

The Impacts of Afforestation on Rural Communities:

**A case study in the in the Tararua District
of New Zealand.**

A report prepared for Tararua District Council

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This report is dedicated to you.

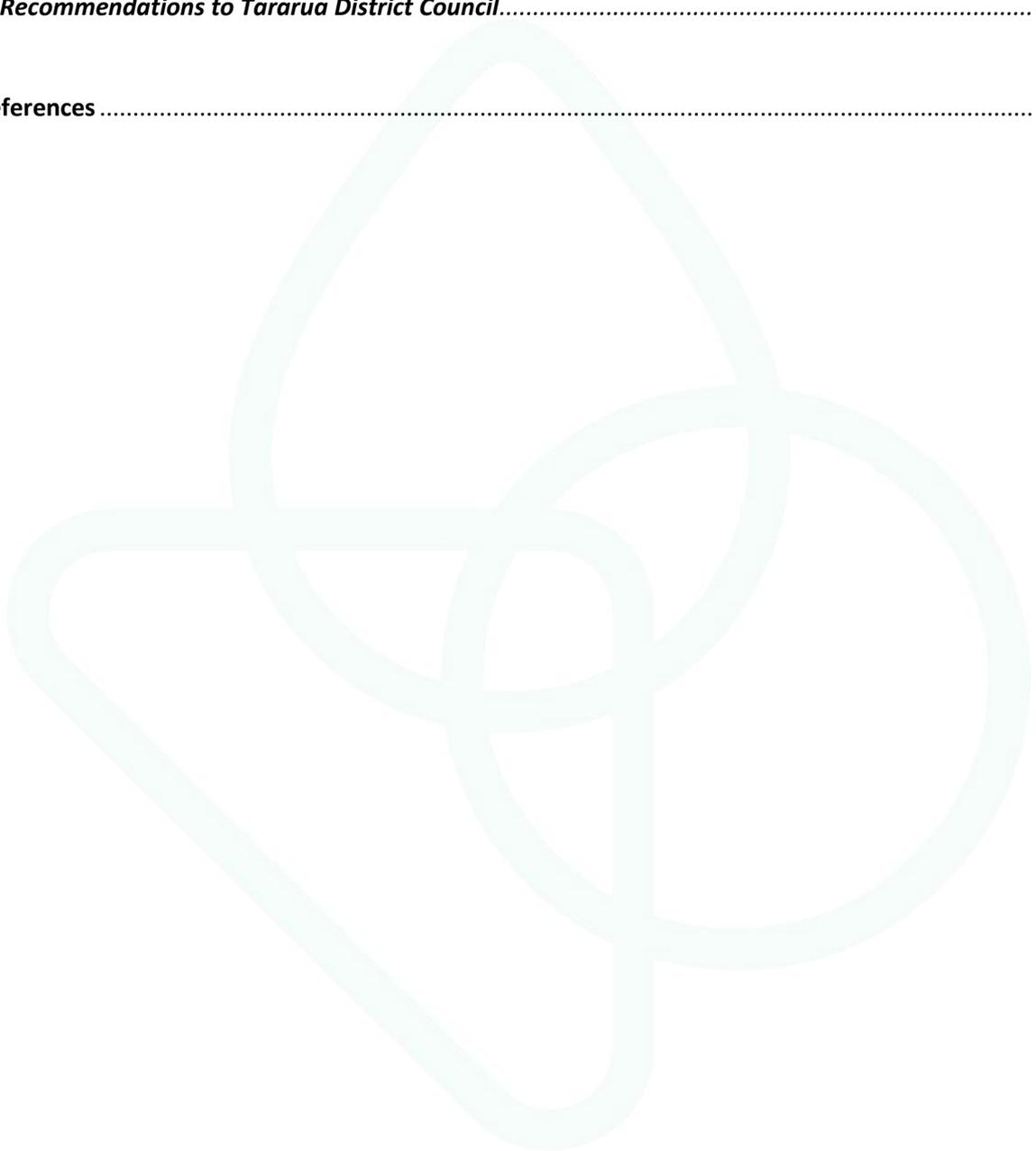
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Executive Summary

This social research study explores the impact of afforestation¹ on local communities in the Tararua District. In particular, this research report explores: what 'right tree, right place' means for individuals, whanau/families, business and communities; any perceived opportunities, challenges or concerns that afforestation can bring; and the relationship between afforestation and tourism.

A single-case study research strategy was used to explore the community's responses to afforestation. The research used a number of established case-study methods, including document collection, community engagement (face to face interviews and workshops), and field observations. These methods were chosen to enable a wide range of individuals and groups to share their ideas and to enable a deeper and richer exploration of this case. The field work was completed between June-November 2020.

This research presents a rural community's responses to the recent large scale afforestation of land traditionally used for hill country sheep and beef farming. The community's responses as presented in this report, are a combination of participants' emotions (e.g. how people feel); perceptions (e.g. what people believe) and behaviour (e.g. how people may and are acting and reacting).

'Right tree, right place', the slogan of the One Billion Trees Programme (1BT), was a key focus of this social research. A wide range of perspectives were shared, reinforcing the participants' desire to plant a range of tree species in a range of locations for a range of environmental, economic, social and cultural reasons. Radiata pine, blanket planted on productive farmland for carbon farming, without the intention to manage or harvest, was not commonly described as 'right tree, right place'. Blanket planted radiata pine is also contrary to the government's stated desire in the 1BT programme to encourage the planting of native species to encourage biodiversity. The main report includes more detail around what participants believe to be 'right tree, right place'.

Herein lies a conundrum: 'right tree right place' is a seemingly simple slogan, yet one that highlights a deeper complex value and ethical debate. What is right and what is wrong is a personal values-based judgment, and who has the right to determine priorities and to decide what is right and wrong? Additionally, the 'right tree right place' concept does not appear to encompass all cultural worldviews. As a result, a binary argument has developed around this complex issue - right versus wrong, pines versus natives, pastoral farming versus forestry, carbon farming versus rotational forestry - with a strong polarisation of views contributing to this ongoing and emotive binary argument.

While the discussion appears to be about which tree to plant where, it is in fact a discussion about land use change and what is considered to be effective land use. How individuals and communities manage land use change, and how to encourage and enable diverse vibrant economically-driven rural communities, underpins this ongoing discussion and debate. The participants in this research are aware of and accept that land use change will occur in some form, but the pace of change, a perceived

¹ Afforestation is defined as the establishment of a forest by natural succession or by the planting of trees on land where they did not grow formerly

loss of control over the change and the unintended impacts of change are of concern to the community. Individuals and groups feel they are not part of these large-scale decisions, their voices are not being heard, and they are not included in the changes that impact on their way of life and the lives of their families/whanau and their mokopuna. A loss of agency was described: change is happening *to* them rather than *with* them. Traditional sheep and beef farmland being blanket planted in pine for carbon farming, is a symbol of a change that the community feel they have neither input into nor control over. Carbon farming is perceived to reduce opportunities for current and future generations, and in many ways, signals a loss of community. As one participant described: ‘a community can’t be built around carbon farming.’

Afforestation does bring opportunities (positive impacts) to the local community. Some examples include: increased short-term business for food and accommodation providers (during planting); pastoral farmers being able to realise their asset and exit with dignity; soil stabilisation and other environmental benefits; and rotational forestry contributing to increased socio-economic growth from increased employment, potential wood processing businesses, and the flow-on benefits to the local community.

Afforestation bring concerns and challenges (negative impacts), with a primary focus on the threat of carbon farming in particular on pastoral businesses and the rural community way of life. A number of issues were raised, including: a loss of jobs; the flow-on impact of less pastoral farm businesses on rural professionals and the businesses that support the farming sector; increasing risk of fire (amplified by concerns about reduced emergency access to carbon farming blocks); increasing risk of pests and Tb; decreased human health from increasing pollen; concerns about road quality and increasing volumes of forestry logging traffic; potential impacts on rural school rolls and provision of services; and potential impacts on community infrastructure (power and water supplies). Increasing stress, strong negative emotions and decreasing mental health and wellbeing from this rapid land use are of real concern.

Other concerns could not be as easily articulated. The participants’ narratives spoke of undefinable losses, or personal losses that are deeply felt, yet unable to be precisely defined or described, and not easily put into words. A loss of community and familiarity was described, contributed to by a change in community dynamics, community structure and community culture. A loss of connection with place and people was described, as intergenerational properties convert from pastoral farming to forestry. A loss of opportunity and a loss of control were also described.

While the primary industries are a key land use in the Tararua District, domestic tourism is emerging as a significant growth area for the district’s and Pongaroa’s businesses and communities. Visitors come to Tararua for the natural beauty, rural environments and friendly people, and commonly travel ‘the back roads’. While some believe pine afforestation will negatively impact on the views and reduce the visitor stay and experiences, others believe increased native afforestation would increase biodiversity and could attract visitors. Context is a key factor here, and the relationship between afforestation and tourism is not well understood. More work is needed to determine whether afforestation could positively or negatively impact on current and future tourism opportunities and businesses; and the tourism activities that attract people to the District and generate flow-on income.

In the context of increasing afforestation in the Tararua District, three key roles for Tararua District Council were identified (among others):

- An ongoing and active role in discussions around the development of central government policy and regulation regarding afforestation;
- Raising awareness about the ongoing social impacts of afforestation and in particular, increased fire risk; and
- Enabling and supporting communities to build their capacity and capability to manage change and transition.

It is recommended that:

- Mayor Tracey Collis and Council staff continue to communicate with, and provide central government with the extent and rate of land use conversion and the social impact of land use change on rural communities;
- At a district level, Council to consider the potential holistic impacts of land-use change as part of the District Plan review, and in particular, the impacts of pine plantation on social amenities and net community and business viability;
- Council and Fire and Emergency New Zealand (FENZ) work together to investigate the potential fire risk and emergency services access to rural sites;
- Council to continue to consider the social impacts of land use change on the community, including sharing research findings and being involved in ongoing social research;
- Council continue to work with and support the communities to build their capacity and capability to manage change and transition; and
- Council to continue to enable, support and build District-wide tourism opportunities.

(These recommendations are described in more detail in the report, including specific actions for Council.)

Introduction and purpose

The New Zealand Government has an aim to increase tree planting across New Zealand. With a goal of one billion trees by 2028, the One Billion Trees programme (1BT) aims for ‘trees integrated into the landscape to complement and diversify our existing land uses, rather than see large-scale land conversion to forestry’². By adopting a ‘right tree, right place, right purpose’ slogan, the 1BT programme aims to encourage well planned planting of exotic and native species in sites that are aligned with local land-use and planting priorities.

In order to meet international greenhouse gas (GHG) emission targets, New Zealand entered into the Emissions Trading Scheme (ETS). The ETS prices GHG emissions with an aim of financially incentivising GHG emitters to invest in technology and other innovations to reduce their GHG emissions (incentivising positive change)³. This system encourages forestry planting, by allowing eligible foresters to earn carbon credits as their trees grow and sequester carbon dioxide. From the perspective of a markets manager, a system that incentivises forestry planting has developed: a supply and demand market system that determines the price of carbon credits is overlaid by a policy system that enables foresters to earn carbon credits.

A combination of these Government investment and incentives has contributed to increased tree planting, and in some areas of New Zealand, contributed to a land use change from pastoral farming to large-scale pine afforestation. In the Tararua District, particularly around Pongaroa/Tiraumea, the rapid expansion of forestry is evident with an increasing number of pastoral farms planted for carbon farming (large-scale planting of pines without the intention to manage or harvest)⁴. Of the total area (ha) of properties sold in the Tararua District in 2019, 33% of this land is expected to be planted for carbon forestry³. In addition, based on the area of land owned (ha), New Zealand Carbon Farming Ltd is now the largest land-owner in the Tararua District.³

Tararua District Council Mayor, Tracey Collis, expressed her concerns about increasing afforestation in a media opinion piece about the ‘unintended consequences of chasing carbon credits’⁵ and added:

‘The rapid expansion of forestry throughout the Tararua is causing much angst and stress for our communities and it concerns me to watch our people genuinely hurting in so many ways.’

Recent studies and media discourse similarly paint a picture of increasing community concerns about the impacts of afforestation, or the ‘blanket planting of pine’. Smith (2020) explored the issues, concerns and priorities of the Wairoa community regarding land use change as a result of recent afforestation. The Wairoa community expressed concerns about afforestation, including the perceived negative impacts on: employment, the provision of local services and social well-being. The community’s concerns relate to increased corporate afforestation, associated concerns about ‘blanket

² <https://www.mpi.govt.nz/forestry/funding-tree-planting-research/one-billion-trees-programme/about-the-one-billion-trees-programme/>

³ <https://www.mfe.govt.nz/ets>

⁴ Sources: Tararua District Council Rating Database of Sales and Ownership, and Council interviews of Registered Real Estate Agents.

⁵ Collis, T (2019, 1 July). Forestry Hurts Rural Communities. *New Zealand Herald*.

planting', and the perceived threat to pastoral farming. At the same time, farmers support integrated tree planting for environmental and other reasons, including financial returns from carbon credits, reducing soil erosion, and improving water quality and biodiversity.

