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JUNE 2021

Landholder engagement – communicating, learning, and influencing decision making

Guide

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This project is supported by the Department of Agriculture, Water and Environment, through funding from Australian Government's National Landcare Program

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1 About this guide

This guide has been prepared for participants in the 2020/21 SmartFarms project “Advanced practice change management capacity for Landcare officers in Tasmania” Activity ID 4-BA95SXU.

It is a distillation of presentations via webinars in June 2020 and April 2021, workshops in October and November 2020, and contains additional information in key areas covered by the project.

This guide seeks to present theories of communication and adult-centred learning and their application in engaging with landholders about potential practice change.

2 Understanding landholders

Engaging with landholders should be built on the premise that we have information that is beneficial for both the and the issue we want to address, e.g., improving waterway health is beneficial for quality of stock water or reducing environmental weeds improves grazing land, planting native vegetation supports integrated pest management, shelterbelts improve overall productivity.

There's a lot wrapped up in that statement.

In principle, we are often asking a landholder to change practices on their property. In the view of the landholder, we may often be implying that they have been doing something wrong or not well enough; we may not show respect for the efforts they put into managing their property and that they must make a living from. We may be seen as trying to interfere with a farming system or operations that we do not understand.

The term 'practice change' is often used without us understanding current practices on a particular property, and reasons why they are used. We may even assume that every landholder or every property producing in a certain region are more or less the same. Understanding the context and current status of a farming operation are important starting points.

Some questions we have to ask ourselves about connecting with the landholder are:

- At what level do we want to engage with landholders?
  - Do we want to understand what they are doing and why?
  - Are we asking them to change (a) certain practice(s) or just be aware of a range of available practices which are options?
- What are current practices that affect the issue we want to address with the landholder? What are the reasons for their use?
  - Tradition?
  - Getting predicable results?
  - Not taking risks?
  - Lack of knowledge about alternatives?
  - Lack of knowledge about impacts on natural assets, resources or people?
  - Cost or time requirements of alternatives?
  - Carelessness or ignorance?
- Are we trying to connect with people at a time when they are really busy or stressed?
- Does the landholder have previous knowledge of the issue(s) we their help to address?
- How can we gain interest? What benefits can we offer to the landholder? Where is there common ground? Can there be common goals? Where can we start?
- What would be good outcomes all round in the short and longer term?
- Are there people who can help us answering some of our questions and/or help us to make contact (given that relationships and trust are really important, and we may not have that or not yet)? Who are the key influencers we need to engage with (key influencer can work against us, if we are seen as interfering)?

Questions about the people we want to inform, or influence are:

- How (and why) do people take in information? How do adults learn; how can they become and/or remain 'hooked'; who can help?
- What influences whether or not the targeted landholders will decide to act on the information we provide? How can we use that information?
- How can I make it worth their while?

Quote from a landholder: "If you want to change something on your farm, you first have to change what is in your head".

If we want to encourage people to change, we first need to understand 'what is in their head – and why'.

Table 2-1: Example of a timeframe for change (see also Figure 4-2)

CONTINUUM	PROGRESSION OF CHANGE	EXAMPLE	TIMEFRAME
Step 1 Inform	Create awareness (extension).	Poor water quality affects animal health.	Short term
Step 2 Consult / Involve	Influence knowledge, skills, attitudes, aspirations (extension, training).	Show how to monitor water quality, set thresholds/goals, provide information on what could be done, find supporters.	Short term
Step 3 Collaborate	Influence practices (adoption starts).	Support stepwise change.	Medium term
Step 4 Empower	Influence conditions (adoption, practices maintained).	Healthier waterways.	Long term

3 Engaging with landholders

A prerequisite for successful engagement is reaching the target audience via communicating effectively.

3.1 COMMUNICATION CONCEPTS

Communication is the exchange of messages between a sender and a receiver via any communication channel. Important aspects are:

- Encoding by the sender and decoding by the receiver
- The receiver's response or feedback, i.e. the receiver turns into the communicator and the initial communicator turns into a receiver
- The sender's and receiver's field of experience and knowledge (frame of reference and extend of 'common ground)
- The context or in which communication takes place
- Noise – factors that can distort or interfere with adequate reception or comprehension. Noise can occur during the encoding, transmission, or decoding of a message. Noise can also occur because of a lack of common ground or understanding between the sender and receiver.

If encoding and decoding of messages in both directions does not alter the original meaning of a message, communication is effective.

- Encoding involves putting together thoughts, ideas, and information for the best channel of communication to be used and in an appropriate language.
- Decoding involves transforming and interpreting the sender's message back into thought. This is heavily influenced by the receiver's context, frame of reference and field of experience.

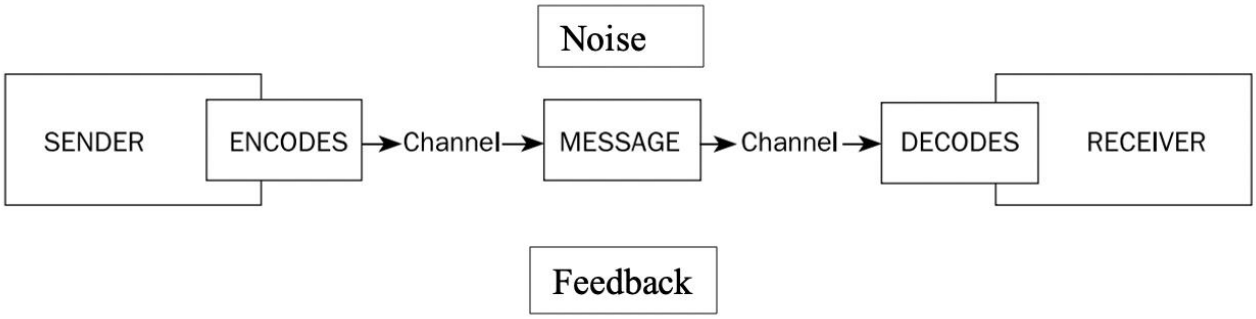

Figure 3-1: How messages are encoded and decoded

According to Adler and Towne (1978), all that ever has been accomplished by humans and all that ever will be accomplished involves communication with others. Many social and organisational problems derive from unsatisfactory relationships brought about by inadequate communication between people.

3.2 COMMUNICATION CHANNELS/MEDIA

Reminder: Every good conversation starts with good listening

Different media are suitable for different audiences or different times – consider which channels will be most effective for the message you wish to convey. Ensure your messages convey that you have listened.

Broad examples are:

- One to one conversation (in person, by phone, via virtual meeting)
- Group conversations (as above)
- Written information (hard or electronic versions)
- Social media
- Radio, television, video
- Informing key influencers.

Where possible, use multiple 'touchpoints' to reach landholders.

RELATE TO YOUR AUDIENCE

Consider demographics when engaging and communicating. The age of you audience may influence your 'messaging'.

Older landholders usually are:

- Highly experienced
- Have often limited adoption of communication technology, e.g., Twitter, Instagram (but state-of-the-art machinery including technology)
- Learn better face to face, e.g. in one-on-one conversations or workshops
- Like hard copy reading material, so they can go back to it when they have headspace and time.

Therefore, you should focus on:

- Listening – once you are on farm, they generally love a chat and within the wide-ranging conversation is a wealth of information about the landholder and their environment which you need to consider in your message
- Suggesting working with them, and potentially involving agronomist/adviser.

Younger landholders:

- Are usually technologically savvy, they spend a lot of time on their phone or other mobile device
- Are usually open to innovations and technologies
- Will usually research online
- Must often defer to their parents or other family members of an older generation.

Therefore:

- Refer them to online tools/resources/short videos,
- Text them a link, or short message, and/or
- Follow up with emails with additional information
- Link them up with other younger landholders.

Females are often more interested in environmental aspects of farming than their male counterparts.

It can be important to involve more than one member of a farming family.

4 Engagement concepts

There are multiple theories and models about engagement. Here are two that may be a useful way of looking at engagement with landholders.

4.1 ENGAGEMENT AND CAPACITY BUILDING

“Engagement in a capacity building process involves the bringing together of all the relevant communities of practice around a common goal but with the opportunity to pursue their own interests.” Mackenzie 2011

“Effective engagement in capacity building requires effort at three levels:

1. Target audiences (e.g. farmers/specific communities, service providers)
2. Communities of practice (e.g. particular professional groups)
3. Stakeholders (e.g. organisations)" Mackenzie 2011.

4.2 B.A.S.I.C. ENGAGEMENT MODEL – LIFECYCLE OF COMMUNICATIONS

The BASIC model comes from the public relations sector.

The BASIC model is directed at the ‘lifecycle’ of communications using the following steps:

- (B) build awareness
- (A) advance knowledge
- (S) sustain relevance
- (I) initiate action
- (C) create advocacy

At each step, the abovementioned concepts of effective communication have to be considered.

It is noteworthy that the final step of the BASIC model is about creating advocacy i.e., it encourages people to ‘spread the word’. This aligns with the concept of “innovators” in Roger’s ‘Diffusion of Innovations’ extension model (see Rogers’ adopter categories – Section 4.4).

4.2.1 FUNNEL OF ATTRITION AND ADOPTION THEORIES

When communicating, we do not only consider communication concepts, the BASIC communication model, the effectiveness of different media and Roger's diffusion theory, but also the 'funnel of attrition'.

