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Rural Trajectories: Diversification and Farm-Community Linkages in Whakatane District, 1999-2003

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Rural Trajectories: Diversification and Farm-Community Linkages in Whakatane District, 1999–2003

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July, 2004

Abstract

In New Zealand and elsewhere the interdependence of development in farming and the broader rural community can no longer be taken for granted. Five years ago we conducted a comparative analysis of the interrelated dynamics of change in agriculture and rural communities in the Central North Island. The observed trends from this research suggested that: (i) long and short cycles of change affecting the rural sector are promoting greater diversity in agriculture-community relations; (ii) adjustment processes are ongoing; and (iii) current evidence does not point unambiguously to either the de-coupling or re-linking of agriculture and the broader rural community.

This paper explores further the ambiguity encountered in the earlier research through a follow-up case study grounded in Whakatane District. The key finding is that as a result of individual effort and the will to diversify, the rural economy of Whakatane District is buoyant and farming remains the major economic activity. However, despite the apparent persistence of strong and pervasive agriculture-community linkages, the district remains vulnerable to forces embedded in short and long cycles of change. In terms of short-cycle change, the pressure on dairy farming from price fluctuation and the increasing attractiveness of conversion to horticulture is affecting the agricultural side of the equation, while the proliferation of lifestyle blocks is notable on the community side. In terms of long-cycle change, the influence of a renaissance of Maori rural living is beginning to be felt on the community side, while the effect of climate change and associated weather extremes is beginning to impact on agriculture.

Key words: rural communities, agriculture, interdependent development, long and short cycles of change, Whakatane, New Zealand

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Introduction

The latter decades of the Twentieth Century witnessed considerable change in agriculture and in the rural sector more generally, both in New Zealand (Joseph, 1999) and elsewhere (Ilbery, 1998). In New Zealand, agriculture was centre stage in the process of structural adjustment initiated by the Labour government in 1984 (Cloke, 1989). The removal of minimum price guarantees set in motion a series of structural changes in agriculture as farmers were exposed abruptly to the effects of globalization in food production, processing and distribution (Moran et al., 1993; Le Heron and Pawson, 1996).

In rural communities, the flow-on effects of fewer people working the land, often with reduced capital and material inputs (Wilson, 1994; 1995), were exacerbated by downward pressure on employment levels in food processing (Le Heron and Pawson, 1996) and by the removal of state support for rural services and their attendant employment opportunities (Joseph and Chalmers, 1998). However, this was no transitory 'shock' to be waited out, for the short cycles of change associated with social and economic restructuring were, almost imperceptibly at first but then more recognizably, absorbed into complementary long cycles of change in rural population structures, technology and lifestyles (Joseph, 1999).

The interrelated impacts of short and long cycles of change have been deeply inscribed in the landscapes and communities of rural New Zealand. As in other advanced economies (Phillips, 1998), rural society has become marked by diversity and difference as much as anything else, both in place and across space (Joseph et al., 2001). Within this increasingly complex milieu, the interdependence of farming and the broader rural community can no longer be taken for granted (Joseph, 1999; Marsden, 1998; Stabler and Olfert, 1996); indeed, there is a growing belief in some quarters that agriculture and rural communities are set upon separate development trajectories, and that this is contributing to their progressive de-coupling (Smithers and Joseph, 1999).

Five years or so ago, with support from the Ministry of Agriculture and Forestry (MAF) we set out to investigate the interrelated dynamics of change in agriculture and rural communities in the Central North Island (Bedford et al., 1999; Lidgard et al., 2000). As part of this research we conducted a comparative analysis of interdependence in Ruapehu District and South Waikato District (Joseph, et al., 2001). The results pointed toward the persistence of strong linkages between farm and town (Taumarunui) interests in Ruapehu District but a virtual de-coupling of farm and town (Tirau) interests in South Waikato. However, we also noted that

"…the distinction between de-coupling and re-linking, while conceptually attractive, is empirically problematic. The events of the last two decades have produced new threads of both convergence and divergence that weave in and out of the development trajectories of agriculture and rural communities" (Joseph et al., 2001: 25).

In this paper we revisit the ambiguity encountered in the earlier study, and ground our analysis in a case study of Whakatane District. The availability of unpublished (early 1999) interview data from the Central North Island study (Bedford et al., 1999) and a contemporary (late 2003) data collection allows us to examine threads of change, and subsequent implications for convergence or divergence of the farm and community spheres of rural life in the district, over time. This approach also allows us to reflect on the ability of the earlier, cross-sectional analysis to capture accurately development trends in the two sectors.

The decision to focus on Whakatane District was based on the high levels of diversity - a key aspect of the new rurality - known to be present in the agricultural activities and community structures of the district (Bedford et al. 1999). The follow-up study is informed by recent research in Canada (Smithers and Johnson, 2004; Troughton, 2002) and the UK (Wilson, 2001; Winter, 2003) that describes the continued sharpening of contrast among the various business development trajectories pursued by farmers. Related work has identified implications for linkages between agriculture and the broader rural community (Smithers et al., 2004) and for rural development (Renting et al., 2003).

The argument in this Discussion Paper is organized into four major sections, the first of which outlines the research design employed in the original study and in the follow-up study. In a second section, we examine the 1999 data for Whakatane District for consistency with patterns of sectoral and inter-sectoral relationships reported in Joseph et al. (2001) for Ruapehu and South Waikato. Specifically, we identify three trends as being particularly significant: ongoing diversification in agriculture, an expansion of lifestyle blocks, and the evolution of Maori community interests. In a third section, we report on our follow-up analysis of these trends and consider general implications for the interdependence of development trajectories in the farm and community sectors. In a fourth and concluding section, we reflect on the conceptual and practical value of the follow-up study and consider directions for further research.

Research design

The Central North Island study drew upon a diverse body of theoretical and empirical literature on rural change. Much of this literature was summarized in a descriptive model that served both as a conceptual framework within which to situate the individual case studies and as an interpretive framework for their results (Joseph et al., 2001). The model, which is reproduced in schematic diagram form below, characterizes the forces and mechanisms of change that have swept over the rural sector (Figure 1).

