

Navigating Human Dimensions in Agricultural Practice Adoption

From individual perceptions to collective water quality improvements in the Great Barrier Reef catchment

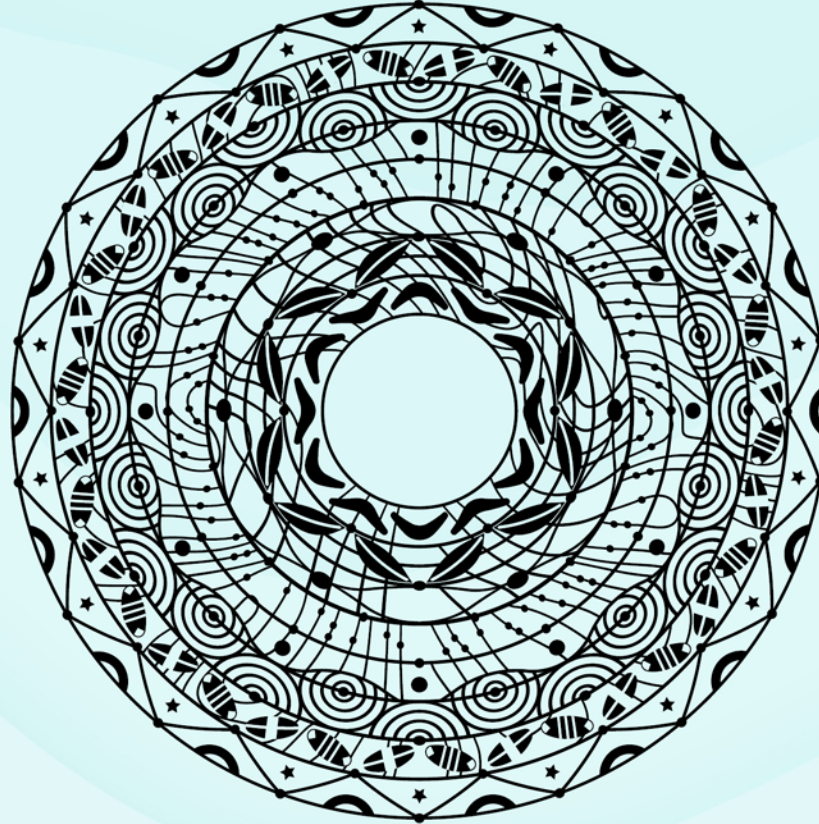
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Department of the Environment, Tourism, Science and Innovation

Queensland, Australia



Queensland
Government



The Department of the Environment, Tourism, Science and Innovation acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land. We recognise their connection to land, sea and community, and pay our respects to Elders past and present

'Together, We Help Queensland's Environment Thrive' artwork by Navada Currie of Gilimbaa.



