

CHALLENGES FACED BY HILL COUNTRY FARMERS IN NEW ZEALAND - THE CURRENT ISSUES, THE STATE OF RESEARCH AND WHAT THE FUTURE MAY HOLD

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Introduction

I have this nostalgic image of an oil-skin clad farmer, riding their horse, with a team of dogs, moving old ewes bound for the local works, off an eroded gully with Ponga's in the base and an easterly drizzle in their face. For me, this epitomises what hill country farming used to be about.

In essence, man, animal, land, climate and market in an intimate systemic relationship.

Today this image and identity is increasingly challenged by emerging and compounding factors that make these systems more complex and volatile: globalised markets; a changing climate; increased community expectations for stewardship of natural capital; the health, safety and welfare of people; food and animals, and; of particular interest to this conference, freshwater quality.

There has been considerable emphasis in New Zealand on the deterioration of freshwater quality as a result of intensive land use. The response to this has been an approach that seeks certainty through the achievement of water quality limits over specific timeframes. This is often prescribed with limited information, tools and engagement with those most affected.

The process that drives this can be adversarial, with national issues and arguments around the trade-offs between the environment and economy fought out at a local scale, which can lead to a disconnect between what is desired through plans and policy and what is actually possible in practice.

The ability to adapt to change in hill country farming is influenced by a significantly different range of natural, social, human, financial and infrastructural capitals than that of the more intensively farmed lowland parts of the landscape.

A different approach to natural resource management is required in hill country, one that is more in tune with the realities of change, the need to be adaptive, but that also considers the intimate relationship between land owners and the communities they live in that equally depend on hill country for their livelihoods and wellbeing.

Background

This paper summarises the key themes to come out of an East Coast Hill Country Conference that was held in Hastings 29-30th October 2015. The purpose of the conference was to bring a range of perspectives from leading thinkers or practitioners who lived, worked, invested or made decisions in hill country to discuss what the long term future of hill country on the East Coast looked like. Speakers considered the challenges, opportunities and drivers of that future from their perspective. The future possibilities for the hill country landscape was the main theme of the second day, with speakers considering “new thinking” and “new technologies” applicable to hill country.

The conference was the result of a small group of people from government, industry and farmers who were concerned about the potential impact of the implementation of freshwater reforms (MfE 2013), on hill country if the methodology and trajectory of the approach used in the intensive lowlands was applied to that landscape.

The concern was that the impact of policy and rule setting that considered solely freshwater objectives, and not all of the challenges and opportunities in hill country and the rural communities that depended on it had a risk of creating unintended consequences. Equally, we acknowledged that the long term sustainability and resilience of hill country is a complex challenge for all concerned. What are the options, both new and appropriate, for land owners that would enable them to adapt to these challenges into the future that were in tune with the realities of their context as individuals and their ability to act within the confines of their farm business?

“Why just consider the East Coast?” Was a common question people raised when hearing about the conference. Many of these are national issues that regions throughout the country are struggling to deal with. To focus on the “coast” was done for 2 main reasons. For those of us that live on the coast there is an underlying identity to the place, climatically, geographically, socially and culturally. We are provincial economies who rely heavily on the productivity of our hill country but we also share a sense of place, of being to the East of the main divide, it is this sense of place we recognise as an important motivator to decision making at farm and community scale. The second reason was to create a new conversation, to look at the possibilities in hill country from a new perspective, one that considered the rural communities and those that depend on the hill country for a multitude of services and wellbeings. Connecting the identities of those with a stake in hill country across scales in the context of “people, place and practical challenge” we believe is a way of creating this new conversation.

Key themes

Early in the conference several of our key note speakers outlined the fact that we were still struggling to address some of the fundamental challenges in hill country.

