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Challenges and opportunities with native forestry on Māori land

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Disclaimer

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Abstract

Domestically and abroad, government policies aim to increase afforestation and provide the many environmental and social benefits that afforestation can deliver. For multiply-owned Māori land in Aotearoa New Zealand, decision-makers often face extra challenges that may hinder their ability to meet aspirations for afforesting their land, despite the availability of various support programmes. We explore the decision-making processes of a sample of Māori landowners in Te Tairāwhiti to understand the extent to which funding programmes and afforestation incentives from the New Zealand Emissions Trading Scheme enable them to meet their own aspirations for their land. We conducted semi-structured interviews with 13 Māori land-use decision-makers that represent a range of Māori landowner entity types, including Māori incorporations, ahūwhenua trusts, ahūwhenua trusts administered by Te Tumu Paeroa and family trusts. Several key challenges emerged that are faced by our sample of Māori land decision-makers. These relate to: the historical context of Māori land use and development; governance; accessing expertise and resourcing; communication; the logistics of native forestry establishment; and challenges specific to the NZ ETS. We also identified key areas where additional support could yield substantial gains for Māori land decision-makers. These include increasing access to understandable and context-specific expert advice; investing in lasting working relationships; providing support to develop robust business cases and planting plans for native forestry; tailoring policy to be flexible to individual land blocks' starting lines; and tailoring policy to acknowledge the ways in which Māori traditionally engaged with native forestry.

JEL codes

D71, D81, Q15, Q23, Q54, Q56, Q57, Q58

Keywords

Māori land, land-use decision-making, native forestry, New Zealand Emissions Trading Scheme

Summary haiku

Native forest grows

where aspirations meet with

opportunities

Table of Contents

| | | |
|----------|--|-----------|
| 1 | Introduction | 1 |
| 2 | Methodology | 3 |
| 2.1 | Sample selection and data collection | 3 |
| 2.2 | Land block characteristics | 5 |
| 3 | Results | 7 |
| 3.1 | Progression of land blocks | 7 |
| 3.2 | Challenges and opportunities with establishing native forestry | 23 |
| 4 | Discussion | 28 |
| 5 | Conclusion | 31 |

Table of Figures

| | | |
|-----------|--|----|
| Figure 1. | The Waiapu catchment (Parkner et al. 2007) | 3 |
| Figure 2. | Native forestry decision-making process for land block K | 22 |

Table of Tables

| | | |
|----------|---|----|
| Table 1. | Decision-makers and their land profiles | 6 |
| Table 2. | Progress of participating land blocks through the decision-making phases | 8 |
| Table 3. | Decision-maker views of their performance in terms of essential governance procedures | 11 |
| Table 4. | Decision-maker views of their land block's performance in terms of governance procedures that facilitate development or diversification | 13 |
| Table 5. | Land blocks' current and intended native forest cover as a percentage of total area | 15 |
| Table 6. | Uptake of and eligibility for available support programmes by land block | 16 |
| Table 7. | Key findings of landowner motivations and challenges by decision-making phase | 31 |

1 Introduction

Afforestation can yield a myriad of benefits for the environment and those who depend upon forests for their livelihoods and general wellbeing (Millennium Ecosystem Assessment 2005; FAO and UNEP 2020). These benefits are broad, and can include erosion control, biodiversity enhancement, improved water quality, stimulation of regional economies, enhancement of cultural amenity, and carbon sequestration (Barry et al. 2014). While these types of benefits can apply across all forestry, they can also vary in degree by tree species (e.g. exotic versus native and monoculture versus mixed), forest management regime (e.g. permanent versus plantation), and local conditions (environmental, economic, social and cultural) (Carver and Kerr 2017). Globally, governments have recognised the vital role of afforestation policy in achieving more sustainable forest management and broader environmental and economic goals (FAO and UNEP 2020). However, designing effective afforestation policy domestically is complicated by the range of influencing factors, potential barriers to uptake, and competing interests.

Aotearoa New Zealand provides an interesting location in which to explore the drivers of afforestation and the effect of afforestation policies on landowner behaviour. Firstly, many forest owners are full participants in the New Zealand Emissions Trading Scheme (NZ ETS).¹ This means that forest owners face mandatory liabilities to surrender New Zealand Units (NZUs – each representing one tonne of CO₂eq) if they deforest pre-1990 forest whilst also having the option to earn NZUs for the carbon sequestered by their post-1989 forests.² These NZUs can be traded on the carbon market, and this income could provide landowners with the opportunity and financial capital they need to realise their land-use aspirations (Hale and Kerr 2019). Additionally, for many decades the New Zealand Government has provided an array of afforestation schemes and programmes (at national and regional levels) intended to assist landowners to increase forest cover.³ Some of these schemes are specific to native forestry.

New Zealand has 10.1 million hectares of forest. Eight million hectares are native forest and 2.1 million hectares are exotic plantation forest, of which 90 percent is planted in *Pinus radiata* (Te Uru Rākau 2020b). As of 2018, New Zealand had a net accumulation of 702,590 hectares of post-1989 forest, of which 93 percent was planted forest (with the remainder consisting of

¹ See Leining and Kerr (2018) for a comprehensive guide to the NZ ETS.

² The NZ ETS classifies forest land as either pre-1990 or post-1989 (Te Uru Rākau 2020a). Pre-1990 forest land was forest land on 31 December 1989 and remained forest land of mostly exotic species on 31 December 2007. Post-1989 forest land is currently forest land and either was not forest land on 31 December 1989 or was forest land on 31 December 1989 but was deforested between 1 January 1990 and 31 December 2007. See Te Uru Rākau (2020a) for further details.

³ Key examples include the Permanent Forest Sink Initiative, Afforestation Grant Scheme, Erosion Control Funding Programme, and the One Billion Trees Programme.

native and unplanted (self-sown or naturally regenerated) forest) (Ministry for the Environment 2020). In 2018, 48 percent of post-1989 forest had registered in the NZ ETS (Environmental Protection Authority 2018). Post-1989 forestry in the NZ ETS is heavily dominated by exotic species. Between 2008 and 2016, 500 hectares of native forest has been afforested and included in the NZ ETS (1.5% of afforestation in the NZ ETS over that period) (Ministry for Primary Industries 2016).

For Māori land in multiple ownership, decision-makers often face extra challenges that may hinder the ability to meet aspirations for afforesting their land (Thorp 2006). These challenges are compounded when considering the multi-decade commitment of any kind of afforestation and the intergenerational responsibilities of Māori landowners in a decision-making capacity. Although additional government support programmes are available for Māori landowners, it is unclear whether these programmes or those that target afforestation more generally are effective in enabling desired land-use change. Assessing programme effectiveness must consider the importance of Māori cultural values such as *kaitiakitanga*⁴ as well as the challenges that Māori generally face when planning land-use investments, such as supporting livelihoods, returning benefits to owners, and managing concerns about retention of land ownership, financial constraints and legislative uncertainty.

The opportunities and challenges associated with afforestation policies on Māori land can be observed on a local scale on the East Coast of New Zealand's North Island (Te Tairāwhiti), for example within the Waiapu catchment. Te Tairāwhiti is characterised by a high Māori population (50.3% compared with the national average of 15.7%; Ministry of Health 2019) and a high proportion (20.5%) of all Māori-owned land (Kingi 2008). Within Te Tairāwhiti, Māori land comprises 28% of the total land area (228,000 hectares) (Trust Tairāwhiti 2019). Māori decision-makers in the Waiapu catchment often face region-specific challenges when making land-use decisions (Warmenhoven et al. 2014). This can be related to the geographic isolation of Te Tairāwhiti, poor communication and civil infrastructure, and tenuous bridges of social capital between local government and communities. Land across the region tends to be highly erosion prone and is disproportionately managed under multiple ownership by Māori landowners. Given this, Māori land in this area has a history of centrally planned exotic afforestation for treatment of degradation (Harmsworth et al. 2002; Harmsworth and Tahi 2010).

⁴ *Kaitiakitanga* is the concept of guardianship or custodianship of the environment.

