

# Wellbeing, environmental sustainability and profitability: Including plurality of logics in participatory extension programmes for enhanced farmer resilience

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## Abstract

Environmental sustainability and economic challenges are requiring significant change in the agricultural sector, and this is driving an increased focus on farmer and farm business resilience. Participatory extension programmes (PEPs) are a well-known approach for supporting farmer change. The objective of this article is to explore how a PEP based on peer-to-peer learning can support farmers in increasing resilience. Our study examines the interaction of wellbeing, environmental change and profitability through the applications of an institutional logics evaluation framework. We interviewed 24 participants in a PEP based in Northland, New Zealand. Findings show that PEPs can provide a safe space to discuss wellbeing challenges and link farmers with networks to support them on their wellbeing journey. We found that farmer wellbeing is intrinsically linked to other pressures that farmers face around profitability and sustainability, and therefore PEPs need to balance these three pillars. This article adds to the

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current literature by expanding an institutional logics evaluation framework and identifying the role of different actors in change mechanisms.

#### KEYWORDS

agriculture, behavioural change, institutional change, institutional logics, participatory extension

## INTRODUCTION

The global agricultural sector is facing complex challenges, such as addressing greenhouse gas emissions (IPCC, 2014; Le Quéré et al., 2016) and water quality deterioration (Knook et al., 2020a) and attracting and retaining employees (Deming et al., 2020; Eastwood et al., 2019). Land managers are supported in building resilience to these challenges through initiatives such as participatory extension programmes (PEPs; Knook & Turner, 2020). PEPs are an extension approach (Black, 2000) and one of the main tools to build resilience in the agricultural sector because these programmes can account for the biophysical, economic and behavioural heterogeneity of farms (Darnhofer et al., 2012). In literature, PEPs are known in several ways, for example, facilitated group learning (Prager & Creaney, 2017) and communities of practice (Sewell et al., 2014). In a PEP, a group of stakeholders, such as farmers, consultants and rural agents, work together over a multiyear period. All stakeholders participate in knowledge generation and practice change via experimentation on farm and by demonstrating and scrutinising practices in discussion groups with peers, experts and researchers (Cristóvão et al., 2012; Scoones & Thompson, 2009).

Studies evaluating PEPs have mainly been conducted in developing countries with small-scale farming contexts (Knook et al., 2018). Furthermore, these studies predominantly use financial and productivity indicators to identify the monetary return on investment (e.g., Läßle & Hennessy, 2015; Läßle et al., 2013). PEP evaluations have had limited focus on the uptake of environmental management changes and have not included wellbeing aspects (Knook et al., 2020b; Yang & Knook, 2021). Wellbeing studies in the agricultural sector indicate that aspects such as financial situation, age, family–work balance and mental health are linked to farmer wellbeing (Besser & Mann, 2015; Garnham & Bryant, 2014; Haugen & Blekesaune, 2005; Muri et al., 2020; Peel et al., 2016) and the adoption of new practices (Hansen et al., 2020). There is, however, limited emphasis on ‘human wellbeing’, such as farmers’ personal development and the improvement of balanced linkages with a wider society that can help overcome specific challenges of farmers.

To evaluate how PEPs contribute to economic, environmental and wellbeing resilience, a theoretical lens is required that provides insight into not only practice change but also the change in underlying beliefs and values (Osei-Amponsah et al., 2018; Smets et al., 2012). Recently, a conceptual framework for PEP evaluation was developed based on an institutional logics perspective (Knook & Turner, 2020). Institutional logics are defined as ‘the socially constructed, historical patterns of cultural symbols and material practices, including assumptions, values, and beliefs, by which individuals and organisations provide meaning to their daily activity, organise time and space, and reproduce their lives and experiences’ (Thornton et al., 2012, p. 2). This framework thus looks beyond practices, by also including how underlying beliefs and values change.

Although Knook and Turner's (2020) framework provides a very useful base for this study, it is based on a farmer's perspective. It, therefore, does not capture the participatory nature of PEPs by lacking the identification of the role of different stakeholders in mechanisms of change. Furthermore, the framework has been developed from a PEP focusing on environmental outcomes and has not been tested for wellbeing outcomes. Therefore, this study addresses the lack of inclusion of a holistic set of outcomes (e.g., wellbeing) in the evaluation of PEPs and the limited understanding of the contribution of stakeholders to the mechanisms and processes of change. The objective of this study is to apply an institutional logics lens to investigate the change generated during a PEP in Northland, New Zealand (NZ), focused on increasing farm profitability, improving farmer wellbeing and increasing environmental sustainability. The contribution of this study is three-fold. First, from a theoretical perspective, the article adds to the current literature by conducting an empirical test of the framework proposed by Knook and Turner (2020) and expanding this framework by identifying the role of different change actors and specific mechanisms for change around wellbeing. Second, it addresses a gap in literature by looking into the 'human wellbeing' of farmers, such as personal development and improved connections with wider society. Third, from a policy perspective, it provides change agents and developers of extension programmes with greater knowledge of the change established due to programme participation, as well as the mechanisms associated with this change. The in-depth knowledge will increase understanding of the importance of relationships between programme actors and enhance communication, framing and organisation of future extension initiatives.

