

Policy design lessons from the Erosion Control Funding Programme – afforestation through an adaptive governance lens

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Does this look like a dried riverbed? Look closer for the roof of the Barton homestead now buried in the sediments coming from the surrounding gullies. Waiapu Catchment, East Coast, New Zealand. Photo courtesy of Tui Aroha Warmenhoven

Abstract

We focus on lessons for policy design learnt from the Erosion Control Funding Programme. This programme started in 1992, and its evolution and results provide invaluable knowledge on barriers to afforestation and potential avenues to address these barriers. We track the progression of the programme from its inception until 2017, and highlight that at the core of its slower-than-expected uptake are issues of indigenous co-development of forest systems and lagging learning cycles. We recommend that institutions implementing afforestation programmes should more quickly incorporate lessons learnt in their operations, and follow adaptive governance principles from the outset in their design to increase policy uptake and engagement with local communities.

Introduction

The East Coast of Aotearoa New Zealand is the most erosion-prone area of the country and one of the most erosion-prone areas of the world. As part of the Treaty of Waitangi settlement process, the New Zealand Crown and Ngāti Porou signed a historic 100-year Memorandum of Understanding (MOU) in 2014, with the Erosion Control Funding Programme (ECFP) (formerly the East Coast Forestry Programme) as its main implementation tool. The ECFP is one of the Government's long-standing afforestation programmes, started in 1992 and situated in a historic context of systematic Māori land alienation and landowner absenteeism.

Traditional approaches to land management and decision-making have not resulted in the best outcomes

for Māori, in particular on the East Coast. A series of non-conventional approaches to decision-making, known as 'Adaptive Governance', provide a useful lens to trace the evolution of the ECFP and distil lessons that can support the design and implementation of current and future afforestation programmes in Aotearoa New Zealand, such as the One Billion Trees Programme.

Land alienation, the East Coast and the historic 100-year MOU

A brief history of Māori land alienation

Before colonisation, land ownership did not exist in Aotearoa New Zealand. Māori enjoyed fluid boundaries of 'their' lands and determined use rights based on residence, participation in the community, and good relationships within and across tribal and kinship links (Kingi, 2008). European settlement throughout the mid-1800s led to a systematic process of Māori land alienation through acquisition and individualisation in a blatant breach of the Treaty of Waitangi signed in 1840. Customary or collective land was lost into Crown title deeds which, in turn, led to individual land ownership and fragmentation. The problem was further exacerbated under the Native Land Act 1873, which required all owners to be registered in the land title, and consequently generated ownership shares so small they are virtually unusable (Lyne, 1994; Tuuta, 2013) (Figure 1).

More recently, the Te Ture Whenua Act 1993 acknowledges the importance of land retention for the benefit of Māori owners, but requires that Māori adhere to western governance structures such as land incorporations and trusts to unite the fragmented land shares created during colonisation. In the view of Coombes (2003), these structures reflect the Government's distrust of Māori effectively managing their own land.

It is in this wider context of land fragmentation, combined with landowner absenteeism, that past and current afforestation efforts exist.

The East Coast – erosion is also a symptom of disconnection from the land

The East Coast of Aotearoa New Zealand generates 40 million tonnes of sediment per year flowing directly into rivers and the ocean (Statistics New Zealand (SNZ), 2018). The region is also sparsely populated, with only 46,653 people in the entire Gisborne District. Almost 49% of the population identifies as Māori, and Ngāti Porou makes up the largest tribal affiliation in the region (SNZ, 2013).

Inseparable from the biophysical erosion of the region is the erosion of the Ngāti Porou iwi's cultural, spiritual and social values (Warmehoven et al., 2014; Scion, 2012) (Figure 2). Therefore, any effort to address the erosion must account for the desire, drive and right of Māori for *tino rangatiratanga* (or self-determination) in relation to land and other governance matters (Sharma-Wallace et al., 2019).