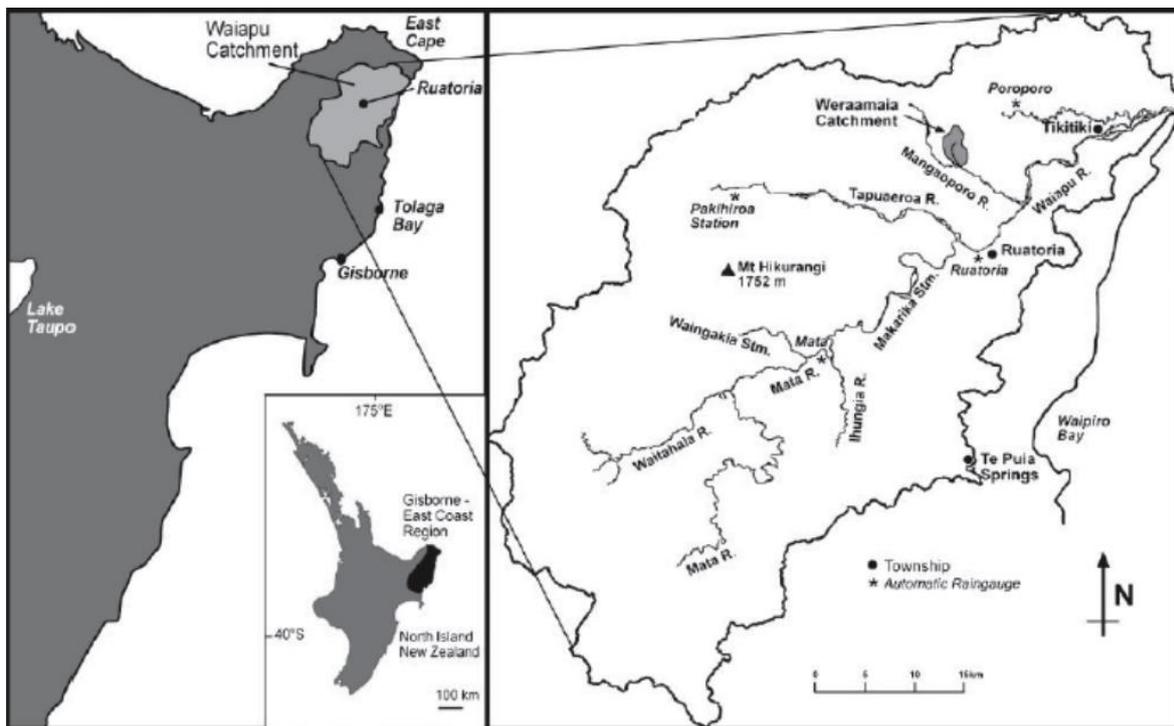


Figure 1. The Waiapu catchment (Parkner et al. 2007)

The purpose of this paper is to explore the decision-making processes of a sample of Māori landowners in Te Tairāwhiti to understand the extent to which funding programmes and ETS-related incentives for afforestation enable them to meet their own aspirations for their land. This will be achieved by identifying what motivates Māori landowners to participate in afforestation funding programmes, and with Māori cultural values in mind, assess whether current policies are well attuned to the circumstances and needs of Māori landowners. We also seek insights from examining the specific experiences of landowners within a localised context (such as the Waiapu catchment), in the hope of improving the ability of government policy makers to predict the uptake of afforestation opportunities, particularly involving native species.

2 Methodology

2.1 Sample selection and data collection

This research closely followed the decision-making process of 13 Māori land-use decision-makers that represent 14 Māori landowner entities. All decision-makers in our sample had aspirations for afforestation with native species, whether through planting or regeneration.⁵ All decision-makers interviewed act as trustees or chairpersons for their respective land blocks, and together

⁵ Planting is the establishment of native forest with nursery-raised seedlings, whereas regeneration is the process by which land reverts naturally to native forestry once stressors such as livestock have been excluded. Approaches to native forest establishment vary in cost, resources, and likelihood of success (Carver and Kerr 2017).

our sample is representative of a cross-section of landowner entity types associated with Māori land ownership across Te Tairāwhiti. This sample was selected from an initial pool of 48 that was collated from various promotions, interviews, a survey and a hui.⁶

We conducted semi-structured interviews in summer 2018–19 and 2019–20 that explored numerous aspects of the decision-making process related to afforestation. Interviews were structured to cover five phases of decision-making in relation to afforestation with native species and the NZ ETS: pre-decision (and baseline information), decision for native (versus exotic) forest, decision to apply for funding programmes, decision whether to enter the NZ ETS, and decision to trade NZUs.

The pre-decision phase explores the decision-makers' relationship and values as kaitiaki⁷ with the land, their personal and collective land-use aspirations, current land-use approaches, governance capability, and perceptions of climate change impacts and risks of land-use diversification. The second phase explores how decision-makers view the change management required to enable a decision to establish native forest, including engagement and communication required at the governance and shareholder levels, and the use of expert advisors to implement the decision.

The third phase explores the decision-makers' knowledge of afforestation-related programmes such as the Erosion Control Funding Programme (ECFP) (Ministry for Primary Industries 2017) and the One Billion Trees Programme (1BT) (Te Uru Rākau 2018), their knowledge of other relevant support schemes such as the Māori Agribusiness Pathway to Increased Productivity (MAPIP) Programme (Ministry for Primary Industries 2015), the Whenua Māori Fund (Te Puni Kōkiri 2019) and the Natural Heritage Fund (Gisborne District Council 2020), and their experiences with navigating this funding landscape.

The fourth phase explores decision-makers' experiences with registering and participating in the NZ ETS. Participants are able to enter the NZ ETS and earn NZUs whilst simultaneously accessing the government afforestation support programmes in the third phase above. Finally, the fifth phase explores the decision-makers' preferences for transactions with emitters seeking to purchase forestry NZUs, including negotiation and relationship building as well as strategies for managing perceived benefits and risks of different agreement structures.

Decision-makers were interviewed at least twice and their progress was measured qualitatively in terms of their ability to attain or operate in each phase. This assessment of all

⁶ A hui is a gathering, meeting or assembly.

⁷ Kaitiaki are those who carry out the roles of kaitiakitanga and are guardians or custodians of the environment.

decision-makers' experiences through decision-making phases informed the identification of key challenges by Māori landowners when considering native afforestation.

2.2 Land block characteristics

Table 1 profiles each participating land block. The landowner entity types represented in our sample include Māori incorporations⁸, ahuhenua trusts⁹, ahuhenua trusts administered by Te Tumu Paeroa¹⁰, family trusts and a limited company that is a subsidiary of a post-settlement governance entity (PSGE). Documenting the experiences of decision-makers from a range of Māori land ownership entities allows us to trace potential correlations between entity types and the opportunities and challenges associated with changing land use which were identified in our qualitative data collection. It is important to note that the views of these decision-makers may not be representative of the broader views of the decision-making group or of the shareholders associated with that land block.

The predominant land uses in our sample are pastoral farming (beef) and production forestry (Pohatu et al. 2019). Five of fourteen land blocks (A–C, I and N) have production forestry assets, three of which are already registered in the NZ ETS for production forests and whose administrators are willing to explore the sale of any NZUs accumulated through native forestry. One of these blocks is now looking now to register its production forest with the NZ ETS and looking to trade NZUs through a leasing arrangement. Ten land blocks are involved in pastoral farming, including three of the land blocks that are in production forestry (A, C and I). Small mānuka or kānuka honey operations are conducted on six land blocks. Outside of forestry and farming, one land block is developing a native reserve and experimenting with hemp cropping.

Governance arrangements are mixed, ranging from family trust entities having very few owners through to Māori incorporations and ahuhenua trusts with over 600 owners (Table 1). Decision-makers for all 14 land blocks expressed an aspiration for native forestry as a land use. For at least nine land blocks (A, C, E, G–L), native forestry covers about 20 percent of their total landholdings and the decision-makers of those blocks perceive this land cover as a distinct asset or opportunity.

⁸ A Māori incorporation has a similar structure to a company that is established over Māori land. The Māori land block is legally owned by the incorporation, shareholders own shares in the incorporation itself rather than the land block, and decisions about the incorporation's affairs are made by an elected committee of management (Māori Land Court 2020).

⁹ An ahuhenua trust is a common land trust that vests the legal responsibility for the administration of the land with trustees. The trust deed sets the trustee roles and responsibilities and guides the use and management of the land (Māori Land Court 2020).

¹⁰ Te Tumu Paeroa is led by The Māori Trustee and provides independent support to owners of Māori land to protect and enhance their lands (Te Tumu Paeroa 2020).

