrepreneurship. Phones can be shared by a village. Pre-paid calling plans reduce the need for a bank account or credit check. A recent study by London Business School found that, in a typical developing country, a rise of ten mobile phones per 100 people boosts GDP growth by 0.6 percentage points. Mobile phones are, in short, a classic example of technology that helps people help themselves (**The Economist**. London: Jul 9, 2005. Vol.376, Iss. 8434; pg. 53)

This statement is significantly influenced by the notion that mobile phones are inexpensive, readily available in most developing countries, easy to access, easy to use, operate in real time, trans-temporal, can transfer data (text, image, video and sound), are portable and offer less restrictions than the PC. The Grameen Bank case study popularly used in the ICT for development literature is an example of the power of mobile technologies (See Grameen. 2006). Such a technology would be appropriate to Entrepreneurs 11-14. Entrepreneur 11's illuminated this when he suggested that his mobile phone is an essential business tool. Unfortunately, however, he was not consciously able to construct this instrument socially as a business processes and connect it to livelihood development because it was not represented as such by the Cybercentre – as the

tool necessary to engender livelihood development. Thus this technology was not valued as such by the entrepreneur. I hope to explore this discourse (the use of mobile phones for livelihood expansion in Jamaica) in further post-doctoral work. Mobile phones could become an appropriate development tool for the poor Jamaican microenterprise entrepreneur.

Fierce competition among three international mobile telecommunications companies in Jamaica has resulted in the provision of inexpensive mobile products and services using cutting-edge yet reliable state-of-the-art technologies. In some cases some of these technologies are even free. Consequently, mobile technologies are commonplace in Jamaica. This reality is best captured by one of Jamaica's national news papers '*The Daily Gleaner*' which on Wednesday October 12, 2005 headlined 'Cellie boom - 2.5 million mobile users by year 2008'. According to the reporter:

Digicel now has 1.3 million customers, Cable & Wireless 600,000 and Oceanic Digital, operators of MiPhone, 100,000. The potential for further growth . . . was proven by cellphone ownership of over 100 per cent in countries such as Finland and Sweden (Sheil, 2005).

Thus, if you were to walk in even the poorest community in Jamaica, you would be met with a number of different ring tones and text tones from the mobile phone of even the most illiterate Jamaican. And in spite of this, the use of mobile technologies for the expansion of livelihood opportunities for microenterprise entrepreneurs has not been explored by the Cybercentre, perhaps because of the belief that such technologies are incapable of addressing the needs of social actors. Given the emerging research on mobile phones and development, it may be argued that this suggests an intellectual gap in the ICTLEMD approach taken by the organization.

In addition to the products provided by the international mobile telecommunication company, many of the more sophisticated phones are available on the black market for 'dirt cheap' prices. They originate from (or are stolen from) people and businesses in the United States, usually Florida (a thirty-minute flight from Jamaica) and are smuggled into Jamaica by one of the many hundreds

of Jamaicans travelling daily to and from that part of the United States. Many of these phones have video and image capabilities and some are even Internet-ready. Certainly this aspect of ICT for livelihood expansion – the possibility of mobile phones – will be one area that I will explore during my post-doctoral life.

5.4. CONCLUSION

In this chapter, I have highlighted and drawn attention to the implications of policy level discourses on the structural differentiation between entrepreneurs. I have argued that one of the main themes which emerged from the corpus of text analyzed. Based on the above findings, I have come to conclude that the UNDP model is problematic and counter-productive in terms of livelihood expansion. This research has found that the model, and more indicatively the discourses surrounding the model, encouraged and contributed to inequality between and among the entrepreneurs interviewed. It is possible to argue that this model helps to maintain the existing structural relationships between and among the entrepreneurs. In other words it contributes to establishing and maintaining social relations of power and domination. These are however merely assumptions based on what was discovered from the data analyzed and thus further research would need to be undertaken to validate such a hypothesis.

This suggests, first that UNDP, through power in and over discourse, has defined and influenced social practice in Jamaica where ICT for livelihood development is concerned –representing one position and not another while at the same time foregrounding its knowledge and disqualifying other kinds of knowledge. So, the organization can include or exclude, marginalize, foreground or background, social practices, discourse(s) and social actors (as illustrated above, the UNDP included Microsoft as a livelihood development tool and excluded others such as the possibilities of open source and mobile technologies).

It may also be suggested that UNDP's solution to livelihood development – the JSDNP Cybercentre Model – undermines the GoJ's efforts to engender livelihood development in Jamaica. For example, whereas many GoJ ICT projects seek to expand choices and opportunities especially for the poor (the development of

policies to encourage inexpensive ICT training and access – see above in section 5.2.4), the UNDP Cybercentre model limits the choices and opportunities of some entrepreneurs.

As a result of this disconnect I conclude that the UNDP JSDNP Cybercentre Model may be inappropriately configured to address the needs of the intended project beneficiaries - poor Jamaican microenterprise entrepreneurs operating in the tourism industry - in that it does not introduce a critical framework, that is, alternatives that could be explored by users. This is an obvious project contradiction which needs to be addressed in order to encourage more equitable project outcomes. The next chapter will extend this argument by looking at other policy level discourses as well as other social practices at the level of implementation and their implications on the entrepreneurs who claim to have benefited from the JSDNP Cybercentre – Entrepreneurs 8 to 10.

**REPRESENTATIONS OF NON - INDIGENOUS
TECHNOLOGIES AS A
LIVELIHOOD DEVELOPMENT PANACEA**

6.1. INTRODUCTION

This chapter continues the discussion which was started in Chapter 5 regarding the policy level discourses surrounding the JSDNP Cybercentre Project and their implications for microenterprise entrepreneurs operating in the Jamaican tourism industry. In the last chapter, I focused on the implications of specific technologies – software technology – and a specific brand – Microsoft. I argued that this technology is promoted by the JSDNP Cybercentre project as the only tool (in terms of software) for the achievement of livelihood expansion. I also argued that this sort of one-truth discourse (Microsoft for livelihood expansion) limited the choices and opportunities of some entrepreneurs (particularly the poor) while providing avenues for the expansion of others (namely the non-poor). These outcomes are a result of specific ways of acting and organizing which were encouraged by the UNDP’s JSDNP Cybercentre Project that may have led to the inappropriate use of ICTs for some entrepreneurs or their inability to use certain technologies for livelihood expansion – technological dysfunctionality.

In this chapter I have chosen to focus on the cosmologies of those entrepreneurs who believed that their choices and opportunities were expanded as a result of the discourses surrounding the Cybercentre Project – Entrepreneurs 8 to 10. I argue that although these entrepreneurs who claim to have benefited from their exposure to the Cybercentre project in terms of livelihood expansion, when compared to the outcomes of entrepreneurs associated with ‘other’ more indigenous ICT related training initiatives, the level of benefits of the former seem marginal, their control over the configuration and manipulation of technology limited, and their technological and creative capabilities restricted. In this chapter, I highlight and draw attention to how and in what way other policy and implementation level discourses contribute to this.

I have concluded this chapter by arguing that the JSDNP Cybercentre model discourages the indigenization of non-indigenous technologies and marginalizes indigenous technologies. I argue that this discourse undermines the innovative and creative technological capabilities of all entrepreneurs and encourages their dependence on non-indigenous technologies. Both outcomes place severe limitations on the choices and opportunities of these entrepreneurs.

6.2. NON-INDIGENOUS TECHNOLOGIES AS REPRESENTATIONS OF APPROPRIATE TECHNOLOGIES

From the data analyzed it was found that *the JSDNP Cybercentre Project has foregrounded non-indigenous technologies, marginalized indigenous technologies, related the former as the sole tool for the expansion of livelihood opportunities and discouraged technological indigenization.* Before I explain these findings, I believe that a re-examination of the term ‘indigenous technology’ first introduced in Chapter 2 is necessary for the reader to better understand the context and nature of my assumptions and their implications for the entrepreneurs interviewed for this research (and possibly others influenced into using or applying the knowledge gained from the JSDNP Cybercentre Project).

6.2.1. Redefining Indigenous/Non-indigenous Technology

Thus far, with the exception of the previous chapter, much of what I have written regarding the use of the term ‘non-indigenous technology’ has been based on an assumption (informed by the literature) that these are specific types of technologies developed or created outside the borders of Jamaica and introduced to the country by various global and local actors. This assumption and the literature surrounding it has largely been based on a specific type of technology, namely production technologies. Examples of this type of technology usually include pipes, pumps, forklifts, front-end loaders, tractors, trucks, machetes and so on (Girvan, 1983a and Stewart, 1978). These were usually used for productive purposes particularly in the agricultural, mining and manufacturing industries. According to the literature, these technologies were not modifiable due to legal and regulatory reasons as well as their physical complexities.

In doing this research, however, with the focus on ICT rather than on production technologies I argue that there is a need to redefine what we have come to know as ‘indigenous technology’. I argue that the concept is fluid. It is informed, based on and dependent on the type of technology under observation and that it has trans-temporal properties. In other words, it is based on the preoccupation with the specific type of technology in use and the particular location within which this technology is constructed. This thesis is preoccupied with the ICTs which the UNDP – a global international development agency – suggests (and have been suggesting for at least five years) can address the development needs of the developing world. As will be discussed below, these technologies are themselves highly trans-temporal and fluid, thus it is problematic to apply the ‘traditional’ definition of ‘indigenous technologies’ to them. In other words, the two features (fluidity and trans-temporality) make problematic any abstractions of a non-indigenous technology usually used in referring to more spatio-temporal and stable forms of technologies such as production technologies.

My attempt to redefine non-indigenous technology begins with a definition of indigenous knowledge, a term often used interchangeably with indigenous technology, by Grenier (1998). According to Grenier:

Indigenous knowledge (IK) refers to the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area.... The development of IK systems, covering all aspects of life, including management of the natural environment, has been a matter of survival to the peoples who generated these systems. Such knowledge systems are cumulative, representing generations of experiences, careful observations, and trial-and-error experiments....Indigenous knowledge is stored in peoples' memories and activities and is expressed in stories, songs, folklore, proverbs, dances, myths, cultural values, beliefs, rituals, community laws, local language and taxonomy, agricultural practices, equipment, materials, plant species, and animal breeds. Indigenous knowledge is shared and communicated orally, by specific example, and through culture. Indigenous forms of communication and organization are vital to local level decision making processes and to the preservation, development, and spread of Indigenous knowledge. (p. 1)

Following Grenier, and in analyzing the social life of the native peoples of the United States of America, Robyn (2002) also suggests that:

Since the very survival of Native peoples depended on their being able to utilize knowledge in balance with the natural environment, one could make the argument that Indigenous Knowledge is technology (p. 206).

Certainly this argument extends the dominant representation of non-indigenous technology (discussed in Chapter 3) as a ‘technology’. This discourse has typically excluded the relevance and tangibility of indigenous technologies for years (the UN’s representation of the knowledge of the developing world – indigenous knowledge being represented as what is *not* technology). And, it is a discourse which still continues today.

Following Robyn (2002), and based on various epistemological influences in the post-millennia, post-modern global development economy, for the purpose of this thesis and as it relates to information and communication technology I define indigenous technology as “hardware (equipment, tools, instruments, and energy sources) and software (a combination of knowledge, processes, skills, and social organization)” (p. 206) native to a country or region (created in and specifically to be used in that country) and/or created by the natives of that country or region. Therefore, whereas an artefact created by a Jamaican in Jamaica for specific use in the country is an indigenous technology (indigenous to Jamaica), an artefact created by an American in the USA for specific use in that country is not indigenous to Jamaica but, when introduced to Jamaica it would be considered a non-indigenous technology. So, too, would a technology developed in Jamaica by an American for specific use in the USA – to meet the needs of that country.

These abstractions may however become fuzzy when we conceptualize a technology created by a Jamaican in Jamaica for use in the USA. Certainly this is an illustration of the weaknesses of the definition which I use. It is hoped that my postdoctoral work will help to develop a more solid framework to be applied in the analysis of ICT for development issues which relate to the use of indigenous/non-indigenous technologies. The answer would perhaps depend on the value placed on the various components which together define what an

indigenous technology is – where it is created, who it is created by as well as for whom, for what purposes or to what ends it is created. In this research, for example, a higher value is placed on the objective of the technology's development. In other words, what is the end result – who will benefit from the development of the technology. I take this position because of what I know about indigenous technology and how I know what I know about them. Indicatively, I am informed by 10 years of scholarly work in, and personal experiences with indigenous and non-indigenous technologies. And, in both areas and at both levels, there is a legitimate concern regarding the appropriate transfer of non-indigenous technologies and the processes surrounding transfer activities. So, a high value is placed on the quality and quantity of the outcomes of their (the technologies) uses. Thus, the definition becomes useful in that it allows for flexibility in use. Certainly all this is subject to criticism as these are not canons. For now, however, it is the position which I take in this thesis. It is important to the reader to take into consideration that these are teleological issues concerning the ends to which something is used.

Both Grenier (1998) and Robyn (2002) imply that indigenous technologies are critical to the survival, history, tradition and development of a society. There exists a whole body of literature which shares this perspective (Blunt, and Warren, 1996; Brokensha, Warren, and Werner, 1980; Grenier, 1998). If we were to apply Derrida's deconstructive tool of Binary Opposites and Fairclough's notion of 'exclusion in discourse' then it is possible to argue that there are those (who it would seem), oppose this view. These are the many proponents of the ICT for development discourse which, as stated in Chapter 3, promote the notion that the knowledge in the industrial world is superior (like light) and can brighten the darkness which exists in the developing world, a world filled with indigenous knowledge/technology. It can be argued that those operating within this space believe that indigenous technology can undermine the progress and development of that society. According to those who share this particular perspective, only when modern knowledge from modern places is introduced to these societies can progress and development occur. By contrast, those who believe in the importance of indigenous technology problemize the imposition of non-indigenous

technology on indigenous peoples claiming that such a practice has impaired the progress and development of many societies for decades.

Girvan offers a middle view. According to Girvan (1981b):

The objective of policy should be to develop the capability to absorb the productivity, utilize foreign technology and to generate local modifications and innovations, and to ensure that each process supports the other (p. 1).

The real problem is how, and in what way, non-indigenous technologies are transferred to the developing world. By this, he suggests that the introduction of non-indigenous technologies must be accompanied by the knowledge of the importance, strengths and weaknesses of these technologies. This should also involve knowledge about how to modify and best integrate these technologies into the social life of the developing countries. Here, Girvan opens the door for my contemporary discussion on what I term the 'indigenesness' or 'relative indigenity' of a non-indigenous technology or, 'technological indigenization' for short.

6.2.2. Technological Indigenization

At the door that Girvan opens would perhaps lie the question: Would an artefact constructed by a Jamaican taken from many objects around from various parts of the globe be considered an indigenous technology? My answer to the question, and perhaps the answer of many Jamaicans, would be 'yes'. An excellent example here is the case of music technologies. Although electric instruments, loudspeakers and record stereo decks were all originally imported non-indigenous technologies, the development of mento, ska, reggae and dancehall genres indicate their indigenisation; while sound systems rely on substantial adaptation to imported technologies. Few observers would argue that Jamaican music is more 'foreign' because of its use of adapted technologies. Likewise, a similar case can be made for those Jamaicans claiming authorship and ownership of software programs written on non-indigenous platforms such as JAVA. In the last five years many of these Jamaicans have been attempting to market and sell these indigenous technologies (which they represent as Jamaican software) specifically

to Jamaican businesses around the world. I refer to these technologies as indigenous technology.

Indigenous technology may then be hardware or software (as defined by Robyn, 2002) which are modified, assembled or reconstructed (adaptation) from non-indigenous technologies for use in a particular country or region and/or created by the natives of that country or region. What counts as 'adaptation' is indeed multidimensional and perhaps even culture specific. For me, however, adaptation may include building software from the ground up from bits and pieces of open-source software or even from Microsoft – a Word template, an Access template, an Excel template or a FrontPage template. It is because of the multidimensionality of this process of adaptation that I argue in this thesis that contemporary constructions of technology – information and communication technologies - demand a distinction of this sort, largely because today the lines between what is and is not an indigenous technology have become blurred.

Information and communication technology are both trans-temporal and fluidic. Globalization, the multiple occupations of geographic spaces by corporations and the construction of a single artefact over a number of these geographic spaces has resulted in the trans-temporality of technological development. Certainly, this phenomenon makes problematic abstractions of non-indigenous technologies or indigenous technologies which attempt to focus on the creator of the technology, the financial owner (investor) and the birthplace of a technology.

In addition to the trans-temporality of ICTs, I also argue that these technologies are more fluid than others. They are fluid not because they are subject to multiple constructions regarding their use (Pinch and Bijker, 1987) or they are discursively amendable (Pfaffenberger, 1992). Rather, they are considered fluid because these constructions are based on the preconceived notion that their users are global and require technological personalization. 'Technological personalization' consists of physical changes such as changing the colour, orientation, gender, nationality or ethnicity of a technology with additional hardware and software components, not only cognitive changes or changes based on social construction which Social Constructionists are normally preoccupied with. In the software industry such a

phenomenon is denoted by the use of ‘themes’ of ‘skins’ to jazz up or add flavour to a particular interface. An example of this is the use of the program Windows Blinds to change the flavour and colours of Microsoft Windows. There is even a feature which allows Windows to look and act like Mac OS. In the hardware industry this is accomplished with shells and cases. One illustration of this is the many face plates and covers which allow a user to change the look and appeal of a mobile phone. Another is the popular “Personalize your laptop” on the Dell Website.

Other technologies such as production technologies (as mentioned earlier, such technologies may include tractors, pipes, pumps, forklifts, front-end loaders, trucks, machetes and various factory instruments) which have preoccupied the literature on indigenous knowledge for decades have rarely been constructed by their creators in ways that permit the need to conceptualize the possibilities of technological personalization. . And this has been problemized by a handful of scholars (Stewart, 1978; Girvan, 1983a; Ventura, 1980) with claims that such a practice leads to technological dependency. ‘Production technology’, Girvan tells us, was in principle only amendable through negotiations with producers and owners of the technology and was regulated by licensing and contractual arrangements. These regulations, he claims, have significantly inhibited Caribbean countries such as Jamaica in terms of being able to modify and therefore benefit from the effective use of imported technology. According to Girvan (1983a):

Licensing agreements typically executed in the Caribbean contain a large number of restrictive clauses which from the point of view of the licensors, are designed to protect the ‘proprietary’ rights of the owner of the technology, but which by the same token result either in non-transfer or very limited degree of technical knowledge to the recipient. (p. 75)

In Jamaica, for example, and as discussed in Chapter 2, the consequence of this has been technological dependency, underdevelopment and dysfunctionality. Although some ICTs such as Microsoft may have legal and structural limitations in terms of their elasticity, they are still much more fluid than the pipes, pumps, forklifts, front end loaders, tractors, trucks, machetes or factory machines. What this all suggests is that there are some technologies which are more indigenizable

than others. Based on this, and, if Girvan is correct in his assumption regarding the relationship between the amenability of a technology and its uses then, it is possible to argue that the more ‘indigenizable’ a technology is the more useful it is to its user – the more the user will be able to modify a technology to meet his or her needs. In the same way, it can also be argued that such a technology contributes less to technological dysfunctionality and dependency (based on the hegemonic control of the technology by foreign bodies, in a manner similar to Girvan’s observations of production technologies in the 1970s) (see the discussion in Chapter 2).

Following this line of argument then, two types of technologies can be said to have been in operation at JSDNP Cybercentres throughout Jamaica. These included technologies retroengineered for local use “retroengineered technologies” and imported, unmodified technologies (non-indigenous technologies).

As outlined in Chapter 5, the non-indigenous technologies included: the Personal Computer Unit (PCU) (specifically Dell Dimension Class), as well as Notebook Computers (the Dell Inspiron class), Hewlett Packard or Canon Inkjet, Bubble Jet and LaserJet printers, Canon fax machines and scanners (hardware). It also included the Microsoft Windows operating system (Microsoft Office, Outlook, Hotmail, and Internet Explorer) as well as various other software driving the printers and scanners (software). In addition to this there were also specific processes included various operations and procedures associated with the use of these technologies – specific ways of acting and being (See Chapter 5).

The retroengineered technologies in operation included various PCs with the name ‘Intel Pentium’ on the outside. According to one Project Manager, these hardware peripherals were assembled in Jamaica by a Jamaican (with the knowledge of how to do so) from non-indigenous objects and instruments. In other words, based on my definition of indigenous technology, it was a technology indigenous to Jamaica. Indeed the label on the instrument which projected the creator’s company logo signified ownership – whereby the instrument was built by him or according to his instructions. I refer to this process as the indigenization of non-

indigenous technology or technological indigenization. The process of creating retroengineered technologies..

Interestingly, however, based on my analysis of the transcripts, the technologies present at the JSDNP Cybercentre (hardware and software) were not represented to the entrepreneurs as indigenizable and, neither were they envisioned as such. This was evidenced by the exclusion of any distinction between non-indigenous technology and retroengineered technology by the project managers, policy makers or entrepreneurs during my interviews. It was also evidenced by the adjectives used by some of the interviewees to describe the technologies at, and processes of the JSDNP Cybercentre. The following extracts are examples of this:

The equipment which is used here is standard in many places in Jamaican businesses, offices, homes and community centres (Project Manager 1).

[Because they cannot afford to] buy [a computer] some of them come down here – the Cybercentre - to use these computers (Project Manager 1)

I use the computers here to send emails sometimes which I have the time (Entrepreneur 10).

The ICT thing is important and they need to know how to use these things (Entrepreneur 11).

Yes I can use all that I learn about these technologies down here – the Cybercentre - for my business as they are very helpful (Entrepreneur 11).

My husband was the one who introduced me to the Cybercentre. He would often come here to use the computers to do his business I would sometimes follow him there and he enrolled me in the programme (Entrepreneur 12).

The references made about the technologies of the Cybercentre such as ‘the computers here’, ‘these things’, ‘these computers’, ‘these technologies’, ‘to use the computers’ and ‘the equipment here’, this non-personalized discourse, in many ways suggests the construction of these technologies as an alien object, an ‘other’ or a ‘foreign being’. In addition, and most importantly, there is no mention made in the transcripts or documents analyzed regarding the distinction about the indigenousness of the technologies (hardware and software) used or displayed at

the Cybercentre. I myself did not make this distinction during my visits to three Cybercentres across Jamaica. It was not until I decided to explore, contrast and compare the many themes and discourses which emerged from the corpus of text that this difference was unearthed.

This becomes important, and must be highlighted, if we support the position that retroengineered technologies or indigenous technologies (based on the above definition and discussion) are important to the technological development of an individual, a group, an institution or a society specifically and generally. It also becomes important when we recall Girvan's assumptions cited in Chapter 2 – that technological indigenization is an important component in addressing systems of technological condition. The importance rests in the notion that the process of indigenization has similar advantages to the creation of an artefact. The greater the fluidity of the artefact, the more the creator has the power and control to manipulate most properties of the artefact so that it becomes appropriate to his or her needs.

In the literature on indigenous technology, the ability to control and manipulate a technology is used to signify appropriateness, and in the world of technology for development the 'appropriateness' of a technology signifies power, power to create, power to connect, power to assimilate and power to develop an individual, a group, an institution or a society. Certainly, these are discursive and negotiable terminological associations; however, for the purpose of this research I will accept them.

In this thesis I argue that the process of technological indigenization is not always a natural phenomenon, although in some texts there have been attempts to represent it as such (at a different level that is) (See for example in Feenberg and Hannay, 1995; Feenberg, 1992, 1999, 2000; MacKenzie and Wacjman 1985; Pinch and Bijker, 1987; Pfaffenberger, 1992). Rather, technological indigenization in the physical sense is dependent on the development of the technological capacities of a user (see Chapter 2 for discussion on technological capabilities). This provides the user with an understanding of the technology, knowledge of its strengths and weakness as well as how and in what way the technology can be

applied to specific needs. It also includes knowing how it can be modified and what purposes it can and cannot be used for as well as a process of regulation. More importantly, it means knowing how to appropriately connect a technology to various objects, subjects and processes. As demonstrated earlier and somewhat more elaborately in Chapter 2, knowing how to modify a technology is an important part of being able to make a technology, especially a non-indigenous technology, worthwhile in terms of addressing a user's needs. This speaks to the issue of developing a user's technological capabilities (see Chapter 2).

Interestingly, it was found that the notion of technological indigenization was excluded from the JSDNP Cybercentre Project. Rather, the entrepreneurs were only taught how to *use* the technology. In other words, *the JSDNP Cybercentre Project provided the entrepreneurs with the knowledge about how to 'use' ICTs (the discourse of ICT use) but not how to modify them (the discourse of technological indigenization)*. This is evidenced by the training material of the JSDNP, the technical capacities of the entrepreneurs (captured in discourse) and my observations at one of the training courses.

The next section will discuss the discourse of use and its implications for the entrepreneurs interviewed for this research.

6.3. THE COSMOLOGIES OF THE DISCOURSE OF ICT USE

As stated earlier, the corpus of texts analyzed suggests that much of the discourses surrounding the Cybercentre Project focuses on providing the beneficiaries with knowledge about 'using' ICTs to achieve livelihood development, rather than how to indigenize these technologies. This is evidenced by a number of texts governing the Cybercentre Project and the way in which livelihood expansion was represented. Four of these texts however stand out.

The first, presented below, are two extracts taken from the Project Document which governs the operations and processes of the JSDNP Cybercentre. The first extract links the Cybercentre initiative to *'alleviating some of the problems of*

poverty and deprivation' and the second extract suggests that this should be done by training the peoples of the developing world to “**use and apply**” ICTs.

It is expected that this project will provide support for and assist in alleviating some of the problems of poverty and deprivation (p. 7).

Immediate Objective 3 : Capacity established to use and apply technologies for computer mediated communications for informed decision making

Output 3.1 : A training programme for SDNP users and information providers that will provide introductory and ongoing support in exploiting the Internet and related technologies and resources (UNDP, 2004: p. 10).

The second text, depicted below, is an extract taken from a JSDNP Cybercentre's brochure. Note, however, how many of the activities advertised as services offered at this particular Cybercentre (which was subject to the same operational framework of the JSDNP – the achievement of livelihood development through the provision of training in the **use** of ICTs) focused on providing trainees with knowledge of how to **use** ICTs.

Many of the activities described as services of the JSDNP, services intended to engender livelihood development, denote actions pertaining to using ICTs.

Computer Literacy courses familiarize the student with the computer and popular software. Classes run 10 weeks.

Introduction to Computers-\$2,500 (Jamaican)

Learn the parts of the computer and keyboarding basics. Learn how to save, print, and locate files.

Introduction to Microsoft Word-\$3,000 (Jamaican)

Learn to type letters and resumes. Learn how to format and edit your work and type more efficiently.

Introduction to Internet-\$3,000 (Jamaican)

Learn how to surf the Internet using Search engines. Get E-mail, find music, and download programs/games (SDNP Brochure).

The third are four images (Below). The first is an image of the upper half of the “About JSDNP” section of the JSDNP Webpage and the second an image of the lower half. The third image is the first half of the “Courses” section of the JSDNP Liguanea Cybercentre (One of the many JSDNP Cybercentres operating in

Jamaica). The fourth is the lower half of the same Webpage. Among other things, the first image connects training the peoples of Jamaica to **use** ICTs – “conducts training in the **use** of ICT applications” – to livelihood expansion - “to sustain their livelihoods”. The second identifies one of the ‘achievements’ of the Cybercentre as the provision of “training courses on Internet use, computer literacy and Web page development to more than 2500 individuals and organizations”. Such a representation is an illustration of the value placed on the ‘discourse of ICT **use**’ by the JSDNP. The third and fourth image displays what training courses are offered at this Cybercentre - the one which services Kingston, the capital of Jamaica. It indicates that the training which was provided was primarily in the **use** of ICTs. In other words, training in modifying ICTs such as software programming of hardware assembling (activities which I would describe as processes of technological indigenization) are not included.

Image 6.1 – JSDNP Website Part 1



Image 6.2 JSDNP Website Part 2

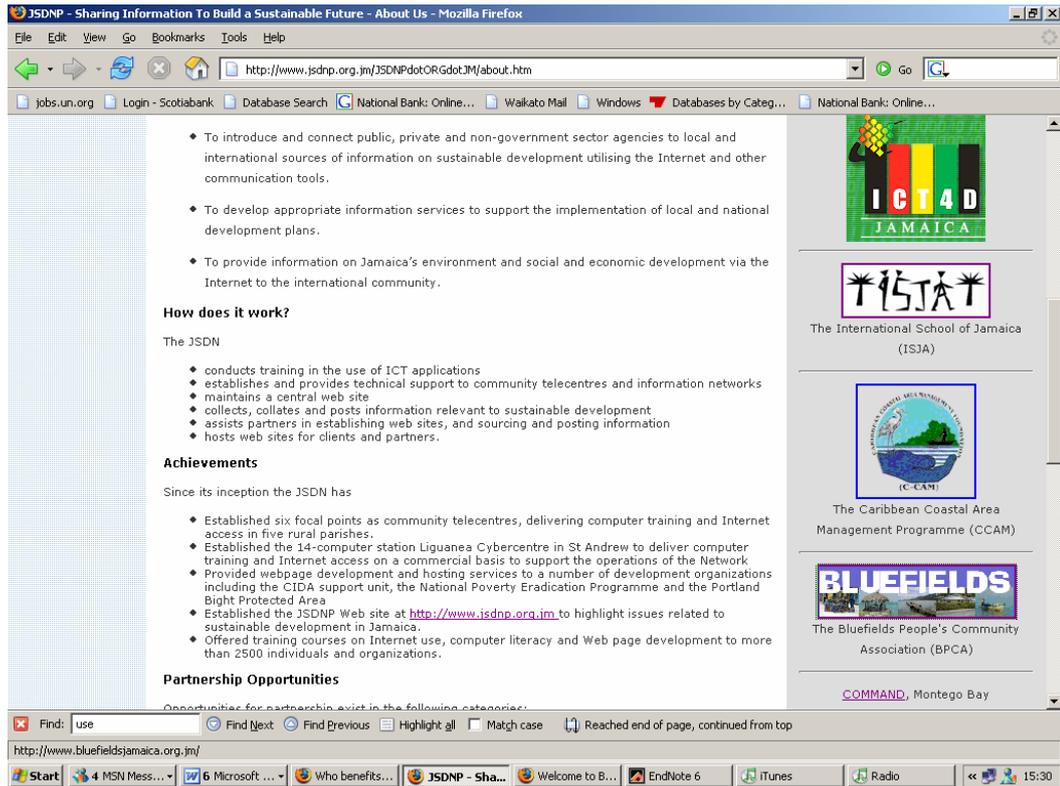


Image 6.3 JSDNP Website Part 3

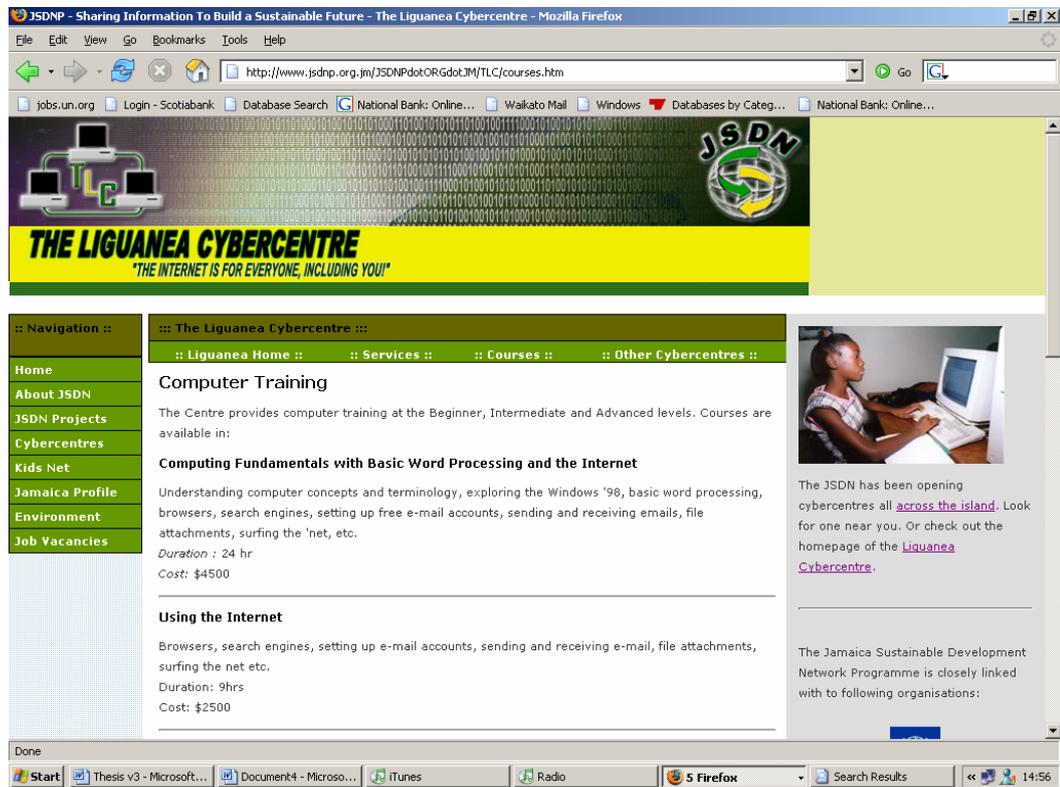
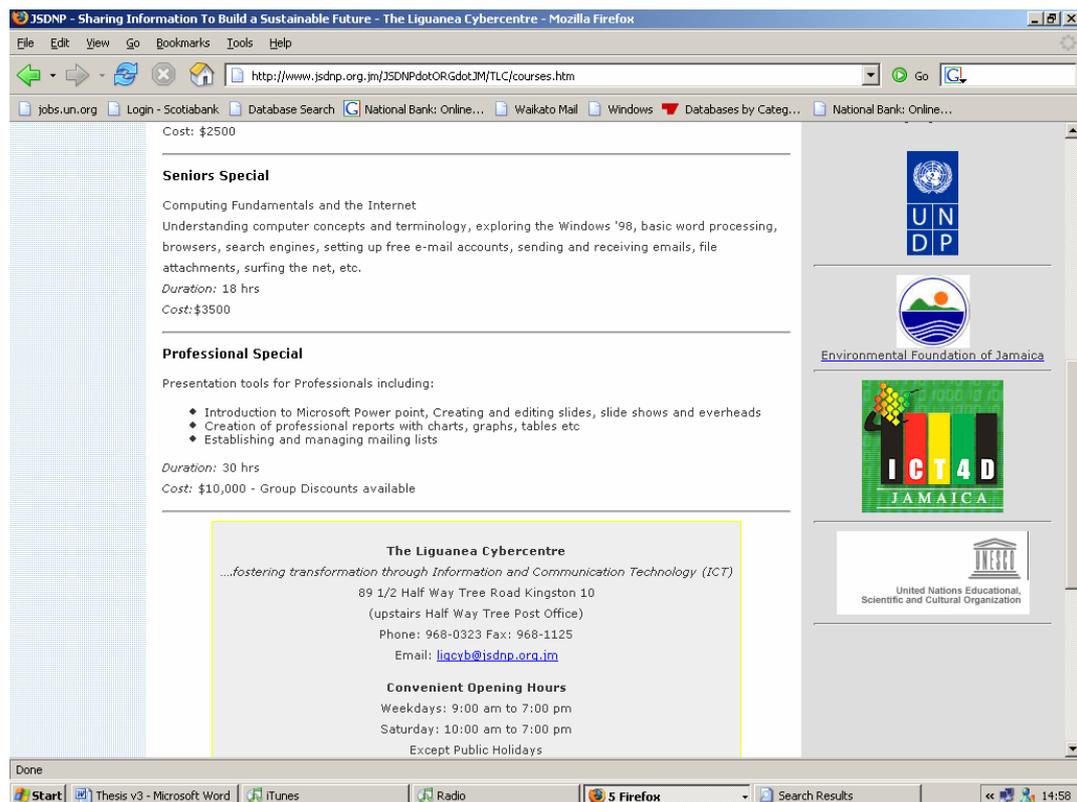


Image 6.4 JSDNP Website Part 4



The discourse of ICT use is also captured in the representations of the Cybercentre by both the Policy Makers and the Project Managers. The two texts below, each taken from one of these groups, is representative of the views of all the Policy Makers and Project Managers interviewed for this research.

