

2018

Preparing a Team to manage a
severe Storm/Flood across
multiple Dairy units: How do you
prepare your Business?

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Kellogg Rural Leadership Report

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Executive Summary

Severe storms and flooding are occurring in New Zealand more with more impact to our people and environment. How prepared for an Emergency is critical to how an event impacts your business is significant to a profitable farming system. Methods used for this report is a comprehensive analysis into regional emergency response giving the understanding of the complexity's involved in levels of response, process behind declaration of local state of emergencies, structure and roles of decision makers. Analysis also looked at industry bodies recommendations giving this report trends of common themes in response plans. Research into the regional response system highlighting structure and roles within community's emergency response such as the (CIMS) model to build a robust business plan show that with reoccurring weather events Household emergency plans, Personal workplace emergency plans and thorough reviewing the plans with staff and updating getaway survival kits is key to being prepared in your household and your business. With research that extreme weather events are becoming much more common not only in New Zealand but across the world, between 1990 and 2014 there were more than 8,000 weather related disasters with floods, hurricanes and epidemics being the most common. (IMF Blog insights and analysis on economic and finance- climate change) shows 25 years of research proves 38% of natural disasters are severe floods with 16% Tropical cyclones. Declaring state of local emergencies is made up of a number of Authorities or Mayor and Local Councillor. A state of Emergency is declared when the special powers within the Civil Defence Emergency Management (CDEM) Act 2002 are required to coordinate the emergency. The special powers can only be used if the event meets the definition of an emergency as defined in the Act. The CDEM defines an emergency situation where flooding, storms, tornados earthquakes and many other natural disasters. Also where there is significant risk to injury or life or in any way endangers the safety of the public or property in New Zealand. There are five levels of response with level one being a local incident or response activities dealt with by an emergency service, Local Authority or other responsible organisation without the activation of an EOC (Emergency Operations Centre). Level 5 being National Coordination with a regional level response being activated to direct, coordinate and support incidents with regional or national implications at the National Crisis Management Centre (NCMC). Analysis of industry recommendations has picked up the trend of three key areas Preparation, Response, Recovery. Under the Health and Safety in Employment Act, businesses have an obligation to be prepared for an emergency. Workplace Emergency Plans which includes communicating my get home plan, work get home group, my get home plan, personal and family information are a successful way to prepare your teams and need to be communicated frequently so all staff understand what the plan is when preparing for a storm or flooding. Safety of stock is protecting a significant asset to your property when preparing for weather event some common trends through analysis have been stock on highest ground, shelter is extremely important as stock lose body temperature when wet, access to fresh stock water. Response during a severe storm of flood it is highly recommended by industry bodies and Civil Defence to listen to your local radio stations as emergency management officials will be broadcasting advice for your community and situation. Filling bathtubs, sinks and storage containers with clean water in case water becomes contaminated, consider using sandbags to keep water away from your home, ensuring you and your staff have household emergency plans in place, do not attempt to drive or walk through floodwaters unless it is absolutely essential. Recovery from a severe storm or flood can be a significant job. Making sure family, staff and neighbours are all ok is priority. Checking and securing stock with fresh stock water and report any power or phone faults. If power is out, look for trees over lines, fallen poles. Treat all lines as live. Check farm

buildings and infrastructure including roads and races. Research suggests long term mitigation strategies on your property such as strategic planting of willows or poplars, having adequate supplementary feed on hand, having all pumps above flood levels, having an older styled telephone that doesn't require power, having a car charger if you have a cell phone, having stock in good condition as healthier stock are more resilient which gives you more management options during difficult times, reviewing your insurance cover regularly, is it economical to buy a generator? Potentially in partnership with one or two neighbours. So how Prepared is your Business?

