

Northland Dairy Farmer Resilience Study Summary

Project brief

“Towards Resilient Farm Businesses in Northland” is funded by MAF’s Sustainable Farming Fund (SFF). The project sought to establish a better understanding of how landowners perceive risks around adverse weather events and to identify the factors that influence their actions and decision making in relation to such events.

The aim of this study was not to statistically analyse levels of resilience in Northland agriculture but to build a picture of factors that were influencing farmer/horticulturalists resilience and to use this knowledge in following years to assist farmers and organisations involved in aiding rural recovery from adverse.

What we did

Three focus groups were held with the three main sectors that make up Northland agriculture: beef/sheep; dairy; and horticulture (avocados). A focus group sought to identify participants’ experiences and responses to adverse weather events. The information collected was then used to inform the following farmer interviews that sought a greater depth of understanding of the issue. Ten semi-structured interviews were undertaken in each of the three sectors across Northland. Farmers were asked questions based around five main themes: farm demographics; historic storm experience; impact of the 2007 storms; response to the 2007 storms; information sources that were useful. This summary reports on the dairy sector of the study.

What we found

Adverse weather events were experienced differently depending in which area of Northland respondents lived. For some, wind was the root of the damage, while for others flooding was. Differences also occurred amongst participants who experienced flooding. For some, the water receded after 24-36 hours. While for others, flood water took at least a week to completely leave the farm. As one respondent summed up, “*every district within Northland and soil type has its advantages and disadvantages*”.

Priorities

The number one priority for every participant was the stock, making sure they had enough feed and were not in any potential danger. Depending on the time of year, making sure the cows could be milked was very important, for the health of the animal and the economic well-being of the property. Second, was repairing damage to infrastructure. For example making sure the cowshed was functioning correctly and fixing fences to keep stock in. Household safety was also important, however for the majority of the participants, the needs and comfort of their families came second to the stock. Household strategies were already in place to allow the functioning of the household while power was down.

Adaptation strategies to adverse weather events

Preparation

Keeping a close eye on the weather patterns was an important element for the majority of farmers. As one participant noted *“it can be fine here and we still end up with a flood”* as the river running through their valley has a catchment over 50kms long. Watching the weather patterns meant that farmers could implement temporary on-farm strategies, for example moving cows to high, sheltered paddocks. These temporary and permanent strategies are discussed further in the following sections.

Permanent strategies

The majority of dairy farmers interviewed had adapted their farm system over time to make it more resilient. Strategies varied between farms and were influenced by location, topography, soil type and available resources. These strategies were also influenced by the length of time farmers had lived or worked on the property, *“[I’m] learning after each event”*. Table 1 illustrates the different strategies adopted by farmers to reduce damage caused by adverse weather events, especially storms.

Table 1: Permanent on-farm strategies

Strategy	Number of respondents
Brought a generator to run cowshed	3
Stand-off pad	3
Change fences near waterways	6
Two wire fences	9
Rotation of pasture – flat paddock then rolling paddock.	1
Enough supplementary feed so animals not stressed	8
Don’t plant crops on flats which flood	2
Cut down potentially dangerous trees	6

Another aspect of adaptability is to learn by doing, this allowed established farmers in the district to help newcomers. For example, one respondent noted that they did not plant winter crops on their flat land near the river as they had *“learnt the hard way...crops destroyed every year by floods”*. They went on to comment that although they had explained this problem to newcomers to the area, the newcomers did not listen and planted a winter crop on their flats – only to have them destroyed by flooding, *“but next year he didn’t plant any”*. This augments Lee’s (1993 cited in Gooch and Warburton 2009) comment that learning from one’s experiences and then sharing this information with others is an important element of adaptive management. Thus, the farming system is continuously developing to become more resilient as the farmer learns from their own and others experience. Communicating these learning’s to others is a critical part of creating resilient farming systems. However, if other farmers are not willingly to listen then they will need to learn from experience. The majority of respondents commented that *“talking to neighbours helps”*.