The program offered basic training in using ICTs and it also provided access at low cost. JSDNP has merged with several other NGOs to give it a more islandwide prominence and providing them with the tools to contribute to poverty reduction. We had to place them into existing organizations. UNDP gets a tick for introducing the Cybercentre and continuing to provide development related service to Jamaica (Policy Maker).

We teach people how to use the computer and the Internet to make lives better for themselves (Project Manager 2).

What this text suggests is that the Project Manager is operating on the assumption that people who do not know how to use computers and the Internet need to use them in order to better their lives. This is however merely an extension of the discourse of the official position (intertextualization and interdiscursivity) promoted by UNDP.

I argue that the 'discourse of ICT use' is a part of an even larger genre chain. This discourse is an extension of how achieving livelihood development is viewed by UNDP and the UN. This is evidenced in various texts. Examples of these are presented below. These extracts are taken from various UN, UNDP and UNDP related websites. These extracts (all of which are taken from a larger text and represent a viewpoint of the institution from which the texts are produced) project images of the discourse of ICT use.

SDNP has been holding regular training workshops in the use of email and Internet. (SDNP, 2002b: p. 1)

A major area of focus in this sub-programme is in evolving appropriate methodologies to meet the information needs of women farmers. These range from information concerning agronomic practices and farming methods, information on how to access and use new technologies, market news and agricultural commodity prices, weather predictions and rainfall patterns, recommended crops for the season and information on meetings and workshops on relevant issues. (UNDP, 2001d: p. 3).

But setting up email links was not enough. The SDNP team wanted to reach all those who wanted training in the use of email and the Internet, and in a number of software programmes. Often they needed modems as well. "The problem was that no one was used to this technology," says Ms. Alfaro, "so we started providing free modems and free training, mainly to Government, the universities, enterprises and NGOs. For the first two years we dedicated most of our time to training these types of people, and we're still doing it."

Ms. Alfaro estimates that about two percent of the modems SDNP distributed went to private businesses. She says that providing IT to Mozambique's fledgling business sector right now is crucial in order to "start the process" of economic development of her country. "We need those enterprises to be using email," she explains. "It's important to us because at the moment they are the ones that are holding the economy together. So if we want the economy to move, if we want them to have access to international prices and international markets, they must start using these technologies." (SDNP, 2002a: p. 1).

One of the main targets of SDNP is the creation of the national body of expertise to implement, support and sustain the process of information dissemination and exchange in the context of sustainable development. This includes the following:

- Training in the use of information technologies for specialized personnel; training of end user trainers.
- Training of end users in information sources (where to look for information, etc.). SDNP nodes emphasize meta-information to facilitate this and create catalogues and directories of information relevant to sustainable development, according to the needs and requirements set by the feasibility study.
- Training of end users in how to use information obtained through the network.
- Capacity building at all these levels will provide the necessary basis for long term sustainability and national ownership of the process.

At the moment, SDNP has 16 operational nodes in developing countries namely, Angola, Chad, Morocco, Tunisia, Bolivia, Honduras, Indonesia, Pakistan, Philippines, South Korea, South Pacific, Estonia, Lithuania, Poland and Ukraine.

Furthermore, activities have already been initiated in another 16 countries namely, Cameroon, Malawi, Mozambique, Zambia, Jordan, Lebanon, Chile, Colombia, Costa Rica, Guatemala, Mexico, Cambodia, China, India, Latvia and Lithuania.

SDNP has prepared the SIDSNet feasibility study, a proposal on providing Internet connectivity for the Small Islands Developing States (SIDS). SDNP has also financed Internet Training for several former CIS countries and is currently deeply involved in donor discussions regarding Internet access for the African continent. (Zambrano, 2002: p. 1).

This is also evidenced in various representations on the UNDP's SDNP Website (See <http://www.sdn.org>) as well as other texts (Seel, 2005).

The rationale behind this discourse, which itself is linked to global ways of organizing, acting and operating among corporate firms, may be explained by many different factors. One, however, stands out, namely Luyt's (2004) highly pessimistic approach to the ICT for development phenomena which was outlined in Chapter 3. Luyt (2004) suggests that the South, who have been a source of cheap labour and raw materials for the industrial world for decades, are now being

re-positioned to continue this role through call centres, data warehousing and/or outsourcing activities. International organizations such as the World Bank represent such initiatives as ways to provide the peoples of the developing world with an opportunity for livelihood development and have encouraged developing countries to incorporate such strategies as part of their development planning. Thus many developing countries are told that the solutions to their problems of poverty, unemployment and inequality is to train their people to use non-indigenous technologies (and in many cases this includes North American Technologies) and procure the technical expertise/advice from the industrial world (consultants) to assist in the installation and appropriate 'use' of these technologies. According to Luyt (2004) this plays an important role in addressing the data and information data processing needs of the industrialized world.

Luyt states:

Today, the South is poised to take on a new set of roles in the global economy. Just as mercantile capitalism coveted the raw materials of Africa, Asia and Latin America; and industrial capitalism increasingly used it as a manufacturing platform; informational capitalism has plans of its own for the South as a market and a site for offshore informational processing.

However, data entry and contact services are only part of the picture of the information processing tasks now being assigned to the South. Bardhan and Kroll, in a recent report on the outsourcing trend in the United States, note that the developing world is increasingly the production site of choice for higher-end, white-collar operations, including "geographic information services, stock market research, medical transcription, legal online database research, and data analysis for consulting firms". These authors conclude that 11 percent of the entire current workforce in the United States is potentially at danger due to the increasing desire of firms to outsource operations overseas (p. 2)

Luyt further explains:

Information capitalism also requires attention to the labour market... it depends on more highly skilled forms of labour with a wide range of capabilities (keyboarding at the very least, specialized computer languages at the high-end of the scale). This creates a need for training.

In both the infrastructural and labour requirements we see the attractiveness to information capital of the digital divide as a policy issue. Projects to narrow the gap in access to advanced information

technologies clearly serve to develop the infrastructure needed for information processing tasks as well as making available "human resources" with various levels of familiarity with these technologies (p. 3-9).

Whereas the use of such technologies may in some respects engender livelihood opportunities for many people in the developing world (as illustrated in the previous chapter), at the same time, it may also be argued that in the long run such strategies undermine the process of technological development (as will be illustrated by this chapter) as these countries are not encouraged to undertake projects in technological innovation and creativity which, according to Girvan (1983a, 1983b), are the *sine qua non* of development.

If we were to position the goals, objectives, organizational structures and institutional arrangements of the UNDP's JSDNP Cybercentre model (incorporating training and capacity building, raising awareness, the provision of access, the incorporation of the entrepreneurs of the developing world into the global political economy and encouraging specific modalities as well as the mystification of non-indigenous technologies – as illustrated in Chapter 5) within Luyt's conceptual framework, it may indeed be possible to argue that the JSDNP Cybercentre Project fits within it perfectly. Thus, following Luyt's line of argument, I argue that the JSDNP model – providing users with the knowledge to use certain types of technologies – may in reality be a discourse with specific intentions to develop the capabilities of the peoples of the developing world insofar that it provides these users with the capacities to address the information and informational processing needs of the industrialized world, but not necessarily to address the problems of the developing world. This discourse is quite similar to the ones pursued by the missionaries in Jamaica during slavery to secure/preserve the status-quo of the colonial masters during the pre-emancipation era (See Chapter 2).

Thus, the discourse of ICT use may be seen as problematic for users in the developing world. Two problems must however be highlighted as they stand out significantly. First, recall for example my discussion regarding the many abstractions of indigenous technologies. These included (1) the possibility that the progress of the developing world is dependent on non-indigenous technology or (2) that the underdevelopment of developing countries is consequent on the use of

non-indigenous technology. Second, recall Girvan's solution to this discourse which was illustrated in some detail in Chapter 2, that the only way to make non-indigenous technologies appropriate to a developing country is through a process of technological indigenization – providing the user with the knowledge to get a deeper understanding of, assimilate, modify and absorb the technology to be able to use it effectively. The dominant JSDNP discourse would therefore be problematic given that the discourse of use does not provide the entrepreneurs with the ability to indigenize ICTs to meet their specific needs (the many problems faced by tourism entrepreneurs in Jamaica – discussed in the first section of the previous chapter) or for that matter to encourage technological innovation and creativity: the *sine qua non* of development. In other words then, when taken together, this suggests that the JSDNP model is in reality problematic because it excludes knowledge of how to understand, assimilate, modify, absorb and use these non-indigenous technologies which the Cybercentre represents as indispensable to livelihood development.

Indeed, the outcome of the discourse of ICT use was evident from the inability of entrepreneurs exposed to the Cybercentre Project to manipulate or customize ICTs to meet their needs. This was also evident by the inability of these entrepreneurs to understand the many dimensions of ICTs, their strengths, limitations and differences as well as the possibilities of alternatives. Finally, this was also captured in the way in which the entrepreneurs connected the ability to **use** ICTs with the possibility of achieving livelihood expansion. As mentioned earlier, and as will be explicated in forthcoming sections of this chapter, these ways of acting and being have had far reaching effects on the livelihood opportunities of the entrepreneurs. For example, I argue that the outcomes of the aforementioned policy level discourses surrounding the JSDNP Cybercentre – training entrepreneurs to **use** non-indigenous technologies without promoting technological indigenization – promotes a dependence on non-indigenous technologies: digital dependence. This I argue may be the result of the poor technological capabilities at the project implementation and to some extent policy level. Consequently, this has resulted in limiting the technological creative and innovative capabilities of the entrepreneurs who have been able to enact the processes promoted by the Cybercentre. It does not allow them to achieve their full potential and thus impacts on the sustainability of their livelihoods and the

quantity as well as the quality of livelihood opportunities achieved. In the next section, I will attempt to address this issue.

6.4. FROM TECHNOLOGICAL DEPENDENCY TO DIGITAL DEPENDENCY: TECHNOLOGICAL INCAPABILITIES AND A HERITAGE OF FOREIGNNESS

To explicate the above arguments, my discussion starts with a return to several aspects of the socio-cultural dynamics of Jamaica's history with 'production' technology for development discussed earlier in Chapter 2. Socio-cultural and historical dynamics, Fairclough (2001, 2003) tells us, are an important component in understanding the implications of a discourse. In revisiting this discussion, I have also extended several assumptions raised in Chapter 2, to incorporate several social practices which, I argue, are important in understanding and critically analyzing the contemporary constructions of non-indigenous technology for development. These include practices such as forms of consciousness, time and space, objects, instruments, subjects and their social relations and activities as well as issues of power.

6.4.1 Technological Dependency

As already established in this thesis, Jamaica is dependent on foreign technologies to achieve many of its productive needs and has experienced this phenomenon since the 16th century (see Chapter 2). As also discussed in Chapter 2, Jamaica's state of technological dependence perpetuates and is perpetuated by the country's level of technological underdevelopment. This, it is argued, is both cause and consequence of the inappropriate technology-for-development policies and projects which have encouraged the use of non-indigenous technologies in Jamaica with the goal of achieving the growth and modernization of the country. Girvan refers to this dialectical relationship as a 'system of technological condition' (Girvan, 1983a: p. 33-34). According to Girvan, Jamaica's system of technological condition has in part contributed to and is a source of the socioeconomic problems of the country. Such problems include unemployment, inequality and poverty. Indeed, recent work which has linked a country's system of technological condition to its development or underdevelopment may provide empirical support for Girvan's discourse (See Intarakamnerd et al, 2002;

Dahlman, and Frischtak, 1993; Dahlman and Nelson, 1995; Arocena and Sutz, 1999; Gu, 1999; Nelson, 1993; Freeman, 1987; Lundval, 1992; Niosi 2002). This literature has also illustrated that any substantive discussion on systems of technological condition must display an appreciation of the role of local actors and their relationships with foreign entities. Frank (1969), and more recently Intarakamnerd, Chairatana, and Tangchitpiboon, (2002) have illustrated that an understanding of the dynamics of a system of technological condition and the identification of ways to address systems which contribute to the underdevelopment of a country, rest on this connection.

Ventura's (1990) and to some extent Girvan's (1983a; 1983b) (within his macro-analytical framework) observation of Jamaica's system of technological condition also supports this position. According to Ventura, for example, throughout Jamaica's history of colonialism and imperialism, various foreign entities – corporations, firms, groups and individuals – have sculpted the socio-economic structure of Jamaica in their own image and to meet their own needs in ways that have severe ramifications on the contemporary configurations where technology for development is concerned. The implications of this 'foreignness' (Jamaicans often call it) is clearly evident in the intertwined socio-cultural and political practices of many Jamaicans, which are a mix of African, Spanish, English and American norms, values and beliefs. This 'foreignness', is also prominent in the legal and political system which has several elements of the British Westminster model and the American Separation of Powers/Checks and Balances model. It is also present in Jamaican rituals, folktales and dialect. For example *patois*, the Jamaican dialect, comprise of words which when pronounced correctly sounds similar to certain Chinese, African, Irish, British and Indian terms. At the infrastructural level, foreignness is very evident in the multidimensional aesthetics of the eclectic architecture present throughout Jamaica's landscape. Perhaps the most ubiquitous of evidence can be found in the facial features and skin pigmentation of many Jamaicans (who are themselves descendants of Tainos, Europeans, Africans, and Asian). Thus, as far as skin pigmentations go Jamaicans are a mix of brown, dark brown, caramel, chocolate, cream, bisque, beige, floral white, light yellow, linen and peru, to name a few.

According to Ventura (1990), because of this history of foreignness, a history filled with perpetual foreign domination and control (see Girvan's discussion in Chapter 2) which in some instances still exists today, there is a belief among many Jamaicans that non-indigenous objects, subjects and processes are better and superior to local ones, and are therefore always either in demand or given priority. This phenomenon can be mapped back to the arrival of the Spanish on the shores of Jamaica and the subsequent period of colonialism, imperialism and neo-colonialism which followed (see Chapter 2). Indeed, based on my observation and review of various texts to be discussed in this chapter, this phenomenon still exists today. It is a part of the Jamaican heritage.

6.4.2. Jamaica's Heritage of Foreignness

Foreignness is indeed no secret among Jamaicans. The texts presented below are an illustration of this. The first three are written by three members of a Jamaican online sports discussion forum on a website by users going by the names Anonymous, Style and Plush (presented in this order). The texts were in response to an article written in one of the local newspapers – the *Jamaican Observer* – about the outcome and quality of a match played by the Jamaican football team, the 'Reggae Boys'. The fourth is a letter to the Editor of another local newspaper, *The Daily Gleaner*, written by a correspondent named Rohan Reid about the growing demand for non-indigenous bottled water. The fifth text is written by someone referring to themselves as Sly on a Website popularly used by Jamaicans living in London regarding how Jamaicans abroad are helping to destabilize Jamaica by sending foreign products to the country. The sixth text is a response to Sly by another member of that online community who goes by the name Mamarose.

Wish I could have seen the game myself, these article make us look bad. All I'm reading is "The more talented nigerians" Is it our foreign minded ways again that we have to always praise the foreigners, or were we really outclassed and was lucky to get the win, I guess I will never know (theReggaeBoys, 2003: p. 2).

Everyone uses the Jamaican influence and big up what they have, while the Jamaicans are still foreign minded (theReggaeBoys, 2003: p. 2).

That's the prob with most of us Ja'cans. Thinking everything foreign is good (theReggaeBoys, 2003: p. 2).

I AM amazed at the things we Jamaicans do to prove our 'foreign' mentality. After reading the letter to the editor entitled 'The Spring Water affair' by A. Robinson, dated Tue. 07/13/99, I have to ask: Are we so blinded by foreign products we will risk our health to get them? Anyone ever stops to realise that you cannot take everything at face value I live in the USA and used to buy bottled water. That was until I found out that bottled water has mandated categories that mean different things. For starters, 'spring water' means that the water was taken from an underground source. There is no guarantee as to what that source might be, and what might have been done to purify it. 'Natural water' means that nothing has been added or taken out before it was bottled. 'Bottled water' simply means tap water that was further purified.

Now if we so badly need natural water, let's just go up the Bath Fountain and you will find the purest water you can find anywhere in the whole wide world. And we are paying scarce dollars for water from foreign? Wake up foreign-minded Jamaicans, you are only kidding yourselves (The *Daily Gleaner*, 2004: p. 14).

Too many youths in JA have become foreign minded and we help promote that. Some people eat only foreign stuff...direct from the barrels we send; some people wear only name brand clothes...that we send (even though we can't afford it for ourselves); some people never even think about earning a living because they always have money...that we send; then when we get down there ... in our leather jackets and winter boots, we buy foreign.....we don't support the local industry period. After the ...hmmmmmm.....natives are nurtured this way and have made these observations that's the way they want to live...and fast. Quickest way....via the barrel of a gun...and we still wondering why (GoLocal Jamaica Community, 2005: p. 1).

Our tailors and seamstresses are good enough to sew for designer labels, but not good enough to sew for us? Our farmers grow produce good enough to sell in US and European supermarkets, but not good enough for our own dinner tables? Our factory workers make electronics good enough for export, but not good enough for our own use? Why do we need to ship them overseas and have them re-shipped back to us at enormous costs before we think they're good enough for us to use? (GoLocal Jamaica Community, 2005: p. 1).

Here, Jamaicans are being constructed in a general way as social actors with a preference for, or who place a higher value on non-indigenous objects and processes than local ones. The texts also suggest that this social practice is having

an impact on the development of the country. Similar assumptions have been drawn by many local manufacturers desperately competing with foreign products which have entered the country under various international trade regulations and conditions during the twilight of Jamaica's structural adjustment era. It is also problematized by the GoJ which has enacted several policies and projects to develop an appreciation among Jamaicans for Jamaican objects, subjects and processes. One of these projects is the 'Buy Jamaica Build Jamaica' campaign which seeks to raise awareness among the public to the availability of quality Jamaican products and to encourage them to buy these products. A radio talk show host sums up all this when on March 13, 2006, she outraged that "foreign clothes are always better, foreign food is always better; everything from foreign is always better than what exists here!" These were sarcastic comments in response to the decision to import British policemen to Jamaica and to place them in senior positions in the hierarchy of the Jamaica Constabulary Force.

Ventura (1990) argues that foreignness has contributed to the uncritical acceptance of policies which seek to use foreign objects, subject and processes at the expense of local ones. Indeed, this would perhaps account for Girvan's (1979) assumptions that "technological dependence almost certainly is demand rather than supply induced" (Girvan, 1979; 44-45), an assumption which is similar to Mandle's (1985) observation that:

The failure of the machine tool industry to emerge in the region does not center on the level of skills present in the region. Rather, the level of skills and the degree of their utilization in the developing of new tools, implements and machinery is responsive to the intensity of their demand. In this sense, the region's technological dependency may be illustrative of cumulative causation. Given the limited demand for locally produced equipment, the creation of capital goods is problematic. But the failure of such an industry to emerge implies the continuity of the economic structure and pattern of demand which give rise to dependency in the first place (p. 169).

As discussed above, Ventura strongly believes that local actors through hegemonic relations of power control and domination play an indispensable role in encouraging this foreignness. He argues that it is a role that they have been playing in Jamaica since 1494. First as colonialists, then as plantation owners,

then Britons left in Jamaica after slavery, then Middle Eastern and Chinese merchants who entered Jamaica as indentured labourers, then Americans (as investors) along with the emerging business elites in Jamaica who had acquired wealth over the years (especially those who were descendants of plantation owners). These were the offspring of black Africans and white Britons. Currently, these elites include business, corporate, military, political, and professional leaders, to name a few. They are popularly known in the development literature as the comprador elites. According to Ventura, the comprador elites are connected to the global systems through hegemonic alliances with foreign entities by virtue of their access to resources, socialization, knowledge, roles, status and power. In these capacities, they supply the local market with foreign objects and introduce new processes. They also sell local products to foreign markets as well as negotiate technology transfer contracts and agreements and provide policy advice to both local and foreign authorities. Through these roles and alliances they benefit from the capital or status they acquire for selling, negotiating and providing policy advice. In so doing they exploit local subjects to generate profits for themselves in a fashion similar to the way Frank (1967) speaks of that the comprador élites operate in several Latin American countries. Both Frank and Ventura have argued that in their respective countries, these compradors help to perpetuate inequality between the rich and the poor. But in this structure, the compradors themselves are also subject to a form of dependency and in some cases the relationships they engender with their foreign counterparts contribute to the underdevelopment of their own technological creative and innovative capacities. According to Frank, from a holistic perspective, these relations and their outcomes may be used to explain the social practice of systems of technological condition in the developing world.

Based on his analysis of the role of the comprador elites in Latin America's system of technological condition, Frank further argues that the comprador elites act either out of their own self interests and self preservation or out of a lack of ideological commitment to the development of the country. Ventura (1990, 2000) in his analysis of Jamaica's system of technological condition has come to similar conclusions. He has however departed from arguing that self interest and a lack of an ideological commitment to the development of Jamaica perpetuates this

system. He argues that Jamaica's system of technological condition is often perpetuated by a lack of awareness by those planning, implementing, executing and monitoring non-indigenous technology for development policies.

According to Ventura (1990, 2000), very often those persons who are responsible for the implementation and regulation of non-indigenous technology for development policies and projects have very limited or no knowledge of the cosmologies of non-indigenous technology, development or the connection between the two. This knowledge, he believes, can only be acquired through familiarity with the literature on the subject matter through text and/or talk. However, only a handful of Jamaicans are exposed to such discourses. In Jamaica it is a specialized area of academia which is only taught at one institution – the University of the West Indies – and even then, it is only discussed in specific departments and programmes in development research such as Development Economics, Sociology of Development or Development Studies. Only a very few Jamaicans pursue these disciplines and even in such spaces, engaging this literature is certainly not mandatory.

Whereas this may be true to some extent even today, I also argue that another reason that this lack of awareness exists is because systems of technological condition discourse were and still are not popularized in Jamaica because of its connections with Dependency Theory which itself is often perceived to be connected to Marxism and Communism. Furthermore, Dependency Theory, as illustrated in Chapter 2, marginalizes the use of non-indigenous technologies and foregrounds the development of indigenous, and, in so doing, promotes an unfriendly environment for trade with the industrialized world. This would certainly be problematic and thus discouraged by those bodies and individuals in Jamaica dependent on the global system for their survival or those in fear of reprisals from the United States of America similar to their response to Panama, Cuba and allegedly several Latin American countries.

6.4.3. Digital Dependency

As discussed in Chapter 3, Wade (2002) had constructed a modern day dependency paradox which he has termed 'digital dependency' to analyze the way

in which international organizations represent the use of ICTs to engender development. As also stated in Chapter 3, ‘digital dependency’ “implies the dependence of the developing world on the ICTs (hardware, software and services) of the industrialized world – a process of locking developing countries into a new form of dependency on the West” (Wade, 2002: p. 443).

Based on the data analyzed, I argue that the structures, practices, processes and systems which make up the JSDNP Cybercentre Project (represented in discourse) have many elements of Wade’s digital dependency discourse. For example, the role played by the policy makers and project managers is congruent with the role played by comprador elites. They sell services such as knowledge to the local market and repatriate monies to firms in the industrialized world as well as provide these firms with customers to exploit. They negotiate with local and foreign authorities for funding, equipment and material, and supply policy advice about ICT for development issues. Like the comprador elites, the Project Managers and the Policy Makers benefit significantly from capital that is generated from this role as well as the status which is acquired, while international firms such as Microsoft and Dell benefit from the revenue they receive from the sale of goods and services to these entrepreneurs in Jamaica, and from the exclusive use of Microsoft and Dell products in JSDN training.

As was illustrated in the previous chapter, many of the entrepreneurs, not unlike those Jamaicans of whom Girvan speaks in Chapter 2 (who were exposed to various non-indigenous technology for development initiatives over the decades), failed to experience any qualitative or quantitative changes in their livelihoods through the JSDNP Cybercentre Project. In addition, as illustrated above, it was also evident from the data analyzed that the Cybercentre Project encouraged the entrepreneurs to be dependent on specific non-indigenous technologies (the data analyzed did illustrate an emerging form of technological dependency on Microsoft products) and failed to provide them with the knowledge to indigenize these technologies in ways similar to Jamaica’s experiences with production technologies. As Chapter 5 suggests, this was a discourse which did indeed influence specific ways of acting and organizing among Entrepreneurs 8 to 10.

Here it is important to recall Girvan's distinction between technological dependency and technological importation in Chapter 2 for its links to the principles and processes of technological indigenization. According to Girvan:

...a country can import technology without being dependent on imported technology...imported technology is modified and adapted through local technological activity in order to make it suitable to local requirements, and to fit into a pattern of internally generated growth...the condition of technological dependence is one in which imported technology constitutes the major source of technologies being adopted. The internal technology is adopted wholesale, with insignificant internal adaptation and modification; local technological capabilities remain underdeveloped, largely as a result of the forms, terms and conditions upon which technology is imported (Girvan, 1983b: p. 34).

Girvan further suggests that the transformation from being dependent on, to merely importing non-indigenous technology is a step in the **right** direction towards addressing systems of technological condition which give rise to the underdevelopment of a user – individual, group, institution or a country. However, as mentioned in Chapter 2, this can only be achieved if the user is able to indigenize this technology through creative and innovative means leading to the creation and use of indigenous technologies. Achieving these goals he further argues, is partially dependent on the transfer of specific knowledge about the technology itself, as well as knowledge of the technological processes associated with the technology. Specifically it means knowing how to successfully modify the non-indigenous technology to meet specific livelihood or developmental needs. Additionally, it also means knowing the range of alternatives to this technology and its associated technological processes.

From the data I have analyzed thus far, none of the entrepreneurs exposed to the JSDNP Cybercentre Project indigenized the technologies which they were influenced into believing were indispensable to livelihood development and were influenced into using to achieve such aims. In addition to this, none of these entrepreneurs used alternatives to these technologies – indigenous technologies or reengineered technologies. Some possible alternative which could have been used could have included one of many software solutions of TechVisions, one of several Jamaican information technology companies which offer inexpensive

indigenous technology solutions (reengineered technology) to microenterprise entrepreneurs (Kirton, 2003) or software solutions created by graduates of the Caribbean Institute of Technology (CIT) – a local technology institution which employs graduates to write software packages for companies in the hotel and tourism sector, construction industry and schools²⁸ (See Hepburn, 2004). Rather, all entrepreneurs who were able to utilize the knowledge gained from their exposure to the JSDNP Cybercentre were dependent on non-indigenous technologies such as Microsoft.

This dependency on non-indigenous technologies, (and based on the data analyzed, Microsoft is perhaps a good example of this) can certainly be problematic for the entrepreneurs as well as other social subjects, objects and processes in Jamaica given the problems of quality, security and control which many Microsoft products promote. To illustrate this I will again focus on Microsoft. The spotlight will however be directed on one particular software, Microsoft Windows – Microsoft's flagship software (its operating system). There are many different voices on the Internet and in texts with their own stories about Microsoft Windows. Here however I highlight and draw attention to those texts which problematize Microsoft Windows. I believe that such texts which have traditionally been marginalized by many in academia, especially those doing ICT for development research, are important to any research attempting to analyze the implications of ICTs on the developing world. Much of the criticisms focus on:

- issue of quality, stability and reliability;
- memory protection and memory management;
- security;
- process management;
- maintenance and support;
- code sharing;
- global compatibility – Windows does not follow global protocol standards correctly;
- problemized programming practices and;

²⁸ Both institutions predominantly use Linux Products.

- control.

Control has become one of the main issues discussed by pundits. According to Wensveen (2004), for example:

When it comes to supporting the global standards used in today's IT market, Microsoft's record has never been good. They have always been extremely sloppy in following the standards' specifications, they have attempted to appropriate the standards for HTML, Java, E-mail and more, and they have tried to push proprietary standards that are only supported by Microsoft applications. Fortunately, the Internet community has resisted most of these attempts so far, although the 'Global XML Web Services Architecture' (announced by Bill Gates in October 2001 and since then part of the more recent .NET plans) doesn't bode well. Neither do Microsoft's applications to patent the "XML-Office" format. Microsoft obviously does not consider XML a format that should promote any increase in document interchangeability.

In the hardware market, especially where peripherals are concerned, compatibility is also deliberately being limited. Far too often the label 'Designed for Windows' means 'incompatible with anything else'. We've seen modems and printers that had no standard interface or hardware API but a proprietary Windows driver instead, and we'll see more of it. For example, before Windows XP was released Microsoft tried (but fortunately failed) to persuade PC manufacturers to discontinue the PCI bus and to support USB devices only. Older versions of Windows, as well as Linux and other Open Source products have limited or no USB support (Wensveen, 2004: p. 12).

Wensveen, further suggests that Microsoft standards:

- Work only for Windows (thus leaving out all other systems that do not run Windows and are unlikely to do so in the future)
- Increase Support Demands (since techies still must load, update and maintain proprietary code on every computer)
- Restrict Creativity (since Bill Gates' troops are defining the generic software layer, MS can tailor the interface to match its own technology biases -- and shut out competing ideas (Wensveen, 2004: p. 15).

According to Wensveen:

A fine example of Microsoft's policy of force-feeding their products to their customers, and a fair indication of what Microsoft has in store for us, is the latest initiative to "simplify" their upgrade policy. Instead of having to agonize over the decision when to

upgrade and having to choose between CUP, VUP, PUP or other upgrade schemes, we are now reduced to only one simple option: we are required to buy and install an update whenever Microsoft tells us to.... As a result, many corporate customers faced an unexpected upgrade expense (in many cases a large one) to avoid having to pay the full price for their next upgrades. They also had (and will have) to implement brand-new and barely tested "service pack zero" versions of Microsoft products, on only four months notice before Microsoft declared existing upgrade policies on mission-critical application software null and void ... Another good example of how Microsoft only wants to protect revenues rather than serve their customers is the licensing technology that will be incorporated in all new products, starting with Office XP. The software license is tied to the PC's hardware, which is identified through the unique characteristics of ten hardware components, e.g. the MAC address of the network interface and the serial numbers of IDE harddisks. Licenses need to be 'activated' (for which you have to contact Microsoft). Licenses automatically become void (read: the software shuts down) after certain hardware modifications. In other words, if you replace a malfunctioning network card or hard disk you have to contact Microsoft and kindly request that they 'reactivate' your license so that you may continue with your work. The license verification code also contains bugs that may result in Office suddenly shutting down and asking for an original CD for re-activation, which essentially leaves you without a functioning set of Office applications. (p. 57).

A similar concern regarding issues of control as it relates to Microsoft within the context of the ICT for development discourse is also expressed by Wade (2002). Wade (2002) is particularly concerned with Microsoft's involvement with the global ICT for development drive and their links with powerful and influential international development agencies. According to him:

Every time Microsoft comes out with a new version of its software that can only run on the latest generation of chip, LDCs either face more costly and hassle-filled communications with customers and suppliers in the OECD countries, or spend scarce foreign exchange to replace their old machines and software. This is an inbuilt gravitational force against their ascent across the digital and income divide. It is where Microsoft is most abusing its monopoly power, checked only a little by the unorganized anger of the 'orphans' left with incompatible document formats. (Wade, 2002 p. 452).

Wade (2002) speaks of a form of hegemonic relations of power and control between Microsoft and its users as well as a form of dependency which in many

ways is similar to the language used by Wensveen as well as others such as Ojo (2004), Lavin in Burnand (2003) and Blakemore and Dutton (2003) who are also concerned about such problems of hegemonic relations of control and power in the current ICT for development discourse and the social practices it encourages.

As suggested in the previous chapter, these constructions of Microsoft Windows which are presented here are in stark contrast to the positive 'rosy' way in which the Microsoft Corporation, UNDP and the policy makers and project managers of the UNDP Cybercentre Project construct and present the operating system as something positive and good. The limitation of Microsoft is certainly not a discourse which the entrepreneurs were exposed to at the Cybercentre Project nor, judging from their responses, anywhere else for that matter.

It is, however, a discourse which many users, software developers and pundits share, especially those who have experienced the awe and might of Microsoft but prefer one of the many alternatives. Two of the more favourite alternatives include Apple Macintosh and Linux (an open source operating system). Like Microsoft, each of these operating systems has their own strengths and weaknesses (see Horowitz 2005). The relative strengths and weaknesses are a matter of debate – but the fact is that this kind of debate is not being represented to those going through the JSDNP. In other words the problems associated with Microsoft and the possibilities of alternatives were excluded from the language of those interviewed for this research.