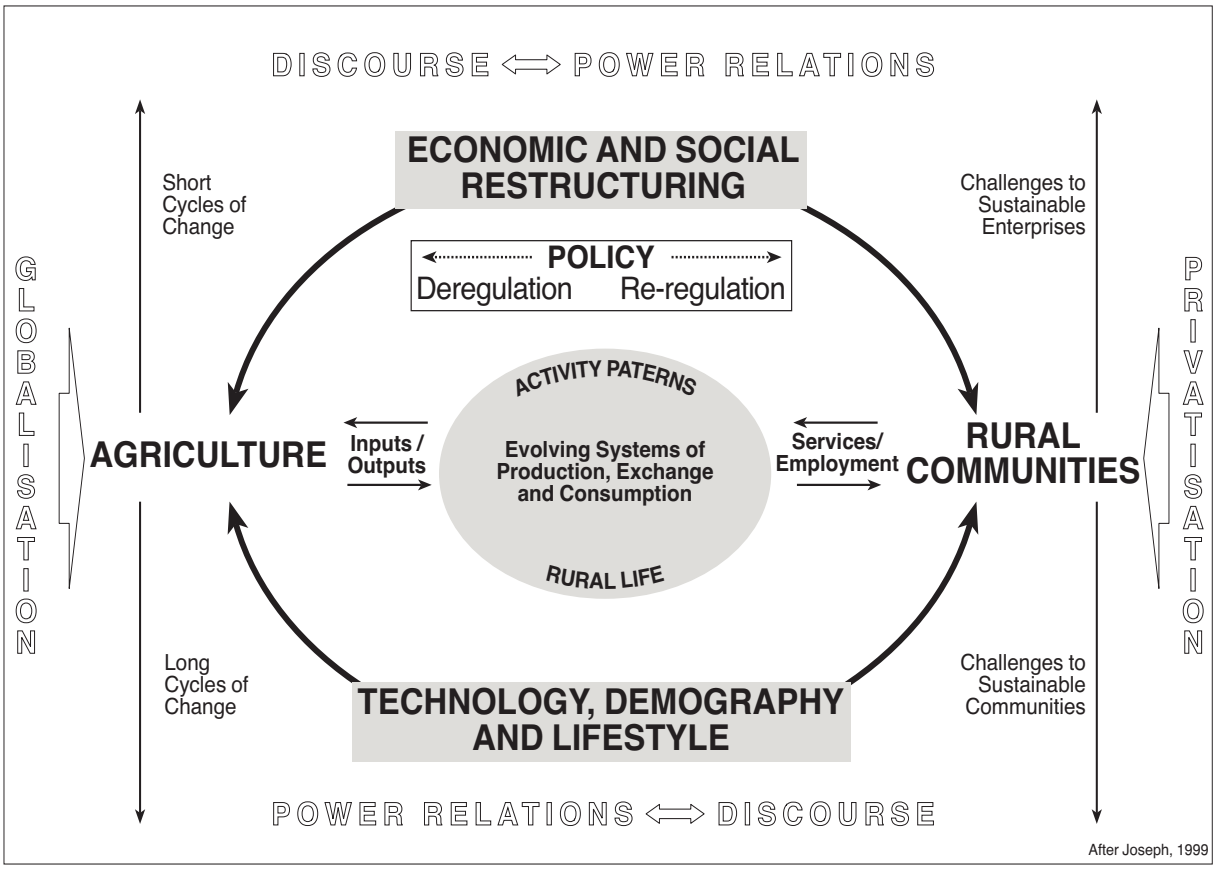

Figure 1: Interrelated dynamics of change in agriculture and rural communities: a descriptive model (Joseph, Lidgard and Bedford, 2001, 18)

The primary conceptual distinction in the model is between *economic and social restructuring*, which is viewed as a deliberate political project, and the longer term effect of a complex and diffuse set of changes captured, albeit imperfectly, under the banner of *technology, demography and lifestyle* (Figure 1). Empirically, the focus of the case studies was on perceptions of change in the economic and social

activities that lie at the heart of rural life and their individual and cumulative impacts on the mutuality of development trajectories in agriculture and the broader rural community. More detailed treatments can be found in Joseph (1999), Bedford et al. (1999), Lidgard et al. (2000), Joseph et al. (2001).

The study area

Whakatane District is located in the eastern portion of the Bay of Plenty, an area steeped in Maori history with many natural resources (Figure 2). The total area of the District is 420,000 hectares, with the Rangitaiki Plains making up approximately seven percent of this area (30,000 ha).

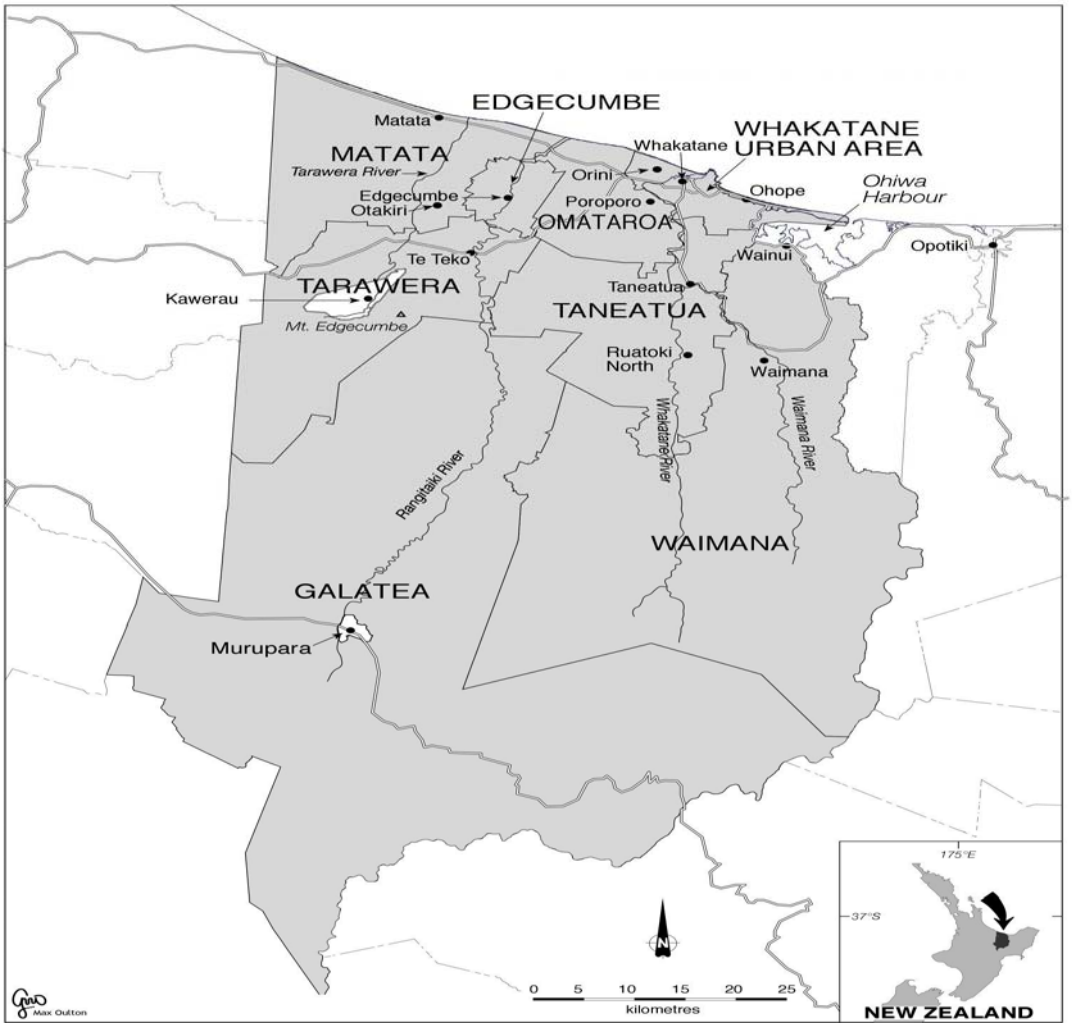

Figure 2: Location map showing communities and wards in Whakatane District

Just under one-half of the area of the Rangitaiki Plains (14,000 ha) has soils considered to be of sufficiently high quality for horticultural and crop production (Whakatane District Council, 2003). This land was drained in the late nineteenth and early twentieth centuries, with the Land Drainage Act 1908 providing both impetus and funding for the completion of drainage work. Water flows on the Plains have been altered considerably, and the Regional Council operates an extensive flood control and drainage system.