1.0 Acknowledgements

I would like to thank the Management at Buller Civil Defence for the in depth tour through the systems and processes at and giving me the understanding of the complexities behind the communication channels in an Emergency situations. Thank you to my employer Pamu Farms of New Zealand who have supported me endlessly through my career and to complete the Kellogg's program

To my fellow Kellogg participants thank you for all the support throughout the program you are a very intelligent group of industry leaders who I will never forget being on this journey with. Thank you Patrick Aldwell for all the advice and direction through the program

To my wife Charlotte for supporting me and the household through my absence in the program.

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1.1 Acronyms

CIMS	Coordinated Incident Management System
EOC	Emergency Operations Centre
ICP	Incident Control Point
GEOC	Group Emergency Operations Centre
NCMC	National Crisis Management Centre
CDEM	Civil Defence Emergency Management
MCDEM	Ministry of Civil Defence Emergency Management
CEO	Chief Executive Officer

2.0 Introduction

When a severe storm or flooding takes place there can be significant disruption to Agricultural businesses through Health and Safety of workforce, damage to assets, loss of production which then leads to financial impacts. This report will assist Agriculture leaders preparing businesses to understand the process of communication of regional emergency services to implement a robust preparation plan to prevent and minimise potential damage and disruption to Agriculture businesses. Examples of disruption to farms is the article by (Gerald Piddock,2017) storm/flooding that affected Edgecombe where locals reported Cyclone Debbie had 2000 people evacuated in the town with farmers reporting their entire properties under water wiping out entire crops, loss of stock and severe damage to infrastructure including buildings and fences forcing the Fonterra factory to close. The recent Takaka flood where the Takaka hill was closed off for 6 days Senior Hydrologist Martin Doyle reported and quotes “No extreme short term intensities were recorded, but the sheer volume of rain was exceptional. In some areas a quarter of the normal annual rainfall fell in those 48 hours. The most startling rainfall was in Takaka, where a third of the town’s annual rainfall fell over two days” (Fiona Terry, 2017). Additional building inspectors, geotechnical engineers, Civil Defence staff and earthquake commission teams were brought in to assist. Inspections were carried out on more 300 properties throughout the region, 4 days after inspections started 139 properties had either been red or yellow stickered with some areas on notice to boil water. Shipping containers had been installed as barricades to help the re-opening of Rocks Road and supplies airlifted into cut off areas including Cable Bay. Minds turned to the potential economic repercussions. Emergency response teams were sent to assist dairy farmers in Golden Bay, who were forced to dump 500,000 litres of milk when supply routes were blocked. Recovery from a severe storm or flood can be a significant job. Making sure family, staff and neighbours are all ok is priority

2.1 Report Purpose

The purpose of this report is to understand emergency response at a regional level to assist in emergency preparation for Agriculture businesses also with comprehensive analysis of industry bodies' recommendations of emergency response with consolidation in one report of trends throughout the analysis.

2.2 Scope of this report

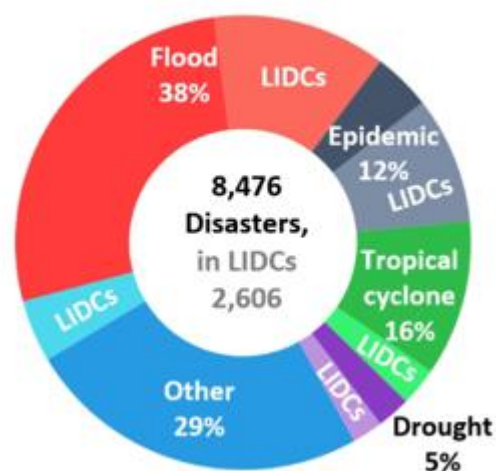
The scope of my research is to give understanding of systems and processes behind our local emergency response with recommendations on what key things should be in an emergency plan when preparing multiple dairy units for a severe storm or flooding.

3.0 Discussion

Natural disasters are becoming more common not just in New Zealand but across the world. Between 1990 and 2014 there were more than 8,000 weather related disasters with floods, hurricanes and epidemics being the most common.