## THEORETICAL FRAMEWORK

### Institutional logics

Institutional logics is the collective whole of practices, beliefs and values that are underlying a certain action (Knook & Turner, 2020). The institutional logics approach has been widely applied within organisational studies literature (Thornton & Ocasio, 2018) and is increasingly studied within the rural sociology literature (e.g., Knook & Turner, 2020; Osei-Amponsah et al., 2018). Logics together make up an institution and represent 'the more-or-less taken-for-granted repetitive social behaviours, which give meaning to social exchange and enable self-reproducing social order' (Greenwood et al., 2008, p. 5).

### Institutional change

To achieve a change in institutional logics, a change in the dominant values and beliefs underlying 'good farming' is required (Burton, 2004; Hulst et al., 2020; Inman et al., 2018; McGuire et al., 2013). A number of studies have applied logics to increase understanding of processes of change (e.g., Micelotta et al., 2017). This can occur through the gradual introduction of an additional set of logics to complement existing logics (Micelotta et al., 2017). One medium via which these new logics can be introduced is PEPs.

Previous studies have identified mechanisms by which PEPs contribute to successful behavioural change, such as double-loop learning (Sewell et al., 2014), peer-to-peer learning (Eastwood et al., 2019; Morgans et al., 2021) and the inclusion of new actors (Osei-Amponsah et al., 2018). Knook and Turner (2020) have summarised these different mechanisms in a framework.

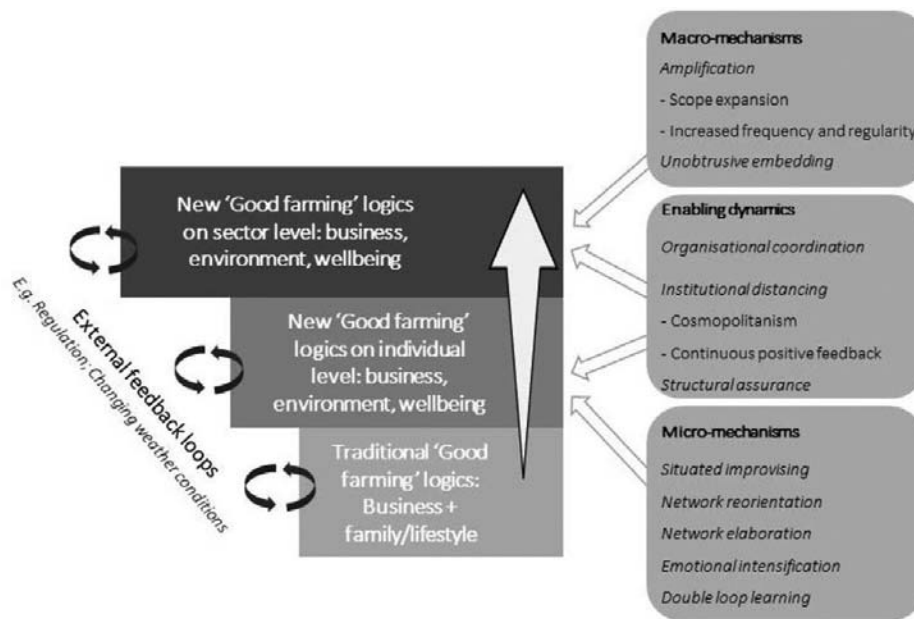


FIGURE 1 Framework for institutional change, adapted from Knook and Turner (2020)

The framework adapted to this study is depicted in Figure 1 and shows four categories of mechanisms needed to achieve change: micro-mechanisms, macro-mechanisms, enabling dynamics and external feedback loops.

The first step of institutional change involves increasing resilience at the individual farm level, this small group of farmers are usually the participants of the PEP. To achieve this change, micro-mechanisms, enabling dynamics and external feedback loops are required. Micro-mechanisms are mechanisms of change that lead to change at an individual farm level. Enabling dynamics provide structural assurance in order to increase resilience on an individual farmer level and consequently lead to change at a wider sector level (Smets et al., 2012). External feedback loops can be an additional motivation for change (Beers et al., 2014; Klerkx et al., 2010). These loops are usually not created by the PEP itself but can be aligned with the PEP, for example, by initiating a PEP prior to new regulation being introduced. The incoming regulation might then create an extra motivation to engage in PEP activities (Knook & Turner, 2020). Macro-mechanisms contribute to changing the dominant logics beyond just farmers participating in the PEP to the whole sector. A detailed description of the mechanisms can be found in Table 1.

## THE NZ AGRICULTURAL SECTOR

Farming culture is an example of an institution, consisting of practices, beliefs and values that constitute 'good farming' (McGuire et al., 2013). Up until the 1980s, NZ 'good farming' was guided by a 'productivist' logic, in which it was believed the best way to run a farm was to maximise production through practices such as intensive grazing supported by mono-cropping and high use of fertiliser (Egoz et al., 2001; Hunt et al., 2013). Due to subsidy removal in the 1980s, the definition of 'good farming' evolved to a focus on running a profitable business, including succession opportunities (Hunt et al., 2013; Knook & Turner, 2020). Currently, there is an increasing interest in resilient farm systems with a multifaceted focus including environmental, profit and wellbeing