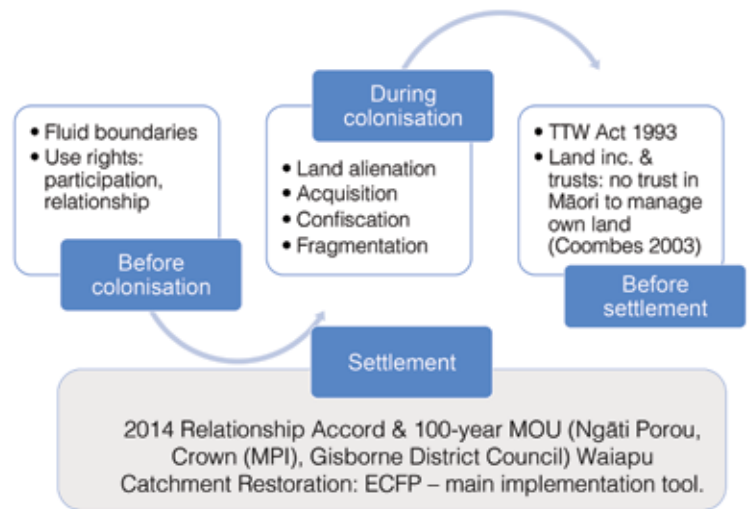


Figure 1: Historical context leading to the Erosion Control Funding Programme

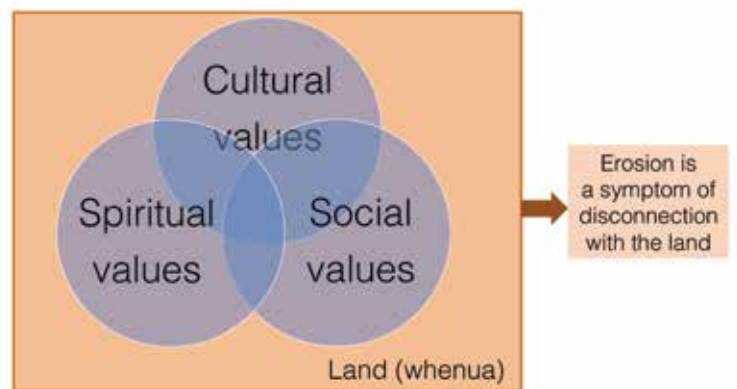


Figure 2: Links between intangible values and the whenua (land)

The historic 100-year MOU

As part of the Treaty of Waitangi settlement process, the Crown (represented by the Ministry for Primary Industries (MPI)) signed a historic 100-year MOU in 2014 with Te Runanganui o Ngāti Porou and the Gisborne District Council. This MOU outlines aspirations of 'healthy land, healthy rivers, healthy people' for the Waiapu Catchment restoration in the East Coast (MPI, Te Runanganui O Ngāti Porou & Gisborne District Council, 2014).

The ECFP afforestation programme is situated in the midst of a long settlement process and is the main implementation tool of the MOU in its first several years. The 100-year MOU is recommended reading for those who would like to understand Crown-Ngāti Porou partnerships and the spirit of the Waiapu Catchment restoration. (We do not deal with the implementation of the MOU itself in this paper.)

A different way is needed – adaptive governance

Adaptive governance is a series of methods for decision-making that recognise the complexity of people-nature problems and advocate for a flexible and

collaborative approach to help solve them. Adaptive governance responds to the local context through dialogue and sharing power, people and resources.

The ‘adaptive’ component of adaptive governance refers to the ability to change course based on the early results of implemented actions. ‘Governance’ refers to the decision-making process, including the people, power and resources involved at different levels, from local to regional to national.

Practising adaptive governance requires dialogue and collective learning from all the relevant parties. The principles of adaptive governance (Sharma-Wallace et al., 2018; 2019) can be summarised as follows:

- **Facilitating community empowerment and building capabilities:** Facilitating community-scale empowerment and engagement, and brokering collaboration and connections across a wide range of actors, scales and capabilities, by building trust and nurturing human relationships.
- **Attention to the socio-ecological and governance context:** Paying attention to the context in which decisions are made, and the development of social and physical capabilities, knowledge, resources, networks and partnerships to address this context.
- **Effective leadership and monitoring:** Supporting and institutionalising effective leadership to bring stakeholders together, coordinate governance support, design and implement innovative management ideas and mobilise communities to act, and integrating knowledge and decision-making through experiential learning and monitoring progress over time.

Methods

We tracked the evolution of the ECFP through a review of grey literature and semi-structured interviews. Grey literature was collated using Google and Google

Scholar, supplemented by Cocklin and Wall (1997) and Phillips et al.’s (2013) secondary analyses of specific aspects of the ECFP. We also draw on 78 semi-structured interviews conducted in 2016 as part of an action research project on adaptive governance for enhanced environmental decision-making in the Waiaapu Catchment (Edwards et al., 2018). Interviewees included 26 Waiaapu community members and 52 non-hapū representatives (Pākehā landowners, resource managers, local and central government agencies, community organisations, industry groups and education providers).