The Wairoa community's sentiments identified by Smith (2020) are also reflected in media discourse. A recent literature and media scan⁶ explores the issues, challenges, barriers and opportunities associated with afforestation in New Zealand due to government policy (Bayne, Brown, Edwards, & Wikaira, 2020). Over this period, the media reported both support for and against tree planting initiatives, with key themes including: 'forestry is being incentivised over agriculture in an unfair way'; 'tree planting is subsidising large polluters'; 'a scarcity of rural land available for planting'; and 'pine trees having a large impact on the environment'. Farmers/landowners, industry groups (E.g. Harrison & Bruce, 2019), lobby groups and rural community groups continue to highlight their concerns in the media and in reports about the negative impacts of increasing afforestation on rural communities, rural businesses and the issues facing farmers.

Potentially missing from this ongoing, and at times highly emotive media and political debate, is the focus of the 1BT programme, or the nuance around 'right tree, right place, right purpose'. In other words, how can the cultural values and needs of current and future generations be respected and met, while also increasing afforestation across New Zealand?

This social research study, based in the Tararua District, sets out to explore the nuance around 'right tree, right place'. In particular, this study is one component of the Right Tree, Right Place (RTRP) co-funded project between the Ministry for Primary Industries⁷ and Tararua District Council. This wider RTRP project is to enable the Tararua District Council to provide landowners with the information to consider alternative tree species (excluding *Pinus radiata*) in a local context that includes commercial potential/returns, regulatory consents, ability to establish and the impacts on the local ecosystem and community. Tararua District Council aims to guide the strategic location of future forestry that delivers the right tree in the right place and reflects community impacts, iwi aspirations and community infrastructure.

Research purpose

The purpose of this social research study is to explore the impact of afforestation⁸ on local communities in the Tararua District and to enable community discussion around 'right' afforestation in the District (right tree, right place). The questions that guided this research are as follows:

⁶ Media scan based on the collation of New Zealand media articles published between Feb 2017- Sept 2020.

⁷ Te Uru Rakau agreement number: TUR_1BT_2020_035.

⁸ Afforestation: the establishment of a new forest or new stand of trees.

- How is afforestation impacting, or could potentially impact in the future, on communities in the Tararua District?
 - What does ‘right tree, right place’ (‘right’ afforestation) mean for individuals, whanau/families, business and communities in the Tararua District?
 - What opportunities can afforestation bring to local communities?
 - What worries/concerns/issues do people have about the potential changes associated with afforestation?
- What is the relationship between afforestation and tourism in the Tararua District?

Report structure

The two sections in this report explore the two key research questions. After initially establishing the research rationale (method), the first section explores the first research question: ‘How is afforestation impacting, or could potentially impact in the future, on local communities in the Tararua District?’. This first section initially describes the Tararua District and the Pongaroa community from the perspective of those involved. Afforestation is then described, followed by the chorus of voices that reflect what individuals believe is the ‘right tree in the right place’. The chorus of voices leads to a reflection about the future vision for their community. Turning attention back to afforestation, the participant’s perceptions of the opportunities (positive impacts) and challenges (negative impacts) associated with afforestation are explored. This first section concludes by exploring the undefinable loss, or the change in community dynamics and culture associated with land use change.

The relationship between afforestation and tourism in the Tararua District is explored in the second section. This section initially describes tourism in the Tararua District, then outlines the key tourism markets. Finally, the nature of the relationship between afforestation and tourism is explored, and in particular, whether afforestation has a perceived positive, negative or neutral impact on current and future tourist attractions, tourism businesses and tourism potential.

Although right tree, right place is the focus of this research, this research presents a wider and deeper conversation. The participants wanted to talk about land use change and community well-being, and about meeting the needs of current and future generations. In particular, this research presents a rural community’s response to the recent large scale afforestation of land traditionally used for hill country sheep and beef farming. Response as presented in this research is a combination of participants’ emotions (e.g. how people feel); perceptions (e.g. what people believe) and behaviour (e.g. how people may act and react). Using stories, data, photographs and drawings, this report becomes a narrative that compiles thoughts, concerns, observations, perceptions, musings, and at times, strong emotions and opinions. The report speaks on behalf of past, current and future generations. In the words of one participant, *‘it’s about making mokopuna decisions’*.

Research methodology

A single-case study research strategy was chosen for this research (Stake, 1995) to explore the community’s response to afforestation. Case study research has explanatory power, and enabled a deep and richer exploration of the ‘how’, ‘what’ and ‘why’ of the community’s responses. The site for this single-case study was the Tararua District of New Zealand, mirroring the area covered by the Tararua District Council.

Research integrity and ethical responsibility underpinned the research process. In this research, integrity involved reaching conclusions that are not affected by bias or error, acting within the law, recognising and balancing any subjectivities or personal influences that a researcher may have, and ensuring the rights and well-being of participants are protected at all times. Ethics is about protecting the research participants, or in O’Leary’s (2014) opinion, maintaining the mental and physical dignity and welfare of those being researched. Ethics involves researchers showing respect for cultural beliefs, treating participants in an equitable manner, obtaining informed consent from participants, doing no harm during the research, and ensuring participant’s confidentiality of private information. This research follows Massey University’s Code of Ethical Conduct for Research Involving Human Participants (Massey University, 2017). The purpose of the research and the information sheet were sent to participants before each interview, participant’s questions answered, permission obtained to audio record interviews, and confidentiality issues discussed before the participants gave their informed and voluntary consent.

Data collection

Document collection, community engagement and field observations were the main data collection methods (O’Leary, 2014). The documents included: industry and tourism reports and statistics, planning documents, media articles, social research reports and educational materials. Field observations included observing a RTRP Project workshop with stakeholders (28 July 2020) and two field trips to the Tararua District (September and October 2020).

Community engagement

Community engagement, a term that describes ‘the way people can interact with and be involved in decision-making processes’ (Vanclay, Exteves, Aucamp, & Franks, 2015, p.76), was the key data collection method. Following the purpose of this social research ‘from the perspective of the people potentially affected’ (Vanclay et al., 2015), the community engagement process utilised:

- Local knowledge to develop understanding of the issues;
- Local contacts and networks to organise community engagement meetings and workshops; and
- Local networks to organise follow-up and further discussions with farmers, rural business owners and stakeholders.

Similar to Smith’s (2020) research with the Wairoa community, a number of community engagement methods were used to explore the community’s response to afforestation. Similarly to Smith’s (2020) ‘comprehensive or whole system’ approach to complex issues, a diverse range of voices were sought. We sought the voices of experience – who could potentially be impacted by afforestation (e.g. Iwi, farmers, rural professionals, rural businesses, tourism operators). We sought the voice of design – who is the research being done for? (e.g. Iwi, future generations, local communities, local councils). We sought the voice of expertise – who has the knowledge about afforestation? (e.g. Iwi, farmers, forestry companies, researchers, Council). Rather than directly seeking the voice of intent (who is pushing for change?) we sought the participant’s perceptions of who or what they believe are the drivers for afforestation and change.

The community engagement phase of data collection occurred between 15 September and 5 November 2020, utilising a range of methods at a range of locations, including:

- Semi-structured interviews via zoom with three forestry companies and three tourism companies;
- A workshop with rural professionals and rural business owners in Dannevirke⁹;
- Face -to-face semi-structured interviews in various locations with a rural contractor, farmers, business owners (Pahiatua, Pongaroa), and ongoing informal discussions with Tararua District Council staff;
- Semi-structured interviews/discussions via phone with researchers and a markets manager;
- Intercept informal discussions interviews with tourists (range of locations, from Mangatainoka to Akitio) and semi-structured interviews with Pahiatua residents and business owners (in Pahiatua);
- A drop-in community session at the Pongaroa pub – farmers, forestry workers, pub staff, community members (Tracy Collins, Mayor Tararua District Council attended this session);
- A workshop with Tararua College Year 12 and 13 students;
- Hui with iwi members; and
- On-site discussions with a forestry harvesting crew.

Data analysis

All audio recorded interviews and workshops were transcribed by the researchers. Some participants chose to read their interview transcript after transcribing, check for accuracy and make changes. An inductive thematic analysis strategy (Guest, MacQueen, & Namey, 2012) was used to rigorously and systematically analyse the data from documents, interviews, discussions and workshops. This method was chosen to represent the stories and experiences expressed by the participants as accurately and comprehensively as possible. Additionally, as Guest et al. (2012) argue, thematic analysis enables a researcher to capture the complexities of meaning from within the data.

After establishing the research framework, the study site for this case-study research, the Tararua District is described. This research centred around the Pongaroa community (one of the areas of recent and rapid land use change), and this community is described by participants.

⁹ Dannevirke and Pahiatua are two of the District's main commercial centres, Pongaroa is a town servicing the Pongaroa community.

The Tararua District and the community

The Tararua District, administered by the Tararua District Council, sits near the south-east corner of New Zealand's North Island. Bound to the west by the Tararua Ranges and to the East by the Pacific Ocean, the district covers 436,046 ha. State Highway 2 is the main route through the region. The five commercial centres in the district include Pahiataua, Eketahuna, Norsewood, Woodville and Dannevirke, servicing both urban and the large rural communities.



Source: Tararua District Council

Pongaroa - Who and what is the community?

Tararua District is the study site, with a focus around Pongaroa and the Pongaroa community. Pongaroa is situated on Route 52, about 50 km west of Pahiataua, at the point where Route 52 crosses the Pahiataua to Akitio roads.



How did the participants in this research describe the Pongaroa community? As Warburton (1997) argues, a community is best defined by the people affected by the issue under debate. The Pongaroa

community appears to be an intergenerational, close-knit rural community, traditionally based around hill country sheep & beef farming. This is a community with a strong commitment to place, operating on trust and cultural norms of reciprocity, where neighbours help each other out with shearing and other jobs. One farmer commented: *'We pull our sleeves up and all muck in together'*. Volunteering is common, from helping at the school, being on the School Board of Trustees or the Home and School Committee, to the many sports clubs, to dog trialling, to the fire brigade. The community work together to fundraise and to provide community facilities, including \$84,000 raised by individuals from within and around the Pongaroa community through debentures and donations for the service station. There was a local Pongaroa Fuel Stop Inc. Committee created to do this work, and to engage with the community, such as the value of keeping what the community describes as *'a critical service'*. The individuals who donated were from Akitio, Alfredton, Tiraumea, Pongaroa, Waione, and Makuri. Another farmer added: *'there's no class structure, no hierarchy, everyone talks and mingles with everyone else'*.

This is also a community shaped by deeply held cultural norms. The community know what is expected and accepted behaviour. Signs outside the pub and store ask people to take their muddy boots off, a sign that reinforces that accepted behaviour. Piles of randomly kicked-off gumboots and boots are commonplace outside the pub and store.

Pongaroa School, a Year 1-8 primary school, is serviced by school buses. Local fundraising ensured the buses are owned by the community; locals drive the buses. Over the past decade, the smaller schools at Akitio and Tiraumea closed, and the students and their families were integrated into the Pongaroa School.

The pub sits at the crossroads, and is the focal point of the community, community activities and tourists. *'If there's no pub, then no one will be stopping'*. Among other activities, the pub has an active pool and darts club, and Wednesday nights are pool/darts night. The pub is restoring their upstairs hotel room accommodation. The local store/café complements the pub: the pub offers meals, the store offers takeaways. Friday nights are busy takeaway nights at the store, and apparently, the café's burgers are legendary - particularly the Puketoi Range or the Works McPongaroa (described as *'a Big Mac on steroids'*). The store/café also co-ordinates mail and courier deliveries, and the new owners installed a new fridge, and increased their grocery range (including speciality items) to meet community demand. There is also a Farm Centre that was set up by a local family and is now onto its third local owners, which stocks a wide range of farm merchandise.

In the words of one participant: *'Pongaroa has been a strong community for generations. They worked and socialised together, often intergenerationally with an element of harmony and at times, tension, as a system of connectedness and relationships, which has met and worked through many challenges, and taken every opportunity to pursue opportunities, together'*. However, in recent years, this area has been at the epicentre of land use change, in this case through afforestation. This research will explore how land use change has interrupted and at times shaped the structure and culture on which this inter-generational Pongaroa community was built and operates.

Afforestation and impacts on the community

How was this described by research participants?

Afforestation, as defined by the Oxford Dictionary of Plant Sciences (2019), is 'the establishment of a forest by natural succession or by the planting of trees on land where they did not grow formerly'. Participants' similarly described afforestation, including:

- Pine planted with the intention to harvest (variously termed forestry or rotation forestry)
- Whole farm planting of pine without intention to harvest (also termed Carbon farming)
- Blocks of native species, including Manuka
- Regeneration of natives
- Riparian planting

Participants clearly differentiated between carbon farming and rotational forestry, and these terms will be used in this report. Starting with the participants' varied descriptions of afforestation, what does 'right tree, right place' mean for this community?