With regards to making money on hill country -

“The principles are entirely consistent across (after) nearly 50, 60 years of theory...still across the industry, a broad diversity of management ability and profitability of hill country farms exists”

Professor Graeme Doole, Waikato University (2015)

With regards to still losing 190 million tonnes of sediment annually -

“We have had a soil conservation act in this country for going on 75 years, and I have to say, after 75 years of having a statutory instrument in this space our progress in my view has been too slow”

James Palmer, MfE (2015)

“How’s the whenua? I ask this of you in your wisdom, and in your knowledge, and in your experiences, and in your science, and in your research”

Teina Moetara, Rongowhakaata/Ruapani (2015)

Three key questions emerged during the course of the first day that underpinned much of the considerations to follow -

1. What are we trying to achieve in hill country – what is the collective long term vision or outcome for this landscape on the East Coast?
2. How do you find a common ground from the diverse range of perspectives and values represented at the conference and collectively work towards a common future?
3. Who actually needs to adapt their thinking and approach to hill country sustainability?

Challenges

A variety of challenges facing hill country farmers, communities, primary industries and the institutions that influence decision making emerged throughout the course of the conference. These included –

- The impact of climate change and climate variability on the long term sustainability of hill country, and the need to take definitive actions now to build resilience into the future.
- The importance of rural infrastructure as a driver to good rural stewardship and the effect that the quality of this infrastructure has on the ability to attract and keep good people on farms in rural areas.
- The effect of low returns on high farm asset values as a major driver to long term decision making on-farm and as a short term barrier to adapting to challenges, new policies or the adoption of new innovations.
- The changing community expectations on the level of stewardship farmers should be providing to natural resources. How the emphasis for this was shifting from the intensively farmed lowlands to those issues that influenced the quality of our freshwater that were equally or more associated with hill country, like sediment, phosphorus and faecal coliforms.
- The longer term need to shift our reliance on factor endowment and the production of commodities from hill country and look for the comparative advantages along the East Coast that would enable us to participate more proactively in market value chains and ultimately market networks.

- A reminder of the how important “a way of life” and farm family values are in underpinning farm decision making and the challenges of farm succession within the contexts described above.
- The need to build the human capital and skills of those charged with managing an increasingly challenging and complex business and environment.
- While not big topics of consideration during the event speakers also identified that many of the on-going challenges and some new were also significant factors influencing decision making like managing weeds and pests, protecting biodiversity, changing expectations for animal welfare and new health and safety legislation.

Each of the challenges described above are not simple single issues, and are in fact deeply entwined and interrelated with each other. Decision making by all stakeholders that does not consider the relationships, effects and trade-offs is a risky proposition. Perhaps nowhere was this point more obvious than in the discussions over the role of forestry in hill country into the future. Speakers highlighted -

- The significant value and contribution forestry made to the East Coast economy.
- The magnitude of the erosion problem of the East Coast and the fact that there were very few options for dealing with erosion at this scale other than large scale forestry planting.
- The role forestry also had in potentially offsetting New Zealand’s (and agricultures!) greenhouse gas emissions.
- How Central Government programs like the East Coast Forestry Project and Afforestation Grants Scheme were helping increase the rate of planting of forestry in high risk areas but demand had decreased for this support.
- The huge potential for new and innovative products and services from trees from biomass to compounds derived at a cellular level.
- There was increasingly a shift away by forestry companies from planting steeper, higher risk areas of the landscape for a variety of reasons, including the future potential for Councils restricting harvest on certain land classes and issues such as health and safety.
- That distance from port or processor and access to woodlots were key drivers on the profitability and therefore market drivers of forestry on-farm.
- The effects of forestry slash and erosion following harvest on infrastructure and natural capital in parts of the country were significant and there was apprehension in communities of these areas on the effect of this over the short to medium term.
- The effect forestry was perceived to have on the human, social and built capital in rural towns and small communities in places like Wairoa and Northland. One speaker stated that forestry was not necessarily a social solution to the long term challenges in hill country.

“It’s people getting together and looking for options. So forestry cannot exist alone in isolation...if you are looking for a resilient rural community” **Dr Tim Payn, SCION** (2015).