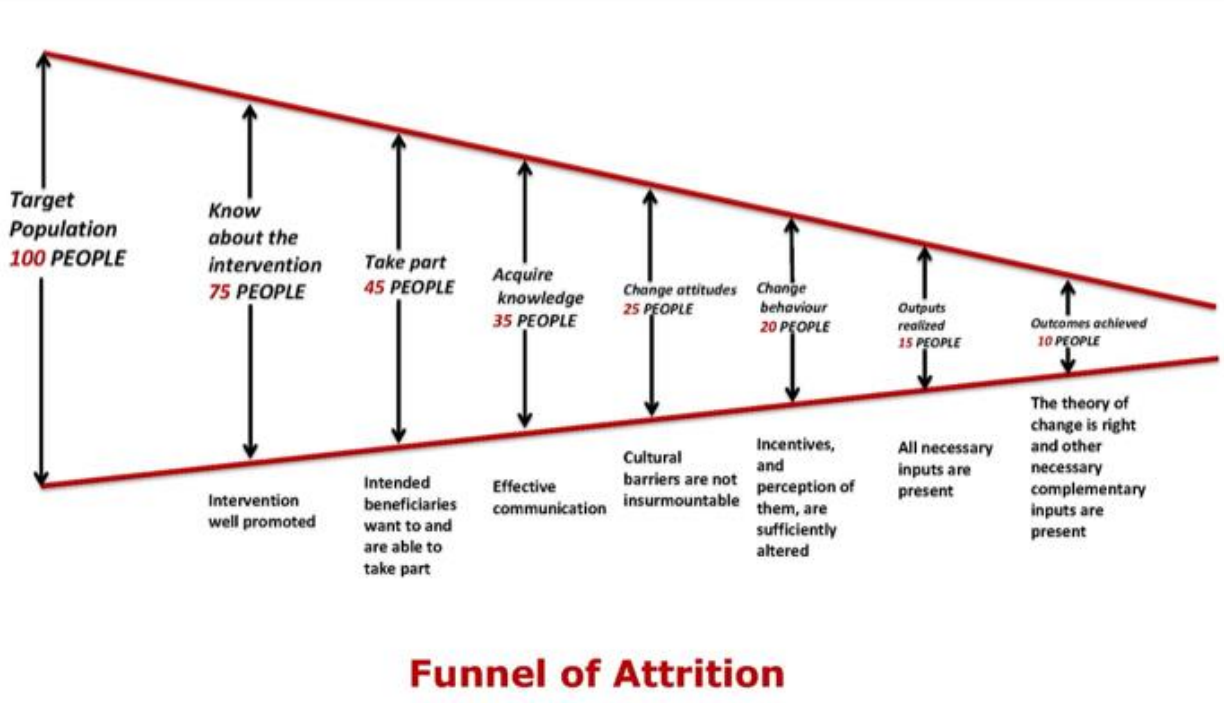

Figure 4-1: Funnel of attrition

Source: White (2013) https://www.3ieimpact.org/blogs/using-causal-chain-make-sense-numbers.

The target population is the entire population that you are trying to reach. It is unlikely that you will be able to reach every single one of them. Who you chose to target and how you target them are critical to successful engagement, extension and adoption? It will influence how many 'enter' the funnel.

Once you have the attention of a target audience, whether or not the uptake of information you provide will lead to adoption and long-term practice change is dependent on a range of both internal (people) and external (environment) factors that are further discussed in Section 6.2.

We mentioned the importance of first changing 'what's in the head' – knowledge, skills and attitudes, and probably customs – before practices can change.

According to Pannell et al. (2006) adoption is a learning process that involves:

- Awareness of problem or opportunity
- Non-trial evaluation
- Trial evaluation
- Adoption (or not)
- Review and modification
- Dis-adoption or continuation/adaptation.

Continuum

Process is never complete

4.3 ENGAGEMENT MODEL WITH FOCUS ON LEVELS OF ENGAGEMENT

The ‘level of engagement’ model has been developed by the International Association for Public Participation (IAP2 https://www.iap2.org.au/).

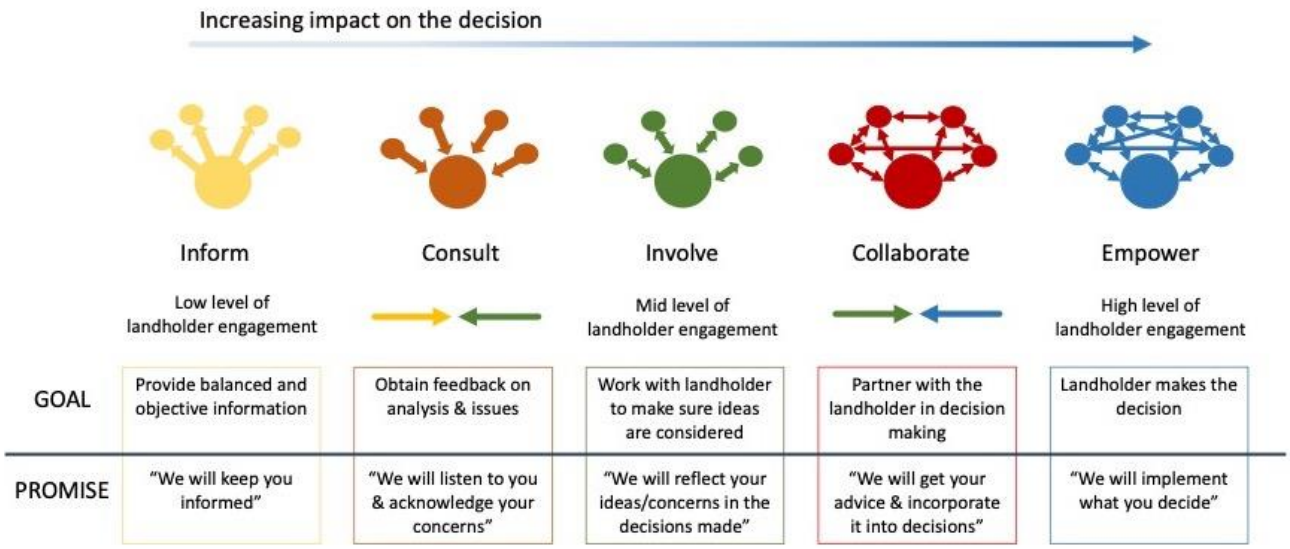

Figure 4-2: Level of engagement model (see also Table 2-1)

This model can be used for every form of engagement and communication from communicating about major infrastructure developments to one-on-one conversations. “Inform” is the most basic stage where you simply provide information with zero input from those that it will affect. As you work through the stages there is progressively more and more input sought from those you are engaging with until in the “empower” stage the decision-making is in the landholder’s hands.

Programs that incorporate the expectation that landholders change practices should be developed and ideally delivered with involvement from landholders and other key influencers (e.g. agronomists, advisers). Programs should be co-designed and mutually agreed. Delivery should be about facilitating conversations, thinking and learning together, working out ‘common ground’ rather than primarily going one way, i.e. focus on ‘education’ or persuasion.

If landholder engagement is aimed at practice change, it is important to reach the ‘empower’ stage, i.e. to facilitate and support landholders’ implementation of new practices.

4.4 ROGERS' 'DIFFUSION OF INNOVATIONS' EXTENSION MODEL

The diffusion concept was the leading theory in agricultural extension post World War II until the 1970s. It was developed by Everett M. Rogers in 1957 as a PhD and became widely known through his book 'Diffusion of Innovations' published in 1962.

ROGERS' CHARACTERISATION OF PERSONALITIES IN AGRICULTURAL EXTENSION

Rogers' theories were widely accepted and used within agricultural extension circles worldwide. He posited that there was a bell curve of innovation/adoption and characterised those in each category:

- Innovators – venturesome, educated, multiple info sources, greater propensity to take risk (2.5% of a population)
- Early adopters – social leaders, popular, educated (13.5%)
- Early majority – deliberate, many informal social contacts (34%)
- Late majority – sceptical, traditional, lower socio-economic status (34%)
- Laggards – neighbours and friends are main info sources, fear of debt (16%, i.e. the equivalent proportion as innovators + early adopters).

It is still used today in agricultural extension, particularly when extension is concerned with an adoption of a particular technology (i.e. technology transfer approach to extension).

Pannell's adoption model roughly aligns with Rogers' diffusion of innovation concept. The main difference is that Pannell highlights the importance of investigating and trialling a new practice, which is what landholders usually like to do. Engagement and cooperation with landholders in the 'trialling phase' works well because the knowledge and experience of both, the extension provider and landholder, are combined and both parties learn. Demonstration sites and on-farm trials are good examples for collaborative trialling.

Rogers proposed a five stage model for the diffusion of innovation which implies a somewhat top down, one way flow of information from extension provider to the target audience; the audience is 'persuaded' to do something differently or adopt a new practice:

1. Knowledge – learning about the existence and function of the innovation
2. Persuasion – becoming convinced of the value of the innovation
3. Decision (adoption or rejection) – committing to the adoption of the innovation
4. Implementation – putting it to use
5. Confirmation – the ultimate acceptance (or rejection) of the innovation.

The application of Rogers theory was viewed as a source of inequity in the 1970s. It was said that there was a risk of dividing rural communities by classifying them and focussing on 'innovators and 'early adopters'. This approach was not benefitting/assisting those in most need, especially when the diffusion of innovations process usually benefited larger scale landholders because they were often the innovators and early adopters, and they may be actually unwilling to share their knowledge and practices with others.

Criticisms of this theory have included that:

- It has inequitably supported larger scale, wealthier landholders (perceived as innovators/early adopters) in the hope there would be a 'trickle down' to other farmers, which could not be guaranteed
- All farmers should be given the opportunity to take up an innovation early (rather than waiting for a 'trickle down') regardless of applicability to their individual situation, especially with regards to distribution of income

- Uptake of innovation is always desirable for all
- The extension provider is not to blame for the lack of landholder responsiveness, rather the ‘blame’ is put back on the individual landholder (i.e. the innovation is not ‘with’ the farmers it is ‘for’ the farmers)
- It is assumed that all knowledge resides with ‘the department’, that the landholders’ knowledge, experience and interpretation of the problem are irrelevant.