Right Tree, Right Place

'Right Tree, right place, right purpose' is the slogan of Te Uru Rakau's One Billion Trees (1BT) programme and a focus of this social research study. As Bloomberg (2020) points out, 'right' is variously used, has many meanings and is variously defined. Using *The New Zealand Oxford Dictionary*, Bloomberg (2020, p.44) offers these main definitions: 1. '(of conduct etc.) just, morally or socially correct', or 2. 'true, correct; not mistaken.' Comparing this definition with Te Uru Rakau's description of 'right tree, right place' slogan, Bloomberg (2020) described what he sees as a clear contradiction between national and local afforestation priorities:

If the 'right' or 'correct' tree planting decisions are to be based on technical and economic knowledge (e.g. 'suitable for the site and their intended use.'), and account for local community priorities (e.g. a preference for small-scale forestry), New Zealand's targets for carbon sequestration are unlikely to be achieved without largescale land conversion to fast-growth plantation forests. Small-scale plantings with indigenous or slow-growing exotic tree species are unlikely to sequester enough carbon in the 30 years between now and 2050.' (p.44).

Moving from a theoretical discussion about 'right', how have the participants in this research described 'right tree, right place'? What does 'right tree, right place' mean for them, their whanau/families, their businesses, their community and their environment? How will current decision making about 'right tree, right place' impact on the opportunities for our future generations? The range of voices will be heard in turn.

Farmer's voices

RTRP is.....

- Good productive farmland kept in pasture for farming
- Pines planted in steeper 'unproductive' areas for erosion control or forestry. Productive flats retained for farming
- Protecting and planting waterways
- Manuka for alternative uses (e.g. honey, erosion control)
- Planting to keep the farm functional (e.g. for stock access, stock movement, grazing)
- Retaining aesthetics: not planting to the skyline, not planting right to the road, planting a native strip beside the road

RTRP is not

- Whole farms planted in pines for Carbon farming with the intention of not managing or harvesting.

'My parents planted some of the farm in forestry. They were very conscious not to plant to the skyline and they planted natives on the crown. You'll never have that visual pollution. They planted far back from the roadsides. They planted natives around the waterways. I think that's crucial.'

'I don't mind pines on unproductive farmland. Pines are NOT OK on productive land!'

'I can live with production forestry, but I can't live with carbon farming. There's no income to cartage and no pruning and harvesting income to the district.'

Rural professional and rural business owners' voices

RTRP is

- Native species to increase biodiversity.
- Pines planted in steeper areas, 'un-farmable' 'unusable' areas for erosion control. Productive flats retained for farming.
- Manuka – native, more biodiversity (bees).

RTRP is not

- Blanket planting of pines over farmland, pines planted on the productive flats
- Pines for Carbon farming and not managed for rotational forestry

'I think native is right tree, right place. Blocks that can still be farmed, the pine trees can go into unfarmable places, the steep places where you can't farm. If it holds ground, it holds ground. A purpose of stopping erosion. Sweet. To have it on flat, beside the road, where you know you can get farming out of it, that's not what is right tree, right place' (Rural contractor)

Forestry workers and forestry company's voices

RTRP is

- Good viable profitable pastoral land remaining in pasture for livestock farming
- Farmable/productive blocks and/or houses with small areas of land subdivided from farms planted in radiata forestry and retained for farming and lifestyle
- Natives, but with a realisation that natives won't generate significant volumes of Carbon in the short term to meet ETS requirements
- Exotic species (e.g. redwoods and eucalyptus) as alternative to pines only in a suitable site
- Manuka for hard to access, erodible slopes
- Riparian plant waterways in forestry blocks
- On-farm woodlots for future income
- Planting pine on marginal unproductive land for carbon, with the aim of creating a permanent biodiverse native forest over time.

RTRP is not

- Blanket planting pines on farmland with the intention of not harvesting
- Radiata planted on steep faces with the intention of harvesting, with particular concern about radiata on steep slopes for harvest overlooking waterways
- Radiata planted in areas that are not physically suited (for example, wet areas with associated potential risk of land slump into gullies and waterways)
- Radiata for harvest planted in riparian areas.
- Radiata planted in areas of reverting scrub

The forestry voices describe a range of forestry models they believe to be the right tree in the right place. Some are based on pine forestry management and rotation, others on pines planted for carbon production without an intention to harvest, and others on using native species for a particular purpose:

'Our model is we're happy to plant the right land that has the highest and best use in trees economically and practically. We won't holus bolus go and buy farms that are in good profitable pasture and put into trees. Our investors won't support this for the rural community.' (Forestry company).

'[Our model] is mostly pines, because pine has the greatest sequestration. If you look at pine versus a native, it's a very easy model. Its 5 times the cost if going to do a native, only a fifth of the carbon yield and 5 times the failure rate if it's a native. And then we put in a management plan so how will we manage this to get back to native state? By the second decade we're starting to do interventions to actually create biodiversity and move the ground to native forestry.' (Forestry company)

'Manuka is the closest for an alternative tree for a different class of land. Erodible, hard to access, back of the farm, it's hard to plant the worst part of the farm in pines. They're often the hardest to get to and it costs an arm and a leg for access. In steep gullies, manuka works there, but you need a clear understanding of the benefits of manuka. You don't need to build roads for bees, and you can have fragmented ownerships and small blocks.' (Forestry company)

Some iwi members – their kōrero

It's important for iwi to be involved in the kōrero, the discussion, to hear the iwi perspective, but it's more important to make sure Te Ao Māori is represented. We struggle with the concept of right tree, right place because it differs from our Te Ao Māori worldview and our traditional values. What gives anyone the right to determine what is planted where? How can we override Papatūānuku, our earth mother? How can we tell her where to plant? Papatūānuku has led us and guided us. She has given us an opportunity to do the right thing by her.

A tree is not a tree to us, it's a living thing. Trees are our whanau, our family. Trees are our tuākana, our older brothers and sisters. Everything in the ngahere, the bush, is our whānau, and we descend from the ngahere. Our tuākana connect us spiritually, and I need them more than they need me to survive. We've lived with the ngahere for generations and the ngahere is part of us. Like a whānau or a family unit, the ngahere are uniquely connected through their root systems. There's an old kaumātua tree and generations of trees around them to support. Like the old people have the knowledge, the old trees have the knowledge. Like if you start removing portions of the whānau, it leads to a demise in society.

Our Papatūānuku set aside the ngahere for us to repatriate what used to be there. Every iwi has patches of ngahere within their rohe, their region, and we treasure these. Our strongest gene and seed strains are here. She left them there for us to have a second chance, for us to have an opportunity with climate change. Our Papatūānuku nurtured and absorbed the carbon within herself over billions of years. The ngahere are the greatest for absorbing carbon. The tracks of ngahere are for her to test us, to see if we can adapt. If we can invigorate and replenish, for us to find out who we are. If the land is sick, we are sick.

We advocate on behalf of our whanau, our tuākana, our ngahere. We want to ensure they are respected and that their mauri is maintained and continued. We went into nature to get some answers and to support our kōrero. If we've got to plant, let's do it in a way that incorporates a better long term plan for what it's going to look like in 100 yrs. If not, we'll look back and think why did we do this? We have to make mokopuna decisions. The concept of right tree, right place is putting short term money gain first. Could you put a price on your tuākana?

The voices of our future generation

RTRP is

- Thinking about our children and grandchildren – 'making mokopuna decisions'
- Retaining the opportunities for future generations. Retaining the right for future generations to farm in the district, either on inter-generational farms or starter farms
- Landscapes of the future are rich and diverse
- Planting native species
- Acknowledging that climate change will change our future environment, what we plant now will be different in the future

RTRP is not

- Whole farms planted in pines, productive farming flats planted.
- A loss of opportunity

The tourism voice – tourists and tourism operators

RTRP is

- Pines on marginal steep rough unproductive hills in back blocks
- Pines planted at least 20m away from main road
- Plant natives wherever possible, *'like the look of native bush, more natural'*
- Plant existing wetlands in natives, species that encourage birds
- Plant species that work and that hold the land together
- Enhance native forest to provide habitat for native birds and increase native birdlife

RTRP is not ...

- Pines planted on productive farmland
- Pines planted and not managed or harvested
- Pines planted on productive flats that could be used to produce food

'From a tourism perspective, or any perspective, people want to live in a nice place that is beautiful, that has a nice feel to it, that has a soul, that has a community. If that's not available, it's not going to be an appealing place to live or visit. Native has a soul. Pines to me represents heartless. It has no soul, it's dead. Native trees and native bush, it brings you alive, it's got soul and it's got spirit and it's alive with living organisms full of birdlife. Its natural, it's a native forest. Farming and native bush and pine can all operate cohesively together and create opportunity for everybody and will compliment each other if done in a mindful way to create opportunities in the Tararua. Like horse trekking, honey, ag-tourism, adventure tourism, bush walking /trekking/hiking, camping, motorbike trails, mountain bike trails. Nobody wants to do that through pine forests'. (Tourism business owner/operator)

Researcher's voice

RTRP is

- Purposive blocks as part of a diverse landscape (e.g. manuka and regenerating scrub).

Pulling the voices together, what stands out?

This chorus of voices reinforce that farmers and others want to plant trees for environmental and economic reasons. The chorus of voices reinforce that the community are not anti-forestry and not anti-pine, and acknowledge the value that forestry can bring to the local and national economy: *'Forestry is our hugest export. In New Zealand we plant it, cut it, sell it. If forestry is done correctly in the right place it's fine. It generates money for our country.'*

This chorus of voices also reflects an individual's perspective around what they believe to be 'right' or 'best'. 'Right' appears to be a subjective, value based judgement, and one that also appears to be dependent upon a wide range of socio-cultural factors including: what they know or are familiar with; how the land was used when they were young; their family traditions and values; the view of the land from where they grew up; their future aspirations for themselves and their families; social norms and social identity. This chorus of voices reinforces that what is considered 'right', is in *'the eye of the beholder'*: what is considered 'productive' farmland for some is not considered 'productive farmland' for others. In addition, expectations around scale and time frame also differ. A researcher shared her viewpoint:

'This is a genuine wicked problem. There are genuine value conflicts and no solution that works for everyone. It's also an ethical issue around multiple complex issues. Who sets the priorities? Who should decide? Who makes the choices? What's right and what's wrong is all based on value judgements.'

While the discussion started with right tree, right place, most discussions moved to a broader and deeper exploration of land use and future opportunities. The participants more commonly described the *'best/efficient/effective'* use of land to meet the needs of the environment, of current and future generations, and of their community. Some raised their concerns about discussions focused on the concept of 'right', and the ensuing emotive value judgements - either right or wrong - that this discussion can bring. In the words of one forest company participant:

'Right tree, right place annoys me intensely. Because it cuts to the emotive argument around tree and it cuts to what tree do you use, when actually if you've got a forest it isn't a tree. And if you've got good biodiversity and environmental principles it isn't a tree. The basis of right tree, right place is right, but I'd rather hear effective land use. Because there's a couple of things that hit with right tree, right place. First of all, that starts a discussion of natives versus exotics, starts a discussion of whether you should have a tree versus other land use. It sounds like it's a limitation of where the tree should be.'

For many, the discussion was not about individual trees or not about which tree is 'right', but about creating a biodiverse forest as part of a land use mix that forms part of diverse future landscape. A landscape that accounts for and respects traditional values and cultures. For others, the discussion was about land use change and the future prosperity of rural communities. A markets manager continues:

'The core of this discussion shouldn't be about what is the right tree in the right place, it should be about how do we encourage vibrant economically driven rural communities? How do we encourage diversity? The trajectory of our rural communities being heavily linked to hill country farming is not a good one.'

From the perspective of a forest company participant, the following case study is an example of what he believes to be a 'right tree, right place' decision that considers the land and the community:

When we bought the property, the farm manager came to me and said I'm buggered. I don't have any prospects for a new job, I'm not up to speed with the latest farming technology and my wife's got a good job in town that she'll lose and the boys are at school. He said if you buy this for trees I'm buggered.

Long story short, we came up with an arrangement that keeps him in place and we've set aside 120 ha in a small farm lease. A brand new house. He has the lease of the farm buildings and a new house and 120ha, of which 60-70 ha is plantable so not all effective area, and he grazes the balance of the block while we're planting. He's going to need to work off farm but it's given him some equity he didn't have. He's already come to us and asked if he can buy the little block.

This is what we should do when approaching a traditional farming area for forestry. We will only plant area that we believe should be in trees. This farm doesn't make money as a farming proposition. Some of it should be in trees. This is what I believe is forestry in the right place.

Carbon farming – what is 'right' and what is 'wrong'?

Carbon farming, or in participants' words '*the blanket planting of pines*', was discussed by all. Apart from one forestry company, the chorus of voices were in unison that blanket planting of pines for carbon farming (without an intention to manage or harvest) is not considered 'right'. Additionally, almost all of the forestry companies (managing and harvesting pine) and forestry crews and workers interviewed do '*not agree*' with Carbon farming. It is possible that this sentiment is related to the blanket planting of pines being a constant and visible symbol of the land use change affecting participants' lives, businesses, communities and region.