**TABLE 1** Description of the mechanisms for the participatory extension programme (PEP) framework of change

Category of mechanisms	Mechanism	Description
Micro-mechanisms	Situated improvising	A stage of experimental learning. For example, after new regulation leads to a need for farmers to develop new practices
	Network elaboration	Bringing farmers in contact with other experts
	Network reorientation	Farmers become knowledge developers in addition to knowledge adopters
	Double-loop learning	Learning over time, which allows the inclusion of feedback loops and the building of trust through sustained interaction with peers and other stakeholders
	Emotional intensification	Occurs when an emotional connection to a new practice is created. This can happen when stakeholders focus on the same activity, thereby working through a problem together. This joint creation supports the development of a new shared set of beliefs and values
Enabling dynamics	Organisational co-ordination	Formalising the practices and outcomes from the micro-mechanism 'situated improvising'. For example, a formalised summary of outcomes clarifies the message and eases the diffusion to other actors
	Institutional distancing-cosmopolitanism	The inclusion of actors with different values, beliefs, and practices. This inclusion might lead to institutional bricolage, in which new practices, beliefs and values from different institutions are pieced together
	Institutional distancing-continuous positive feedback	Actors giving each other positive messages throughout programme participation
	Institutional distancing-structural assurance	Providing legitimacy to a new set of logics, that is, the informal approval or acceptance that stakeholders, such as the public, governments, scientists, policymakers and local communities, grant to an individual business or sector
External feedback loops		The change of regulation or observation of changing climatic conditions (e.g., prolonged drought or flooding) might stimulate a review of current management practices to make the farm more resilient to future change

(Continues)

TABLE 1 (Continued)

Category of mechanisms	Mechanism	Description
Macro-mechanisms	Amplification–scope expansion	Amplifying the change in logics on a wider level, that is, amongst a larger group of people outside the PEP, through adoption of new practices by this larger group of people, such as farmers part of wider discussion groups or informal networks of the participants
	Amplification–increased regularity and frequency	Increased regularity and frequency of a new practice and its terminology due to repetition of practices in other networks
	Unobtrusive embedding	The diffusion of the practice to a field level by a bottom-up approach with active engagement of actors in the practice itself

considerations. This requires the institution of ‘good farming’ to evolve from a focus on business and family/lifestyle logics to greater inclusion of wellbeing and environmental logics (Table 2).

Due to the intensification of agricultural land use in NZ, environmental impacts have been a major focus over recent decades. Nitrate leaching is one major issue, with farmers facing societal pressure to implement environmental farming practices (Knook et al., 2022). In the past decade, the human wellbeing landscape in NZ farming has changed significantly as well. ‘Farmstrong’, a rural mental health organisation in NZ, was initiated in 2015 to help farmers and growers ‘live well to farm well’ (Farmstrong, 2018a). The programme highlights ‘five ways to wellbeing’: (i) connect, which refers to connecting to other people; (ii) give, which refers to giving yourself and others a break, such as off-farm time; (iii) take notice, which refers to taking a moment to pause each day and remember what makes you happy; (iv) keep learning, which refers to taking up new experiences and (v) be active, which refers to aiming for 30 min of movement each day. With this being the most comprehensive and well-known wellbeing initiative for farmers in NZ, and this terminology being frequently used in day-to-day life, we examined the use of the five ways of wellbeing when analysing the interviews in this article.

## METHODS

### The case study: Extension 350 (E350) PEP in Northland, NZ

The NZ pastoral sector (including dairy, sheep and beef) is the country’s largest export sector. This article focuses on Northland—the northern-most region of NZ. Agriculture contributes to 31.8% of Northland’s gross domestic product (GDP), but the potential for further growth of agriculture in this region has been identified (Extension 350, 2021). Northland is home to 3.6% of NZ’s population, yet its regional economy only contributes 2.6% of the national GDP. Between 2005 and 2015, the real GDP in Northland increased by 1.6%; however, it lagged behind the national average of 2.2% (Ministry for Primary Industries, 2015). Therefore, the E350 PEP was initiated in 2016 to stimulate the growth of the Northland pastoral sector through increased farm business resilience—including financial, environmental and wellbeing resilience. The group of farmers

TABLE 2 Overview of the mechanisms of change observed amongst the PEP participants

Category of mechanisms	Mechanisms	Observation in project	Executed by
Micro-mechanisms	Situated improvising	The discussions between target farmers, mentor farmers and consultants led to the identification and solving of on-farm challenges. A key tool—which is where this mechanism links up with <i>organisational co-ordination</i> —was the ‘planning wheel’. A tool that allowed target farmers to identify their values and consequently link up practices that adhere to those values	Target farmers and consultant
	Network reorientation	Collaboration between consultant, target farmers and mentor farmers resulted in an equal playing field in which target farmers could indicate their goals and solutions and problems in achieving those. Experts were brought in based on the solutions/problems identified by those actors	Target farmer, mentor farmer and consultant collaboration
	Network expansion and intensification	Visible on two levels: 1. Collaboration between (unknown) target, mentor and consultant led to network expansion. Especially if also a group of associate farmers was involved 2. When target, mentor and consultant (and associates) already knew each other, the collaboration allowed deeper and more honest discussion	Target farmer, mentor farmer, consultant and associates
	Double loop learning	Three-year continuous engagement of target farmer, mentor farmer and consultant in the programme allowed reflection on changes made in Year 1 and Year 2	Target farmer
Macro-mechanisms	Amplification – scope expansion	Limited observations of this mechanism in this study. Associates were only actively involved in one of the mentor–target couples interviewed	–
	Amplification – increased frequency and regularity	No observations of increased frequency and regularity of concepts outside of the direct mentor–target–consultant group	–