For example, it was not disclosed that unlike Windows, Linux is more flexible, less cumbersome, cheaper (and in some cases free), resistant to the thousands of Windows viruses and worms, does not require hardware upgrade each time a new version is released, is usable, comes with various software applications, easily modifiable and therefore possibly less dependable on outside controls. Indigenizing this particular application, however, is dependent on the users' knowledge to manipulate the software. In my experience however, Linux is more easily 'indigenizable' than Microsoft both from a practical perspective as well as a legal one.

Neither was it mentioned that a score sheet presented on the XvsXP website - <http://www.xvsxp.com/> - gives the current version Apple Macintosh's operating system a higher score than Microsoft's. Although the scoring system used was problematized by visitors to the Website for excluding several parameters, it does provide a general comparative analysis of many important characteristics of each system – their strengths and weaknesses. And, in most categories – security, interface, performance, usability and so on – Apple OS is ranked higher and there are many online articles which support this position. The basis of Mac OS X is GNU, a close relative of Linux, and Apple computers can be used to run Linux system software. However, Mac OS is as hard to indigenize as Windows, and will only run on machines manufactured or licensed by Apple.

Thus, the entrepreneurs were not given the opportunity to choose an operating system to meet their demands and needs. Neither were they made to understand the strengths and limitations of each operating system and their applicability to objects, subjects and processes. In addition to this, it is also equally important that the user is able to modify the operating system to meet his or her own needs. This provides users with the knowledge, choice and opportunity to select the most appropriate technology. As stated above, however, these were not components of the JSDNP Cybercentre Project.

Given the aforementioned problems with Microsoft (the limitations of Microsoft discourse), the possibilities of technological dependency (the technological dependency discourse), the cosmologies of Jamaica's history with non-indigenous technology for development (the system of technological condition discourse), the importance of indigenizing non-indigenous technologies (the technological indigenization discourse versus the discourse of ICT use), I found myself asking the questions: Why was it that the JSDNP Cybercentre model promoted by UNDP as a tool for achieving livelihood expansion was configured to promote a form of dependency on the Microsoft product, commercial technologies which are very difficult to indigenize? Why was it that the model did not encourage the technological indigenization of other 'indigenizable' products?

There are many possible answers to this question and, they exist at multiple levels of abstraction. For example, at the policy level, the previous chapter highlighted certain procedural and regulatory restrictions manifested in representations pertaining to the hegemonic way in which UNDP implements its development project in the developing world and Microsoft's role, how Microsoft is represented within this particular discourse. And this may be one of the answers (problems at the policy level). Another answer is based on an analysis of the data collected (illustrated below) from the Project Managers. An analysis of this data revealed that there was a lack of awareness among the project managers about the cosmologies of several aspects of the systems of technological condition discourse. They were also unaware of the limitation of Microsoft discourse. This speaks to the question of weak technological capabilities on the part of the project managers (problems at the implementation level).

6.4.4. The Implementation Level Problematic: The Lack of Technological Capabilities

Recall Girvan's definition of a technological capability as "the ability to harness reason and scientific know-how to solve the particular problems of a specific society". According to Girvan (1983a), the "deployment of a technological capability has as its result the crafting of specific technologies which address the actual problems or needs identified". He further contends that "technological capability really means the ability to identify one's problems or needs and find ways to solve or meet them". And, that "a technological capability can exist at the level of the firm, the industry or the country", that it "consists of the ability to identify the most relevant technology for a particular purpose, to acquire it on the best possible terms, and, once acquired, to assimilate the technology internally". Recall also Girvan's conclusion that a technological capability ultimately includes "the ability to create innovations from within and to apply these innovations internally as well as to market them commercially" (Girvan, 1981b: p. 3).

If Girvan's arguments hold true (arguments which are similar to that of National Innovation Theory - Longenecker, Moore, and Petty, 2005; Nelson, 1993; Lundvall, 1992; Freeman, 1995), and I believe they do, it follows that in situations where these activities are not observed or achievable, then a firm, an industry, a country, and, I add, an individual and/or a group, lacks a technological capability.

I have established that one outcome of the discourses surrounding the JSDNP Cybercentre Project has been the inability of the entrepreneurs to indigenize non-indigenous technologies through a lack of technological capability and this may be as a result of policy level discourses. This has consequently led to their dependency on non-indigenous technologies. As stated earlier and in detail in Chapter 2, both outcomes are intricately interrelated. Based on the data analyzed, I also argue that these project outcomes may be a result of the lack of technological capabilities amongst those implementing the project, which also results in their own technological dependency.

My observations of several events, conjunctures and ways of acting and representing manifested in discourse (within the context of social practices) have influenced these assumptions. Paramount among these are the responses to eight interview questions by the Cybercentre project managers. The eight interview questions, presented below, were developed to ascertain from the interviewees their opinions regarding Jamaica's system of technological condition and whether or not those managing the project believed that the Cybercentre Project contributed to this system or corrected it – based on Girvan's recommendations of the indigenization of foreign technology for development.

- Do you think that Jamaica suffers from Technological Dependence?
- Do you think that these ICT projects promote technological dependence- dependence on foreign technology – hardware, software and the Internet?
- Do the ICT for Development UNDP/JSDNP initiatives promote any indigenous innovativeness (do they encourage the beneficiaries to develop an indigenous technological capability)?
- Who do you believe should lead the ICT for Development activities of Jamaica - the government, the private sector or International Organizations? Please explain your answer?
- Do you think that these ICT for Development projects promote or reduce technological dependence- dependence on foreign technology – hardware, software and the Internet?
- Do you think that Jamaica suffers from technological underdevelopment - poor technological capabilities institutions/infrastructure and human resources?
- Does this problem of technological underdevelopment undermine the project in anyway? Please explain your answer.
- Do you think that these ICT for Development UNDP/JSDNP projects promote or reduce technological underdevelopment?

Based on my observations of the interview process, none of the Project Managers interviewed for this research were fully familiar with terminologies such as ‘technological dependency’, ‘technological indigenization’ nor for that matter many of the other terms which are a part of the discourse on the limitations of Microsoft discourse. I had to define and explain the term ‘technological dependency’ using Girvan’s definition, to get a response from the Project Managers. And even so, only one project manager was able to relate to the term and attempted to answer related questions – this was Project Manager 1. Another project manager, Project Manager 2, an environmental scientist (who was very reluctant to be interviewed in the first place) said that she was not confident that she would be able to answer these questions because she had no knowledge of the subject area. According to the project manager, “those are political issues for UNDP to answer” (Project Manager 2: B752). The term ‘a political issue’ is usually used in Jamaica to imply a complex situation. Here the Project Manager is suggesting that the matter is too complex for her to answer and that only those who ought to understand the issue, in this case the UNDP, are qualified to answer or should answer. This may be an indication of the operational framework and order of discourse which exist between the policy/planning and implementation component of the project. It is an order which may suggest a level of disconnect between the organizational structure of the JDSNP project and the policy level framework, which is not uncommon in any mechanistic business model and certainly not common in the management of technology for development projects in Jamaica (Golding and Waller, 2004).

Project Manager 1 who had reviewed my proposal and the interview questions and had engaged me in dialogue about my research on several occasions leading up to the interview, attempted to answer the questions. According to this project manager, Jamaica suffers from technological dependency as well as technological underdevelopment. Project Manager 1 was responding to two questions. These questions were ‘Does Jamaica suffer from technological dependency?’ and ‘Does Jamaica suffer from technological underdevelopment?’. Prior to answering the questions however, the Project Manager had requested that I define and explain the concepts, which I did in what I believe, to be more than sufficient detail, at

least enough for the project manager to feel confident enough to respond to these two questions. With regard to the first question, the project manager stated:

Yes, and the government is not doing their role in addressing this problem. There are many people here with the capacity and a lot of people with the human resources for innovation but they are being stifled. There is still the mind set that once it is from abroad it is better. There are no incentives for local innovation (Project Manager 1).

And to the second question that:

Yes, we are technologically underdeveloped and the taxation on computers does not help, neither the additional tax on telephone calls as this has adverse impacts for dial-up Internet services which is the only one available in rural areas (Project Manager 1).

In both instances the entrepreneur suggested that the role of the government is important in addressing these problems. At the same time the project manager had bifurcated the people of Jamaica into two categories, those who are innovative and creative but being stifled by the government and those who are not, while glamorizing non-indigenous technologies. These are discourses which attempt to demonstrate knowledge and awareness of several elements of the technology for development discourse and a prelude to the mystification of the Cybercentre as the tool which can address these problems. This is indeed evidenced by the project manager's suggestion that the JSDNP Cybercentre promotes innovation and can help to change the culture of foreignness. According to the project manager in responding to the question "Does the initiative promote technological dependency?":

No, we are working on ways and means of making people more innovative in the ways they operate their businesses so this initiative in its existing form has the potential to reduce dependence and promote innovation (Project Manager 1).

As discussed in Chapter 5, the 'existing form' of the initiative incorporates many elements of Microsoft and its associated modalities in the achievement of livelihood expansion but does not encourage the indigenization of this technology. Further, it also excludes the possibilities of alternative technologies and their related modalities in the achievement of livelihood expansion. When one takes

this into consideration and takes a closer look at the language used by the project manager, it is possible to see many contradictions work in discourse. For example, while the Cybercentre Project foregrounds non-indigenous technologies and marginalizes locally reengineered technologies, the Project Manager places a high value on indigenous technology and argued that this was an important component of addressing the problems of technological underdevelopment and dependency. And, at the same time, the Project Manager also suggested that the nature and structure of the JSDNP Cybercentre can promote technological underdevelopment. According to him/her this was “inescapable as there are very little local alternatives which we [speaking as a representative of the JSDNP initiative] can offer to people that are compatible with the international business environment” (Project Manager 1). At the same time, however, Project Manager 1 also suggested that the JSDNP Project could help in addressing technological underdevelopment and dependency by embracing open source software, yet such a practice was absent in the existing model used by the Cybercentre. According to the interviewee:

The expanding of the range of persons with access to the technology will open demand for more diverse cost effective information technology products and services and will force innovativeness in addressing these issues and creating indigenous solutions. So the potential is there to reduce dependence ultimately (Project Manager 1).

The language used by the project manager merely extends some of the many assumptions about ICT promoted by UNDP globally and found in the institution’s 2001 *Human Development Report*, the UNDP 2001 and 2002 *Choices Magazine* which features ICT for Development, as well as the World Bank’s 1998 *World Development Report*, all of which are mentioned in Chapter 3. This is the discourse of the official position on ICT for development, ICTLEMD and ICTLEMD-T. In addition to the discourse of the official position, the text used by the project manager had also intertextualized my own language. Earlier I stated that the project manager had reviewed the questions and the research objectives as well as had detailed discussions with me prior to the ‘official interview’. While arranging the interview with this key interviewee, she/he had requested that I submit my research proposal as well as an idea of the questions to be asked.

According to Project Manager 1, these were the conditions under which the interview could be conducted. I believe that some of the language used in the proposal, the discussions prior to the interview and in the interview was incorporated in the project manager's responses, to give an impression that he/she had knowledge of these issues.

However, as illustrated above, the words used by the project manager had no real meaning as there was much disconnection, disorganization and conceptual fuzziness. For example, as illustrated by the quote above and the discussions which followed, Project Manager 1 connected non-indigenous technology to creativity and innovativeness and argued that the JSDNP Cybercentre in its existing form could reduce technological underdevelopment and dependency. Yet in reality, as was illustrated in the previous chapter, the initiative itself excluded the use of alternative technologies such as open source technologies. Indeed this was quite contradictory to the position of one Policy Maker who when asked "Does the initiative promote technological dependency?" responded "Yes, in many ways. They don't seem to be focusing on ways to develop our own technology". Indeed, one can argue that this may suggest a major disconnect between policy and implementation level discourse/social practice.

On the surface, and to someone unfamiliar with the combined cosmologies of systems of technological condition discourse, technological dependency discourse, limitations of Microsoft discourse and technological indigenization discourse the response of Project Manager 1 may appear sound. However, it is far from it. Here we see arguments that there was no alternative to Microsoft and at the same time representing the use of non-indigenous technology as a solution, without connecting it with indigenous technology or discussing the dynamics of indigenization within the context of the Cybercentre Project, which my analysis suggests does not encourage indigenization. The project manager has also articulated that the problem of technological dependency can be solved by the use of indigenous technology and represented the Cybercentre (which used non-indigenous technologies and not indigenous technology) as a project which facilitated this process. I believe that the responses were influenced by my

definition and lengthy explanation of technological dependency and systems of technological condition discourse.

Furthermore, an analysis of the vocabularies (wording and metaphors), semantic, episoding, utterances, grammar (transitivity, modality) used by the project manager revealed a number of fundamental contradictions in how sentences preceded and followed each other, as well as how some responses conflicted with others and with the dominant literature of ICT for development (also including livelihood development), the critical literature of (ICT for development) and the historical literature on non-indigenous technology for development. In other words, it indicated a conceptual incompatibility between and among the words chosen to respond to the questions I posed as well as in how subjects, objects, processes and events were positioned. It illustrated an attempt to intertextualize my language with those of the dominant position in a failed attempt to develop a synthesis, one which could not have been developed because of the relative lack of understanding by the project manager about the complexities of the ICT for development discourse which I had introduced to the project manager.

Based on these inconsistencies and contradictions, and following Fairclough (2003), I argue that Project Manager 1's texts may just be 'empty words' or rhetoric - words spun together but disconnected either from each other or reality. I argue that the Project Manager was attempting to project an image of knowledge and awareness. In other words, certain terms were used to establish what I call the 'discourse of expertise', given the fact that the project manager (who is in a specific position which should command certain knowledge) was being questioned/examined/interviewed by someone who may have been perceived as being more knowledgeable, more associated with the ICT for development discourse and the cosmologies of its many genres (by virtue of my status as a PhD student who had previously worked with the UNDP as an ICT for Development consultant) and perhaps considered still linked to that institution, brought to life by a statement which she/he made "Well I think you probably know much more than I do." (Project Manager 1). In other words it may have been an act to demonstrate their (the project manager's) particular knowledge to perhaps counteract what may have been perceived as hegemonic ascendancy (Fairclough,

1989, Laclau and Mouffe, 1985). The time the project manager took to respond to each question as well as the stuttering and uncertainty, looking around the room, rotation of eyes, the searching for words, the inconsistencies and contradictions in the text – the inability of the project manager to ‘connect the dots’, and a lack of substance in the response – all suggest that this may have been a case of empty words. It can be argued that there are no ready answer to these kinds of questions because the UNDP does not include these kinds of discourses as part of its everyday discourse. It is not reflected in any of the texts reviewed for this research and neither is it a part of the language used at the policy level to represent development or livelihood development through the use of ICTs.

Both Ventura (1990; 2000) and Girvan (1983b) may perhaps problemize this lack of awareness and lack of comprehension (the project manager’s inability to connect the dots) on one hand, and on the other, view it as a lack of technological capability caused by Jamaica’s history of technological dependency, dysfunctionality and underdevelopment while at the same time arguing that it is circumstances such as these which perpetuate these conditions and inhibits the creative and innovative technological capabilities required to produce positive synergetic linkages between social life and ICTs. Interestingly in a telephone conversation A. Ventura (personal communication, June 23, 2005) also verified this. According to him:

...there are too many of these ICT for development projects in operation today that are being managed by persons with no knowledge of ICTs or development. They know a little bit of this and a little bit of that. They pick up a word here or there at a conference or on television and legitimately believe that they are an authority. So when they speak to people who have no knowledge of ICT for development issues these people use one or two words many people believe that what they say is valid because it sounds good. But the truth is that these people only have a partial picture of the many realities of technology and development. Unlike you and I they cannot connect ICTs to development. This explains why if you look at these initiatives there is a disconnect between ICT and development. This is not only a problem here in Jamaica but all around. I believe that this is one of the greatest threats to development today because it leads to the inappropriate application of these technologies to address development (A. Ventura, personal communication, June 23, 2005).

Here Ventura's construction of 'us' and 'them' – the other – suggests that he supports the position that I have taken, the position which has influenced me to pursue this research. His assumptions about non-indigenous technologies for development, which are different from the research participants, are, unlike the participants, influenced by his knowledge of Jamaica's history and cosmologies associated with these types of technologies – the possibilities, requirements, object, subjects, processes and outcomes. Thus in many ways it is possible to argue that Ventura's description fits Project Manager 1.

Based on these scenarios then, it is possible to argue that at the implementation level the JSDNP Cybercentre also limits the outcome possibilities for entrepreneurs by limiting their choices and options. Be reminded in Chapter 1 that I had introduced UNDP's definition of development. According to UNDP, providing people with choices and options are the benchmarks of development. If this is indeed true then, certainly, it is possible to argue that the JSDNP Cybercentre Project has not been successful in terms of engendering development at the micro or the macro scale. Instead of providing the entrepreneurs with choices and opportunities, the Project excluded many entrepreneurs from fully achieving livelihood expansion in a sustainable way by limiting the type of technology offered to them, limiting the knowledge regarding the structural, organizational and operational processes of this type of technology, inhibiting their technological capabilities in terms of indigenizing non-indigenous technologies and exposing them exclusively to non-indigenous technologies which could be potentially harmful to their productive and operations and livelihood needs. All this becomes a reality when one compares the outcome possibilities and opportunities of entrepreneurs associated with the JSDNP Cybercentre Project with microenterprise entrepreneurs exposed to other training programmes in Jamaica. The next section will attempt to undertake such a comparison.

6.5. TECHNOLOGICAL INDIGENIZATION: THE DIFFERENCE BETWEEN LEARNING TO MODIFY TECHNOLOGIES AND USING TECHNOLOGIES

As illustrated in the previous chapter, there are other training initiatives in Jamaica offering a variety of capacity building/knowledge-based development projects/courses with objectives similar in many respects to the JSDNP Cybercentre Project in terms of providing Jamaicans with the knowledge necessary to achieve livelihood expansion. Like the JSDNP, many of these other initiatives promote the use of non-indigenous technologies in accomplishing these goals. One example is the Cisco Systems Regional Networking Academy - another ICT for Development project introduced to Jamaica by UNDP. The processes surrounding this project depends exclusively on Cisco routers and switches (Hardware) and various groupware (software) to drive the hardware. Like Microsoft products and many other commercial technologies, Cisco technology comes with a number of structural limitations which promote technological dependency and downplay technological indigenization. This is, however, not to say that the indigenization of these technologies is impossible. There are however several training agencies in Jamaica which encourage the indigenization of non-indigenous technologies or the use of other indigenous technology. One example is the certificate in Management of Information Systems (MIS) at the Excelsior Community College (EXED) – a private institution located in Kingston Jamaica..

The certificate in MIS at EXED consists of 10 courses. The course was created by a Jamaican and represents what he believes are the “components needed to survive in the Jamaican business environment and contribute to its expansion” (Resource Person 20). These range from providing a student with a general introduction to the basics of computing to more advanced courses such as programming – learning languages such as C++, Java and creating Macros in Windows. At both levels, students learn the dynamics of these technologies in terms of how to effectively understand, modify, absorb and use these technologies for specific needs. They are also taught about various alternative indigenous technology and non-indigenous technologies and how to indigenize the latter.

In several of these courses students are given real life case studies of problematic business scenarios affecting the livelihood expansion of entrepreneurs and are required to solve these problems through creative and innovative means using various ICTs. This aspect of the course provides the students with an appreciation of the connection between business processes and the use of a variety of ICTs to enhance an entrepreneur's capacity to expand their livelihoods. Because of an awareness of alternatives, each student is able to design his own solution, based on appropriate specifications and to link technologies appropriately to objects, subject and processes. In an attempt to develop their innovative and creative technological capabilities students are made aware of various alternatives and taught to use multiple objects, subjects and processes in achieving their goal.

According to the way in which the certificate programme is structured, at the end of the programme it is expected that the student will have the capacity to understand the functions of various non-indigenous technologies, their strengths, limitations, alternatives and linkages to business processes, as well as how to indigenize these technologies. It is expected that these students will be able to connect these technologies to other objects, subjects and processes. Such knowledge, it is believed, will provide the student with the synergetic capabilities to create and innovate. It is expected that this will lead to the introduction of new or improved products/services and/or new processes and/or opening of new markets and/or identifying new sources of supply of raw materials and/or the creation of new types of industrial organization. So, these entrepreneurs should be able to realize their full potential, unlike the JSDNP Cybercentre trained entrepreneurs.

As discussed in the previous chapter and above, the Cybercentre Project does not promote activities leading to the generation of new product/services and/or new processes and/or the opening of new markets and/or identifying new sources of supply of raw materials. Under the JSDNP Cybercentre model, entrepreneurs were not provided with the knowledge and skills to understand a technology and to modify it as well as its importance, strengths, and limitations. Neither were they introduced to alternative ICTs such as those produced by graduates of EXED. Rather, as stated earlier, the JSDNP model operated under the principle that

providing entrepreneurs with the capacity to ‘use’ specific ICTs such as Microsoft and other commercial technologies would enable the entrepreneur or a user to achieve outcomes similar to those expected from a graduate of the EXED MIS Programme. In other words, entrepreneurs are not able to tailor-make their own solutions. Based on the principle of one size fits all, the model privileged the use of software such as Microsoft, or hardware such as Dell, or processes such as sitting around a table, in a room with only these instruments and their permitted activities to enact change.

Recall for example, Entrepreneurs 8, 9, and 10's belief that they had benefited from their exposure to the JSDNP Cybercentre Project. These entrepreneurs had participated in the training in order to achieve specific goals which they had constructed as necessary for their survival in the tourism industry. Based on my discussion with them it is clear that these objectives were based on local and global influences in the industry. It was the accomplishment of these tasks which was used as a benchmark to measure ‘benefits’. But recall that these benefits were achieved with the assistance of external forces, processes, structures, instruments and objects which themselves are bounded by and in some cases dependent on specific operational configurations. In other words, even though at one level the discourses surrounding the Cybercentre Project expanded the choices and opportunities for these entrepreneurs (8 to 10) at another level they were still subjected to specific restrictions. These restrictions undermined the potential of the entrepreneur to innovate and create new things – products, processes or industries. For example, when compared to the real benefits of other entrepreneurs – true to the adage: creative and innovative – associated with other ICT-related training centres it is possible to argue that the JSDNP Cybercentre does not incorporate processes and structures need for the entrepreneurs to operate at their full potential. Let us take for example the experiences of Entrepreneurs 15 and 16.

6.5.1. Entrepreneur 15

Entrepreneur 15 is a twenty one year old male. I was introduced to this entrepreneur by a colleague of mine as someone who could solve a problem that I was having with my Hewlett Packard LaserJet printer. He is a sole proprietor of a business which, as far as I am concerned, does everything. For instance, he sells

hardware and pirated software. He fixes hardware and cracks software and also builds websites. The entrepreneur lives in an inner-city ghetto area in Jamaica and identifies himself as a ‘survivor’ and a ‘struggler’ – a term used in Jamaica to signify poverty but poverty with ambition and fight to achieve a goal other than poverty.

The entrepreneur does not work in the tourism industry although he is linked to the industry in some ways (based on the fact that he services the printers and computers of various hotels in Kingston and sells indigenous technologies to them). Entrepreneur 15 is what is commonly referred to in Jamaica as a computer repair man or the ‘computa man’ although he would prefer to call himself a computer engineer. I was introduced to Entrepreneur 15 when my aged printer failed me one day while conducting my data analysis. I had befriended him as I was intrigued by the skill and knowledge of this twenty-one year old high school drop-out from the inner-cities of Jamaica. In exchange for information about the entrepreneur’s present, past and future I assisted him in the creation of a Business Plan which to used to secure a loan from a small business development agency in Jamaica.

Entrepreneur 15 was expelled from high school in fourth form. He was exposed to ICTs at the age of 17 at the Vector Training Institute. Vector Training Institute provides various forms of ICT training (6 months – 1 year). The certification includes:

- Associate Degree in Computer Systems Technology
- Diploma in Computer Systems Technology
- Diploma for Computer Technicians
- Certificate for Computer Technicians
- Certificate in Network Systems
- Certificate in Computer Hardware Systems

Entrepreneur 15, who had obtained an Associate Degree in Computer Systems Technology, was in the same predicament as Entrepreneur 11 in terms of contacting persons overseas. Because of the nature of his job the entrepreneur was

often unable to check and respond to his email which was one of the many forms of communications with his clients. To address this problem, he has configured his email with his relatively inexpensive mobile phone so that he could communicate with his clients in real time. With the mobile phone the entrepreneur was able to appropriately connect non-indigenous technologies to his indigenous needs by modifying the functions of the phone software to operate in harmony with his email.

Entrepreneur 15 explained to me that this was not something which he was specifically taught at the training institute. It was just something he did based on an understanding of the software – Netscape Mail – and the features of his US \$50 phone – a Nokia 3530. In other words, his understanding of the technology, knowledge of modifying a technology, and more importantly belief that the technology was modifiable, enabled the entrepreneur to indigenize these non-indigenous technologies to in a sense create an indigenous technology. He assisted me in connecting my email and mobile phone which proved to be helpful in communicating with my colleagues, associates and students. Beyond this, I have also been impressed by Entrepreneur 15's technological creativity and innovative capacity in terms of the clever if not cunningly unconventional ways in which he has assisted me in software and hardware problems through the modification of both hardware and software.

Unlike Entrepreneur 11, Entrepreneur 15 was introduced to what he interpreted as the emancipatory possibility of the fluidity of non-indigenous technologies and their potentials for creativity and innovation. He was made aware of the modifiability of these technologies and exactly how to use them to meet specific needs. Based on other experiences with him, I have come to believe that this one-year course which introduced him to various ICTs helped in unlocking his creative and innovative technological capabilities as well as contributing to his livelihood. The course promoted a belief in technological indigenization and the use of indigenous technology. And through this Entrepreneur 15 has been able to make a livelihood for himself – and one that is sustainable. Similar conclusions can be drawn from the experiences of another entrepreneur – Entrepreneur 16.

6.5.2. Entrepreneur 16

Entrepreneur 16 undertakes a number of business activities in Kingston, Jamaica. These range from the provision of illegal software for business processes to the importation of second-hand (inexpensive) electronic products from the USA which he buys on Ebay, an online trading company. The products (mostly computers and laptops) are then given hardware and software upgrades and resold to various micro-businesses in the Eastern Kingston area of Jamaica.

I was introduced to Entrepreneur 16 in 2001 during my last week at UNDP. When I met him, his primary business activity was the sale of illegal software and the illegal unlocking of Digital Satellite Systems (DSS). I re-established a link with Entrepreneur 16 in July of 2005 and visited him for some technical support and software upgrades. On my arrival at Entrepreneur 16's business place I realized the entrepreneur had expanded his business significantly. His home was turned into a home office with various laptops, computers and computer parts all scattered around. My first visit to this space saw several persons patiently waiting for hardware and software support. There was one man there who wanted some physical changes to be made to his Microsoft X-Box Console so that it would be able to play the many video games that Entrepreneur 16 had downloaded from a Peer2Peer Website, burnt on a CD and was selling for a quarter the price of the market value²⁹. There were also two young men there waiting to get a Sony Ericsson P910i mobile phone unlocked and a policeman waiting on someone who was delivering some mobile phones, which I later found out was the Motorola Razr V3 model. I was waiting to get a copy of Symantec Norton Antivirus Corporate Edition which was being sold for US\$20 and to discuss the prospects for a digital camera.

I had visited Entrepreneur 16 several times over a five-month period inquiring about his past present and future. I told him that I was going to use him as a case study in my research and he agreed. Over those months I was always amazed at the many challenges the entrepreneur faced in terms of hardware and software modification based on demands of customers. He built several computers to match

²⁹ Certainly there some obvious issues regarding the black economy, and survivalism in Jamaica as it relates to creativeness and innovation which is missing from the official UN discourse on ICTLEMD. Indeed this shall be one of my post-doctoral focus.

customer specifications, where possible, modified the Windows operating system, and wrote small software operations in commercial software programs such as Microsoft for shop keepers.

Entrepreneur 16, a 28-year-old male, had completed five years at high school and had worked for some time in a grocery. During that time his main income was not from the grocery but rather remittances from his mother living in the United Kingdom. In an attempt to further his education, the entrepreneur had received certification in information systems at the Stony Hill HEART Academy, a statutory agency of the Jamaican Ministry of Education, responsible for providing vocational training in Jamaica. It was here that he was introduced to computers and the Internet. The course provided students with technological competencies in the use, modification, application and absorption of information technologies for livelihood development. It showed them how to connect ICTs to objects, subjects and processes. Students were also asked to research local ICTs and the processes and problems of the indigenization of non-indigenous technologies. It was his exposure to this training institute which inspired the entrepreneur to pursue an ICT-related career. According to him it was a profitable choice.

In a very interesting discussion with him one evening he explained that most of his knowledge was not learnt directly from his exposure to the training programme. There he learnt the principle behind technologies and how they operated. Rather, the training programme had demonstrated “how things are and have been, as well as imaginaries – representations of how things might be or could or should be” in the use of ICTs (Fairclough, 2003 p. 2-3). From this he was able to understand the strengths and limitations of ICTs (generally) and was influenced into believing that all technologies could be manipulated or, as he repeatedly says “broken” (his term for the manipulation of technologies).). In other words he had imagined a world of “possible social practices and networks of social practices – possible syntheses of activities, subjects, social relations, instruments, objects, spacetimes,...values, forms of consciousness. These imaginaries” were “enacted as actual (networks of) practices – imagined activities, subjects, social relations etc can become real activities, subjects, social relations etc” (Fairclough 2003 p. 2-3).

What this may suggest is that discourse was “inculcated as new ways of being” as the entrepreneur conceptualized himself as someone who could manipulate technology and create something new. ‘The computa man’ was conceptualized in this way. In other words, the entrepreneur came into his own discourses, he had positioned himself inside them, he had acted and conceptualized and talked and saw himself in terms of this ‘computa man’. This was evidenced in style (the self-confidence of the entrepreneur) as well as the ways in which language was used (he spoke of technologies as if he had ultimate control over the domain) and in ways of moving (the actual process of modifying the computers).

6.5.3. Entrepreneurs 15 and 16: Discourses of Resistance

From my analysis of the stories of Entrepreneurs 15 and 16, I argue that these entrepreneurs were able to understand the use of technologies and were able to pull on the strengths of these technologies. By providing these entrepreneurs with alternatives, and teaching them that technologies are modifiable, they were both able to reengineer various technologies to make them appropriate to their (local) needs. These entrepreneurs developed a resistance to the dominant discourse and thereby undid the impermeableness of the Microsoft discourse. By providing these entrepreneurs with alternatives and introducing them to modes of modifying non-indigenous technologies these entrepreneurs were able to indigenize these technologies for specific uses in Jamaica. This was possible because they had learnt about the possibilities of these technologies, believed in their modifiability, adaptability and usability. These were not the outcomes of the JSDNP Cybercentre Project.

I argue that unlike ‘other’ ICT-related programmes, such as the initiatives with which Entrepreneur 15 and 16 were associated - which encouraged the indigenization of non-indigenous technologies and the use/modification of indigenous technology and was in many ways “a source of empowerment and emancipation” a tool through which knowledge can be established and in many ways also disseminated (Schech, 2002: p. 14) and/or “groups at the margins could seize to construct innovative visions and practices (Escobar 1995 quoted in Schech, 2002: p. 14) - the UNDP’s JSDNP Cybercentre Model (which does not

encourage the indigenization of non-indigenous technologies but rather promotes the ‘use’ of indigenous technology) contributes to ways of organizing and acting which limits control over the configuration and manipulation of any given technology, and restrict ones technological and creative capabilities. Such an approach inhibits the capacity of entrepreneurs to modify and thus duplicate technologies effectively. This gives rise to a situation of technological dependency and the inappropriate use of technologies. Readers should at this point be reminded that the outcome or consequence can also be viewed as a cause – dialectical (see Chapter 2).

There is much evidence of this “technological arrest in retrogression” (Girvan, 1983a: p38) or ‘technological creative and innovative stall’ For example, Entrepreneur 8’s inability to develop her own website or for that matter to update or manipulate the website as well as her lack of control regarding what hardware, software, and connectivity solution was necessary for her to achieve livelihood expansion (see Chapter 5). Another example is Entrepreneur 9 and 10’s inability to manipulate technologies necessary for the development of business documents and (in the case of Entrepreneur 9) the subsequent financial consequences (see Chapter 5). Furthermore, if we were to extend our analysis to those entrepreneurs who used the knowledge gained from their exposure to the Cybercentre but have not benefited from the application of this knowledge, another example may be the inability of Entrepreneur 11 to identify, manipulate and effectively utilize the appropriate technological processes needed to achieve livelihood expansion, largely as a result of the exclusion of alternatives to the discourse of the official position on ICTLEMD, which was revealed through the use of CDA and the various analytical tools used in this research. The JSDNP Cybercentre Project had excluded the distribution of discourses specific to providing the entrepreneurs with the knowledge and/or the ability to understand that there are alternative ways of doing things.

The findings here only further justify the arguments presented in Chapter 5 – that the JSDNP Cybercentre Project is disempowering to microenterprise entrepreneurs operating in the Jamaican tourism industry, and most importantly, counter productive in terms of contributing to the development of Jamaica. This is

certainly the case if we follow Girvan (1983a) who, as cited in Chapter 2, suggested:

The adaptation of inappropriate foreign technology and the occurrences of an inappropriate pattern of technical change biases the functioning of the social economy in particular ways. These characteristic biases run counter to the requirements of a process of genuine economic development (Girvan, 1983b: p. 91).

This argument is based on Girvan views (which are intertextually shaped by several scholars and can also be found in the writings of Longenecker, Moore, and Petty, 2005; Nelson, 1993; Lundvall, 1992; Freeman, 1995) that innovation and creativity are the first step in the right direction in breaking the systems of the technological condition cycle. Interestingly, UNDP's' 2001 Human Development Report also speaks of this. Avgerou (2003), best captures UNDP's arguments. According to her, paraphrasing UNDP:

Technological innovation enhances human capabilities – such as a healthy life, knowledge creativity, and participation in the social, economic growth through productivity gains. At the same time, human capabilities are an important means of achieving technological innovation. Therefore, technology innovation and development are mutually reinforcing, creating a virtuous circle. (Avgerou, 2003: p. 376).