Currently, the main agricultural activities in the area are dairying, horticulture and forestry; although there is a significant degree of diversification away from these core activities evident, and some of this is associated with the 700 or more lifestyle blocks in the District (Agfirst Consultants, 1999). Statistics New Zealand has classified approximately half of the land area of Whakatane District as being "farmed" (Table 1). The data in Table 1 indicate that over the last 20 years there has been a dramatic increase in the area of land in forestry plantations and a significant decline in the area devoted to pastoral farming.

Table 1: "Farming" Land Use in the Whakatane District, 1980–2002

Year	Number of farms	Areas in grassland (ha)	Land in horticulture (ha)	Land in other crops(ha)	Land in plantations[1] (ha)	Other land (ha)	Total land (ha)
1980	1,000	94,517	–	–	50,102	104,597	252,729
1985	1,614	83,461	2,256	570	64,239	–	287,490
1990	1,503	80,944	2,172	2,538	72,617	–	225,687
1991	1,475	82,550	1,873	–	64,452	71,008	219,883
1994	1,089	..S	..S	..S	106,500[3]	..S	209,601
2002	1,000	68,144[2]	1,379	2,236	121,322	..C	216,054

Note: [1] *Exotic only*
[2] *Excludes Tussock and other grazing plants*
[3] *Estimate by Ministry of Forests*
..S Suppressed for reasons of poor quality
..C Confidential

Source: Whakatane District Plan, 2003 and Statistics New Zealand, 2002c

Coincident with the kiwifruit boom of the 1980s there was a spike in the land area devoted to horticulture. While the land area involved remains relatively small, developments in horticulture are significant because of their geographical focus in the Rangitaiki Plain and their high rates of return. Indeed, in the late 1990s horticulture (especially kiwifruit) and dairying contributed in excess of $100m annually to the local economy (Agfirst Consultants, 1997, 3). Edgecumbe is the

base for a packhouse for kiwi fruit and a factory for the processing of milk solids (Figure 1).

The usually resident population of the Whakatane District grew only modestly between 1991 and 2001 (Table 2), from 32,094 to 32, 814, or by 2.2% (Statistics New Zealand, 2002a, 23). Further examination reveals that there was a moderate increase (3.2%) in population between 1991 and 1996 (Statistics New Zealand, 1997, 23) and a modest decrease of 0.9% between 1996 and 2001 (Statistics New Zealand, 2002a, 25). Over the same decade, the usually resident population of the Town of Whakatane increased steadily from 16,662 to 17,778, or 6.7% (Statistics New Zealand, 1997, 26; Statistics New Zealand, 2002a, 24).

Forty percent of the population of the District identified as Maori in 2001, compared with 14% for New Zealand as a whole, and up from 38.4% locally in 1991 (Statistics New Zealand 2002a, 27). Maori are found disproportionately in the rural (56.8%) as opposed to urban (33.3%) population of the district. Indeed, at 49.8%, they constitute nearly half of the total rural population of Whakatane (Table 2).

Table 2: Population in Whakatane District, 1991–2001

	1991	**2001**	**Change 1991–2001**	
Total population			Number	Percent
Whakatane District	32,094	32,814	720	2.2
Whakatane town	16,662	17,775	1,113	6.7
Whakatane rural	15,432	15,039	-393	-2.5
New Zealand	**3,373,929**	**3,737,280**	**363,354**	**10.8**
Maori ethnic				
Whakatane District	12,309	13,200	891	7.2
Whakatane town	4,620	5,706	1,086	23.5
Whakatane rural	7,689	7,494	-195	-2.5
New Zealand	**434,847**	**526,281**	**91,434**	**21.0**

Source: Statistics New Zealand, 2002a

Assuming continued in-migration of Maori (mainly return flows from urban areas), and the persistence of birthrate differentials, Maori will constitute a growing rural majority in future years. Partly as a consequence of the high percentage of Maori, the district had a younger age profile in 2001 than New Zealand as a whole: 27.2% of the usually resident population is aged 14 or younger, compared with 22.7 percent nationally (Statistics New Zealand, 2002a). Not surprisingly, there is a

lower percentage in the 65 years or older age group: 11.4%, compared with 12.1% nationally.

Data collection and analysis

The initial (1999) exploration of trends in agriculture and the broader rural community was brought to life as a series of narratives organized with reference to the descriptive model of rural change shown in Figure 1 (Joseph et al., 2001). The narratives were compiled from semi-structured interviews conducted with key informants selected with an eye to sectoral representation and gender and ethnic (Maori-Pakeha) mix.

The interviews solicited opinions related to: (i) changes in local farming and land use; (ii) changes in Whakatane District more generally; and (iii) the perceived impacts of changes in farming and the broader community. Eighteen individual face-to-face interviews and one group interview (involving five couples) were conducted in February 1999. The participants included a cross section of local farmers (dairying, beef and sheep, kiwifruit, etc.), lifestylers, business people and (Pakeha and Maori) community representatives. Readers are referred to Bedford et al. (1999) and Lidgard et al. (2000) for additional background information about the data collection procedures.

The 2003 data collection involved a fresh set of nine semi-structured interviews. Respondents were selected with reference to the three themes - increased agricultural diversification, expansion of lifestyle blocks and Maori community evolution - revealed as being especially significant for farm-community relations in the 1999 interviews. The face-to-face interviews were conducted in November and December 2003, and followed the structure used in 1999, with respondents also being asked to comment specifically on trends in diversification, lifestyle blocks and Maori population.

The narratives derived from the 2003 interviews are overlain upon those drawn from the 1999 interviews as a means both of providing additional insights on key themes and of obtaining a sense of development over time. Analyses of published data, and media reports on salient aspects of rural change were conducted as a means of contextualizing and verifying the narratives. This represents a methodological departure from earlier studies and reflects our interest in methodological self-reflection.

Agricultural and rural trajectories: the view from 1999

In this section, we consider the views of the 1999 respondents with respect to trends in farming and land use more generally. We note implications for farm-community linkages and identify contrasts, where they exist, with the conditions and relationships reported for Ruapehu and South Waikato Districts (Joseph et al., 2001). The section concludes with a brief summary of convergence/divergence trends that serves as a platform for the presentation of the 2003 data.

Trends in farming

Several respondents observed that the removal of subsidies and the opening up of New Zealand agriculture to global competition in the mid-1980s had forced a 'shake-out' in the industry, both nationally and locally. Others saw the same forces as responsible for the advent of corporate and large-scale farms. As a woman farmer with 40 years experience put it: *"Since the mid-1980s we have had to expand or go backwards."* A dairy farmer echoed the same sentiments: *"We are running faster to keep still - or maybe more correctly to keep going."* It was noted that rising costs and falling returns were encouraging farmers to make more efficient use of their resources. As an immigrant dairy farmer pointed out: *"A cow-shed is a food-processing factory which is experiencing pressure, both from within New Zealand and from overseas, to institute systems of quality control.*"

Successful farming in this competitive environment was described by a third generation dairy farmer as "good decision-making." He went on to note that: *"There has been a shift away from 'doing the farm work' to 'managing the farm'."* It was not surprising then that business acumen and 'attitude' were regarded by the majority of respondents as a prerequisite for present or future success. One established farmer felt that the goal of farm ownership was still possible to achieve, but only for those entering farming with the right 'attitude'*: "You can tell by the attitude of the people whether they will ever get land of their own or not. Attitude is the most important thing."*

Echoing the advent of a more business-like approach to farming, farm-based respondents seemed very aware of the need to identify strategies for developing the farm business. As one dairy farmer noted: "*It is essential that farmers keep an open mind on possibilities for business development.*" The solutions most frequently suggested in order to "stay in the game" were to keep getting bigger and/or to diversify. Most of the farm-based respondents had done both, although they were generally aware of the complications this could bring with it. As one noted: "*By diversifying you have to learn to work a multi-skilled business.*"

The amount of diversification was particularly dramatic. Of the 16 farms covered in the interviews, all but three (large, single focus operations) had pursued some form of diversification. For example, one farmer had racehorses and some sheep and deer in addition to two kiwifruit orchards, one of which was Biogrow (organic) registered. Another couple supplemented the income from their dairy farm by growing blueberries and persimmons for the export market. Other farms combined dairying with kiwifruit orcharding. Another form of diversification involved non-agricultural activity on the farm, and there were home stay and craft shop operators among the respondents. It is also notable that more than half the farm families involved in the interviews were reliant to some degree, or had in the past been, on off-farm income to supplement returns from farming.

