A local focus: Implementing policies for land-use change in the Wairoa District

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Abstract

This paper explores community attitudes to policies designed to promote increased afforestation in the Wairoa District in Northern Hawkes Bay. The approach adopted involved face-to-face interviews with over 80 local residents, including farmers and iwi representatives, as well as policy makers, land agents, forestry experts, and scientists in Hawke's Bay and elsewhere in the country. Group meetings were also held with farmers, iwi and others in the Wairoa District. Community engagement extended from mid-2019 to early in 2020.

Concerns raised about increased afforestation included its impact on employment and pastoral land use and on the provision of public services. Such concerns are grounded in some part in Wairoa's history and traditional dependence on the hill country as the source of its identity and social well-being.

Increased tree planting confronts the perceptions and experience of many land users and other community members. Resistance is heightened where the policy goals appear to conflict with economic well-being or to undermine existing values. At the same time there is evidence of a broad consensus in favour of tree planting to meet environmental needs.

Current policies challenge land users' capacity to adapt and respond to the opportunities these policies provide. Building capacity requires the provision of information and other evidence to increase understanding among all stake-holder groups.

Key words: Wairoa; New Zealand; land-use change; farming; forestry.

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Introduction

To early European settlers, New Zealand presented a "Frontier of Opportunity" (Holland and Olson, 2020). In response, through experience, experimentation, entrepreneurship, and the application of technology, they shaped land-use to meet their needs. This continues today in the hill country. Recent decades have seen repeated phases of evolution and change from land development and increased stock numbers in the 1970s, intensification of mixed livestock systems and land use change in the 1990s, to the massive capital gains enjoyed in the 2000s. Such changes are part of on-going efforts by farmers to secure greater financial security and in response to the biophysical and social challenges inherent to farming the hill country (Sheath, 2015). The persistence of grassland farming, however, helps mask accompanying structural and social change.

In the Hawke's Bay Hill Country change is illustrated on a range of different criteria. In the Wairoa District almost 90% of the land is steep or hilly (LUC 6, 7 and 8). Today, the total farmed area is 185,879ha. Ninety-five percent of this area remains in sheep and beef (Hawke's Bay Regional Council, unpublished data). However, the current 375 farms are a decrease of close to 20% from the 454 recorded in 1990 (NZ Census data, 1986-2018). Since 1970, permanent farm labour in the hill country has declined by 69%, casual employment on farms has fallen by 64% and the number of hill farms has decreased by 43% (Beef and Lamb, unpublished data). These changes have had a cascade effect on rural communities, compounded by broader economic and social trends driven by pressures expressed at both a global and national level.

The overall rate and pattern of change in the Wairoa District has left it lagging behind other parts of Hawke's Bay (Ministry of Business, Innovation and Employment, 2014). The population has decreased from 8,481 to 7,890 (6.9 %) since 2006 (NZ Census, various years). The hour-glass structure of the population has become more marked with a hollowing-out of the 15-49 age bracket, typically the most economically active age group. Almost 32 percent of the population has no formal educational qualification.

Of the total population, sixty-three percent is Māori. One in four residents is not working and of those, eighty-five percent are Māori; yet obtaining local residents to fill job openings in forestry or agriculture/meat processing remains problematic. This has resulted in a reliance on migrant workers from the Pacific Islands for tree pruning and to fill vacancies at the freezing works. Indeed, arguably, the primary need is for more well-paying jobs to retain well qualified, skilled labour and attract more similarly qualified people to the area, rather than simply more jobs.

Recent reports confirm Wairoa's high levels of social deprivation including, access to education, housing, health, income and crime, and the need for economic regeneration

through community led growth (The Wairoa Community Partnership Group, 2019; Wairoa District Council, 2019).

As the population has declined, school enrolments have fallen, local consumer sales have shrunk and the number of commercial facilities and public services has decreased. These trends have been reinforced by national policies that have closed small local schools, police stations, post offices and medical facilities. Since 1996, the number of schools in Wairoa has declined from 24 to 14 and enrolments have fallen from 2,269 to 1,427 (Ministry of Education unpublished data). In 2016 the town lost one of its major supermarket outlets, in 2020 its sole dental practice closed. Now (2021) it is experiencing a series of bank closures. Eaqub (2014) highlighted a similar pattern of rural decline across much of small-town New Zealand. This is equally evident in many other western-style economies (Runyon, 2017; Hutchins, 2018; Infrastructure Australian, 2019; and Tisdall, 2015) explained as a consequence of rural depopulation, technological change and corporate policies which favour economic rationalisation and centralisation.