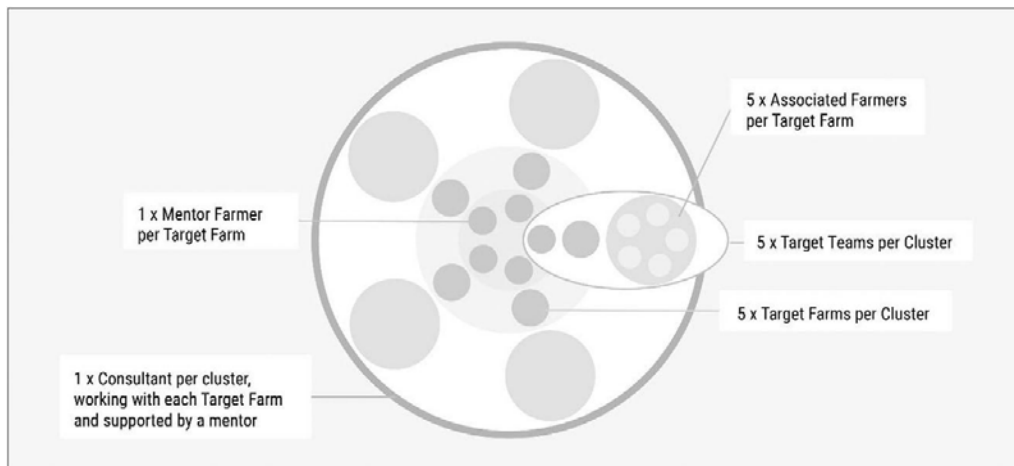
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TABLE 2 (Continued)

Category of mechanisms	Mechanisms	Observation in project	Executed by
Enabling dynamics	Organisational co-ordination	Organisational co-ordination was expressed via different channels: <ul style="list-style-type: none"> <li>– Co-ordinating <i>situated improvising</i> with help of the planning wheel</li> <li>– Providing reports as preparation for next meeting</li> </ul>	Consultant
	Institutional distancing – cosmopolitanism	Provided by including new actors, for example, linking up farmers with regional council around environmental aspects on farm and thereby exposing target farmers to new values.	Consultant
	Institutional distancing – continuous positive feedback	Expressed by providing positive words and support throughout the change process.	Provided by mentor farmer and consultant to support target farmer
	Institutional distancing – structural assurance	Not observed as enabling dynamic, observed as external feedback loop	–
	Engaging and framing	The successful use of the engaging mechanism depended on: (i) clear set-out of expectations for all actors involved; (ii) selection of participants with managerial ability to change	Co-ordinator, consultant and mentor farmer
External feedback loops	External institutional pressures	Stricter environmental regulation has been coming into place since the start of the programme, and co-ordinator and consultants timed the introduction of these new changes to allow farmers to reflect during programme	Co-ordinator and consultant
	External environmental pressures	Participants observed changes in water quality/quantity that stimulated uptake of new practices. Co-ordinator, consultant and mentor farmer were able to highlight these changes and thereby increase farm resilience	Co-ordinator, consultant and mentor farmer

targeted for this programme were those who do not often engage with extension programmes, which we here characterise as ‘the middle cohort’, but are also identified as ‘hard to reach’ farmers in previous studies (Kinsella, 2018; White et al., 2021). A feature of these farmers is they either do not, or only to a limited extent, use the public or private advisory services accessible to them.





**FIGURE 2** Schematic depiction of an Extension 350 programme cluster, which consists of 35 farms overseen by one consultant. Target team consists of: one target farm, one mentor farm and five associate farms. Inner ring in figure depicts the five target farms, who form the core of the programme. They are supported by a mentor farm each (second ring), leading to the involvement of five mentor farms. Furthermore, they are supported by five associate farms each (third ring), leading to a total of 25 associate farms.

In E350, groups of farmers and consultants (termed ‘clusters’) participated for a period of 3.5 years. The project consisted of 10 clusters of 35 farms, thereby totalling 350 farms to be engaged in the programme (Figure 2). Clusters were made up of five teams, each consisting of: (i) one target farm, around which interactions in the programme occurred; (ii) at least one mentor farmer, who via an exemplar role supported the target farmer; (iii) five associate farmers, who attended discussion group meetings with the target and mentor farmers and provided feedback on the progress of the target farm and (iv) one farm consultant, who worked closely with the target and mentor farmers of each target team and passed on insights to the associates at meetings throughout the year via online farmer reporting.

Meetings between the target farm, mentor farmer(s) and farm consultant occurred approximately six times per year. These meetings usually lasted between 3 and 6 h and consisted of a kitchen table discussion and a farm walk. The focus of the sessions was different for each target farm and based on the planning wheel (example included in the [Appendix](#)), a tool that allowed target farmers to identify their aims and goals from an economic, environmental and wellbeing perspective. Examples of topics covered were riparian planting, pasture growth and staff wellbeing. In addition to the six yearly sessions, meetings including the associate farmers occurred twice per year. These meetings also lasted 3–6 h and consisted of a farm demonstration and discussion. Associate farmers were given the opportunity to observe progress on the target farm, provide feedback and ask questions. The aim of these meetings was to stimulate uptake of new values, beliefs and practices by this wider group of farmers.

## Participant selection

Participants were drawn from both the dairy and sheep/beef pastoral sectors in Northland. Since E350 ran for a total of 5 years, there were three intakes: G1 (2017–2020), G2 (2018–2021) and G3 (2019–22). When data collection was undertaken for this article (November/December 2020), G1 had completed programme participation, while G2 and G3 were still involved in the programme.