Table 1. Decision-makers and their land profiles

| Land block | Area (hectares) | Number of owners | Landowner entity type | Land uses | Native forestry cover (hectares) ¹¹ | | Registered with the NZ ETS | |
|------------|-----------------|------------------|----------------------------------|--|--|--------------|----------------------------|-----------------|
| | | | | | Mānuka/kānuka | Other forest | Exotic forestry | Native forestry |
| A | 1509 | 1168 | Ahuwhenua Trust |     | 625 | 159 | Y | Y |
| B | 8012 | 2 ¹² | Company (PSGE subsidiary) |  | 0 | 0 | Y | N |
| C | 576 | 768 | Ahuwhenua Trust |    | 126 | 85 | Y | Y |
| D | 49 | 17 | Ahuwhenua Trust |    NWR | 13 | 17 | N | N |
| E | 42 | 5 | Family Trust |   | 0 | 13 | N | N |
| F | 126 | 382 | Te Tumu Paeroa – Ahuwhenua Trust |   | 26 | 0 | N | N |
| G | 1187 | ~650 | Māori Incorporation |    NWR | 511 | 430 | N | N |
| H | 109.5 | 96 | Ahuwhenua Trust |   | 28 | 0 | N | N |
| I | 2067 | 4044 | Ahuwhenua Trust |     NWR | 0 | 1143 | N | N |
| J | 60 | ~8 | Family Trust |   QEII | 0 | 0 | N | N |
| K | 258 | 170 | Te Tumu Paeroa – Ahuwhenua Trust |   | 64 | 0 | N | N |
| L | 101 | unknown | Māori Incorporation |   | 36 | 0 | N | N |
| M | 25 | 170 | Ahuwhenua Trust |  | 3.5 | 0 | N | N |
| N | 70 | 67 | Te Tumu Paeroa – Ahuwhenua Trust |  | 7 | 0 | N | N |

 = pastoral farming,  = exotic forestry,  = native forestry,  = honey,  = hemp
QEII = Queen Elizabeth II Trust, NWR = Ngā Whenua Rāhui¹³

¹¹ Mānuka (*Leptospermum scoparium*) and kānuka (*Kunzea ericoides*) cover will usually be from a regenerated setting, where the land was cleared for pastoral farming and has been retired and allowed to regenerate. “Other forest” refers to older stands of podocarp hardwood forests typical of Te Tairāwhiti. This distinction is important to understand preferred management approaches for native forestry and likely areas that may be eligible for ETS registration.

¹² This forest was returned through the Treaty of Waitangi settlement process and is owned by two iwi trusts (post-settlement governance entities).

¹³ QEII and NWR are natural heritage protection programmes that protect and conserve native forest areas (and their associated values) through a covenanting mechanism with landowners. In return for resources and support to protect those areas, landowners are required to covenant and protect the area from any pastoral use or land clearance. For Ngā Whenua Rāhui the covenant is for a 25-year period, whereas QEII covenants exist in perpetuity.

3 Results

Overall, there is evidence that clusters of land blocks have progressed through the decision-making phases outlined in Table 2, and therefore are closer to establishing native forest and registering in the NZ ETS. However, no new land blocks have been registered with the NZ ETS within the timeframe of this project. Our findings point to key challenges to achieving afforestation. These include the necessity of securing funding to offset the high costs of native forestry establishment, the difficulty in achieving Māori land governance readiness, and an ability thereafter to access support schemes, determine eligibility and negotiate entry into the NZ ETS. Some of these challenges are attributable to the NZ ETS or afforestation policies, whereas others are inherent to Māori land governance and development and can be exacerbated by context-specific issues. Section 3.1 presents the progression of all participating land blocks through the decision-making process and an example roadmap for this progression. This provides a foundation for identifying key challenges which are discussed further in Section 3.2.

3.1 Progression of land blocks

Table 2 presents the decision-making progress for all participating land blocks across decision phases as well as their current status in regard to native forestry establishment and registration in the NZ ETS. We detail the progress of each land block in terms of decisions that have been made, although these decisions may not necessarily have yet been implemented. For example, a land block may have made the decision to register their eligible post-1989 land with the NZ ETS, but not yet completed entry requirements. It is also possible that the decision-maker made the decision to not progress aspects of aspirations for native forestry; for example, the decision-maker may have decided against applying for 1BT or against entering into the NZ ETS. We are interested in decision-makers' abilities to make decisions that progress their aspirations, irrespective of whether the result is positive or negative.

Table 2. Progress of participating land blocks through the decision-making phases

| Land block | Decision for native forestry | Decision for ECFP ¹⁴ and/or 1BT | Decision for NZ ETS | Decision to trade NZUs |
|------------|------------------------------|--|---------------------|------------------------|
| A | | | | |
| B | | Production forest already established | | |
| C | | | | |
| D | | | | |
| E | | | | |
| F | | | | |
| G | | | | |
| H | | | | |
| I | | | | |
| J | | | | |
| K | | | | |
| L | | | | |
| M | | | | |
| N | | Production forest established in 1994 using previous iteration of ECFP | | |

Owners have made decisions in and have experience with this decision-making phase

Owners have not been involved in the transactions relating to a decision-making phase but are interested in the opportunity. They have been clear in the principles they would apply if they were in that position

Owners have not made that decision and/or completed the considerations and requirements required to fulfil that decision

The land block has circumstances that make it ineligible to access the support programmes relating to this decision

The progress of the decision-makers (representing their respective land blocks) can be summarised as follows. Three of fourteen land blocks (A, B and C) were already registered with the NZ ETS for their respective production forests. Two of these also have native forest registered in the NZ ETS. Land block A established native forestry through mānuka and kānuka regeneration, and land block C has retired pastoral land for native regeneration, but this does not yet meet the criteria necessary to claim NZUs.

¹⁴ This includes only the recent iterations of the Erosion Control Funding Programme (2012–2018).

For the other eleven participating land blocks not registered with the NZ ETS, two land blocks (D and E) have or will establish native forestry. Land block D has begun the process of registering in the NZ ETS. Once they are registered, the decision-makers could claim NZUs within the current five-year Mandatory Emissions Reporting Period (MERP) as their regenerated area should meet the ETS definition of a forest.¹⁵ Land block E has been recently planted but once forest cover is established will be able to register for the NZ ETS and claim NZUs.

In addition, four land blocks (F–I) have confirmed their plans to establish native forestry with the confirmed assistance of support programmes (ECFP, MAPIP and Whenua Māori Grant). They intend to confirm the area eligible for ETS registration in the short term. It is key that implementation plans are confirmed to guide the successful establishment of native forest. Land block G has regenerated native forest as well as five hectares that will be newly planted. Assessing the eligibility of these regenerated areas for the NZ ETS and the impact within their broader development priorities is critical.

Land blocks J–M are developing land-use development plans that include native forestry as a significant land use. They will be able to apply to 1BT as well as other available support programmes to progress these development plans. Formalising support and commitment at the governance level is critical to enable implementation. The final decision-maker, representing land block N, after exploration of land-use options has determined that wholesale native forestry may restrict future development and is now a low priority.

The progress of these clusters relevant to each decision-making phase is detailed below. Key barriers and challenges are identified in order to discuss at more depth in Section 3.2.

3.1.1 Phase 1: pre-decision (and baseline information)

Decision-makers share a kaitiaki relationship with the land they administer regardless of whether they were raised on the land or are formally registered shareholders. The decision-makers in our sample have conducted varying degrees of engagement with the wider landowner group and other beneficiaries in order to inform aspirations and benefits sought for the land and landowners.

Understanding the current state of the land is an essential factor to enable decision-makers to respond appropriately to identified challenges and opportunities. This includes land-use capability, access, past and current management operations, erosion risk and resilience against impacts and shocks, including climate change. The majority of decision-makers acknowledged the benefits of being aware of the historical contexts of and experiences with their respective land blocks. These

¹⁵ To be eligible to participate in the NZ ETS, forest land must have (a) at least one hectare of forest species, (b) tree crown cover of forest species of more than 30 percent in each hectare, and (c) an average width of tree crown cover of at least 30 metres (Te Uru Rākau 2020a).

factors include their experience with past policy and programmes, as well as whānau representation in governance roles and growing effective working relationships locally.

“It’s a historical moment for us. We had a meeting with the majority of our [boundary] neighbours ... We have all come to a reasonable agreement with our neighbours to do with our boundary fences and to repair them...”

Land block C

All decision-makers recognised a need to give something back to the land and facilitate the land’s need to heal, restore and regenerate where required. These sentiments reflect the decision-makers’ genuine consideration for how they give effect to kaitiakitanga of the whenua.

“I think our main priority would be to ensure we are not wrecking the whenua anymore. So the part where it’s eroding, we definitely as soon as possible we need to stop grazing there. If that’s all we ever do, you know.”

Land block F

While there is good evidence of governance capability within the sample of land blocks, there are limitations and issues in the collective of landowner governance to address opportunities and challenges in a timely manner. Based on our interviews we have broadly categorised these challenges as related to either “essential governance procedures” or “readiness for development and diversification.” Essential governance procedures facilitate the essential operating capacity of the landowner entity, and include effective meeting processes, banking authorisations and active trusteeship to enable the planned program of governance. Readiness for development and diversification incorporates extraordinary matters beyond business as usual that are required to implement a strategic development opportunity or diversify land use.