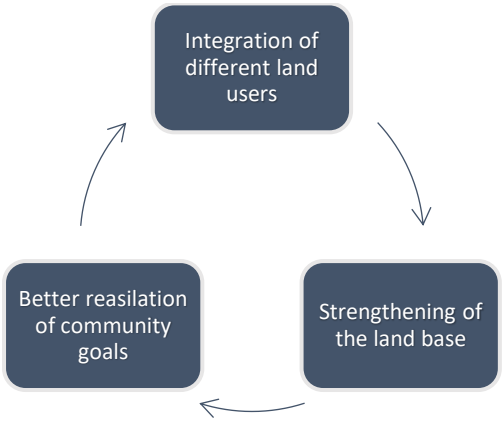
Since at least the late 1990s the District Council has worked to reverse population decline and negative economic trends, expand employment opportunities and improve social well-being. Its success in encouraging the establishment of the Rocket Lab on Mahia Peninsula is one high profile success story. Most recently the District Council has secured substantial funding from the Provincial Growth fund to realise its goals, overcome the district's relative isolation and exploit its unique environmental and rich resource base. Despite the challenges it faces, Wairoa remains a distinct, ambitious and proud community with strong community bonds and a commitment to growth and success. Tired of the negative perceptions of the district, in 2016, two local men used social media to highlight community strengths and the potential of Wairoa as a place to live, prosper and enjoy. Residents express a firm belief that Wairoa is "a great place to live".

This context and the factors involved are fundamental in shaping current community attitudes to land-use change.

Methodology and Engagement

Designed to better understand how residents of the Wairoa District view the prospect of land-use change, the approach adopted aimed to understand the different perspectives of mana whenua and other stakeholder groups (Figure 1).
Figure 1

Project Design



A number of different methods of engagement were used to elicit and explore community attitudes and values. These were framed to provide a comprehensive or "whole system" approach, using the Four Voices Model, (Thinkplace, 2017). In this instance, the four key groups were identified as: *Voices of Experience* - farmers and other land users including tangata whenua and farm supply companies; *Voices of Intent* - key policy drivers, specifically Central Government and Hawke's Bay Regional Council*; Voices of Expertise* - forest scientists, researchers, agricultural extension workers and land agents*;* and *Voices of Design* – Wairoa residents*.*

Engagement extended over the period June 2019 - February, 2020. The different approaches adopted were designed to meet specific needs, opportunities and logistical constraints. Twenty-nine respondents were interviewed face-to-face using semi-structured, in-depth interviews. A further 15 respondents were interviewed as they went about their business in Wairoa. Twenty-four survey sheets were completed and returned to various drop-off points across the district. Residents were also engaged through hui and other formal meetings. Engagement included interviews with representatives of forestry companies, local business owners, farmers, farm extension personnel, and District Council staff, as well as with regional development officials in Gisborne, forestry experts and scientists in Christchurch and Rotorua, and in Wellington with senior staff in Beef and Lamb and Te Uru Rakau (NZ Forest Service).

The policy context

On the front-line, it is what individuals and communities believe and feel that shapes the process of policy implementation and ultimately, policy success or failure (Hudson, Hunter and Peckham, 2019; Kirk, Robson-Williams, Fenemor, and Heath, 2020). This is compounded in the adoption of policies designed to promote sustainable practices which are commonly found to require physical demonstration (Cary, Webb and Barr, 2001). Today in New Zealand, as elsewhere, climate change is widely accepted as one of the most intractable environmental problems, one with causes that extend far beyond the local and national level. The *One Billion Trees Programme* [is] a key plank in the Government's commitment to tackle this issue, and includes the opportunity to generate a revenue stream from carbon sequestration by trees. It goes further, offering funding that lowers the start-up costs

involved, including the cost of land clearance, preparation, tree planting, and fencing. It is also designed to deliver a number of other environmental, economic, and social outcomes including improved land productivity and water quality, erosion control, enhance natural landscapes, provide a source of income from timber, honey, carbon credits, support well-being, and create new jobs and careers (Te Uru Rakau, 2018).

The confluence of *The One Billion Trees Programme*, the *Proposed Freshwater Reforms* (Ministry for the Environment, 2018) and the *Proposed National Policy Statement for Indigenous Biodiversity* (Ministry for the Environment, 2021) has direct implications for land users, rural communities and the future of the hill country. All include a necessary attention to increased tree planting, including riparian planting and erosion control and to secure other environmental, economic and social objectives. Their implementation requires a new and different approach to resource management, but equally demands a better understanding of the intimate relationship between land owners and the communities that directly or indirectly depend on the hill country for their livelihoods and wellbeing (Heath, *et al*., 2016).

