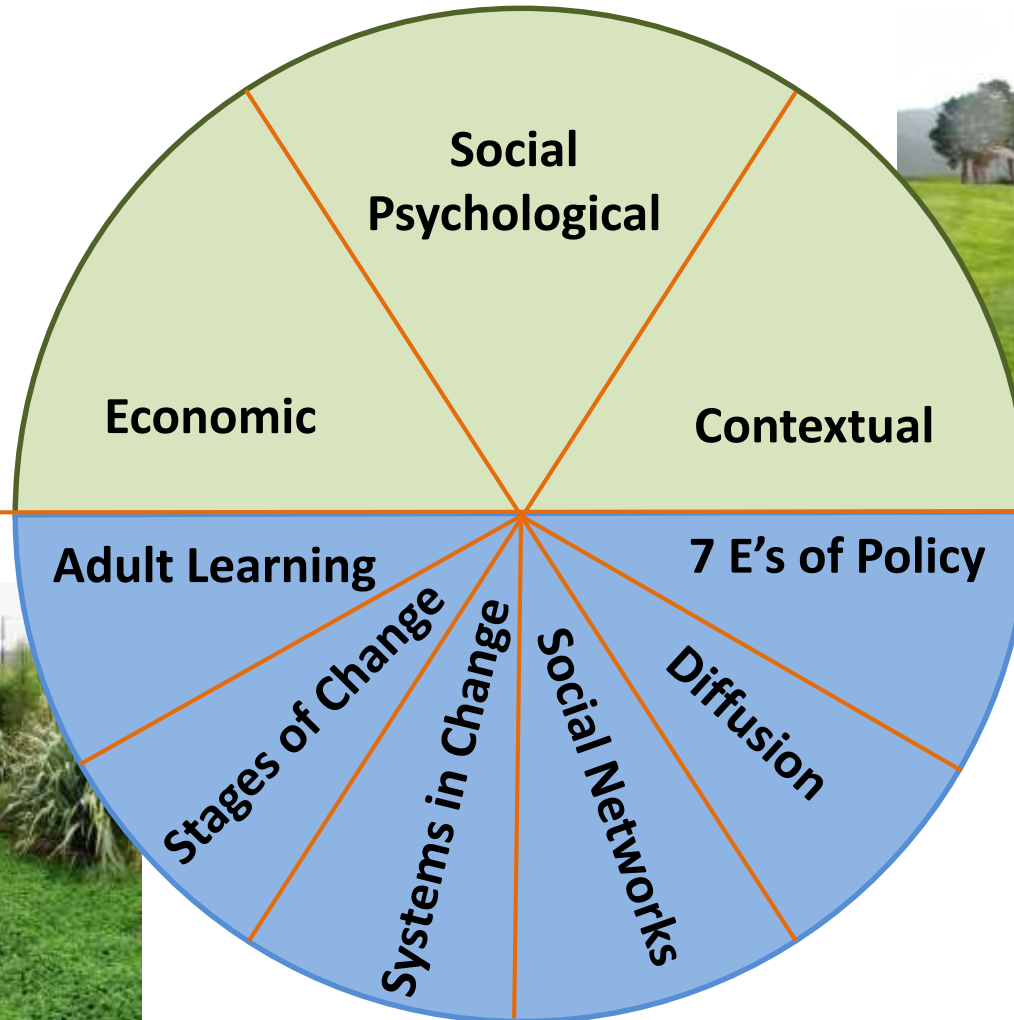


**Designing Policy
Interventions to Change
Environmental Behaviours:
Riparian Management**

Terry Parminter – KapAg Ltd

Presentation

Frameworks for understanding behaviour



Frameworks for understanding behaviour change

Frameworks for Understanding Behaviour

Economic	Social-Psychology	Contextual
<p>Quantitative. Rational high involvement decision making to maximise personal benefits</p>	<p>Quantitative. Integrated reasoning and intuitive beliefs about behaviour</p>	<p>Qualitative. Situations, sense making, habits and routines that lock-in behaviours</p>

Now lets apply these to fencing and planting riparian areas

Benefits and Costs for Farmers of Grazing or Fencing and Planting their Riparian Areas

Benefits of grazing	Costs of Grazing
Natural water	Bank erosion
Animal grazing	Livestock losses
Animal shelter	Boggy areas
Access ways	Mustering
Weed control	
Natural barrier/boundary	

Sources: *Parminter, Tarbotton & Kokich, NZGA 1998*
Greater Wellington Section 32 2015
 $R^2 = 0.45$ from *Parminter, PhD thesis, 2008*

Benefits to landowners of Fencing and Planting	Costs to landowners of Fencing and Planting
Financial incentives and advice	Grazing lost = \$10/ha/yr
Better stock health from clean water	Water supply = \$150/ha
Improved pasture management	Fencing = \$72/ha
Shade and shelter for livestock	Planting = \$250/ha
Reduced erosion	Fence maintenance
Less drain cleaning	Building bridges and culverts
Decreased sediment and nutrient losses	Weed & pest control
Decreased water temperatures	
More trout and native species	
More native plants and animals	
Improved instream recreation	
Reduced pasture loss from birds	