Therefore, this article focuses on the findings from G1. E350 aimed to include 350 farmers in total (total amount of farmers divided over G1, G2 and G3). Three clusters (cluster is depicted in Figure 2) were included in G1 (four clusters in G2 and three clusters in G3). This meant there were 15 target farms involved in G1, which led the total pool of farmer participants to be 105: 15 target farmers, 15 mentor farmers and 75 associate farmers. Of these 105 farmer participants, 22 were included in the interviews: six target farmers, six mentor farmers and eight associate farmers. To understand the views and actions of all actors included in the programme, the pool of participants was a representative sample of the sheep and beef and dairy clusters involved (see [Appendix](#)). Additionally, one person from the E350 management team and three consultants were included as well to identify the roles of the different actors of change.

## Data sources

The first author, in combination with either the second or third author, conducted the in-depth interviews in November and December 2020. Each interview lasted between 30 min and 1.5 hours and was audio-recorded and fully transcribed. The method of oral history interviewing was used (Bryman, 2012). According to this method, the interviewee was asked to reflect upon their farming practices, beliefs and values prior to PEP participation, to gain insight into their logics of farming. Consequently, the interviewees were asked about changes during PEP participation and what caused these changes. If the interviewee mentioned any changes, a follow-up question was asked to elaborate on the motivation for this change. Hence, follow-up questions depended on the interviewees' responses. The basic interview scheme (although slightly adapted depending on the actor interviewed) is included in the [Appendix](#).

## Data analysis

First, a deductive approach was applied by coding the findings based on the conceptual framework of Knook and Turner (2020; Figure 1). The data were analysed using NVivo 12 (QSR International Pty Ltd, 2018). Triangulation of the coding was undertaken through reflection sessions between all authors. The themes from the coding stage were analysed and compared with the existing conceptual framework to uncover alignment or misalignment with the framework components. Subsequently, mechanisms were identified that did not fit into the existing framework, which led to the formulation of additional mechanisms in a revised framework.

## Ethics

The research was conducted after approval from the Lincoln University Ethics Committee. Ethical considerations in this research included four aspects. First, the risk of participants not wishing to be contacted was overcome by the E350 management team sending potential participants an email asking whether they were willing to participate in our research. The participants were then contacted after confirmation. Second, to minimise potential stress caused by the interview questions, the participants received the interview themes five days before the actual interview. At the start of the interviews, it was highlighted that the participants were not obliged to answer a question they were not comfortable with. Third, to prevent cultural issues, it was assured that the interviewers

had extensive experience interviewing farmers within NZ. Last, confidentiality was assured by anonymising the data and safely storing the data making it only accessible to the researchers.

## FINDINGS

A change in farming values, beliefs and practices was observed among participants in the E350 PEP. Logics of many of the farmers interviewed had moved from primarily a strong *business/profitability* logic, underpinned by a *farming lifestyle* and *family* logic, towards creating a larger space for *wellbeing* and *environmental* considerations. This transition, however, was only observed on a micro-level, amongst the actors most intensively involved in the programme: the target farmers, mentor farmers and consultants.

### The initial set of logics

The initial strong focus on *business/profitability* (pre-PEP participation) was shown during all the target farmer interviews as illustrated by Target Farmer 4 who was a beef cattle farmer.

So, we sort of thought ‘well we need to make more money because there’s not a lot of money in beef cattle farming’. So, we thought if there’s a better way to make it more profitable, we’d like to learn. (Interview 4, target farmer)

This focus on *profitability* was supported by other programme participants, such as mentor farmers. This is illustrated during Interview 11; a mentor farmer was asked whether they felt success was achieved with their target farmer. The mentor farmer indicated there was change but since the productivity/profitability was not optimised, they did not perceive it as the success it could have had:

We had made progress, but like I say my frustration was around—and we even made probably a reasonable success with we grew production by 20% or something like that. That would’ve been a round figure, but there’s so much more to be had. (Interview 11, mentor farmer)

The (initial) strong focus on profitability among PEP participants might be due to the framing of the programme, which was around increasing profitability to gain interest from potential participants. Further questioning about why participants felt profitability was so important showed this profitability was strongly driven by a *farm lifestyle* and/or a *family* logic. The *farm lifestyle* logic was expressed by farmers who mainly wanted their farm to be profitable to be able to continue their life and work on the farm or wanted to make on-farm changes to create the option to retire and have one of their children take on the farm. This was shared by Interviewee 7, a target dairy farmer who was looking at retirement options in the near future.

We’d like a little bit more work/life balance. Like to see one of our daughters come home, but we shall see. So, get us forward thinking and we’d like to get off the property within probably 10 years. That’s probably one of the things that’s helped us with

the succession planning, the E350 because that was part of our thing, so that's made us look at what we want after [retirement] and going forward, making it easier for everybody because we're not getting any younger. (Interview 7, target farmer)

This highlights how participants often expressed a dual logic: a *business/profitability* and a *family/lifestyle* logic, in which a focus on *profitability* is necessary to keep the *business* running, but even though sometimes selling the farm might be more profitable, the *family/lifestyle* logic keeps the interviewees on the farm.

## Towards a multifaceted set of logics

E350 participants showed a change in logics from *business/profitability* and *farming lifestyle/family* towards creating a space for *wellbeing* and *environmental* considerations. This transition, however, was only observed amongst actors most intensively involved in the programme: the target farmers, mentor farmers and consultants. Associate farmers did not show this change, which might have been due to their limited involvement in the programme. The target, mentor and consultant team met up six times per year, whereas the associate farmers were, in most cases, only involved once or twice a year.