Earlier periods of rapid afforestation in New Zealand occurred in the 1920s and 1930s, and from the 1960s to the 1990s. These periods of expansion were in response to varied national priorities, including the need to assure an adequate long-term supply of timber, the wise use of land, and economic profitability (Scott, 1996). In the 1980s, the Wairoa District was specifically identified as a prime area for afforestation (Ministry of Forestry, 1981), but this was resisted by the District Council in favour of agricultural interests (Rockell, 1980a and 1980b). This resistance continues today, most recently expressed by the District Council's rates rise with the largest weighting differential of 4.0 for plantation forestry. This is officially explained as a response to community feedback, that forestry contributes "less than it should towards the social, economic and environmental well-being of the district" compared to hill farming (Williscroft, 2021) and quotes the Mayor as stating that any increases in forestry would mean fewer jobs, fewer communities and fewer farmers spending money in town" (O'Sullivan,6 April, 2020).

Research in Wairoa the early 1990s included projections of the potential impact of increased afforestation over the next thirty years. These included net benefits in employment and household income, as well as potential environmental impacts including on water quality, biodiversity, soil erosion, and climate change (Krausse, 1997). Acknowledged at the same time was concern expressed by some community sectors that increased afforestation would have a detrimental effect on local residents. Krausse went on to stress that realising potential economic and social benefits from forestry were fundamentally dependent on the ability of people living in Wairoa to capture them.

Since the 1980s, the extent of afforestation in the Wairoa District has indeed increased. Whereas in 1981, the area in production forestry was 17,118ha, this has since risen to 55,821ha. (Hawke's Bay Regional Council, unpublished data) but remains at only 14 percent of the total land area. Economic and other projections were contingent on a continued increase in planting of 4,500ha per year. In practice, the annual average increase from 1995 has been only around 1, 778ha (Hawke's Bay Regional Council, unpublished data).

Projections also included a major increase in processing capacity in the district. Jobs associated with forestry were projected as 524, with a further 430 in wood processing and 350 in associated support industries. In 1986, 117 Wairoa residents were recorded in the Census as employed in the forest sector. The equivalent number in the 2018 Census was 57. Bluntly, the opportunities presented by increased afforestation have not been secured.

Stories: What we were told

Land holders and other land users

Farmers expressed overwhelmingly negative attitudes towards increased tree planting. In the early stages of engagement views had been expressed in terms of threatened job losses and the lack of jobs generated by forestry, population decrease, continued closure of retail services, and community decline. As engagement continued the narrative shifted to focus on opposition to any expansion of corporate forestry. For some, this included environmental concerns - fires, slash management and issues around harvesting and replanting. Prominent in discussion was scepticism of carbon credits and antagonism to the funding support available for tree planting. This was repeatedly and vigorously qualified by statements that "we do not dislike trees". Indeed, despite vehement opposition to afforestation, every farmer interviewed had trees on their property and at least some are expanding their forested areas (including for carbon credits). Trees are primarily viewed by these farmers as a means to address environmental concerns, but by some as part of a longer-term business strategy to diversify income streams.

Farm supply companies and service providers, including vets, accept that changes in land use will require adaptation, but see this as a continuation of adaptations made in recent decades as farm systems have changed and farmers have increasingly accessed services through the internet and not necessarily from local sources.
Tangata Whenua view trees as supporting their cultural values, including a healthy ecosystem and social wellbeing (including matauranga Māori, kaitiatanga, and whakakotahitanga). Consequently, both the *One Billion Trees Programme* and the *Fresh Water Statement* are accepted as supporting Māori aspirations for development and in-line with their long-term strategic perspective for their land. This provides an intrinsic level of support for current policy initiatives. Such support is not unconditional, but shaped by the priorities of each individual iwi.

Some iwi already have negotiated agreements with forestry companies to plant areas of land in trees and have established areas of commercial forest. Some do not have current plans to expand their forested area (although this is not necessarily dismissed). For others,

any further afforestation remains under discussion, including increased afforestation for carbon credits.

As noted above, increased afforestation and particularly an increase in the planting of native species fits comfortably with Māori values. These values also favour discussion and negotiation between individual iwi and the corporate sector to develop planting regimes, management protocols, and employment training programmes.