5 How people learn

Extension practitioners should have an understanding of how adults learn so they can use effective methods of imparting knowledge and ‘changing thinking’.

5.1 PRINCIPLES OF ADULT LEARNING

Principles of adult learning are well known and still often neglected in the design of training and extension for adult audiences. Adult learners are autonomous, self-directed and goal orientated. They decide whether, when and how they learn and how much time and resources they spend on it.

SELF-DIRECTED AND FOCUSED

Unless learning is needed for compliance or to get a ‘certificate of attainment’ that is needed for a job or job promotion, adults learn with a purpose in mind. They usually want to be able to trial or even apply the new information immediately to a problem they want to solve or an activity they want to undertake.

RELEVANT AND APPROPRIATE

Adults have accumulated experiences and knowledge and the training has to build on it, not repeat it or belittle it. Adult learners are unlikely to take part in any learning opportunity that is not appropriate to their needs or is not relevant to their position or role. This means that it is important to establish the current knowledge and skill level of the learners to ensure that the information delivered is pitched at the correct level. The learner needs to know how the new information fits with existing knowledge so that they understand why the new skill or concept is being discussed. If information is irrelevant and the pitch is not appropriate, learners will not remain interested in the activity or information.

This means there cannot be a ‘one-fits-all’ approach for the diverse groups of landholders.

SUPPORT AND RESPECT

Adults will not continue with any learning experience if they do not feel respected by the facilitator, coach or other learners. It is essential to the learning process that learners are provided with a supportive environment where they can feel free to ask questions, make comments and take risks. Many adult learners enjoy being challenged while some may find it off-putting, especially in a group situation.

Introverts have to be given quiet time to think through new concepts while extrovert often do the thinking 'with their mouth', talking things through with others.

MOTIVATION

In order to ensure adult learners are motivated, the content must be appropriate and relevant. Understanding the barriers to learning and removing as many as possible is also important.

If information is not relevant to the job or business, interest or motivation will wane quickly.

The main aspects driving motivations for different types of people are (not all drivers apply to all people):

- Social relationships, meet like-minded people
- External expectations, e.g. compliance, licensing requirements
- Personal advancement, e.g. getting a better job or making more money
- Escape/stimulation
- Cognitive interest, interest in the topic
- Appropriate level of difficulty.

Barriers may include:

- Conflicting demands on time
- Financial constraints
- Extensive travel demands
- Relevance
- Poor communication about content
- Timing during the season
- Not being sure about the value of the learning experience or the topic
- The way it is taught is too complex and difficult to comprehend.

FEEDBACK (TWO WAY COMMUNICATION) AND REINFORCEMENT

A learning experience should allow for interaction between the facilitators or coaches and the learners and amongst learners. Giving feedback about the standard of performance and asking for feedback about whether learners understand the information that is delivered and whether it is useful, are essential. Positive and negative feedback are both important. Reacting to feedback is vital.

Reinforcement refers to the opportunity for the learner to confirm retention of information e.g. via summaries, informal questions or a quiz or rewarding the learners' performance.

Learning by doing something relevant and interesting will improve motivation and retention of information. Adults working in agriculture are usually practical people, which means active learning opportunities are important. Using two or more senses is vital to maximising learner retention and caters for learners who learn better through other senses.

5.2 'NEXT GEN' ATTRIBUTES AND LEARNING

Design of extension and training should consider the needs of young adults, if they are the majority in a target audience. One aspect is to understand and adapt to their learning style. Many of the younger generations have been born into a fast paced and quickly changing environment where 'information' is at their fingertips, while being raised in a relatively protected manner. Social media are a major source of information, sometimes the only source. The traditional ways of living and learning mostly do not apply any more (Schofield and Honore 2010, Lau and Phua 2011).

Some attributes for instance are:

- High expectations, demanding, impatient
- Materialistic, liking instant gratification, following short term want
- 'Digital natives', always connected, open to peer group influence
- 'Trophy kids' (grew up receiving praise just for participating and not necessarily for excelling)
- Care about the world, expect authenticity
- Creative, liking new, exciting things, innovation, experimentation and being actively engaged
- Value relationships and emotional intelligence.

Figure 5-1 suggests learning approaches that would fit a younger cohort. It illustrates that some current concepts of formal extension may have to be adjusted.

Flexibility in approaches, personal engagement and coaching may have to be adjusted for a generation that is used to constant stimulation, instant feedback, interactive learning, experimenting, attractive 'packaging' of information and a freedom of choice. They will easily reject anything they do not like.

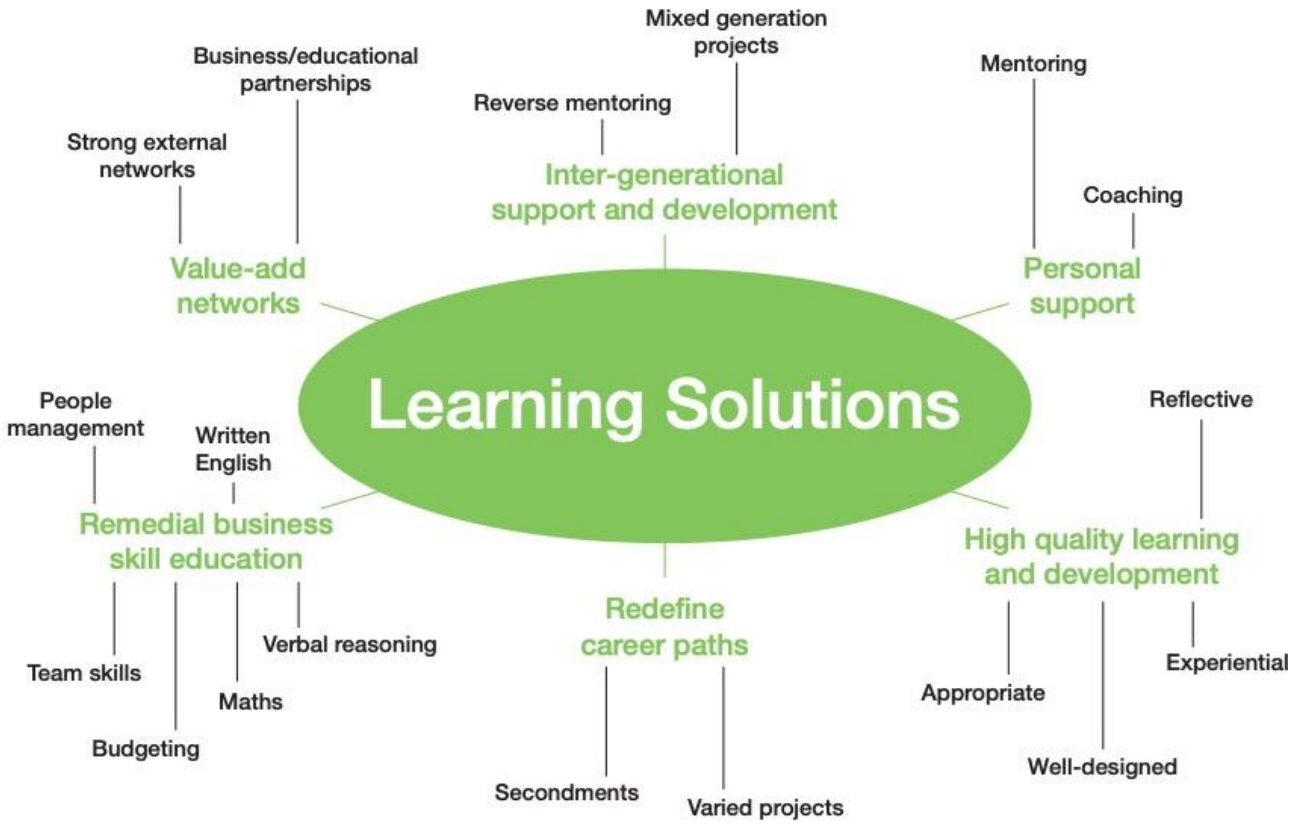

Figure 5-1: Learning solutions for Gen Y (from Schofield and Honore 2010)

Experiential learning and exciting opportunities will be important. Younger landholders will want to use on-line meetings, opportunities for virtual field trips and other creative methods of e-learning. Virtual learning hubs offering online links with a range of extension and information providers and other potential partners could provide choices.

6 How are decisions made?

We have talked about the theories of communication, engagement and learning.

In the end, we are trying to help individual landholders or landholder groups to make decisions. So, what influences that process and how can we be part of it?

Group decisions generally take more time than individual decisions, especially if you want **consensus**.

6.1 HOW WE MAKE DECISIONS – THEORY

This is an overview of how people think and what influences their decision making in general – risk, biases, heuristics, types and levels of decisions.

We make decisions on balance. We weigh up multiple factors, the pros and cons, not all are of equal importance and there are risks and uncertainties for each factor.

How we identify the factors involved and the level of importance or weighting that we put on each factor, is influenced by a whole range of things including:

- Facts and information
- Our values
- Our beliefs
- Our experience
- Our personalities and attitude to risk.

(From Nicholson et al. 2015.)

Note that facts, information, technical data, etc., are the only part of the decision-making process. Often they are not the ultimate driver.

HEAD, HEART, GUT

How we make decisions is influenced by our head, our heart and our gut.