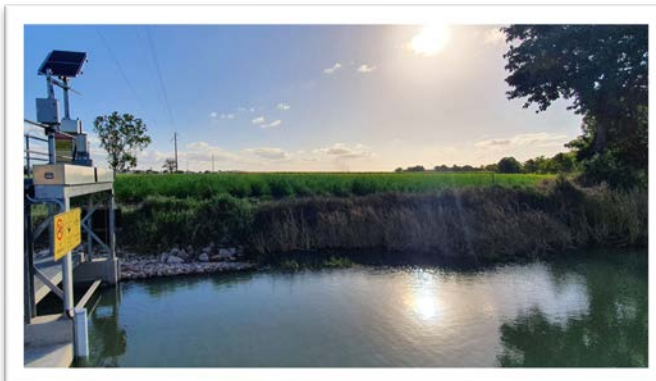
Improving water quality

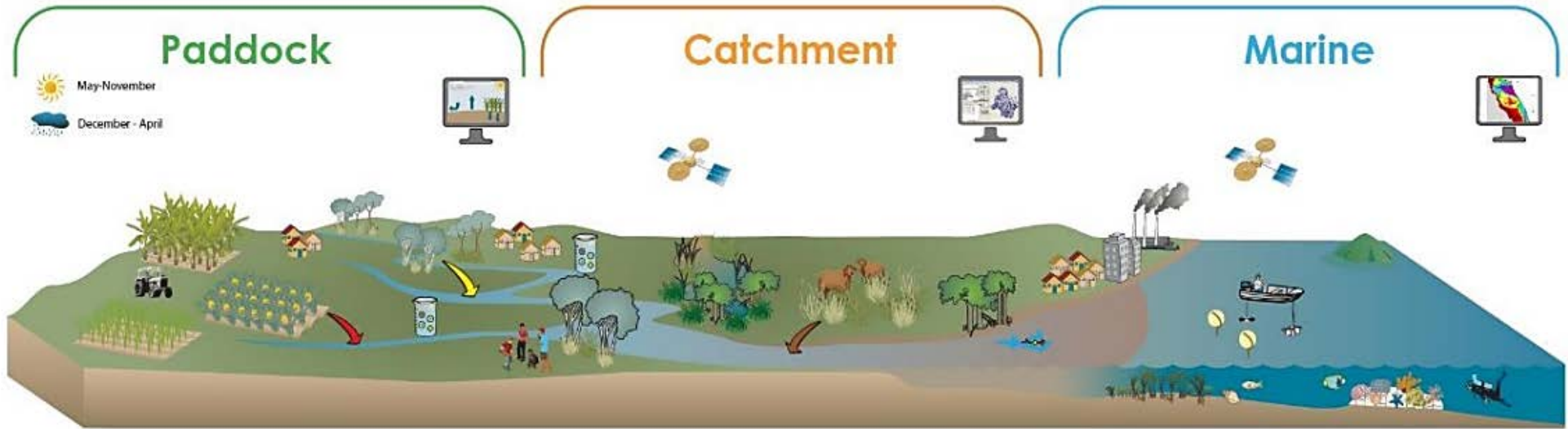
Australian Government Reef Trust

\$1.2 Billion 2021-2030

Queensland Government
Reef Water Quality Program

\$289.6 Million 2021-2026





- Agriculture**
- Paddock monitoring
 - Paddock modelling

Catchment monitoring

Catchment modelling

- Catchment indicators**
- Riparian extent
 - Wetland condition
 - Wetland extent
 - Ground cover