Table 3 assesses decision-maker perspectives with regard to their essential governance procedures. Five land blocks are affected by issues such as an inability to fulfil meeting quorums, incomplete banking authorisations and an inactive committee.

“We have some good people on there. Unfortunately, one lives in Napier and one in Auckland and that proves to be a problem. People aren’t able to attend. We need full attendance at our first meeting. This is the first meeting since taking [land governance and administration] back from the Māori Trustee.”

Land block M

“One of our trustees who [lives away] hasn’t completed the authorisation with the bank, and we can’t access any funding without that bank account being in operation so ... we’re stuck, because the bank’s requirements is that we need every trustee to sign and have completed their documentation.”

Land block H

Table 3. Decision-maker views of their performance in terms of essential governance procedures

| Land block | Active governance | Trustee availability | Information provided in appropriate time frame | Completed bank authority |
|------------|-------------------|----------------------|--|--------------------------|
| A | | | | |
| B | | | | |
| C | | | | |
| D | | | | |
| E | | | | |
| F | | | | |
| G | | | | |
| H | | | | |
| I | | | | |
| J | | | | |
| K | | | | |
| L | | | | |
| M | | | | |
| N | | | | |

- Decision-makers expressed concern with governance procedures and arrangements that will critically impair decision-making
- Decision-makers noted their current governance procedures and arrangements have some impact on their capacity to make timely decisions
- Governance procedures and arrangements are operating sufficiently to enable decision-making
- Governance procedure are effective

Positive working relationships between trustees underpin the ability of a governance entity to access any development and diversification opportunities, as well as function effectively on a day-to-day basis. The decision-makers in our sample voiced various concerns about their governance systems limiting their ability to make decisions on land-use diversification quickly and efficiently, particularly in terms of native forestry. There was also a perception of ‘stepping into the unknown’ and a lack of preparedness ahead of key decision-making steps.

“I wish I had had somebody else come along with me to actually be involved and understand getting all this info together. It doesn’t just benefit us, and at the end of the day it affects us all.”

Land block C

“I have put [this information] to the whānau and they are waiting for me to come back with a plan ... to see what is a good area or how much we put into native or ... with the existing area we have got, we want to regenerate it.”

Land block K

Using the challenges identified by the decision-makers in our sample, we have identified a set of governance procedures that would enable decision-makers’ readiness for development and diversification. These are:

- a) Agreed vision within decision-making group
- b) Effective communication – includes clear and frequent communications of aspirations, agreed goals, options, decisions, implemented outcomes and the ongoing management requirements
- c) Agreed work programme – can be at multiple levels but should include a business case to sustain activity and enable successful implementation
- d) Timely schedule of meetings – includes trustee availability and scheduled hui to enable decision-making
- e) Expert advice that is accessible and understood – includes coordinated procurement of expertise that is relevant and facilitates good decisions.

Together these elements provide a foundation for strong governance, helping to deliver timely and effective decisions and beneficial outcomes.

Table 4. Decision-maker views of their land block's performance in terms of governance procedures that facilitate development or diversification

| Land block | Agreed vision | Effective communication | Agreed work programme and roles | Timely schedule of meetings | Accessible expert advice |
|------------|---------------|-------------------------|---------------------------------|-----------------------------|--------------------------|
| A | | | | | |
| B | | | | | |
| C | | | | | |
| D | | | | | |
| E | | | | | |
| F | | | | | |
| G | | | | | |
| H | | | | | |
| I | | | | | |
| J | | | | | |
| K | | | | | |
| L | | | | | |
| M | | | | | |
| N | | | | | |

| | |
|---|--|
|  | Decision-makers expressed concern with, or were unable to fulfil, governance procedures that will affect decision-making for new development and diversification |
|  | Decision-makers noted their current governance procedures could be more effective. Development could progress but governance procedures could affect their capacity to make timely decisions |
|  | Governance procedures are sufficient to enable decision-making |
|  | Governance procedure are effective |

Table 4 presents the performance of each land block in our sample against these essential governance procedures that facilitate development or diversification. In general, decision-makers from all land blocks aside from land blocks A and E could identify areas where their governance procedures were limiting their ability to realise aspirations for native forestry. In particular, progress was slowed by the process of achieving consensus within decision-maker groups in terms of a shared vision and an agreed approach to achieve that vision. Issues with achieving consensus appeared in many cases to be related to issues with communication and scheduling.

3.1.2 Phase 2: Decision for native forestry

Current land-use and governance contexts are useful to understand each land block's "starting line," as well as landowner preferences for the establishment of native forest. Our research canvassed two options: active planting of new forest and retirement of land to allow natural regeneration.

Table 5. Land blocks' current and intended native forest cover as a percentage of total area

| Land block | Land cover as a % of total area | | | | Total area (hectares) |
|------------|---------------------------------|------------------------|--|--|-----------------------|
| | Mānuka / kānuka (current) | Other forest (current) | Other land use (current) ¹⁶ | Other land use planned for native forestry ¹⁷ | |
| A | 41 | 10 | 42 | 7 | 1509 |
| B | 1 | 0 | 99 | 0 | 8012 |
| C | 22 | 15 | 53 | 10 | 576 |
| D | 27 | 34 | 35 | 4 | 49 |
| E | 0 | 0 | 69 | 31 | 42 |
| F | 20 | 0 | 47 | 33 | 126 |
| G | 65 | 15 | 20 | 0 | 1187 |
| H | 24 | 0 | 7 | 69 | 110 |
| I | 0 | 55 | 45 | 0 | 2067 |
| J | 16 | 12 | 72 | 0 | 60 |
| K | 25 | 0 | 36 | 39 | 258 |
| L | 36 | 0 | 64 | 0 | 101 |
| M | 2 | 0 | 98 | 0 | 25 |
| N | 10 | 0 | 90 | 0 | 70 |

Eleven out of 14 land blocks have at least 20 percent forestry cover (Table 5). Overall, eight land blocks will have established native forest within one to three years. Land blocks A, D and G have regenerated areas of native forestry. Land block C is planning to afforest by retiring an area of pastoral land and allowing native regeneration. Four land blocks (E, F, H and K) will look to establish native forest by active planting.

3.1.3 Phase 3: Decision to access afforestation funding programmes

Table 6 presents decision-makers' uptake of and eligibility for support programmes available for: (1) native forestry and natural heritage protection, (2) erosion control, (3) land-cover treatments, (4) land-use and development feasibility and advice, and (5) governance support. Accessing support programmes requires landowner entities to meet the respective eligibility criteria for the support programmes and demonstrate good capacity in terms of governance and operations.

Aside from the aforementioned ECFP and 1BT, the other support programmes include: (a) Ngā Whenua Rāhui Fund/QEII and the Natural Heritage Fund (Gisborne District Council); (b) Māori Agribusiness Pathway to Increased Productivity (MAPIP) administered by the Ministry for Primary Industries (MPI) and (c) Whenua Māori Grant administered by Te Puni Kōkiri (TPK).

¹⁶ Other land use (current) encompasses all land use aside from native forestry, including both pasture and non-native forestry.

¹⁷ "Other land use planned for native forestry" encompasses the subset of "Other land use (current)" land that the decision-maker plans to convert to native forestry, either through planting or regeneration.

Table 6. Uptake of and eligibility for available support programmes by land block

| Land block | Support programmes | | | | | |
|------------|--|---------------------------|---------------------------------|--------------|---------------------------------|-----------------------------|
| | Ngā Whenua Rāhui Fund / QEII (1) | Natural Heritage Fund (1) | ECFP (2) | 1BT (3) | MAPIP (4) | Whenua Māori Fund (4 and 5) |
| | Department of Conservation / QEII National Trust | Gisborne District Council | Ministry for Primary Industries | Te Uru Rākau | Ministry for Primary Industries | Te Puni Kōkiri |
| A | | | | | | |
| B | | | | | | |
| C | | | | | | |
| D | | | | | | |
| E | | | | | | |
| F | | | | | | |
| G | | | | | | |
| H | | | | | | |
| I | | | | | | |
| J | | | | | | |
| K | | | | | | |
| L | | | | | | |
| M | | | | | | |
| N | | | | | | |

| | |
|---|--|
|  | Have successfully accessed funding and/or support |
|  | Have applied |
|  | Have applied but were unsuccessful because funds were fully subscribed |
|  | Likely eligible but have not yet applied |
|  | Likely ineligible |
|  | Eligibility not yet determined |

For land blocks A, B, D, J, K and M, the ECFP funding was not used or accessed because they either did not meet eligibility criteria or had other intentions for land use that were incompatible with the funding requirements. Of the six land blocks that have been granted ECFP funding, land blocks C, E and I have uplifted their contracts and commenced works. Land blocks F, G and H are in the process of confirming their contracts and developing implementation plans to progress their planned works. Delays in uplifting the contracts relate to the perceived liability of maintaining pest control for the contract term (of 15 years) and the need to scope and confirm an implementation plan for the funded works. Since ECFP became fully subscribed in 2020, 1BT is the primary support programme currently available to assist decision-makers in our sample with native afforestation or land-cover treatments. Land blocks A, D and J–N will consider applying for 1BT to support their native forestry aspirations.