If we take Wade's observations of telecentres in rural Mexico and ICT programmes in the Indian state of Andhra Pradesh (two World Bank ICT for development initiatives) regarding the misrepresentations of activities and outcomes by the very influential World Bank, as well as my own observations of UNDP's (another influential organization in world affairs) ICT for development initiative; it is possible to argue that there seems to be an emerging trend in the implementation and execution of ICT projects in the developing world. This may suggest the possibilities of a disconnect between policy as well as implementation level constructions of livelihood development and events on the ground. The idea of ICT for development (which includes livelihood development) may be based on assumptions which have not been fully thought out or adequately tested in a methodological sense. Indeed, given the relative dearth of empirical research (qualitative or quantitative), independent of institutional influences and the need

to make the connection between ICT and development real, either for income generating purposes or desperate developmentalists (Heeks, 2001a, 2001b, 2001c), this may very well be the case.

This is a contradiction which should be further studied on a wider scale to mitigate the possibility of detrimental policy outcomes from UNDP policies and initiatives. I plan to pursue these discourses of contradiction at the post doctoral level.

The approach offered by the training institutions to which Entrepreneurs 15 and 16 were exposed may offer a model to be further explored. When one thinks about the possibilities of these social processes enacted on a wider scale (the creative and imaginative way ICTs were connected to subjects, objects and processes) it may be possible to imagine a future of “competitiveness through rapid technological innovation and high rates of learning” (Avgerou, 2003: p. 378). The approach signifies the possibilities of a form of appropriate knowledge for technological indigenization through importation for the purposes of development. It is the transition from being dependent on a foreign country for technologies to technological importation – “the importation of technologies which are modified and adapted through local technological activity, in order to make them suitable for local requirements, and to fit into a pattern of internally-generated growth (Girvan, 1983a p. 34). It resembles “the spectacular success of the Mondragon (Dragon Mountain) group in the Basque region of Spain” which Wade suggests developed through the “on-the-ground sequence from (1) investments in learning to learn how to absorb ideas from elsewhere, to (2) adoption of latest technologies as they came along” (Wade, 2002: p. 450). According to Girvan, such a process represents ways of acting and organizing which may contribute to livelihood development through the use of appropriate technologies. Such futures are not envisioned when one thinks about the operational and structural processes of UNDP’s JSDNP Cybercentre Project.

It must be noted, however, that I am in no way suggesting that no form of innovation is possible under UNDP’s JSDNP Cybercentre Project (especially in the long run). Rather, I am arguing that, based on the data collected and analyzed thus far – five years after the implementation of the JSDNP Cybercentre Project

and two years of monitoring the initiative – I have not observed any evidence which suggests that the model used by the JSDNP Cybercentre has contributed to, is contributing to, or can contribute to such an outcome, in the short to medium term at least. At one extreme it could also be argued that the JSDNP Cybercentre may even potentially undo the achievements of the Government of Jamaica in terms of their plans to develop a digital paradise and the formation of structures and institutions which can stimulate technological development specifically and development generally. Extreme as it may sound; it is not far-fetched given that the history of technology for development in many developing countries such as Jamaica has indicated this (See for example Bardowell and and Taylos 1999; CITO 2002).

6.6. CONCLUSION

In this chapter, I have highlighted and drawn attention to several other themes which emerged from the corpus of text analyzed. I have argued that at the policy and implementation level the discourses surrounding the JSDNP Cybercentre promote a dependence on non-indigenous technologies, discourage the indigenization of these technologies, encourage the technological underdevelopment of these entrepreneurs and limit their technological creative and innovative capabilities. Consequently, microenterprise entrepreneurs who have been exposed to the JSDNP Cybercentre training and who claim to have benefited from this exposure have not been able to achieve their full potential. Given the link between entrepreneurship and innovation/creativity in both mainstream and avant-garde entrepreneurship texts (see Girvan, 1983a, Longenecker, Moore, and Petty, 2005; Nelson, 1993, Lundvall, 1992; Freeman, 1995) and the connection between entrepreneurship and development discussed in Chapter 3, I argue that these limitations and restrictions are problematic not only for the entrepreneurs but also for the overall development of Jamaica. The next chapter concludes this research by providing an overview of the study and making suggestions for the way ahead.

7

CONCLUSION

7.1. INTRODUCTION

The importance of discourse in the analysis of issues concerning information and communication technologies for livelihood development through microenterprise development (ICTLEMD) (brought to the fore with the use of the CDA approach as a theoretical and methodological tool), perhaps not only in the tourism industry but other industries as well, is the main theme which emerges from this research. The CDA approach used to generate the core theme and the other themes discussed in Chapters 5 and 6 are infused with the dialectical understanding of history, objects, subjects, processes and phenomena. It is also an approach which, as demonstrated here, is fluid enough to be used in conjunction with other theoretical, methodological and analytical tools. It is also adaptable because in place of norms of truth or language use, it recognizes local norms and values and the relations among and between them, as well as their links to global discourses. This approach has helped me in understanding the multidimensionality of ICTLEMD dynamics and outcome possibilities, specifically as they relate to microenterprise entrepreneurs operating in the Jamaican tourism industry in terms of information and communication technologies for livelihood expansion through microenterprise development in the tourism industry (ICTLEMD-T) trends, challenges and opportunities. It is an approach which I hope will expand the current unidimensional perspective about ICTLEMD generally and ICTLEMD-T specifically, currently being promulgated in Jamaica and on a global scale by international development agencies.

Based on my successful use of this approach, in this chapter I attempt to make a case for the focus on discourse as a unit of analysis and the use of CDA as a methodology for deconstructing discourse in other ICTLEMD spaces – music, fashion, agriculture, art and craft, manufacturing and so on. It is hoped that this research will help other researchers become aware of the multiplicity of

ICTLEMD processes, as well as possible techniques which can be used to deconstruct this space of development.

7.2. TO RECAP

This research project sought to analyze the implications of UNDP's ICTLEMD initiative – the JSDNP Cybercentre Project – for several microenterprise entrepreneurs operating in the Jamaican tourism industry. The initiative is a part of a larger drive by the UNDP and other international development agencies to promote the use of ICTs for the development of 'Third World' countries (World Bank, 1998a UNDP, 2001b; UNCTAD, 2004a; USAID, 2005; IICD, 2005). In undertaking this research project, I had set out to answer the following research questions:

- a. What are the discourses surrounding the JSDNP Cybercentre Project?
- b. What, if any, are the implications of these discourses for microenterprise entrepreneurs operating in the Jamaican tourism industry and who have been involved in these projects?

These questions emerged out of a concern about the outcome possibilities of this ICTLEMD initiative in Jamaica – the UNDP's JSDNP Cybercentre Project. This concern materialized based on my knowledge of Jamaica's history of non-indigenous technology for development. It has been suggested that Jamaica's historical dependence on non-indigenous technologies for development has led to inequality, poverty, unemployment and the emergence of a system of technological conditions which have undermined the development potential of the country (Girvan, 1976, 1979, 1983a, 1983b; Boodraj, 1995; Mandle, 1985, 1997; Ventura, 1980, 1990, 1999). It was also influenced by current criticisms emerging from various parts of the developing world regarding ICT for development initiatives promoted and implemented by the World Bank. It has been suggested that current representations of ICT by the World Bank are misleading and perhaps hyperreal (Wade, 2002). Critics warn that such representations may potentially lead once more to outcomes such as inequality, technological dependency and the inappropriate use of technologies, and that, in contrast to their stated aims, they

therefore risk sustaining the underdevelopment configurations of developing countries (Valden, 2001; Luyt, 2002; Wade 2002; Thompson, 2004; Ojo, 2004).

In answering these questions, critical theory was used as the theoretical framework. My attraction to this theory was based on its emancipatory possibilities in terms of analyzing “competing power interests between groups and individuals within a society – identifying who gains and who loses in specific situations” (Kincheloe and McLaren, 2003: p. 437) unearthing the “material and cultural practices that create structures of oppression” (Denzin, 1998: p. 332), “identifying and challenging assumptions behind ordinary ways of perceiving, conceiving and acting” (Alvesson, and Deetz, 2000 p. 8), “imaging and exploring extraordinary alternatives, ones that may disrupt routines and established orders” (p. 8) and “being appropriately sceptical about any knowledge or solution that claims to be the only truth or alternative” (Alvesson, and Deetz, 2000 p. 8).

In pursuing this area of ICT for development, I was particularly attracted to the discourse turn in critical theory (Foucault, 1972, 1977, 1981; Habermas, 1984; Derrida, 1976). Such an approach focuses on the role of discourse as a unit of analysis. In keeping with this approach, the research design was exploratory and the methodology which I employed within this framework was Fairclough’s Critical Discourse Analysis (CDA) (Chouliaraki, and Fairclough, 1999; Fairclough, 1989, 1995a, 1995b, 1995c, 2000, 2001, 2003, 2004). The sample consisted primarily of nine entrepreneurs, two project managers, two policy makers and several professionals in Jamaica with knowledge of various fields and disciplines related to this thesis. The methods of data collection were primarily qualitative. They included interviews, participant observation and the use of documentation and archival records.

The data collected were analyzed through the juxtaposition of Strauss and Corbin’s, (1990, 1998) Constant Comparative Analysis of Grounded Theory, Yin’s (1994) Case Study method approach, Miles and Huberman’s (1994) Matrix Analysis Approach for the analysis of qualitative data and Thompson’s (2004) Matrix model for the analysis of critical discourses. The combination of these analytical tools provided me with the capabilities to observe the relationships

between texts, discourse practice and socio-cultural practice. This provided insights into the intricate network of beliefs, space, place, time, norms, values and forms of consciousness (within a socio-cultural and historical context) as it relates to the ways of organizing and acting which have been influenced by the discourses surrounding the Cybercentre. In short, it revealed the “oscillation between the perspective of the social structure and the perspective of social action and agency” (Fairclough, 2003: p. 205). This ‘bricoleurian’ (Denzin and Lincoln, 2005) analytical tool revealed how and in what way social action, objects, subjects, processes and phenomena were constructed, the presence and impact of hegemonic relations of power and domination in and over discourse, as well as how this contributed to the preservation of social structures, systems and network of relations.

From the data collected it was found that the discourses surrounding the JSDNP Cybercentre Project encouraged specific ways of acting and organizing congruent with the corporate configurations, processes and structures of industrialized countries which are incompatible with the operational configurations of many of the entrepreneurs interviewed for this study. It was also found that the discourses surrounding the Cybercentre encouraged the unconditional adaptation of specific types of commercial non-indigenous technologies, while undervaluing indigenous technologies thereby promoted specific social processes associated with the use of these commercial non-indigenous technologies (particular ways of acting and organizing) while excluding other technologies and associated processes such as the indigenization of non-indigenous technologies. At the global level, these discourses are a product of global corporate ways of representing, ways of acting and ways of organizing to achieve livelihood development. At the implementation level of these discourses were uncritically received by the project managers. The discourses were distributed untransformed by those managing the JSDNP Cybercentre Project. This lack of discourse transformation was influenced by several factors which included: the hegemonic relations of power between policy level and implementation level structures as orders of discourse, and the lack of knowledge at the implementation level (among the project managers) about the cosmologies of the policy level discourses (which themselves influenced the orders of discourse). These discourse dynamics were, in turn, influenced by both

local and global social practices – forms of consciousness, time and space, objects, instruments, subjects and their social relations, activities and socio-cultural practices. They were also influenced by the wider socio-cultural, political, ideological and institutional structures and processes within the contemporary and historical context.

The implications of these discourses were multidimensional. They had different consequences for each entrepreneur at multiple levels of abstraction. For example at one level, some entrepreneurs benefited more from the Cybercentre model than others in terms of the expansion of their livelihoods. More specifically, policy level representations of ICTLEMD had encouraged particular modalities which were more favourable to the operational and structural dynamics of those entrepreneurs, who considered themselves to be ‘non-poor’ microenterprise entrepreneurs who owned and operated one registered business, were structured in their business processes, frequently occupied a specific time or space and were able to fit in most of the spatio-temporal configurations the JSDNP Cybercentre encouraged. These modalities were less favourable to other entrepreneurs who did not fit these characteristics or had opposite ones. In other words, the modalities which the JSDNP Cybercentre Project represents as necessary for livelihood expansion are incompatible with the operational and structural processes of some microenterprise entrepreneurs working in the Jamaican tourism industry. Thus, from the evidence gathered it may be possible to hypothesize that the discourses surrounding the initiative play a fundamental role in encouraging and perpetuating entrenched inequalities between and among groups through the preservation of social practices, with their associated systems and structures.

At another level, however, it was found that when one compares the outcomes and outcome possibilities (what has been achieved and what could be achieved) of those who claim to have attained some level of livelihood expansion (based on their exposure to the JSDNP Cybercentre – those who learnt how to ‘use’ ICTs) with the achievements of other entrepreneurs associated with more indigenous initiatives (those who learnt how to modify technologies), the benefits for the former are marginal at best and the operational processes around them problematic. For example, the control the JSDNP trained entrepreneurs have over

the configuration and manipulation of technology appears to be limited, their technological and creative capabilities seem restricted and their ability to indigenize technologies becomes more impaired. These entrepreneurs are highly dependent on non-indigenous commercial technologies (which themselves have a number of limitations). It is therefore also possible to hypothesize that unlike other more indigenous ICT training initiatives, the JSDNP Cybercentre model encourages complex regulations which encourage specific ways of organizing and acting, inhibiting entrepreneurs from achieving their full potential. Such regulations do this by effectively limiting their ability to fully assimilate ICTs to meet their needs by understanding, modifying, and using these technologies appropriately.

In essence then, this thesis demonstrated how and in what way technology shapes and is shaped by discourse practice (a dialectical process) as well as how power and knowledge in a socio-cultural historical context (extra discursive elements) plays an important role in this dialectical process.

In ending this section it must be noted that the findings presented here may not be the 'right' findings. Richardson and Adams St. Pierre (2005) tells us that "there is no such thing as "getting it right" only "getting it" differently contoured and nuanced" (p. 962). Thus, in reality, what these findings (influenced by my research processes and various epistemological factors) represent are my findings, my truths, which are an alternative to the dominant discourses on ICT for development, ICTLEMD and ICTLEMD-T or extend this discourse.

7.3. EXPLORING THE WIDER POSSIBLE IMPLICATIONS: OTHER HYPOTHESIS, VARIABLES, ASSOCIATIONS BETWEEN VARIABLES AND SUGGESTIONS ROOM FOR FUTURE RESEARCH

7.3.1. Achieving Development

Recall that I had argued in Chapter 1, that this thesis was not concerned with the question of 'What is Development'. I have accepted that 'development' is the process of enhancing human capacities "the range of things that people can do or be in life.... The most basic capabilities for human development are to lead long

and healthy lives, to be knowledgeable, to have access to the resources needed for a decent standard of living and to be able to participate in the life of the community” (UNDP 2005:p. 1). It is assumed by organizations such as the UNDP that the expansion of human capabilities will lead to the enlargement of their choices and opportunities. I use this definition as a yardstick to measure whether what the UNDP as well as other agencies promote as a tool for the achievement of development (including livelihood development) can actually engender development.

From this research, I argue that the ICT for development model employed by UNDP as a tool for development through the JSDNP Cybercentre is indeed problematic. The Project limits the opportunities and choices of the entrepreneurs who were exposed to the Cybercentre initiative in a way which may be considered to be counterdevelopmental as it promotes inequality, social injustices and underdevelopment. As was illustrated in the previous chapters, the irony of the matter is that many of those managing the Cybercentre Project honestly believe that they know what they are doing and that this model can stimulate livelihood development and development itself and that their actions and the approach being used are right because powerful international organizations say they are.

I argue that much of the problem comes as a result of a lack of awareness and knowledge among those now at the podium of development in Jamaica and I am sure in other parts of the world (either developing development policies and/or implementing development initiatives), regarding the history of development, including its wider processes and contradictions.

These are the management and information system scientists/consultants/experts, many of whom are currently busy developing policy frameworks and action plans and who, based on an analysis of the content of several of these policy texts, have not demonstrated an understanding of the multidimensionality and historicalness of development either as a discourse or as a process or both for that matter. Thus some, such as Heeks (2002), question the validity of emerging research outcomes, claiming that much of what has been written is “poorly thought out and with little understanding either of history or of development realities” (Heeks 2002 p. 1).

Which may explain why McNamara's (2003) analysis of ICT for development initiatives or what he term "experiments" (McNamara 2003 p. v) on the lives of the poor in developing countries suggests that " ICTs themselves have not proved to be the transformative tools that some had predicted they would be (McNamara 2003 p. 11).

The contents of many of these reports, as well as various research projects, seem to operate under the uncontested assumption that the introduction of *any* ICTs can engender development. And as this research suggest, this is the approach which has been distributed in an apparently uncritical manner to the peoples of developing countries such as Jamaica is incompatible with the operational processes of the poor.

It one were to trace the genre chain of this discourse that UNDP uses to represent ways of achieving development, it is indeed possible to speculate that it may have emerged from various information and communication technology corporate giants such as Microsoft, Cisco and IBM, to name a few. Some of these, on their websites, represent ICTs using language such as:

Microsoft Dynamics—formerly Microsoft Business Solutions—is a line of products that automate and help improve financial, customer relationship, and supply chain management. Delivered through a network of Microsoft partners, these integrated, adaptable solutions work like and with familiar Microsoft software to streamline processes across an entire business (Microsoft, 2006: p. 1)

Your company has a unique set of procedures and challenges. Here you'll find technology to address a wide range of needs (p, 1)

A broad range of flexible, customizable reporting options—from advanced consolidation analysis to simple reporting requests—helps the decision-makers across your company transform data into valuable information (p. 1)

Enabling your people to better manage resource planning, production, and every aspect of your manufacturing process helps ensure smooth production cycles and rapid response to changing customer needs—helping your business gain a competitive advantage.

Projects can be more profitable with integrated applications that help your managers and front-line employees forecast costs and budgets with increased accuracy, track time and billing, and manage contracts effectively.

Innovate with IBM. Achieve more productive operations, data management and performance. Streamline administration. Engage learners and the community. Collaborate on research (IBM, 2006: p. 1).

We offer progressive solutions for financial markets. We deliver the scalability, extreme availability and flexibility for the expanding volumes of the world's largest trading floors (IBM, 2006: p. 1).

IBM is helping clients manage an explosion of data. Accelerate discovery and development. Reduce costs. Respond to compliance and security mandates. Improve diagnoses and patient care (p. 1),

Mission-critical applications. Real-time visibility into supply chains. Self-service solutions. Business strategy. IBM provides complete solutions for the travel and transportation industry (p. 1).

Integrated network architectures and solutions help accelerate applications, improve efficiency and reliability, lower costs, and increase profitability across your business....The Cisco Service-Oriented Network Architecture (SONA) framework guides your evolution to an Intelligent Information Network to accelerate applications, business processes, and profitability (CISCO, 2006: p. 1).

Find new ways to address your biggest challenges using the Cisco Smart Business Roadmap strategy:

- Ensuring network security
- Containing costs
- Operating at greater efficiency
- Increasing customer responsiveness (p. 1).

Cisco Worldwide Government Affairs seeks to drive public policies that grow and protect the use of technology through traditional means and by using the Internet. Our top worldwide policy issues are: preserving broad-based stock option programs, increasing broadband deployment, promoting wireless technology, supporting VOIP services, improving Internet security and advocating better education through technology (p. 1).

The audience which these “electronic propaganda” (Schech 2002 p. 18) have targeted do not appear to be the poor in the developing world. The use of corporate and strategic language clearly illustrates that the targets are corporate

type institutions or executive or those operating in the corporate type mode. Yet these are the technologies which many international development agencies introduce to the poor of the developing world as tools to achieve livelihood development. As was illustrated by this research, such discourses and the modalities they encourage are dependent on specific ways of acting and organizing which many poor entrepreneurs in the developing world are unaccustomed to and (as illustrated by this research) may be incompatible with. Some of the ways of acting and organizing which these discourses encourage include registering software online, having access to online facilities to register the software, updating, and getting patches regularly to prevent threats to data loss.

These may be the discourses that the management and information system scientists/consultants/experts are accustomed to, utilize, believe in, are uncritical of and thus distribute. Certainly, in Jamaica however such processes, defined as important by policy makers, may indeed be unachievable for the typical poor entrepreneur - the very group that ICTs are represented to help.

Certainly the findings of this research validates Tucker's (1999) claim that the "production of knowledge is one of the ways in which the West controls and even creates the Third World politically, economically, sociologically and culturally" (Tucker 1999 p. 7) as well as those of Sardar (1999) and Escobar (1995) who, as earlier stated, have suggested that the real power of the West lies not in its great economic development and technological advances but in its power to define what is and what is not.

Indeed further research, in ICTLEMD generally, specific to the tourism industry and in other spaces as well will need to be done to further analyze this form of cognitive dissonance.

7.3.2. Technological Dependency and the Possibilities of ICT: A solution for technological underdevelopment

Recall that in Chapter 2, I introduced the debate of the 1970s and 1980s on the concept of technological dependency within the context of the non-indigenous

technology for development, as conceptualized by Jamaican scholar Norman Girvan. I pointed out the dialectic links of this discourse to Jamaica's situation of technological condition – technological underdevelopment, technological dysfunctionality and development. Recall also that in Chapter 3, I highlighted and drew attention to various discourses which have attempted to connect the contemporary non-indigenous technology for development genre (the ICT for development drive), foregrounded/popularized by various international development agencies globally, to the early post World War II approach which emerged in the 1960s as a result of Rostow's Modernization Theory (see Ojo, 2004; and Schech, 2003 in Chapter 3). And, their concerns regarding the similarities between representations of development in both eras (the 60s and now) with an awareness of the disastrous outcomes of the modernization experiment which arguably many developing countries in Latin America and the Caribbean are still feeling even today.

In one way the findings of this research support the notion that there are indeed similarities between the two eras. These findings illustrate that there may indeed be much validity in Girvan's conceptualization of technological dependency (linked to technological underdevelopment, dysfunctionality and development) which was influenced by Latin American Dependency Theorists such as Frank. All this suggests that, as stated earlier and again highlighted here, there is a distinct possibility that the current ICT for development drive may have far-reaching effects on the developing world. The findings also suggest that the UNDP's ICTLEMD model promoted by the JSDNP Cybercentre, which in many ways represents an approach taken by several international development agencies globally, has not incorporated the highly debated and contested aspects of various forms of ICTs in terms of their usefulness and applicability in the distribution of discourse. As this research illustrates, such an exclusion undermines the notion of expanding choices and opportunities. Thus, I have argued that the modalities which the JSDNP Cybercentre encourages and the discourses which it maintains may well help to perpetuate Jamaica's system of technological dependency, underdevelopment and dysfunctionality.

Furthermore, if we were to follow Luyt (2004), or even Ojo (2004), it may even be argued that UNDP's JSDNP Cybercentre model helps to configure Jamaicans and structures and processes in Jamaica to fit the organizational needs of the industrial world - moulding the developing world to become compatible with the technological and operational dynamics of the industrial world in order to facilitate the continuing control the latter has over the former, and to ensure the preservation of existing market relations (exploitation, transfer of wealth from the developing to industrial countries) which preserves their (the latter – industrial countries) status-quo.

On the other hand, this research also illustrates that ICTs do have some developmental, and more specifically livelihood development possibilities when appropriately applied. When applied to an environment under the right conditions, ICTs may engender an innovativeness and creativity, whereby technology is modified and adapted through local technological activities in order to make them suitable for local needs and to fit them into a pattern of internally generated growth (Girvan, 1983a: p. 34).

Traditionally, the literature on 'appropriate technology', generally recognizes the term to mean technologies which are affordable and accessible to all the peoples of a society, which achieve the intended purpose effectively while doing the least possible harm to both human society and the environment. Other constructions incorporate the use of local resources or the preservation of traditional values in defining what an appropriate technology is, while still others such as that of the Global Development Research Centre extends this discourse to construct a bottom up (grass roots) approach to development. This research extends the multiple abstractions of 'appropriate technology' to include making social actors aware of the cosmologies of a technology and its associated technological processes. It also posits that these social actors must also be made aware of the multiple alternative technologies and technological processes regarding non-indigenous technologies, which are feasible for achieving development.

In Chapter 6, I introduced Entrepreneurs 15 and 16 who, in part because of their exposure to an ICT-related training programme which offered a range of

alternative discourses regarding the possibilities and limitations of ICTs, were able to modify and adapt various ICTs to meet their needs. What this suggests is that ‘appropriate technology’ can be conceptualized in a way that extends the existing and dominant object related context. In other words, ‘appropriate technology’ will need to also be conceptualized as *process* (an existing gap in the literature) if we are to move towards the development and livelihood development which ICTs promise us. Wade (2002), for example, has a number of suggestions which when applied within the context of Jamaica are worth exploring. Some of these include:

...public programs of support for the development of open source software and the open source movement (Wade 2002 p. 458).

Simputers (Wade 2002 p. 454)³⁰

U.S. regulatory requirements that all Internet/e-mail/word processing software should be made open source or simputer compatible. Whatever bells and whistles are on the software, it must allow open source software (for some global standards minimum level) to connect with it (Wade 2002 p. 458).

LCD representation in the ICT standard-making bodies (Wade 2002 p. 460).

These are suggestions which will also be explored at the post-doctoral level using the CDA model employed in this research.

7.4. A CASE FOR THE INCLUSION OF DISCOURSE AS A UNIT OF ANALYSIS AND FAIRCLOUGH’S CDA METHODOLOGY IN THE DECONSTRUCTION OF ICTLEMD AND ICTLEMD-T ISSUES SPECIFICALLY AND ICT FOR DEVELOPMENT GENERALLY

In Chapter 3, I argued that the discourse promoting the use of ICTs to achieve livelihood expansion through microenterprise development has typically been represented in a unidimensional way. Such an approach suggests that ICTs can unproblematically and unequivocally engender livelihood opportunities in cases

³⁰ A portable hand held computer which is usually identified in the literature as a cheap alternative to the PC and specifically for the poor in developing countries. See for example the World Bank’s DevelopmentGateway Website - <http://topics.developmentgateway.org/ict/rc/BrowseContent.do~source=RCCContentUser~folderId=3044?source=RCCContentUser&folderId=3044>.

where users are not limited by structural barriers such as lack of access, infrastructure, training, financial support and so on. As illustrated above, the findings of this particular research, which employs the CDA methodology, suggests otherwise. For example, it was found that the processes and outcomes of the ICTLEMD initiatives may in reality be multidimensional. This argument was informed by my extension of the structural level analysis – currently the dominant approach in development studies – to include discourse level dynamics.

The identification and analysis of discourses is not a current preoccupation of ICTLEMD or ICTLEMD-T research. Indeed, this is evidenced by an absence of mainstream or avant-garde discourse theorists or methodologists in the bibliography, references, footnotes, or citations of ICTLEMD and ICTLEMD-T texts (see in UNDP, 2001b; UNDP, 2001; UNCTAD, 2001a-2003a; d’Orville, 2000; Moyi, 2004; Muller-Flacke, 1998; Duncombe and Heeks, 2001, 2002; O’Farrell et al 1999; UNCTAD, 2001a-2004a; Barton and Bear, 1999; Biggs et al 2000; Mansell, 1999). This is a concern, given the utility of discourse theory and methodologies in terms of the rewarding multiplicity of possible outcomes in terms of understanding social life, gaining insights into how people socially construct the world around them and being able to explain the complexities of a phenomena (as was the case with this research) (See also the works of Foucault, 1972, 1977, 1980, 1981) well as articles in Journals such as *Discourse Processes*, *Discourse & Society*, *Discourse* and *Critical Discourse Studies*).

This lack of attention to discourse issues may, however, be explained by an analysis of the genre chain of ICT-related research issues. As a discourse, ICT for development has predominantly been dominated by structural representations of ICTs as tools which can unequivocally and unproblematically engender development. So, too, have other branches of ICT for development such as ICTLEMD, ICT for governance and civil society, ICT for gender development, ICT for environmental development and even sub branches of these such as specific aspects of tourism like for instances adventure, nature, family and eco-tourism located within ICTLEMDT. Although there has been some amount of deviation from the norm where discourses about ICT for development are concerned, such discourses have yet to trickle down to the sub level discourses or

genres. Certainly this has not been the case of ICTLEMD and ICLEMDT, thus the need for this research project

The evidence of this phenomenon is illustrated in a recent paper by Walsham and Sahay (2005) entitled 'Research in Information Systems in Developing Countries: Current Landscape and Future Prospects'. This is an article written in one of the more popular if not dominant ICT for development Journal - *Information Technology for Development*. In addition to the World Bank's *World Development Report* and UNDP's *Human Development Report*, this journal has helped define and shape the ICT for development landscape since 1999, and is considered by many but not all (See for instance criticisms of the articles in the journal by Heeks, 2002) academics and policy makers as an authority on ICT for development issues. Thus, there is the potential for this article to be just as authoritative as World Development Report, the Human Development Report.

In their essay, Walsham and Sahay (2005) present a taxonomy of what they claim are the important ICT for development areas in the dominant literature and, identified several important categories, themes, and trends which should be the focus of future ICT for development research (Walsham and Sahay 2005 p. 2). For example, they argue that the key challenges facing ICT for development include discerning appropriate ways for ICT to promote development, cross cultural research projects and the focus on particular groups of people. They also argue that there is a need for detailed discussions on the role of technology as a central issue. Under this heading they have proposed an analysis of standardization versus localization (the possibilities of indigenization), the alignment of actors in networks, and the use of particular technologies in the achievement of livelihood expansion.

Walsham and Sahay also discuss the many theoretical and methodological frameworks which have emerged within the universe of ICT for development research. They have identified various popular theorists' uses of, and identification with, new theories and concepts. In discussing the range of methodological frameworks, they have identified in-depth case studies, action research and documentation analysis.

In discussing the way ahead, Walsham and Sahay champion a 'Conceptual approach to the study of ICT in developing countries'. In so doing they have proposed a conceptual framework which suggests that all research studies in ICTs in developing countries should be reduced to four questions:

- What is the 'development' in which ICTs aim to contribute?
- What are the key issues being studied in ICTs?
- What is the theoretical and methodological stance?
- What level and focus of analysis is being adopted?

If we were to apply these questions to this particular research then the answers to these questions would be (1) Jamaican tourism microenterprise entrepreneurs; (2) indigenization and its vicissitudes; (3) critical theory and critical discourse analysis and (4) the national level and with a project focus.

The term 'discourse', however, was only used once throughout their text. Specifically, it was only mentioned briefly in relation to Avgerou's (2003) contribution to the ICT for development body of knowledge.

There are several different factors which, either taken together, or individually, may explain this oversight. Some of these may include: the view that language and discourse are elements of the discipline of Linguistics (outside the realm of the social sciences) and the perception that such units of analysis are too complex to deconstruct without a background in linguistics; a possible disconnect between the humanities and the social sciences ICT related researchers (despite the migration of many social scientist to humanities, "hoping to learn how to do complex structural and post-structural reading of social texts" (Denzin and Lincoln, 2005: p. 3); the Fustian-type discussions of those championing the analysis of discourse and/or the multidimensional and complex process which they recommend for such analysis. In addition to these, Fairclough et al (2004) have also suggested that:

...there is also a widespread suspicion of discourse analysis amongst social scientists, a perception that it is often vague and ill-

defined, supported by the manifold definitions of discourse in social theory (for example in Foucault as opposed to Habermas), in different national academic traditions (for example Germany as opposed to Britain and the USA), as well as in various areas of language study (for example pragmatics, text linguistics, as well as discourse analysis itself). Many social research papers identify discourses in whatever material they are analyzing without giving much indication of what particular features characterize a particular discourse and help us to recognize its presence, or the grounds for claiming that there are different discourses, or for distinguishing three rather than, say, five discourses in a given context. Another cause for suspicion is the assumption, correct in a few instances but incorrect for most critical discourse analysis, that discourse analysts reduce the whole of social life to discourse, leaving no space for analysis of the material world or social structures (Fairclough et al 2004 p. 3).

It is possible to argue that many of these issues identified by Fairclough above have made the critical analysis of discourse unpopular among many social scientists. For example, an analysis of several journals located on various databases such as Blackwell Synergy, Elsevier ScienceDirect, InfoTrac OneFile, IngentaConnect, Proquest Social Science Journals, Taylor & Francis Journals, and Wiley Interscience has revealed only a handful of submissions by researchers employing CDA in the analysis of social life. In addition to these issues raised by Fairclough et.al., the possibility may also exist that CDA is viewed as an unattractive option among positivists because of its qualitative subjective and political qualities.

Another possibility could be that CDA's intertextual links to Marxism make it an unattractive tool for those not wanting to disrupt the status quo. However, as noted by Avgerou (2001):

In each epoch of social history, the dominant perspectives that shape orthodox common sense and fuel movements, policies, or trends co-exist with (and to a large extent define themselves in relation to) alternative, marginal, or apparently discredited views and theoretical constructs. It is part of the mission of social sciences to securitize established orthodoxy, to sense the criticisms of the (often silent) objections, and to juxtapose alternatives. Such juxtaposition is not arbitrary or random; it is patterned by the unfolding of the phenomena that social theory simultaneously reflects upon and contributes towards (p. 4).

From my perspective and, in my world I am very appreciative of this observation. Social researchers should strive towards this goal to be able to understand the multidimensional realities of the ever shifting planet we now inhabit. Consequently, this is what this research seeks to do within the realm of ICTLEMD generally and specifically with regard to ICTLEMDT. I have sought to address the gap in the literature by introducing an alternative approach to ICTLEMDT and by extension ICTLEMD, which juxtaposes the dominant perspectives with what can be considered alternative, marginal, or apparently discredited views and theoretical constructs – discourses at the margins. I argued, however, that based on my experiences in conducting this research, it may be an alternative which can connect social scientists and researchers to the multidimensional properties of ICTLEMDT, ICTLEMD, and ICT for development issues. Therefore, in this regard, I have made what I believe to be a vital contribution to the ongoing debate on ICT for livelihood development and development from a ‘Caribbean perspective’, and ‘indigenous perspective’, ‘the native’. For example, in using the CDA approach, I have demonstrated the importance of paralleling the unique and rich history and circumstances of a country’s experiences with non-indigenous technology for development with current global debates on ICT for development. It is hoped that this approach (an alternative way of theorizing ICTLEMD) and its findings will help researchers, policy makers, consultants, project managers and perhaps the beneficiaries themselves to understand “what worked or did not work in a given context and exploring more deeply why it worked or didn’t work” (McNamara, 2003: p. 8). In other words, it can be used to inform policy makers about the possibilities and problems which arise from ICTs and ways of representing the use of ICTs (the discourses surrounding the use of ICTs).