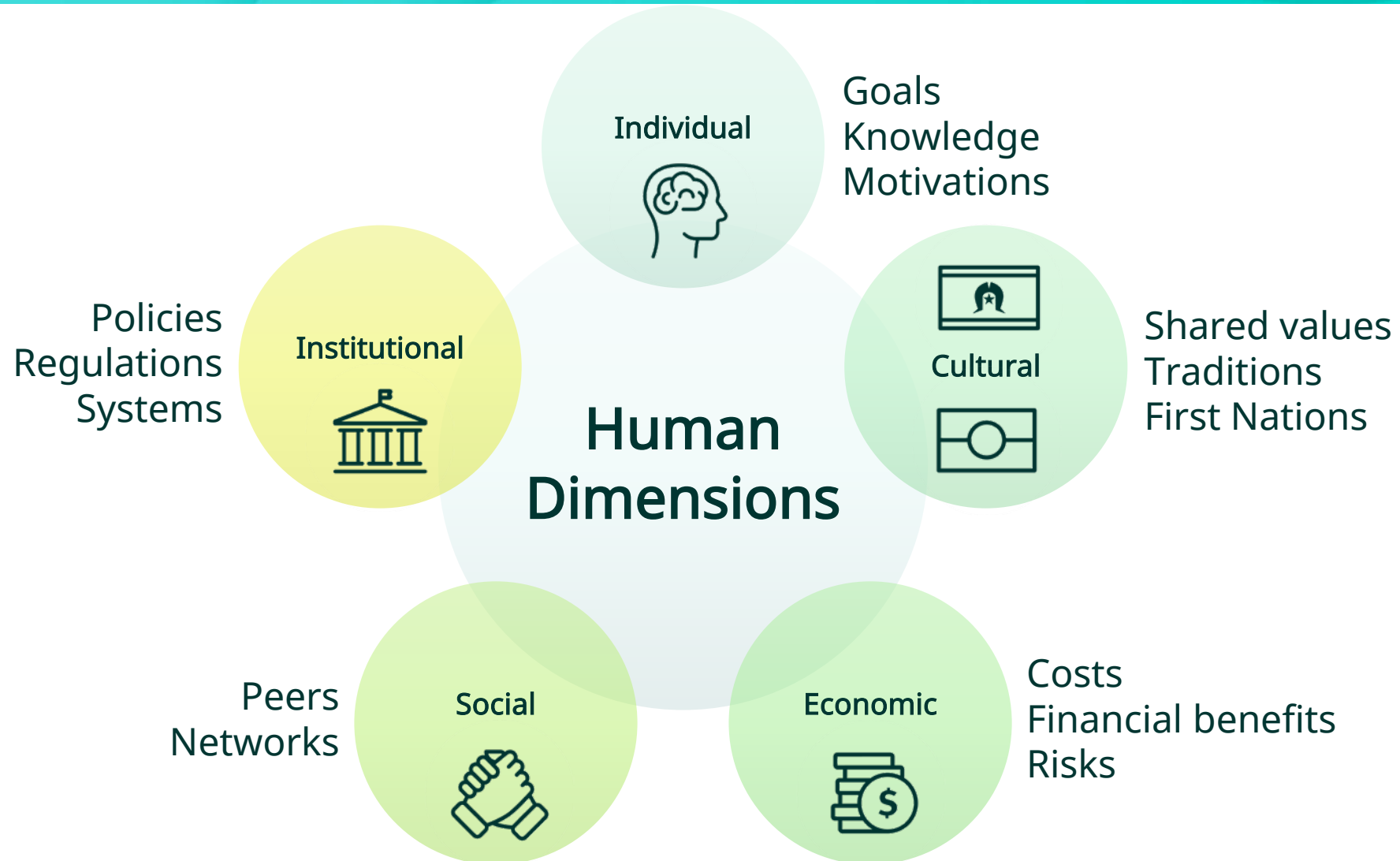
Seagrass monitoring

Water quality monitoring

Coral monitoring

eReefs marine modelling

- Stewardship**
- Agriculture
 - Urban
 - Industrial
 - Public lands



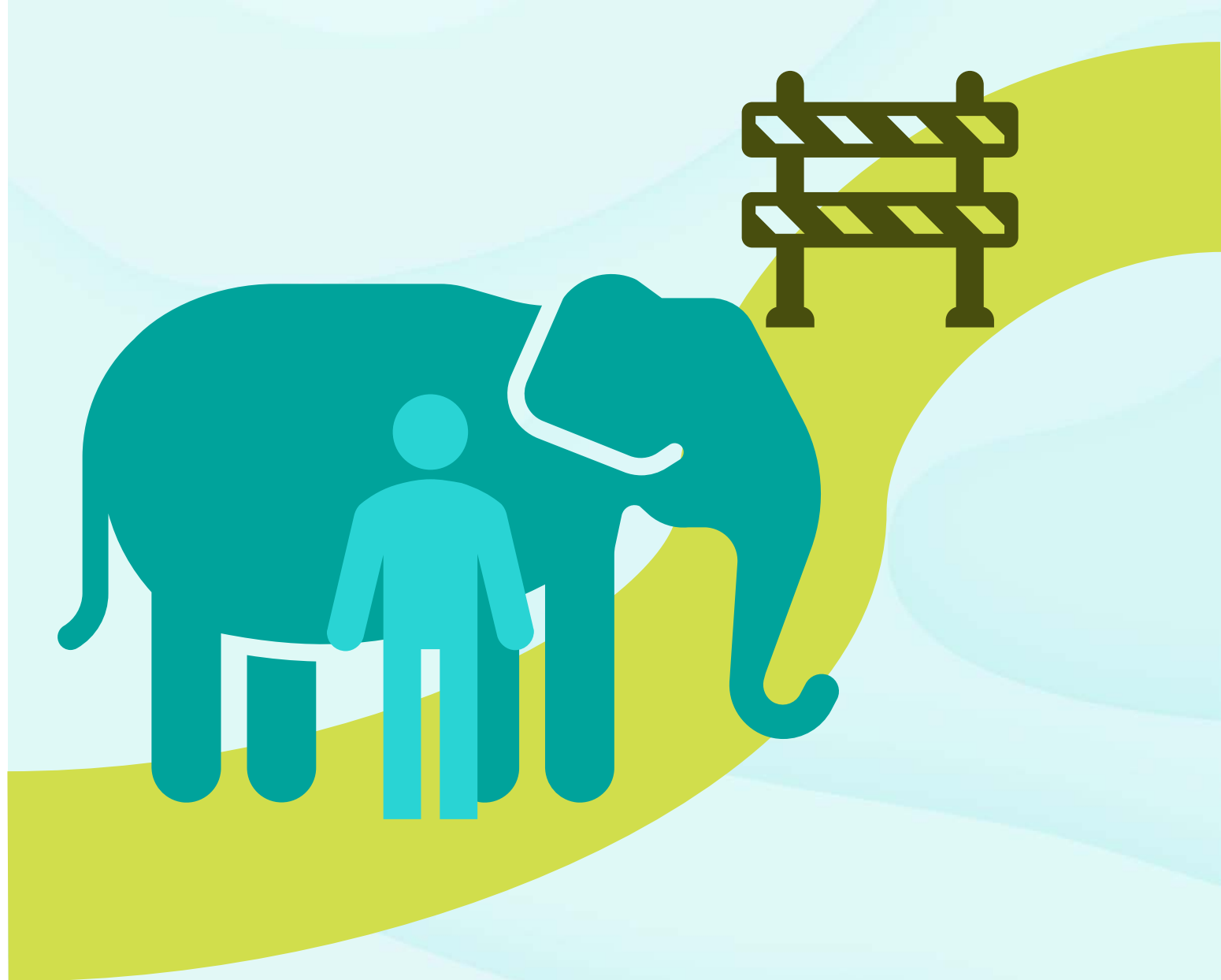
What does it look like?

