How can data inform wise decisions for nature

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Dialogue Matters Ltd
Specialists in designing and facilitating co-operative
decision making for the natural environment

Dialogue Matters
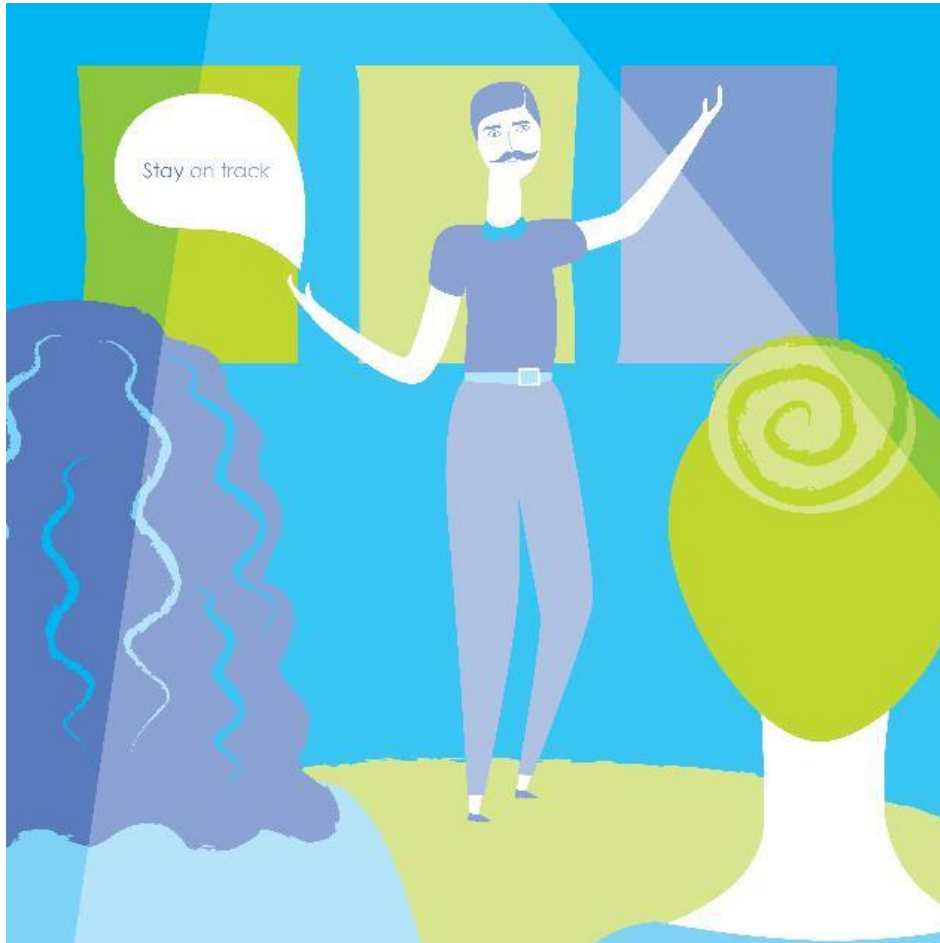
WINNER
2015 & 2018
CIEEM Award
CIEEM

Contents

- Introduction

- How decisions are really made

- Evidence for a different approach

- The role of data

- Investing in wise decisions

What we do:

Stay on track

- Founded in 2000
- Help people to make better decisions
- Award-winning best practice
- Design, facilitate, train, advise, research
- Over 120 projects at all scales: local to global
- Land, sea, rivers, protected areas, climate change, farming, energy and research
- Trained over 2500 people
- Worked all over the place: 28 countries so far (Europe, Central Asia, India, Africa, Middle East, Caribbean and South America)
- Worked across cultures, sectors and levels of education and status

Experience

Current

- Senior Associate and Impact Expert at Dialogue Matters
- Impact Development Associate at the University of Bristol

Past

- UK Research and Innovation commissioning interdisciplinary science
- Developing research impact at Universities of Surrey and Portsmouth
- BSc Psychology; MSc Environmental Psychology

How decisions are really made

Rational Choice

HEDONISTIC CALCULUS

Is the money worth the risk of going to jail?