## Inclusion of wellbeing

Explicit inclusion of wellbeing in day-to-day practices, and as a factor in decision-making, was a novelty for many of the participants. Interviewee 13, a mentor dairy farmer who had been farming for almost five decades, illustrated this by indicating that previous to programme participation, 'wellbeing' was an unfamiliar concept. Participating in the programme did not only introduce this interviewee to the concept, but it also normalised talking about it.

It was a term that I wasn't really familiar with until probably almost at the beginning of E350. Prior to that it was almost called—well if there were any issues it was mental illness or a breakdown or call it what you will, whereas there's certainly been a move towards it being normalised, and when I say normalised the dialogue around wellbeing, it's certainly more commonplace. (Interview 13, mentor farmer)

Part of this normalisation was being able to comfortably bring up the topic in conversation. In interview 7, this was nicely illustrated by a husband and wife running a dairy farm. They illustrated this by taking their employee as an example:

Our worker was [feeling] down and we're like we've got to do something about this. So, we now always ask him every morning how he's feeling. It doesn't seem like a big thing, but it is a big thing just to ask somebody that. (Interview 7, target farmer)

Further questioning resulted in an overview of the aspects of wellbeing farmers implemented for change. The first aspect was via connection to on- and off-farm farmers, and Target Farmer(s) 7 added:

We enjoyed meeting a lot more people. People that we didn't know, and they were in the same kind of thing. When we went, it had sheep and beef in it too, they were sheep and beef farmers as well. And just listening to other people's stories and where they've come from and where they wanted to be. Just meeting new people really, likeminded people too, and they all wanted to learn and grow and grow their businesses and that. So we were all in the same place. (Interview 7, target farmer)

Another aspect of wellbeing that was mentioned in the interviews was giving and taking a break. Most target farmers had included this in the goals they had set during the first meetings of the programme. Interviewees 11, a husband and wife running a dairy farm, had been farming for almost a decade and indicated the desire to take a holiday each year.

We wanted to have a holiday once a year. [...] We've been working every day since June, July. So, we wanted to make sure we had a 10-day break off the farm, which we did. (Interview 11, target farmer)

The same was outlined by the interviewees of Interview 4, a husband and wife running a sheep and beef farm, who due to setting the initial goals realised the importance of time for the family.

If we weren't a target farmer, we wouldn't have even thought of it. So it did make us aware [...] and we sort of wrote down things like that. We've now got weekends off, we've got holidays once a year with family, we've got some help now. So it's given us more of a rounded view around the farm. (Interview 4, target farmer)

Furthermore, farmers participating in the programme indicated the value of continued learning. All farmers participated in the programme voluntarily, which indicated an interest taking up new learnings about farming. In addition to that, the programme offered specific training courses, which were highly valued by the participants and contributed to their wellbeing. Interview 9 was with a husband and wife running a dairy farm. They illustrated the importance of learning by telling us that the course provided them the time to really understand the farm and understand each other's future wishes for the farm.

It was good to focus on that [we] are on the same page, or knew that we were on the same page, so that was good. And having, you know, having that time that we had to focus on the farm and us. (Interview 9, target farmer)

However, there was not much mention of actual on-farm changes on a day-to-day basis, such as keeping active and taking notice of the good things happening on the farm on a regular basis.

## Inclusion of environment

Besides wellbeing and profitability, the programme also aimed to increase resilience related to environmental challenges. Although participants indicated to have made changes around the environment, most of this was in response to pressure around incoming regulation, or the realisation that increased resilience against increasing drought risk was required to be able to maintain a profitable business. Other examples of environmentally friendly practice uptake included

planting the riparian margin alongside waterways. This was strongly driven by the Northland regional council (the local government authority responsible for environmental regulations) as indicated in Interview 16 with one of the farm consultants.

Well, environmental was almost an add on [...] Northland regional council were funding this so we're better to talk about environment. (Interview 16, consultant)

This indicates that although the participants did take up environmental practices, this did not necessarily embed an environmental logic in their decision-making but was mostly driven by pressure from (local) government and the necessity to keep the farm running. This indicates that participants in such PEPs can shift their outlook on the farm more towards the future, and consequently realise certain changes are required to future-proof the farm, in which environmental considerations might essentially become part of the *business* logic.

## Mechanisms of change

The findings show a transition from a *business* and *lifestyle/family* logic to a wider set of logics that includes *wellbeing* and a change in the beliefs underlying the *business* logic, that is, from a pure profitability focus to the inclusion of environmental (compliance) aspects. This section focuses on specifying the mechanisms of change observed during the programme (based on the framework outlined in Section 2) and PEP actors influential in stimulating the mechanisms of change.

### Micro-mechanisms

Micro-mechanisms significantly contributed to change amongst the PEP participants. One of the essential tools used in the programme, and mentioned by all farmers and consultants, was the 'planning wheel'. This farm business planning tool aimed at helping farmers identify their purpose, vision, values and guiding principles (example included in [Appendix](#)). The planning wheel was filled in at the start of the 3-year programme and allowed *situated improvising* in a structured way, which resulted in a framework for change. This was one of the first steps in stretching the set of logics, for example, as participants realised that their life values were not only based around profitability but also around wellbeing by setting a good work–life balance. Interviewees 11, a husband and wife running a dairy farm, mentioned that goal setting made them realise the importance of time off-farm.