In a sample of 228 countries and territories the research (IMF Blog) looked at the historical relationship between the occurrences of each type of weather related natural disaster. The table below shows examples caused by hurricane, flood or wildfire, monthly weather patterns over the past 25 years. With this type of research it is imminent that agricultural businesses in New Zealand have robust emergency preparation plans in place.

Weather-stricken
Natural disasters are more frequent in low-income developing countries relative to their land area.



(IMF Blog insights and analysis on economic and finance- climate change, Home page)

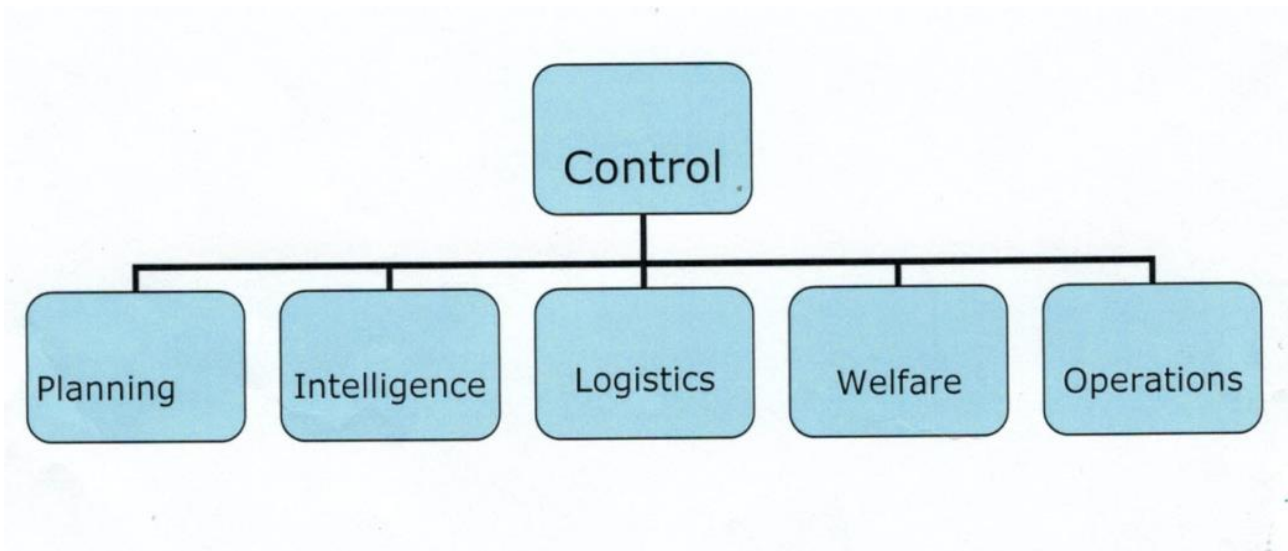
2.1 Regional response

Emergency response at a regional level is called The New Zealand Coordinated Incident Management System (CIMS). The functions of Emergency Operations Centre (EOC) are directly comparable to those provided for within the New Zealand Coordinated Management System (CIMS).

The overall purpose of a local or agency (EOC) is to provide coordination, direction and logistics support to Incident Coordination Points (ICP) and to field response directly under the control of the Emergency Operations Centre (EOC)

The common core functions are:

- Control
- Operations
- Planning
- Intelligence
- Logistics
- Welfare



Core (CIMS) functions organisation chart

(Table sourced from Emergency Operations Centre Guidelines manual)

Coordinated Incident Management System (CIMS) Principles:

The Structural principles outlined in the (CIMS) manual are as follows

- Common structures, roles and responsibility
- Common terminology
- Modular and scalable
- Responsive to community needs
- Integrated information management and communications
- Resource coordination
- Designated response facilities
- Manageable span of control

Core EOC Functions and roles

Function	Role
▪ Control	Coordinates and controls the response
▪ Operations	Responsible for coordinating all local-level response operations in support of the emergency site response through implementation of the Action Plan.
▪ Planning	Leads planning for response activities and resource needs.
▪ Intelligence	Collects and analyses information and intelligence related to context, impact and consequences; also distributes intelligence outputs.
▪ Logistics	Responsible for acquiring and providing facilities, services, personnel, equipment, materials and all financial activities within the EOC facility.
▪ Welfare	Responsible for overall coordination of welfare throughout the area. This may include, but is not restricted to, registration of displaced people, accommodation, catering, clothing, psychosocial support, financial and first aid.