The decision-makers in our sample that have accessed MAPIP or the Whenua Māori Fund have used this support to assist their general capacity building and decision-making, including accessing advice, investigating feasibility, and determining NZ ETS eligibility. All of these are necessary for land-use management, development and diversification.

“We went through MAPIP from MPI for funding. We wanted this as the basis for our decision-making... I do this report before – well if you don’t know what assets are, you are limiting yourself ay then you don’t know how to invest into certain areas. So use this to make some decisions.”

Land block A

Tables 3 and 4 reflect the governance capacity of land blocks to access these various support programmes. In some regards, their capacity to access these programmes can signal their preparedness to meet the more stringent administrative requirements of ETS registration.

3.1.4 Phase 4: Decision for the NZ ETS

Of the fourteen land blocks, A, B and C are registered in the NZ ETS for their production forestry assets. Land block A has pre-1990 and post-1989 native forest, land block B has pre-1990 forest and land block C has post-1989 forest. Land block I is investigating a lease option for their production forest. Registration in the NZ ETS was undertaken by advisors contracted to the various land block entities.

“We have 100 hectares of regeneration that is post-1989. We had [a consultant] back in the day that did all those assessments ... and registered all of that.

I understand about reversion now and I want to look at other areas that we can potentially retire to extract some more carbon benefits. If it’s over 100 hectares you [are required to] do your plotting [using the Forestry Measurement Approach (FMA)]. For indigenous forest, the default [look-up] table suggests that over that timeframe we would have hit 320 tonnes of carbon per hectare per year. But based on our plotting that [sequestration rate] sits just under 400 tonnes of carbon per hectare per year. It’s like a 90

tonne per hectare per year difference. We have captured that in that exercise ... Now we have those credits in the bank, we have those sitting in the balance sheet.”

Land block A

Land block C is retiring pastoral area to allow native forestry to regenerate but is yet to register this area in the NZ ETS. Land block D is in the process of registering post-1989 native forestry that has regenerated in the ETS. They are completing the registration process themselves and need to confirm their preferred arrangements for account holders and associated responsibilities.

Those who have been eligible for ECFP grants and plan to plant native forest (land blocks E, F, H and I) will likely be eligible for NZ ETS registration. Land block G has an extensive area of regenerated kānuka that is being assessed for ETS eligibility, along with approximately five hectares of newly planted native forest. Land blocks J, K, L and M have not applied for 1BT funding to progress native forestry aspirations, however, once established these areas of native forest would likely be eligible for the NZ ETS. As the decision-makers for land block M are interested in processing mānuka for oil production, this operation could affect carbon sequestration and subsequent measurement approaches used to claim NZUs.

3.1.5 Phase 5: Decision to sign contract to trade NZUs

Of the three land blocks (A, B and C) which are registered in the NZ ETS, only land block A has traded NZUs. Land block B has some preferences with regard to NZU trading but needs to confirm a trading strategy with their landowners. Land block C has not yet traded NZUs.

“We sold half of our credits ... to [the purchaser] on the basis that they would work with us on an environmental plan that reinvests back into our local communities. That still hasn’t happened... I wanted them to come in and work with us specifically... on that conversation... [around] developing an environmental plan... We looked at [the purchaser] as they had a relationship with [our iwi].”

Land block A

“... I just think there is more opportunity that comes from a direct relationship... You start to create a relationship with that organisation like [the purchaser], you get marketing value, you get [public relations] value.”

Land block B

Carbon leasing contracts, while not understood well, are an option that decision-makers could investigate further. The carbon leasing option that Ngāti Porou Forestry Ltd (NPFL) implements for its forests is summarised here by land block A.

“That’s the current NPFL model ...the land blocks take 50 percent of the lease at \$225 per hectare. It gets adjusted when [the NZU price] goes over \$25 – the landowners get more.

The carbon proceeds come into our individual land block. When we harvest, we can put that back in as an input. That de-risks it.”

Land block A

Overall, evidence from the decision-makers we interviewed indicates that there is very limited experience with NZU trading. Where there is understanding of the dynamics of carbon trading, there seems to be a preference to grow relationships with purchasers.

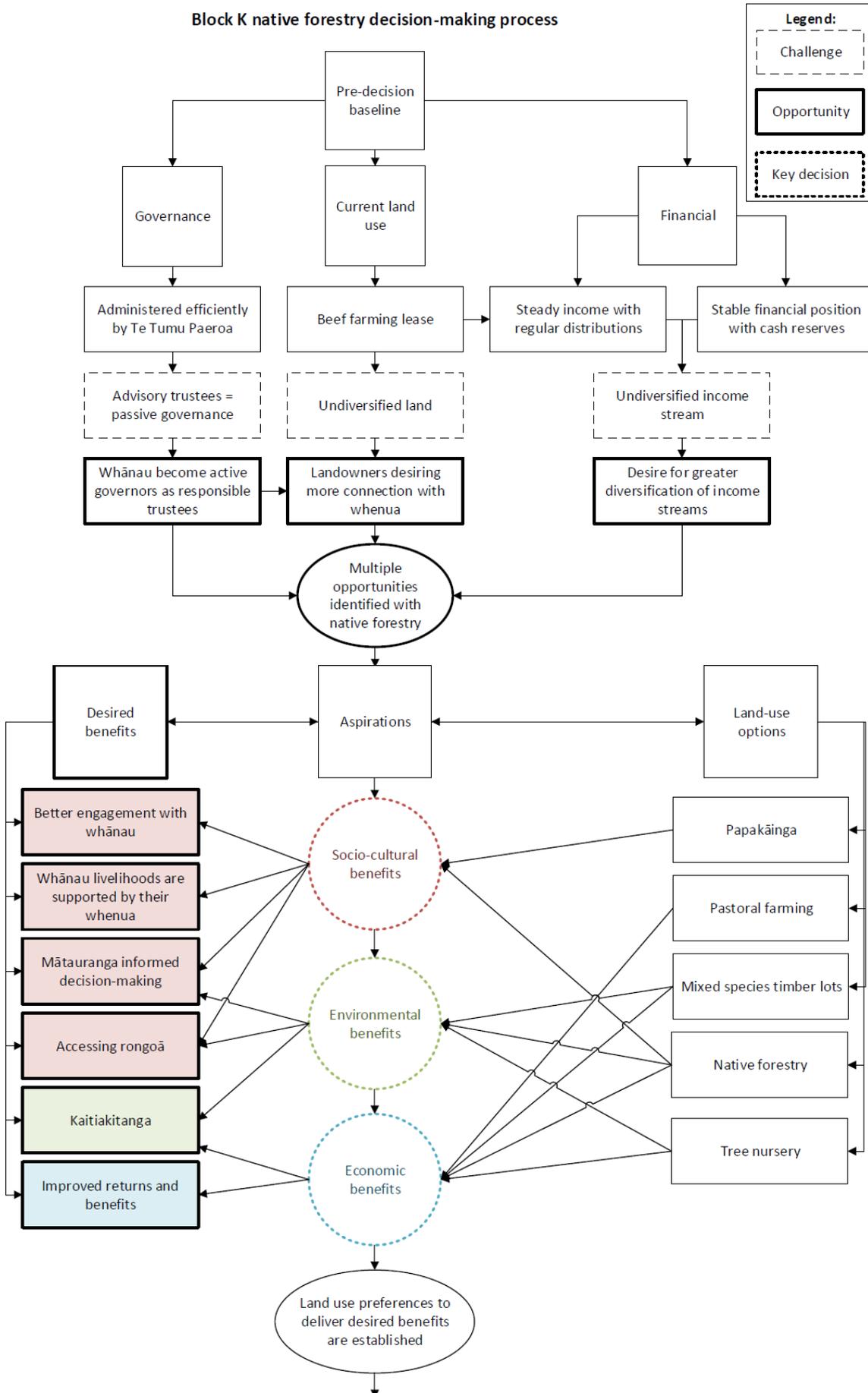
3.1.6 Example roadmap for decision-making on native forestry