Certainly, much more research is needed to further confirm and extend or challenge and undermine these assumptions and discover the scale of the impact of the JSDNP Cybercentre model on the livelihood expansion possibilities of those exposed to this model. Such research should also attempt to ascertain the wider socio-economic and political impact of this UNDP ICTLEMD initiative not only on Jamaica but other developing countries as well. In addition to this, I wish to encourage the duplication of this research in other countries and other sectors in an attempt to identify the possibilities of trends elsewhere or the presence of

distinct patterns here in Jamaica emerging from differences in outcome. In undertaking such a project, researchers should be mindful of the importance of expanding structural level analysis of ICT related development issues through the incorporation of discourse level tools. This will certainly be a main component of my post-doctoral work, using Fairclough's critical discourse analysis (CDA) as a methodological tool in achieving this goal.

7.5. AN ENDING NOTE

This thesis has highlighted and drawn attention to the potential contribution of critically analyzing discourse to complement the already existing structural level analysis. In so doing I have developed several tools and assumptions as well as various concepts (which can be further developed into variables). These tools, assumptions and concepts/variables (and the relationship between and among these variables) can be used to undertake future research projects using either a similar exploratory research design or a more experimental or quasi-experimental research designs that seeks to analyze the cause and effects of ICTLEMD-T policies at a more representative level of abstraction on the peoples of the developing world: Or, to explore other elements or aspects of ICT for development (i.e. gender, health, education, governance, environment, etc.) other organizations (governmental organizations, Civil Society, etc.), other sectors (such as energy, healthcare, immigration, textile, fashion, etc.) and/or in other countries.

I have not attempted to provide any generalizations or for that matter any broad based policy framework based only on assumptions. As a methodologist and a policy maker, I know the difficulties of promoting broad based policy frameworks and constructing general prescriptive arguments from the findings of a relatively small group of subjects. The conclusions are tentative and only apply to the cases actually observed. Nevertheless, the research does draw attention to the limited conceptual usefulness of the exiting dominant approach to studying and understanding ICT for development.

I therefore argue and make the case for a more broad-based research project to be undertaken in Jamaica and other SDNP serviced countries to ascertain how widespread the phenomena which I have discovered are and/or to provide a more

comprehensive understanding of it.. The tools and strategies outlined in this research can be used as a guide in this regard. There are however others. What should be consistent however is to approach the issue from the critical perspective for the advantages that such an approach offers.

It is important for social researchers and particularly developmentalists (those with a comprehensive understanding of the configurations and cosmologies of development) to pursue such a research agenda, and to generate policy action from such a broad-based empirical experience, since what this thesis has revealed is that development planning today has returned to the Modernization philosophy of ‘leap-frogging’ and ‘take-off’ – the catch-up philosophy of the 1960s. The outcomes of which were disastrous for many developing countries particularly in Africa, Latin America and the Caribbean.

What is different today is that the thesis has also demonstrated the fluidic and democratic possibilities of ICTs under the right circumstances. Developmentalists need now to avoid falling into the methodological, conceptual, theoretical and policy traps that undermined the Dependency Theory as a viable check on the modernization ‘catch up philosophy’. Rather “we” need to develop appropriate tools to effectively research the ICT for development phenomenon. Such tools must include attempts to deconstruct similarities and differences between and among countries and times, to identify the winning objects, subjects, processes, events and phenomena as well as the losing ones. To undertake a multidisciplinary, interdisciplinary, and transdisciplinary strategy in the formulation of theoretical, conceptual and methodological strategies like the one this thesis utilizes; to explore all possible alternatives; to refuse the modernistic ways of exclusion; to reveal hegemonic agencies which try to preserve the status-quo; to alert their sometimes unempowered/unaware victims to possible outcomes of their discourse and social practices; and to devise democratic strategies of inclusion and participation in developing policy solutions. The information, tools and instruments for undertaking such strategies abound and are available through the use of various ICTs.

BIBLIOGRAPHY

Agger, B. (1991). Critical Theory, Poststructuralism, Postmodernism: Their Sociological Relevance. *Annual Review of Sociology*, 17, 105-131.

Ahmed, I. (1998). *Telephones to Ring Change in Rural Bangladesh*. Retrieved May, 10, 2004, from http://www.oneworld.org/ips2/aug98/14_23_053.html

Akpan, P. I. (2003). Basic-needs to globalization: Are ICTs the missing link? *Information Technology for Development*, 10, 261-274.

Allen, D. (1993). *Taxes and the Small Business Sector in Jamaica*. Kingston: University Press.

Althusser, L. (Ed.). (1971). *Lenin and philosophy and other essays*. London: New Left Books.

Alvarez, S. E., Dagnino, E., Escobar, A. (Ed.). (1998). *Cultures of Politics of Cultures: Revisiting Latin American Social Movement*. Oxford: Westview Press.

Alvesson, M., & Deetz, S. (2000). *Doing Critical Management Research*. London: Sage Publication.

Amin, S. (1976). *Unequal Development*. New York: Monthly Review Press.

Amin, S. (1977). *Imperialism and Unequal Development*. New York: Monthly Review Press.

Anderson, P., and Witter, M. (1994). Crisis, Adjustment and Social Change: A Case Study of Jamaica. In E. LeFranc (Ed.), *Consequences of Structural Adjustment: A Review of the Jamaican Experience*. Jamaica:Canoe Press.

Anderson, P. Y. (1992). *Out of the Shadows: The Institutional Framework and Small-Scale Manufacturing Enterprise in Jamaica*. Kingston: Institute of Social and Economic Research.

Ansu-Kyeremeh, K. (1992). Cultural aspects of constraints on village education by radio. *Media Culture and Society*, 14, 111-128.

Apple, M. W. (2001). *Educating the 'Right' Way: Markets, Standards, God and Inequality*. New York: RoutledgeFalmer.

Arocena, R., and Sutz, J. (1999). *Looking at National Innovation Systems from the South*. Retrieved March 11, 2004, from http://www.druid.dk/conferences/summer1999/conf-papers/arocena_sutz.pdf

- Arrow, K. J. (1962). The Economic Implications of Learning by Doing. *Review of Economic Studies*, 29(June), 155-173
- Austin, E. (1990). *Managing in Developing Countries: Strategic Analysis and Operating Techniques*. New York: The Free Press.
- Avgerou, C. (1998). How can IT Enable Economic Growth in Developing Countries. *Information Technology for Development*, 8(1), 15-28.
- Avgerou, C. (2000). Recognizing Alternative Rationalities in the Deployment of Information Systems. *Electronic Journal on Information Systems in Developing Countries*, 3.
- Avgerou, C. (2002). *Information systems and the diversity of globalization*. New York: Oxford University Press.
- Avgerou, C. (2003). *The Link between ICT and Economic Growth in the Discourse of Development*. Retrieved January 12, 2004, from http://is.lse.ac.uk/Support/ifip_wg82/Athens/23-avgerou.pdf
- Baark, E., and Heeks, R. (1998). *Evaluation of Donor-Funded Information Technology Transfer Projects in China: A Life-Cycle Approach*. Retrieved June 6, 2002, from http://idpm.man.ac.uk/wp/di/di_wp01.htm
- Bakhtin, M. (1981). *The dialogical imagination*. Austin: University of Texas Press.
- Bank, W. (2005). *World Development Report - A Better Investment Climate for Everyone*. New York: Oxford University Press.
- Bardowell, M. E., and Taylor, V. (1999). *Technological Innovations and Adoptions in Jamaica: A Case Study*. Kingston: Scientific Research Council.
- Barlow, J. P. (1998). *Africa Rising: Everything you Know about Africa is Wrong*. Retrieved May 10, 2004, from http://www.wired.com/wired/archive/6.01/barlow.html?topic=investing_ipos&topic_set=neweconomy
- Barnett, C. (2005). The consolations of neoliberalism. *Geoforum*, 36(7-12).
- Barton, C., and Bear, M. (1999). *Information and Communications Technologies: Are they the Key to Viable Business Development Services for Micro and Small Enterprises? Report for USAID as part of the Microenterprise Best Practices Project. March 1999*. Retrieved December 15, 2003, from <http://www.mip.org/PUBS/MBP/ict.htm>
- Bayes, A., J., Braun, V., and Akhter, R. (1999). *Village Pay Phones and Poverty Reduction: Insights from a Grameen Bank Initiative in Bangladesh. Discussion Paper on Development Policy 8*. Bonn: Universitat Bonn.

- Benjamin, P. (2000). *African Experience with Telecentres*. Retrieved May 14, 2004, from <http://www.isoc.org/oti/articles/1000/benjamin.html>
- Benjamin, P. (2001). The Gaseleka Telecentre, Northern Province, South Africa. In D. Latchem. C. & Walker (Ed.), *Telecentres: Case Studies and Key Issues*. Vancouver: The Commonwealth of Learning.
- Best, L., and Levitt, K. (1975). Character of Caribbean Economy. In G. L. Beckford (Ed.), *Caribbean Economy*. Kingston: Institute of Social and Economic Research
- Biggs, D., Goussard, Y., Constance, M., and Bytheway, A. (2000). *The Potential role of ICT in the Support of Microenterprise Development in the Tourism Industry*. Ottawa: International Development Research Centre.
- Bijker, W. E., Hughes, T. P., and Pinch, T. J. (Ed.). (1987). *The Social construction of technological systems : new directions in the sociology and history of technology*. Cambridge: MIT Press.
- Blakemore, M., and Dutton, R. (2003). e-Government, e-Society and Jordan: Strategy, theory, practice, and assessment. *First Monday*, 8(11).
- Bloome, D., and Talwalkar, S. (1997). Critical discourse analysis and the study of reading and writing. *Reading Research Quarterly*, 32(1), 104-112.
- Blunt, P., and Warren, D.M. (1996). *Indigenous Organizations and Development*. London: Intermediate Technology Publications.
- Boafo, S. T. K. (1991). Communication Technology and Dependent Development in Sub-Sahara Africa. In G. Sussman and Lent, J.A. (Eds.), *Transnational Communications: Wiring the Third World*. London: Sage Publications.
- Boer, S. J., and Walbeek, M. M. (1998). *Bridging the Telematics Gap in Developing Countries: Research Bits for Development Policy*. Retrieved May 13, 2004, from <http://ubalpha.civ.utwente.nl/cgi-bin/nph-wwwredir/cat.dinkel.utwente.nl:1694/X?%5CTOO+S2+7>
- Boodraj, G. (1995). *Technological Behaviour Under Structural Adjustment: A Case Study*. Kingston: Canoe Press, University of the West Indies.
- Bordo, M. D., Eichengreen, B., and Irwin, D.A. (1999). *Is Globalization Today Really Different than A Hundred Years Ago?* Retrieved December 4, 2001, from www.nber.org/papers/w7195.
- Bourdieu, B., and Wacquant, L. (2001). New Liberal Speak: notes on the new planetary vulgate. *Radical Philosophy*, 105, 2-5.
- Bourgouin, F. (2002). Information communication technologies and the potential for rural tourism SMME development: the case of the Wild Coast. *Development Southern Africa*, 19(1).

- Boxill, I., Taylor, O., and Maerk, J. (Ed.). (2002). *Tourism and Change in the Caribbean and Latin America*. Jamaica: Arawak Publications.
- Bridges. (2001). *Spanning the Digital Divide: Understanding and Tackling the Issues*. Retrieved January 12, 2005, from <http://www.bridges.org/spanning/report.html>
- Bridges. (2005). *Comparison Study of Free/Open Source and Proprietary Software in an African Context: Implementation and Policy-Making to Optimise Public-Access to ICT*. Retrieved October 1, 2005, from http://www.bridges.org/software_comparison/SoftComp_Final_24May05.pdf Brokensha,
- Brokensha, D., Warren, D., and Werner, O. (Ed.). (1980). *Indigenous knowledge systems and development*. Lanham: University Press of America.
- Brothman, J. (1996). *Popular Development: Rethinking the Theory and Practice of Development*. Blackwell: Oxford.
- Brott, P. E., and Myers, J.E. (1999). Development of Professional School Counsellor Identity: A Grounded Theory. *Professional School Counselling*, 2(5), p. 339-348.
- Brown, M. M. (2001). *Can ICTs Address the Needs of the Poor?* Retrieved May 13, 2004, from <http://www.undp.org/dpa/choices/2001/june/j4e.pdf>
- Bryman, A. (1992). *Quantity an Quality in Social Research*. London: Routledge.
- Burnand, F. (2003). *ICTs give development aid a shot in the arm*. Retrieved 2004, May 1, from <http://www.swissinfo.org/sen/swissinfo.html?siteSect=2105&sid=4475071>
- Buhalis 1998, Strategic use of information technologies in the tourism industry, *Tourism Management*, Vol.19 (5), pp.409-421.
- Buhalis 1999, Information technology for small and medium sized tourism enterprises: Adaptation and benefits, *Information Technology & Tourism*, Vol.2 (2), p.79-95.
- Buhalis, 2000, Information Technology in Tourism: the state of the art, *Tourism Recreation Research*, Vol.25 (1), p.41-58.
- Cardoso, F. H. (1972). Dependency and development in Latin America. *New Left Review*, 74, 83-95.
- Cardoso, F. H., and Faletto, E. (1979). *Dependency and Development in Latin America*. Berkeley: University of California Press.
- Carmel, E. (2003a). Taxonomy of New Software Exporting Nations. *EJISDC*, 13(2), 1-6.

- Carmel, E. (2003b). The New Software Exporting Nations: Success Factors. *Electronic Journal on Information Systems in Developing Countries*, 13(4), 1-12.
- Carson, D., Gilmore, A., Perry, C., and Gronhaug, K. (2001). *Qualitative Marketing Research*. London: Sage Publications.
- Cascio, J. (2005). *Mobile Phones and Development*. Retrieved October 3, 2005, from <http://worldchanging.com/archives/002306.html>
- Castells, M. (1996). *The Rise of the Network Society*. Cambridge: Blackwell Publishers.
- Castells, M. (Ed.). (2004). *The Network Society: A Cross cultural perspective*. Cheltenham: Edward Elgar.
- Central Information Technology Office (CITO). (2002). *Jamaica's E Readiness Assessment*. Kingston: Jamaica Information Service (JIS).
- Chambers, A., and Boissiere, N. (1995). *Assessing the Impact of Information on Policy Formulation in the Caribbean*. Kingston: Institute of Social and Economic Research.
- Charmaz, K. (2000). Grounded Theory: Objectivist and Constructivist Methods. In N. K. Denzin, and Lincoln, Y.S. (Ed.), *Handbook of Qualitative Research*. London: Sage Publications.
- Chen-Young and Associates. (1994). *The Micro and Small Enterprise Sector: Issues and Policies*. Kingston: Paul Chen-Young and Associates Ltd.
- Chidamber, S. R. (2003). An Analysis of Vietnam's ICT and Software Services Sector. *Electronic Journal on Information Systems in Developing Countries*, 13(9), 1-11.
- Choices. (2000). *Special Issue on Information Technology for Development*. Retrieved March 4, 2002, from <http://www.undp.org/dpa/choices/2000/june/june.htm>
- Choices. (2001b). *Special Issue on Information Technology for Development*. Retrieved March 4, 2002, from <http://www.undp.org/dpa/choices/2000/june/june.htm>
- Chouliaraki, L., and Fairclough, N. (1999). *Discourse in late modernity: rethinking critical discourse analysis*. Edinburgh: Edinburgh University Press.
- Cisco, (2006). You, Inc. Retrieved February 1, 2006 from <http://www.cisco.com/>
- Cleverdon, R. (1979). *The Economic and Social Impact of International Tourism on Developing Countries Special report no. 60*. London: Economist Intelligence Unit.

- Cohen, W., and Levinthal, D. (1989). Innovation and learning: the two faces of Research and development. *The Economic Journal*, 99, 569-596.
- Colle, R. D., and Liu, Y. (1999). *ICT Capacity-Building for Development and Poverty Alleviation: Enhancing the Role of Agricultural Universities in China*. Retrieved December 1, 2005, from <http://ip.cals.cornell.edu/commdev/documents/ictpaper-china.doc>
- Coraggio, J. (2001). Universities and National Knowledge-Based Development: An Alternative to the Global Knowledge Bank. In W. Gmelin, and McGrath, S. (Ed.), *Knowledge Research and International Cooperation*. Edinburgh: University of Edinburgh.
- Creswell, J. (2002). *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River: Merrill Publishers.
- Crotty, M. (1998). *The Foundations of Social Research: Meaning and Perspective in the Research Process*. Sydney: Allen and Unwin.
- d'Orville, H. (2000). *Towards the Global Knowledge and Information Society - The Challenges for Development Cooperation*. Retrieved May 1, 2004, from <http://www.undp.org/info21/public/pb-challenge.html>
- Dahlman, C., and Nelson, R. (1995). Social Absorption Capability, National Innovation Systems and Economic Development. In B. Koo, and Perkins, D. (Ed.), *Social Capability and Long-Term Economic Growth*. London: MacMillan Press.
- Dahlman, C., and Frischtak, C. (1993). National Systems Supporting Technical Advance in Industry: The Brazilian Experience. In R. Nelson (Ed.). Oxford: Oxford University Press.
- Davies, O., Fisseha, Y., and Kirton, C. (1981). Small-scale, non-farm enterprise in Jamaica: initial survey results. *Social and Economic Studies*, 29, pp. 22-37.
- Dietz, J.L. 1986. *Economic History of Puerto Rico: Institutional Change and Capitalist Development*. Princeton: Princeton University Press.
- Denzin, N. K. (1998). The Art and Politics of Interpretation. In N. K. Denzin, and Lincoln, Y.S. (Ed.), *Collecting and Interpreting Qualitative Materials*. Thousand Oaks: Sage Publications.
- Denzin, N. K., & Lincoln, Y.S. (2005). *The Sage Handbook of Qualitative Research*. Thousand Oaks: Sage Publications.
- Derrida, J. (1976). *Of Grammatology*. Baltimore: John Hopkins University Press.
- International Institute for Communication and Development (IICD). (2000). *ICT Roundtable Process in 2000*. Retrieved March, 24, 2004, from http://www.iicd.org/base/page?Ing-1&nav-31&sub-442&iicd_category-1.html

- van Dijk, T. A. (Ed.). (1997). *Discourse as social interaction: Discourse studies: A multidisciplinary interdiction*. London: Sage
- Dos Santos, T. (1993). The Structure of Dependence. In J. T. Passe-Smith, and Seligson, M. (Ed.), *Development and Underdevelopment: The Political Economy of Inequality*. Boulder: Lynne Rienner Publishers.
- Digital Opportunity Task Force (Dot Force). (2001). *Team Report: Enterprise and Entrepreneurship*. Retrieved January 3, 2002, from http://www.dotforce.org/reports/documents/68/Entreprise_e.pdf
- Dot Force. (2001). *Digital Opportunities for All: Meeting the Challenge - Report of the Digital Opportunity Task Force (DOT Force) including a proposal for a Genoa Plan of Action*. Retrieved February, 10, 2004, from <http://www.g8.utoronto.ca/summit/2001genoa/dotforce1.html>
- Duncombe, R., and Heeks, R. (1999). *Information, ICTs and Small Enterprise: Findings from Botswana. Working Paper No. 7*. Manchester: University of Manchester, Precinct Centre, Institute for Development Policy and Management.
- Duncombe, R., and Heeks R. (2001a). *Information and Communication Technologies and Small Enterprise in Africa- Lessons from Botswana*. Manchester: Institute for Development Policy and Management.
- Duncombe, R., and Heeks, R. (2001b). *Enterprise Development and Information and Communication Technologies in Developing Countries: Supporting "ICT-Flyers"*. Manchester: Institute for Development and Policy Management.
- Duncombe, R., and Heeks, R. (2002). Enterprise Across the Digital Divide: Information Systems and Rural Microenterprise in Botswana. *Journal of International Development*, 14(1), 61-74.
- Dutta, S., and Evrad, P. (1999). *The European Small Enterprise Information Technology Study*. Retrieved June 1, 2005, from <http://elab.insead.edu/publications/journalpapers/esei.pdf>
- Easterly, W. (2002). *The Elusive Quest for Growth: Economists' Adventures and Misadventures in the Tropics*. London: MIT Press.
- Edquist, C. (Ed.). (1997). *CHECK OUT Systems of Innovation: Technologies, Institutions and Organisations*: Pinter Publishers.
- Eggleston, J., and Zeckhauser, R. (2002). *Information and Communication Technologies, Markets and Economic Development", The Global Information Technology Report- Readiness for the Networked World, World Economic Forum, 2001-2002*.
- Erlandson, D. A., Harris, E.L., Skipper, B.L., and Allen, S.D. (1993). *Doing Naturalistic Inquiry: A Guide to Methods*. Newbury Park: Sage Publications.
- Escobar, A. (1995). *Encountering Development*. Princeton: Princeton University Press.

- Fairclough, N. (1989). *Language and power*. London: Longman.
- Fairclough, N. (1992). *Discourse and Social Change*. Cambridge: Polity Press.
- Fairclough, N. (1995a). *Media Discourse*. London: Arnold.
- Fairclough, N. (1995b). *The Discourse Reader*. London: Routledge.
- Fairclough, N. (1995c). *Critical discourse analysis: the critical study of language*. New York: Longman.
- Fairclough, N. (2000). *Language and power (2nd ed.)*. New York: Longman.
- Fairclough, N. (2001). *The dialectics of discourse*. Retrieved December 23, 2003, from <http://www.geogr.ku.dk/courses/phd/glob-loc/papers/phdfairclough2.pdf>
- Fairclough, N. (2003). *Analyzing discourse: textual analysis for social research*. London: Routledge.
- Fairclough, N., and Wodak, R. (1997). Critical discourse analysis. In T. van Dijk (Ed.), *Discourse Studies: A Multidisciplinary Introduction*. London: Sage Publications.
- Fairclough, N., Graham, P., Lemke, J., and Wodak, R. (2004). Introduction. *Critical Discourse Studies*, 1(1), 1-7.
- Feenberg, A. (1999). *Questioning Technology*. London: Routledge.
- Feenberg, A. (2002). *Transforming Technology: A Critical Theory Revisited*. New York: Oxford University Press.
- Feenberg, A., and Hannay, A. (Ed.). (1995). *Technology and the Politics of Knowledge*. Bloomington: Indiana University Press.
- Flick, U. (1998). *An Introduction to Qualitative Research: Theory, Method and Applications*. London: Sage Publications.
- Foucault, M. (1972). *The Archaeology of Knowledge*. London: Tavistock.
- Foucault, M. (1977). *Discipline and Punish*. London: Allen Lane.
- Foucault, M. (1980). *Power/Knowledge: Selected Interviews and Other Writings 1972-1977.*, Hassocks, Sussex: Harvester.
- Foucault, M. (1981). *The History of Sexuality Vol I: An Introduction*. Harmondsworth: Penguin.
- Foucault, M. (1984). The order of Discourse. In Shapiro (Ed.), *The Language of Politics*. Oxford: Blackwell.

Frangialli, F. (2002). *Statement by Francesco Frangialli Secretary-General of the World Tourism Organization, at the World Summit on Sustainable Development Johannesburg, South Africa, 29 August 2002*. Retrieved October 2, 2005, from <http://www.un.org/events/wssd/statements/wtoE.htm>

Frank, A. G. (1966). The development of underdevelopment. *Monthly Review*, 18(4), 17-31.

Frank, A. G. (1967). *Capitalism and Underdevelopment in Latin America: Historical Studies of Chile and Brazil*. New York: Monthly Review Press.

Frank, A. G. (1969). *Latin America: underdevelopment or Revolution*. New York: Monthly Review Press.

Frank, A. G. (1970). *Lumpenbourgeoisie: Lumpen Development, Dependence, Class and Politics in Latin America*. New York: Monthly Review Press.

Frank, A. G. (1971). *Capitalism and underdevelopment in Latin America historical studies of Chile and Brazil*. Harmondsworth: Penguin.

Frank, A. G. (1971). *Sociology of Development and Underdevelopment of Sociology*. (London: Pluto Press.

Frank, A. G. (1977). Dependence is Dead, Long Live Dependence and the Class Struggle: An Answer to Critics. *World Development*, 5(4), 355-370.

Frank, A. G. (1981). *Crisis in the Third World*. New York: Holmes and Meier Publishers.

Frank, G. (1992). Latin American Development Theories Revised: A Participant Review. *Latin American Perspective*, 19(2), 125-139.

Fraser, N. (1997). *Justice Interruptus: Critical Reflection on the Post-socialist Condition*. New York: Routledge.

Fraser, N. (1998). Heterosexism, misrecognition and capitalism: a reply to Judith Butler. *New Left Review*, 228, 140-149.

Freeman, C. (1982). *The Economics of Industrial Innovation*. London: Pinter Publishers.

Freeman, C. (1987). *National Systems of Innovation: the Case of Japan Technology Policy and Economics Performance: Lessons from Japan*. London: Pinter Publishers.

Freeman, C. (1987). *Technology Policy and Economic Performance, Lessons from Japan*. Pinter: London.

Freeman, C. (1995). The "National System of Innovation in Historical Perspective. *Cambridge Journal of Economics*, 19(1),

- Furman, J. L., Porter, M. E., and Stern, S. (1999). *The Determinants of National Innovative Capacity (Working Paper Series No. 00-034)*. Boston: Harvard Business School.
- Gallivan, M. J., and Keil, M. (2003). The user-developer communication process: a critical case study. *Journal of Information Systems*, 13(1), 37-68.
- Gardner, W. J. (1971). *A History of Jamaica*. London: Doble and Brendon Ltd.
- Gee, J. (1999). *An introduction to discourse analysis: Theory and method*. New York: Routledge.
- Gates, B. (2005). Bill Gates Keynote at the Microsoft Professional Developers Conference 2005 - September 13, 2005. Webcast viewed February 10, 2006.
- Gates, B. (2006a). Bill Gates Keynote at Microsoft Government Leaders Forum Europe 2006 – Lisbon, Portugal: February 1, 2006. Webcast viewed February 10, 2006.
- Gates, B. (2006b). Bill Gates Keynote at the Consumer Electronics Show (CES) 2006 January 4, 2006. Webcast viewed February 10, 2006.
- Gergen, M., and Gergen, K. (2000). Qualitative Inquiry: Tensions and Transformations. In N. K. Denzin, & Lincoln, Y.S (Ed.), *The Handbook of Qualitative Research*. London: Sage Publications.
- Geuss, R. (1981). *The Idea of Critical Theory: Habermas & the Frankfurt School*. London: Cambridge University Press.
- Gills, B. K. (2005, Wednesday May 4.). Andre Gunder Frank: Prolific economist with a radical analysis of poverty and wealth. *The Guardian*.
- Girling, R. K. (1974). *Education, Technology and Development/Underdevelopment: A Case of the Agro-Industry*. Michigan: Xerox University Microfilms.
- Girling, R. K. (1977). Technology and Dependent Development in Jamaica. *Social and Economic Studies*, 26(2), 169-189.
- Girvan, N. (1971). *Foreign Capital and Economic Underdevelopment in Jamaica*. Kingston: Institute of Social and Economic Studies.
- Girvan, N. (1973). The Development of Dependent Economies in the Caribbean and Latin America. *Social and Economic Studies*, 22(1), 1-33.
- Girvan, N. (1976). White Magic: The Caribbean and modern technology. *Review of Black Political Economy*, 8(3), 52-75.
- Girvan, N. (1978). *Towards Technology Policies in the Caribbean: General Study of the Caribbean Technology Policy Study*. Kingston: Institute of Social and Economic Studies.

- Girvan, N. (1979). The Approach to Technology Policy Studies. *Social and Economic Studies*, 28(1), 1-55.
- Girvan, N. (1980). *Overcoming Technological Dependence in the Caribbean (Unpublished Paper)*. Kingston: Institute of Social and Economic Research.
- Girvan, N. (1981a). *Latin American/Caribbean Technology: Notes on the Perspective of Constructive Dualism (Unpublished Paper)*. Kingston: Consortium Graduate School.
- Girvan, N. (1981b). *Working Notes on Technological Capabilities (Caribbean Technology Policy Studies II: Research Paper No. 1)*. St. Augustine: University of the West Indies.
- Girvan, N. (1983a). *Technology Imports and the Development of Caribbean Capabilities*. Kingston: Institute of Social and Economic Research.
- Girvan, N. (1983b). *Caribbean Technology Policy Project: Technology Policies for Small Developing Economies - A study of the Caribbean*. Kingston: Institute of Social and Economic Research.
- Girvan, N. (1983c). *Technology Imports and The Development of Caribbean Capabilities*. Kingston: Institute of Social and Economic Research.
- Girvan, N. (1991). *Foreign Capital and Economic Underdevelopment in Jamaica*. Kingston: Institute of Social and Economic Research.
- Girvan, N. (1994). *Cooperation in Science and Technology: An Agenda 2000 for the South*. Kingston: South Centre.
- Girvan, N., and Campbell, C. (1973b). *Arrangements for the Transfer of Technology to Developing Countries: A Case Study of Jamaica*. Kingston: Institute of Social and Economic Research.
- Girvan, N., and Gillian, M. (1990). Overcoming Technological Dependency: The Case of Electric Arc. (Jamaica) Ltd. *World Development*, 18(1).
- Glaser, H. G., & Strauss, A.L. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Hawthorne: Aldine Publishing Company.
- Government of Jamaica (GoJ). (1970). *Financial Statements and Revenue Estimates for 1970-71*. Kingston: Ministry of Finance and Planning.
- GoJ. (1980). *Financial Statements and Revenue Estimates for 1980-81*. Kingston: Ministry of Finance and Planning.
- GoJ. (1990). *Financial Statements and Revenue Estimates for 1990-91*. Kingston: Ministry of Finance and Planning.
- GoJ. (1996). *National Industrial Policy*. Kingston: Government of Jamaica.

GoJ. (1997). *The 1996 Micro and Small Enterprise (MSE) Survey of Jamaica: A Comprehensive Description of the Jamaican Micro and Small Enterprise Sector*. Kingston: Project Management Unit of the Ministry of Industry, Investment and Commerce.

GoJ. (1999). *Five-Year Strategic Information and Communication Technology Plan*. Kingston: Government of Jamaica.

GoJ. (2000a). *National Industrial Policy*. Kingston: Government of Jamaica.

GoJ. (2000b). *Financial Statements and Revenue Estimates for 2002-2003*. Kingston: Ministry of Finance and Planning.

GoJ. (2002). *Government at your Service: Public Sector Modernization Vision and Strategy 2002-2012*. Kingston: Government of Jamaica.

Gramsci, A. (1971). *Selections from the Prison Notebooks*. London: Lawrence and Wishart.

Golding, P., and Waller, L. (2003). *ICT for Development Landscape Assessment of Jamaica*. Netherlands: International Institute of Communication and Development.

GoLocal Jamaica Community. (2005). *Jamaicans abroad helping destabilise Jamaica?* Retrieved December 13, 2005, from <http://www.golocaljamaica.com/cgi-bin/yabb/YaBB.pl?board=general;action=display;num=1118302054>

Grameen. (2006). *Gramdeen: Banking on the poor*. Retrieved August 1, 2005, from <http://www.grameen-info.org/>

Granqvist, M. (2003). *Assessing ICT efforts in marginalized regions from a critical social viewpoint. Learning from the case of Lincos in Dominican Republic*. University of Malmö.

Green, W. A. (1988). *British Slave Emancipation: The Sugar Colonies and the Great Experiment (1830-1865)*. Oxford: Clarendon Press.

Grenier, L. (1998). *Working with Indigenous Knowledge: A Guide for Researchers*. Ottawa: International Development Research Centre.

Gu, S. (1999). *Implications of National Innovation Systems for Developing Countries: Managing Change and Complexity in Economic Development*. Maastricht: UNU-INTECH.

Gurstein, M. (2001). *Contribution to Global Knowledge for Development on-line discussion, 18 September*, from www.globalknowledge.org.

- Habermas, J. (1984). *The Theory of Communicative Action* translated by Thomas McCarthy. Boston: Beacon Press.
- Hall, S. (2003). The problem of ideology: Marxism without guarantees. In D. Morley and C. Kuan-Hsing (Eds.), *Cultural dialogues in cultural studies*. North Yorkshire: J & L Composition Ltd.
- Halliday, M. A. K. (1978). *Language as Social Semiotic. The social Interpretation of Language and Meaning*. London: Edward Arnold.
- Hancock, G. (1989). *Lords of Poverty: The Power, Prestige, and Corruption of the International Aid Business*. New York: The Atlantic Monthly Press.
- Hanna, N. (1991). *The Information Technology Revolution and Economic Development. World Bank Discussion Paper, no. 120*. Washington D.C: World Bank.
- Hanna, N. (1993). *Information Technology in World Bank Lending, (World Bank Discussion Paper, no. 206)*. Washington D.C: World Bank.
- Hanna, N. (1994). *Exploiting Information Technology for Development: A Case Study of India*, World Bank Discussion Paper, no. 246. Washington, World Bank
- Hanna, N. (1995). *Information Technology Diffusion: Experience of Industrial Countries and Lessons for Developing Countries*, World Bank Discussion Paper, no. 281. Washington, World Bank
- Hanna, N. (1996). *The East Asia Miracle and Information Technology: Strategic Management of Technological Learning, (with Sandor Boyson and Shakulanta Gunaratne)*, World Bank Discussion Paper, no. 326. Washington D.C: World Bank.
- Harper, M. (1985). What should we try to help small enterprises? In R. Bromley (Ed.), *Planning for small enterprises in Third World cities*. New York: Pergamon Press.
- Harrigan, J., Mosley, P., and Toye. (1991). *Aid and Power: The World Bank and Policy-Based Lending*. London: Routledge.
- Harris, G. (1989). *The Sociology of Development*. Essex: Longman.
- Harrison, D. (Ed.). (1997). *Tourism and the Less Developed World Issues and Case Studies*. London: International Thomson Business Press.
- Harrison, L. E., and Huntington, S. P. (Ed.). (2000). *Culture Matters: How Values Shape Human Progress*. New York: Basic Books.
- Harrison, L. E., and Huntington, S.P. (Ed.). (2001). *Culture Matters: How Values Shape Human Progress*. New York: Basic Books.