Some of the forest company participants shared their strong opinions about carbon farming. From the language they used, a values-based divide within the forestry sector appears to be evident. These forestry participants articulated their dissatisfaction with carbon farmers, including disagreement with carbon farming practices (pines not harvested with flow-on environmental, employment and local economy impacts) and with the carbon farmers' perceived focus on financial return with a perceived lack of care and concern for the community.

When asked: "*What is it like to be called forestry and a pure carbon forester also called forestry?*", a forestry manager's response was swift and blunt:

'To be compared really pisses me off. It's that financial approach to the rural sector. We are financial, after a dollar but more with, rather than without people. They're lying to themselves that pine trees will be there forever, and it creates a terrible name for timber forestry. They are like the dirty dairying, they are the guys who are putting effluent into the creeks.....I hate Carbon farmers. They are the worst in forestry. They just plant the whole thing in radiata. Job done. Tick!'

The owner of a forestry harvesting crew had a similar strong response to the same question:

'Carbon farming and forestry need to be separated and need to get people to identify that. The forest industry has been able to work hand in hand with farming, but now there's a bit of a divide between the two. Forestry's been tarred with the brush, stained by what Carbon farming is doing. Just because a pine tree goes in the ground its deemed forestry. My idea of forestry is trees are planted for harvest. When you take the trees out, the landowner gets a return, we put a resource back into the local market through timber and it goes offshore as well. With Carbon, you've just got these areas of land that are going to be locked up in pines. Some of these blocks 50-60 years down the track are not going to be looking too flash. Through issues with trees dying, falling over, rotting, and all your fire risk as well. It's a different type of operation. I don't want to be associated with that type of operation because I don't think it's the right way about it.'

As with any passionate or emotive discussion around land use change, a balanced debate that reflects a range of opinions is key. Let's hear an alternative voice. As stated on their website¹⁰, New Zealand Carbon Farming (NZCF) is a wholly New Zealand owned and operated company. NZCF are both forest owners and managers of forests on behalf of lease holders across New Zealand. With a vision of *'preserving our planet for future generations'*, their company model, as long term carbon foresters can be described as *'planting on marginal unproductive land for carbon, to create a forest, that over time, will move to permanent native biodiverse forest.'* Management interventions are put in place, as required over time, to create biodiversity and move towards a native state.

Community vision

What has developed from the right tree, right place discussion, is in essence a discussion about what the community want their future landscape to look like. A discussion about future landscape can be likened to a future community 'vision'. The community appears to be thinking wider than right tree, right place, or which tree will be planted where. It also appears clear that radiata pine, blanket planted for Carbon farming without intention of harvest, is not part of the community's 'vision'.

In summary, the community are thinking about:

- Effective, efficient, best use of land
- Retaining opportunities for future generations
- Biodiverse and aesthetically pleasing landscapes
- Protecting the environment
- Radiata pine managed for rotation has a place and a purpose
- A preference for native species where possible
- Ensuring the district retains and builds economic development, social enterprise development, and has a balanced society and community.

What does this efficient, effective land use look like for the community? What do some of these landscape visions look like?

¹⁰ <https://nzcarbonfarming.co.nz/about/our-approach/>

What will the Tararua District look like in 100 years?

There are mountains in the background and a river running through. There are different types of trees scattered across and some woodlots. There are different types of animals and that refers to the different land uses. There's an ostrich or an emu at the front and that means we will do some different things. There are fish in the river and a sign that says it's safe to swim and collect our kai. There are trees alongside the stream edges.

Across the landscape we can see existing land uses like sheep/beef, dairy and crops - and the potential for new land uses. The future might be new crops but we don't know what they might be. We will have a sustainable local economy where people produce products that people want. The key thing is diversity, and going forwards that might mean diversity across the district or diversity within a farm unit.



But we fell into a trap. We painted a picture of our current with a few tweaks around the edges. It's not going to be like that in 100 years. There's a potential that under climate change the Tararua might be similar to Rarotonga. We will lose our frosts, and there will be cyclonic events and everything will be different. Massive storms, droughts. The thin 3m riparian strips won't work, and we'll need hundreds of metres to allow waterways to walk their way across the landscape. Things like taking water out of the river might not be viable in the future. We will need to look at new ways. There will be things we can't even imagine. We can't adapt to that and the land can't adapt. We will eventually come to a new reality and that's coming at us.

(Commentary and picture from the Right Tree Right Place Project workshop with stakeholders, 28 July 2020)

Let's hear from some of our future generation. After a discussion about what 'right tree, right place' meant to them, a group of Tararua College students described and drew what they wanted their district to look like in 30 years. The students painted a picture of future landscapes they thought would be the same, yet also different. The same - being what they know, what they are familiar or comfortable with, what they have experienced - a strong community based around farming. Different - appeared be something they couldn't as easily articulate around the impact of climate change, impact of new technology, impact of international powers (China and USA), impact of international tourism. Through words and their art, they painted a picture of families, of vibrant busy towns, of local businesses. They painted a landscape of diversity, of naturalness, of looking after the environment. They painted a picture of retaining opportunities for future generations.

Looking after the environment. Part of that is looking after trees. Trees are our future. They keep us breathing. They help us build a better tomorrow.



We've got New World, the pub, houses and families, lots of kids. We've still got trees and all that. Town and farm are together in the landscape. We've still got farms and sheep and rivers and town. [Name] I've got my farming land and on the top half where it's not very good land I've planted trees to give back to the environment.

We've got stockcars and speedway because it's moved from Palmy to Pahiatua. We've got houses, families, cows, sheep, nice farmland and people skiing on Tararua ranges - climate change and all that. Sun. Rainbow. Trees. Pine tree. Lots going on in there, it's very diverse. But there are thin roads, very crappy roads. Have you been on the roads out Alfredton? You've got to slow down like every 20 secs, there's a big dip in the road, you lose your mud flaps.'



My poem:

*I want to see trees prevail,
I want to see trees with leaves.*

In conclusion, what advice did this group of young people offer to those who are potentially making decisions that could impact on their future lives and opportunities?

'Plant trees in the right place – not knocking down farmland, only use wasteland. Don't sell farms to people who are going to only plant pine trees. We need trees if we want to keep breathing.'

'I reckon you go to each council, we need you to plant % of each farm in pine trees, instead of just wasting good farms. I know of a couple of places where they planted straight across the front lawn and left the houses there because they couldn't sell them. They bought the farm. What are you achieving in all reality? We're still going to need the farmland. Who got us through the lockdown?'

After hearing from participants about what right tree right place means to them, the next section explores some of the relationships and impacts associated with afforestation. Starting with the potential opportunities, this next section then explores the participants' concerns and challenges around afforestation, and concludes with a narrative around undefinable loss.

Afforestation – the opportunities

Afforestation provides both opportunities (positive impacts) and challenges (negative impacts) for the community. In terms of opportunities, afforestation provides increased business opportunities for the local Pongaroa community (commonly described '*short-term gain*'). For example, increased business for the café and shop; the pub; accommodation providers (planting crews); and the farm centre ('*sold lots of boots*'). One courier operator described the increase to his business through collecting groceries from town and bringing out to the cooks of the planting gangs. Some of the planting crew joined the pub's pool and darts club, meeting for pool and darts night on Wednesday night. A rural contractor shared his observations:

'The shop out there [Pongaroa] is getting hammered by them [planting crew]. An influx of 30 hungry men. They don't eat at the pub because it's too expensive, they get snacks from the shop, but they also get fed by a cook they bring with them. Good for the shop short term, they make money out of it, but once they leave there's a hole they need to fill. That's good, but is it a false economy?'

A forest company manager shared what he's heard from some in the community:

'We've had crews camping in the local community for the planting season. That has led to some people saying this is the best season I've ever had in my accommodation. I've had 30 men staying in here every night for 4 months. This is the best we've ever had though winter and this is a great thing.'

Afforestation provides opportunities for farmers and their families. Some farms have been on the market for a period of time, with examples given of 1-3 years. For some farmers unable to sell for sheep/beef farming, afforestation provides an opportunity to exit with dignity, to be rewarded for their effort and to provide for future generations who do not wish to continue farming.

'Those guys [who sold] are being rewarded with the years they put into the land. Nice to think they're walking away with enough money to buy a nice house in town or whatever they want. They're being rewarded rather than having to leave their farms like in the 1980s when interest rates went mental.' (Rural professional)

Selling to forestry can provide an opportunity to realise an asset and to continue farming. A younger farmer shares his family's story:

'We sold a farm to forestry. We had it on the market for 12 months, and our neighbour had been on the market for 2 years. When we accepted the offer, there were 4 neighbouring farms just signed up for trees. We thought – "shit, if we don't get out now, we'll get boxed in". The money's there now, if you don't take it now, it becomes a hell of a lot less attractive option for someone else to buy. So, we sold that farm and bought another farm in 12 months' time. We bought part of a bigger farm: they'd [forestry company] purchased 780 ha, planted 250 and remarketed the balance. It went four ways and we bought some of that. So much interest from the neighbours, makes it more viable.'

Afforestation is believed to provide environmental benefits. Participants described some of the benefits, including: stabilisation of erodible land; improving fresh water quality in catchments by reducing loss of sediment, nitrogen, phosphorous and bacteria and offsetting carbon. Native planting increases biodiversity and provides increased habitat for native birds and other fauna.

Rotational forestry and manuka plantations can provide socio-economic growth and opportunities for the local community, Taranaki District, the region and New Zealand. Examples were shared of: jobs for locals (roading contractors, trucking firms, suppliers, crews for planting, silviculture, harvesting, chopper pilots); jobs in downstream processing (timber mills); added value through the production and sale of manuka honey (jobs, tourism); export return through the sale of timber. Jobs for locals ensures income is cycled through the community: café, store, pub, shops, local contractors, local suppliers, local businesses. The owner of a local forestry harvesting crew explains:

'We're 7 in our crew and we provide 7 households with income. Then there's the truck driver and his family, [name] and his family – he's management. Then there's the engineer, the workshops, the garage, the mechanics, people who bring in the diesel. There's the school and sports clubs and sponsorship - and we're just one crew. You don't get any of this through carbon.'

Afforestation can provide 'other' opportunities, for example, an increased supply of Christmas trees and benefits for cyclists: *'more trees, less head wind, easier for the cyclists!'*

Afforestation – the concerns and challenges

In contrast to these identified opportunities, participants tended to focus on their concerns about and the perceived challenges that afforestation can bring. In particular, the discussions focused on the

perceived negative impacts of the blanket planting of pines without the intention to harvest (carbon Farming). From the language participants used, carbon farming appears to threaten and negate many of the earlier identified potential opportunities of afforestation. From the participants' perspectives, the negative impacts of afforestation are wide ranging and ongoing for both current and future generations. Participants shared their concerns about the socio-economic/socio-cultural impacts of afforestation and associated land-use change, on themselves, their families, their staff, their businesses, rural professionals, urban and rural business owners, their communities, and the economic viability of their district and region and the environment.

The words of a forestry harvest crew owner encapsulate the concerns voiced by many participants:

'It's a shame with the impact on the community. You're taking a lot of jobs out of circulation. Shearers, people help with docking, all those little businesses. You're locking land up in trees and employment involved in maintaining it is bummer all. Flow on effect to the rugby and the sports clubs. If you're taking jobs out of the community, you're taking people out and you haven't got the young fellas coming through to support the clubs and stuff. Bringing young families into the district to work on farms or buy their first farm and put kids into the school. If that's not happening, the school will get an effect as well. The clubs would bring people together, suddenly it's quite different.'

What is the community concerned about? The challenges of afforestation

'Forestry money doesn't get recycled in the community'

Large scale afforestation, or the conversion of farms to forestry, is perceived to have negative socio-economic impacts on the community and district. These socio-economic impacts include: a loss of local jobs (with flow-on impacts on families, staff and their families); reduced cycling of income through the local economy; and flow on impacts to local businesses, rural supply and service businesses, the wider community and the District. In addition, the recent afforestation is believed to be from companies *'outside the area'*, which raises a further concern that any profits will not be cycled through the economy. A Dannevirke business owner shares his concerns:

'Small rural towns like Dannevirke have a strong rural base that's kept them going through thick and thin over decades. Agricultural money or the economy stays in the community and goes around and around. The only money that goes out is interest to banks! But forestry money doesn't get recycled through Dannevirke, it goes out.'

A rural professional described what he's observed over many decades:

'Farming provides an annual stream of income with a multiplier effect and maintains local employment. Once it goes to forestry, some may – and I stress some – may have a little bit of work making tracks and a bit of digger work preparing for planting, but might not and they bring in outside people. They bring planters in, that creates a bit of money flowing around when planting takes place. But more often than not, they're brought in from outside the district. Same for silvicultural, then there's nothing. The returns comes 25-30 years and that's a lumpy thing. People say that forestry returns can beat farming, but rarely if ever, do they factor in the multiplier effect. That's the economic activity going round and round, year in, year out for transport operators, ag contractors, workers, schools and banks.'