The rider and the elephant

Direct the rider

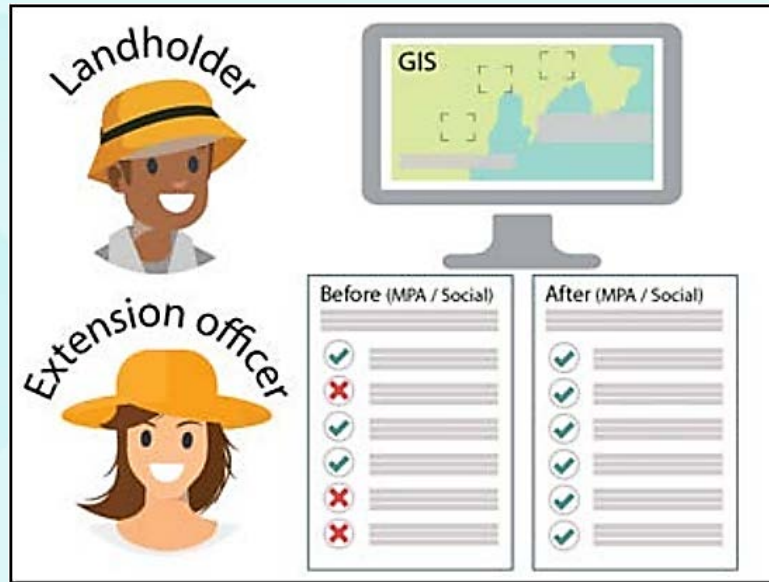
Motivate the elephant

Shape the path



Jonathan Haidt


How do we monitor farmer perceptions?





“[The social monitoring survey] gave us a measurable, quantitative look at the impact that the projects had on people. Seeing that either validated the processes we were using or helped us to adapt the delivery of the project.”

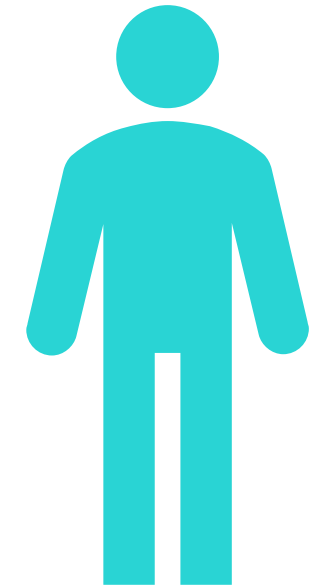
What does our data tell us about directing the rider?