(Table sourced from West Coast Civil Defence Emergency Management Group)

4.0 Declaring State of Local Emergency

A State of Emergency is declared when the special powers within the Civil Defence Emergency Management (CDEM) Act 2002 are required to coordinate the emergency. The special powers can only be used if the event meets the definition of an emergency as defined in the Act. The CDEM Act defines an emergency as “a situation that:

- (a.) Is the result of any happening, whether natural or otherwise, including without limitation, any explosion, earthquake, eruption, tsunami, land movement, flood, storm, tornado, cyclone, serious fire, leakage or spillage of any dangerous gas or substance, technological failure, infestation, plague, epidemic, failure of or disruption to an emergency service or a lifeline utility, or actual or imminent attack or warlike.
- (b.) Causes or may cause loss of life or injury or illness or distress or in any way endangers the safety of the public or property in New Zealand or any part of New Zealand.

- (c.) Cannot be dealt with by emergency services or otherwise requires a significant and coordinated response.

The decision to make a declaration is taken by the person appointed to do so in the Local Authorities CDEM plan, usually the Mayor or a Local Councillor. However, the decision to declare should not be made until after consultation, where possible, either in person or by telecommunication with

- Group and Local Controller
- Local CDEM Manager/ Officer
- Regional MCDEM staff
- Police – at local or Police District level as appropriate
- Fire Service- at local or fire district level as appropriate
- Other agencies- at local or regional level as appropriate
- Local Authority CEO and / or senior staff (when appropriate)

As part of the consultation process the person considering the making of a declaration has a number of questions that need to be considered:

Are the emergency response organisations able to manage the event and respond effectively without the powers, coordination and direction that a declaration can provide?

Will a declaration be likely to improve the situation?

Do the group Controller and respective Local Controller recommend a declaration?

The timing of the declaration will depend on the nature of the event and the information available. However the following should be considered:

Early rather than late- an early declaration, or one made in anticipation can reduce the negative impacts e.g. early closure of schools mean children will not be stranded, workers are likely to remain at home to prepare their households and response agencies will have more time to organise their actions

In daylight rather than darkness- people are better able to cope with crisis situations in daylight, and coordination is easier and safer

Public rather than private- the declaration must be promulgated to everyone who could be involved or affected by whatever means are available including the broadcast and new media

Pro-active rather than reactive- a declaration provides powers to implement measures that will establish control over the area and allow action plans to be initiated. Delay in making the declaration could result in the CDEM organisation being reduced to reacting to crisis situations rather than being pro-active and planning ahead.

5.0 Levels of Response

There are five levels of emergency response:

Level 1- Field Response

A local incident or response activities dealt with by an emergency service, Local Authority or other responsible organisation without the activation of an EOC. This may include community groups, organisations and businesses self-responding to emergencies.

Level 2- Incident Coordination

Localised incident dealt with by first responders. Localised coordination may be provided from an Incident Control Point (ICP). A Local Authority or Agency EOC is not likely to be activated in support of a single incident if sufficient coordination is able to be provided at Incident Coordination level, but may be if required.

Level 3- Local Coordination

Local level response requires EOC activation for the purposes of multi-agency or multi-incident coordination. EOC may be activated to support Incident Coordination.