The drive for greater efficiency, either through growth or diversification, was seen universally to have implications for employment levels and patterns in local farming. Like respondents in Ruapehu and South Waikato, but perhaps more so, farmers in Whakatane noted a rise in the use of family labour and contractors. As one dairy farmer reported: "*A lot of wives are going back to work on the farm rather than having to get a farm labourer in.*" However, it was the increased use of contractors that garnered greater attention. As one dairy farmer noted: *"Contractors used to stop at the farm gate. Now lots of contractors want to come inside the property to do more tasks."*

This trend has reduced opportunities for young, largely unskilled farm labourers to find permanent positions on farms. What jobs remain or are being created demand greater aptitude and higher skill levels. As one livestock farmer put it: "*There is opportunity still for labour, but it must be more skilled and up to date with farming systems.*" At the same time, several respondents noted that demands for part-time unskilled labour remained strong in horticulture, although reference was made again to a 'skills deficit'. A kiwifruit orchardist reported that: "…*it's hard to get staff in the industry who know what they're doing.*" This may be why another orchardist stated that: "*We used to mostly only employ mainly secondary school students. Increasingly, and even more so this summer, we've employed more university students and more adults… they tend to have a work habit and they're a little bit older."*

We identify diversification, in the narrow sense of greater variety in income generation on farms and in the broader sense of sharper distinctions between business development trajectories in agriculture, as a dominant trend in Whakatane District and worthy of attention in the 2003 interviews. However, it is important to

recognize immediately that diversification in farming is not occurring in isolation from other trends. In Ruapehu District, for example, it was clear that increased farm size and the use of contractors (in place of on-farm employees) was contributing to the decline of the permanent population in the countryside, with flow-on implications for school rolls and demand for goods and services in local centres (Joseph et al., 2001). The same cannot be said in Whakatane. The increase in lifestyle blocks and the growth of Maori population in the District were seen to be compensating for farm-led declines in population.

The growth in lifestyle blocks was seen as one of the biggest changes in land use in the District. As one dairy farmer noted: *"The development of lifestyle blocks in the 1980s brought many professional people from town into the countryside."* However, it was pointed out that not all of these lifestylers are 'townies'. One respondent suggested a connection between the retirement of farmers from areas like the Manawatu and the increased demand for lifestyle blocks in the Bay of Plenty, where the climate and recreational activities are attractive. He noted a tendency : "*… to buy into 10 acre blocks or old kiwi fruit orchards … They come up, bring a couple of sheep and the old dog, and feel they have a bit of land."*

While lifestyle blocks, on which some sort of commercial production is maintained, could be viewed as a form of diversification within agriculture, most respondents agreed with one farmer who noted that: "*It is old fashioned to think you can support a whole family on 10 acres."* A dairy farmer elaborated: "*Many of the lifestyle blocks are not economic units now – they were considered to be in the heyday of the kiwifruit boom."* This also seemed to be the view among lifestylers, one of whom stated simply: *"We knew we weren't going to live off 10 acres."*

While there was almost unanimous agreement about the growth in the number of lifestyle blocks and a near consensus on the social as opposed to economic motives of lifestylers, there was considerable ambiguity concerning impacts on farming and on the broader community. On the positive side, several respondents spoke about the beneficial aspects of the growth in numbers of lifestyle blocks in terms of more people on the land. As one livestock farmer noted: *"Splitting up the land has meant more families can live here."*

A dairy farmer made a specific link with developments in 'mainstream' agriculture: [Lifestyle blocks] *"have had a positive impact on local schools and businesses, notwithstanding the fall in the number of dairy farms and the decline in the number of farm employees."* Others noted that the increase in the numbers of lifestyle blocks not only led to larger numbers of people living in rural areas, but

also had the specific effect of increasing people's sense of security. One farmer emphasised that personal security had become an issue of major concern for many rural dwellers in the past four to five years.

On the negative side, several farmers spoke of the impact of lifestyle blocks on land prices. As one dairy/kiwifruit farmer explained: *"Farmers are chasing land prices. Horticulture and lifestyle blocks have further pushed the price up."* The same farmer noted that *"a lot of land is lost in lifestyle blocks."* This notion of pressure on the land base was clearly of concern for many farmers, one of whom admitted that "*…the expansion of lifestyle blocks has worried me for some time.* [The Town of] *Whakatane is short of land and demand could come this way."*

Trends in the community

As in Ruapehu and South Waikato (Joseph et al., 2001), respondents in Whakatane District were very aware of the decline in rural servicing, especially in smaller communities in the district such as Waimana and Taneatua. As one dairy farmer noted: *"There used to be three general stores* [in Waimana] *in the 70s, now there is one."* A long-time dairy farmer noted that: *"Taneatua has changed a lot. There were two banks there, also several food shops that used to deliver."* In smaller communities, schools have been left as the last tangible presence of the state. As a group of farming couples put it: *"Your life revolves around the local school. This requires a lot of effort on the part of parents, but we rural people do this willingly. It is a part of ensuring your children's education."* This explains to a considerable degree the emphasis put by many respondents on the maintenance of school rolls as a barometer of 'community health'.

Concerns were expressed by many respondents about the decline of financial and retail services, with banking being a topic favoured by several of them. They bemoaned the loss of local branches. As one farmer put it: *"When you can't get cash in a town it becomes a ghost town.*" The demise of local bank branches was not viewed as a problem by everyone though. Although some people complained that they now needed to travel further to make a personal visit to a bank, others felt that telebanking and other innovations suited busy people. The physical movement of personnel was now identified as more 'from the bank to the farm' rather than 'from the farm to the bank'. As a woman running a diversified farm operation in partnership with her husband commented: *"Ten years ago a bank manager would not have come out to a farm. Today farmers are respected clients and [bank] managers visit farms."*

In addition to the previously noted comments about the decline of services and businesses in villages and small towns, respondents also noted change in the Town of Whakatane. A long-term farm resident said: *"Whakatane is not the same at all any more … no toy shop anymore, but now we've got thirty-four restaurants and eating out places, but if you want to buy a good dress there is nowhere."* However, several other interviewees commented favourably on the growth of the retail and service industries in Whakatane, with the opening of many of the national grocery chains and the multi-national fast food outlets being picked out for special attention. Overall, there seemed to be a reasonable level of support for, and satisfaction with, local retailers and service suppliers. A few farmers specifically mentioned this desire to help local businesses: *We went to the local agent and said we know what we want, we know we can get it in Auckland but we'd prefer to buy it locally. What can you do? He came up with a deal that matched the Auckland guy, which was great. … You must go and make the offer locally.*

As in Ruapehu and South Waikato, the availability of jobs and volunteers emerged as important barometers of change in the Whakatane District. In stark contrast with Ruapehu, respondents did not report a shift in the balance of job creation from agriculture to the town. While respondents recognized the decreased ability of agriculture to generate employment, they did not report a growing reliance of farm families on town jobs. We take this as indicative of the relative prosperity of farming in Whakatane District and of associated opportunities for diversification.