The head – This is the logical, rational processing of information and calculations. As well as the realities – such as our financial position or our age or health; so it's based on facts and figures.

The heart encompasses the emotional aspects of a decision. These are value-based and include your goals, beliefs and preferences. This is often described as your "guidance system" for decision making.

Then there is the gut – this is about intuition. Intuition is shaped through our experiences and our knowledge.

It allows us to make quicker decisions because it bypasses rational processes by linking past experiences and knowledge (both good and bad) with the present. Intuitive decisions are about 'gut feel'. So it's about a decision that 'feels' right.

If a decision feels right, it is likely to link back to the emotional factors, or the heart. So the heart and the gut are linked.

(Adapted from Nicholson et al. 2015.)

Decisions based on gut feel can be good or wise decisions when based on good knowledge and experience. It's important to recognise when you are using gut feel to make decisions, because there might be situations where things you think you know have changed, and you might need to go back to the logical approach and get more information.

We all vary in our preferences for how much the head, heart and gut influence our decisions. Some of us have a preference to stick to the facts and figures and the logic. Others like to stick with their gut feel. And some rely strongly on their beliefs or values when making decisions. They believe it's the right thing to do.

In most decisions we need to have the mix of all three, especially for more complex decisions. All are legitimate, the head, the heart and the gut. We are much more confident with our decisions when all three are aligned to give the same answer.

It is important to try and identify which the main drivers for decisions are and ensure to have considered the 'head' i.e., facts and potential consequences adequately.

HEURISTICS/RULES OF THUMB

Heuristic definitions:

- Educated guesses, or rules of thumb that are used to solve problems (multiple sources)
- Inexact algorithm that is based on intuitive and plausible argument which are 'likely' to lead to reasonable solutions for a given problem, but are not guaranteed to do so (from https://slideplayer.com/slide/14652179/)
- A mental shortcut that allows people to solve problems and make judgements quickly and efficiently (multiple sources).

Landholders are highly likely to use rules-of-thumb (or heuristics) and experience (theirs and that of others) in their decision-making, given that they deal with complex variables in their day-to-day decisions.

- They will have developed these using observation and recollection/experience
- They may have used a decision support tool or talked to an expert to get an idea of where things are at; and
- they may follow or adapt the ideas of role models.

(Adapted from Cockfield 2021.)

FAST VS SLOW THINKING

Daniel Kahneman released his global best seller and highly influential book Thinking, Fast and Slow in 2011. He posited that 98% of our thinking is fast – rapid, intuitive and dominant, compared to slow thinking – deliberate, effortful, rare, and generally seeking new/missing information.

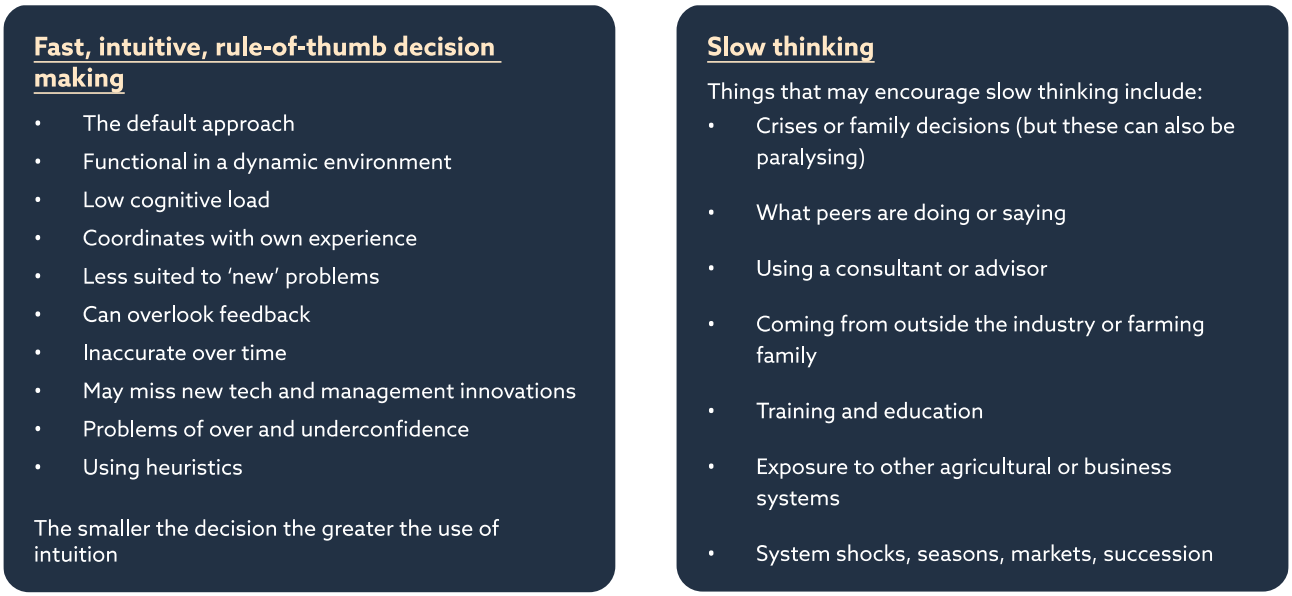

Figure 6-1: Characteristics of fast and slow thinking

Adapted from Cockfield (2021).

It is worth contrasting the way researchers, extension providers and landholders or farm managers generally have to think.

Table 6-1: Potential differences in thinking – landholders vs extension staff

RESEARCHERS/EXTENSION STAFF	LANDHOLDERS/FARM MANAGERS
Usually, focus on one project at a time.	Exposed to multiple potential 'innovations'.
Slow thinking is encouraged.	Nature of work, the unpredictability of some factors and the need for constant decisions require fast thinking.
Focus on marginal benefits of one aspect or question.	Focus on system constraints and balancing multiple objectives.
Not constrained by specific on-farm culture.	Exposed to specific on-farm and or community culture.
Goes from one project to the next.	Operates in an interlinked, evolving system.
Driver for work is recognition of project success.	Drivers are the need to run a sustainable farming business with multiple demands on time and 'headspace'.

Adapted from Cockfield (2021).

RISK

(Adapted from Nicholson et al. 2015.)

In farming, some considerations may involve a large amount of uncertainty for example rainfall, or temperature and market outlook. We think differently about some considerations depending on the likelihood of it happening and the risks involved. There is no position on risk that is right or wrong; it is up to each individual and their operating environment (e.g., family, community, environmental factors, business health, age) to decide what level of risk they can and are prepared to accept. That will be different for different people. So, it's personal, meaning that research and extension cannot define risk levels that apply to all landholders.

BIAS

The following biases (Figure 6-2) may occur when evaluating different types of information (adapted from Cockfield 2021).

Evaluating information

Affect heuristic
: **Being guided by emotional responses** to things. How we feel about something not what we think of it.

Availability heuristic
: **Stronger influence of recent events** and discussion of recent events; easily accessible and/or processed information; and vivid or memorable events.

Clustering illusion
: Overestimating the effect of small patterns/clusters.

Anchoring effect
: Relying on a base point to evaluate information, **rather than comparing things equally**.

Focussing effect
: Focussing on **one particular aspect of an issue**, rather than other aspects that may also be important.

Illusory correlation
: **False correlations** between events or trends.

Regressive tendency
: **Downplaying high and low probabilities** (regressing to the 'mean').

Optimism preference
: **Focusing on favourable outcomes**.

Financial decision-making

Loss aversion
: **Weighting losses more than gains**; an inclination to protect nest eggs.

Hyperbolic discounting
: **Allocating high value to immediate income**.

Sunk cost fallacy
: **Continuing with a course based on previous investment**.

Declining utility of wealth
: **The value of wealth declines with increasing wealth** (motivation to accumulate may decline).

Memory and hindsight

Choice supportive effect
: **Favourable recollections of one's own past choices** (Mather, Shafir, and Johnson 2000).

Hindsight bias
: Seeing past events as more predictable than they were.

Consistency effect
: **Aligning past beliefs & ideas with present ones**.

Resistance to new ideas

Confirmation bias
: **A tendency to search for evidence to support current views**.

Desirability bias
: **Preferring 'good news'** over bad news (Tappin, McKay, and van der Leer 2017).

Status quo preference
: Preferring current state or situation.

(Limited) belief revision
: **Only making small concession to even strong contrary evidence**.

Communications effects

Framing effects
: Acceptance of argument or evidence varying with how they are framed.

Halo effect
: Response is to **personal characteristics of presenter or source**.

Reactive devaluation
: Response is based on **dislike or distrust of source** of information.

Illusion of truth
: **Belief develops through familiarity** with the concept, slogan or phrase.

False consensus effect
: Overestimating others' agreement with your attitudes and beliefs.

Take-aways

- We make decisions using emotion
- We are not necessarily good intuitive scientists, statisticians or economists
- We take mental shortcuts and often exclude a lot of information
- Once positions are formed they can be hard to overturn
- It can be instinctive to reject challenges to our thinking/position
- Accumulation of wealth may not necessarily be a strong driver
- The value of wealth declines with increasing wealth (motivation to accumulate may decline).

Figure 6-2: Biases

TYPES OF DECISION

(From Nicholson et al. 2015.)

Simple decisions, they're the easiest ones. There are not many variables involved and usually only one right answer, e.g. how much drench to give a calf. You might look it up on the label (so you are using information), or if you've done it hundreds of times before, you'll already know the answer (using your intuition).

Complicated decisions have more variables involved. While it might take a bit of 'working out' there is generally a 'right' answer.