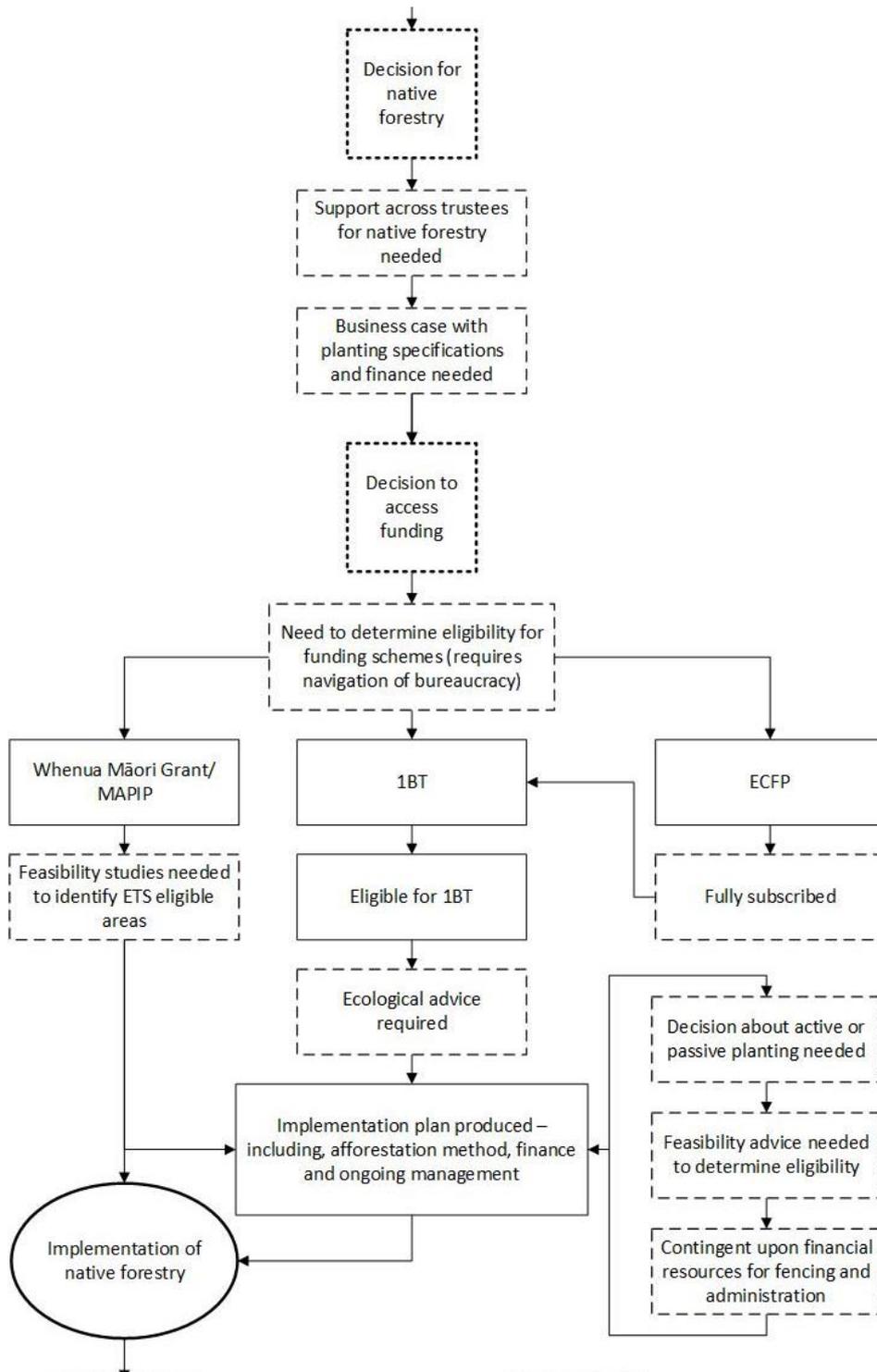
Following the exploration of the five decision-making phases above, we developed a sample roadmap of the decision-making process from the example of land block K (Figure 2). We chose this land block because (a) they were well positioned to progress through the decision-making phases; (b) they demonstrated openness and flexibility to take up opportunities; and (c) some of their experiences echo the experiences of our landowner sample more generally. It is important to note, however, that our sample size is small, so any generalisations should be made with caution.

This roadmap can aid policy makers by visually demonstrating key challenges and opportunities throughout each decision-making phase, as well as illustrating the complexity of the decision-making process overall. The key challenges identified are amongst those discussed in subsections 3.1.1–3.1.5 and in Section 3.2. Importantly, this roadmap also has the potential to be a useful tool for landowners as an adaptable template to inform their decision-making. This roadmap has been simplified as much as practicable, whilst retaining those decision-making characteristics specific to the decision-makers of land block K when they considered native afforestation. The roadmap begins by highlighting the factors which come into consideration when moving away from the pre-decision baseline. This is largely determined by the stability of land block K’s finances and governance, as well as whether there is desire amongst the trustees and wider shareholders for a change in land use.

The roadmap continues by exploring the land-use aspirations of land block K, including land uses and opportunities to attain certain benefits. We then present the considerations land block K must undertake once (and if) a decision for native forestry is reached. These include accessing funding and creating feasibility and implementation plans. The roadmap concludes by drawing attention to some key factors land block K must consider if the decision-makers decide they will enter the NZ ETS and decide to trade NZUs.

Block K native forestry decision-making process





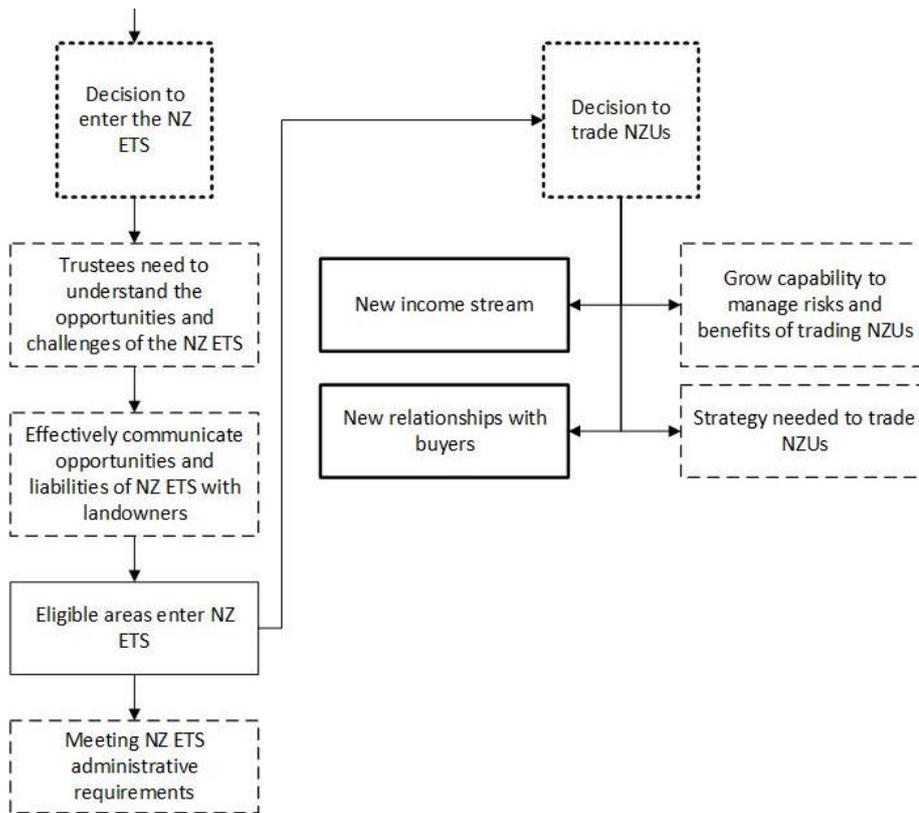


Figure 2. Native forestry decision-making process for land block K

3.2 Challenges and opportunities with establishing native forestry

This section outlines cross-cutting insights emerging from the interviews conducted with our sample of 13 Māori land-use decision-makers. The key challenges and opportunities that emerged as themes across our sample are arranged as follows: historical contexts of Māori land use and development; governance; ensuring effective expertise, communication and decision-making; under-resourcing of Māori decision-makers to support native afforestation; native forestry establishment; and NZ ETS-specific challenges.

3.2.1 *Historical contexts of Māori land use and development*

The Māori landowners in our sample have intergenerational experience with poorly tuned land-use policies, that in their opinions have promised development but in implementation fell short of recognising the realities for Māori landowners on the ground. A “one size fits all” approach, inadequate resourcing for Māori landowners, and inappropriate metrics for evaluating success are systemic issues across central and local government involvement with Māori land.