Behavioural intentions towards fencing and planting (TPB $R^2=67\%$)

Similar contributions from:

- Previous history of riparian investment
- Expected ease or difficulty (PBC)
- Expected benefits (IA)
- Supportive family and friends (SN)
- Being confident in own abilities (SE)

Contextual understanding of fencing and planting riparian areas

- High intention farmers more likely to be well established dairy farmers wanting to look after their property while farming it and who liked the variety that riparian work gave them. They were socially interactive and responded to industry direction. Their riparian efforts would make the farm more attractive, increase habitat, reduce erosion and improve waterway health.
- Low intention farmers more likely to be sheep & beef farmers with large properties focussed on farming activities (stock work), aiming to be profitable and pay down their debts. Riparian efforts would be a waste of time and effort, growing more weeds, making the farm untidy and livestock management more difficult. They did not expect any waterway improvement and they did not expect anyone to thank them for it.

So

Three different frameworks for understanding behaviour. Each provides a slightly different perspective on landowners' behaviour.

For you in government policy:

- Which provides the greatest insight?
- Which is easier to use in designing policy interventions?
- Which is easier to obtain information on?

Frameworks for Understanding Behaviour Change

1/2


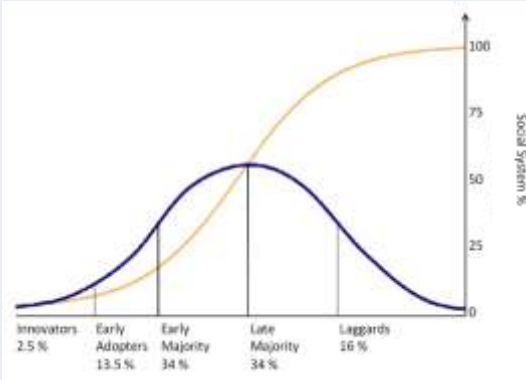
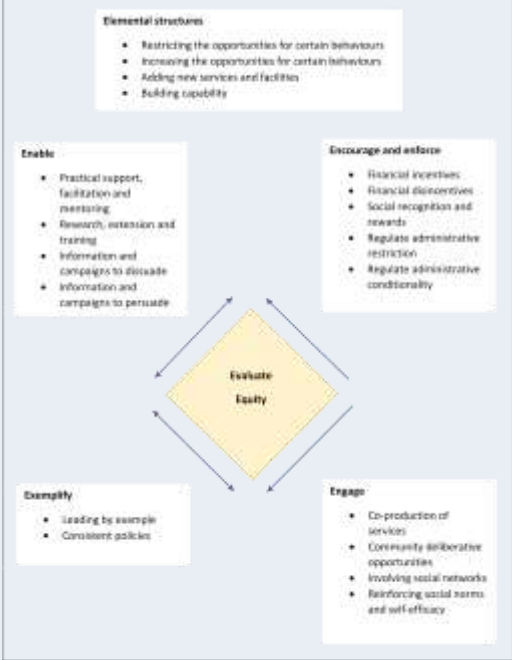


Adult Learning	Stages of Change	Systems in Change
<p>Professional training and intuitive knowledge building</p>	<p>Five behaviour-change segments and extension strategies for change</p>	<p>Describing complex interactions and emergent properties of change</p>
<p>The diagram illustrates the process of adult learning. At the top, 'Information' and 'Motivation' are shown in boxes with bidirectional arrows between them. Arrows from both point to a box labeled 'EMI' (Empathic Motivational Intelligence), which then points to a box labeled 'Behaviour'. Below this, a 2x2 matrix is shown with 'Dialogue and collective reflection' at the top and 'Learning by doing and experimentation' at the bottom. The matrix contains four quadrants: 'Socialisation Empathised knowledge', 'Externalisation Conceptual knowledge', 'Internalisation Operational knowledge', and 'Combination Systematic knowledge'. Arrows indicate a flow from the top-left to top-right, and from the bottom-left to bottom-right, with a vertical arrow on the right side labeled 'Networking and linking explicit knowledge'.</p>	<p>The diagram shows five concentric rings representing stages of change. The innermost ring is 'Farm Constraints', divided into 'Assess', 'Consideration', and 'Preparation'. The second ring is 'Farm plans', containing 'Action'. The third ring is 'Daily R2'. The fourth ring is 'Regional Contexts'. The outermost ring is divided into 'Farm viability', 'Public perception', and 'Marketing'.</p>	<p>The diagram is a complex network of nodes and arrows. It features two central nodes labeled 'R2' and 'B2'. 'R2' is connected to 'Spending on fisheries management research', 'Quotas held by corporations', 'Ability to buy more quotas', 'Financial resources of companies', and 'Exports'. 'B2' is connected to 'Research ability', 'Ability of TAC to ensure sustainability', 'Habitat loss', 'Sea floor destruction', 'Use of bottom trawling', and 'Need for high CPUE'. Other nodes include 'Ability of fish stock to replenish', 'Number of fish that can be caught', and 'Number of fish that can be caught'.</p>