- Harvey, D. (1996). *Justice, Nature and the Geography of Difference*. London: Blackwell.
- Hatch, J. A. (2002). *Doing Qualitative Research in Education Settings*. Albany: State University of New York Press
- Hazan, M. (2002). *Virtual South: E-Commerce for unprivileged artisans*. Retrieved May 10, 2004, from <http://www.iicd.org/stories/>
- Hedley, R. A. (1998). Technological diffusion or cultural imperialism? Measuring the information revolution. *International Journal of Comparative Sociology*, 39, 198-212.
- Heeks, R. (1996a). *India's Software Industry*. New Delhi: Sage Publications.
- Heeks, R. (1998). *Myths of Software Development in Developing Countries*. Retrieved October 2, 2005, from <http://unpan1.un.org/intradoc/groups/public/documents/NISPAcee/UNPAN015531.pdf>
- Heeks, R. (1999a). *The Tyranny of Participation in Information Systems: Learning from Development Projects. Working Paper*. Manchester: Institute for Development Policy and Management.
- Heeks, R. (1999b). *Information and Communication Technologies, Poverty and Development. Working Paper*. Manchester: Institute for Development Policy and Management.
- Heeks, R. (2001a). *Analyzing E-commerce for Development*. Manchester: IDPM.
- Heeks, R. (2001b). *Building Software Industries in Africa*. Retrieved October 1, 2005, from http://www.africa.upenn.edu/Acad_Research/softw_heeks.html
- Heeks, R. (2001c). *Information, Technology and Small Enterprise: a Handbook for Enterprise Support Agencies in Developing Countries*. Manchester: Institute for Development Policy and Management.
- Heeks, R. (2002). i-development not e-development: Special issue on ICT for development. *Journal of International Development*, 14(1), 1-11.
- Hepburn, M. (2004, June 18,). IT students create software for local companies. *The Daily Gleaner*.
- Hettne, B. (1990). *Development Theory and the Three Worlds*. New York: Wiley.
- Higgins, B. (1982): "Appropriate Technology: Does It Exist?" *Regional Development Dialogue* 3(1), 158-186.
- Honig, B. (1998). Who gets the goodies? An examination of microenterprise credit in Jamaica. *Entrepreneurship and Regional Development*, 10, 313-334.

- Honig, B. (2000.). Small business promotion and micro-lending: A comparative assessment of Jamaican and Israeli NGO's. *Journal of Microfinance*, 2(1), 92-111.
- Horowitz, M. (2005). *LINUX vs. WINDOWS: A comparison of Linux and Windows*. Retrieved December 2, 2005, from <http://www.michaelhorowitz.com/Linux.vs.Windows.html>
- Hughes, J. (1990). *The Philosophy of Social Research*. London: Longmans.
- Hunt, D. (1989). *Economic Theories of Development*. Hamel Hempstead: Harvester Wheatsheaf.
- IBM, (2006). Fee Lost in IT complexity? We can Help. Retrieved February 1, 2006, from <http://unpan1.un.org/intradoc/groups/public/documents/NISPAcee/UNPAN015531.pdf>
- Inkles, A., and Smith, D.H. (1963). *Becoming Modern: Individual Change in Six Developing Countries*. Cambridge: Harvard University Press.
- Intarakamnerd, P., Chairatana, P., and Tangchitpiboon, T. (2002). *National Innovation System in Less Successful Developing Countries: The case of Thailand*. Bangkok: National Science and Technology Development Agency (NSTDA).
- Inter-American Development Bank. (1995). *Enterprise Development Strategy: Small and Medium Enterprises*. Kingston: IDB.
- Inter-American Development Bank (IDB). (1997). *Diagnostics of the Microenterprise and Small/Medium-Sized Enterprise Sectors in Jamaica*. Kingston: IaDB.
- Inter-American Development Bank. (2004). *Information Technology*. Retrieved January, 22, 2004, from <http://www.iadb.org/exr/topics/informatics.htm>
- International Institute for Communications and Development. (2000). *ICT Roundtable Process in 2000*. Retrieved March, 24, 2004, from http://www.iicd.org/base/page?Ing-1&nav-31&sub-442&iicd_category-1.html
- International Telecommunications Union. (2004). *Electronic Commerce for Developing Countries*. Retrieved January, 5, 2004, from <http://www.itu.int/ITU-D/e-strategy/ecdc/>
- International Institute for Communication and Development. (2005). *Livelihoods*. Retrieved January, 5, 2005, from <http://www.iicd.org/projects/livelihoods/>
- Iqbal, J. (1993). Adjustment Policies in Practice: Case Study of Jamaica 1977-1991. In a. F. Lalta S. , M. (Ed.), *Caribbean Economic Development*. Kingston: Ian Randle Publishers.

- James, J. (2000). Pro-poor modes of integration into the global economy. *Development and Change*, 31(4), 765-783.
- James, P. (1997). Postdependency? The Third. *Alternatives*, 22(2), 205-226.
- Jamison, D. T., & McAnany, E.G. (1978). *Radio for Education and Development*. London: Sage.
- Janesick, V. J. (2000). The Choreography of Qualitative Research Design. In N. K. Denzin, & Y. S. Lincoln (Eds.), *Handbook of qualitative research*. Thousand Oaks: Sage Publications.
- Jensen, M., & Esterhuysen, A. (2001). *The Community Telecentre Cookbook for Africa: Recipes for Self-Sustainability*. Paris: UNESCO.
- Jessop, B. (2000). The Crisis of the national spatio-temporal fix and the tendential ecological dominance of globalizing capitalism. *International Journal of Urban and Regional Research*, 24(2), 323-360.
- Jimba, S. (2000). Information Technology and the Dialectics of Poverty in Africa. *New Library World*, 101(6), 253-262.
- Jamaica Sustainable Networking Programme (JSDNP). (2005). *Jamaica Sustainable Development Networking Programme*. Retrieved Dec 1, 2005, from <http://www.jsdnp.org>
- Kaplan, B., & Maxwell, J. A. (1994). Qualitative research methods for evaluating computer information systems. In J. G. Anderson, Aydin, C.E., and Jay, S.J (Ed.), *Evaluating health care information systems, methods and applications*. Thousand Oaks: Sage Publications.
- Katzin, M. F. (1959). The Jamaican Country Higgler. *Social and Economic Studies*, 8(4), 23-36.
- Kay, C. (1989). *Latin American Theories of Development and Underdevelopment*. London: Routledge.
- Kenney, G., and Hendi, K. (2000). *The Village Well*. Retrieved April 23,, 2003, from <http://www.bvx.ca/ict/english/villgwell.html>
- Kibati, M. (1999). *Wireless Local Loop in Developing Countries: Is It Too Soon for Data? The Case of Kenya.*, Massachusetts Institute of Technology, Massachusetts.
- Kiely, R. (1999). The Last Refuge of the Noble Savage? A Critical Assessment of Post-Development Theory. *The European Journal of Development Research*, 11(1), 30-55.
- Kim, L., . (1997). *Imitation to Innovation: The Dynamics of Korea's Technological Learning*. MA: Harvard Business School Press.

- Kincheloe, J., & McLaren, P. (2000). Rethinking critical theory and qualitative research. In N. K. Denzin, & Lincoln, Y.S (Ed.), *Handbook of qualitative research*. Thousand Oaks: Sage Publications.
- King, V. B. (1994). *History of Jamaica*. Kingston: Carlong Publishers Caribbean Ltd.
- Kirton, A. (2003, September 17). Brothers join talents to create TechVision. *The Daily Gleaner*.
- Kleymeyer, C. D. (Ed.). (1994). *Cultural Expression and Grassroots Development: Cases from Latin American and the Caribbean*. London: Lynne Rienner Publishers.
- Korac-Kakabadse, N., . Kouzmin, A., & Korac-Kakabadse, A. (2000). Information Technology and Development: Creating "IT Harems", Fostering New Colonialism or Solving 'Wicked' Policy Problems? *Public Administration and Development*, 20, 171-184.
- Korten, D. C. (1995). *When Corporations Rule the World*. West Hartford: Kumarian Press.
- KPMG. (2000). *The Impact of the New Economy on Poor People and Developing Countries*. (Vol. 2003): Department for International Development (DFID).
- Laclau, E., & Mouffe, C. (1985). *Hegemony and Socialist Strategy*. London: Hutchinson.
- Lake, S. (2000). *E-commerce and LDCs: Challenges for Enterprises and Governments*. Retrieved December 18, 2003, from http://www.unctad.org/ecommerce/event_docs/kathmandu_background.pdf
- Lall, S. (1976). Is dependence a useful concept in analyzing underdevelopment? *World Development*, 3(11), 799-810.
- Lall, S. (1998). Technology Capabilities in Emerging Asia. *Oxford Development Studies*, 26(2), 213-239.
- Larrain, J. (1989). *Theories of development- capitalism, colonialism and dependency*. Cambridge: Basil Blackwell.
- Latchem, C. & Walker, D. (2001). *Telecentres: Case Studies and Key Issues*. Vancouver: The Commonwealth of Learning.
- Latham, M. E. (2000). *Modernization as Ideology. American Social Science and "Nation Building" in the Kennedy Era*. Chapel Hill: The University of North Carolina Press.
- Lawson, C., & Meyenn, N. (2000). *Bringing Cellular Phone Service to Rural Areas: Grameen Telecom and village pay phones in Bangladesh.* *Public Policy*

for the Private Sector Note No. 205. Retrieved May 10, 2004, from <http://www.worldbank.org/html/fpd/notes/205/205lawson.pdf>

Lefebvre, L., & Lefebvre, L.A. (1996). *Information and Telecommunication Technologies: The Impact of their Adoption on Small and Medium-sized Enterprises*. Retrieved May, 10, 2004, from http://web.idrc.ca/en/ev-9303-201-1-DO_TOPIC.html

LeFranc, E. D., McFarlane-Gregory, & Taylor, A. . (1985). *Study of the Informal Distribution Network in the KMA*. Kingston: Institute of Social and Economic Research.

Lent, J. A. (1991). The North American Wave: Communication Technology in the Caribbean. In a. L. J. A. Sussman G. (Ed.), *Transnational Communications: Wiring the Third World*. London: Sage Publications.

Lerner, D. (1967a). International cooperation and communication in national development. In D. Lerner, & Schramm, W. (Ed.), *Communications and Change in the Developing Countries`*. Honolulu: East-West Center Press.

Lerner, D. (1967b). Communications and the prospects of innovative development. In D. Lerner, & Schramm, W. (Ed.), *Communications and Change in the Developing Countries`*. Honolulu: East-West Center Press.

Lerner, D., & Schramm, W. (Ed.). (1967). *Communication and Change in the Developing World*. Honolulu: East-West Center Press.

Levitt, K. (1996). From Decolonization to Neo-liberalism: What have we learnt about Development? In K. Levitt, & Witter, M. (Ed.), *The Critical Traditions of Caribbean Political Economy: The Legacy of George Beckford*. Kingston: Ian Randle.

Levitt, K., & Best, L. (1975). Character of Caribbean Economy. In G. L. Beckford (Ed.), *Caribbean Economy*. Kingston: Institute of Social and Economic Research.

Levitt, K., & Witter, M. . (1996). *The Critical Traditions of Caribbean Political Economy: The Legacy of George Beckford*. Kingston:: Ian Randle Publishers.

Lewis, W. A. (1951). The industrialization of the British West Indies. *Caribbean Economic Review*, 2(1), 1-60.

Lewis, W. A. (1955). *Theory of Economic Growth*. London: George Allen and Unwin Ltd.

Leys, C. (1996). *The Rise and Fall of Development Theory*. Bloomington: Indiana University Press.

Lincoln, Y. S., & Denzin, N. K. (2003). *Turning points in qualitative research : tying knots in a Handkerchief*. Walnut Creek: AltaMira Press.

- Lincoln, Y. S., & Guba, E.G. (1985). *Naturalistic Inquiry*. London: Sage Publications.
- Lowe, H., Brown, Y., & Magnus, K.. (2000). *Discovering the Future: The Emergence, Development and Future of Science and Technology in Jamaica*. Kingston: Canoe Press.
- Longenecker, J., Moore, C., and Petty, J.W. (2006). *Small Business management: An Entrepreneurial Emphasis (Thirteenth Edition)*. USA:Thompson-Southwestern
- Lundvall, B. (1992). *National Systems of Innovation. Towards a Theory of Innovation and Interactive Learning*. London: Pinter.]
- Lundvall, B. (2000). Introduction. In C. Edquist, & Maureen M. (Ed.), *Systems of Innovation: Growth, Competitiveness and Employment*, . Cheltenham: Edward Elgar Publishing.
- Luyt, B. (2004). *Who benefits from the digital divide?* Retrieved December 15, 2005, from First Monday volume 9, number 8:
http://firstmondat.org/issues/issue9_8/luyt/index.html
- MacKenzie, D., & Wajcman, J. (Ed.). (1985). *The Social Shaping of Technology*. Milton Keynes: Open University Press.
- Main, L. (2001). The global information infrastructure: empowerment or imperialism? *Third World Quarterly*, 22(1), 83-97.
- Mallorquín, C. (1993). “El Pensamiento Economico Latinoamericano. Entrevista a Celso Furtado.” *Revista Paraguaya de Sociología* 30, 88: 171-86.
- Mandle, J. R. (1985). Overcoming Dependence. *New West Indies Guide*, 59(3), 167-184.
- Mandle, J. R. (1997). *Persistent Underdevelopment: Change and Economic Modernization in the West Indies*. Amsterdam: Gordon and Breach.
- Mansell, R. (1999). Information and Communication Technologies for Development: Assessing the Potential and the Risk. *Telecommunication Policy*, 23, 35-50.
- Mansell, R. (2001). *E-Commerce Issues Paper for the OECD Dubai Conference*. Retrieved December 12, 2003, from
<http://www.gapresearch.org/production/ecommm-emerging-markets.pdf>
- Mansell, R., & Wehn, U. (1998). *Knowledge Societies: Information Technology for Sustainable Development*. Oxford: Oxford University Press.
- Marcuse, H. (1991). *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society*. London: Routledge.

- Marshall, G. (1998). *Oxford Dictionary of Sociology*. New York: Oxford University Press.
- May, C. (2002). *The Information Society: A Sceptical View*. Cambridge: Polity Press.
- McBain, H., Alleyne, D., Boodraj, G., & Hextall, M. (1994). *Effects of State Policies, Legislation, and Institutions on Small and Microenterprises in Jamaica*. Kingston: Institute of Social and Economic Research.
- McCarthy, J., & Prudham, S. (2004). Neoliberal nature and the nature of neoliberalism. *Geoforum*, 35, 275–283.
- Macdonell, D. (1986). *Theories of Discourse: An Introduction*. New York: Basil Blackwell.
- McFarlane, C. (1997). *The 1996 Micro and Small Enterprise Survey of Jamaica: A Comprehensive Description of the Jamaican Micro and Small Enterprise Sector*. Kingston: Government of Jamaica/Government of the Netherlands and U. S. Agency for International Development.
- McKenna, B. (2004). Critical Discourse Studies: Where to From Here? *Critical Discourse Studies*, 1 (1), 9-40.
- McNamara, K. (2003). *Information and Communication Technologies, Poverty and Development: Learning from Experience: A Background Paper for the InfoDev Annual Symposium December 9-10, 2003 Geneva, Switzerland*. Geneva, InfoDev.
- Mead, D. (1994). The contribution of small enterprises and policies to employment growth in Southern and Eastern Africa. *World Development*, 22(12), 1881-1894.
- Mead, D. (1999). MSEs tackle both poverty and growth (but in differing proportions). In K. King, & McGrath, S. (Ed.), *Enterprise in Africa*. London: Intermediate Technology Publications.
- Mead, D., & Liedholm, C. (1998). The Dynamics of Micro and Small Enterprises in Developing Countries. *World Development*, 26(1), 61-74.
- Manheim, J.B., Richard, C.R., and Willnat, L. (2002) *Empirical Political Analysis: Research Methods in Political Science* (fifth Edition) New York: Longman
- Merriam, S. B. (1998). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- Merriam, S. B., & Associates,. (2002). *Qualitative research in practice: examples for discussion and analysis*. California: Joseey Bass.

- Metcalf, J. S. (1995a). Technology systems and technology policy in an evolutionary framework. *Cambridge Journal of Economics*, 19, 25-46.
- Metcalf, J. S. (1995b). The Economic Foundations of Technology Policy: Equilibrium and Evolutionary Perspectives. In P. Stoneman (Ed.), *Handbook of Economics of Innovation and Technological Change*. Oxford: Blackwell.
- Michie, M., & Linkson, M. (1999). *Interfacing Western science and Indigenous knowledge: A Northern Territory perspective*. *Science and Mathematics Education Papers*. Retrieved April 1, 2005 from <http://members.ozemail.com.au/~mmichie/interfacing.html>
- Microsoft. (2004). *UNDP and Microsoft Announce Technology Partnership To Combat Poverty in Developing Nations Joint Initiatives Will Help Achieve Millennium Development Goals Through Technology Resources and IT Expertise*. Retrieved June 10, 2005, from <http://www.microsoft.com/presspass/press/2004/Jan04/01-23WorldEconomicForumPR.msp>
- Microsoft, (2006). Microsoft Dynamics Retrieved February 1, 2006 from <http://www.microsoft.com/dynamics/default.msp>
- Miles, M. M., and Huberman, A.M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Newbury Park: Sage Publications.
- Miller, D., and Slater, D. (2000). *The Internet: An Ethnographic Approach*. Oxford: Berg.
- Mills, C. (1959). *The Sociological Imagination*. London: Oxford University Press
- Ministry of Commerce Science and Technology. (2002). Statement to Parliament by the Hon. Phillip Paulwell Minister of Industry, Commerce and Technology. In M. Tuesday, 2002 (Ed.). Kingston: Ministry of Commerce Science and Technology.
- Ministry of Commerce Science and Technology. (2003). Jamaica's E-Readiness Assessment. In M. Tuesday, 2002 (Ed.). Kingston: Ministry of Commerce Science and Technology.
- Ministry of Commerce Science and Technology. (2004). *Memorandum of Understanding between the Government of Jamaica and Microsoft*. Kingston: Ministry of Commerce Science and Technology,.
- Ministry of Commerce Science and Technology. (2005). *List of Approved Applicants: Phase 1-3 Licenses*. Kingston: Ministry of Commerce Science and Technology,.
- Ministry of Finance and Planning. (2001). *Budget Memorandum: Fiscal Year 2000/2001*. Retrieved April 11, 2002

- Mintz, S. (1985). The Jamaican Internal Marketing Pattern. *Social and Economic Studies*, 4(1), 12-28.
- Mitchell, K. C. (2004). *Science, Technology and Innovation in the Caribbean: Address by Dr. the Hon. Keith C. Mitchell, Prime Minister of Grenada, On the occasion of the opening of the Conference on Science, Technology and Innovation, Sixth Annual Research Day, Mona Campus, 29 January 2004, Mona, Jamaica*. Retrieved June, 18, 2005, from <http://www.caricom.org/speeches/6researchdayconf-owi-mitchell.htm>
- Montealegre, R. (1996). Implications of electronic commerce for managers in less-developed countries. *Information Technology for Development*, 7(3), 145-153.
- Montealegre, R. (1999). Case for more case study research in the implementation of information technology in less-developed countries. *Information Technology for Development*, 8(4), 199-208.
- Mosley, P., Harrigan, J., and Teye, J. (1991). *Aid and Power: The World Bank and Policy-based Lending (Vol. 2)*. London: Routledge.
- Moso, V. (1996). *The Political Economy of Communication*. New Delhi: Sage Publications.
- Moyi, E. D. (2003). Networks, information and small enterprises: New Technologies and the ambiguity of empowerment. *Information Technology for Development*, 10, 221-232.
- Muller-Flacke, D. (2002). *Use and Impact of Information and Communication Technologies in Developing Countries' Small Businesses: Evidence from Indian Small Scale Industry*. Oxford: Peter Lang Publishing.
- Mumby, D.K., & Clair, R.P. (1997) Organizational discourse. In T. A. van Dijk (Ed.). *Discourse as social interaction: Discourse studies: A multidisciplinary interdiction* (Vol. 2, pp. 191-205). London:Sage
- Munck, R. (1999a). Deconstructing Development Discourses: of Impasses Alternatives and Politics. In R. Munck, and O'Hearn, D. (Ed.), *Critical Development Theory*. London: Zed Books.
- Munck, R. (1999b). Dependency and Imperialism in the New Times: A Latin American Perspective. *The European Journal of Development Research*, 11(1), 56-74.
- Munck, R., and O'Hearn, O. (Ed.). (1999c). *Critical Development Theory*. London: Zed Books.
- Muravchik, J., Zakaria, F., Jervis, R., Lomborg, B. et al. (2002). The dustbin of history. *Foreign Policy*, 133(34-48).

Mytelka, L. (2001). *Promoting scientific and technological knowledge for sustainable development, paper for the Third UN Conference on Least Developed Countries, Round Table: "Education for All and Sustainable Development in LDCs, .*

Nairn, T. (2006). *Ending the big 'ism*. Retrieved February, 1, 2004, from http://www.opendemocracy.net/globalization-vision_reflections/bigism_3220.jsp

Nandy, A., and Visvanathan, S. (1990). *Modern Medicine and its Non-Modern Critics: A Study in Discourse*. In F.A Marglin and Marglin S.A *Dominating Knowledge: Development, Culture, and Resistance*. Oxford: Clarendon Press

Nelson, R. (1993). *National Innovative Systems: A Comparative Analysis*. Oxford: Oxford University Press.

Nelson, R. N. (1993). *National Innovative Systems: A Comparative Analysis*. Oxford:: Oxford University Press.

Nelson, R. R. (Ed.). (1993.). *National Systems of Innovation: A Comparative Study*. Oxford:: Oxford University Press.

Neuman, W. L. (2000). *Social Research Methods*. Sydney:: Allyn and Bacon.

Niosi, J. (2002). National systems of innovations are "x-efficient" (and x-effective): Why some are slow learners. *Research Policy*, 31(2), 291-302.

Noble, D. (1984). *Forces of Production: A Social History of Industrial Automation*. New York: Knopf.

Obadina, T. (2000). *The myth of Neo-colonialism*. Retrieved February, 1, 2004, from <http://www.afbis.com/analysis/neo-colonialism.html>

O'Connor, D. (2003). *Of Flying Geeks and O-Rings: Locating Software and IT services in India's Economic Development*. Retrieved January 1, 2004, from <http://www.oecd.org/dataoecd/58/12/2503882.pdf>

Odagiri, H., and Goto, A. (1993). The Japanese System of Innovation: Past, Present, and Future. In R. R. Nelson (Ed.), *National Innovation Systems: A Comparative Analysis* New York: Oxford University Press.

Odedra-Straub, M. (1999). *The Role of International Organizations in Technology Transfer: The African Experience*. Retrieved February 18, 2002, from <http://www.straub-odedra.de/Artikel/35-The%20Role%20of.pdf>

OECD. (1997). *National Innovation System*. Paris: OECD Publications.

OECD. (2000). *OECD Information Technology Outlook: ICTs, E-Commerce and the Information Economy*. Paris.: OECD.

OECD. (2001). *Donor ICT Strategies Matrix*. Retrieved June 1, 2005, from <http://www.oecd.org/dataoecd/53/47/33689005.pdf>

- OECD. (2002). *Dynamiting National Innovative Systems*. Paris: OECD.
- OECD. (2003). *Donor ICT Strategies Matrix Revised version (2004)*. Paris: OECD.
- O'Farrell, C., Norrish, P., & Scott, A. (1999). *Information and Communication Technologies (ICTs) for Sustainable Livelihoods*. Burton Hall: Intermediate Technology Development Group.
- O'Hearn, D. (1999). Development and the Locations of Eurocentricism. In R. Munck, and
- O'Hearn, D. (Ed.), *Critical Development Theory*. London: Zed Books.
- Ojo, T. (2004). Old paradigm and Information & Communication Technologies for Development Agenda in Africa: Modernization as Context. *Journal of Information Technology Impact* 3(4), 139-150.
- Oshima, H. T. (1976). Development and Mass Communication - A Re-Examination. In W. Schramm, and Lerner, D. (Ed.), *Communication and Change: The Last Ten Years - and the Next*. Honolulu: The University Press of Hawaii.
- Owen, W., and Darkwa, O. (1999). Role of Multipurpose Community Telecentres in Accelerating National Development in Ghana. *First Monday*, 5(1), 1-23
- Parker, I. (1992). *Discourse Dynamics: Critical Analysis for Social and Individual Psychology*. London: Routledge.
- Patton, M. Q. (1990). *Qualitative Evaluation and Research Methods*. Newbury Park: Sage Publications.
- Pauli, G. (1999). *Towards a Technology Strategy for Sustainable Livelihoods*. New York: UNDP.
- Pfaffenberger, B. (1992). Technological Dramas. *Science, Technology & Human Values*, 17, 282-312.
- Pinch, T., and Bijker, W. (1987). The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other. In P. Bijker, and Hughes (Ed.).
- Planning Institute of Jamaica. (1995). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (1996). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (1997). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.

- Planning Institute of Jamaica. (1998). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (1999). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (2000). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (2001). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (2002). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (2003). *Economic and Social Survey of Jamaica*. Kingston: Planning Institute of Jamaica.
- Planning Institute of Jamaica. (2004). *Jamaican Economy*. Retrieved January, 1, 2004, from <http://www.pioj.gov.jm/default.asp>
- Poot, H. (1995). GOJ/GON Microenterprise Project: Micro and Small Enterprise Performance Credit.
- Porter, M. E., and Stern, S. (2001a). *National Innovative Capacity*. Retrieved March 15, 2003, from http://www.isc.hbs.edu/Innov_9211.pdf
- Porter, M. E., and Stern, S. (2002c). *National Innovative Capacity*. In *World Economic Forum, 2002: The Global Competitive Report 2001-2002*. New York: Oxford University Press.
- Porter, M. E., and Stern, S.. (2001b). *Measuring the 'Ideas' Production Function: Evidence from International Patent Output*. (Working Paper Series No. 00-073). Boston: Harvard Business School.
- Poster, M. (1989). *Critical Theory and Poststructuralism*. Cornell: Cornell University Press.
- Potvin, J., Lanfranco, S., and Balson, D. (2000). *ICT-IAF (ICT Impact Assessment Framework)*. Retrieved May, 24, 2003, from http://www.bellanet.org/ict_res_pol/index.cfm?Fuseaction=view_article&TheArticle=16
- Proenza, F. J. (2002). *e-For All: A Poverty Reduction Strategy for the Information Age*. Retrieved May, 11, 2004, from <http://www.comminnit.com/st2002/sld-5290.html>
- Purvis, T., and Hunt, A. (1993). Discourse, Ideology, Discourse, Ideology, Discourse, Ideology.... *The British Journal of Sociology*, 44(3), 473-499.

- Pye, W. (1963). *Communication and Political Development*. Princeton: Princeton University Press.
- Rahnema, M., and Bawtree, V. (Ed.). (1997). *The Post Development Reader*. London: Zed Books.
- Rajagopal, B. (2003). *International Law from Below : Development, Social Movements and Third World Resistance*. Cambridge: The Press Syndicate of the University of Cambridge.
- Ramo, S. (1976). Information Technology and Resources for Growth. In W. Schramm, and Lerner, D. (Ed.), *Communication and Change: The Last Ten Years - and the Next*. Honolulu: The University Press of Hawaii.
- Rayport, J. F., and Sviokla, J.J. (1994). *Managing in the marketplace*: Harvard Business School.
- Reitz, C. (2001). *Teaching About Oppression and Exploitation: Critical Theory and the Origins of Inequality*. Retrieved May 15, 2005, from <http://eserver.org/clogic/2004/reitz.html>
- Richardson, L., and Adams St. Pierre, E. (2005). Writing: A Method of Inquiry. In N. K. Denzin, and Lincoln, Y.S. (Ed.), *Collecting and Interpreting Qualitative Materials*. Thousand Oaks: Sage Publications.
- Rist, G. (2002). *The History of Development: From Western Origins to Global Faith*. London: Zed Books.
- Roberts, C. (2000). *Enterprise 2000: A High Impact job creation and economic growth programme through enlargement and enhancement of the micro and small business sector*. Kingston: ISER.
- Robyn, L. (2002). Indigenous Knowledge and Technology: Creating Environmental Justice in the Twenty-First Century, *The American Indian Quarterly* 26(2) p. 198-220
- Rodney, W. (1981). *Europe underdeveloped Africa*. Washington: Howard University Press.
- Rosenzvaig, E. (1997). Neoliberalism: Economic Philosophy of Post Modern Demolition. *Latin American Perspectives*,, 24(6), 57-62.
- Rostow, W. W. (1960). *The Stages of Economic Growth: a Non-Communist Manifesto*. United Kingdom: Cambridge University Press.
- Rostow, W. W. (1963). *The Economics of take-off into sustained growth: proceedings of a conference held by the International Economic Association*. Macmillan: London.
- Rundall, T. G., Devers, K. J., and Sofaer, S. (1999). Overview of the special supplemental issue. *Health Services Research*, 34(5), 1091-1099.

- Rweyemamu, J. R. (1976). Underdevelopment and Industrialization in Tanzania: A Study of Perverse Capitalist Industrial Development. *ASA*, 2, 128-130.
- Saad, M. (2000). *Development Through Technology Transfer*. Bristol: Intellectual Books.
- Sachs, J. D. (Ed.). (1989). *Developing Country Debt and the World Economy*. London: The University of Chicago Press.
- Sachs, W. (1992). *The Development Dictionary*. London: Zed Books.
- Saeed, K., and Prankprakma, P. (1997). Technological Development in a Dual Economy, Alternative Policy Leavers for Economic Development. *World Development*, 25(5), 695-712.
- Sarantakos, S. (1993). *Social Research*. Melbourne: Macmillan Education Australia.
- Sardar, Z. (1996). alt. civilization.faq Cyberspace and the darker side of the West. *Futures*, 27(7), 777-794.
- Sardar, Z. (1999). Development and the Locations of Eurocentricism. In R. Munck, and O'Hearn, D. (Ed.), *Critical Development Theory*. London: Zed Books.
- Satchell, V. (2002). Steam for Sugar Cane Milling: The Diffusion of the Boulton and Watt Stationary Steam Engine to the Jamaica Sugar Industry 1809-1930. In K. E. A. Monteith, and Richards, G. (Ed.), *Jamaica in Slavery and Freedom: History, Heritage and Culture*. Kingston: University of the West Indies Press.
- Schech, S. (2002). Wired for Change: The Links between ICTs and Development Discourses. *Journal of International Development*, 14(1), 13-23.
- Schech, S., and Haggis, J. (2000). *Culture and Development: A Critical Introduction*. Oxford: Blackwell Publishers.
- Schramm, W. (1964). *Mass Media and National Development*. California: Stanford University.
- Schramm, W. (1967). Communication and Change. In D. Lerner, and Schramm, W. (Ed.), *Communication and Change in the Developing World*. Honolulu: East-West Center Press.
- Schramm, W., and Lerner, D. (Ed.). (1976). *Communication and Change: The Last Ten Years - and the Next*. Honolulu: The University Press of Hawaii.
- Schwant, T. A. (2003). Three Epistemological Stances for Qualitative Inquiry: Interpretivism, Hermeneutics and Social Constuctionism. In D. Denzin, and Lincoln, Y.S. (Ed.), *The Landscape of Qualitative Research: Theories and Issues*. Thousand Oaks: Sage Publications.

- Seaga, E. (1996). *Advancing to the 21st Century with a Dynamic Agenda*. Kingston: Jamaica Institute for Political Education.
- Sebstad, J., Neill, C., Barnes, C., and Chen, G. (1995). *Assessing the impacts of microenterprise interventions: A Framework for Analysis*. Washington: USAID/ Office of Microenterprise Development.
- Seel, F. (2005). *World Program of Action for Youth: Draft review of the ICT & Youth Chapter*. Retrieved December 2, 2005, from http://www.un.org/esa/socdev/unyin/documents/wpaysubmissions/wsis_tig.pdf
- Selltiz, G., Wrightsman, L., and Cook, S. (1976). *Research Methods in Social Relations (3rd Ed.)*. New York: Holt, Rinehart & Winston.
- Sen, A. (1999). *Development as Freedom*. New York: Anchor Books.
- Sheil, R. (2005). Cellie boom - 2.5 million mobile users by year 2008. *The Daily Gleaner*.
- Shi-Xu, (2005). *A Cultural Approach to Discourse*. New York: Palrave MacMillan
- Shi-Xu, (2006). A multiculturalit approach to discourse theory. *Semiotica*, 1(4), 383-400
- Silva, L., & Backhouse, J. (2003). The Circuits-of-Power Framework for Studying Power in Institutionalization of Information Systems. *Journal of the Association of Information Systems*, 4, 294-336.
- Sinclair, M. T. (1991). The tourism industry and foreign exchange leakages in a developing country. In M. T. a. S. Sinclair, M.J. (Ed.), *The Tourism Industry: An International Analysis*. Wallingford: CAB International.
- Singh, D. (1999). *Electronic Commerce: Issues for the South*. Geneva.
- Skuse, A. (2001). *Information Communication Technologies, Poverty and Empowerment*. London: Social Development Department, DFID.
- Slater, D., Tacchi, J., and Lewis, P. (2002). *Ethnographic Monitoring and Evaluation of Community Multimedia Centres: A Study of Kothmale Community Radio Internet Project, Sri Lanka*. London: Department for International Development.
- Smith, G., and Reed, G. (2000). *United Nations Activities Addressing the Digital Divide: Building "Digital Bridges" for the 21st Century*. Retrieved December 1, 2005, from <http://www.globalcentres.org/html/docs/digital.pdf>

Sousa Santos, B. (1999,). .On Oppositional Postmodernism. In R. Munck, and O'Hearn, (Ed.), *Critical Development Theory: Contributions to a New Paradigm*. London: Zed Books.