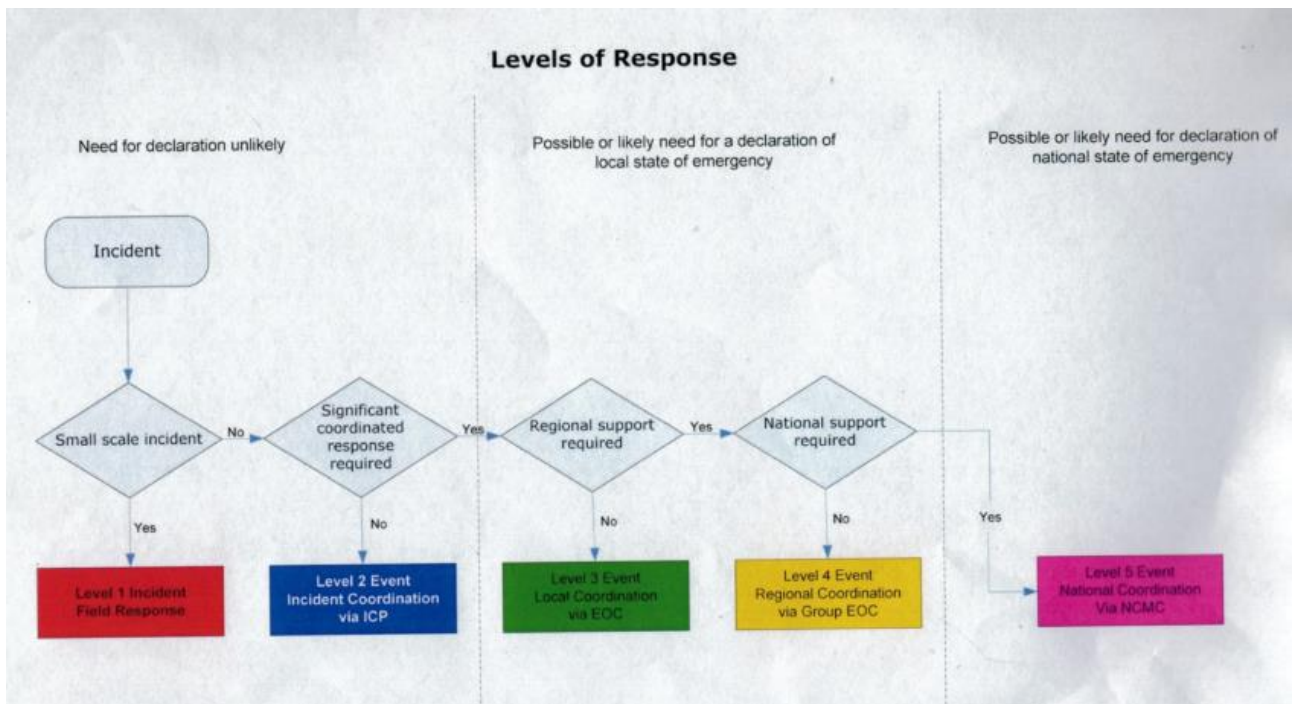
Level 4- Regional Coordination

Regional Coordination

Regional Coordination is an emergency that is regionally significant, where additional response and resources require coordination. This coordination is provided by the Group Emergency Operations Centre (GEOC).

Level 5- National Coordination

A regional level response may be activated to direct, coordinate and support incidents with regional or national implications at the National Crisis Management Centre (NCMC). It may also be activated when a local response requires wider coordination. The Graph below shows the level of response categorised



(Diagram sourced from Westcoast Civil Defence Management Group)

6.0 Methodology of Research

I have chosen to analyse local emergency systems and processes also preparation plans across industry bodies in New Zealand to build a list of recommendations for emergency preparedness at a business level

7.0 Results/Analysis

The results and Analysis has been to look for common themes throughout the research which shows there are three critical areas during severe storms or flooding

- Preparation
- During the severe weather event (Response)
- After the Weather event (Recovery)

7.1 Preparation

Comprehensive analysis shows no surprise with people safety as the main priority in a severe storm/flooding. It is imminent that with the re occurring weather events that all households have an up to date Household emergency plan (www.civildefence.co.nz), these in place have significant clarity amongst families in a crisis situation. Household emergency plans hold the information of contact details for all family members, location of emergency survival kits, radio station to be tuned into for updates, survival kit replenishment dates, important phone numbers such as local police, Medical centre, Vets, Electricity company, Water supplier, Gas Supplier, Builder and Council Emergency Helpline. Below is a copy of a Household Emergency Plan suggested and recommended by Local Councils and Civil Defence.