During the course of the event however it became apparent that there were deeper challenges that underpinned many of the conversations that were occurring. This was later supported by feedback from conference attendees and from the subsequent conversations that occurred

with a small number of “key listeners” who were identified before the event and asked to listen for key themes to emerge. These deeper challenges included -

- How do we deal with all of this complexity, ambiguity, uncertainty and volatility facing hill country in the long term both individually and collectively?
- The dichotomy that existed in some between the need for urgent and transformative change in hill country to those that believed success was based on a slow and steady approach.
- How to influence change in those who had not adopted improved land management practices for many years.
- The need for better leadership and governance at multiple scales and in multiple forms.
- The need to build adaptive capacity and resilience into land stewards and the communities that support them.
- The need for more options to address the challenges in hill country.
- The challenge of shifting our spatial and temporal considerations of hill country across multiple scales. The need to almost narrow our view at some scales spatially in hill country in the consideration of critical source areas for sediment and nutrients but also the need broaden our horizons and discussions temporally to consider longer term challenges and possibilities.
- How “healthy communities are critical to the stewardship of regional infrastructure and natural resources”. **Dr Gavin Sheath**. (2015)
- The need to work together acknowledging the deeply held values and identities of those involved. Leading us to consider how we might collectively engage “*stepping into the unknown*” **Teina Moetara** (2015) and acknowledging that “we will never deal with the big issues in silo’s” **Lawrence Yule** – President Local Government NZ (2015).

The Sustainable Land Management Conference 1991

An interesting contrast between some of the themes considered at the East Coast Hill Country Conference held last year and an “International Conference on Sustainable Land Management” held in Napier in 1992 was be made, many of which were consistent throughout both events. For example -

“But now the agenda has become wider and embraces issues of...Under these circumstances new institutional perspectives and arrangements must be put in place”. **Synnott.M** p49. (1991).

“The most important role of community participation...is in generating a commitment among land users and the entire community to an ethic of land stewardship” **Campbell.A** p26 (1991).

“Legislation should be considered as an organising, preventative instrument which can utilise local community knowledge and skill but ensure a level of objectivity in the wider community interest” **Bradsen.J** p65 (1991).

Phantom walls and captured funding will not be helpful. Land use opportunities in hill country must be tested in the total context of economic, ecological and social science. The common goal must provide clear, tangible and consistent directions that will move agriculture to a viable and caring business. Sheath.G p381 (1991).

This raises the question why hasn't significant change occurred and who needs to adapt to enable this change to occur?

Possibilities

The second day of the conference looked at the future possibilities in hill country. What was occurring that was changing the way we are thinking or acting in hill country that would help shape a different long term future. A wide variety of new and emerging technologies and concepts were considered and this included -

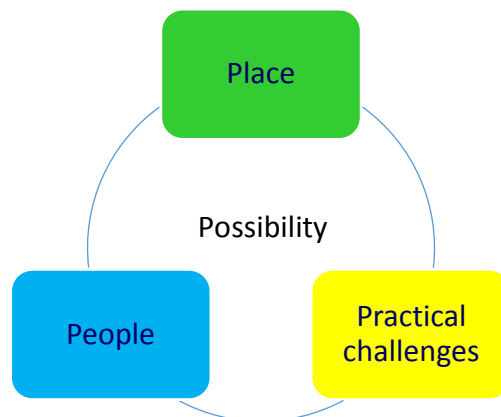
1. New Thinking
 - a. The work that has been going on in understanding ecosystem services of hill country and the impact both degradation and enhancement had on the value of those services. How we can use the information to help guide future decision making and farm planning.
 - b. Complex adaptive systems thinking - acknowledging that the challenges we are dealing with in hill country aren't simple, single factor issues, rather large, complex, dynamic challenges that require a new way of thinking and acting.
 - c. The use of resilience theory as a way of framing and approaching the complex challenges and opportunities in hill country, and the work that was occurring nationally to understand and operationalise that.
 - d. The opportunities that exist in using Maori agribusiness operations as new models and exemplars of hill country land use. Systems that are driven by annual returns from farming rather than capital gain, in a holistic cultural, environmental, social and economic context.
 - e. The critical importance of metrics and measuring on our ability to understand the state and trends of the challenges we are dealing with in managing our natural resources. How these underpin our ability to assess the effectiveness of the solutions applied to those challenges but equally to engage the wider community and other stakeholders into better understanding the realities, benefits and importance of the work being done.
 - f. Energy smart farming and significant opportunity that exists for farmers to significantly improve energy efficiency and production from hill country, potentially offsetting inefficiencies and emissions elsewhere in the value chain.
2. New technologies
 - a. The use of drones and remote sensing to provide information at temporal and spatial scales once impossible.
 - b. Precision fertiliser application in hill country. The benefits more spatially and temporally accurate application of fertiliser can bring to farm profitability and minimising any adverse effects of fertiliser use.