 Confidence & attitude

 Perceptions of others

 Clear information
from
trusted sources 

 Make it social



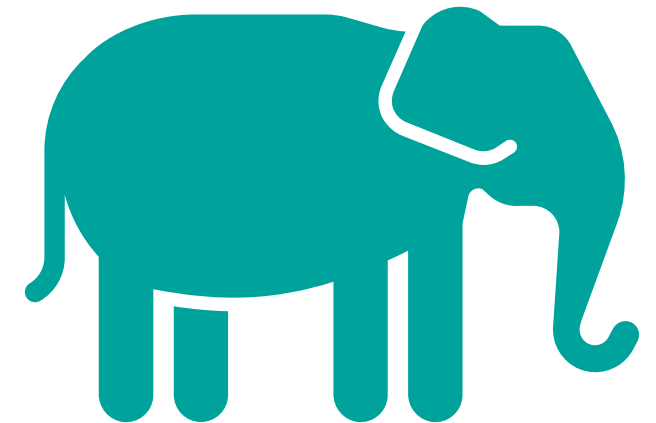
What does our data tell us about motivating the elephant?

1 Profitability & productivity

2 Regulation compliance

3 Environment

Personalise benefits



What does our data tell us about shaping the path?

1 Weather and seasonal issues

2 Costs

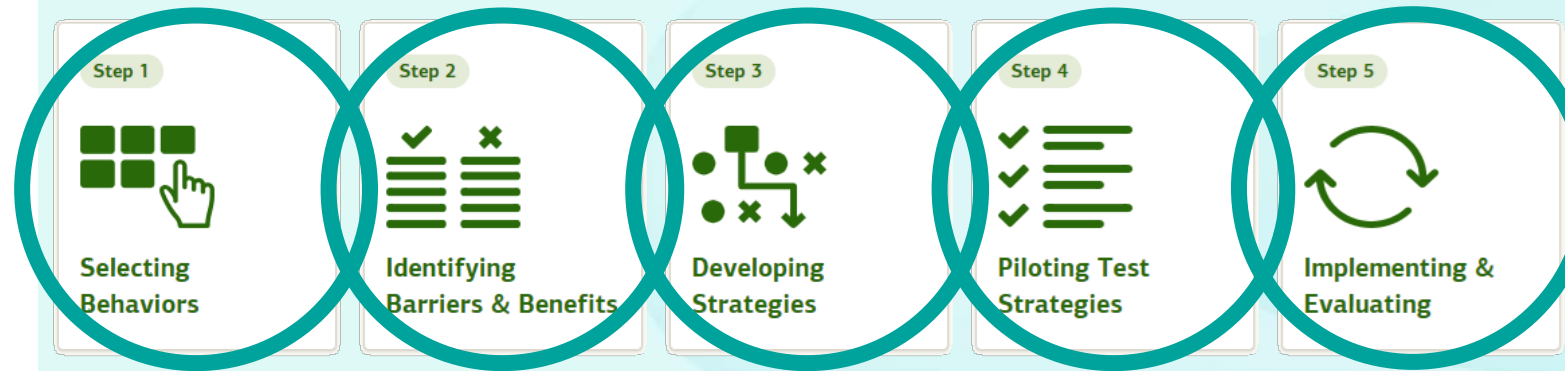
3 Lack of time

 Planning and prioritisation





Community Based Social Marketing



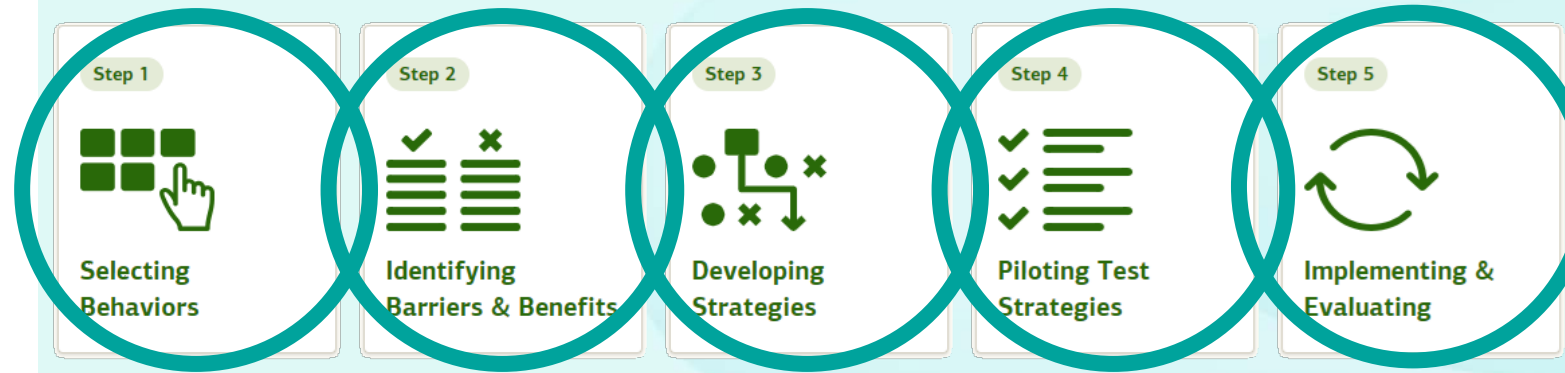
Nutrient management planning projects



- ↑ attitudes
- ↑ ability
- ↑ group norms
- ↓ barriers



↓ 900 tonnes
nitrogen
application



Looking forward and backward



REEF CATCHMENTS SCIENCE PARTNERSHIP



Perceptions of Practices

Insights for program investment and design



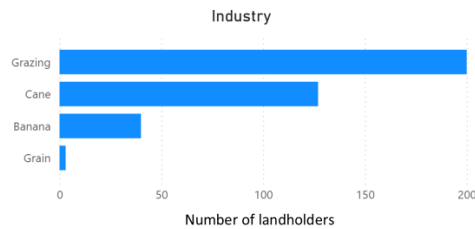
Year: Industry:

Funding body:

Practice change:

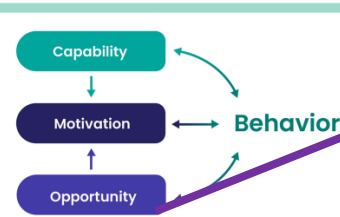
Number invited	Number consented	Number completed
370	242	80

The PoP survey captures landholders' perceptions of their adopted land management practices within the water quality project. Insights from these surveys help project providers improve delivery and evaluate the effectiveness of water quality improvement programs through the Paddock to Reef program.



About the Queensland Reef Water Quality Program