Opinions about the shortage of volunteers were more in line with those expressed in Ruapehu and South Waikato. One dairy farmer noted that the pressure to minimize the demand for paid labour on the farm made it difficult to contribute time to community initiatives: "*If you are a farmer you hardly have time for going out.*" Women, in particular, feel these pressures. In rural New Zealand women, and especially those from farm families, have always played a large role in voluntary sector activities (Scott et al., 1997).

The older farm women with whom we spoke were struggling with the unpaid workload and expressed concern at the falling numbers of younger women within the voluntary sector. An interviewee who had been actively involved in the Woman's Division of Federated Farmers (WDFF) since 1972 reported that membership of her branch had dropped from 35 in 1972 to nine in 1999, with only three of the surviving members under the age of 69 years. She feared that: "…*the WDFF will soon fold and I will miss it. It brought me into contact with women*

living in other areas of the region. Other groups for women are also having problems getting members. It's not what it used to be."

The strongest contrast between commentaries on community trends in Whakatane and those we reported earlier in Ruapehu and South Waikato (Joseph et al., 2001) emerged in connection with the growth of Maori population and the related evolution of Maori community interests. While biculturalism was an important contextual variable throughout the earlier analysis, and comments were made about the need to address Maori unemployment (in Ruapehu) and cultural needs (in South Waikato), it did not emerge in the same way as it did in Whakatane.

In referring to changes in the village of Taneatua, a retired farm woman stated: "*Most Pakeha have moved out and Maori are moving in. It's a different community – a Maori one."* She went on to note that this had resulted in an improvement in the look of the community. A dairy farmer commented on the positive impact of a growing Maori population on school rolls: "*There are three schools in the valley. Two of the schools are almost fully Maori immersion schools."* However, it was the connection made by some respondents between Maori population growth in rural areas and increased competition for land that caught our eye. One dairy farmer reported that: *"The Maori are reclaiming the leased land rather buying up more blocks. There isn't enough housing for Maori who are coming back to the land."* He went on cite his personal experience: *"Originally, the family came to the area and took a 33 year lease on Maori land with seven years to run. When the lease ran out the Maori took it back."*

Convergence and divergence trends

The 1999 interviews paint a picture of a strong and seemingly profitable farming sector in Whakatane District. Farmers had made significant adjustments in order to promote efficiency, and the sector had retained its primacy within the rural economy of the District. This primacy is attributable to the efforts of individual farmers to grow and to diversify. Farmers were generally satisfied with the services available in the district and appreciated that tourism and residential development helped to support a balanced local economy.

They were also conscious of the growth pressures emanating from the Town of Whakatane and understood that the same factors that supported tourism were translating into pressure on land resources. From our interviews, we identified two trends - the development of lifestyle blocks and the growth of Maori population - as important challenges to the expansionary strategies favoured by most farmers. Each holds the seeds of convergence and divergence. They can either promote

complementarity or conflict with the dominant, expansionary/diversifying trajectory in farming.

The 1999 interviews do not allow us to probe further into the interrelationship of (possibly competitive) farm-focused growth strategies, the development of lifestyle blocks and the evolution of Maori community interests. There are conflicting signals in the interviews: will lifestylers and Maori contribute to the maintenance of rural community infrastructure through support of local businesses and institutions? Or will they increase pressure on land resources and prices, or perhaps object to the activities of mainstream farming? Answers to more nuanced questions, concerning for instance the impact of Waitangi Tribunal settlements on the community development agenda, are even more elusive.

We now turn to information collected in 2003 as a means of resolving at least some of these ambiguities and of attaining a more satisfactory understanding of the interdependence of development trajectories in the District.

Agricultural and rural trajectories, 1999–2003

Farm development strategies and trends in diversification

With respect to farm business development strategies, the 2003 respondents identified the same trends – of increasing farm size and diversification – as the 1999 respondents. That said, the 2003 respondents provided two retrospective observations about the situation of farmers in 1999. First, the mid-1990s was a period of considerable uncertainty in farming generally, and in Whakatane District this was accentuated by the dramatic drop in the price for kiwifruit. Second, there was a recovery in dairy industry in the late 1990s. As one woman involved in dairy farming put it: *"In 1999 they went into a period of high payouts – everyone was super positive about the industry and land prices skyrocketed."* This mixed message - of a dramatic earlier crash in kiwifruit prices and a recent surge in dairy prices - may well have underlain some of the ambiguity in the 1999 narrative about land use trends.

Like those in 1999, the 2003 respondents saw dairy farming and horticulture (especially kiwifruit production) as the dominant features in the District's economic landscape. If anything, the 2003 respondents felt that the pre-eminence of these two forms of production has been accentuated in the last couple of years. A respondent from the Whakatane District Council noted the impact of the closure

of an engineering firm in Edgecumbe and the loss of 140 jobs in a log yard in Murupara as evidence of this.

Farm-based respondents pointed out that in dairying the trend to larger operations noted in 1999 had continued through to 2003. One dairy farmer felt that only established dairy farmers could afford the high cost of expansion through land purchase, and commented that *"the clever ones are people who have stretched themselves financially – you keep extending your debt rather than paying it off."* She cited the high cost of dairy farm as a barrier to new entrants and as a continued incentive to 'work smart'. She went on to observe that *"based on contemporary rates of return and levels of productivity, and including the cost of shares in the dairy company but excluding that of livestock, the cost of a dairy farm was around $2.6 million for 80 hectares"*.

In terms of relationships with the community, not much seems to have changed since 1999. Farm-based respondents seemed satisfied with the services available to farmers, but noted that this did not always translate into patronizing services in the nearest community. As in 1999, this was attributed to the availability of competitive, high quality services elsewhere (in Whakatane, and even Tauranga). Of significance to employment, our farm-based respondents noted a partial reversal of the trend toward substituting family labour and contractors for hired help. As one farmer noted: *"Contracting out milking was very unsuccessful for me. The large fluctuations in dairy pay-outs was the problem."* The caveat here was that increased mechanization in the cowshed in the future might decrease overall demands for labour and would certainly demand new skills.

In looking ahead, the respondents returned to the theme of diversification. Several respondents noted that the recovery of kiwifruit prices and the opening of markets for other products had resulted in renewed interest in horticulture. The resurgence of kiwifruit in the area *"will probably see Edgecumbe receive a bit of a boost"* commented one of our respondents, who went on to explain that *"the kiwifruit packhouse is about to double in size which should create about 200 new jobs."* Although this is viewed as a great opportunity for the area, the fear of some is that it will take place at the expense of dairy farming. As one respondent noted: *"There is a real danger of too much land being divided up. Once it's cut up it will never go back into dairy"*. The same respondent went on to note that the importance of dairying in the District had already changed as Whakatane, the host of the first "Large Herd Conference", had lost its ranking as a "Large Herd

District"[1] and now *"most of the area is small to medium herd sizes. Very few of our farmers qualify. The big South Island farmers have really taken over."*

The observations of a dairy farm service provider with nearly 10 years experience in the District seem to confirm the view that the expansion of kiwifruit orcharding is occurring at the expense of dairying: *"The area is losing significant numbers of dairy farms to horticulture blocks, and many of the small blocks with only a few animals are going into kiwifruit. … The growth in the horticultural industry has been huge."* Indeed, two of the dairy farmers interviewed saw a potential for kiwifruit on their properties, although they also recognized that this would involve considerable capital investment and would necessitate the acquisition of new business skills.