The planning wheel made us realise we wanted to have a holiday once a year. So, because [my partner] is the only one on this farm, he has been working every day since June, July. So, we wanted to make sure we had a 10-day break off the farm, which we did. (Interview 11, target farmers)

The planning wheel led the target farmers to take ownership of the change they wanted to make on farm, which stimulated *network reorientation*. Furthermore, the collaboration with new actors, not only mentor and consultants but also people from the regional council, for example, allowed *network expansion*. A new mechanism that was observed was *network intensification*.

The participants indicated that they knew of most other farmers in their district, but that it was difficult to have a meaningful conversation about the farm because it often ended up in a competition around production, without understanding the background of the farm. The PEP changed that, by providing a platform in which, for example, farm data could be exchanged and challenges could be shared. The last micro-mechanism, *double-loop learning*, was observed amongst all participants interviewed as they completed 3 years of programme participation. One of the dairy mentor farmers illustrated this by outlining how they approached change with their target farmer.

It's probably small—at the start, we were more looking at what they were doing for the first 12 months before you try to change the big picture too much. That gives you time to build up a certain amount of—a good relationship, good working relationship. (Interview 8, mentor farmer)

## Enabling dynamics

Enabling dynamics play an important role in change. First, this study highlighted a new mechanism: *engaging and framing*. Before the initiation of the 3-year PEP, the co-ordinators, consultants and mentor farmers conducted a screening and engagement process to identify the target farmers suitable for the programme. This was explained by one of the members of the management team.

If you think of the project approach, we wanted people in the middle of that population curve as target farmers. And we said we didn't want [farmers in the] upper quartile because they're going to do their own thing, they're going to change anyway, bottom quartile is too hard to change. (Interview 1, E350 management team)

The E350 management team made sure the selection of participants was done collectively to improve buy-in from all stakeholders as explained by one of the consultants:

We got a group of potential mentors together, and we asked them who they would like to work with. Or who they knew would be good target farmers. And then they went and shoulder-tapped the target farmers initially, then they'd come to me for more information and then we'd have a formal meeting. (Interview 14, consultant)

As illustrated in the previous section, *organisational co-ordination* was provided via a planning wheel and (although not in all farmer groups) providing reports for attendees in preparation for the next meeting. This was successful in one of the groups with the associate farmers, in which the consultant co-ordinated this initiative.

Institutional distancing was only successful amongst the core group of target-mentor farmers and consultants. *Continuous positive feedback* was provided by, for example, the mentor farmer as illustrated in Interview 7:

Farmers learning from farmers, yeah, but both ways I guess, like the mentor [...] made you feel like you were doing—never ran you down and he always said, 'You're doing really well', so that was cool. (Interview 7 target farmers)

The consultant played an important role in providing this feedback to participants and in introducing new actors with different beliefs, an example of *cosmopolitanism*. This was initiated in a stepwise fashion and built on gaining initial trust among actors:

We left [the introduction of new actors] until we had some confidence and trust, that we had built with the farmer, and we said now we're going to do this process, it's going to be great for you based on these things. These rules are coming, and you've been given an early lead in knowing how your farm stacks up against the rules and regulations, so because we had built that trust I think it was easier to then get them on the bus, heading down the environmental route, involving the council on farm. (Interview 16, consultant)

The last step of organisational co-ordination, *structural assurance*, was mostly provided via external feedback loops, which will be discussed in the next section.

## External feedback loops

Interviewees mentioned two external feedback loops that stimulated change: (i) *external institutional pressures*; (ii) *external environmental pressures*. None of these feedback loops was directly created by members of the programme but positively influenced change during the programme.

Over the last decade, there has been increased regulation around the environmental performance of farms in Northland and throughout NZ. *External institutional pressures* influenced the environmental practices of E350 farms, but regulation was not a strong driver for change in wellbeing practices. The same was observed for a second feedback loop, *external environmental pressures*, which refers to the observation of changing weather and soil conditions. A significant drought occurred during the PEP, and over recent decades, the case-study area has faced an increasing occurrence of drought, requiring an increased resilience against natural events. Although some interviewees indicated an increase in mental distress due to these feedback loops, micro-mechanisms and enabling dynamics helped them address these stresses.

## Macro-mechanisms

The main challenge observed in the programme was reaching farmers not directly part of the core team, also known as the 'associate farmers'. Each target—mentor—consultant cluster aimed to have a group of five associate farmers, who would approximately twice a year come together to discuss challenges and opportunities, which would offer an opportunity to reflect and to introduce lessons into the wider community. Due to aspects such as miscommunication around the organisation of meetings and limited farm system similarity in certain areas, only one target—mentor—consultant group managed to get a successful group of associate farmers together. Due to the limited observations we could make on this cluster, no robust conclusions could be drawn regarding the presence and successful implementation of macro-mechanisms.

## DISCUSSION AND CONCLUSION

This study examined the change generated by an NZ PEP focused on increasing resilience in profitability, wellbeing and environment. The findings show that participation in the PEP contributed



to shifting the focus on *business profitability* to the inclusion of an *environmental* focus, which was mostly caused by the need to become environmentally compliant and remain profitable while facing climate-related challenges, and a *wellbeing* focus. The study also explored the mechanisms behind this change and which actors contributed to each change mechanism. It was found that change was established in this PEP because of the involvement of all actors, providing different support and ideas at different times. The multifaceted action led to better environmental and wellbeing outcomes. However, change on a sector level was not established during PEP participation. In this section, the implications of a wider set of logics and the framework of change are discussed, as well as areas for further research.