Complex decisions are when a number of complicated decisions are combined. And decisions on farm are often complex. They encompass a whole range of complicated things that you have to understand. It might be about animal reproduction or pasture growth or soil fertility and then there is often a whole layer of risk and uncertainty on top of that; as well as the social factors – which we can't completely understand. When we combine all of these things it becomes quite complex. So that's why we need an approach to help guide our decisions. Often, we trust our intuition to do this. Intuition must be informed. It must have some past experience behind it, if we are going to make wise decisions.

Landholders often improve their complex decision-making through 'story-telling' (McGuckian 2006).

LEVELS OF DECISION

(Adapted from Nicholson et al. 2015.)

Decision levels can be strategic, tactical or operational. Generally, the operational decisions are simple, and the strategic ones are complex.

Operational decisions are made more frequently; individually these decisions have less impact on farm profit. We are more confident in operational decisions because they are simple decisions, and we can often rely on our experience.

A tactical decision, might be for example, should we plant shelterbelts? This sort of decision is often complicated, and takes a bit of working out, but there is usually one best-bet answer.

Strategic decisions, like for example do we change our farming system? are made less frequently. Strategic decisions can have a greater impact on farm production or on profits; they are the bigger decisions, so you need to do more homework. We are less confident in strategic decisions because they are complex. Note that, while it will require a more formal process, it will still involve a mix of the head, the heart and the gut because of that complexity.

Table 6-2: Decision levels and their characteristics

LEVELS OF DECISIONS	FREQUENCY	IMPACT	CONFIDENCE	DECISION MAKING PROCESSES
Operational	More frequent	Less impact	More confidence	Less formal
Tactical				
Strategic	Less frequent	Greater impact	Less confidence	More formal

So what is good decision making, or wise decision making.

Because farming involves working in an unpredictable environment, it's not possible to make best or most profitable decisions all the time. A decision that turns out to be the most profitable is therefore a best-bet decision that by chance, turned out to be the best possible decision ….. with the wisdom of hindsight.

We want to make the right decision, but there are things that are uncertain. So we have to make a good decision based on the information available at the time. Best-bet decisions take into account the range of options and the risks. A good decision at a point in time is one that is made on the evidence available at that time.

Timing is often more important than exactness. There is often a trade-off between the accuracy of a decision and the time taken to gather all the information, and "**Better to be roughly right than precisely wrong**" Carveth Read (1848–1931).

However, it's important to not rush bigger decisions. They need more research because they can have a bigger impact on profit and production.

Communication is important in decision making. So that everyone's on board. And implementing the decision is easier.

When you observe a good operator, they are good decision makers. One reason for this is that they are good listeners, they pick up information all the time, and they have a way of processing that information in a logical way. So when these good operators use gut feel or intuition is not about being illogical, they have a way of bringing together lots of experience and lots of information in a logical way. Good operators don't leave decisions to chance, they have a process and they make decisions with confidence. They consciously make decisions, and don't put them in the 'too hard' basket. (Long 2013)

So experience ….. and a sound analysis process ….. feeds the intuitive thought process.

For example, people might use a decision support tool, until they develop intuition and then over time they dis-adopt.

6.2 WHAT INFLUENCES LANDHOLDERS' DECISION-MAKING?

Having covered how people think in general and the influences on decision making, in this section we concentrate on the influences on landholders in particular.

Often it is advisors, or practitioners who have a wide knowledge of practices and outcomes in the area, that see potential deficiencies/underperformance. Landholders may not see that things could be improved, they may however acknowledge that things could be done better in the district or region. (From Cockfield 2021.)

If they do acknowledge a deficiency and its importance, they may still not prioritise it. Often operational issues are prioritised over business management or environmental issues.

However, the types of questions we need to ask are:

- Does this make life easier for the landholder?
- Will it reduce risk?
- Will it provide information to answer questions, which are important to the farmer?

Many factors influence whether landholders adopt any given practice. Pannell (2007) organised them into three main groups (Figure 6-3):

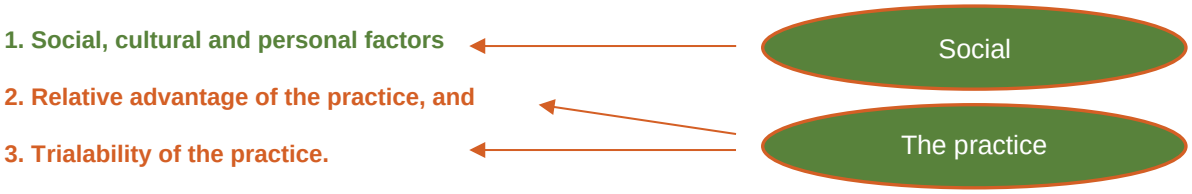

Figure 6-3: Factors influencing whether landholders adopt a given practice

FACTORS INFLUENCING LANDHOLDER DECISION MAKING

Landholders are making decisions in a complex environment with many different factors at play. Any practice change needs to 'fit' in the whole complex farm system, as well as align with social, cultural and personal factors.

Figure 6-4 illustrates some of the many factors that influence landholder decision-making. Many of these are from the Launceston and Hobart workshops (held in October and November 2020) with additional influences from Cockfield (2021) and Morag Anderson.

Many of these factors can either be barriers or drivers depending on the landholders' circumstances.

Industry policy, politics and the industry's history often have an overarching influence. While it is wise to not get involved in politics, it helps knowing the industry context.

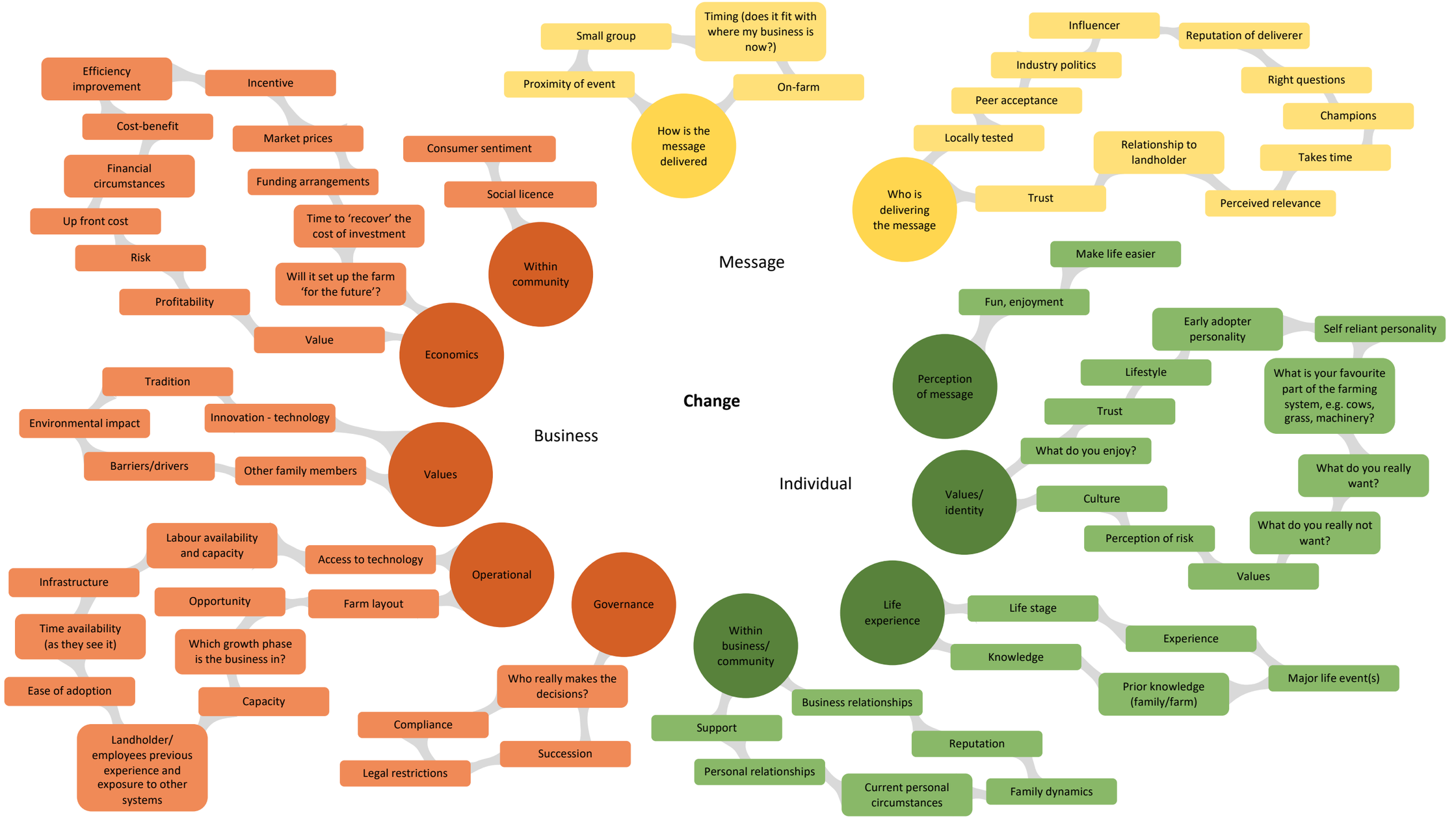

Figure 6-4: Influences on landholder decision-making

SOCIAL FACTORS

How you see yourself, and your relationship with your work and family are deeply important to your response to new information.

Social identities:

- What do farmers in our region/industry think and do?
- What ideas and people are ‘out’ groups?
- Occupational (farm system) identities
- What industry groups do they belong to? What ‘flavour’ do these groups have?

Work preferences and occupational identity:

- Favouring cows, grass, machinery, etc.
- Do they see themselves as a sheep farmer or a grass farmer?
- Do they see themselves as a farmer or an environmental manager?