Moreover, like the 1999 respondents, they and other 2003 respondents recognized that the presence of intensive horticulture constituted an upward pressure on land prices and an incentive to sub-divide and sell land out of dairy production. As the farm services provider put it: *"Dairy farmers can sell their shares back to the Dairy Company and get a reasonable price for the land while the people buying the land can purchase suitable land for growing quite reasonably. … Anything smaller than about 200 cows seems to be being subdivided."* Overall, respondents felt that pressure to sell off land for lifestyle blocks had the same end result as the pressure to sell off parcels of land to orchardists, and it is to this issue that we now turn.

Lifestyle blocks

In examining the lifestyle block issue, we encountered an apparent contradiction between the general and somewhat simplistic belief in New Zealand about trends in lifestyle blocks and the more nuanced evidence in the landscape of Whakatane District. Nationwide, one commentator noted that the area in lifestyle blocks is reported to have increased to an estimated 700,000 ha of small holdings in 2003 – up from 100,000 ha eight years earlier, and went on to note that "Life block holders are a rural force to be reckoned with" (Stevenson, 2003).

Similar views seem to hold throughout the Bay of Plenty region. As a journalist noted in 2001, "It won't be long before the coastal strip of the Western Bay of Plenty where I live is one long line of lifestyle block. … Blocks ranging from 1ha

[1] Whakatane hosted the first "Large Herd" Conference in 1970 when the definition of a large herd was 300 cows. Today, this herd size has become more common and in 2003 a "large herd" is defined as one of 700 cows or more.

to 20ha quickly change whole landscapes from farmland to semi-suburbia" (Smith, 2001). Interest in lifestyle blocks is fuelled by a mixture of demographics and lifestyle preference: "Nationally, lifestyle blocks continue to be the darling of the baby boomers as more middle-aged go-getters cash up and retreat to the country" (*Sunday Star Times*, 2001, 10). "People need space again … this is like their second burst of life. They are 40 years-plus. They've had enough of city living and come out here for more lifestyle" (Guyan, 2001, 13).

The media coverage sampled above may well have influenced the views of the 1999 respondents with respect to the scope and impact of trends in lifestyle block development. We believe though that they were also heavily influenced by specific developments in the 1990s with respect to the regulation of subdivision activity in the Whakatane District. A respondent employed by the District Council drew our attention to the burst of sub-division activity that preceded a policy change announced for implementation in 1999: *"There was a burst in sub-division activity between 1995 and 1998 related to getting in before the plan change rather than an actual demand for such blocks."* This rush to beat the implementation of stricter guidelines for sub-division resulted in 248 new titles being created for 0-4.5ha blocks across the district in less than four years (Table 3).

Table 3: Distribution of lifestyle blocks, 0-4.5ha, created by subdivision, 1991–1999

Ward	**Year**								
	1991	1992	1993	1994	1995	1996	1997	1998–1999	**Total**
Matata	5	5	4	2	12	7	11	13	**59**
Omataroa	1	4	5	10	23	14	23	22	**102**
Edgecumbe	1	3	4	1	8	5	1	13	**36**
Galatea	0	2	3	1	1	3	2	2	**14**
Waimana	1	1	3	6	3	5	7	7	**33**
Whakatane Other Rural	2	2	2	1	0	5	5	2	**19**
Taneatua	0	3	5	2	3	2	12	3	**30**
Tarawera	2	8	5	6	3	4	5	22	**55**
Total	**12**	**28**	**31**	**29**	**53**	**45**	**66**	**84**	**348**

Source: Unpublished data provided by Whakatane District Council

The same respondent went on to note, however, that: *"A lot of the proposed sub-division never happened."* For example, one of the respondents was operating a dairy farm on a 140 ha block, 30 hectares of which was owned and 110 ha leased. The 30 hectare block had been subdivided about 12-15 years earlier into 15 lots,

and the leased land had a similar pattern of title. This is consistent with the data for earlier periods. Thus, the District Plan states that "as at January 1995, only 7.4% of all titles 4.5-10 ha in size (approved for horticulture, orcharding or vineyards during the period 1985-1991) were in such use. Over 80 percent were in pasture, and were not in conformity with their approval, but possibly in alternative production, particularly with neighbouring properties" (Whakatane District Council, 2003, 18). Indeed, some of the respondents cited examples of the re-amalgamation of blocks that were subdivided to become horticultural blocks, but on which the land use change never eventuated.

It is not surprising that given the number of lots (including lifestyle blocks) created in the 1980s and 1990s, the volume of new subdivision applications has dropped in recent years, and the stock of re-sale blocks seems sufficient to meet current demand. As the respondent in the District Council noted: *"The only part of the District where there is still interest* [in sub-division] *is in the Wainui/Ohiwa Harbour area."* What is less consoling is the considerable stock of sub-divisions that has grown up on the Rangitaiki Plain, the agricultural heart of the district.

A consultant's report (Agfirst Consultants, 1999), and the District Council's own research on subdivision consents, indicates that in the 1990s the two wards with the highest numbers of subdivision consents, Matata and Omataroa, were located on the Plain (Figure 1). In Matata, 59 (27%) of the 220 consents in the decade were for lots of 0-4.5 ha, which is the size range usually associated with lifestyle developments, while in Omataroa 43 percent (102) of the 236 consents were for lots of this size (Table 3).

When respondents talked about their impressions of the impact of lifestyle blocks in the area, they invariably mentioned their visibility in an increasingly diversified rural landscape. As the owner of a one-hectare block said: *"Oh, they're pretty obvious. I mean there are quite a lot of them. There's a bit of citrus growing, there's someone with a little bit of blueberries growing, there's quite a bit of asparagus and just people with a few beef animals. Small kiwifruit blocks, and avocados are just starting to go in, yeah, they're quite obvious."*

This pattern of land use change was not always viewed as beneficial to the landscape of the District. A Maori woman respondent believed that lifestyle blocks were producing *"a splintered landscape"*, while a woman horticulturalist explained to us that: *"In the late 80s when they all sort of came… they wanted horses, and they wanted a cow, and often built little sheds all over the place. What a shame for the landscape because it looks messy."* In contrast, from a community

point of view there were general positive comments about the way that the development of lifestyle blocks had contributed to the repopulation of the rural district. Lifestylers were sending their children to school in the area and doing their shopping, at least in part, locally.