HOUSEHOLD EMERGENCY PLAN
COMPLETE THIS PLAN WITH ALL MEMBERS OF YOUR HOUSEHOLD

YOUR HOUSEHOLD Address: _____

Name: _____	Phone numbers: _____
Name: _____	Phone numbers: _____
Name: _____	Phone numbers: _____
Name: _____	Phone numbers: _____
Name: _____	Phone numbers: _____

1. If we can't get home or contact each other we will meet or leave a message at:

Name: _____	Contact details: _____
Name (back-up): _____	Contact details: _____
Name (out of town): _____	Contact details: _____

2. The person responsible for collecting the children from school is:

Name: _____	Contact details: _____
-------------	------------------------

3. Emergency Survival Items and Getaway Kit
Person responsible for checking water and food: _____
Items will be checked and replenished on: _____
(Check and replenish at least once a year)

The Getaway Kits are stored in the: _____

4. The radio station (inc AM/FM frequency) we will tune in to for local civil defence information during an emergency: _____

5. Friends/neighbours who may need our help or who can help us:

Name: _____	Address: _____	Phone: _____
Name: _____	Address: _____	Phone: _____

6. On a separate sheet of paper draw a plan of the house showing places to shelter in an earthquake or storm, exits and safe assembly areas and where to turn off water, electricity and gas.

(Table sourced from Civil Defence Website)

Under the Health and Safety in Employment Act, businesses have an obligation to be prepared for an emergency. Preparing for a flood or severe storm in the workplace will help you prioritise tasks before the water or storm arrives. Staying informed on weather updates listening to your local radio stations as civil defence authorities will be broadcasting the most appropriate advice for your community and situation. Encouraging your staff to be ready at work may require essential items at work including sturdy footwear, waterproof jacket, torch, snack food and water

Putting your Workplace emergency plan in place during preparation should consider the following:

- Is everyone on the farm aware of the impending storm or flood?
- Are any houses on the property prone to flooding or in the path of a potential slip?
- Where is the closest place with a generator or other power source?
- Once under control do you neighbours need help?
- Does my farm have an emergency survival kit?

Workplace Emergency Plans need to be communicated frequently so all staff understand what the plan is when preparing. Having a Personal Workplace Emergency Plan will give families and employees clarity on a safe plan here are some tools that are strongly recommended by our industry bodies.

Communicating my Get Home plan

Complete this form at the time of an emergency event.
Talk to your floor warden/response team today about where to leave your completed form.

Name	Contact number (If you have a mobile phone with you)
Plan	Detail
The time I am leaving the building is	
The method of travel I am taking is	
I am travelling with	
The route I plan to take is	
If this route isn't possible, my alternative plan is	

(Table sourced from Civil defence Website, communicating my get Home Plan page 6)

Work Get Home group

The safest way to get home in an emergency is in groups. Identify at least three people who live in your area and make a plan to get home together. These can be people who work with you or other friends/family who work nearby.

	Person 1	Person 2	Person 3
Name			
Work landline			
Mobile number			
Work location			
Usual method of transport			
Home location			

To get home together, we will contact each other by/will meet at:

Primary plan	Alternative plan

(Table sourced from Civil Defence Website, Personal Workplace Emergency Plan page 7)

My Get Home plan

Travelling home

I normally travel home by:

Normal method	Secondary method

If I have to walk home, the route I will take is:

Primary route	Alternative route
Estimated travel time:	Estimated travel time:

Meeting places

If I can't get home or contact my family, I will meet them at:

Primary meeting place	Alternative meeting place
Estimated travel time:	Estimated travel time:

Tell your family/household your Get Home plan.