The interviews highlighted the barriers and opportunities to restoring the Waiaapu Catchment in the East Coast in the context of to the 100-year MOU aspirations. We document candid assessments of the ECFP, adding the human dimension to the ECFP narrative constructed from the grey literature.

Results

Using the lens of adaptive governance, we illustrate the barriers for implementation of the ECFP and the substantial changes it has undergone, both in content and scope, since its inception. As of 2017, the ECFP had planted 41,906 ha (MPI, 2018) of its 2020 target of 60,000 ha set by a Cabinet paper in 1999 (Ministry of Agriculture and Forestry, 2011). While key barriers were identified by the Office of the Parliamentary Commissioner for the Environment in 1994, major changes to the programme took six to nine years (in the best of cases), to 20 years, to be implemented.

1. Community empowerment and building capabilities

The ECFP initially presented strong barriers to uptake by Ngāti Porou, combined with delays in adapting the programme to include support for community actions and targeted enrolment of Māori landowners. These barriers include (Figure 3):

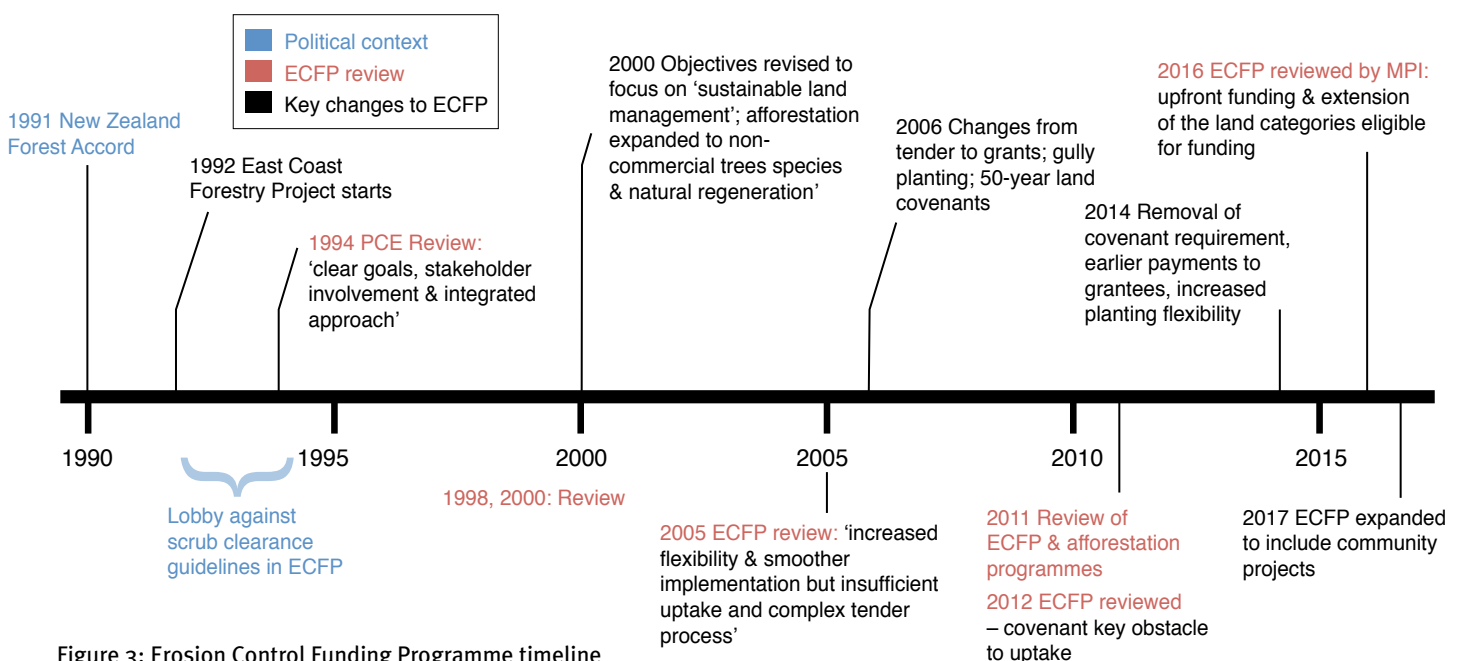


Figure 3: Erosion Control Funding Programme timeline

- Government changing the rules for native vegetation clearance within the ECFP, which effectively meant Ngāti Porou could not participate in the first four years of the programme (1992–1996)
- Requirement for forming land trusts and incorporations in order to participate in the programme.