The long-term impact of the growth in the number of lifestyle blocks on dairy farming was noted by a respondent whose wife had grown up in the area: *"My wife was brought up here and there is a whole road … about 4-5 miles long that when she was a kid was all dairy farms. Whereas now there are two dairy farms on it and there'd be, oh, 40 families living down that road on lifestyle blocks."* Many of these people, we were told, were mill workers at the Tasman Mill in Kawerau or the board mills, or professionals who *"are living in the rural community but may work in industry somewhere else. They're not relying on the land for an income … they're just enjoying it with various animals of one sort or another."* As another respondent put it: *"They just live the country life."*

Taking the 1999 and 2003 results together, and taking into account the other data presented above, we now see future trends in lifestyle block development in Whakatane District as dependent as much upon interrelated developments in dairying and horticulture as upon demand for lots. Assuming that the pattern of titles across the District is similar to that on the dairy farms we visited (and Table 3 suggests this is the case), the legal pre-conditions for the extensive conversion of dairy farms to either horticulture or lifestyle blocks already exist. The trigger for the actual creation of smaller operational land use units could be a significant fall in dairy prices, a rise in kiwifruit prices, an increased demand (and willingness to pay) for lifestyle blocks, or a combination of all three.

In effect, the District Council has very little control over sub-division, although it does have the option of relaxing the rules governing the size of lifestyle blocks. This would allow residents on larger lifestyle blocks to meet the demand for new lots by subdividing their larger properties. As we were told: *"After a while most people find 5,000 sq metres more than enough land to manage anyway."* We were also advised that Maori were happy to live on small rural blocks if it is "papakainga"[2] and enables them to raise and educate their children "back home". The issue of Maori population growth, and its implications for community evolution in the District, is now discussed.

[2] Family land, not necessarily a marae. Papakainga land is usually looked after by a Trust. The people own the houses but the land is still in multiple ownership and the occupants hold a lease from the Trust. This scheme began in the late 1980s and became very popular in the 1990s.

Maori Population growth and its implications

In 1945 three-quarters of Maori lived in rural places; by the mid-1970s the proportions living in rural and urban areas had been reversed as result of migration to towns (Bedford and Pool, 2004). However, movement of older urban Maori back to ancestral lands in the mid-1970s (Stokes, 1979), was a precursor to a more demographically diverse rural return over the last decade or so. Between 1991 and 2001, the Maori population of rural areas in New Zealand grew by 10,818 with most of this increase (9,084) occurring in 'other rural' areas (isolated homes and settlements of fewer than 299 people) (Statistics New Zealand, 2002a). The return of Maori to ancestral land in the Whakatane District, particularly during the mid-late 1980s, made a significant contribution to population growth in areas such as Te Teko (population 630: 90.6% Maori), Taneatua (population 750: 88.4% Maori) and Waimana (population 657: 68% Maori) (Statistics New Zealand, 2002b).

Ngati Awa is the largest Iwi in the Whakatane District and their land is located in Whakatane Township and nearby rural areas including Ohope, Edgecumbe, Poroporo, Matata, Te Teko and other locations on the Rangitaiki Plains (Figure 1). Other Iwi for which Whakatane is a centre are Tuhoe (resident primarily in Taneatua, Ruatoki, Ruatahuna, Te Whaiti and Urewera), Whakatohea (resident in parts of Ohiwa but mainly on the southern side of Opotiki), Rangitihi (resident in a small area in Matata), and Tuwharetoa ki Kawerau (resident in parts of the Kawerau – Matata tribal area). The total area of Maori land in Whakatane District is 54,614 hectares, or 13 percent of the total (see Table 1).

Legislated restrictions governing the sale or development of Maori land held in multiple ownership mean that much of this land area has historically been leased for either grazing or cropping. As noted earlier, the 1999 respondents commented on the implications of Maori population growth for the availability of leased land, but we now see the issue as more complex one in which land and community development issues are interwoven with the mechanisms of the Waitangi Tribunal as well as those of population growth.

In reporting on sub-standard rural housing in 1999, a Parliamentary Select Committee on social services noted that many Maori who filed Waitangi Treaty claims were returning to ancestral lands out of fear that their claims would be lost if they were not resident on the land (*The Dominion*, 2002). This factor may well have been in play in Whakatane District in the 1990s. Two of the Whakatane-based Iwi signed treaty settlements in 2003 – Ngati Awa ($42 million in March) after 20 years of negotiation during which the iwi were cleared of any wrong-doing

that led to the confiscation of 99,000 ha in 1866 (Berry, 2003; Knight, 1999) and the Tuwharetoa ki Kawerau ($10.5 million in June) (Macbrayne, 2003). The Tribunal hearings for the Tuhoe claim (expected to take at least two years) began in Waimana in November 2003.

Although the return of land and the availability of new financial resources flowing from Tribunal settlements will provide opportunities for community development, it can also be viewed as a mixed blessing. We were told by a Ngati Awa respondent that *"the whole process has created tensions and severed relationships. There are many different attitudes across the iwi."* Similar sentiments were expressed by a respondent of Tuhoe descent: *"The Treaty claim settlement maybe will create more opportunities but it will also create a whole lot of other issues that we'll have to deal with. We've come to the conclusion that if we want to go home we've got to buy land."*

This raised the issue of land that had been confiscated and sold to colonists, such as the river flats between Ruatoki North and Taneatua (Figure 1). The land here has been farmed by families who have been there for many generations. Now we were told: *"These farms are being sold to Tuhoe people who have enough money to buy a piece of land. But it's not cheap. A cousin is moving back and bought a property close to Ruatoki recently for a quarter of a million. But this would be an exception as not many Maori have that much money."*

While the impacts of Tribunal settlements on land ownership patterns and land use in the District are only just beginning to manifest themselves, the provision of housing for an expanding rural population is an established issue. We were told that land title issues would pose a challenge to community development. One Ngati Awa respondent noted an instance where land had been transferred from (communal) Maori land title to (individual) general title to allow a mortgage to be obtained. Financing is available from Housing New Zealand for the building of homes on land in Maori title under the papakainga scheme, but only 'easily relocatable' homes are permitted (Housing New Zealand, 2003).

While examples of individual land purchase exist, communal provisioning seems still to be dominant. There are currently 63 marae with a variety of housing and recreational facilities in the district (Whakatane District, 2003), and for both Ngati Awa and Tuhoe people new housing in the district is going up under the papakainga scheme. These settlement clusters, with 'easily relocatable' houses often quite close together, are another feature of growing diversity in the rural landscape of the District. As a respondent noted; *"When I was young, when you*

went up the hill overlooking Ruatoki to see the New Year lights there were just six lights visible. Now when you go up the hill to look the valley is dotted with lights."

The papakainga scheme, which allows high density housing on rural land, is not always popular with the farming community. As another Maori respondent told us: *"When our family purchased land on which to create a papakainga there were complaints from the adjoining farming community – even from a neighbour who is happy to graze his sheep on our land. As our whanau is small it would only be around half a dozen houses. But still the neighbours complained."* Despite this observation, our non-Maori respondents did not cite new housing as a noticeable trend in the Maori community. For example, one respondent felt that return migration of Maori had not affected the landscape: *"Many must be living in family houses as there have been very few new houses built in the area."*

In contrast to the apparent ignorance of Maori housing development, several non-Maori respondents re-iterated the observations made in 1999 with respect to the beneficial impact of Maori population growth on school rolls. This impact is captured, albeit imperfectly, in the population profiles of selected communities in the District (Table 4).

Table 4: Age distribution of the population in selected communities, 2001

Age	Waimana	Te Teko	Taneatua	Orini	Rotoma	Whakatane	N Z
0–14	36.1%	36.2%	34.4%	32.8%	30.6%	27.2%	22.7%
15–64	57.5%	57.6%	60.8%	61.0%	62.0%	61.4%	65.3%
65+	6.4%	6.2%	5.6%	6.7%	7.5%	11.4%	12.1%

Source: Statistics New Zealand, 2002a

When the school rolls are examined, it is not surprising to find a number of schools with a 100% Maori population. Many of these primary schools have Maori immersion (Kura Kaupapa Maori) or bilingual curricula, and have rolls of between 60 to 100 children. The sole composite school, Te Wharekura O Ruatoki, had a roll of 146 in 2003. The largest school in the area, Whakatane High, catered for over 1,000 students in 2003, 43 percent of them Maori (ERO Reports, 2003).