The Queensland Reef Water Quality Program coordinates efforts to reduce pollutant runoff from agricultural sources entering the Great Barrier Reef. The program implements key actions from the Reef 2050 Water Quality Improvement Plan through partnerships with landholders, industry, and communities to deliver targeted on-ground practice change projects.



Based on Michie, van Stralen, & West (2011). Image adapted by The Center for Implementation. © 2023. For full citation: <https://thecenterforimplementation.com/foolbox/com-b>

The COM-B model provides a framework for understanding practice change through three components:

- Capability** (psychological and cognitive ability to engage i.e., knowledge and confidence)
- Opportunity** (external factors that enable practice change i.e., additionality, group norms, barriers)
- Motivation** (internal processes that enable practice change i.e., outcome expectancy, motivations, persistence)

This model helps us categorise the PoP survey responses to better understand what drives practice change.



Perceptions of Practices: Opportunity

Insights for program investment and design

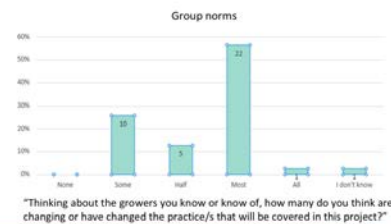
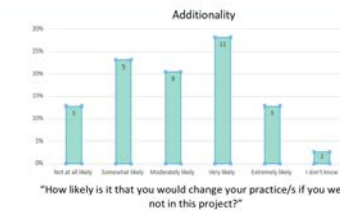


Year: Industry:

Funding body:

Practice change:

Number invited	Number consented	Number completed
45	39	19





Think about the rider, the elephant and the path





Behavioural Insights Team

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