Foresters

Many managers and others in the forest sector expressed sympathy and understanding of farmers' concerns. They recognise the values attached to the land by the farm community and the important cultural and material contribution of farming to Wairoa. Understandably, those directly involved in the forest sector view it positively, both as a source of employment and as an appropriate land-use. They pointed out that it offers a means to hold young people in rural areas, pays good wages, and offers a career structure supported by accessible training programmes. This was reiterated in feedback from school students who gain experience of forestry through the Gateway Programme (funded by the Tertiary Education Commission to help young people transition to paid employment), and by students at the Eastern Institute of Technology (EIT) who emphasised the career opportunities forestry presents both for men and women.

Scientists, researchers, extension workers and land agents

Scientists and others interviewed with direct experience and understanding of forestry and agriculture accept and recognise the "cultural hooks" associated with current policies. Some argue the need for a more nuanced implementation of efforts to increase afforestation, specifically the need to target the "Right Tree, Right Place" and to respect the cultural values of land owners in plans to plant more trees. Both these components are an integral part of the implementation strategy adopted by the Regional Council.

There is widespread agreement among foresters as to the value of tree planting to help counter climate change, stabilise erodible slopes, increase biodiversity, improve water quality, increase employment, and boost export earnings. Senior managers and leaders in the forest industry acknowledge, a current lack of a large, local, trained labour force with a strong work ethos; constraints on job creation as a result of the limited extent of commercial planting in the district; and the lack of an historical sequencing of planting that would allow a continuous wood supply (and so of employment).

Frustration was expressed at the rhetoric used in opposition to production forestry that implies a direct causal relationship between afforestation and economic and social decline, school closures, depopulation, shrinking communities, a threatened food shortage, and loss of jobs. In defence of the forest sector many referenced the documented, positive impact of the industry on job creation, economic growth and infrastructural development in the Gisborne-Tairawhiti Region (Eastland Wood Council, 2013).

Policy analysts

Whether in Central Government or at a Regional or District level, policy analysts recognised the primary role of individual land users and local communities in implementing change and the need to address their priorities, fears, and needs. All see the key challenge as how best to cut through the complexities of the science on which current policies are based, and the need to monitor the impact (and possible unintended consequences) of the proposed changes.

At a Central Government level there is on-going monitoring of several policy components, including the extent of land sales to the corporate sector, the implication of changes on the operation of the Overseas Investment Act, trends in farm sales and rural land prices. There is recognition of the challenge of implementing programmes that introduce scientific understanding that does not necessarily get universal buy-in, as for example, climate change and carbon credits. Equally, however, they see the policy changes underway as offering land users the opportunity to strengthen the resilience of their farm business.

Wairoa residents

Intercept interviews with a cross-section of residents confirmed the views expressed in engagement with sectoral groups. Farm employees expressed concern at possible job losses if afforestation increased, while students and others looking for work more often noted that afforestation would increase employment opportunities, offer clear career paths and good wages.

Many residents viewed increased afforestation as a means to address environmental concerns. What stood out was the pronounced support for an increased planting of native tree species rather than *pinus radiata*, and that planting native species provides a basis for an expansion in tourism and the development of new business ventures.

Making sense of what we were told

The visceral response to increased afforestation by the farm population represents a fundamental fear of loss of culture and identity that has been a recurrent feature in the face of earlier major phases of afforestation. It is a response that has received substantial support from the District Council. The accompanying rationale includes fear of job losses in the community, depopulation, a decrease in service provision, and an increase in environmental threats. Such views do not, however, represent the community as a whole. What unites the community is the need for increased jobs (and well-paying jobs), the maintenance of public and commercial services, increased environmental protection, more profitable land use, and increased social well-being. No sector of the community denies the need to address these concerns. Where division arises is in the perception that afforestation both explains current economic and social needs and increased afforestation would exacerbate existing problems. This overlooks the decades of decreasing employment in hill country farming, the impact of global and national policy trends, business practices, consumer demands, and environmental needs.

The volume of labour used in both forestry and in agriculture remains contentious, hard to determine and difficult to calculate and compare. Both operate on very different time frames. Meanwhile, just as agricultural labour needs have changed over time related to increased mechanisation and changes in management practices, similar factors have impacted on forestry. Such trends and changes are expected to continue. Estimates of current labour inputs for a clearwood forest regime (under which pruning is maintained) provide a figure of 6.08 workdays per annum for 1,000ha based on a 26 year rotation (CEO, Forestry Company interviewee, October, 2019). A hill farmer in the Manawatu (interviewee, August 23, 2019) with 45% of his land in commercial forest stated that this requires a higher annual input of labour than his pastoral land. An equivalent measure for 1,000ha of pastoral land is 7.15 per year (Beef and Lamb, unpublished data). In all cases this hinges on the practices involved (e.g. tree pruning/not pruning) and on what components are included in either sector (e.g. processing, transportation and services). Within the Wairoa District, the core issues are the increased use of contract labour, the reduction in resident labour and the increasing mechanisation in both agriculture and forestry.