To address these barriers, the ECFP adapted in different ways:

- Expansion to include non-commercial species from 2000
- Added resources to include one-on-one engagement and education (after 2005)
- Hiring a Māori ECFP coordinator in 2014 to increase Māori enrolments
- Including community projects in 2017.

During the development of the ECFP, Ngāti Porou was hopeful that the programme would offer a path for tribal revitalisation and self-determination (Kapua in Cocklin & Wall, 1997, 155). Specifically, they hoped to retain control of their land and forestry operations (Ngāti Porou quoted in Office of the Parliamentary Commissioner for the Environment 1994, 19-20). The newly formed company, Ngāti Porou Whanui Forests Ltd, established a joint venture with Tasman Forestry Ltd for plantation forestry.

The ECFP originally allowed for clearance of scrubland, which is the majority of Ngāti Porou land. However, environmental groups found this allowance in conflict with the New Zealand Forest Accord, a private agreement signed by a group of forestry companies that established limits on clearance of indigenous vegetation (New Zealand Forest Accord, 1991). After months of negotiations, the Government amended the ECFP to provide more protection to indigenous vegetation and Tasman Forestry withdrew from the joint venture. As a consequence, Ngāti Porou could not fully participate in the first years of the programme (Cocklin & Wall, 1997).

In 1996, Ngāti Porou Whanui Forests Ltd found a new partner and established a joint venture with the Korean company Hansol with the aim of establishing 10,000 ha of radiata pine forest on Ngāti Porou land. This new joint venture meant an 'assertion of Ngāti Porou's mana' (Mahuika in Cocklin & Wall, 1997: 158).

After the ECFP review by Bayfield and Meister (2005), funding was made available for one-on-one programme advocacy and education. In mid-2014, MPI hired a Ngāti Porou ECFP coordinator to increase Māori enrolment, noting some success (MPI, 2017a). However, multiple-owned Māori blocks were needed to come together in land incorporations and trusts to participate. Strong community participation and information sharing were lacking for most of ECFP's life:

I think that there has been a lot of the confusion of the actual grant scheme itself. No one has really

been clear on what it looks like and what it would achieve. They will say it is erosion control when in actual fact that does not mean anything for whānau.
(Hapū interviewee, 2016)

Supporting local initiatives or the aspirations of local landowners are also important factors to overcome the perceived distrust [in the Government] in the East Coast region:

To me, I look at MBIE and MPI and everyone is all about how do we generate and utilise unproductive Māori land? Well, the reality is it is not your Māori land to have a say over and care for. What we need from places like that is support in terms of resources, not only financial but the science stuff as well.
(Hapū interviewee, 2016)

In 2017, the ECFP was modified to include community projects. Examples of community project topics include optimal land use for erodible land, riparian and other river treatments for erosion, skills/labour, trials of new/alternative treatments, supply of seedling and materials and governance for erodible land blocks (MPI, 2017b).

2. Attention to the socio-ecological and governance context

The ECFP has predominantly focused on technical aspects while mostly paying little attention to the socio-ecological and governance context. This resulted in two barriers to adoption:

- The requirement for upfront payment from landowners for the first six years (1992–1998)
- The requirement for a 50-year covenant in ECFP contracts established in 2005 was removed in 2014.

Although it took six to nine years, the above barriers were removed. Other major positive changes adopted by the ECFP in the last five years include:

- Providing more upfront instead of retroactive funding in 2014 and 2016
- The introduction of community-led projects in 2017
- Field days to showcase landowner erosion control practices in 2018 (MPI & Gisborne District Council, 2018).

In 1994, the Office of the Parliamentary Commissioner for the Environment called for an integrated approach to the ECFP. However, the programme has mainly focused on technical aspects and bypasses the holistic nature of the Ngāti Porou relationship with their land and the causes and impacts of the East Coast erosion problem:

That's what the restoration is in the larger sense. It's not the restoration just of the physical landscape. It's actually our people, of our knowledge, and our way of doing things.