Personal and family information

In an emergency, you will want to contact your family/household.

It is important to have key contact information listed somewhere accessible – remember you may not always have access to this information electronically.

Complete a Household Emergency Plan (a template is available at www.get@hu.govt.nz) and copy your key contacts from it into the tables below.

My key contacts

	Person 1	Person 2	Person 3
Name			
Work landline			
Work mobile			
Home landline			
Personal mobile			

(Table Sourced from Civil Defence Website Personal Workplace Emergency Plan page 8)

7.2 Safety of Stock

Stock are a significant asset to farms here are some questions that will assist in preparing stock for severe weather event:

- Are the stock on higher ground and in a secure paddock? Check electric fences are working.
- Do stock have access to shelter? This is extremely important if strong winds are also expected. Stock lose body temperature when wet
- Ensure access to clean stock water
- If it's calving or lambing time, keep a close eye out for metabolic disorders.
- Do you have supplementary feed on hand to keep animals well fed during the storm or flooding event and the days immediately following? If not, you can call Federated Farmers Feedline on 0800 FARMING (327 646) (sourced Beef + lamb fact sheet)
- Ensure adequate feed, but manage the transition to a new feed type appropriately (if possible, introduce grain in limited amounts to reduce the risk of acidosis).
- Are other animals such as farm dogs, pets and horses all safe?

8.0 During a Storm or flooding (Response)

- Listen to your local radio stations as emergency management officials will be broadcasting advice for your community and situation
- If you have a disability or need support, make contact with your support network
- Put your household emergency plan into action and check your getaway survival kit. Be prepared to evacuate quickly if it becomes necessary.
- Consider using sandbags to keep water away from your home
- Lift valuable household or workplace items and chemicals as high above the floor as possible
- Fill bathtubs, sinks, and storage containers with clean water in case water becomes contaminated.
- Turn off utilities if told to do so by authorities as it can help prevent damage to your home or community. Unplug small appliances to avoid damage from power surges.
- Do not attempt to drive or walk through floodwaters unless it is absolutely essential.

9.0 Recovery

- Check family, staff and all neighbours
- Check and secure stock, ensure they have enough water

- Check power and phone and report faults
- If the power is out, look for trees over lines, fallen poles. Treat all lines as live
- Check and secure farm buildings
- Check and clear races and road access, report problems.

10.0 Long Term Risk Mitigation

If flooding and storm events are a regular occurrence on your property there are long term strategies which can help you come through a flood event with less damage and loss. Some recommended tools are:

- Having adequate supplementary feed on hand
- Stock are in good condition. Healthier stock are more resilient, which gives you more management options during difficult times, such as floods and storms
- Consider the strategic planting of willows or poplars
- Is it desirable or economical to buy a generator? Maybe in partnership with one or two neighbours?
- Are all pumps on farm above flood levels?
- Can you phone out if you lose power? Either via an old-style telephone that doesn't require power or a cell phone. If cell phone, do you have a means to recharge it, such as a car charger?
- Review your insurance cover

11.0 Recommendations

1. Have staff and families complete Household Emergency Plans
2. Personal Workplace Emergency plans in place and frequently reviewed and updated
3. When operating across multiple properties have an RT (Radio Telecommunication) on the same channel for communication purposes leading up to, during and after an emergency event
4. If you are a large scale farmer it is highly economical to own a generator for operation purposes and emergency purposes
5. Always have survival getaway kits available both at home and in the workplace
6. Having a dedicated person in your complex or group in your area to review and own this area of your business

12.0 Conclusion

When preparing a team to manage a severe storm/flood across multiple dairy unit's preparation, response and recovery are key to keeping people safe in your business. With staff and families prepared this will by default make your business more resilient to damage and loss to assets. So how prepared is your business?

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