Good | Bad

Study.com

Science + rational analysis = decision

- Invest in more data and information
- Gather stakeholder views as data
- Ensure rational experts decide
- Expect rationally analysed outcome (decision)

What is your order of preference ?

What is your order of preference ?

Flavour

Shape

Colour

Which line is longer?

A _____

B _____

What would you do if everyone who was asked before you, said the wrong answer?

What colour is this bit of paper?

What is the biggest risk to humans we need to invest in managing?

We tend to overestimate what we know and are familiar with

4 – 6 deaths world wide a year
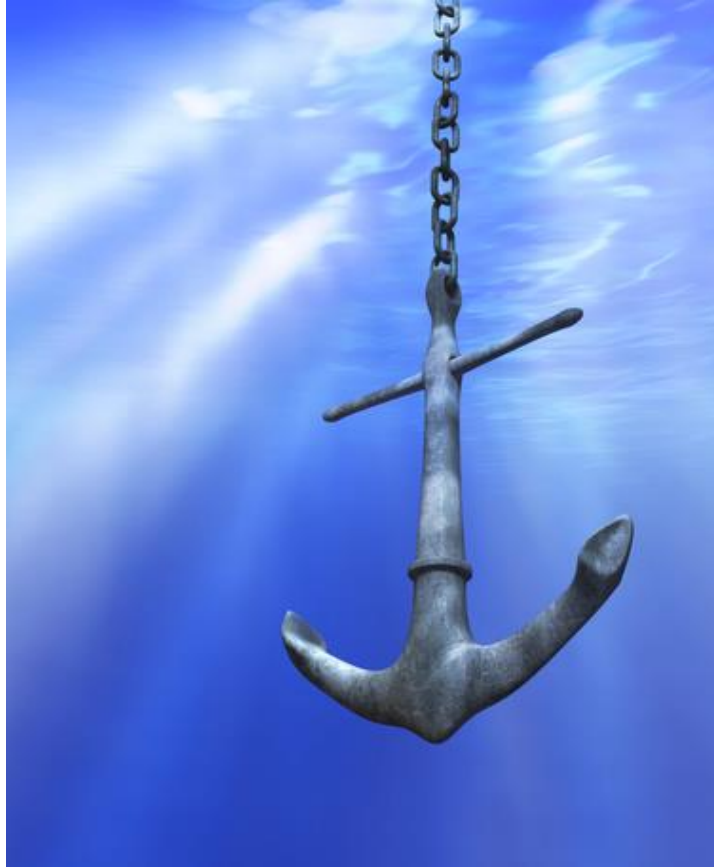

500 deaths world wide a year

Decision shortcuts

Heuristics or Mental glitches?

- Mental short cut or rules of thumb to ease the load of making a decision
  - Individual
  - Social

Individual short cuts

- **Anchoring:** we rely most on what we first hear
- **Availability/ease**: if we can easily bring something to mind we think it is more common
- **Familiarity:** we are disproportionally influenced by what we have experienced before
- **Confirmation bias:** we favour information that fits our existing way of seeing things

Individual short cuts

- **Sunk costs:** we invest more because when we have already invested a lot - even if evidence shows this won't pay off
- **Stereo/proto typing**: we make assumptions made on mental images and patterns
- **Functional fixedness**: we see things as only working in a particular way
- **Optimism bias:** we think we are less likely to suffer misfortune and more likely to attain success than average

Individual short cuts

- **Mood**: when we are in a good mood we see higher benefits and lower risks

- **Decision Fatigue**: avoid court in the afternoon!

Social short cuts

- **Social norming:** go with the crowd

- **Copy someone you trust**

- **Follow the leader**

- **React to the power holder**

- **False consensus:** we tend to overestimate how much people agree with us

They just need better information… or do they?

We assume the problem is information deficit and that we influence with information, but we overlook:

- **Heuristics and decision shortcuts**

- **Inattentional blindness** – our brains only see what is relevant at the time

- **Technical language, stats, graphs and maps are not well understood** *(US representative sample asked people to convert 20 out of 100 to a percentage and 28% failed to do so accurately).*

They need to logically analyse information…
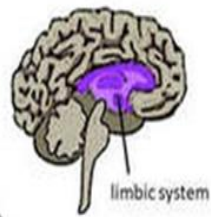# but can any of us?