(Hapū interviewee, 2016)

So if you look at it at quite high level and talk about restoration, the practices that we live by every day are restorative. So whether it's connecting with our children, with our whānau's children, children from the community, whether it's preserving water, whether it's teaching our kids not to throw rubbish on the ground ...

(Hapū interviewee, 2016)

Since its inception, and until 2014, the ECFP required landowners to claim costs for establishing the trees retroactively, despite Ngāti Porou's lack of financial capital being acknowledged as a barrier from the outset (Office of the Parliamentary Commissioner for the Environment, 1994).

... You have to pay for everything and just hope and pray that they survived so you would get back the money. It was all retrospective. For want of better words, that only worked for the really big rich farms that were never supposed to be why the fund was set up in the first place ...

(Hapū interviewee, 2016)

Moreover, in 2005, the ECFP introduced a requirement of a 50-year covenant on ECFP-treated land. Although this covenant was added in response to deforestation of formerly ECFP-treated land blocks, in practice this requirement reduced Māori participation. This covenant was removed in 2014.

Further barriers include a lack of information about, for example, when and how to plant (Sharma-Wallace et al., 2019). We recognise recent efforts from central government and the Gisborne District Council through field days to showcase erosion control and landowner-driven initiatives (MPI & Gisborne District Council, 2018; Māori Television, 2018).

3. Effective leadership and monitoring

Turnover in government personnel has made the handover process and learning of lessons about the ECFP extremely challenging, impacting the ECFP's design, implementation and leadership. While the ECFP has been reviewed and major changes introduced to its content and scope in the last 26 years, the time taken to incorporate these changes highlight a lack of agility of ECFP structures.

Co-creation in the design (and review) of the programme, and better communication and responses to messages from 'people on the ground' and officials in Wellington, could play a positive role. An interviewee encapsulates the intent, design and disconnection of ground issues and policy design within ECFP as follows:

Fundamentally, the ECFP was created through an agreement between Ngāti Porou and the Crown. It was not intended for everybody else, but it has morphed into something different. ECFP, in its current state, is not achieving what it should. Ideally, we sit with them and co-create what it would be looking like. My challenge has always been, with working with ministries, is that they're in Wellington. They don't actually understand how it works. They do have people on the ground, but



Experiential learning is key for the effective design and implementation of afforestation policies. Barton Gully, Waiapu Catchment, East Coast. Photo courtesy of Tui Aroha Warmenhoven

it's the people in the ministries that decide how the money is distributed – not the people on the ground.

(Hapū interviewee, 2016)

Conclusions and recommendations

We conclude that the adaptive governance principles described in this paper are useful in the design and monitoring of afforestation programmes and could lead to a better uptake of afforestation programmes. Specifically, in the case of the ECFP, issues related to Māori relationships with the whenua were integral determinants of the fund's slow rate of uptake (Sharma-Wallace et al., 2019).

Lessons for the design and implementation of afforestation programmes include:

- Meaningfully include Māori landowners' aspirations, values and assets in the design of afforestation policies, accounting for the quadruple bottom-line approach that includes social, cultural, economic and environmental aspects
- Pay close attention to the local context, power relationships, equity issues and history to remove early barriers to afforestation
- Increase the capacity of Māori to participate in decision-making processes through access to science, brokers and connectors, supporting local leadership and incentivising learning between different groups
- Shortening the period between policy review and policy changes, making the learning process more agile and effective. This would also support the change of mindset from monitoring as a 'performance measurement tool' to a 'learning tool'.

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Glossary

- Mana = prestige
- Pākehā = New Zealander of European descent
- Tino rangatiratanga = self-determination
- Whānau = family
- Whenua = land.