An agri-banker quantified the contribution of sheep/beef farming to the local economy, and the impact of a reduction in farming on the local economy:

'One stock unit¹¹ generates \$90. Within a season, within 12 months, as it flows through the service industries, it increases in value 8 times. That's 8 times its value in terms of moving through economic cycles within the community. With carbon farming, that value chain has disappeared for that one stock unit.'

'Jobs come from outside the community'

Large scale afforestation does not appear to provide employment opportunities for locals. Participants shared examples of labour and contractors brought in from outside the community for planting and harvesting operations. Participants described: planting gangs from Fiji and the North Island's East Coast; harvest trucking firms and drivers from Nelson and Napier; roading crews based in Waipukurau; contractors from Taumaranui putting in access tracks; and pine trees supplied from outside the District. Local crews are not believed to be used for planting, and the use of local crews for silviculture was not discussed. Local harvesting crews are used for smaller on-farm woodlots.

As with any passionate discussion around change and the socio-economic impacts on communities, understanding both sides of the story is key to a balanced and informed debate. A forest company manager shared his experiences around the availability of skilled local labour. He continues:

'There are no local planting crews in the Pongaroa area. The closest local crew we could get over the past 2 years is one from Dannevirke. We talked quite a bit with him, do you want to be involved and his concept was "actually Pongaroa is about an hour and a half to those planting sites and it's too far away for me and I can get more work closer to home". We explored it a bit more with him, he was a 1 vehicle 3-4 person crew, we needed about 100 plus labour units to work.'

This forest company manager uses North Island and Fijian crews. He went on to describe the physicality of the work, and issues they and other forestry companies have with finding and retaining forestry labour:

'It's tough work and a lot of them don't last.....What we tend to get is a lot of WINZ, a lot of MSD approach to forestry labour saying 'we can provide labour for these crews'. One took on 20 odd people from WINZ, by the third day only 3 of them were left. The guys can't handle it. It's physically too hard and you also need a certain amount of skill. It's a hard, repetitive, physical skill'.

The ripple effect – 'With more forestry, what will happen to us and our rural businesses?'

A change in land use away from sheep/beef is perceived to have an ongoing ripple effect within the community. The ripple effect was believed to be particularly pronounced with the advent of Carbon farming, namely a reduction in farming businesses and a flow-on impact on the individuals and rural businesses that service and support the farming community. A rural contractor simply summarised

¹¹ Stock unit: One stock unit (SU) equals one sheep that rears one lamb that weighs 55kg and eats 550kgDM/ha/year. Depending on feed consumption, a 500kg beef cow equates to around 5-6 stock units. (Massey University description)

his belief about the impact on shearing gangs (*'if there's no sheep, then there's no shearing'*), and went on to describe the flow-on impact on other businesses *'shearers bring a lot of money around, back into the pub, that's how it works.'* Others shared their thoughts about the ripple effect of land use change:

'Once you've passed the initial planting period with afforestation compared with farmland, then the labour units are taken out of the district. And it's not only those working on farms, it's also those servicing like the truckers, shearers, builders and plumbers.' (Rural professional)

'Where's all the farm workers, fencers, junior shepherds, guys coming along training their puppies? Where's all the sitting at the rugby club over a beer?'

A range of Pahiatua business owners estimated that approximately 80% of their business has some input from agriculture. One business owner described Pahiatua as *'a service town'*. A wool buyer is concerned about the impact of more trees and less sheep and beef on their business. Another Pahiatua business owner quickly listed the businesses she feels are negatively impacted by farms being converted to forestry: the three motorbike shops, Farmlands, RD1, accountants, supermarkets, petrol stations, tractor service and repairs, and vets. She went on to describe the impact on their business:

'We've been running our business for 12 years. We're disappointed by farms being sold for trees. It's changing things: less farmers and less families and we're not selling as many motorbikes. We're concerned about the impact on our business in the future. With the tree planters it's good to get their business now, but what happens when they go? If we don't have farmers we won't have a business and we won't be here.'

Rural professionals and rural service and supply businesses shared their stories about how they are being impacted by afforestation.

'We don't have any forestry clients, it's capital coming in and it's not lending. We're not funding them. In theory, that means less jobs for us in the long run as more farmers go to forestry. They don't need a banker.' (Agri-banker)

'If there's no stock, there's no need for stock trucks. If we're covered in forest, our business is done. I often think about what I could do other than trucks. Then you think OK I'll go teaching but then there's less kids and less teaching jobs because there's less kids and less families. I thought about buying a shop in town, a café, but there's less people. You could go tourism, but there's no tourism because the land's ugly. How long can you stay in the area?' (Trucking business owner)

'If there's less agriculture, there's less work for me. I don't get forestry valuations. It's highly specialised and I think it's risky because it's very volatile market.' (rural valuer)

Not all rural service businesses and contractors are negatively affected by afforestation. Even though a contractor (digging, earthworks) diversified and found more work from forestry (*'putting in roads, harvesting, maintaining access roads, cleaning out fire dams'*), personally he's *'firmly against'* carbon farming and is angry about the conversion of farmland to forestry.

Impacts on the environment

While afforestation can lead to environmental improvement, the negative impacts of increased pine afforestation on the environment were widely discussed. These concerns include: increasing monoculture and a loss of biodiversity (e.g. birds, geckos), decreased water quality (e.g. increased sedimentation from harvest and from unmanaged pines falling over), increased fire risk and increased pest risk. The owner/operator of a local forest harvesting crew shared his thoughts and what he's observed over the years:

'The biggest impact [of carbon farming] will be environmental, the quality of the water and the waterways. When trees start going over, when they trees blow over, they uproot and there's lots of exposed soil and sediment. All your creeks end up a bit different, like during pollen season and with the pine needles. Once you get debris into a creek, you get more algae. There's a big difference between a creek that runs through a native block and one that runs through a pine block. In the native block your get more habitat.'

'It will burn to the Coast'

The ongoing threat of fire is real and constant. Recent fire events at Lake Ohau reinforced the community's concerns and feelings of vulnerability. In some cases, the threat of fire is all consuming. If a fire was to start, many believe it will not be able to be controlled. One described the impact of an uncontrolled fire as *'devastation'*. A couple of Pongaroa farmers shared their fears and concerns:

'I'm really worried about fire. At Akitio, the lines touched and arced and there were sparks that started a fire. The lines touch and arc more in the wind. If the fire gets into the trees, it will run away.'

'If there's a fire, how will we get our thousands of stock out? Our horses and our dogs? How will we get out? There are pines on both sides of the road. We'll be trapped out here.'

An increasingly dry and variable climate, variable and increasing wind, and pine planting density near high voltage lines are believed to be the key contributing factors to an increased fire risk. For example, pines planted too close to high voltage lines/the corridor under the high voltage lines being too narrow, combined with a dry area that could face increased drought in the future and an increasing wind frequency, could result in an increased likelihood of sparking and fires. The owner of a forestry harvesting crew describes what he's observed in the District, and his concerns:

'When you get the high winds, trees blow over. It all comes down to the number of trees put in and how close they are to the lines. Some plant closer than they should. If it's a big carbon block and a fire goes through, owners would be accountable. There's no dams for fire fighting, it's not kept open for water supply. [Managed] forest companies are more proactive, they want to protect their investment, it's their investment going up in smoke.'

Some Pongaroa residents shared some of their recent experiences about the frequency and strength of the wind:

This year has been quite exceptional with the gales starting August 21 and continuing until September 29 then followed by intermittent resurgences into the second week of October. Overall, the area has been relatively dry and this has been characterised by sunny blue skies and simultaneous accompanying gales. While this may seem strange to outsiders it is a common factor to living in the Tararuas and it amplifies the dangers of having any forest fires at this time, or at any other time for that matter.

Example dates of these dry 'sunny-gale-force windy days' are as follows: August 21,29th-31st; September 4th,5th,9th, 10th,12-14th,16,21,22,25,26. The strongest winds recorded for the time of coming up to the 7 years we have been here was 217kmph which took away our neighbour's anemometer and was only beaten by 2 more kilometres at Castlepoint! This info comes from recordings I have made in my personal diary with a few omissions for days I missed.

Real concerns were shared about the threat of being unable to control a large, potentially out of control fire. Many of the identified exacerbating factors relate to the carbon farming blocks (pine not managed or harvested), and include:

- Access to and availability of water:
 - Airstrips are planted, unable to land fixed wing aircraft for fire control
 - Water storage dams either not being installed or maintained (cleaned out)
- Access to blocks
 - Gates are locked, keys not held by neighbours, unable to access for control
- Roadside verge maintenance
 - Less farming, verges not grazed in summer with sheep/cattle, increased fire fuel

'We're worried about increased pests and we're worried about TB'

With increased afforestation, sheep and beef farm owners are concerned about the increased incidence of deer, pigs and possums and the associated risk of TB. Increased pest incidence is associated with increased habitat (more planting and corridors for travel), and an associated concern and perception that forestry block owners will not continue to control pests.

In contrast, anecdotal evidence from the forestry manager of a block recently converted to pines in the Pongaroa District, paints a different picture. This forestry manager described a company policy of pest eradication rather than pest control, and of staff identifying and eradicating large numbers of deer and goats over a relatively short period of time. Pest eradication was key for their company – *'pest control for me is a bigger one than fire'* – because pests eat the newly planted pine seedlings.

Concerns about a Tb outbreak remain. As described on the OSPRI website¹², New Zealand is divided into a number of disease control areas. Each area has different TB testing frequencies and movement control measures depending on the risk of TB being transferred from infected wildlife (mainly possums) to cattle and deer. On this basis, Pongaroa is currently classified¹³ as a Special Testing Area, and cattle and deer herds require two yearly testing to assess TB risk. Deer and cattle herds in the Pongaroa District are not currently under Movement Control. An intergenerational sheep and beef farming family from Pongaroa, shared their concerns about the impact of a Tb outbreak on them, their business, and their family's future farming opportunities.

Case study – potential impact on a sheep/beef farming business

This has been our family property since 1895 and we're the fifth generation here. Our daughter and son-in-law have just come back to the farm, and we want to continue farming here. We run about 5,000 breeding ewes and we finish lambs and sell store. We also have breeding cows and sell the weaners. Our daughter and son-in-law are keen to build the cattle side of our business.

We're TB free now and have for many years. I don't know if the surrounding forest will do pest control and we're really worried about TB. If we get TB, it will be barely economic to run cattle. We'll lose income because our stock will have to be discounted. And there'll be extra workload because we'll have to test before sale and we'll have to bring them in more often for testing.

The big thing will be if we have to give up the cattle. We've been breeding them for years and they're like family to us. We'll also be in danger because if we have less cattle, all our eggs will be in one basket. We'll lose our system resilience. If wool is worth nothing, or if the lamb price drops, or if there's a drought and we have less lambs, we'll lose money. If we have less cattle our pasture quality will be less because we won't have the cattle to clean up the rough in summer. If pasture quality drops, then it affects our sheep system. Pigs damage pasture as well.

I'm worried that if we have to give up the cattle, our kids might move off the farm. They're more interested in the cattle side than the sheep. We've got no succession planning for that and we'd have to move. Our family's been here for 125 years.

'It's the sneezing and wheezing'

Increased pollen volume, now and into the future, concern some in the community. Two key themes were raised. Firstly, the 'unpleasantness' of the pollen 'coating' on windows, cars, dams and streams. One person queried: 'If pollen is 5% Nitrogen, what are the implications for our water quality?'. Secondly, the impact of increased pollen and evidence of increased allergies, even though, as one person remarked, 'they claim pine pollen is not allergenic!'. Some participants described their symptoms and how they feel:

¹² <https://ospri.co.nz/>

¹³ Current period 1 March 2020 to 28 February 2021.

'I'm sneezing, wheezing and having more trouble breathing. Some days I cough all day'.

'My son is very allergic. He's sneezy, wheezy and has runny eyes. He has to take drugs now to cope with the allergy. He said "he's a druggie not by choice".'

A public health nurse described an increasing incidence of asthma and her concerns about decreasing social wellbeing. She continues:

'I'm seeing huge increases in asthma which I've not seen before which increases social costs to the community. Another community is beside themselves with stress levels climbing and they are really fearing fire risk.'

'Our roads aren't up to this'

Based on past and current experiences, increased afforestation is expected to negatively impact on local roads. Participants described an expected change in the type of traffic with a change in land use - from lighter to heavier vehicles. From predominantly farming traffic – utes, farm vehicles, cars (farm families), rural contractors, school buses, some stock trucks and occasional tourists (cyclists, campervans) – to forestry crews, increased machinery trucks (e.g. carrying a digger) and logging trucks. A change in frequency is also expected: planting crews on the road every day (utes and trailers) and logging trucks at harvest. Participants have noticed that some roads have less traffic, while some roads have more. Interestingly, many of these comments relate to what the participants are currently seeing with increased planting and logging operations, however, increased planting for carbon farming without an intention to harvest may not see all these concerns realised in the future.

Road quality is expected to decline, from the increased volume and frequency of forestry traffic. Participants believe their local roads (described as *'narrow', 'gravel with steep drop offs'*) are not fit for forestry, and impacts already noted include: increased corrugations at the corners (from trucks); long trailers unable to turn on tight corners; and increased slips. More trees planted near the road is a contributing factor, for example, *'reduced visibility, increased shading, the road won't dry out and quality will deteriorate'*. Another commented: *'It will be dark and dingy'*.