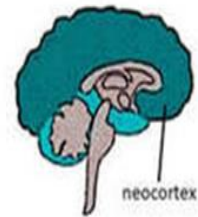## What drives behaviours?

- The three parted brain:
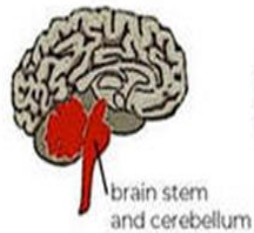
Lizard Brain
- Autopilot
- Fight & flight

brain stem and cerebellum

Mammal Brain
- Emotions
- Memories
- Habits
- Attachments

limbic system

Human Brain
- Language
- Imagination
- Consciousness
- Abstract thought
- Reasoning/ rationalising

neocortex

But most behaviour is not governed by the rational part of our brain..

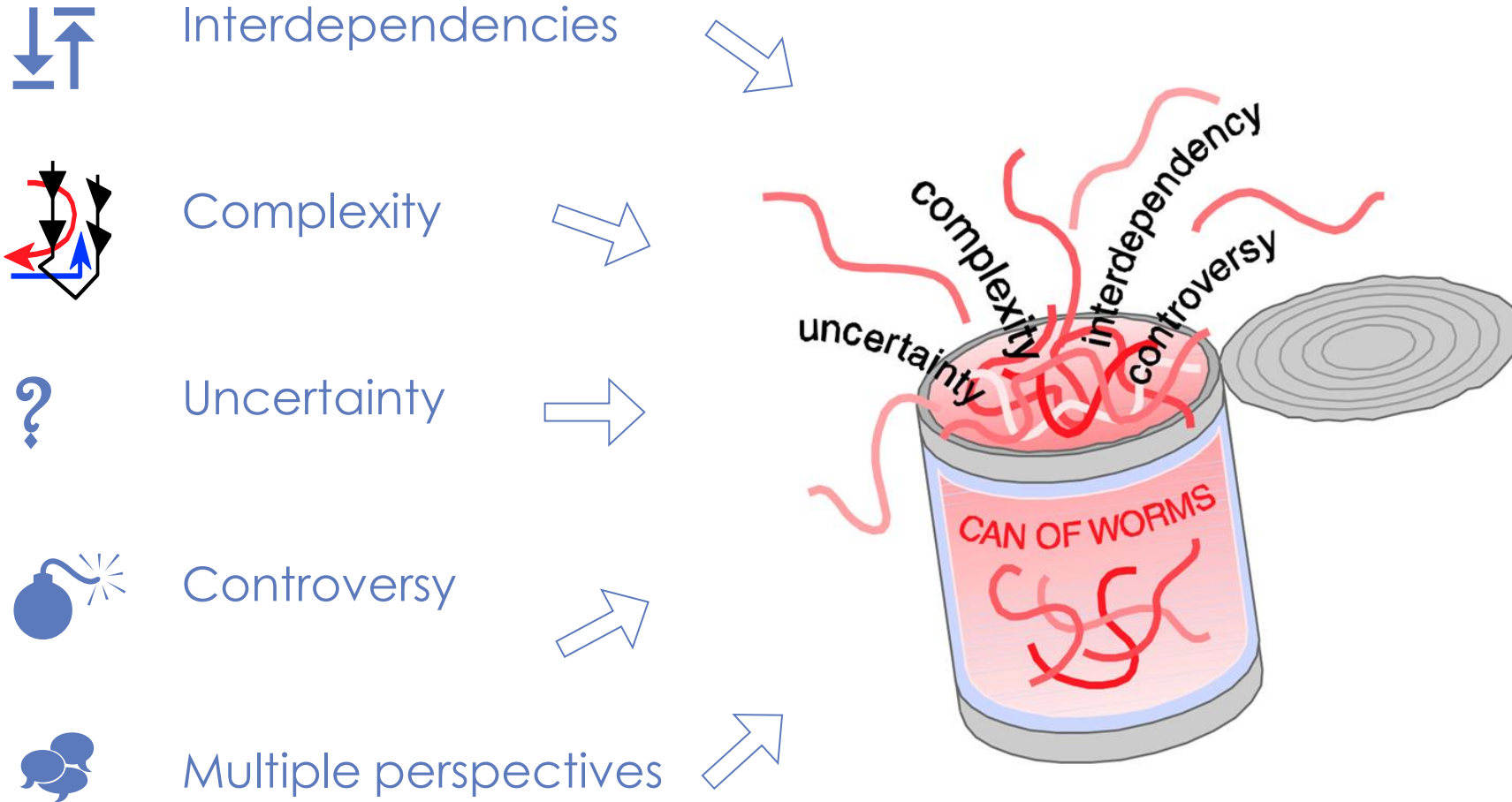- 95% of decisions are made using heuristics – decision short cuts such as:

Decisions

Science + rational analysis ≠ sound decision

- Decisions are complex
- People are complex
- One person can be affected by multiple decision strategies

Evidence for a different approach

Nature and climate management and research

Interdependencies

Complexity

Uncertainty

Controversy

Multiple perspectives

complexity
interdependency
controversy
uncertainty

CAN OF WORMS

Kevin Collins SLIM project, Open University, 2004

Misguided decisions

TOP DOWN?

Distance between decision makers and the managed resource brings a greater risk of misguided decisions:

- Different views of risk and rewards
- Less detailed knowledge of the environment
- Lack of emotional and spiritual connection to place (which inhibits destructive or insensitive practices)

Millhauser. J. and Earle. T. 2022. Published www.Sapiens.org

Research Evidence
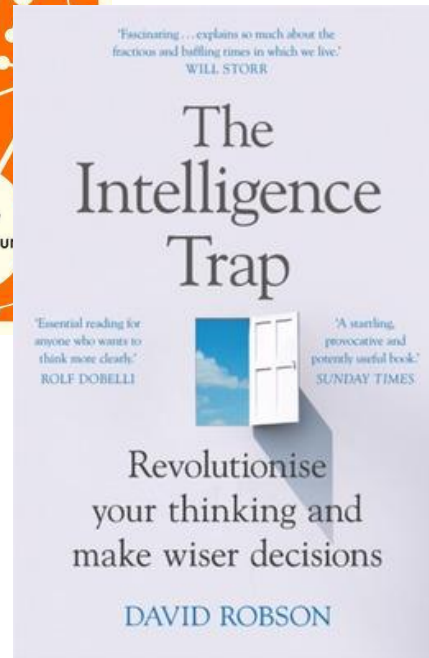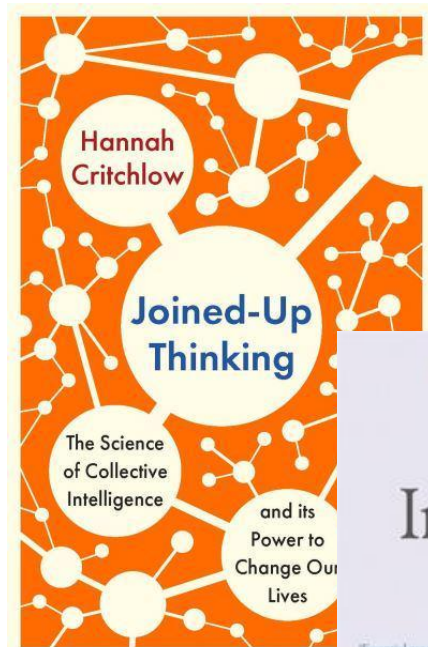
- Wise decisions result from diverse knowledges. (Hannah Critchlow. Joined up thinking – the science of collective intelligence. 2022)

- People are more open minded and more creative if they are working (safely) in a diverse setting. (David Robson. The Intelligence Trap – Why Smart People Make Stupid Mistakes and how to make wiser decisions. 2020)