Softpanorama, (2004). Softpanorama SDNP Links. Retrieved January 14, 2006 from http://www.softpanorama.org/Social/sdnp_links.shtml

Standing, C., and Vasudavan, T., (2001) The impact of Electronic Commerce on the Travel Industry Sector, *Journal of Information Technology Cases and Applications* 3(1) p. 40-55

Statistical Institute of Jamaica. (1977). *Indices of External Trade: Calendar Year 1972-1976*. Kingston: Statistical Institute of Jamaica.

Statistical Institute of Jamaica. (1990). *Statistical Yearbook of Jamaica*. Kingston: Statistical Institute of Jamaica.

Statistical Institute of Jamaica. (1991). *Indices of External Trade: Calendar Year 1980-1989*. Kingston: Statistical Institute of Jamaica.

Statistical Institute of Jamaica. (2000). *Indices of External Trade: Calendar Year 1988-98*. Kingston: Statistical Institute of Jamaica.

Statistical Institute of Jamaica. (2000). *Quarterly External Trade: January - March 2002*. Kingston: Statistical Institute of Jamaica.

Statistical Institute of Jamaica. (2001a). *Quarterly External Trade: January - March 2001*. Kingston: Statistical Institute of Jamaica.

Stephens, E. H., and Stephens, J.D. (1986). *Democratic Socialism in Jamaica: The Political Movement and Social Transformation in Dependent Capitalism*. London: Macmillan Education Ltd.

Stewart, F. (1978). *Technology and Underdevelopment*. London: MacMillan Press.

Strauss, A., and Corbin, J. (1990). *Basics of Qualitative Research - Grounded Theory Procedures and Techniques*. Newbury Park: Sage Publications.

Strauss, A., and Corbin,. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks: Sage Publications.

Sussman, G. (1991). The "Tiger" from Lion City: Singapore's Niche in the New International Division of Communication and Information. In a. L. J. A. Sussman G. (Ed.), *Transnational Communications: Wiring the Third World*. London: Sage Publications.

Sussman, G., and Lent, J.A. (Ed.). (1991). *Transnational Communications: Wiring the Third World*. London: Sage Publications.

Sustainable Development Networking Programme (SDNP). (2001). About SDNP. Retrieved January 14, 2003, from <http://www3.undp.org/about/>

Sustainable Development Networking Programme (SDNP). (1999). *ICT Use - Experiences quebecoises*. Retrieved Dec, 1, 2005, from <http://www.sdnpc.undp.org/ww/women-media/msg00141.html>

SDNP, (2002a). SDNP Mozambique: Taking Risks: Developing Regional Connectivity. Retrieved March 4, 2005 from <http://www.sdnpc.undp.org/it4dev/stories/mozambique.html>

SDNP, (2002b). Sustainable Development Networking Programme (Pakistan). Retrieved March 4, 2005 from <http://www.sdnpc.org/CapICT.htm>

Talero, E., and Gaudette, P. (1995). Harnessing information for development: a proposal for a World Bank Group vision and strategy, *Information Technology for Development* 6 145-188.

Tanburn, J. P., and Singh, A.D. (2001). *ICTs and Enterprises in Developing Countries: Hype or Opportunity? SEED Working Paper No.17*. Retrieved December 14, 2003, from <http://www.ilo.org/dyn/empent/docs/F1089912836/WP17-2001.pdf>

Teich, A. H. (Ed.). (2000). *Technology and the Future (Eighth Edition)*. New York: Bedford/St. Martin's.

The Daily Gleaner. (2001, Tuesday | April 24,). Small business sector gets boost. *The Daily Gleaner*.

The Daily Gleaner. (2004, November 12). Too Much Foreign Water. *The Daily Gleaner*.

The Economist. (2005, 53-56). Business: Calling an end to poverty; Mobile phones and development. *The Economist*, 376, 8434.

TheReggaeBoys. (2003). *Did anybody see the game live yesterday?* Retrieved December 1, 2005, from <http://www.thereggaebonz.com/ubb/Forum1/HTML/008804.html>

Thompson, M. (2004). ICT, power, and development discourse: A critical analysis. *EJISDC*, 20(4), 1-25.

Titscher, S., Meyer, M., Wodak, R., and Vetter, E. (2000). *Methods of Text and Discourse Analysis*. London: Sage Publications.

Tolich, M., and Davidson, C. (1999). *Starting Fieldwork: An Introduction to Qualitative Research in New Zealand*. Auckland: Oxford University Press.

- Tucker, V. (1999). *The Myth of Development: A Critique of Eurocentric Discourses*. In R. Munck, and O'Hearn, D. (Ed.), *Critical Development Theory* (pp. 1-27). London: Zed Books.
- Uhlin, A. (2000). The Concept of Learning within the Systems of Innovation Approaches. *Concepts and Transformation*, 5(3), 283-319.
- United Nations Conference on Trade and Development (UNCTAD). (1998). *Developing Countries Could Target Tourism to Boost Economic Growth: High-Level Panel Discussion Sets Stage for Expert Meeting*. Retrieved October 1, 2005, from <http://www.unctad.org/Templates/webflyer.asp?docid=3243&intItemID=2024&lang=1>
- UNCTAD. (1999). *The Science, Technology and Innovation Policy Review of Jamaica*. Geneva: UNCTAD.
- UNCTAD. (2001a). *E-Commerce and Development Report 2001*. Geneva: UNCTAD.
- UNCTAD. (2001b). *World Investment Report 2003*. Geneva: UNCTAD.
- UNCTAD. (2002a). *E-Commerce and Development Report 2002*. Retrieved December 14, 2003, from http://www.unctad.org/en/docs//ecdr2002_en.pdf
- UNCTAD. (2002b). *World Investment Report 2003*. Geneva: UNCTAD.
- UNCTAD. (2003a). *E-Commerce and Development Report 2003*. Geneva: UNCTAD.
- UNCTAD. (2003b). *World Investment Report 2003*. Geneva: UNCTAD.
- UNCTAD. (2004). *UNCTAD: helping destinations to become more autonomous*. Retrieved October 1, 2005, from http://etourism.unctad.org/QuickPlace/etour/PageLibrary41256E5F005A71A7.nsf/h_Toc/51e0a29cb1938077c1256e5f005ab28d/?OpenDocument
- UNCTAD. (2004a). *E-Commerce and Development Report 2003*. Geneva: UNCTAD.
- UNCTAD. (2004b). *World Investment Report 2003*. Geneva: UNCTAD.
- UNCTAD. (2005a). *UNCTAD E-Tourism Initiative*. Retrieved October 16, 2005, from http://www.unctadxi.org/templates/Page____1214.aspx
- UNCTAD. (2005b). *E-Tourism Initiative*. Geneva: UNCTAD.
- United Nations Development Programme (UNDP). (1998). *Human Development Report - Consumption for Human Development*. New York: Oxford University Press.

- UNDP. (1999). *Human Development Report - Globalization with a Human Face*. New York: Oxford University Press.
- UNDP. (2000a). *Choices*. New York: UNDP.
- UNDP. (2000b). *Human Development Report - Human rights and human development*. New York: Oxford University Press.
- UNDP. (2000c). *Challenges to developing countries*. Retrieved October 12, 2005, from <http://www.undp.org/info21/e-com/e7.html#Anchor-Human-51139>
- UNDP. (2001a). *Human Development Report - Making new technologies work for human development*. New York: Oxford University Press.
- UNDP. (2001b). *Choices*. New York: UNDP.
- UNDP. (2001c). *Creating a Development Dynamic Final Report of the Digital Opportunity Initiative July 2001*. New York: UNDP.
- UNDP., (2001d). Project Sustainable Dryland Agriculture by Mahila Sanghams: Andhra Pradesh. Retrieved March 4, 2005 from <http://www.undp.org.in/ictpe.htm>
- UNDP. (2002a). *Human Development Report - Deepening democracy in a fragmented world*. New York: Oxford University Press.
- UNDP. (2002b). *Support to the Jamaica Sustainable Network*. Kingston: UNDP Jamaica Country Office.
- UNDP. (2002c). *Choices*. New York: UNDP.
- UNDP. (2002d). About UNDP and ICT for Development. Retrieved January, 4, 2005, from http://www.sdn.undp.org/it4dev/docs/about_undp.html
- UNDP. (2003). Development ICT4D Information Communication Technology for Development. Retrieved January, 4, 2005, from <http://www.un.org.kh/undp/ict4dToolkit/ICT4D.htm>
- UNDP. (2004). *Human Development Report - Cultural Liberty in Today's Diverse World*. New York: Oxford University Press.
- UNDP. (2005). *What Is HD*. Retrieved October 21, 2005, from <http://hdr.undp.org/hd/>
- UNDP, (2006) World Summit on the Information Society and the role of ICT in achieving the Millennium Development Goals Retrieved August 1, 2006 from <http://www.developmentgateway.org/download/222153/JohnDaly-Main.doc>
- UNICITRAL. (2004). *UNCITRAL E-COMMERCE WORK*. Retrieved January, 12, 2004, from <http://www.cptech.org/ecom/uncitral/>

- Union, I. T. (2003). *World Summit on the Information Society Geneva 2003 -- Tunis 2005: Plan of Action*. Geneva: ITU.
- United Nations Volunteers. (2004). *UNV and Information and Communications Technology*. Retrieved January 12, 2004, from http://www.unv.org/infobase/facts/fsICT_new.htm
- United States Agency for International Development (USAID). (2005). *Information Technology*. Retrieved June 19, 2005, from http://www.usaid.gov/our_work/economic_growth_and_trade/info_technology/
- Valden, M. (2002a). *The End of Diversity?: Knowledge, ICTs and the Development Gateway*. Paper presented at the Third International Conference on Cultural Attitudes Towards Technology and Communications, Montreal, Canada.
- Valden, M. (2002b). Knowledge Facts, Knowledge Fiction: The Role of ICTs in Knowledge Management for Development. *Journal of International Development*, 14(2).
- van Dijk, T. A. (1999). Critical discourse analysis and conversation analysis. *Discourse and Society*, 10(4), 459-450.
- van Dijk, T. A. (2000). *Critical discourse analysis*. Retrieved January 12, 2004, from <http://www.discourse-in-society.org/teun.html>
- Vaughan, L. Q., and Tague-Sutcliffe, J. (1997). Measuring the Impact of Information on Development: A LISREL-Based Study of Small Business in Shanghai. *Journal of the American Society for Information Science*, 48(10), 917-931.
- Ventura, A. (1979). *Science and Technology for Development (Vol. 1)*. Kingston: Library of Jamaica.
- Ventura, A. (1980). *Science and Technology for Development (Vol. 2)*. Kingston: Library of Jamaica.
- Ventura, A. (1981). *Science and Technology for Development (Vol. 3)*. Kingston: Library of Jamaica.
- Ventura, A. (1990). *Science and Technology for Development (Vol. 7)*. Kingston: Library of Jamaica.
- Ventura, A. (1991). *Science and Technology for Development (Vol. 8)*. Kingston: Library of Jamaica.
- Ventura, A. (2000). *The Influence of science and Technology in Jamaica's Development (1979-1999)*. Kingston: Office of the Prime Minister.
- Vernengo, M. (2004). *Technology, Finance and Dependency: Latin American Radical Political Economy in Retrospect*. Salt Lake City: University of Utah/Department of Economics.

Viswanathan, G. (1998). *Outside the Fold*. Princeton: Princeton University Press
Wade, R. H. (2002). Bridging the Digital Divide: new route to development or new form of dependency? *Global Governance*, 8, 443-466.

Wakelin, O., and Shadrach B. (2001). *Impact Assessment of Appropriate and Innovative Technologies in Enterprise Development*. Retrieved February, 11, 2005, from <http://www.enterprise-impact.org.uk>

Waller, L. (2005). *Science, Technology and Innovation Policy Recommendations and Action 1990-2005*. Paris: UNESCO.

Walsham, G. (1997). Actor-network theory and IS research: current status and future prospects. In A. S. Lee, Liebenau, J. and DeGross, J.I. (Ed.), *Information systems and qualitative research*. London: Chapman and Hall,.

Walsham, G., and Han, C.K. (1990). *Structuration theory and information systems research*. Management Studies Group at the Department of Engineering, Cambridge University, Research Paper No.1990/11.

Walsham, G., and Sahay, S. (2005). Research in Information Systems in Developing Countries: Current Landscape and Future Prospects. *Information Technology for Development, Forthcoming*.

Weiss, G., and Wodak, W. (Ed.). (2002). *Critical Discourse Analysis Theory and Interdisciplinary*. New York: Palgrave Macmillan.

Wensveen, F. W. (2004). *Why I hate Microsoft*. Retrieved December 10, 2005, from http://www.vanwensveen.nl/rants/microsoft/IhateMS_2.html

Widdowson, H. (1995b) 'Discourse analysis: a critical view', *Language and Literature*, 4, 3, pp157-72.

White, M. (1983). *A Short History of Education in Jamaica*. Kingston: University of the West Indies.

Wilkinson, R. (2002). *Impact Assessment of Macro Level Policies on ICTs*. Retrieved January, 14, 2005, from <http://www.itcltd.com/EDIAS.%20Rona.pdf>

Wilks, A. (2002). Development through the Looking Glass: The Knowledge Bank in Cyberspace. *Information Development*, 18(1), 41-46.

Williams, E. (1984). *From Columbus to Castro: The History of the Caribbean*. New York: Vintage Books.

Winner, L. (1980). Do Artefacts Have Politics?" *Daedalus*, 109, 121-136.

Witter, K., and Davis,. (1989). The Jamaican of the Jamaican Economy Since Independence. In R. Nettleford (Ed.), *Jamaica in Independence: Essays on the Early Years*. Kingston: Heineman Publishers (Caribbean) Limited.

- Witter, M. (1977). *Hustle Economy: Essay in Conceptualization*. Kingston: Department of Economics: University of the West Indies.
- Witter, M., and Kirton, C. (1990). *The Informal Economy in Jamaica: Some Empirical Exercises : Working Paper No. 36*. Kingston: Institute of Social and Economic Research.
- Wittgenstein, L. (1965). *Philosophical Investigations*. New York: The Macmillan Company.
- Wodak, R., & Ludwig, C. (Ed.). (1999). *Challenges in a changing world: Issues in critical discourse analysis*. Vienna: Passagenverlag.
- World Bank. (1994). *Accelerating Small Business Development in Jamaica*. Kingston: World Bank.
- World Bank. (1995). *World Development Report - Workers in an Integrating World*. New York: Oxford University Press.
- World Bank. (1996). *World Development Report - From Plan to Market*. New York: Oxford University Press.
- World Bank. (1997). *World Development Report - The State in a Changing World*. New York: Oxford University Press.
- World Bank. (1998a). *World Development Report 1998/99: Knowledge for Development*. Oxford: World Bank.
- World Bank. (1998b). *Assessing Aid: What Works, What Doesn't and Why*. Oxford: Oxford University Press.
- The World Bank: Knowledge and Learning Center. (1998c). *Indigenous Knowledge for Development: A Framework for Action*: World Bank.
- World Bank. (1999). *World Development Report - Entering the 21st Century*. New York: Oxford University Press.
- World Bank. (2000). *World Development Report - Attacking Poverty*. New York: Oxford University Press.
- World Bank. (2002). *World Development Report - Building Institutions for Markets*. New York: Oxford University Press.
- World Bank. (2003). *World Development Report - Sustainable Development in a Dynamic World*. New York: Oxford University Press.
- World Bank. (2004a). *Indigenous Knowledge: Local Pathways to Global Development - Marking Five Years of the World Bank*. New York: World Bank: Knowledge and Learning Group.

World Bank. (2004b). *Addressing the Challenges of Globalization An Independent Evaluation of the World Bank's Approach to Global Programs*. New York: The World Bank.

World Bank. (2004c). *World Development Report - Making Services Work for Poor People*. New York: Oxford University Press.

WTO and UNCTAD. (2001). *Tourism in the Least Developed Countries*. Madrid: World Tourism Organisation.

Yakuba, J. M. (1994). Integration of indigenous thought with science and technology: A case study of Ghana. *International Journal of Science Education*, 16(3), 343-360.

Yin, R. (1994). *Case study research: Design and methods (2nd ed.)*. Thousand Oaks: Sage Publications.

You, P. S., and Lim, C.Y. (Ed.). (1971). *The Singapore Economy*. Singapore: Eastern University Press.

Zambrano, R. (2002). The Sustainable Development Networking Programme (SDNP). Retrieved March 4, 2005 from http://www.africa.upenn.edu/Padis/telomatics_Raul.html

Zuboff, S. (1988). *In the Age of the Smart Machine, The future of work and power*. New York: Basic Books

APPENDIX 1: A SAMPLE THEME-ORDERED CDA MATRIX

The Theme-Ordered CDA Matrix below which is specific to the Entrepreneurs associated with the JDSNP Cybercentre Project, was constructed from several themes which emerged from an analysis of the transcripts of individual cases. Specific issues related to answering the research questions were extracted from those cases using a Case-Ordered Effects Matrix discussed in Chapter 4.

The Theme-Ordered CDA Matrix allowed me to map the characteristics of these themes with the aim of Understanding their relationships, linkages, dynamics and effect as they relate to specific discourses, orders of discourse, social practices, genres, relations of power, power in discourse, power over discourse and the use of intertextuality and interdiscursivity to enhance this. At this level both discourse-as-discourse practice and discourse-as-sociocultural practice were taken into consideration in the construction of more definitive themes and possible consequences.

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>Entrepreneur 8: Nationality :Jamaican Gender :Female Age :40-50 Socioeconomic : Middle to upper middle Academic Background: High School Professional Background: Clerical</p> <p>Initiative Activities This involved training in Word and also how to use Windows [1], [2]. We learnt to type, format, edit</p>	<p>1. Previous Familiarity with ICT a: (High) b. (Medium) c. (low) d. (none)</p> <p>1. One of the most popular ICTs which was mentioned was Microsoft 2. Microsoft is mystified at the Cybercentre (Notes) 3a. Uncritical of the Cybercentre’s</p>	<p>DIFFERENCES IN VALUES, USE and BENIFITS These discourses are viewed as normal.</p> <p>They are conveyed through the use of expert language used by the project managers. All texts intertextually and interdiscursively linked – Entrepreneurs own texts</p>	<p>DIFFERENCES IN VALUES, USE and BENEFITS</p> <p>Socio-cultural historical structures and systems associated with entrepreneurial success in and outside the tourism sector through the use of advanced technologies. Examples of</p>	<p>DIFFERENCES IN VALUE, USE, AND BENIFITS</p> <p>ICT becomes the normalized and commonsense approach to livelihood development.</p> <p>Policy Makers and Project Managers articulate ICTs as such.</p>

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>and print [8, 8k, -8n, 48, 49, 50, 54, 1d]</p> <p>Value of the ICTs Well if you are talking about ICTs generally then. Well for those who are associated with the initiative yes the initiatives have a positive effect on us [32, 33, 36]. When I started there I had started with several persons most of whom I hear are and have benefited from what we all learnt at the Cybercentre [4f]. Some of them however due to financial reasons cannot afford to get to the Cybercentre regularly and are not as fortunate like myself to be able to afford the computerization of their operations [36, 44, 43b].</p> <p>Use/Application of the knowledge gained from the initiative I have bought a laptop the one over there on the table as well as a printer and I am able to do all my business documents [4a] Notes on configurations (the notebook, printer, scanner and other hardware were all positioned together like an office in any typical Jamaican or North American offices in a small area) (Microsoft was the only software in use [3, 4a, 8, 9, 10, 11, 12, 13, 14, 15, 16, 36] Notes on the notebook (not represented as portable by the entrepreneur or at the Cybercentre) [9]. They really encourage us to be independent and also encourage us to use the computer in the day to day operations of our businesses [4a, 7, 36]. They helped me to develop a website, that's a great accomplishment as not I have an internet presence [19, 36]. It is the most important component of my business today (17, 18, 20, 21, 36). As a matter of fact that is how I am able to accommodate you and your friends here in a timely manor [8a, 36]. The documents which the lady sent to me by email had to be completed and sent back to [Your company] so that I can get that cheque you took with you today [4d]. That is the beauty of the internet and email. It can be used to search for information online, communicate with people overseas and so on [4a, 8a-I, 36].</p> <p>Benefits from the application of the knowledge: The computer and the internet have become indispensable to my business [20, 21, 22]. I do not</p>	<p>instructions</p> <p>3. a. <i>Claims of use</i></p> <p>4b. Claims of value and use but no benefits</p> <p>4c. Claims of value but no use and no benefits</p> <p>4d. Claims of use and benefits (Direct)</p> <p>4e. Claims of use and benefits (Indirect)</p> <p>4f. Claims of use and benefits (Other)</p> <p>4g. Claims of expected benefits</p> <p>4h. Claims of value</p> <p>4i. The Cybercentre as valuable</p> <p>4j. ICTs as valuable</p> <p>4k. ICTs help you to make money</p> <p>4l. Computers, Internet identified as ICTs</p> <p>4m. ICTs are the future</p> <p>4n. Claims of use but no benefits</p> <p>4. The use of ICTs associated with professionalism</p> <p>5a. ICTs associated with making money</p> <p>5b. Expectations regarding getting money from ICTs</p> <p>5c. ICTs as expensive</p> <p>5. ICTs associated with efficiency and productivity and livelihood development.</p> <p>6. ICTs identified as indispensable</p> <p>7. Other elements which may have also contributed to livelihood development excluded in the discourse.</p> <p>8. The achievement of livelihood expansion associated with the configurations of specific technologies and their associated processes - hardware and software which themselves encourage certain modalities of configurations such as – using a stationary computer in a room with printers, scanners and internet connection. NOTES: PCU Dell Dimension Dell Inspiron Pentium Clones HP/Laser/Bubble Inkjet, Canon fax, Microsoft Windows, Office and Hotmail, Cable and Wireless Jamaica CWJ Internet connectivity – Dominant expensive alternative.</p> <p>a. ICTS allow a microentrepreneur to expand his or her business.</p> <p>n. ICT allows you to respond to clients in a timely manor. This is important for businesses today..</p>	<p>linked to official discourse (UNDP discourse – Institutional Discourses).</p> <p>Highlighting ICTs - Wording - neoliberal in orientation. This represents key motifs and rhetorical devices used in the connection with the term ICT. The use of expert language by the entrepreneurs, the respect for authority, the lack of knowledge on the part of the entrepreneur and the belief/perception that the Project Managers are knowledgeable (because of the use of expert language by the project Managers may have contributed to this). (Put Number here of the pm trying to be knowledgeable).</p> <p>Representations of the language of the official discourse.</p> <p>These are acts in language use to help the Project Managers, UNDP and organizations such as Microsoft – generate profits, keep afloat.</p> <p>The positioned taken here, the representations are intertextually linked to that of the JSDNP which is an extension of UNDP - Untransformed text concerning ICT for livelihood development. These discourses emerge from a complex chain of events surrounding the project life such as training activities and meetings. In other words, it has striking similarities to Institutional rituals of the UNDP's SDNP philosophy.</p> <p>These linkages and their generic chain are based on structures of power within the order of global forces – UNDP Global – UNDP</p>	<p>such extra-discursive factors around eg. Various workshops and seminars organised across Jamaica by different agencies that are responsible for the regulation of the tourism sector.</p> <p>In Jamaica generally and especially in the tourism sector, ICTs are regarded as tools which of efficiency and professionalism. They increase the efficiency and professional image of people, institutions and groups.</p> <p>In Entrepreneurship and within the Jamaican tourism industry, ICTs are generally regarded as tools which enhance the efficiency and professionalism. JTB and TPDCo Workshops are examples of these.</p> <p>Also the many local television and radio programmes as well as newspaper and magazine articles also promote the use of ICTs in the tourism industry.</p> <p>The history of Microsoft in Jamaica</p> <p>The sights and sounds of Microsoft globally</p> <p>The representations of alternatives to Microsoft</p>	<p>Entrepreneurs strongly believe that ICTs can actually make the lives of microenterprise entrepreneurs in Jamaica better through livelihood development.</p> <p>Acting and Organizing based on a one side fits all (generic) approach may exclude people structurally and encourage a perception that people are excluded based on incompatible modalities.</p> <p>The belief that certain ways of acting and organizing contributes to the entrepreneur's own way of acting and organizing as well as representing social life in his context.</p> <p>It is an indication of the Cybercentre Power to transform social actors and reshape social situations, processes and identities.</p> <p>The notion that ICTs can engender livelihood development has influenced the entrepreneurs into believing that in can and organizing themselves in this way.</p> <p>This language excludes other possibilities such as the problemization of the type of technologies used</p> <p>This discourse helps to sustain relations of power.</p> <p>The discourse is hegemonic</p> <p>Hegemony based on consent as well as coercion</p>

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<p>know what life would be like without them and I don't know what I was doing without them in the first place [20, 21, 22, 36]. I now can market and promote my business globally without much cost [3, 36, 42a - 43b], I can communicate with old and potentially new clients over the Internet and email like hotmail [4a, 8b, 8c, 43a - 44, 46-54]. I can look on the website of the bigger hotels and guesthouses to see what the trends are and what new things they are offering [4h]. I can basically provide the services that similar the larger hotels and other guest houses such as providing guests with internet and emailing facilities [4a, 42a, 42b]. Yes I can produce various business documents as ell but I normally get them printed in the town [4a,d,h]. The whole thing gives my business the look and feel of professionalism and that is very important for me in this environment because some people do not like to come to places that look and act unprofessional [4, 36, 42a, 42b, 43a].</p> <p>I have learnt the value of the computer and the internet [45]. I have learnt that the computerization of your business is important and that it can enhance your business [46]. And because it allows you to correspond with people in a timely way. This is important for businesses today [8a]. I am an example of how entrepreneurs have actually benefited. I have made some significant progress since the incorporation of computers and the internet as well as email [36, 42a, 42b, 43a].</p> <p>I now have a website which is the most important component of my business today [43a, 46, 47].</p> <p>Well for those who are associated with the initiative yes the initiatives have a positive effect on us [32].</p> <p>The training at the Cybercentre has been beneficial to us [43a, 43b]. Through this I have been able to set up my computerized office which as you see has helped the business significantly [4a, 36, 43a., 47, 41, 35, 3, 27, 28].</p> <p>Since I have purchased the computer and connected the internet I have seen an increase in visitor</p>	<ul style="list-style-type: none"> a. ICTs such as the internet allow one to communicate with old and new people overseas. b. Communicating with people overseas (potential clients) can only be accomplished with Microsoft Internet Explorer, Hotmail and Outlook Express. c. The Internet can be used to search for important information that can help you in your business. d. Without the Internet you cannot search for important information that can help you in your business. e. In order to communicate effectively with customers it is important to have a Website f. Being able to use the computer will make your business more professional. g. Livelihood expansion can only be achieved using a computer running Microsoft Windows and Office. h. Microsoft can only be accessed on a Computer or a Laptop i. Microsoft can only be accessed on a Laptop and Desktop computer occupying a dedicated space such as a in a room or an enclosed place and situated on a desk. j. Using Microsoft can lead to entrepreneurial success. k. Accessing Microsoft is expensive but the Cybercentre provides low cost access. l. Without Microsoft livelihood development cannot be achieved m. Knowing how to use the computer (and by extension Microsoft) is an important business mode today n. Use of ICTs associated with sitting o. Successful use of ICTs associated with sitting p. Benefiting from ICTs associated with sitting q. Use of ICTs associated with time properties r. Successful use of ICTs associated with time 	<p>local – Cybercentre – Entrepreneurs. Within this chain exists an authority, and the exercise of power which sees the Entrepreneurs at the bottom of the scale and the global forces at the top</p> <p>Representations of the language of the official discourse.</p> <p>This discourse is seen as normal.</p> <p>It is derived from the social, cultural and political environments in which they are embedded.</p> <p>The discourse is unchallenged</p> <p>It is viewed as the normal way to operate.</p> <p>The language of the entrepreneurs is a representation of the ways in which UNDP mystifies ICTs globally.</p> <p>This language used by all interviewees fits within the global dominant approach to ICTs by international development agencies as well as global ICT corporations such as Microsoft. On the website of these organizations they mystify ICTs as a panacea for the ills of social life.</p> <p>Much of what the representations of the entrepreneurs are based on their own experiences with ICTs at the Cybercentre which were mystified as business tools for addressing livelihood problems by the management of the Cybercentre.</p> <p>These discourse and their assumptions are linked to</p>	<p>TECHNOLOGICAL INDIGENIZATION / THE USE OF NON-INDIGENOUS TECHNOLOGIES</p> <p>Jamaica's history with technology for development UNDP's wider policy framework</p> <p>History of foreignness Caused by ignorance (lack of knowledge)</p> <p>TECHNOLOGICAL DEPENDENCE DEPENDNCE</p> <p>History of foreignness Caused by ignorance (lack of knowledge) Jamaica's connection to the global economic system. See Historica</p>	<p>These institutional discourses shape the entrepreneurs' perception of navigating in the tourism industry.</p> <p>Entrepreneurs socially construct ICTs within specific routinized behaviour</p> <p>This is accompanied by a set of evaluative principles regarding what should and ought to be achieved through the use of ICTs within the context of livelihood opportunities through microenterprise development.</p> <p>Modalities similar to those discussed by Valden regarding the World Bank, which is a extension of USA's corporate modalities.</p> <p>USA modalities have dominated the ICT4D landscape – through policy texts and so on.</p> <p>This is an illustration of how institutional discourses exert power over social actors by inculcating values and logics which the social actors do not question because of their lack of knowledge about ICTs enforced by expert language used by Project Managers.</p> <p>The discourses may be out of synch with several modalities of some of the entrepreneurs especially the poorer ones whose operational framework are not succinct with the structural processes required by technologies such as Microsoft</p>

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<p>arrivals [43a]. A moderate increase. Yes I am now better able to compete with other small businesses and even the medium and larger ones [36, 43a – 44, 46-54].</p>	<p>s. Benefiting from ICTs associated with time properties t. Using ICTs associated with occulting an enclosed space u. Successfully using ICTs associated with occupying an enclosed space v. Benefiting from ICTs associates with occupying an enclosed space w. Training in Microsoft x. ICTs associated with the development of business documents y. ICTs associated with particular places z. ICTs require regular monitoring to communicate with people 9. No alternative configurations were envisioned. 10. The configurations were dependent on specific software – Microsoft 11. No other software configurations were represented by the entrepreneur – open source or other freeware. 12. The notebook computer was not conceptualized as a trans-temporal unit but rather as a trans-temporal unit. 13. This configuration is itself dependent on the positioning of the body. 14. A user has to be sitting on a chair interfacing with the monitor (visually) and typing on a computer keyboard 15. With regard to the use of emails, the user needs to be able to respond in time. 16. No other alternative was presented to the entrepreneurs 17. The training at the Cybercentre is represented as the sole factor contributing to the development the entrepreneur’s technical capabilities to achieve livelihood development. 18. Other factors are excluded 19. The Project Managers revered, uncriticized and viewed as knowledgeable. 20. ICTs valued as the only ‘tools’ need to achieve livelihood development 21. No Other tool identified 22. ICTs valued as indispensable to the entrepreneur’s livelihood development 23. ICT valued tools that encourages professionalism</p>	<p>corporate discourses (corporate language) in USA regarding t ways of acting effectively, and productively to increase profitability.</p> <p>The way in which livelihood expansion was represented by the JSDNP Cybercentre Project - Microsoft applications – is intertextually linked to UNDPs operations, structures, approach and operations as well as processes in the execution of its development objectives in the developing world.</p> <p>NOTE: On Professionalism See Entrepreneur’s 10 transcripts: You know lack of professionalism is one of the biggest problems we face in Jamaica. TB has been trying to address this problem. They have done a number of training seminars the had one up at the cyber centre and they did also say that we can use the facilities there to do this. I have been trying to help the people around here with that but you know how some of them are. To help me to get information about making my business better. To help me to communicate with people overseas.]</p> <p>Search for examples.</p> <p>Note: Training in Microsoft Office - Word processing and PowerPoint. Internet Explorer and emailing the standard thing which most Cybercentre offer here in Jamaica (Entrepreneur 10: Suggestions of the normality of Microsoft in Jamaica).</p> <p>The uncritical nature of the</p>		<p>The achievement of livelihood development dependent on</p> <p>67. The achievement of livelihood expansion associated with the configurations of speci technologies and their associated processes - hardware and software which themselves encourage certain modalities of configurations such as – using a stationary computer in a room with printers, scanners and internet connection. NOTES: PC Dell Dimension Dell Inspiron Pentium Clones HP/Laser/Bubb Inkjet, Canon fax, Microsoft Windows, Office and Hotmail, Cable and Wireless Jamaica CW Internet connectivity – Dominar expensive alternative.</p> <p>aa. ICT allow you to respond to clients in a timely manor. This is important for businesses today..</p> <p>bb. ICTs such as the internet allow one to communicate with old and new people overseas.</p> <p>cc. Communicating with people overseas (potential clients) can only be accomplished with Microsoft Internet Explorer, Hotmail and Outlook Express.</p> <p>dd. The Internet can be used to search for important information that can help you in your business.</p> <p>ee. Without the Internet you cannot search for important information that can help you in your business.</p> <p>ff. In order to communicate</p>