- c. The use of metrics on farm through programs like FarmIQ, and how critical numbers are to understanding the farm system. How confidence in decisions precedes investment and the ability of systems of measurement and monitoring on farm to provide that confidence.
- d. How better understanding what influences the adoption of practice of farm can enable change to occur more effectively and efficiently across the landscape.
- e. The significant opportunities that exist in increasing production on farm through a range of new forages being trialled and adopted throughout the region.

Fundamentally, New Zealand is well endowed with clever and innovative people – having that capability and capacity we believe is not a barrier to effecting change or dealing with the complex challenges in hill country, which raises the question what is?

A new practice

So what is hindering the progress towards addressing the three fundamental questions posed at the start of this paper? Clearly there are multiple reasons for this but one issue that we would like to propose is the lack of a culture of practice. A practice, using the analogy of the 3-legged stool to represent the pillars of social, environmental and economic sustainability, that consider the nails and glue connecting the “whole” stool together. A practice of doing or implementing, actively and collectively working on and towards common goals with people and their values and identities, in the places and situations that they live. Identifying practical challenges as those that can be achieved and not prescribed with little understanding of context or effect. A practice that connects people, place and practical challenge together across multiple scales and that learns from doing and adapts accordingly.



People, place and practical challenges that focus on possibilities rather than solving problems represent a way of reframing the conversation, of not resorting back to the same thinking and behaviours that perpetuate the issues we have now. A way of dealing with all the complexity and magnitude of challenges across scales because it enables a way to provide a focus, to ground thinking and doing to a level that is comprehensible and achievable.

The lack of a practice or shared discipline of implementation is creating challenges for us now as the National Policy Statement for Freshwater Management is rolled out throughout the country. Policy and regulations are being defined using incomplete science that is struggling to keep pace with the adversarial processes it is being tested in. This is leading to programs and processes that are out of touch with the ability of those making the change or those supporting or enforcing those changes to do them in a way that prevents unintended consequences from occurring. There are ample opportunities now for a more coordinated approach to implementation, one that enables the potential for synergies and efficiencies between the multiple parties who play a role in implementation to do so in a way that they can collectively learn and adapt to the realities of the situations they are working in.

We need a practice that provides those working at the coal face the opportunity to build trust and credibility across scales, offering the possibility that the identification of practical challenges is the precursor to setting policies and rules and not the other way round. A credible practice provides the opportunity for the testing of alternatives and influencing decision making across scales.

We need practitioners. People who are prepared to work in challenging and difficult situations, bridging and brokering relationships and connections between people and projects, while understanding and working with different dynamics of power. Practitioners who Schön (1995) refers to as working in swamps -