“...we’ve got to conform to the whole national strategy just like the national environment standards for forestry applied to us, but we’ve got completely different geographic issues. We’ve got our erosion, we’ve got our different climate, we’ve got different social needs, you know, we’ve got higher deprivation statistics, we’ve got [a] higher Māori population. We’ve lost so much trying to fit into a system that hasn’t benefited us in the way that was promised... We know what our real needs are. We just need to be enabled to do it ourselves... We want to diversify. We want to restore. We want to have permanent forest and we want to have production as well. We need to do it very carefully, and with the right support and education.”

Land blocks H, I & M

Māori landowners often have very limited access to finance and capital as Māori land cannot be used as security.

“Māori don’t have access to the capital and land reverted back. So when [land block A] in 1988 exited the Māori Affairs Pt 24 Development Scheme they gave us a debt of \$300,000. We just paid that off three years ago ... so that was always the challenge trying to restructure those loans and it was only [bank] that helped us out. You can’t go to the bank to get a loan to develop the land.”

Land block A

3.2.2 *Governance*

The voluntary nature of Māori land governance, both in our sample and more generally, is a barrier to progress. The impacts on their individual and collective capacities to make good decisions are numerous:

- a) Some decision-makers noted risk aversion affecting their ability to complete a decision for a land-use opportunity pursued by the landowner entity. This led to longer timeframes to progress an aspiration to implementation.

- b) Decision-makers acknowledged challenges of unequal responsibility (whether perceived or actual) falling to decision-makers who lived on or near the land as opposed to those who resided elsewhere. In Māoridom, “he kanohi kitea” (the seen face) highlights the importance of engaging directly face-to-face with each other. It is important that support for or criticism of decisions regarding land use and allocation of benefits within the community are conducted transparently, and with opportunity for shareholders to access relevant decision-makers.
- c) Decision-makers experienced difficulties in extending their role to include investigation of innovative land-use options, beyond basic land block administration.

“As champions they facilitate progress, but each phase through to implementation is then vulnerable to the availability and drive of that champion.”

Land block L

Being enabled as kaitiaki to establish a diverse and woven mosaic of land uses requires a strategic, well-informed and enduring effort. Fortunately, if governance is done well there are opportunities to overcome these challenges.

“Governance ... and decision-making ... are two different things ... Decisions are around problem-solving. ... I suggest to people get some good advice early on. Talk to people. Educate yourself. Work on your [land-use change] assessments and marry them all in and make a decision that is informed. So, it’s a quadruple bottom line ... [that is needed for] ... decision-making.”

Land block A

3.2.3 *Ensuring effective expertise, communication and decision-making*

Information asymmetries regarding land-use options are a significant barrier to decision-makers realising the full benefits from their assets. Accessing expertise with local case studies that have successfully implemented regeneration and demonstrated new planting approaches has enabled decision-makers to better assess the ability of these land-use options to meet their own aspirations.

“As we had done the mapping around the areas that we want to see riparian areas or areas protected then it showed us a really good picture of what we can be doing. [The] next stage is to take it to the Ahuwhenua Trust to get support, but we should take an application-ready proposal to them. The first stage was showing the trustees and whānau what is possible.”

Land block D

Progress towards the decision to enter the NZ ETS was limited by poor access to experts and relevant information, a need for improved understanding of NZ ETS requirements and liabilities, and a need for effective communication amongst the decision-maker group and landowners. This includes the liabilities associated with future land-use change (see “Feasibility studies

needed to identify ETS eligible areas,” “Trustees needed to understand the opportunities and liabilities of the NZ ETS” and “Effectively communicate opportunities and liabilities of NZ ETS with landowners ” in Figure 2).

In our sample of decision-makers, progress was slowed by difficulties in determining the eligibility for funding and NZ ETS registration as well as estimating potential income that could be earned from eligible areas. Although tools such as Google Earth and LUCAS exist to help decision-makers in their initial scoping process, these difficulties made it impossible for many decision-makers to reach consensus with the wider decision-making group.

Table 4 shows that the decision-makers in our sample were open to external input but could improve the way in which they access expert advice from consultants and local and central government officials. Many decision-makers expressed a lack of experience with land-use diversification. Those who were confident with the process stressed the importance of developing a robust business case for assessing the viability of native forestry (see “Business case with planting specifics and finance required” in Figure 2). One decision-maker in our sample discussed the key questions that should be asked when developing a robust business case for native forestry.

“[The] first phase is a feasibility assessment of the entire block. [The] second phase is having expert advice to help us assess the market options of the recommendations that come out of the feasibility report ... [This involves] a market analysis of what each option will be and a 10-year forward cash flow, then you [as the decision-makers] make a choice ... I think no one does the numbers, they just all do the strategy, so the numbers are really important to see if the investment is comparable to other land uses What does this look like next to farming? What does this look like next to tourism? If you have the market analysis and you know that there is a market for the products you are producing, then you’re more likely to invest in it as an option.”

Land block B

This can be summarised into five key steps:

- (1) Complete feasibility assessment to identify options and recommendations
- (2) Assess market options and 10-year cash flow for preferred options
- (3) Compare investment with other land uses
- (4) Confirm development options and evaluate for alignment with strategic goals
- (5) Plan for implementation.

3.2.4 *Under-resourcing of Māori decision-makers to support native afforestation*

Beyond challenges caused by expertise and communication deficits, we observed an inability of Māori decision-makers to access adequate finance for native afforestation. In many instances, Crown funding mechanisms such as 1BT and ECFP do not offer enough funding to adequately afforest land in the Waiapu catchment.

When accessing conventional financing from banks, challenges arise from the restrictions placed upon Māori land under the Te Ture Whenua Māori Act 1993. Under this Act, Māori land cannot be alienated, sold, transferred to general title, or forfeited as collateral without a decree from the Māori Land Court. This can mean that financial institutions are hesitant to lend to Māori freehold land with multiple owners as the land cannot be used as collateral against default.

If capital was required, respondents were willing to seek funding from available resourcing schemes (such as ECFP and 1BT) and/or to seek joint venture partnerships. Loan finance was considered risky and difficult to access. It is estimated that only a quarter of the respondents would have sufficient assets and income streams to meet compliance associated with standard bank lending policy.

“As trustees we might [consider loan finance] but personally that is not something we’d like to do. There are too many risk factors, and the main one would be climate change scenarios... no way, if we can do within what we can get and work within our means ... that is the best scenario.”

Land blocks H and M

The balance sheet of the landowner entities varied widely. Most of the decision-makers in our sample had little detail of costs or returns in regard to establishing native forest or the returns from carbon income they could reasonably expect. Establishing a native forest is costly, with some estimates ranging from \$24,000 to \$66,000 per hectare (Bergin and Gea 2007, Davis et al. 2009). While it is possible to use third party investors, any support programme for which landowners are eligible only partially covers this cost.

“I have had a look at the programmes ... they don’t provide the amount of funding that is needed to do the jobs properly... it’s about 30–40 percent of what’s needed. The real cost per hectare of being able to take something from fencing and planting and weeding and releasing and pest control it’s more like \$12,000 to \$15,000 per hectare. ... We don’t want to set it up to fail. How do we plug that gap? Especially because our block doesn’t have, and many blocks don’t have the financial capability to do that.”

Land block L

For the best possible outcomes, it is critical to develop a planting plan that will guide the implementation of establishing native forest (see “Business case with planting specifications and finance required” in Figure 2). The business case must cover the ongoing management needs of the native forest. This information is critical to assess the true value of accessing support programmes and improve the understanding of trade-offs.

3.2.5 Native forestry establishment

The decision-makers in our sample associated many challenges with establishing native forest.

“There are challenges in that we don’t have a nursery... so we need to source and propagate our seeds. Need to have a good plan that’s a challenge. Planting at the right time and getting a good plant and growth rate... there are all those challenges.”

Land block H

“And I think a key area that we’re just starting to really focus on now is actually how do you go about establishing a native forest? I think various ones of us have collected seed and grown trees and planted and things like that, but not at a forest scale or not to produce a forest. And the information about that is ‘there’s not much’...”

Land block G

For implementation to proceed, the decision for native forest must be contextualised within each land block’s starting line. Only a few of the decision-makers were aware of the implementation process for managing land-use diversification. Accessing expertise is critical, but even if expertise is accessed the consequences of the decisions ultimately lie with the decision-makers, as they have the responsibility to realise the collective aspirations of the wider shareholder group.

The decision-makers in our sample recognised they have some essential and underutilised capability within their landowner cohort in terms of skills in fencing and propagation, planting and pest management. Ahead of forestry establishment, it is critical that decision-makers confirm the afforestation approach being used, the type and mix of native species, eco-sourced seed collection and propagation, site preparation, pest and weeds management, key personnel, the capability of the landowner base to connect with the whenua, and the management of contract funds and deliverables.