## A new set of logics

In line with previous studies, we have shown that participation in a PEP can contribute to stretching the current set of logics (Knook & Turner, 2020). One aim of this study was to assess whether environmental and wellbeing resilience were included in the new logics. The study showed that wellbeing is intrinsically connected with other mechanisms and logics, with the implication that PEPs must simultaneously address a plurality of logics, for example, profitability and environmental aspects, as it is difficult for farmers to have good wellbeing while being under financial pressure (Klerkx, 2020). A key mechanism to address and incorporate this plurality was the use of the planning wheel during *situated improvising*. The wellbeing component of the wheel was often not a 'separate' challenge but incorporated across the business, for example, increasing farm workplace efficiency leads to more time to spend with family or hobbies.

Furthermore, the study shows that to allow the development of new values, beliefs and practices around wellbeing, farmers need to have a 'safe' environment, which takes away the pressure to conform to the existing dominant logics, such as a sole focus on increasing profitability on farm (Knook & Turner, 2020). This requires a delicate balance between *network elaboration*, *intensification* and *reorientation*, followed by a period in which reflection within the core team can take place, thereby creating a safe environment necessary for the successful implementation of new practices (Cofré-Bravo et al., 2019). Some of the mentors and consultants in the programme were highly aware of this delicate balance and outlined a process by which they approached change. At the initiation of the programme, only small changes were suggested to build trust amongst the target farmers. Subsequently, in Year 2, the target farmers were introduced to a wider set of actors and challenged to make bigger changes. This then led to a period of reflection in Year 3, after which minor and major changes were implemented. This demonstrates the importance of *double-loop* learning as is supported by previous studies (Knook & Turner, 2020; Sewell et al., 2014) and the importance of interaction between actors part of the programme, who can jointly develop a new set of logics (Burton & Paragahawewa, 2011) and find support with each other while doing so. Last, this study showed that 'wellbeing' is a relatively new topic of conversation in the farming community. The value of the extension approach of this study is that wellbeing is integrated into the financial and environmental performance. Therefore, when introducing a new topic such as wellbeing, there might be more acceptance when it is tied in with topics comfortable to discuss, such as finances.

Although the study shows the introduction of a new wellbeing logic, there is a focus on only certain aspects of wellbeing. Following the terminology used by Farmstrong, we see that in the PEP, we mostly observed a focus on 'connect' (to others) and 'keep learning' (about new

experiences). 'Give' (yourself a break), 'take notice' (of what makes you happy) and 'be active' have been integrated to a lesser extent. We did not observe a daily focus on taking a break and appreciating what makes participants happy. Although frameworks have been developed to measure wellbeing (e.g., Brown et al., 2021), there is a need to develop a specific framework to capture and stimulate the implementation of those micro wellbeing changes on an on-farm level.

Findings from this study have contributed to knowledge related to the integration of wellbeing logics into the wider institutional logics of farming, that is, introduction of such novel logics benefit from co-introduction with existing logics, such as profitability. A second contribution can be found in the importance of the inclusion of multiple actors to achieve change as mechanisms of change are often activated when information is communicated by both peers and other experts.

## Limitations and areas for further research

The PEP evaluated in this study focused on the 'middle farmer'. In NZ (and many other countries, such as the UK) being a 'good farmer' is linked to running a profitable business (Knook & Turner, 2020). Our findings indicate that co-ordinators and consultants selected the mentors based on this dominant 'good farmer' criteria, so, for example, 'successful' mentor farmers had a low level of debt and a 'work hard' mentality. These dominant values amongst consultants and mentors might have led them to not always see the target farmers as successful, when they did not optimise their profitability, but instead focused more on time off-farm to improve their wellbeing. Further research is required into the influence of this dominant 'good farmer' identity on the evaluation of success amongst PEP farmers. Furthermore, as it has shown, it is hard to identify and define the 'middle farmer', and future work should focus on 'middle farmers' in different regional, socioeconomic and socioenvironmental contexts.

Second, the current study only focused on the G1 cluster in the programme, which was initiated in 2018. Since 2018, the pastoral care landscape in NZ farming has changed significantly. Farmstrong conducted a study in 2018 and found that the majority of young farmers were faced with at least one mental health challenge that had a large, or greater, negative impact on their wellbeing (Farmstrong, 2018b). Since then, the topic of wellbeing has been promoted by a number of NZ organisations, such as the Mental Health Foundation, the Ministry of Health and the Rural Support Trust. Hence, evaluating G2 and G3 might show importance of these wellbeing initiatives as an *external institutional feedback* loop, considerably constituting to wellbeing change.

Third, we have observed a change amongst most of the participants directly involved in the PEP. We, however, have not observed the uptake of a wellbeing logic amongst the associate farmers, who were involved on the periphery of the PEP. Difficulty with upscaling PEPs has been observed in previous studies (e.g., Knook et al., 2020b). Therefore, future research should focus on how to activate macro-mechanisms, by, for example, stimulating consultants to introduce tools and knowledge gained in the PEP with other clients.

Last, this research has provided insights into change within a culture of farming from a multi-stakeholder perspective. However, this study has not provided insight into the relative importance of each of the mechanisms, especially in relation to the different outcomes. Quantification of the relative importance could, for example, contribute to the set-up of an *ex-ante* assessment tool. Currently, a significant annual public investment is made in PEPs, in not only NZ but also in countries such as the UK (e.g., Knook et al., 2020b). The findings of this current study could contribute to such as model by knowing which actors are responsible for change.

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## CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

## DATA AVAILABILITY STATEMENT

Research data are not shared.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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