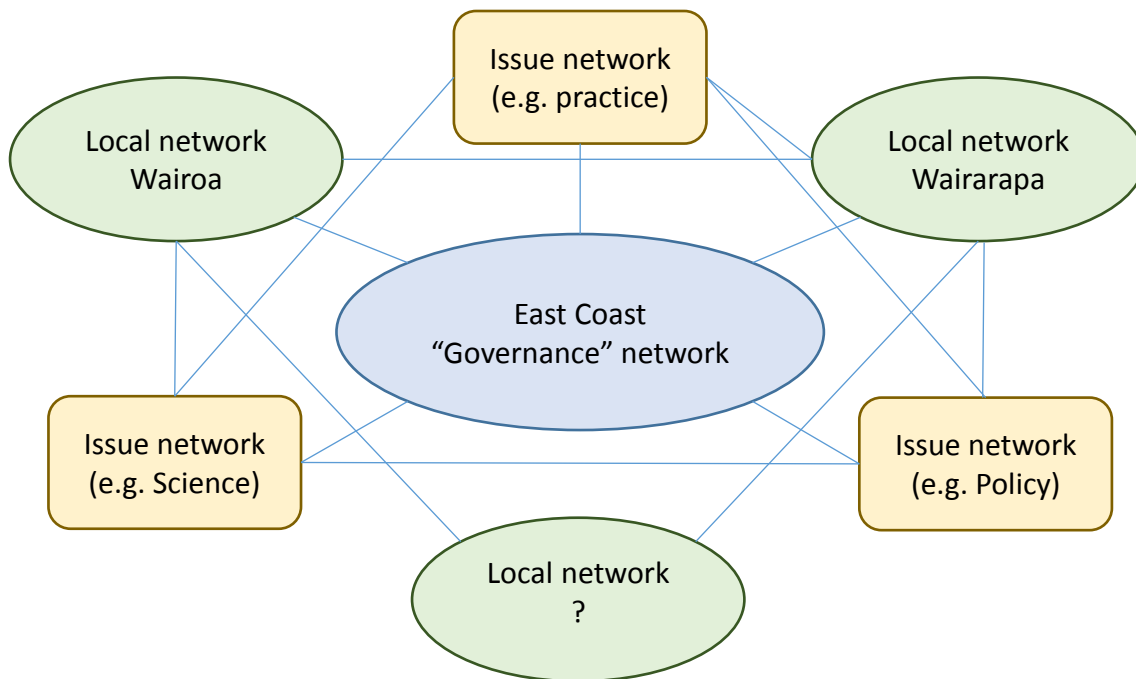
In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the use of research-based theory and technique. In the swampy lowlands, problems are messy and confusing and incapable of technical solution. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or to society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern. The practitioner is confronted with a choice. Shall they remain on the high ground where they can solve relatively unimportant problems according to their standards of rigor, or shall they descend to the swamp of important problems where they cannot be rigorous in any way they know how to describe?

Nearly all professional practitioners experience a version of the dilemma of rigor or relevance, and they respond to it in one of several ways. Some of them choose the swampy lowland, deliberately immersing themselves in confusing but critically important situations. When they are asked to describe their methods of inquiry, they speak of experience, trial and error, intuition, or muddling through.

A practice cannot be the domain of any one agency or institution, it requires an impartiality and separation from the dynamics of politics and actions or functions that challenge the credibility or trust built between those involved. In our current situation no entity is able to perform that role and therefore the only alternative is to build a collective approach that includes all stakeholders with a stake in people, place and practical challenge in the situation of concern.

The East Coast Hill Country Project

A project is being developed on the East Coast of the North Island that is bringing a group of “practitioners” together, to consider people, place and practical challenge at different scales. At a local scale in places like Wairoa and at a regional scale looking across and along the East Coast. A number of meetings have been held up and down the coast with both a governance and local groups being formed and coming together and consider a new possibility and practice for the long term future of hill country. We are looking at building connections and networks with practitioners across the country, leveraging off the conference last year to create new conversations – conversations that can progress our collective understanding of the challenges and possibilities identified during the 2 day event.



Conclusion & summary

At the East Coast Hill Country Conference held in October 2015, a group of New Zealand leading thinkers and practitioners came together to consider the long term future of hill country along the coast. What emerged from that event is an acknowledgement that: the future is indeed complex, uncertain, volatile and ambiguous; our existing approaches to dealing with our current challenges are failing to meet community expectations; perhaps the way we are framing approaches is no longer reflective of the situation we are now working in and maybe working together to find a new “practice” of influencing that future is warranted.

References

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