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	<p>24. Other tools excluded (Not valued) 25. ICT valued as tools that ensure efficiency 26. other tools excluded (not valued) 27. ICT valued as tools that promotes productivity 28. Other tools excluded (not valued) 29. ICTs valued as livelihood development tool 30. ICTs valued as development tool 31. no other development tool identified 32. ICTs as positive 33. Uncritical of ICTs 34. ICTs help to shaping identity (professionalism) 35. Uncritical thinking about ICTs 36. ICTs are valued as global. 37. (other tools excluded) 38. ICTs have benefited people globally 39. Other tools excluded (not valued) 40. ICTs are important/beneficial to the tourism industry 41. a Other tools not valued 42. b. no knowledge of other tools 42. c. Possible knowledge of alternative tools 42. a Claims of benefits 43. b. Cybercentre viewed as useful 43. c. Trainers at the Cybercentre viewed as helpful 43. d. training at the Cybercentre valued 43. e. the need for more training 43. f. The need for alternative training 43. g. The need for alternative ICT knowledge 43. ICTs as a communications tool 44. a ICTs viewed as costly 45. b. Cybercentre provides inexpensive access to ICTs 45. ICTs valued 46. ICTs as a business enhancing tool 47. a Internet Websites identified as an important business tool. 48. b. ICTs viewed as a tool for enhancing competition (local) 48. c. ICTs viewed as a tool for enhancing competition (international). 48. d. The use of ICTs in livelihood development viewed as a global</p>	<p>entrepreneurs Many of the entrepreneurs were uncritical of the Project managers because of the perception that the project managers were knowledgeable and were persons who should know what is good and bad.- belief. 66. <i>The Project Managers revered, un-criticized and viewed as knowledgeable.</i></p> <p>TECHNOLOGICAL INDIGENIZATION/ Not encouraged Linked to similar global discourse and may have affected those who she came into contact with.</p> <p>THE USE OF NON-INDIGENOUS TECHNOLOGIES Normalized Executed through expert language</p> <p>Lack of knowledge regarding the cosmologies of Indigenous technologies, non indigenous technologies, technological ion.</p> <p>TECHNOLOGICAL DEPENDENCE DEPENDNCE</p> <p>Cosmologies of Indigenous technologies, non indigenous technologies, technological condition A normal condition in Jamaica</p> <p>See Chapter 3 and the first section of Chapter 5 for frame.</p>		<p>effectively with customers it is important to have a Website gg. Being able to use the computer will make your business more professional. hh. Livelihood expansion can only be achieved using a computer running Microsoft Windows and Office. ii. Microsoft can only be accessed on a Computer or a Laptop jj. Microsoft can only be accessed on a Laptop and Desktop computer occupying a dedicated space such as a in a room or an enclosed place and situated on a desk. kk. Using Microsoft can lead to entrepreneurial success. ll. Accessing Microsoft is expensive but the Cybercentre provides low cost access. mm. Without Microsoft livelihood development cannot be achieved nn. Knowing how to use the computer (and by extension Microsoft) is an important business mode today</p> <p>Microsoft identified as the main tool for the achievement of livelihood development. To use Microsoft to achieve this goal an entrepreneur will have to interact with Microsoft Windows and Office around a desk, in a chair staring at a monitor, clicking a mouse to activate Microsoft menus, typing</p>

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	<p>phenomenon</p> <p>48e. There is no alternative to discourse 48d</p> <p>48.The use of non-indigenous technologies</p> <p>49.The foregrounding of non-indigenous technologies</p> <p>50.The marginalization of indigenous technologies.</p> <p>51. The non-indigenization of non-indigenous technologies.</p> <p>52. Dependence on non-indigenous technologies</p> <p>53. The entrepreneurs only learnt how to USE the ICTs not to modify them.</p> <p>54.Spatio-temporal incompatibility with ICTs – the entrepreneur’s discourse is incompatible with those which the Cybercentre claims are necessary to achieve livelihood development.</p> <p>55.Promoting the dominant discourse</p> <p>56.The entrepreneur has transtemporal characteristics</p> <p>57.The computer and internet makes a great difference in the lives of people</p> <p>58.ICT allows you to reach people overseas fast</p> <p>59.ICTs allow microenterprise tourist entrepreneurs to compete with small, medium and large enterprises in the tourism industries</p> <p>60.Tourism industry is dependent on ICTs.</p> <p>61.No alternative to discourse 61 was presented</p> <p>62.Depiction of social role</p> <p>63.ICT depicted as a significant factor in the growth of societies and economies, and poverty alleviation</p> <p>64.ICTs are enabling technologies that can be applied in support of many social, cultural, political and economic activities.</p> <p>65.ICTs central to the development of Jamaica</p>			<p>on the keyboard to write words in Microsoft, occupying a particular space for a specific time. From the data analyzed, it was found that these Microsoft related discourses promoted contributed to specific ways of acting and organizing among the entrepreneurs which had distinct outcomes for various entrepreneurs depending on their identity (role, status, their norms, and values).</p> <p>Such a discourse would indeed exclude some entrepreneurs especially the poor ones.</p> <p>Inconsistent if not unfavourable to the organizational processes of the poor desperate entrepreneur in working in the Jamaican tourism sector.</p> <p>Ways of acting required for the achievement of livelihood expansion with the use of ICTs perceived as a specific modality related to certain types of technologies</p> <p>ICTs themselves conceptualized as unusable/inaccessible because it was represented by the PM and perceived by the Entrepreneurs as specific technologies which require certain modalities.</p> <p>TECHNOLOGICAL INDIGENIZATION/ THE USE OF NON-INDIGENOUS TECHNOLOGIES</p> <p>The possibility exists that there may be a need to redefine indigenous technology.</p> <p>Technological indigenization is</p>

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				<p>an important component in addressing systems of technological condition - it becomes appropriate to his or her needs.</p> <p>The JSDNP model may be problematic - it excludes knowledge of how to understand, assimilate, modify, absorb and use these non-indigenous technologies which the Cybercentre represents as indispensable to livelihood development.</p> <p>The inability of entrepreneurs exposed to the Cybercentre Project to manipulate or customize ICTs to meet their needs. This was also evident by the inability of these entrepreneurs to understand the many dimensions of ICTs, their strengths, limitations and differences as well as the possibilities of alternatives</p> <p>TECHNOLOGICAL DEPENDENCE DEPENDNCE</p> <p>training entrepreneurs to use non-indigenous technologies without promoting technological indigenization – promotes a dependence on non-indigenous technologies: digital dependence</p> <p>this limiting the technological creative and innovative capabilities of the entrepreneurs who have been able to enact the processes promoted by the Cybercentre.</p>

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				<p>Compare with other entrepreneurs in other ICT initiatives</p> <p>Entrepreneurs subjected to the limitations of Microsoft</p> <p>The JSDNP Cybercentre Project has not been successful in terms of engendering development at the micro or the macro scale. Instead of providing the entrepreneurs with choices and opportunities, the Project excluded many entrepreneurs from fully achieving livelihood expansion in a sustainable way by limiting the type of technology offered to them, limiting the knowledge regarding the structural, organizational and operational processes of this type of technology, inhibiting their technological capabilities in terms of indigenizing non-indigenous technologies and exposing them exclusively to non-indigenous technologies which could be potentially harmful to their productive and operations and livelihood needs.</p> <p>At the implementation level the JSDNP Cybercentre also limits the outcome possibilities for entrepreneurs by limiting their choice and options</p> <p>the JSDNP Cybercentre Project has not been successful in terms of engendering development at the micro or the macro level</p> <p>Instead of providing the entrepreneurs with choices and opportunities, the Project</p>

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				<p>excluded many entrepreneurs from fully achieving livelihood expansion in a sustainable way by limiting the type of technology offered to them, limiting the knowledge regarding the structural, organizational and operational processes of this type of technology, inhibiting their technological capabilities in terms of indigenizing non-indigenous technologies and exposing them exclusively to non-indigenous technologies which could be potentially harmful to their productive and operations and livelihood needs.</p> <p>Compare with other ICT training programmes</p> <p>DISCOURSE Discourse plays an important role in the regulation of the ICT for development initiative</p> <p>GENERALY the UNDP model is problematic and counter-productive in terms of livelihood expansion.</p> <p>the model and more indicatively the discourses surrounding the model encouraged and contributed to inequality between and among the entrepreneurs interviewed. I</p> <p>this model helps to maintain the existing structural relationships between and among the entrepreneurs. In other words it contributes to establishing and maintaining social relations of power and domination.</p>

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				<p>UNDP, through power in and over discourse, has influenced social practice in Jamaica where ICT for livelihood development is concerned</p> <p>UNDPs JSDNP Cybercentre Model undermines the Government of Jamaica's efforts to engender livelihood development in Jamaica, for example the GoJ promotion of affordable (and potentially indigenizable) mobile technology.</p> <p>UNDP's influence in and over livelihood development discourse (and social practices) in Jamaica and the possibility that their livelihood expansion model limits the choices and opportunities of some entrepreneurs while expanding those of others.</p> <p>Specifically, those whose choices and opportunities were limited are those who would be considered in Jamaica to be the poor – the ostensible beneficiaries of the project.</p> <p>Whereas those whose choices and opportunities were expanded would be those who would not be considered in Jamaica to be the poor.</p> <p>the UNDP JSDNP Cybercentre Model may be inappropriately configured to address the needs of the intended project beneficiaries - poor Jamaican microenterprise entrepreneurs operating in the tourism industry - in that, it does not introduce a</p>

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				critical framework, that is, alternatives that could be explore by users. This is an obvious project contradiction which needs to be addressed in order encourage more equitable project outcomes.
<p>Entrepreneur 9 Nationality :Jamaican Gender :Female Age :30-40 Socioeconomic : Middle to upper middle Academic Background: University Professional Background: Professional</p> <p><u>Initiative Activities</u> I took two courses at the Liguanea Cybercentre. I was already introduced to computers at DOMS at UWI however that was some years ago, things had changed since then and the technologies are much more advanced now. So it was a refresher course that I did. [1c] I had done computers when I was at UWI (the University of the West Indies) However that was long ago and the technologies are now much more advanced so I have to upgrade my knowledge (1c).</p> <p>Yes I learnt. [4a]</p> <p>Yes I must say that it was beneficial [43a] I did learn the basic operations of the computer, how to turn it on, I learnt windows, I learnt how to open and close programmes, lets see, I also learnt how to minimize, maximize restore and move from one open programme to another. Yes we learnt internet searches and to use the email service. Yes it was Microsoft Word and Internet Explorer [2, 4a]. Yes Hotmail and Internet Explorer. In Word ok formatting, tabbing, aligning, inserting tables and columns and formatting them as well [2, 49-54].</p> <p>Training in Microsoft Word, how to use the internet, and how to send emails in hotmail [2, 9 a-bb].</p>				

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<p>Yes the second programme included learning the advanced features of Word [2, 4i]. We learned about making letter heads, formatting letters and printing on envelopes, fax cover sheets, some brochures, agendas, calendars, resumes, mail merge, letters, graphs, organizational charts and other things as well [4i]. <i>(Field notes – after the interview)</i></p> <p><i>Documents not produced entrepreneur – produced by graphic design company – she says that it is expensive – “a whole heap a money” [Translation: for a lot of money] (Entrepreneur 9). She did the original based on her knowledge of Word and then got them printed at the company. The graphic artist uses another program because word cannot be used to make very professional programmes. I have been at that company and they use Corel and Photoshop as well as many others.</i></p> <p><u>Value of the ICTs</u> The Cybercentre programme is extremely helpful for small entrepreneurs like myself in terms of helping us to improve the quality of our tourism product. [4a, 41, 42a, 42b]. I have certainly benefited from the initiative in certain ways in terms of it contributing to money in my pocket and putting food on my table [4, 9 o-bb, 43a]. . I use the services there a lot perhaps even much more than any other customer and every one knows me there [21-44, 46-48]. It is very useful [43]</p> <p><u>Use of the knowledge gained from the initiative</u> I use it a lot, I did some training there in Microsoft Windows and Word and I used what I learnt there to do my flyers and the staff made a very basic webpage for me. And the promotional packages [2, 4a, 43a, 21-48, 41- 43b, 44, 46-54]</p> <p>[The Project Manager] says that [they are] working on a plan to organize me so that I can operate out of my home [3a]. It is expensive but she says that it is the best alternative because I keep on complaining [3a]. Well it is not as expensive as the regular price because the [The Project Manager] has some arrangement with Dell and Microsoft and so I can get them at reduced price if I buy it from them [2,</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>3a]. This includes either a laptop computer or a desktop computer (One of the advanced ones from Dell). It also includes advanced software some of which I am already familiar with however the new versions. According to [The Project Manager] with these new and more advanced versions I can do much more to connect with my clients and some other clients too [3a]</p> <p><u>Benefits from the application of the knowledge</u> There are a lot of benefits to be gained from something like this especially for many of us in the business [4a, 41-43b, 44, 46-54], I have benefited, as a matter of fact without the training and use of the cyber centre then my business would be non-existent [41- 43b, 44, 46-48]. It is difficult for many of us to get that kind of survive and training because ICT training is expensive [4a, 45a, 45b] and lets face it many if us cannot afford the rates which are being offered at other places. The Cyber centre is half the cost of the other places which makes this easier [43b]. And even though it is cheap many people cannot afford it because things are very rough for many people here and many of us don't have the time to sit in a class for hours on end and not seeing tangible immediate rewards [9cc-10]. The persons who do the training are helpful, they know their stuff. They make it easy for me to understand [4a, 43c]. I am there sometimes when training is going on and I can vouch for many of the trainers. [43c]. They are young and vibrant people fresh out of UWI and are genuinely interested in helping us . [43c]. And the worse part of it is that they themselves are not getting a lot of pay, I think that their pay is subsidized. People really get a lot from what is offered there [43c]. There is much more that can be done beyond what was there [42c]. (Linked to her previous training in ICT as UWI) Teaching Microsoft is not enough we need new and innovative specialized and taylorized things [43d-43g]. The training is very generic and many persons have different needs accounting needs business needs there are a lot of software out there which can contribute to these needs however what we are seeing is just simple computer application [4a, 43d-43g] . I have done some additional training, private training and it was then that really realized that what JSNDP is an introductory course [1c].</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>What I have learnt from the project I have been able to communicate with guests, and potential guests through contacts I have made with previous visitors [36 – 43b, 45-54]. I have been able to communicate with them better with email, out websites and other means [4a, 43a, 43b, 44-47]. Yes I got one group of people around a year ago using this means. I normally get various groups through networking, word of mouth [43a].</p> <p>Yes, the feedback has been great and I can say that I have received quite a few clients since I introduced these new things [4d, g, e, 8]. I am exploring the possibilities of a Website which I think will enhance my business even more [7, 8]. And I am trying</p> <p>I am sometimes unable to do all I want to do because I don't have enough money to do so. So even though you may see me in operation here there are still a number of things which can be done to make it better. I cannot afford the expensive ones because they run me some tings like 20 US a month and even more. And although we are a small operation it is every entrepreneur's dream to expand their operations. With the right money for example I could afford things such as an Internet site and with this I could make a lot of money [8, 9a, 10, 48].</p> <p>Entrepreneur 10</p> <p>Nationality :Jamaican Gender :Male Age : 21-30 Socioeconomic : Lower middle Academic Background: High school Professional Background: Current Occupation: Self Employed - Tour Operator, Taxi Driver Business Type: Unregistered Initiative Activities I use the computers here to send emails sometimes which I have the time [4a, 36]. It is much cheaper than using the other Cybercentre around the area.[4a, 36, 45a, 45b] Training in Microsoft Office - Word processing and</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>PowerPoint. Internet Explorer and emailing the standard thing which most Cybercentre offer here in Jamaica [2, 3, 4a, 9q, 9v – 9x, 11, 12, 36, 46-54]</p> <p>Value of ICTs Definitely [excitedly] ICT can certainly help in many ways [21, 22, 25, 29, 30, 32, 69, 43a]. It opens a whole door of possibilities. You get to communicate with people all over the world you get to see what other people are doing and get an idea about what to do as well as how to do it [21, 22, 25, 29, 30, 32, 43a, 9o – 12, 36]. You can build you website so that people can find you, send information to you and ask you about your business [9n, s, 10]. Entrepreneurs today have to have these technologies to keep records, to make our bookings and generally to give a sense of professionalism to our businesses. [21, 22, 25, 29, 30, 32, 43a, 44, 9o – 12, 36]</p> <p>From the training and what I see not only at the big hotels, but among some other small business man in the tourism sector, computers and the internet are important and critical to this industry and for us in the industry [3a, 6, 7, 8, 10, 21, 22, 23, 30, 34]. It is the way of the world [48d, 48e]. We can connect to people abroad with the internet and create business cards, brochures, letters and many other documents to give the business this professional feel [3a, 4a, 5, 9t, 24, 25, 35, 36, 47, 36 – 43b, 45-54]. Do you see what I mean? It opens a whole door of possibilities. Entrepreneurs today have to have these technologies to keep records, to make our bookings and generally to give a sense of professionalism to our businesses [Ibid] .And if you have a website more doors opens for you. People can find you, send information to you about and ask you about your business [9s, 9p],</p> <p>This was an eye-opening experience because although I had known about computers and the email and the internet and a website, I did not know exactly how important they were for a small man like me [3a]. Is like magic the way you can talk to people overseas with the email and the internet and the Website them [9s, 9p],.</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p><u>Use of the knowledge gained from the initiative</u> You can also learn about how to use the computer to make professional looking business cards and posters and flyers [4a, 5, 9t, 24, 25, 35, 36, 47]. For example because I went to the training programme I was able to do these business cards [4a, 36, 43a]. No well I did not do them myself [53, 54], I had done up the design and thing on the computer using word and then printed it [2]. I gave it to the Project Manager and they got it done for me. No I don't use the internet and the email that much because I have a busy schedule I even work on a Sundays so I don't have the time to do that [9rr – Internet]. I deal with the hotels and the motels and sometimes I get a little roast from a tour company if one of their buses goes down [Black market activity]. .</p> <p>I use the computers here to send emails sometimes which I have the time. It is much cheaper than using there other Cybercentre around the area. [4a, 45a, 45b]</p> <p>But because I am so busy it is difficult for me to get to send emails regularly or check them [55]. And I cannot get to check the internet more than so to see what other people are doing. My type of business is an up and down business and so it is difficult to do so [55].</p> <p><u>Benefits from the initiative</u> Yes man, all what they say ICTs can do is true, it has certainly help me with my business [43a].</p> <p>Yes it has the potential to significantly contribute to the businesses of many Jamaicans especially in the tourism sector because it teaches you how you can organize your business how you can communicate with people locally and globally [4a, 6, 7, 8, 9o-9x, 26 42b]</p> <p>. I have seen where these skills have come in handy for many people including myself [43a]. When we learn about the technology we can be able to compete with even the big hotels [48b, 48c] we learn about how to use the computer to make</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>professional looking business cards and posters and flyers . [4a, 21, 22, 25, 29, 30, 32, 43a, 44, 9o – 12, 36]</p> <p>. Gives me some among of professionalism with my business, so that my business can look like it is professional. [4a, 21, 22, 25, 29, 30, 32, 43a, 44, 9o – 12, 36]</p> <p>In our industry good business documents which look professional gives your business a sense of professionalism. [21, 22, 25, 29, 30, 32, 43a, 44, 9o – 12, 36]. Is true people in my industry prefer to deal with professionals because they believe that if you are professional you are more responsible. That is just the way how things are in this business. When I presented my business cards and flyers to the hotel people the response was very positive [Ibid].</p> <p>With receipts, invoices and business cards. I can do get all my business documents done [9II].</p> <p>Well I have learnt a lot from being at the cyber centre, it has helped me to make my business more professional so I am able to do my invoices, letters and what have you [21, 22, 25, 29, 30, 32, 43a, 44, 9o – 12, 36, 9II, 3a]. Regarding the internet well I cannot actually say that I have used it in a way to say whether it benefited me [4b]. I have not done any emailing or internet really. Well because of the nature of my business and my work. I always get my contracts from my friends who own a guest house or what have you so I don't really have a need to send email and so on. Well actually I am wrong. because I have actually got a few new customers since I have started using more business documents, I have distributed some brochures and business card and that has got me 3 new hotels which I assist with the shuttling of people around [4a, 21, 22, 25, 29, 30, 31 - 43a, 44, 9o – 12, 36] [21, 22, 25, 29, 30, 32, 43a, 9o – 12, 36] [36, 43a]. [53, 54],</p> <p>Q. (How did you get the cards?) Yes. with some assistance from the Cybercentre staff, I was able to develop some flyers and business cards. I mean I</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>did most of the work in Word and showed it to [the Project Manager] who was very helpful in making some adjustments for me [53, 2]. I was first doing some small cards only but then [the Project Manager] made some adjustments for me with the software, things that I have not learnt as yet, and I was able to get some posters as well as some business cards. [The Project Manager] got the business cards printed on these hard paper and here are the flyers [Glossy type paper]. I then redelivered them to some of the motels and hotels [in the area]. Yes the response has been good, I have got a number of business as a result of this [4a, 53, 54] .</p>				
<p>Entrepreneur 11 Nationality :Jamaican Gender :Male Age : 31-40 Socioeconomic : Lower Academic Background: High school Professional Background: Current Occupation: Self Employed - Tour Operator Craft shop, tie and dye Business Type: Informal and Unregistered Business Type: Unregistered</p> <p><u>Initiative Activities</u> When the Cybercentre was established at Bluefield's in 1998/99 I was one of the first recipient of the training. I was one of the trained trainers along with other members of the executive. We were taught about hardware software. Windows word, the Internet, researching, the value of the internet. Ecommerce and other things [2]. We had a computer there before but no one used that computer only the secretary of the community centre..</p> <p>Then we started to train others in Bluefield's I used the internet to enhance my business. I trained community people. Mostly what we find now is that the majority of the people who use it are persons who are young whose work surround information. Students use it a lot they come in and use it to do research. Teachers also use it. Many of the other people who use it are working in the tourist area. Most of the tourist who come there use it as well. We go around to the churches and youth group to show them the importance of the internet [4h].</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p><u>The Value of ICTs</u> The ICT thing is important [4h]. But because they [The people in the tourism industry] do not have the knowledge of the computer and what it can do. They [The people in the tourism industry] cannot see it. We [The people in the tourism industry] are going around and showing them the importance of the computer. People are seeing it and more and more people are coming around to be trained. We [The people in the tourism industry] have pre recorded programmes which only thing they need is an air phone. With that it eliminates the trainer and so you can learn at your own pace. A lot of people feel comfortable using it. This eliminates them feeling inferior. The people here are very accepting of computers [the people in the community]. They are all asking for a computer to be used at their home. Many of them are willing to learn. They have to because many of them cannot exist in this industry without the use of ICTs [7].</p> <p>They [ICTs] are very valuable because they can help us to make money [4], [4k] (MAKE A NOTE OF THIS although to tell you the truth my anytime phone anywhere phone my most useful technology. It is where I do most of my business. People can reach me anywhere and anytime on is and this is good for me because I am always on the move(the entrepreneur does not identify this as an ICT because mobile phone was not represented as an ICT) [4])</p> <p>.</p> <p><u>Use/Application of the knowledge gained from the initiative</u> ICTs are the way of the future, they can help us in so many ways [4m]. We can contact people, print letters, make invoices and letters [9n, t and u, 10]. I know that it can work because I see where it has worked for other people [4b].</p> <p>If I had the time it would work for me [9ee, 9gg], . You see me. I am a man with other irons in the fire [55] This tour business is not the only thing that I do. I have a little shuttle bus that me and my wife</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>run, we have a bar, I do a little selling on the side, I have a little drum pan which sell jerk chicken and things. So you see it is difficult for me to go all the way over there to check my emails regular and email is a thing that you need to check regular in order for you to connect with the people them [57, 55, 9gg, 9ii, 9mm]. As a result of not being able to communicate with people overseas regularly I have lost customers [4n, 9nn]. I have been contacted by this man and his wife about a friend visiting but I lost out on that work because I only see the email a week after it came. He had sent four emails and I guess he got tired of waiting on me and went somewhere else [55].</p> <p>A solution to the problem is getting a Webpage. With the webpage they will have all the answers to the question about the services we offer, rates and other information but it is expensive. Another answer is getting a computer at home but that out of the question because that is even more expensive. We working on a plan to get one though [2, 4a, 4n, 43a, 21-48, 41- 43b, 44, 46-54]</p> <hr/> <p>Entrepreneur 12 Nationality :Jamaican Gender :Female Age : 31-40 Socioeconomic : Lower Academic Background: High school Professional Background: Current Occupation: Self Employed - Tour Operator Craft shop, tie and dye Business Type: Informal and Unregistered</p> <hr/> <p>Initiative Activities Well we learnt Microsoft word, Windows and outlook, we also learnt to use the internet and also to do hotmail [2].</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>Yes I use the internet quite often for various reasons [4a]. Sometimes go online to see what services the bigger companies in Jamaican offer to look at what is going on out there in the world as well as secure information for friends regarding health, travel, and agricultural care [4a].</p> <p>The Value of ICTs</p> <p>The computer and internet makes a great difference in the lives of people [58]. I see where some people have used it to do a lot of things for their businesses in the same way how it has been used by the big hotels [4a, 4f]. You see in this business, it is something that we cannot live without [41, 4a, 41, 42a, 42b]. It is a do or die situation because all the tourists them on the internet now all of them booking online. And in order for us to service we have to know how to use the internet and the computer [Ibid]. With these technologies we are able to reach more people with a computer; we are able to respond to them faster [59]. And this puts us in a position similar to the larger hotels [60]. This can greatly help to add value to our lives, generate income, and make our business bigger [58]</p> <p>No I for example do not have the time to go down to the Cybercentre and check my emails as regularly as I should [9ee – gg]so I have not benefit from these technologies per se however it is not the technology it is me.</p> <p>There are other places in town close to where I operate which also have computers and the internet but they are so expensive. Neither or me or many of us struggling in this business can afford them [45a]. If it was not for the [JSDNP Cybercentre Project] we would not know about the use of the internet and computer and we could not afford to use computers and send email. It is much cheaper than the ones at town [3a, 45b]</p> <p>Yes our industry is very dependent on computers and the internet because we rely on them to communicate with the tourists all of who are abroad. Their lifestyle is computers and so if we</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>want to be able to compete ours must be computers as well. [61, 62]</p> <p><u>Use/Application of the knowledge gained from the initiative</u> Sometimes I use it to email people overseas [4a], Sometimes I get the names of people from existing clients and their email address and I would email them and tell them about my services [ibid]. I can remember getting some business from only one person and even so the business was not much. They (the tourists) only used my services for one day. Most of the time whenever I get a chance to use the computer to look at the email I just surfing the internet looking at what is going on out there in the world. It is very interesting, you can see everything and anything. I also assist people in my community with information about health, travel, and how to take care of their farms. Well sometimes you get an idea but those things are too expensive for us [4b].</p> <p>No, I don't use it regularly although I know I should. It is very difficult because of the business, we hardly have to go over there [9mm] and use the computer. But I try to go when I can. I am thinking of getting a computer so that that way I will be able to communicate with the people them (the tourists) better and be able to benefit like the other bigger places. And we going to try to get a Website as well [3a, 9s, 9p, 48]</p> <p>Entrepreneur 13: Nationality :Jamaican Gender :Female Age : 31-40 Socioeconomic : Lower (Very Low – describes herself as a sufferer – Hustler many businesses) Academic Background: High school Professional Background: Self Employed Current Occupation: Self-Employed \ Sales woman</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>Business Type: Informal and Unregistered</p> <p>Initiative Activities We learnt how to do letters and how to send email search the internet stuff like that. Yes we used Microsoft. (FOLLOW UP QUESTION - Did you learn any other software programs? No it was only Microsoft. Microsoft word, and internet explorer and windows) – [2, 3a]</p> <p>Value of ICTs Yes. ICTs are important, we need to move with the time or we will be left out. In order to make progress then it is important to move with the times. ICT is a good thing. The world is just a fingertip away [4b, 4c]. With thee click if a finger you can access information and people can access information about you and your business [9q, 9r]. These are things that are important for us in this business [41, 48a, 3a, 6, 7, 8, 10, 21, 22, 23, 30, 34].</p> <p>You can market your services anywhere in the world in the same way the larger hotels do.</p> <p>It is very effective. I have seen people come there and use it do all sorts of thins, Ingrid has shown me how you can market your services anywhere in the world in the same way the larger hotels do.</p> <p>Utilization of the Knowledge Well I have not benefited from it directly but I have seen how people have used it to benefit themselves and I can see how I can benefit from it [4b, 4c]. I don't really have the time to go and use it. This have gotten a little hard my husband was laid off and so I have to be doing much more to send my daughter to school. So I don't have the time or even the money to be able to do that I want to do [4b, 4c, 55, 9ee, 9bb]. I am hoping to get a little website to advertise my little tour business because it is really taking off. with a website you can reach people overseas to show them where you are in Jamaica and what you offer [48a]. In the future when things settle down I am planning on opening a Cybercentre</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>in the adjoining district to train people and offer internet access services because I see how this computer and internet thing is important and everybody more and more using it especially the kids them. Everyday the place up there pack up with children. So is a good investment, it is a good way of making some money. No Cybercentre is over there (points to an adjoining district) so I need to capitalize on that. It is a good money making opportunity</p> <p>Entrepreneur 14: Nationality :Jamaican Gender :Female Age : 31-40 Socioeconomic : Lower (Very Low – describes herself as a sufferer – Hustler many businesses) Academic Background: High school Professional Background: Self Employed Current Occupation: Self-Employed \ Sales woman Business Type: Informal and Unregistered</p> <p>Value of ICTs</p> <p>It is something that I know can help you to make a lot of money and something that is important for people in our industry. computers and the internet really provides development opportunity for many. ICT has benefits for everyone [4f].</p> <p>The world is moving I that direction, and many people are benefiting from it. so I do not se the reason why we in Jamaica and in the Caribbean don't move that way [48d]. It is more easier to make contact around the world with the type of technologies. For example you can use the internet and advertise your services. The internet has much to offer. I can see myself using it in the future to sell craft items, roots and thing, export some Jamaican T-shirts and all sorts of things [63]</p> <p>Money, Money Money. I am expecting to see Money when I shoot off. I see where it making money for the big hotels them and other small</p>				

Answer/text	(DISCOURSES)	Discourse-as-Discourse Practice	Wider Economic, Political and Socio-cultural Practices	Consequences
<p>people I know [5a]. My time will soon come. So that I can market and advertise my business over the internet. I am doing some savings now to organize myself [5b].</p> <p>Utilization of ICTs No, I neither have the time or the money to use it now [5c. 9ee, 9ff, 55, 57] I work until late so by the time I am finished working the Cybercentre is closed [55, 57]. I want to buy a computer so that when I go home I can sit down and check my email, build my website and search the internet for opportunities [9bb, 9cc, 9dd, 14]. Ingrid said that that was the best solution for me right now. Once I get up and running I will be getting a website because it can be seen by clients anywhere in the world and with it you can advertise your goods and services all over the world [4b, 4c]</p>				

Key	
Highlighted text	Notes made in the field or points of importance flagged in the interview
DISCOURSE	<p>The questions which were asked when analyzing the discourses</p> <p>What are the</p> <ol style="list-style-type: none"> 1. Wording/Language – (the force of utterances) - foregrounding/backgrounding 2. Vocabularies, 3. cohesion linkages, 4. Grammar & text structures to identify - <ol style="list-style-type: none"> a. categories of participant constructions of participant identity b. participant relations of subjects, objects, social positions, c. how subjects and objects were positioned, and d. instances of relations of power in the use of language. 3. Intertextuality/Interdiscursivity <ul style="list-style-type: none"> • What social event, and what chain of events, is the text a part of? • What social practices or network of social practices can the events be referred to, be seen or framed within? • Is the text part of a network of texts? • Is the text situated within a genre chain? • Is the text characterized by a mix of genres? • What genres does the text draw upon, and what are their characteristics (in terms of activity, social relations,

	<p>communication technologies)?</p> <ul style="list-style-type: none"> • How is difference treated in the text? • Are particularly significant relations of equivalence and difference set_up in texts? • Which voices are included/excluded? • Which voices are backgrounded/foregrounded? • Which voices are directly/indirectly reported? • What extensional, propositional, or value assumptions are made? • What are the predominant semantic relations between sentences and clauses (causality, reason, consequence, purpose, conditional, temporal, additive, elaborative, contrastive/concessive)? • Are there higher-level semantic relations over larger stretches of texts (eg. problem-solving)? • What type of statements are there (statements about facts, predictions, hypothetical, evaluative)? • What discourses are drawn upon in the text and how are they textured together? Is there a significant mixing of discourses? • What are the features that characterize the discourses which are drawn upon (semantic relations between words, collocations, metaphors, assumptions, grammatical features)? • What elements of represented social events are included or excluded, and which included element are most silent? • How abstractly or concretely are social events represented? • How are processes represented? • What are the predominant process types (material, mental, verbal relational, existential)? • How are social actors represented (active / passive, personal / impersonal, named / classified, specific / generic)? • How are time, space and the relations between 'time-space' represented? • What styles are drawn upon in the text, and how are they textured together? • Is there a significant mixing of styles? • What do the authors commit themselves to in terms of truth?? • To what values do authors commit themselves? • What are the order of discourses? • What are the power relations? • Who are the agents of power and who are not? • What are the connections between the use of language and the exercise of power? • What are the binary oppositions and what do they imply? • What insinuations are being made and how are they influenced? • Whose interests are served in the way texts are positioned and whose interests are negated?
Discourse-as-Discourse Practice:	<p><u>Questions which were asked with analyzing the discourse within the Discourse-as-Discourse Practice framework</u></p> <p>Where did the Discourse come from (Consumption) How did the person interpret the discourse (Interpretation) Was the discourse transformed and how was it transformed (transformation) (and factors which contribute to this transformation process). How was the discourse reproduced and distributed (Reproduction and Distribution) and what are the issues which influenced this process (Influences in the reproduction and distribution of the texts)- social relations, instruments or materials, objects, time and place, forms of consciousness, beliefs/values/desires and institutions/rituals which may explain how the texts and the discourses inferred from them were produced by social actor(s) – the context of production/situation.</p>
Socio-cultural Practice	<p><u>Questions which were asked when analyzing the impact of the wider socio-cultural, political, ideological and institutional context/structures in an historical context on the production, transformation, distribution and</u></p>

	<p><u>redistribution of texts</u></p> <p>What are the wider socio-cultural, political, ideological and institutional context/structures in an historical context at play?</p>
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APPENDIX 2: LIST OF ACRONYMS

- CDA - Critical Discourse Analysis
- CIDA - Canadian International Development Agency
- DFID - Department for International Development
- FAO - Food and Agricultural Organization
- GDP - Gross Domestic Product
- HDR - Human Development Report
- IaDB - Inter-American Development Bank
- ICT - Information and Communication Technologies
- ICTLEMD - Information and Communication Technologies for Livelihood Expansion through Microenterprise Development

- ICTLEMD-T - Information and Communication Technologies for Livelihood Expansion through Microenterprise Development in the Tourism Industry
- JSDNP - Jamaica Sustainable Development Networking Programme
- SDNP - Sustainable Development Networking Programme
- TNCs - Transnational Corporations
- UNDP - United Nations Development Programme
- UNESCO - United Nations Educational, Scientific and Cultural Organization
- UNCTAD - United Nations Conference on Trade and Development
- USAID - United States Agency for International Development