3.2.6 NZ ETS-specific challenges

There are further challenges that decision-makers have experienced in regard to the NZ ETS that cannot be overcome by access to expert advice alone. The sample of decision-makers expressed disagreement with the NZ ETS sequestration methodology and rates being skewed towards exotic species based upon wood volume of the tree species. They felt the synergistic ways native forests sequester carbon are not yet fully accounted for within the NZ ETS.

“What the models that are being presented to us are saying is that [land should] be permanently retired in pine. Because it sinks carbon and landowners can get money from that ... it’s like an incentive to afforest. But it’s flawed. Because those pine trees are only gonna live so long and then they’re gonna fall down. So unless you can do it in a way that’s going to allow for native regeneration to come through as well as treat erosion, it’s not gonna work... a diverse range of things need to happen.”

Land blocks H, I and M

The second challenge relates to any potential future decision to deregister from the NZ ETS, and the subsequent requirement to repay the balance of NZUs that have been allocated to the registered forest land, even if the land remains in forest cover. Given that Māori land blocks are

often under-resourced and capital constrained, the extent to which registering in the NZ ETS would restrict future generations of landowners' decision-making is perceived as a risk. Additionally, in the context where New Zealand has committed to net zero emissions by and beyond 2050 for all GHGs except biogenic methane, landowners also face uncertainty about the future costs of converting NZ ETS-registered forest to an alternative land use. These types of considerations can disincentivise risk-averse decision-makers from entering the NZ ETS.

4 Discussion

The present research has followed the decision-making process of 13 Māori landowners from within the Waiapu catchment who are decision-makers for their respective land blocks. The land blocks which have participated in this research had a variety of governance structures, financial positions, land uses and future aspirations. These all contribute to vastly different starting lines when considering any land-use change into native forestry.

The respective starting lines had a significant bearing on whether or not land blocks could begin to implement plans for native forestry from the outset. All land blocks aspired to native forestry in some respect, but a decision to establish native forestry was often difficult to reach due to difficulties obtaining consensus across the decision-makers and landowners. These difficulties included sharing an agreed vision, having effective communication, scoping out an agreed work programme, timely scheduling of meetings, and accessing and understanding expert advice (Table 4).

Only a small proportion of the sample land blocks had successfully applied or were eligible for central and local government funding programmes such as ECFP and 1BT. Assisting landowners to secure funding could considerably improve outcomes, as landowning entities' financial capabilities are a significant determinant of whether any decision to afforest is considered or realised.

Within our sample, decision-makers lacked the resources to understand the NZ ETS, determine eligibility and navigate registration. Improving access to expertise and improving communication could be effective in increasing uptake in this decision-making phase. Beyond NZ ETS registration, there was a preference amongst the land blocks to form direct carbon trading partnerships with emitters if the decision-maker were to pursue trading NZUs earned through native forestry.

The historical context of Māori land use and development can challenge the ability of Māori landowners to successfully navigate government policy. Policies have typically failed to address the specific and multivariate challenges faced by Māori landowners. The perception by Māori

landowners that native forestry for carbon income is an untested and risky endeavour contributes considerably to the low uptake of native afforestation and the registration of eligible native forests. These perspectives have been influenced by the historical context of land-use change at the hands of non-Māori in the area.

Further findings indicate that imbalances within governance committees could be addressed through remuneration for decision-makers who administer land blocks on a voluntary basis. There is also scope for specialised support and training at all levels of governance, including those desiring land reversions to native forestry. This also requires addressing of numerous information asymmetries that hinder the decision-making processes for Māori land blocks. It was clear that many land blocks need expert advice and detailed feasibility plans that indicate what land-use assets they have and what potential there is for land-use. These can be funded by MAPIP and Whenua Māori Grants, but need to be coupled with detailed implementation plans.

Further, decision-makers need to be clear of the overall process to underpin land diversification decisions and the role of expert advice in the process. Essential steps require feasibility assessment and recommended options, robust business cases developed for prioritised options including approved implementation plans and understanding the extent to which expert advice can inform decision-making. It is also important to effectively communicate these decisions to the wider decision-making group and shareholders on an ongoing basis. The process of compiling a land block-specific roadmap (see Figure 2) could be a valuable tool in terms of presenting land-use options in relation to aspirations, as well as highlighting the necessary steps to achieve the desired land-use change.

Within the current policy landscape, it is critical that some form of native afforestation support endures beyond the current 1BT support programme, especially in a way that promotes the broader goals and needs of Māori landowners. The development of a ngāhere Māori land-use model is an opportunity to provide ongoing policy and land-use diversification guidance with native afforestation as a preferred and prioritised land use, giving appropriate weighting to the delivery of social, cultural, economic and environmental benefits. This land-use model is broadly applicable to all land but is particularly relevant for decision-making around native afforestation on Māori land as it draws parallels with the ways in which Māori traditionally engaged with and were sustained by forests. It also considers the impacts and lived realities of previous generations of decision-makers establishing pine forests with the support programmes of their time, particularly in the steeper areas of the Waiapu catchment. Ten of the 14 land blocks are seeking to develop their land based on a ngāhere Māori model.

“To me, there’s only one model, and that’s the model of the ngāhere Māori, and that’s a forest that everything that is taken from it is only taken sustainably. Just like the way that our old people used to be. We never cleared large tracts of native forest. We only cleared areas. The forest was left to be whole. And if we took something from it, and there was always a huge ritual. It was something that wasn’t ever done lightly and that itself is the lesson. Because large forests don’t grow everywhere. They grow in the areas where large forests are needed like in the Raukūmara ranges. And we need a lot of that to treat our erosion and our steep hill country. And then what did our old people do? They burnt back the bracken and things and used those areas to plant their kumara and whatever else they needed to do. Everything was done sustainably.”

Land block H

The findings from this study are based on qualitative analysis of interviews with a small number of Māori landowners in one region. Further research is needed to assess how representative these findings may be for Māori landowners more widely. Nevertheless, our findings offer valuable insights that could assist Māori and other landowners with assessing potential benefits and overcoming barriers to afforestation with native species, and assist government policy makers to refine associated information, technical support, and financial assistance programmes. Key findings on landowner motivations and challenges in decision-making are summarised in the table below.

Table 7. Key findings of landowner motivations and challenges by decision-making phase

| Decision-making phase | Landowner aspirations | Challenges in decision-making |
|---|--|---|
| Decision for native forestry | <ul style="list-style-type: none"> Facilitate a ngāhere Māori land-use model that gives effect to kaitiakitanga and yields multiple benefits | <ul style="list-style-type: none"> Achieve governance readiness for development and/or diversification, especially to establish native forestry Access experts to assist in navigating the complexity of land use diversification and establishing native forestry. |
| Decision to access afforestation funding programmes | <ul style="list-style-type: none"> Access resourcing to implement afforestation decision, recognising the current support provides at best only 30% of the cost of afforestation. | <ul style="list-style-type: none"> Ensure policy promotes the requirements of native forestry establishment and recognises total costs in subsidies available. Achieve governance readiness, including having an afforestation implementation plan for contract management over a 10–15-year period Acknowledge complexity and inconsistency of funding programmes |
| Decision to register in the NZ ETS | <ul style="list-style-type: none"> Diversify revenue streams through carbon income from native forestry | <ul style="list-style-type: none"> Access experts to navigate the complexity of the NZ ETS Understand the place of ETS-eligible forest land in broader land-use plans. Effectively communicate with landowners around the risks and liabilities associated with de-registration and deforestation |
| Decision to contract to trade NZUs | <ul style="list-style-type: none"> Realise NZU income with a clear preference to grow relationships with purchasers for future mutually beneficial opportunities that could arise | <ul style="list-style-type: none"> Establish an NZU trading strategy to guide trading decisions in a way that manages liabilities and maximises opportunities for the landowners |

5 Conclusion

Although an array of policies exist to support Māori landowners to meet their aspirations for native forestry, key challenges hinder progress at every stage of their decision-making process. Restrictive governance, limited access to resources and expertise, timeliness and poor communication can be insurmountable barriers within the Māori land decision-making process. Some landowners felt that the information provided to them did not align with the ways in which Māori traditionally engaged with and were sustained by forests, and for many, the multi-decade commitment of any kind of afforestation, along with ETS-related liabilities, was too risky to pursue. Additional support, access to expertise, effective communication and more finely tuned policy could increase the uptake of afforestation opportunities and better enable Māori land decision-makers to realise their aspirations for their land in the future.

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Appendix

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