Road blockages are another concern. A farmer shared an experience of a truck with a digger stuck and blocking the road and being told *'to go around'* – adding to the length of his trip - but as he reflected, *'what would happen if it was an emergency?'* Others believe pines are planted too close to the road, and in poor weather, branches or trees will fall over the road. A rural contractor shared his recent experience:

'We got called out to a tree that had fallen down across the road. The lady behind the tree, she was that relieved to get out. She was beside herself because she was just sick of trees. Man, I felt sorry for her, this young lady, I didn't know what to do. She was bawling, stuck up this road behind this tree, terrible weather, no one around, beside herself.'

Real concerns were raised about health and safety on narrow roads from the different combination of forestry, tourism and farm traffic. Some questions raised included: What will happen when a tourist cycling Route 52 meets a truck?¹⁴ What will happen when the school bus meets a logging truck?

'We get lots of cyclists in summer, Route 52 is a historical route. It's promoted as a cycle trail. But if there are logging trucks on the road, they [the cyclists] will be bothered. It's not designed for that sort of thing, bikes and trucks.' (rural contractor, driving the road every day)

Concerns were raised about forestry trucks getting bigger and going faster. A rural contractor shared what he's observed during harvesting near Weber:

'The bridge is fine, but the roads aren't up to it. You can't comprehend the volume of traffic and it's all at once. They have a run, start at 4am, 7-8 trucks turn up and they load out at set hours, then they are gone. Then the second round comes in and the fourth and the fifth round until knock off. They go hell for leather, 100mph, cutting corners, repeat, repeat, repeat, every day.'

Participants were concerned about who will pay for current and future road maintenance. A farmer shared what he heard:

'Up at Rimu Road, I heard it cost the Council 10 times the value to maintain for 12 months. And it's still knackered from the trucks and no sunlight. It doesn't dry out. Now you're not allowed to plant within 10m of a boundary. You need sunlight and wind.'

'What about our school and school bus?'

With increasing afforestation and a loss of farming families, comes participants' concerns about the future viability of Pongaroa school. Even though houses are being subdivided from farms after sale to forestry, anecdotal evidence is of new owners not tending to have primary school aged children. In addition, some families are concerned about whether the school buses will continue to keep the same schedule with a potentially falling school roll. One farmer asked: *'with all the trees now, will the school bus keep going out, will it keep going down Rimu Road?'* Another farmer shared her fears about forestry's impact on her grandchildren's future opportunities:

'Our fear is the school will drop to a one teacher school. Then there'll be reduced opportunities and reduced choices for the kids. We don't want our grandkids to go to a little school like that, it's too hard to transition to a high school.'

'We're worried about our water and our power supplies'

The Pongaroa Water Scheme was commissioned in 1983 from a government funded programme. This investment had a dollar-for-dollar government grant and community in-kind donated labour¹⁵. The scheme delivers water to the settlement of Pongaroa and to farms spread over a wide geographic area, supplying household and livestock water through 96 km of Council controlled pipelines.

¹⁴ The relationship between afforestation and tourism is further developed in Section Two.

¹⁵ Tararua District Council's Submission to the Water Services Bill; submitted 2 March 2021.

Tararua District Council's submission to the Water Services Bill, highlights their concerns about the impact of land conversion on the supply and future security of water to Pongaroa. In particular, the submission presented the potential impacts of land conversion from agriculture to carbon farming (permanent forest) on this water scheme, including:

1. Reduced demand from a decreasing smaller population and less livestock;
2. Road access for maintenance of infrastructure may no longer exist due to tree growth and lack of road maintenance;
3. On-farm private piping systems and Council pipelines may become compromised by tree roots (from tree growth and increasing fire risk); and
4. Untreated water sources may be needed for fire suppression (particularly during dry periods). The area is particularly windy and expected to dry further from climate change.

Council's concerns were shared by participants. Some shared anecdotes of hearing about, or seeing, pine trees planted over the water scheme's water pipes. Others are concerned that tree roots could affect or damage the water pipes. One farmer asked: *'If the pipes are broken, how will we locate and fix them?'*

Pongaroa's power is supplied through two 33,000V lines that pass through forestry blocks. Some participants believe the reliability of Pongaroa's power supply will be affected by pines in unmanaged blocks falling on the lines, particularly with the increased wind run discussed earlier. Others believe the unplanted tree corridor, under the lines, needs to be wider.

Access for emergencies – what will we do?

Several farmers described how they rarely padlock their main access gates, and how neighbours and others are welcome to enter. If a gate is locked, a neighbour would commonly have a key or know where the key is. However, the access gates on farms that have converted to carbon farming are padlocked and access is denied. Locked gates worry neighbours and others in the community:

'The forest gates are locked. It's really worrying me. I'm involved with the ambulance, and how will we get access if someone's injured? What are their plans for emergency services? We're neighbours and we don't have a key.'

'I was talking with a Pongaroa resident yesterday, and they tell me that the forestry block managers have taken out all the roadside access gates to paddocks except main entrances which are all double bolted and locked up. I'm curious to know how they will deal with fire and safety issues in the future.' (Council staff member)

The sentiment from the community then, is not of what might be gained, but rather the scale of what they have deemed to have lost, and how much loss potential there is. This loss potential will be termed an 'undefinable loss', or a loss that is deeply felt but one that cannot be clearly articulated.

The deep passions – an undefinable loss

Deep emotions and passions underpinned the many and varied narratives. Some participants described feeling sad, heartbroken, apprehensive and negative about the future. One expressed her sadness by describing being in tears when she saw their family farm planted in pines. (*'my husband grew up there'*). Others described feeling choked or smothered, isolated and lonely. Some described feeling helpless, not knowing what to do, not knowing *'how to stop the afforestation'*.

These negative emotions could be described as emotional and social expressions of: grief, powerlessness and undefinable loss. Undefinable losses can be thought of as losses that are deeply felt, yet unable to be precisely defined or described, and not easily put into words. In the language they used, participants described a: loss of community and neighbourly support; a loss of connection with place and people, and a loss of opportunity.

A loss of community - 'They're not from here, they're different people.'

Any change in land use can bring a change in community dynamics, community structure and community culture (social norms). Over the past few years, the community have experienced an influx of transient planting gangs and other forestry workers into the close-knit Pongaroa community. A Pongaroa local summed up the sentiment of others:

'There's a difference between being here – here for 6 weeks and never seen again – and being part of the community.'

The change in community dynamics and culture was not always viewed positively. The impact of these changes were described in a range of ways, including a loss of: safety, familiarity (with people they know) and stability (an increasingly transient population). One young female Pongaroa local described feeling uncomfortable around some of the planting gangs while they were drinking: *'I don't feel safe around them'*. Others expressed suspicion and concerns about the potential for gangs to move into the local community:

'I'm worried about the Mongrel Mob and I'm worried they're coming into our area. I'm worried about P use. I'm worried about the hangers on-ers they bring with them. I told the real estate agents not to sell to them.'

Social norms, or unwritten rules, 'are shared cultural understandings of how to behave in common social situations' (Minato, Curtis, & Allan, 2010, p.383). These unwritten rules are commonly shared by experiences, through conversation and may be reinforced by signs. In the Pongaroa community, signs outside the pub and store reinforce what is expected and accepted behaviour, and politely remind people to take off their muddy boots before entering. This next anecdote illustrates a lack of understanding of community culture, a perceived violation of local norms, the associated impact on trust, and increased suspicion of 'outsiders': those not from the local community. Many months on, this incident had reached folklore status for some, while for others it remained a concern:



Last year a couple of young blokes were stealing gumboots from outside the pub. They think that's nothing, but in Pongaroa that's massive. That's like stealing someone's wife. Gumboots are huge, like chainsaws.

They weren't selling, just stealing and taking from by the front door and going home with them. They think gumboots are a shoe, but gumboots mean a lot more.....It's their lifestyle, it's their way of walking the mud. When you're a local you can just leave your boots there and you trust people around you. As soon as you lose that trust, then that district is not that flash anymore. They don't understand, just see it as a rubber shoe. It wasn't an islander, it was one of the guys from the coast, East coast, Gisborne maybe.

Some losses were more tangible and able to be described. Whole farm conversion to forestry has in some cases increased land price, and as a consequence, reduced the opportunity for some younger farmers to start their farming career. In the words of one participant: *'a loss of starter farms'*. One older farmer commented: *It's hard for the young fellas, they can't get a crack at some of these blocks.'* A rural real estate agent described what he's observed over the past few years:

'Pongaroa has always been a place where people get a start, come in and get their first farm. It's a stepping-stone area, take the opportunity, then move to another area. Once you remove the first part of the cycle, the rest of the cycle doesn't happen. If you take away that first farm, there's no stepping-stone. If it's uneconomical to get into that first farm, you can't get to the next farm. They sit in no man's land, never doing anything.'

A loss of infrastructure is a symbol of the finality of land use change for some, for others a symbol of waste. Sheep yards planted with pine trees is in some ways a constant reminder to the community that *'this land is gone'*, it will no longer be farming land. In essence, a loss of infrastructure also symbolises a loss of shared hard work. Reciprocity, a social norm strongly evident in this community, encompasses the community coming together to help each other out, for example, building yards, shearing, mustering, volunteering. A Pongaroa local explains:

'People see it as waste, it's a loss of all the infrastructure. The woolsheds, the yards, the planted airstrips. At Te Rimu they spent over \$100,00 on a new water system. Often people in the community have worked on those sorts of things.'

While not always able to define their loss, some families symbolised their loss through carvings. A participant described these carvings as memorial plaques. A memorial plaque can signify different things to different people, including the loss of a loved one, the loss of someone or something close to your heart, a remembrance gift, a memorial to honour the life of a deceased.

In this story, these carved memorial plaques suggest a loss of connection with place (the land) and with people (the community).



'Master Carver [name] carved plaques for some families. A couple of farms sold down Pongaroa have been planted out and those families do a memorial plaque to the farm and give one to the heads of each of the families. They are gifts for the departing families - this is where we grew up and we're not there anymore.'

'Last man standing'

'Last man standing' is an evocative descriptor, and one used by several participants. This descriptor suggests a test of endurance, a competition or a battle, where a sole survivor has outlived or outlasted their competition. Last man standing was used to infer local hero status to a farmer not selling to forestry, described by others as 'staunch' - loyal, firm, steadfast:

'[Farm name] is a historic farm. It's one of the original settlement farms. It's still sheep and beef and it's holding on. It's staunch. Bigger trees! She's got her son in there now.' (rural contractor)

Smith (2020, p.29) similarly described a Wairoa farmer, given local hero status. This farmer *'recently refused to sell to the highest bidder (a forestry corporation) in favour of a buyer committed to keeping the land in pastoral production.'*

Last man standing also suggests an initial stance, a realisation and then inevitability. It suggests initially holding out against *'the invasion, slowly, slowly invading'* and then a creeping realisation: *'oh god, I know what's going to happen. They're going to come at me'*. It also suggests not wanting to be the last one left, the last farm to sell to forestry, not wanting to miss out, wanting to get out early:

'[Name] just sold the farm, he didn't want to be the last man standing'

'A famer out there held out against [forest company] for a long long time but then he was surrounded up a no exit road, so his farm went to trees.'

The next narrative, told through the eyes of an experienced farm manager and family, tell us about the personal loss and challenges experienced by this family as the sheep/beef farm they manage is converted to forestry. This narrative highlights how land use change affects not only farm owners, but also farm managers and their families who treat the farms they manage as their own.

Farm managers on a sheep/beef farm, sold to investors and planted in forestry

When we took up the role, the farm was grazeable and we knew it was on the market. We listened to the investors who are so passionate about farming, who want to be involved with the land, but when they couldn't farm under overseas investment rules, it seemed like 'Oh let's just buy it anyway and go with what the Government wants us to do and plant it in trees'.

It tears you apart when people have said its unproductive and it's no good for farming but you know when you farm it properly, lambing and calving are as good as anyone. Our scanning results were the best of anyone the scanner had been to see this year, and it was a tough year. It's not unproductive, it's always in the eyes of the beholder. Whose eyes are you looking through? Whose goals are you looking through as to how bad it is?

We'd like to find a way to stay. There will be 600 ha left in farmland. We don't know what we will be doing. It's kind of scary. Sam is really good at what he does, he's a good grazer and a good stockman and he's good with his time, takes pride as a custodian, and he's done all that training.*

We had a fair idea who might buy it, but we didn't think it would be that bad. We weren't fully prepared for how bad it would feel when that [planting] started. When you're there and seeing it converted in front of your eyes out your kitchen window, it's pretty rough. We have no control when it's sold and the end date. The stress I see in my husband is because there is no control over some of those decisions. You know you're very disposable and that you can be disposed at any point. That's really tough.