Temporary strategies

Although farmers had adapted their farming system through a number of permanent strategies to build resilience towards adverse weather events, a number of temporary strategies were also adopted (Table 2).

Table 2: Temporary on-farm strategies

Strategy	Number of respondents
Have access to a generator to run cowshed	2
Milk cows through neighbours shed	2
‘Safe’ paddocks for animals	4
<i>Don’t put cows on the ‘flats’ when you know rain is coming</i>	7
Fast pasture rotation	2

Farmers had put systems in place for their households to cope during these periods. These strategies had been adopted due to past experiences of adverse weather events. Respondents noted that they could survive without power due to the strategies in place, including, having a gas barbeque and tank water for the toilet. However, one respondent noted that *“not showering for 4 days after working on the farm wasn’t that pleasant”*.

External resources

Assistance

Having access to outside resources to keep the dairy farm system operational is important for resilient systems. For example, one participant heard about Task Force Green on the radio and got their phone number from a friend. He didn’t like asking for help but *“in extreme situation [it’s] ok”*. A team came onto the property for four days to clean debris off fences, re-staple wires and generally get the fences to a standard so that they were stock proof, *“couldn’t have got it done without them”*.

For another, July 2008 saw a flood hit the farm during the middle of calving *“the most full-on time of the year”*. As a result there was no current running through the fences on the flats. *“[I] wasn’t coping”*. For the first time since farming on the property, he *“brought in two men who worked seven days, eight hours a day to get the fences stock proof...relief”*.

Information sources

The majority of dairy farmers had not seen the DairyNZ published booklet on how to manage in a flood. For the few that had they did not find it very useful as *“what it was saying I already do”* and *“its good to know that what you’re doing is right”*. Other respondents spoke about ‘information overload’ due to the number of farming publications they receive in the mail. Instead, farmers believed that the best information source on local adverse weather events was past experience and local knowledge.

Challenges to building resilience

The time of year which the event hits has a big impact. Farmers commented that many events hit during calving when *“stress levels are nearing maximum or already there”*. They noted that during this time all farm staff are working extremely long hours and having to repair damage caused by bad weather was an added stress they didn’t need. As mentioned earlier as many participants had been on their properties for a number of years they knew the warning signs and had systems in place. However, *“you cannot be prepared for everything”*. When storms hit during calving, it is vital that cows are getting milked, so calves can be fed. Also there is the extra worry about keeping calves safe. As one participant noted *“first couple of seasons were hard...didn’t know what to expect...but now ok”*.

Another challenge for farmers was the lack of capital to make repairs and/or implement strategies to increase the resilience of the farming system.

Challenges also exist between generations. For one farming system, tension existed between the 50:50 sharemilker, who had been on the farm for two seasons, and the owner. Although the sharemilker had learnt from past adverse weather events and wanted to adapt the farming system, the owner did not. He noted it was *“frustrating doing same job again and again due to no fault of your own”*. The sharemilker commented that the advice given by locals in the area was invaluable and helped him prepare for the flood season.

For another, his sons coming home on the farm and seeing the system with *“fresh eyes”* has created tension. While he had systems in place which he believed worked well, his sons did not always agree and they had new ideas and methods for making the property more resilient.

Furthermore, what farmers consider to be disruptive to their farming system varied across interviews. For the participant whose property flooded on average four times a year, *“all the floods don’t put me off”...“like anything you get good and bad...take good with the bad and you cope with it”*. Although the constant flooding made farming the property difficult at times, he believed that *“45% under water gives you options...wouldn’t want to go to a farm which was 80-90% flooded, doesn’t give you any options, you really stuff yourself”*. They considered themselves to be lucky as the *“floods [that] come up, [are] normally gone in 24 hours...not like the Hikirangi”*. However, other respondents commented that they would not buy a property in a known flood area.