Technological and economic changes operating globally and domestically have transformed both the agricultural sector and the forest industry and will continue to do so. Decades of change have had a cascade effect on employment opportunities and service provision. Land use change offers key planks in a platform for development but cannot alone reverse economic drivers of change or resolve deep-seated social needs. This is implicit in the on-going efforts by the District Council, local iwi and others to diversify employment opportunities in the area. Other initiatives, however, including the support provided through the 3 billion dollar, Provincial Growth Fund (NZ Government, 2018) are specifically designed to further support development and on-going, District Council initiatives.
A report from the Organisation for Economic Co-operation and Development (OECD, 2006) confirms that sectoral policies do not generate effective regional growth. At the same time, there is substantial evidence that increased tree planting offers an important means to meet existing community goals. The economic impact of afforestation in the Gisborne-Tairawhiti region is a case in point. Other reports confirm the substantial economic potential of increased tree planting to individual land owners and the wider population (Rabobank, 2019; Hocking, 2019). The value of tree planting to improve water quality, biodiversity and to help counter erosion and climate change are also well documented, and there is a long history of tree planting by farmers in the Wairoa District to conserve environmental resources and diversify income (Smith, *et al*., 2002. unpublished data).

Dispute over the economic data, the potential contribution of increased afforestation to social well-being, job opportunities, farmers' values and landscape protection have a long-term global resonance (Makin and Smith, 1981; Mather and Thompson, 1995; Langer and Barnard, 2003; Duesberg, O'Connor and Dhubháin, 2013; Carroll, 2019). As in Wairoa, they commonly identify complex, sometimes contradictory values in relation to farming, and different interpretations of the facts involved. Similar disparities, fears and uncertainties are evident in Wairoa. The value of increased corporate planting is not universally rejected, but qualified by the need for specific, negotiated terms on which this occurs. There is a substantial preference for the increased planting of native species, although recent

comments by the Mayor of the District specifically condemns planting for carbon credits (O'Sullivan, 2021). There is broad acceptance of the value of planting to address environmental needs. All this argues the need for a more nuanced approach to policy implementation at a local level.

Conclusions

At a national level, the primary concern of those who draft policies is their effective roll-out to realise stated outcomes, including the monitoring of rules and guidelines. In the context discussed these are designed to meet global demands for sustainability and international treaty obligations as well as domestic environmental and other goals. At a regional level, the primary concern is implementation. This requires the need to address different local perspectives, physical conditions, cultural values and human relationships.
The existing policies and programmes are unquestionably ambitious and pose a significant challenge as to how they can be fully realised. They introduce scientific understanding that is complex and robust, but that does not necessarily get full public buy-in.

The facts inherent in the policies are novel, complex, even confusing. Carbon credits are promoted as a key means to increase carbon sequestration, introducing a new component in the market system. Arguably, they present an easier and faster option to mitigate climate change and reduce the emission of greenhouse gasses than longer-term, more fundamental measures would require. Failure to thwart climate change would arguably have its greatest negative impact on the farm sector. But existing policies also offer the means to address a wide range of other economic and social issues beyond the sustainability of agriculture, to diversify the regional economic base and provide a basis for community development.
The effective implementation of the policies as framed rests primarily on a series of economic market incentives. For these to work properly has as a prerequisite a population of well-informed stakeholders who will make rational choices based on economic criteria. These facts are important but demonstrably differently interpreted when viewed through a cultural lens that includes layers of experience, values, culture, and emotion. All these contextual factors, are fundamental to interpreting and understanding community views and in facilitating change.

Implementation and the capacity for change requires the provision of full, clear information to heighten awareness and understanding and to clarify options. It equally requires an approach that does not threaten existing land holders or other community members, addresses concerns, and strengthens long-term community objectives.
Control and decision making remains in the hands of existing land owners. This places a particular responsibility in the hands of regional councils to build the capacity of all sectors of a community to develop their aspirations for afforestation and to co-design programmes that navigate pathways through conflicting views.

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