In the school holidays, a group of high school lads put themselves together as a dagging crew. They came out and did some dagging for us. They were standing looking out the woolshed doors and asking (my son) is this going to all be planted? He was explaining "blimmin foreigners and this is a crock of shit" and these young boys and the young ladies were disgusted at what adults are deciding today that will impact on what they will have to live with and be impacted by as adults. There are options they will never have in terms of wanting to be out on the land and carrying on in their farming traditions. They really want to be farming, but they can see those opportunities are being shut down.

**Pseudonym to protect identity*

This narrative concludes Section One. Section One explored the concept of right tree right place, and the potential opportunities, concerns and issues that afforestation can bring to the Tararua community. The next section examines the relationship between tourism and afforestation. After initially describing tourism in the Tararua District, the section concludes by exploring whether afforestation has a perceived positive, negative or neutral impact on tourist attractions, tourism businesses and tourism potential.

Tourism in the Tararua District

Attracting visitors to the Tararua District is an important part of Tararua District Council's economic development strategy¹⁶. A visitor can be described as 'a person, who is a guest, who comes to spend time with or stay in a place that is not their home...for pleasure, for business, for sightseeing, for experiences'¹⁷. The Council's Economic Development Plan recognises the opportunities for the district from growth in the visitor sector, and opportunities for growth were clearly identified in the Tararua District Visitor and Walk-Cycle Strategy and Action Plan.

While primary industry (e.g. sheep/beef, forestry, dairy) is a key land use in the Tararua District and Pongaroa area, domestic tourism is emerging as a significant area of growth for the district's and Pongaroa's businesses and communities. A Pongaroa business owner described what he has observed over the past two summers:

'We've been really busy with campervans, motorcyclists and cyclists. Some are here for a day trip and some are touring. They stay down at the domain or camp at 4 Mile Bush. They come because we're a back road, we're not a state highway. They think the scenery's more interesting'.

What can the Tararua District Visitor Strategy and Action Plan tell us about visitors to the Tararua?

- Tararua is an area transited by many visitors - 'a place to drive through rather than to go to'. Apart from those in transit, many people come to Tararua to visit friends and family.
- Tararua's top attractants (in order of preference):
 - Natural beauty, flora and fauna, wide open spaces, untouched mountains, clean/fresh, quietness, scenery, raw beauty, rivers
 - Friendly, genuine, real, down-to-earth and authentic people.
 - Rural, farming environments.
 - A good place to take a break/eat while travelling further afield.
- Based on 2019 data, the annual spend by domestic and international visitors to Tararua District contributed approximately 11% to the Tararua economy. Fuel is the biggest visitor spend, followed by food/beverage and other retail expenditure (reflecting the transit nature of Tararua visitors).

¹⁶ Source: Tararua District Council 's Economic Development Plan 2019.

¹⁷ Source: Tararua District Visitor and Walk-Cycle Strategy and Action Plan

Pūkaha National Wildlife Centre, the Tui Brewery and the range of attractions on offer at Norsewood were described as the district's 'big three' attractions¹⁸. As one tourism owner/operator described, these tourism attractions often work together to attract visitors traveling between Wairarapa and Hawkes Bay:

'We tie in with Mt Bruce and Tui Brewery, we tag team each other. They're all the same tourists! We say "Where are you going? How about a nice lunch at the brewery, then if you like birdlife, you should probably stop at Mt Bruce".'

Some tourism owners/operators described the visitors to these larger District attractions. For example, the Tararua market and visitors to the Tui Brewery were described in this way:

'We're not a massively well-known area. People say "what and where is Tararua"? We align with Wairarapa, with the domestic tourists travelling the state highway between Wellington and Hawkes Bay. Also, we get the pop-on-overs, the day trippers to the region. They come to Tui [Brewery] and they come to Pūkaha. Then we have the event goers, they are comfortable with travel and like to travel, like the car enthusiasts and the motorhomers.'

Visitors to the Pūkaha National Wildlife Centre at Mount Bruce were described by another tourism operator:

'The 'target audience' or key visitors are generally families. They have a strong social and environmental conscience, they just like being out in nature. They are not looking for a zoo type experience, they understand it's a beautiful forest, a beautiful walk and teaching your kids about the importance of the forest and the bugs and the skinks and the birds and it's a really important part of growing up in NZ. But it's not just young people we see a lot of retirees, lots of campervan drivers, that sort of sector who have the same environmental focus, just really get it.'

The New Zealand Motor Caravan Association

The New Zealand Motor Caravan Association (NZMCA) is a key and growing market for the Tararua District, and Tararua District Council (TDC) have developed a strong relationship with the NZMCA and their members. Council has supported infrastructure targeted at this key market, including the development of reserves for camping and toilet facilities. In addition, TDC staff attend the annual Motorhome Caravan & Outdoor shows in Auckland and Hamilton; events that are a key component of Council's strategy to attract NZMCA members to the Tararua District. Anecdotal comments suggest show attendance has contributed to an increased number of NZMCA members visiting the region.

NZMCA membership is growing. Membership data from the NZMCA illustrate a four-fold increase in individual membership over the past ten years (from 21,967 to 95,722). One tourism owner/operator reflected enthusiasm in his comment *'we know NZMCA membership has shot up to over 100,000, 15,000 joined over lockdown'* and another tourism owner/operator thought there were about *'100 and something thousand members'*.

¹⁸ Tararua District Visitor and Walk-Cycle Strategy and Action Plan. From 2018 data, approximate number of attendees: Tui Brewery (non-locals) 50,000; Pūkaha, 45,000; Norsewood, 40,000.

Tararua District is an attractive and welcoming location for motorhome owners and campers. Of the current 57 NZMCA identified motorhome 'friendliest destinations'¹⁹ in New Zealand, three are in the Tararua District (Woodville, Pahiatua and Dannevirke). Based on recent²⁰ motorhome data, motorhome owners visit the Tararua District for the scenery, the relaxing peace and quiet, and the walking tracks. For those choosing to freedom camp, Camper Mate data suggests the Woodville's Ferry Reserve, the Mangatainoka Reserve and the Alfredton Community Centre and Domain are popular spots²¹.

TDC secured an opportunity for the Tararua District to be featured in one of six documentaries produced by NZMCA. Titled 'RV Explorers', NZMCA members Anne Marie and Johnathon produce videos of their journeys around New Zealand. Episode Five features their adventure to the Tararua, a location described as having 'many hidden treasures to offer - wild beaches, lovely waterfalls, lost highways, Christmas caves and NZ's iconic Tui Brewery'²². In the video, they described what they can see - *'the hills are so green and beautiful. The sheep and cows look extremely happy, its ruggedly beautiful'* – and - *'lovely bushwalks, the waterfalls are simply gorgeous'*. One of their final comments summed up their experience: *'The Tararua has been an eye opener. Everywhere we've been, we've felt a strong sense of community together'*.

A tourism owner/operator recognises the strategic importance of motorhomers to their business and to the district:

'In the Wairarapa and Tararua, we've forged a strong relationship with the Motorhome Association. We're one of the regions who've put up our hands to say 'we welcome you here'. Along with that, council and destination Wairarapa and I site worked hard at going out to motorhome shows and working with motorhomers. The Motorhome Association have thousands of paying members and they love the Tararua region. They're all retired. They come down, they don't spend money on accommodation, but they have money. They have these massive motorhomes, especially post covid, and they spend in the regions. They are the types of people who take their time, they want to get out and see the back roads, see the countryside, get off the beaten track. They want to stay in little reserves and meet the locals, and get a coffee here and go to this little shop and check out that little antique shop. They go where there is stuff to see.'

Many businesses have developed an association with the NZMCA and encourage members to visit, for example:

'We give a free pair of socks to anyone who shows us their card and spends \$10 or more. That's \$17 of socks. Tararua is motorhome friendly park anywhere and we also have 4 motorhome marked parks at our wetland.' (attractions at Norsewood)

¹⁹ <https://www.nzmca.org.nz>

²⁰ COVI motorhome data from March 2019, September 2019 and March 2020

²¹ Camper mate Freedom Camping Reports, Tararua District, December 2018-May 2019.

²² <https://www.nzmca.org.nz/motor-caravanner/episode-5-of-rv-explorers-featuring-tararua>



'We started a plants and pints project to beautify the Mangatainoka Reserve, and we invited the motorhomers to join us. If you stay at the reserve, you come over to Brewery, pick out a tree from our native nursery, we'll give you a spade, and you go to the reserve and plant the native tree and when you bring the spade back, you get a free beer. We used this as a way to forge the relationship with the Motorhome Association, to get on their radar, you are welcome here.' (Tui Brewery).

Tararua's country roads are often used by touring road cyclists. The 263km Route 52 extending from Waipukurau to Masterton is a popular 2- 3-day ride. As described on the New Zealand Cycle Trail website, this route *'passes through pretty farming country and friendly little towns on its way between Hawke's Bay and the Wairarapa'*. Cyclists find food and lodgings at the Pongaroa Hotel, Pongaroa Store, lodges, backpackers, B&Bs, holiday homes and other locations along the route.



After stopping at the Pongaroa Store for coffee and morning tea, these cyclists were riding to Akitio. It was a wet day; they were looking forward to a hot home-cooked meal and a night at a lodge. This was their second cycle trip on Route 52.

After describing the tourism market and the role of tourism in the Tararua District, attention will now return to afforestation. The next section will further explore the nature of the relationship between afforestation and tourism, and in particular, whether afforestation has a perceived impact on attractions, businesses and tourism potential.

Afforestation and tourism in the Tararua District

Attracting visitors to the Tararua District is 'an important part of the District's economic strategy', yet the relationship between afforestation and tourism is not well understood. This section sets out to explore whether afforestation is perceived to positively or negatively impact on: current and future tourism opportunities and businesses; and the tourism attractions that attract people to the District and generate flow-on income.

As described earlier, visitors come to the Tararua for:

- Natural beauty, flora and fauna, wide open spaces, untouched mountains, clean/fresh, quietness, scenery, raw beauty, rivers;
- Friendly, genuine, real, down to earth and authentic people; and.
- Rural, farming environments.

A few participants believe afforestation would have little or no impact on tourism. One business owner is not sure whether increased pine afforestation will impact on his business and tourism, and added *'tourists come here because it's the back roads, not the main roads.'* A few described potential opportunities from afforestation, but, with the proviso of the right tree in the right place. For these participants, right tree, right place does not include large scale pine afforestation. One tourism owner/operator believes the right trees planted in the right place (natives and wetland planting) *'will grow tourism'*, and that would benefit his business. He would market native and wetland regeneration as part of his overall tourism package. Another tourism operator, whose right tree right place vision includes biodiverse native planting, not blanket planting of pine, describes the potential benefits to their business, communities and region. She continues:

'Planting the right tree in the right place, and everyone doing this on a collective scale, would create a region that can sustain the transition from farming. If this methodology is applied, our business can prosper and grow and will create other tourism opportunities to continue to attract people to the region to ensure that communities don't shut down. Or that communities can come together.'

In addition, managed forestry can provide tourism opportunities. A couple of forest company managers suggested a range of tourism opportunities, including: honey and ecotourism; a hunting lodge; mountain biking trails; and a 30m permanent native riparian strips for walkways and waterway access. One forestry manager emphasised the need for pre-planting planning, and continued:

'You need to set it up right at the start, that gives you options. You start with a plan, like we have a natural feature here, access here, we won't plant this area, we'll have a hunting area here. Council can help by forcing foresters to have that discussion around not planting the whole thing, forcing foresters to think differently.'

Although some participants identified the benefits from tourism, more were concerned about the potential negative impact of increased afforestation on tourism. Participants described how increased pine afforestation has and will continue to change the scenery and views, and many believe this will have a negative impact on tourism. A rural business owner shared her experiences based on 8-10 years as a tour guide in the South Island. She continues her story:

'If you drive Route 52, it's stunning. It's beautiful, it's green and lovely. But this side, it's horrendous. The land is scarred, it's freshly felled and it looks awful. A forester thinks it looks beautiful, but to a tourist they think logged land looks ugly. Tourists think it's bad for the environment, they think you're destroying the environment because you're cutting down a tree. When I was a tour guide it's all fine until we drive through afforestation or freshly felled and they're straight away "[name] what's going on here? What's happening" You're supposed to be a green country". And I'm "Oh, it's all good, this land isn't viable for farming, it's been felled but it will be replanted, it will go back into trees."

A tourism owner/operator shared her opinions about the impacts of pine afforestation on the views (landscape) and on local communities, and identified potential flow-on impacts on tourism businesses. She continues:

'Part of the attraction of driving State Highway 2, and Route 52, is the meandering road through rural New Zealand. You can stop in Eketahuna, in Pahiatua, it's all through farmland. There's communities around and petrol stations to support those communities and supermarkets. Pine forests require far fewer employees and that will mean less amenities. Without those amenities and with just looking out the window at pine forest, why would you bother driving? Would you not fly? Or go down the Kapiti Coast where you're guaranteed to get a petrol station and a supermarket. That leaves us with fewer people driving past our doorstep or seeing the countryside. We get huge benefits from the motor-homers who stay at the campground. The freedom campsite across the road from the Tui Brewery, that wouldn't have any appeal if it's among the pine forest. Why would you want to stop there? That would impact on [our business], without a doubt. You got to drive, you've got to want to get out to see us, and that's going to be a harder and harder sell if there are pine trees.'