References

- Bayfield, M.A. and Meister, A.D. 2005. *East Coast Forestry Project Review*. Wellington, NZ: Ministry of Agriculture and Forestry.
- Cocklin, C. and Wall, M. 1997. Contested Rural Futures: New Zealand's *East Coast Forestry Project*. *Journal of Rural Studies*, 13(2): 149–162. doi:10.1016/S0743-0167(96)00003-4.
- Coombes, B. 2003. The Historicity of Institutional Trust and the Alienation of Māori Land for Catchment Control at Mangatu, New Zealand. *Environment and History*, 9(3): 333–359. doi: 10.3197/096734003129342872.
- Edwards, P., Velarde, S.J., Sharma-Wallace, L., Barnard, T., Pohatu, P., Warmenhoven, T., Porou, T., Harrison, D. and Dunningham, A. 2018. Forest Scholars Empowering Communities: A Case Study from the East Coast of New Zealand. *Forest Policy and Economics*, 91: 46–53. doi:10.1016/j.forpol.2017.09.001.
- Kingi, T. 2008. Māori Landownership and Land Management in New Zealand. In *Making Land Work, Volume Two: Case Studies on Customary Land and Development in the Pacific*, 129–151. Canberra, Australia: Australian Agency for International Development.
- Lyne, M. 1994. *Ownership and Control of Māori Land: Some Lessons for South Africa*. Discussion Paper 138. Canterbury, NZ: Agribusiness and Economics Research Unit, Lincoln.
- Māori Television. 2018. *Saving the Waiapu River* (19 June 2018). Available at: www.maoritelevision.com/news/regional/saving-waiapu-river.
- Ministry for Primary Industries. 2017a. *Annual Report 2016/17*. Wellington, NZ: MPI.
- Ministry for Primary Industries. 2017b. *A Guide to Erosion Control Funding Programme (East Coast) Community Projects*. Wellington, NZ: MPI.
- Ministry for Primary Industries. 2018. *Annual Report 2017/18*. Wellington, NZ: MPI.
- Ministry for Primary Industries and Gisborne District Council. 2018. *Sharing Local Knowledge on Erosion Control* (Flyer). Wellington, NZ: MPI.
- Ministry for Primary Industries, Te Runanganui O Ngāti Porou and Gisborne District Council. 2014. *Memorandum of Understanding in Relation to the Restoration of the Waiapu Catchment*. Available at: www.mpi.govt.nz/dmsdocument/1360-memorandum-of-understanding.
- Ministry of Agriculture and Forestry (MAF). 2011. *Review of MAF Afforestation Schemes: Permanent Forest Sink Initiative; Afforestation Grant Scheme; East Coast Forestry Project; Sustainable Land Management (Hill Country Erosion Programme)*. MAF Information Paper No: 2011/07. Wellington, NZ: MAF.
- Office of the Parliamentary Commissioner for the Environment. 1994. *Sustainable Land Management and the East Coast Forestry Project*. Wellington, NZ: Office of the Parliamentary Commissioner for the Environment.
- Phillips, C. J., Rey, F., Marden, M., and Liebault, F. 2013. Revegetation of Steeplands in France and New Zealand: Geomorphic and Policy Responses. *New Zealand Journal of Forestry Science*, 43(14): 1–16. doi:10.1186/1179-5395-43-14.
- Scion. 2012. *Waiapu River Catchment Study – Final Report*. MPI Technical Paper No. 2012/32. Wellington, NZ: MPI.
- Sharma-Wallace, L., Velarde, S.J. and Wreford, A. 2018. Adaptive Governance Good Practice: Show Me the Evidence! *Journal of Environmental Management*, 222: 174–184. doi:10.1016/j.jenvman.2018.05.067.
- Sharma-Wallace, L., Velarde, S.J., Edwards, P., Warmenhoven, T. and Pohatu, P. 2019. Exploring Adaptive Governance for Indigenous Peoples: Lessons from Aotearoa New Zealand's Erosion Control Funding Programme. *Society & Natural Resources*. doi: 10.1080/08941920.2018.1557308.
- Statistics New Zealand (SNZ). 2013. *Census QuickStats About a Place: Gisborne Region*. Available at: http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?request_value=13991&tabname=#.
- Statistics New Zealand (SNZ). 2018. *Estimated Long-term Soil Erosion*. Available at: http://archive.stats.govt.nz/browse_for_stats/environment/environmental-reporting-series/environmental-indicators/Home/Land/long-term-soil-erosion.aspx.
- The New Zealand Forest Accord. 1991. Available at: www.nzfoa.org.nz/resources/file-libraries-resources/agreements-accords.
- Tuuta, D. 2013. Barriers to Releasing Full Māori Land Potential. *Taranaki Daily News* (6 May 2013). Available at: www.stuff.co.nz/taranaki-daily-news/opinion/8635311/Barriers-to-releasing-full-Maori-land-potential.
- Warmenhoven, T., Barnard T., Pohatu, P., Garrett, L., Porou, T., Fitzgerald, G., Harrison, D., Barry, L. and Ruru, W., 2014. *Climate Change and Community Resilience in the Waiapu Catchment*. MPI Technical Paper 2014/25. Wellington, NZ: MPI.

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