Frameworks for Understanding Behaviour Change

2/2

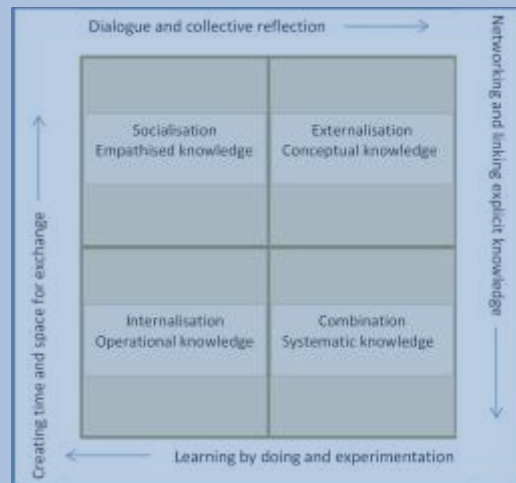
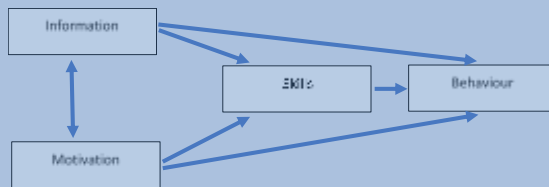


Social Networks for Change	Diffusion of Change	Intervention frameworks
<p>Communication through opinion leaders and “bridge builders”</p>	<p>Five types of social capital from bridging to bonding</p>	<p>The 7 Es of policy formulation</p>
		

I Am Now Applying Only One of These to Riparian Fencing and Planting

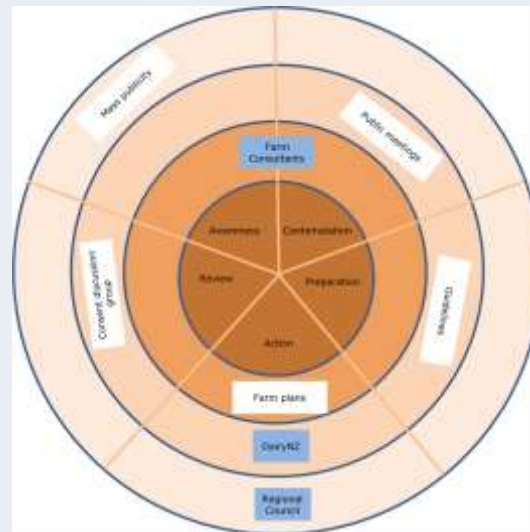
Adult Learning

Professional training and intuitive knowledge building



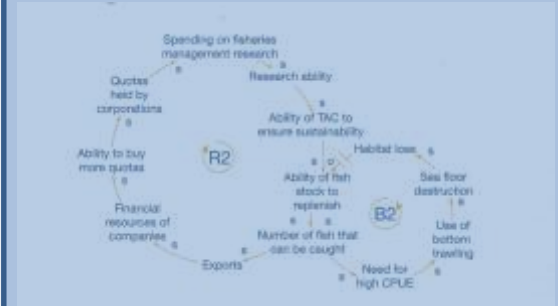
Stages of Change

Five behaviour-change segments and extension strategies for change



Systems in Change

Describing complex interactions and emergent properties of change



Segments for Change (1&2/5)



Awareness

- Information without demands
- Use existing information channels
- Use trusted sources able to be associated with the topic

Importance to their industry, their community, and their future ...

- ... others want to use the water too
- ... be a steward for future generations

Contemplation

- Direct experience with 'people like you'.
- Demonstrate success with simple explanations
- Easily accessible examples
- Signing up for further contact

This may be important for you

- ... farm management made easier
- ... farm more attractive
- ... costs are manageable

Segments for Change (3&4/5)



Preparation

- Guidelines for action
- Use internet, videos, paper
- Being able to adapt guidelines to actual situation
- Principles for your success
- Turning it into your plan

This is important in your situation in order that you can ...

- ... maximise benefits and minimise costs
- ... ensure successful end results

Action

- Have appropriate practical skills available
- Check timing, resources and materials
- Implement and adapt as you go

Taking action ...

- ... correct time and place
- ... managed risks
- ... achieving expected results

Segments for Change (5/5)



Review – sustaining action

- Guidelines for reflection
- Capture improvements for next time
- Establish self-improvement and learning circles
- Create opportunities to share with other just starting

This is what you have achieved ...

- *... the benefits for you*
- *... the benefits for others*
- *... the benefits for water*

Summary – don't do it all yourself

Five segments

1. Awareness raising – mass communication through institutions
2. Contemplation – demonstration through local organisations
3. Preparation - guidelines from technical groups
4. Action – encouragement from other landowners
5. Review – feedback and learning from institutions and organisations

So

Five different segments to address behaviour change. Which stakeholders would make the best partners to deliver content to each of these?

Conclusions

Understanding behaviour – 3 frameworks

- Simple, Interactive, Narrative

Behaviour change – 6 frameworks

- Stages of change and riparian behaviour

For policy intervention designs to be reliably successful :

- Use frameworks that ensure behaviour change is understandable and predictable
- Provide ways to monitor success and adapt strategies
- Use strategies for change that bring together the skills and capabilities of all the stakeholder parties