A second very positive dimension of the return of Maori from urban centres was seen by Maori respondents to flow from the new skills and expectations that returnees are bringing with them. As we heard in 1999, and had confirmed in 2003, the attitude to land that has been leased out, possibly for generations, is changing as the young educated people return home. As one Maori respondent put

it: "*People with their own land giving it [farming] a try, more and more people are more on to it with contracts. People are getting harder and realise that lengthy contracts don't work. Leases are now more likely to be two to three years rather than 60 years with regular reviewing between.*" She went on to add: "*A lot more entrepreneurial stuff is going on. People are trying new crops to see what crops can be grown rather than the traditional maize*."

Indeed, there appears to be a definite increase in farming opportunities and farm employment for Maori in the District. The move back to hired labour on dairy farms, and the increase in the number of horticultural blocks, mean that there is much seasonal work that is often an attractive employment option. A kiwifruit grower, farming a block of 15 ha, employs around 35 workers during the picking season (April-May) and 25 during other times in the year. Apart from family members, all the workers employed are Maori living locally.

Conclusion

Both in 1999 and 2003 the farming sector in the Whakatane District was viewed by residents as strong and profitable. As a result of individual effort and the will to diversify, the rural economy of the district is buoyant and farming the major economic activity. Although the District has a strong and diverse agricultural sector and is very stable economically, it remains vulnerable to the impact of short and long cycles of change. The proliferation of lifestyle blocks could be seen to fit into a short cycle and the renaissance of Maori rural living into a long cycle, as these are represented in the model outlined in Figure 1 (Joseph et al., 2001). The pressure on dairy farming from price fluctuation and a pattern of land title that could facilitate the fast break-up of dairy farms seems very notable.

The Whakatane case study paper underscores the importance of follow-up studies when exploring patterns and processes of contemporary change in rural New Zealand. It reminds us especially of the disadvantages of a single cross-sectional study, especially in an area that is undergoing rapid change. It is inevitable that respondents in any given year are, to some extent, overly influenced by the hot topics of the day. Data collected in follow-up studies can be used to verify and contextualise the concerns expressed in respondent narratives in earlier years.

Arising from this study of diversification and farm-community linkages in Whakatane District we suggest that there are three major areas where further research should be concentrated. First, the pressure on dairy farming exerted by the "other" land use patterns, particularly the move to more kiwifruit orchards that

are emerging in the District, deserves greater attention and analysis. This trend has substantial implications for landholding and employment patterns and may well be an important bridge between the Maori and non-Maori communities in the District.

Second, the processes by which Maori are becoming re-established as important players in the rural economy require more careful analysis. How Maori make use of resources flowing from Treaty settlements, and the effects these resources have on land use and housing in the District, are important issues for farm-community relations. The commercial agriculture sector will continue to be dominated by Pakeha interests and there may be more tension between their priorities and those of the broader community that is increasingly concerned with satisfying Maori priorities.

Thirdly there is the continuing development of tourism in the District, and the extent to which activities favoured by those promoting ecotourism especially will translate into more pressure on mainstream farming (especially dairying). There is considerable concern both from Maori as well as non-Maori interests in the District in improving the quality of water in rivers and lakes affected by commercial agriculture and forestry.

The Whakatane District case study generally supports the conclusions we reached in our examination of the interrelated dynamics of change in agriculture and rural communities in the Ruapehu and South Waikato Districts. The results for Whakatane suggest something of an intermediate position between the two latter Districts in terms of the de-coupling/re-linking tendencies between farm and local town. It will be recalled that in Ruapehu, the results of our research pointed toward the persistence of strong linkages between farm and town (Taumarunui) interests, while in the South Waikato there had been a virtual de-coupling of farm and town (Tirau) interests. In Whakatane District, strong links between farm and town (Whakatane) remain, but there are also deepening connections with the neighbouring city of Tauranga, especially for residents on the Rangitaiki Plains.

The fragility of contemporary rural development trajectories in the face of unanticipated extremes in weather conditions was very apparent in the eastern Bay of Plenty in July 2004. In the Postscript below we outline some of the effects of major flooding that may well be the trigger for further change in land-use patterns and a move away from both dairying and kiwi-fruit on the most flood prone areas of the Rangitaiki Plains.

Postscript

After 48 hours of heavy rain (up to 450mm) from a weather pattern stalled over the Eastern Bay of Plenty, the towns of Whakatane, Opotiki and Edgecumbe called a civil defence emergency on Sunday 18 July. Around 12,000ha of land and 210 homes were flooded or affected by mudslides causing about 3200 people to be evacuated (*NZ Herald*, 5/8/04, A1).

Much of the flooding occurred when a 100m stretch of protective embankment on the Rangitaiki River, built in the 1970s to 100 year flow standards, blew out just above Edgecumbe (Macbrayne, 2004c). River water poured over farmland on the Rangitaiki Plains, into parts of the town of Edgecumbe and into the Dairy Factory which remained closed for 2 weeks. For the dairy farmers of the area it was a severe blow coming at the worst possible time of the year and leaving them short of feed during the calving season.

Thousands of hectares of farmland already under water were further inundated as huge volumes of water were spilled from the Matahina hydro electricity earth dam on the Rangitaiki River. This drenching with rain water was followed by a swarm of earthquakes measuring up to 4.6 on the Richter scale causing mudslides and toppling trees. For residents who still had vivid memories of the devastating Edgecumbe earthquake of 1987 the earth tremors were traumatic.

Emergency services were hampered by numerous road closures caused by flood waters and downed trees. Two women died. One was buried as a huge mud slide hit her home at a Beach on Ohiwa Harbour late on Saturday July 17 and the other was killed the following afternoon when an earthquake sent a huge 30m tree crashing onto her car near Tauranga.

Eastern Bay of Plenty farmers were still pumping water from the flooded Rangitaiki Plains around the clock two weeks after being swamped by heavy rain. Hundreds of volunteers worked up to 60 pumps to return the dirty ponded water to the river (Macbrayne, 2004c). The regional council plans to meet the initial costs of the pumping (around $300,000) and recover the costs from the Government's disaster relief fund which was raised to $30m on 4 August (Macbrayne, 2004a; *NZ Herald*, 5/8/04, A1).

Of the 450 farms and lifestyle blocks affected – most on the Rangitaiki Plains – about 111 are expected to take months to recover and 186 will need significant pasture restoration (Macbrayne, 2004b). Many farm workers' homes were

damaged, as were cowsheds, water races, lanes, fences and drains. In addition, 6000 stock were evacuated and it could be up to nine months before they are able to return to their farms. As well, many kiwifruit orchards were flooded. Although the vines were not covered in water there remains a strong possibility they will sustain root damage as kiwifruit vines cannot stand water logged roots for longer than 3-4 days. This vine damage will not become apparent for some months.

The cost of the repair of flood damage in the rural part of the Eastern Bay of Plenty has been estimated at $45m (Macbrayne, 2004b). This unfortunate disaster could be an important starting point for further research in the District.

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