Family enculturation:

- What’s important on the farm and in life
- How do we do things?
- Risk attitudes
- What age does succession start/take place?

(Adapted from Cockfield 2021.)

LANDHOLDERS USE OF ADVISERS

Talking about these key influencers is important.

Advisers may be highly influential to the decisions landholders make. They are often exposed to companies who encourage them to sell product. Advisers may not always be familiar with a wide range of industry research and they may serve as amplifiers of practices of the perceived ‘top’ farmers in the region.

MAJOR FINANCIAL DECISION FACTORS

If a landholder needs to make a major financial decision, these will be some of the factors taken into account (from Cockfield 2021):

- Improved manageability of the system
- Getting to the ‘right’ size
- Time to ‘recover’ the cost of investment
- Peer experience with similar investments
- Upfront cost
- Setting the farm up ‘for the future’
- Do they want to manage more people?
- Land as base for farming (not an investment).

POTENTIAL WAYS TO ADDRESS THE MULTIPLE FACTORS IN LANDHOLDER DECISION-MAKING

(From Cockfield 2021.)

- Use the strong relationships in the RDE ecosystem
- Use simple and several financial indicators in communication with landholders
- Work with the business and life stages of farmers
- Describe the impact on system manageability
- Redefine landholder's social and work identities
- Facilitate peer pressure and 'benchmarking' (e.g. discussion groups)
- Use co-ordinated knowledge transfer:
  - Known presenters with some 'new' perspectives
  - Work on combining personal and web interactions
  - Whiteboard and paddock together
- Establish basic skills before higher level campaigns (don't trust self-assessments of skills and knowledge)
- Use communication that:
  - Draws on accessible or memorable events
  - Uses relevant metaphors
  - Emphasises alignments with interests, skills and work preferences
- Use informal benchmarking systems:
  - Discussion groups (but are not for all)
  - Case studies across a range of farm types (different types of slightly aspirational comparators)
- Highlight lighthouse projects (the over the fence effect)
- 'Lift' people out of their industry and locale to see other situations.

HOW TO GET THE MOST OUT OF YOUR PROJECT/PROGRAM

(From Cockfield 2021.)

- Ensure coordinated industry messaging on key innovations and recommendations
- Streamline the implementation foci
- Managing funders and providers' expectations
  - Innovation is not a 'conversion' process
- Evaluate investment in, and design of, decision-support tools
- Use multiple communication pathways (text, journals, workshops, social media).

6.3 PERSONALLY ENGAGING WITH LANDHOLDERS

WHO ARE THEY?

You are going out to a landholder's property. What information do you seek before you meet with them?

Information about the property

- Soil type
- Land capability
- Salinity?
- Waterlogging?
- Irrigation yes or no and systems if yes?
- What crops? Now? In the past? Rotations?
- Livestock?
- Orchards? Vines? Agroforestry?
- Vegetation
- Threatened species
- Weeds
- Covenants?
- River frontage?
- Any known challenges?

... the person

- What do we know about the person(s) we will see?

... the business

- How big is it (hectares, turnover)?
- Who owns it?
- Who provides agronomy or other support (key influencers)?
- What is important to the business?
- Where and who do they get their advice from?
- Where is the business in its seasonal production cycle?
- What is the history?

... the context

- Who are their neighbours?
- What are the family dynamics?
- Community relationships?
- Are there any people we both know, somebody who can introduce us?

Figure 6-5: Information you might need to research before going to see a landholder

Understand the business structure and make sure you are going to speak to the right person(s), e.g. on a corporate farm it may be the farm manager or the agronomist that is most appropriate. If it's biosecurity, it's the agronomist that may do the monitoring while the landholder makes the final decisions.

All of this information will 1) allow you to tailor your approach by understanding constraints and opportunities, and 2) find points of contact that enable you to build a relationship with the landholder and the family (family-owned farm) or the farm manager and staff.

- Engage at a landscape level but build trust and relationships at a group and personal level
- Farm maps are a good talking point, they and other valuable information can be obtained via LISTmap.

It is worth knowing about previous landholder engagement that has occurred about the same or related topics, as previous engagement, projects, people or organisations can have either negative or positive legacies.

Triple J slogan

Failure does not require preparation

Confucius

Success depends upon previous preparation,
and without such preparation there is sure to be failure

Benjamin Franklin

By failing to prepare you are preparing to fail

Figure 6-6: …a few thoughts on failure

WHAT IS THE BENEFIT TO THE LANDHOLDER?

If you were a salesperson, the benefit of your interaction with the landholder, or the value proposition, would be something tangible such as a product or a piece of equipment.

The landholder is operating a business. To be offering something of value to the landholder via extension, you will ultimately need to:

- **Save** the landholder **time**
- **Save** the landholder **money**, and/or
- **Increase profitability** for the landholder, and/or
- **Improve the 'standing'** of the landholder in the community or family, and/or
- **Have a positive influence** on how they feel about their business or themselves.

Otherwise what you suggest or ask for is just one more thing that they must do in amongst everything else while the benefits are uncertain.

You will need to address how what you want to convey fits into their current practice/business as usual and which impact their circle of influence may have.

- Will it simplify something for them?
- Will it improve productivity?
- Will it reduce risk, uncertainty or vulnerability?
- Will it increase resilience against potentially negative influences?

Think about helping to identify and plug 'leakages' in their business, e.g. optimisation of resource use efficiencies, as this means saving money.

Practice change needs to fit into their current practices and processes otherwise it will take up too much of their time. Aim for adjusting or augmenting current practices. Adoption will be low if a new practice is completely different to what they currently do.

LANGUAGE MATTERS

Translate 'researcher' or 'government', language into landholder language and put it in context. For instance if you want to engage about biosecurity, talk about pests and diseases they are experiencing now, then move on to potential threats from new diseases coming onto the property.

Table 6-3 Examples of difference in language use between 'officials' and landholders

DEPARTMENT/RESEARCHER LANGUAGE	LANDHOLDER/FARMER LANGUAGE
Biosecurity	Protection form pests and diseases.
Surveillance	Crop scouting/crop monitoring.
Exotic	Pests and diseases currently not present in the country.

- Work **with** farmers (suggest and recommend, collaborate)
- Farming is their life, not just their job
- Break it down – one step at a time (e.g. Paddock by paddock)
- Address how what you want to convey or change will fit into their current practices
- Ask what has not worked in the past, and, together, look at potential reasons why
- If you have caught them a landholder at a stressful time, nothing you say will resonate, come back another time.

SMALL STEPS

Find ways to achieve change in manageable, achievable steps, so landholders experience success and grow in confidence with the new practice and you as the one who is suggesting it.

BUILDING A RELATIONSHIP

If you are “working” with another person/group, or want to do so, build strong relationships. Emotional bank accounts are important, make continual deposits.

Building a relationship and trust are probably the single biggest influences on how effective you can be in landholder engagement.

It will take time. It may not be easy. Sometimes it may not be possible.

You are probably the outsider. There are probably others who also make demands on the landholder’s time. However, there are many possible ways to make connections with people. Some may appear serendipitous, but if you are open to seeing possibilities and following them up, there are often avenues available. For example, teaming up with someone who is familiar in the area (e.g. an agronomist or adviser) to visit farms, joining local clubs, organisations or sporting teams, going to the local pub, being introduced by someone respected in the community. Being patient, being useful, showing respect, not being judgemental…..

Table 6-4: Things to think about when engaging with landholders

DO	DON’T
Listen.	Don’t embarrass people in public. Have hard conversations in private and if you have to be hard, be hard on the subject, not the person.
Familiarise yourself with the context and environment, understand who the influencers are.	Fly in and out without showing interest in the people and the business.
Respect landholders’ views.	Assume what they are currently doing is wrong.
Demonstrate knowledge of their business.	Don’t make assumptions.
Go out on farm, spend time, have cups of tea, walk around the farm.	Don’t be condescending or patronising.
Use the right language.	Don’t try and fix the whole world in 50 minutes.
Deliver with farmers or agronomists, not for them or at them.	Use complicated language.
For complex topics, use staged approaches – break it down into manageable, achievable steps.	Pack too much into one contact or assume landholders do or do not know certain things.
Weigh up the size of the issue and the time/resources available.	Don’t get into side issues.
Work with the people who are more likely to be receptive.	Try to influence everybody. There will always be people who are not interested.
Build trust, build a relationship.	Expect to have an effect on thinking or practices within a short timeframe.

DO	DON'T
Build relationships with those who have influence (e.g., advisers, agronomists, neighbours, fellow members of industry groups, contractors), look for those who will help you.	Ignore key influencers.
Demonstrate a potential benefit.	Make unsubstantiated claims.
Be aware of how busy people are in the farming business right now, e.g. harvest, shearing, sowing, etc. – visit/call when it's less likely to be so busy.	Be a pain.
Follow up, deliver on promises.	Overpromise and underdeliver.
Admit what you don't know, refer them to those who might.	Talk about themes you do not understand well.

POWERFUL QUESTIONS

Kee et al. (2010) put forward the thesis that in both teaching and learning it was critical to help people decide the best action for themselves rather than telling people what to do. They believe asking powerful questions is part of that process. The table below is adapted from Kee et al. (2010) and Rhode Island Department of Education (2014).