Tourists identified some potential flow-on impacts of afforestation, including the length of their stay in an area. A few motorhome owners camping at the Mangatainoka reserve were asked what they liked about the Reserve, and while looking at the views across the river, asked whether the species planted would affect their travelling habits. A couple of motorhomers shared their stories:

'I like travelling the backroads because I'm interested in the countryside. I like anything native: beech, totara and trees like that look beautiful. Lots of beautiful foliage. If there were lots of pines, I would be disappointed and enjoy it less. I would still have stopped here because of the Tui Brewery, but I wouldn't have liked it as much and stayed less time. I would have spent less money in Pahiatua, like at the supermarket and service station.'

'I love the Mangatainoka Reserve. It's a lovely spot, I've been here before. I like the lovely views and no sign of life. If there were pines on the face over the river it would be horrible, no, no, no. It would be terrible when they were cut down, slash into the rivers. I like to see bush. Pine trees wouldn't stop me travelling, but it might affect where I stopped.'

Increased pine afforestation could potentially have a negative impact on some of the District's visitor attractions. Pūkaha National Wildlife Centre will be used as a case study to explore this phenomenon. Pūkaha National Wildlife Centre, identified as one of the Districts 'big three' attractants, is an unfenced sanctuary for native wildlife. The 942-ha forest is home to wild kōkako and kākā, while inside aviaries, endangered birds are bred for release across Aotearoa New Zealand²³. In addition, Pūkaha shares knowledge that encourages and supports other restoration initiatives around Aotearoa.

²³ <https://pukaha.org.nz/>



Q: If the agricultural land surrounding Pūkaha was planted in pines, what could be some potential impacts on Pūkaha National Wildlife Centre and the native species they protect?

A: Concerns about pest control

'It's really really frightening'. The current buffer zone around the Reserve (2700 ha) enables targeted pest control. Pest control in buffer zones planted with pines can become more difficult ('mustelids hide among pine trees'), and increased mustelid populations 'may reduce the chances of establishing a successful kiwi population in the Reserve. We may need to pull the kiwi out that are there. The worst case scenario is we may not be able to afford to invest in the predator control that will be necessary if our buffers are full of pines.'

A: Increased fire risk

Pūkaha is the last remnant of a forest that historically covered a large portion of the lower North Island. *'The implications of a fire here in this reserve are just beyond consideration. They would be catastrophic.'*

A: Potential impacts on wildlife species - unknown

The impact of increased pine plantation on the behaviour of wild birds is unknown. *'Some birds can do okay in pine but not a lot. Would they concentrate in our reserve if they were surrounded by pines, or would they bugger off?'*

A: Sadness, a loss

'I think locals and Māori would be really sad if we were an island surrounded by pine. This is the last remaining remnant, the last bastion of what was a hugely important piece of land for Māori. It's 942ha, but it's got tentacles, it's got arms that go out, there are little beautiful bush blocks on either side. If they were lost to pines, I know people would be shaking their heads'.

The relationship between afforestation and tourism appears to be complex. Most of the perceived negative impacts appear to be related to pine afforestation, with native species afforestation potentially adding value to tourism opportunities and attractions. More work is needed to understand the nature of the relationship between afforestation and tourism.

Discussion and recommendations

We are in a time of unprecedented flux and change. We hear of climate change, covid change, societal change, government change, policy change, community change, land use change and practice change. For many, change is a constant bombardment over which people feel they have little or no control. People are aware of and accept that change in some form must occur, but the pace of change, a perceived loss of control over the change and the unintended impacts of change are of concern. Change can bring uncertainty, and in particular, uncertainty about the future. The Tararua community are in in state of transition, but are uncertain about where they are transitioning to, the speed of transition, and what will happen when they get to a new and potentially uncertain future.

The scale of loss associated with afforestation, a change of land-use and community, could not be easily defined or described. Some described a loss of choice. Individuals and groups feel they are not part of these large-scale decisions, their voices are not being heard, they are not included in the changes that impact on their lives and the lives of their families/whanau and their mokopuna. Others described a loss of agency - change is happening *to* them rather than *with* them. A loss of agency can influence: the language used in conversation and by the media; how people hear and understand change; the quality of the decisions made as a result of their understanding; and how people are prepared to listen, reason and engage with change. Some described a loss of a finite resource - the land – and the loss of opportunity for current and future generations. Most described a loss of their identity as farmers, of community, of intergenerational connections with their community and land, and of the change in social norms that shape how these communities operate.

A strong polarisation of views are widely reported. Polarised views often present and fuel a binary argument, for example, us or them, pines or natives, farming or forestry, right or wrong. Additionally, words such as ‘they’ and ‘them’ were widely used, words that can dehumanise the discussion or remove feeling, can place distance between people and populations, and can reduce acceptance or understanding of others’ positions. Polarised views do not always present both sides of the debate, for example, concerns about a loss of jobs and locals not being employed for forestry work are widely shared, yet locals and local forestry crews not always having the capacity and capability to undertake forestry work are not commonly reported. Polarised views can also be associated with strong emotions; strong emotions that can lead to embellished information, one-sided truth, extreme views about the impact of change, increased emotional resistance and result in distorted truth – and so the cycle goes on. Breaking this negative inwards cycle of polarisation, de-humanisation and emotional resistance to change, is key to finding common ground and enabling a discussion about the future of the Tararua community.

Although a strong polarisation of views are widely reported, common ground exists. Farmers, foresters and other land users are not anti-trees or anti-forestry. In the Tararua District, trees are planted for erosion control, for shade and shelter, for landscape amenity, for future sustainability of intergenerational businesses, for retirement income, for business diversity. The community commonly share a commitment and desire for environmental, social, economic and cultural sustainability. The chorus of voices were often in unison about the focus of this research, what is considered to be the right tree in the right place. A noted difference was how different individuals,

groups and cultures believe sustainability could and should be best achieved. Herein lies the values-based conundrum clearly evident in this research: what is considered best or right and who has the right to decide what is right? Furthermore, if the right tree right place concept does not reflect all cultural beliefs, how can 'right tree right place' reflect the community's view about the future of their landscapes, rural communities and future opportunities?

The core of this discussion needs to be wider than afforestation and what is perceived to be right or wrong. The core of this discussion needs to be wider than economics, and to consider the impact of afforestation and land use change on social, cultural and environmental wellbeings. The core of this discussion needs to focus on how to encourage and enable diverse vibrant economically-driven rural communities. Importantly, this discussion needs to focus on how to prevent rural communities reaching the tipping point. At or beyond the tipping point, there is a potential loss of essential services, a loss of community and a loss of opportunity; losses that are coupled with increasing isolation that further encourages or speeds land use change.

Recommendations to Tararua District Council

The Tararua communities and their Council currently have limited control over afforestation and the change in land use from agriculture to forestry. The primary drivers remain those of commercial reality, in particular, tree crops that maximise returns on investment, but these factors are also directly influenced by government policy and the lack of a regulatory framework.

Taking these points into account, how can Council best influence afforestation in the Tararua District? At a national level, Council continue to take an active role in discussions with the development of Government policy and regulation. However, economic returns and what is best for New Zealand in the long-term, must also be considered. The impacts of losing agricultural production and the adverse impact of monoculture forestry on biodiversity are considerations in addition to addressing climate change and New Zealand's international commitments. None of these issues should be understated.

The transitional effects of a reduction in local business and resultant loss of 'community' and its 'capacity' are essential considerations, particularly if Government policy is driving major economic decisions of property owners. The fact that the Emission Trading Scheme is establishing an investment in carbon forestry provides an opportunity to influence. If Government policy is driving land use change, then policy and regulation can be modified if it can achieve the target objectives and have better outcomes for land use.

The following recommendations are a compilation of ideas from research participants and from Tararua District Council staff. Mayor Tracey Collis and Council staff continue to communicate with, and provide central government with the extent and rate of land use conversion and the social impact of land use change on rural communities. In addition, Council continue to:

- Lobby for more local government input into changes to the National Environmental Standards for Plantation Forestry, including the proposed inclusion of carbon forestry (forestry planted without intention to harvest);

- Lobby for more local government control over land use;
- Lobby for a whole of community viewpoint to protect productive land and biodiversity;
- Discuss how cross-subsidisation and other methods could positively influence the planting of native trees (for example, the use of levies or charges on carbon forestry to fund native planting);
- Encourage any economic assessments of land use change to take a holistic viewpoint (to include social, environmental and cultural perspectives and impacts), and to consider any potential second and third order impacts (externalities) on communities (for example, impacts on tourism, provision of local community services, impacts on other industries and their viability not being directly measured); and
- Note that over time, as the forested areas grow, connectivity could reduce for electromagnetic transmission such as mobile, wireless and radio telephone services.

At a district level, Council continue to:

- Consider the potential holistic impacts of land-use change as part of the District Plan review, and in particular, the impacts of pine plantation on social amenities and nett community and business viability;
- Consider the impacts and all transaction costs of land use change from pastoral farming to forestry on the ongoing level of community infrastructure and services (for example, schools, roading, ensuring emergency services in outlying areas are viable);
- Consider climate change mitigation strategies for the creation of renewable energy, and to protect potential future wind farm sites from the effects created by forestry development;
- Use policy mechanisms as appropriate to support land uses that benefit and enable the community (for example, policy mechanisms to ensure road users are liable for damage);
- Explore the feasibility of extra documentation required to obtain a resource consent (for example, Integrated Farm Plans); and
- With the proposed planning changes from local to regional level, Council act as a community conduit and take community voices and concerns to the development and content of the proposed new regional plans.

Council and Fire and Emergency New Zealand (FENZ) work together to investigate the potential fire risk and emergency services access to rural sites. In particular, Council:

- Review policy relating to fire risk management practices as part of the District Plan review;
- Discuss community concerns about increased fire risk with the FENZ Local Advisory Committee Hawkes Bay, and recommend the Local Advisory Committee share concerns with the FENZ Board;
- Discuss community concerns about increased fire risk with the Tararua Emergency Management Committee and for the committee to consider these concerns when planning for emergencies.
- Discuss community concerns about increased fire risk and potential impact on the region with the Manawatū Whanganui Civil Defence Emergency Management Group;
- Consider increased fire risk to private housing next to new forested farmland
- Consider the effect of land use change from pastoral farming to forestry on: rural water supplies in respect to hydrology and water availability; access to dams for fire suppression; and impact of trees on water pipes and road access on private land that may no longer be maintained.

Council to continue to consider the social impacts of land use change on the community:

- Share the findings of this research and enable ongoing discussion through a range of methods (for example, a public workshop);
- Further explore and quantify (if possible) some of the findings from this research (for example, the number of local jobs created/lost through afforestation);
- Be involved in ongoing social research to explore the potential impacts of major land use change on current and future communities (as implicit in the four wellbeings' framework); and
- Build on other social research around land use change and/or afforestation (for example, MBIE-funded Hill Country Futures Project,²⁴ Research on impacts of land use change in the Wairoa District²⁵, current research led by AgResearch into the Issues, Challenges, Barriers and Opportunities Around Afforestation²⁶).

Council continue to take a proactive role and to continue to facilitate discussions at a community level around land use change and community impacts. Facilitated discussions will enable the community to be involved and to achieve the results that best suits their community. In particular:

- Use forums for the community to be part of the conversation about what they want their future to look like: ensure their voices and concerns are heard. For example, local drop-in sessions that involve all the community (farmers, rural professionals, rural business owners, town business owners, tourism operators); and
- Reassure the community, changing the dialogue around afforestation from one of negativity and loss to one of seeking and identifying opportunities and gain. Reinforce that Council are aware of community concerns, and Council care about the community and community transition.

Council continue to work with and support the communities to build their capacity and capability to manage change and transition. In particular:

- Promote and enable community -led development;
- Explore and utilise funding from the Department of Internal Affairs for a community facilitator to facilitate discussions around future opportunities and building capacity;
- Enable diversification: incentivise manufacturing and tourism, encourage and enable value added land-use (manuka and honey);
- Enable people to stay in their communities, build confidence and support new and existing small businesses in rural and urban areas. For example, business grants, business mentoring, business skills courses, accelerator hubs for concept generation; and
- For those in more isolated communities, enable continued access to education and internet (children and adults).

²⁴ Hill Country Futures is a five year programme co-funded by MBIE, Beef + Lamb NZ, PGG Wrightson Seeds & Seedforce.

²⁵ Smith (2020)

²⁶ Bayne et al (2020)

Council to continue to enable, support and build District-wide tourism opportunities:

- View the District through a tourist's eyes and understand their motivations: why they come, what they want to see, what encourages them to stay (*'Our ordinary is their extraordinary'*);
- Encourage and support niche tourism attractions, small tourism/art/craft businesses in rural areas;
- Consider aesthetic considerations (for example, encourage the planting of permanent native buffers on roadsides); and
- Enable and encourage forestry tourism opportunities if appropriate (for example, mountain biking, managed hunting, walkways).



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