Table 6-5: Powerful questions

CHARACTERISTIC	DESCRIPTION	EXAMPLES
Reflect active listening and grasps the perspective of the receiver of the question.	Like paraphrasing, powerful questions illustrate that you actively listen to and understand what the receiver of the question is saying. All powerful questions should reflect that you listen, so this section will overlap with other characteristics.	Can you tell me more about...? What did you mean by...?
Presume positive intent.	Powerful questions should always affirm effort, skills, integrity, competence, caring and commitment.	What are you planning to...? How are you going to...? What could you start soon...? What could you trial or investigate...?
Evoke discovery, insight, commitment, or action on behalf of the receiver of the question.	Powerful questions can give the receiver of the question insight into their own patterns, thinking, or encourage them to take action.	What would you do if...? What were you thinking when...? How can you apply...?
Challenge current assumptions.	Powerful questions can push the receiver of the question to consider their own patterns or assumptions and help them understand what blocks them or holds them back.	How else might you...? What is stopping you from...? What is the barrier to…? What would happen if...? What's missing?

CHARACTERISTIC	DESCRIPTION	EXAMPLES
Create greater clarity, possibility of new learning.	Powerful questions can help the receiver of the question find greater clarity about their own learning, their own behaviour, or push them to look at something in a new way.	What do you think it means...? Help me understand what you mean by...? What will you learn from this...?
Move the receiver of the question toward what they want.	Powerful questions can help the receiver of the question move forward and learn how to take action, set goals, and get the help they need.	What do you want to learn? What have you tried so far? What kind of help will you need?

Powerful questions have the following attributes (adapted from Gurteen [unknown date]).

They are:

- Short and precise
- A single question
- Open-ended
- Provocative or a little unsettling
- Slightly unclear or ambiguous
- Free of any assumptions
- Not leading questions.

The questions:

- Focus on action and personal behavioural change
- Are about a real issue and one that is of importance to the participants
- Engage people and provoke them to think deeply
- Are those people can relate to on a personal level.

Nuffield scholar Matthew Gunningham (2021) suggested these questions were useful when looking at farm management.

1. What has happened on the farm recently?
    - Evaluate the quality of decisions we have taken in past few weeks.
        - Did we get it right?
        - If not, why not?
        - What happened, and why?
        - How well did it work?
        - In the light of experience, would we change anything, and why?
        - What went right?
        - What went wrong?
        - What are the costs of getting it wrong?
        - What would we do in future?
        - What have we learned?
        - How can we ensure that we will never make a particular mistake again?

2. What is happening on the farm now?
   - Looking at the farm now will let us know of the quality of decisions we have taken in past few weeks. Did we get it right?
3. Anticipating what is going to happen?
   - What do we need to get right over the next (say) six weeks?
   - How do we shape the future with current decisions?

Gunningham (2021) also discusses how regularly having these conversation on farm is important, particularly out in the paddock so that a shared understanding of what is good and what is undesirable can be developed. Essentially this is sharing and building the knowledge in the team and/or coaching mentoring.

COACHING/MENTORING

Kee et al. (2010) state that change takes energy. Sustaining change also takes energy. Support in the form of coaching or mentoring can enable change to be fully more implemented (see figure below).

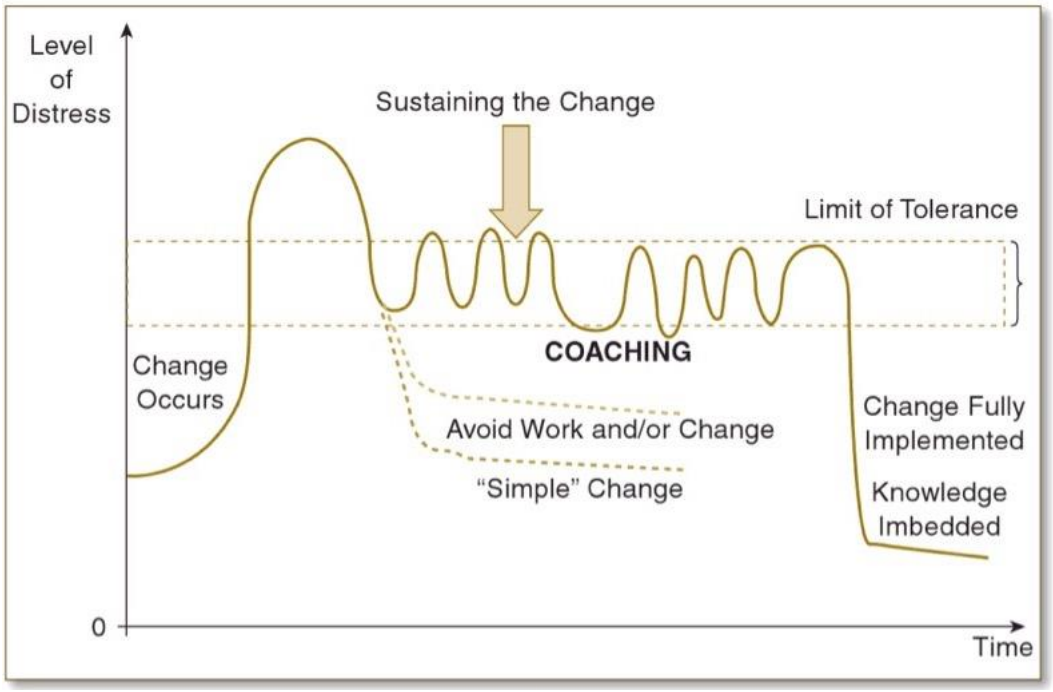

Figure 6-7: Influence of coaching on change

Image from Kee et al. (2010).

Regular contact/check-ins and support are important in assisting landholders. If you're driving past, drop in or at least check out what's happening on the farm ("I drove past the other day and I noticed…"). Knowing that they will be supported through change will support them in having a go. And you will learn from them too.

7 Tasmanian context

Tasmanian farms are generally quite diverse. They often are mixed farms, combining cropping, livestock, orchards, vines, in different ways. Often up to eight crops and livestock are part of a farming business. Rotation is an important aspect of cropping.

If somebody only grows carrots or has a dairy operation, they tend to develop knowledge specialised to that sector. However, in a complex farming system, landholders may be more reliant on or open to outside information. For a potential adviser, this an opportunity.

Operating in a complex system also means that landholders have different drivers. These will need to be considered (refer to Figure 6-4).

Tasmania is also unusual in having many contracted crops, particularly in vegetables, pyrethrum, poppies and processing potatoes. The processors/packers employ field officers and resellers use agronomists to provide information. Some of that may be quite prescriptive. These company representatives may have different drivers as they are focussed on helping the landholders achieve their production or sales targets. It also means that some decisions may be outside the landholder's control.

With contract growing, the spraying, seeding, harvesting or soil management are often carried out by contractors who are paid by the hectare. This needs to be considered.

In Tasmania, the relationship landholders have with their agronomist is often far closer than seen in other states. This is due to the variety of farming enterprises, and the prevalent contracting system. Therefore it is worthwhile talking to the agronomist before approaching a landholder to discuss potential options. For instance you could then say “I spoke to your agronomist and they said this ….makes sense and you may want to try it in ….. paddock…”. Others’ approval may help overcoming reluctance in trying something new.

Find out who regularly goes to the places and people you need information about or want to engage with.

Table 7-1: People with access to landholders’ properties (and ears)

HAVE REGULAR ON-FARM CONTACT	HAVE ACCESS TO THE PROPERTY
Agronomists, advisers, contractors (e.g. fencing, baling, sowing, irrigation, etc.), industry body representatives (e.g. Fruit Growers Tasmania, Meat and Livestock Association, Dairy Tasmania, etc.).	TasNetworks, TasRail, TasWater, local fire brigade members.

8 Program design

You have a project – what is its overall objective? How are you going to plan to get there? What project activities will you do to achieve the project objective? What are the important aspects of project management?

A program logic template that can help with planning is provided as Table 8-3. The Logic will help with preparing a monitoring and evaluation (M&E) plan at the outset.

The purpose of monitoring and evaluation (M&E) is to keep our program/project on track. It is also usually required for reporting, but that should not be the driver to do it.

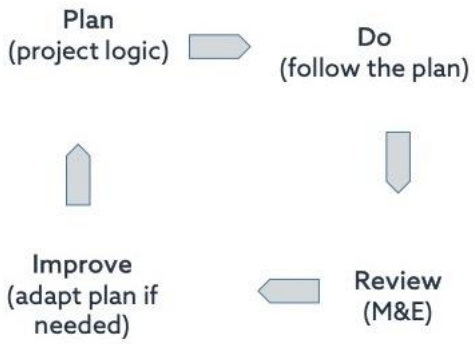

Figure 8-1: Plan, do, improve, review – cycle of continuous improvement

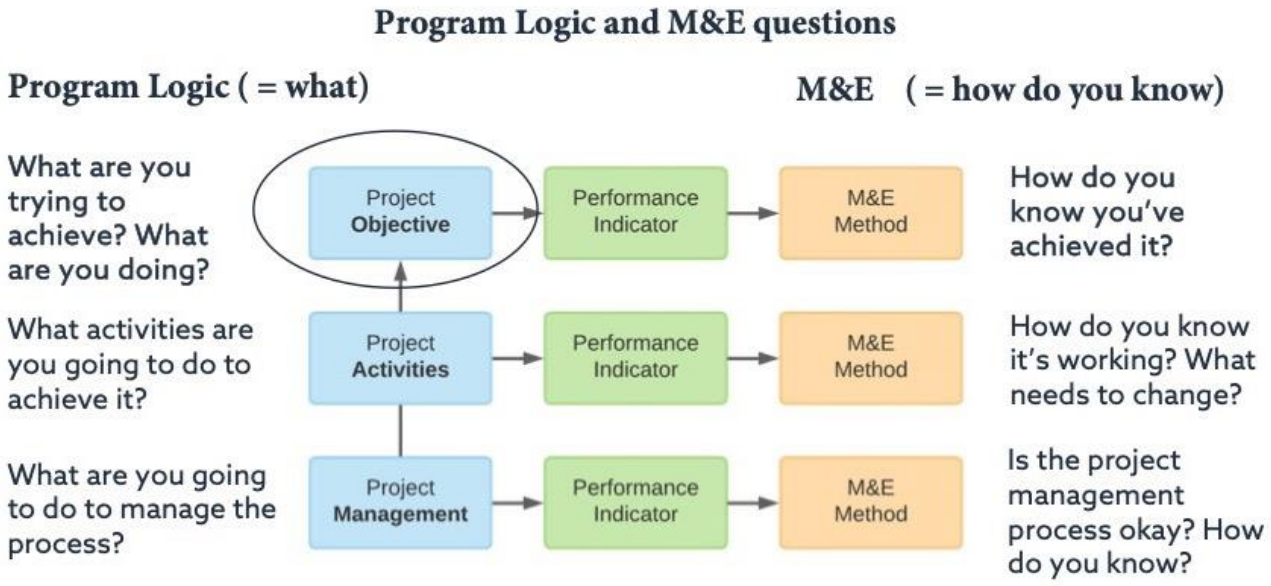

Figure 8-2: Project objective in the context of program logic and monitoring & evaluation

Monitoring and evaluation can be done in many ways, the two major categories are quantitative and qualitative. Quantitative M&E is about numbers; qualitative M&E is about the narrative and storytelling. Qualitative M&E will tell you how people felt about the project, what influenced them, what interested them, what actions they took, why and what benefits they saw, what they got out of the project.

Examples of quantitative metrics are detailed in the table below.

Table 8-1: Potential metrics for example outcomes

SUGGESTED OUTCOME	METRICS
The Program/Project is strongly valued by …..	By 2023, 50% (to be confirmed in M&E plan) of stakeholders, rate the Program as “highly” valued. By 2025, 75% (to be confirmed in M&E plan) of stakeholders, rate the Program as “highly” valued.
Increased knowledge, awareness, skills and changed attitudes.	By 2025, % (to be determined in M&E plan) of stakeholders report increased awareness, knowledge, skills and positive attitudes due to the Program.
Increased adoption of program outcomes (examples).	By 2025, % (to be determined in M&E plan) of stakeholders report increased change in practices due to the Program e.g. …
Enhanced conditions, including communication and sharing.	By 2025, % (to be determined in M&E plan) % of stakeholders report a change in. (conditions we want to achieve) due to the Program as well as better communications and sharing of knowledge.

Different aspects of the project/program can also be evaluated.

Table 8-2: Aspect of monitoring & evaluation with relevant questions

ASPECT OF PROJECT BEING EVALUATED	EVALUATION QUESTIONS TO BE POSED AT DIFFERENT PROJECT STAGES AS PART OF M&E
Context	Have we captured and built a shared vision?
Efficiency	Are the methods adequate to achieve efficiency of delivery?
Process appropriateness	How well have intended beneficiaries been engaged in the project?
Relevance	How relevant are project activities and outputs to the needs of intended beneficiaries?
Effectiveness	To what extent has the project achieved its expected outcomes?

Table 8-3: Program logic template

CURRENT SITUATION:						
Associated Issues:						
Overall Vision/Goal:						
Long term Outcomes (Change in Conditions)	**Medium term Outcomes (Change in Practices)**	**Short term Outcomes (Change in knowledge, skills, attitudes, aspirations)**	⇒	**Outputs needed**	**What needs to be done? Activities**	**Participants/Inputs/Resources needed**
External factors (=Risk)			**Assumptions**			

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Resources provided during and following webinars/workshops

Cam Nicholson – Farm Decision Making – the interaction of personality, farm business and risk to make more informed decisions – http://www.grainandgraze3.com.au/resources/Farm_Decision_Making.pdf – interesting bit on this page about Myer Briggs and farmers – https://grdc.com.au/news-and-media/audio/podcast/adopting-practice-change.

The following resources came up during discussion in Launceston.

The Green Book

"Central Government Guidance on Appraisal and Evaluation", UK

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/685903/The_Green_Book.pdf.

The Magenta Book

"Central Government guidance on evaluation", UK

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/879438/HMT_Magenta_Book.pdf with other useful bits here – https://www.gov.uk/government/publications/the-magenta-book.

LISTmap YouTube videos – https://www.youtube.com/user/gsbclientserv/videos.

LISTmap – for those that like written/non-video instruction – https://www.thelist.tas.gov.au/app/content/the-list/news_and_information/resources/listmaphelp.pdf.

Potentially useful information

APEN (2011). Shaping Change: Natural Resource Management, Agriculture and the Role of Extension. Edited by Drs Jess Jennings, Roger Packham and Dedee Woodside.

Beef and Lamb New Zealand – Extension Best Practice Guidelines – Designing an extension programme – https://beeflambnz.com/knowledge-hub/module/extension-best-practice-guidelines-designing-extension-programme.

Bewsell, Denise and Tony Brenton-Rule (2019). Extension Design Project Final Report. Red Meat Profit Partnership. Available here: https://www.rmpp.co.nz/site_files/13089/upload_files/ExtensionDesignProjectFinalReport%281%29.pdf. Section 7 (Extension model) may be particularly worthwhile.

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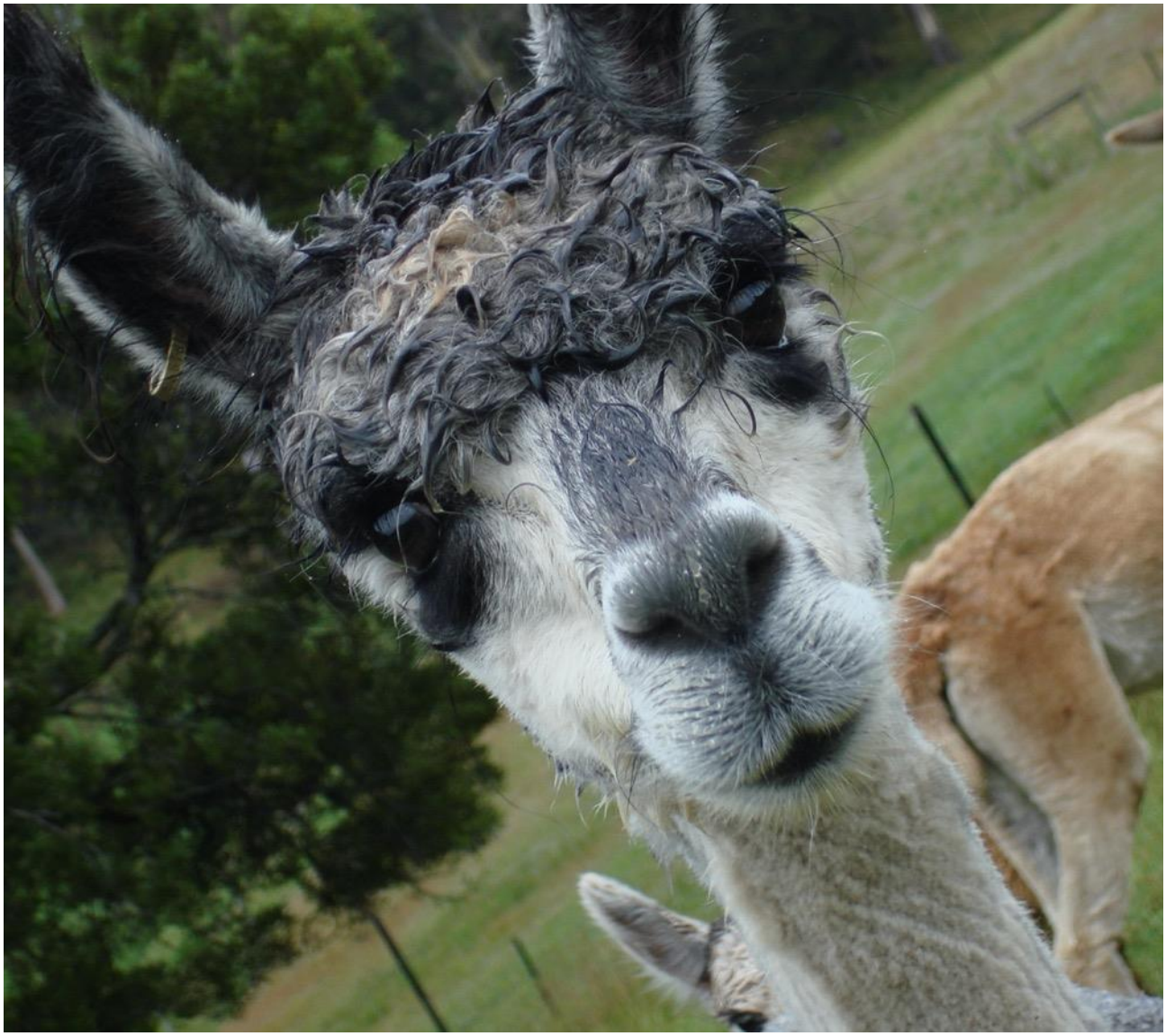

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Document review and authorisation

Project Number: #567

Doc Version	Final/Draft	Date	Author	Project Director review	BST QA review	Release approved by	Issued to
1.0	Draft	26/04/2021	M. Anderson D. Blaesing	D. Blaesing	-	-	BST
2.0	Final	01/06/2021	M. Anderson D. Blaesing	D. Blaesing	J. Belz	D. Blaesing	Workshop participants/DAWE