Research Evidence (this is just a tiny taster)
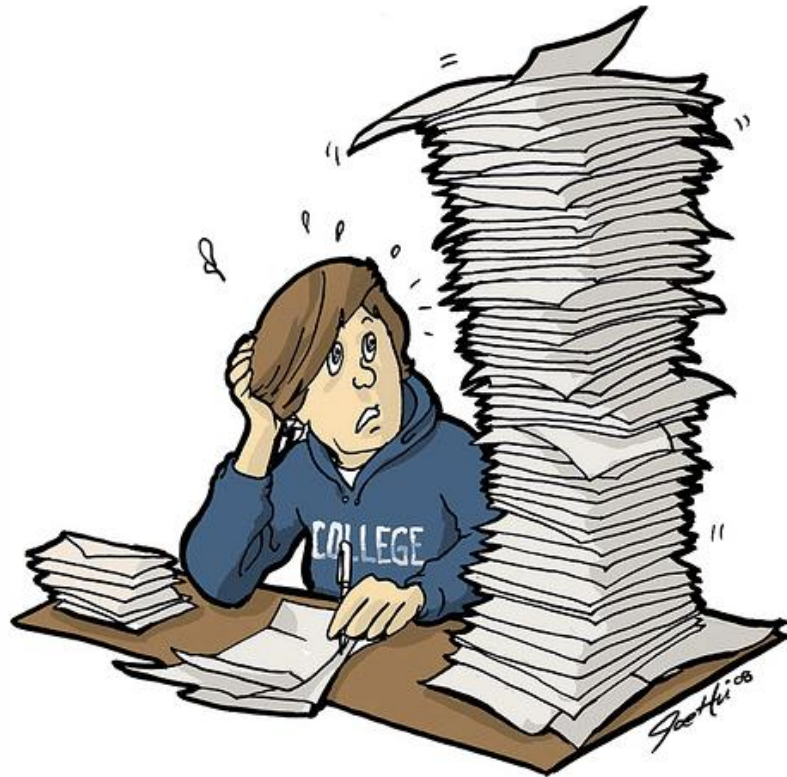
- Well-run collaborative and participatory approaches make a difference to the standard of environmental outputs (ambition, plans, agreement and stringency). (Newig et al. 2018)

- Best practice makes a significant difference to outcomes. (Newig et al. 2016)

- People are more willing to accept outcomes that are not their own first preference if they think the process has been legitimate. (Dietz et al. 2008)

Inclusive decision making

- Make the most of all relevant forms of knowledge and different values
- Higher standards of participatory decision-making practice
- At an early stage when options are open
- Shift from 'superficial engagement' and experts decide to power sharing: co-design and co-delivery
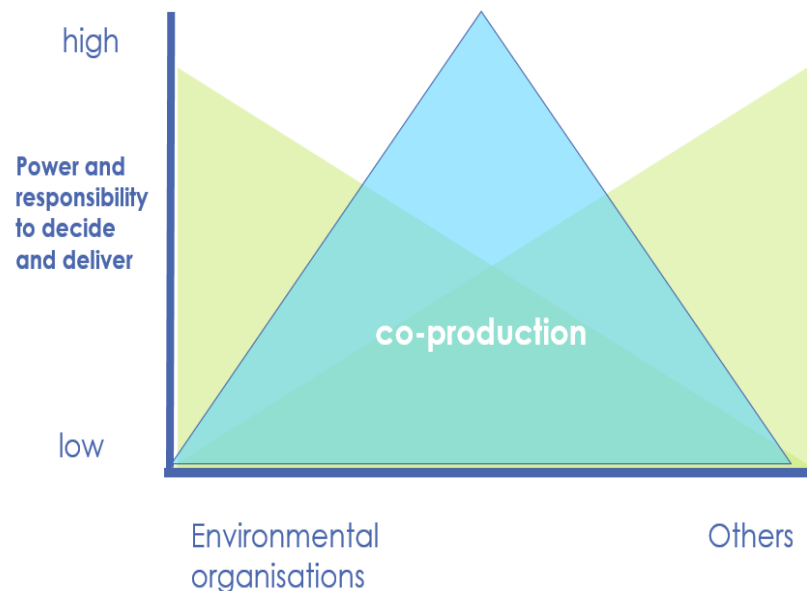
Co-production

Equitable endeavour in which people from different public, private and third sectors:

Co-design (through deliberative consensus building) to:

1. Understand the system and each others interests
2. Deliberate over solutions and interventions
3. Make decisions together – win/win
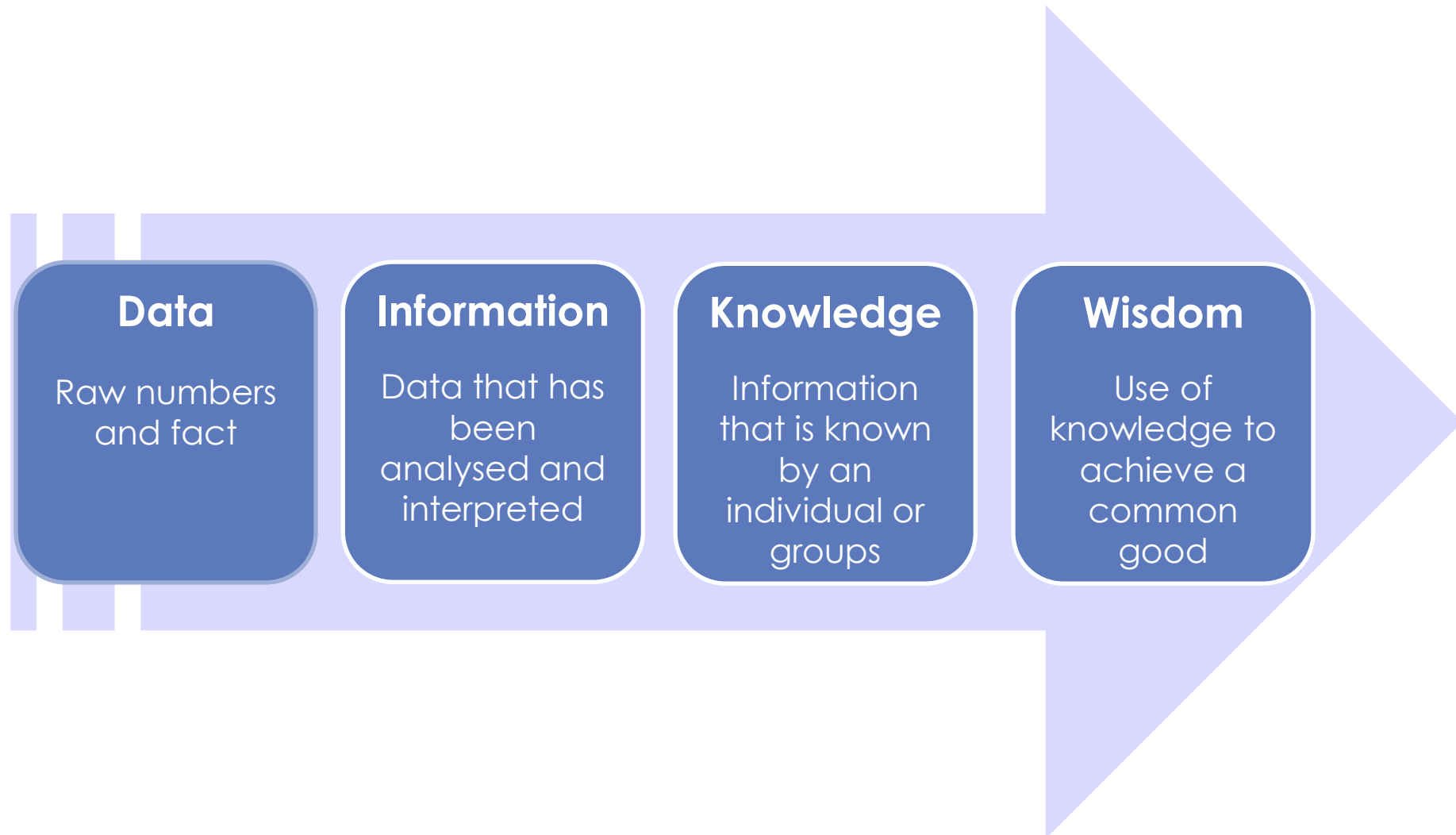4. Identify resources for delivery
5. Commit to action

Co-deliver by

1. Contributing resources for delivery
2. Sharing in governance
3. Enjoying the benefits

The role of good data
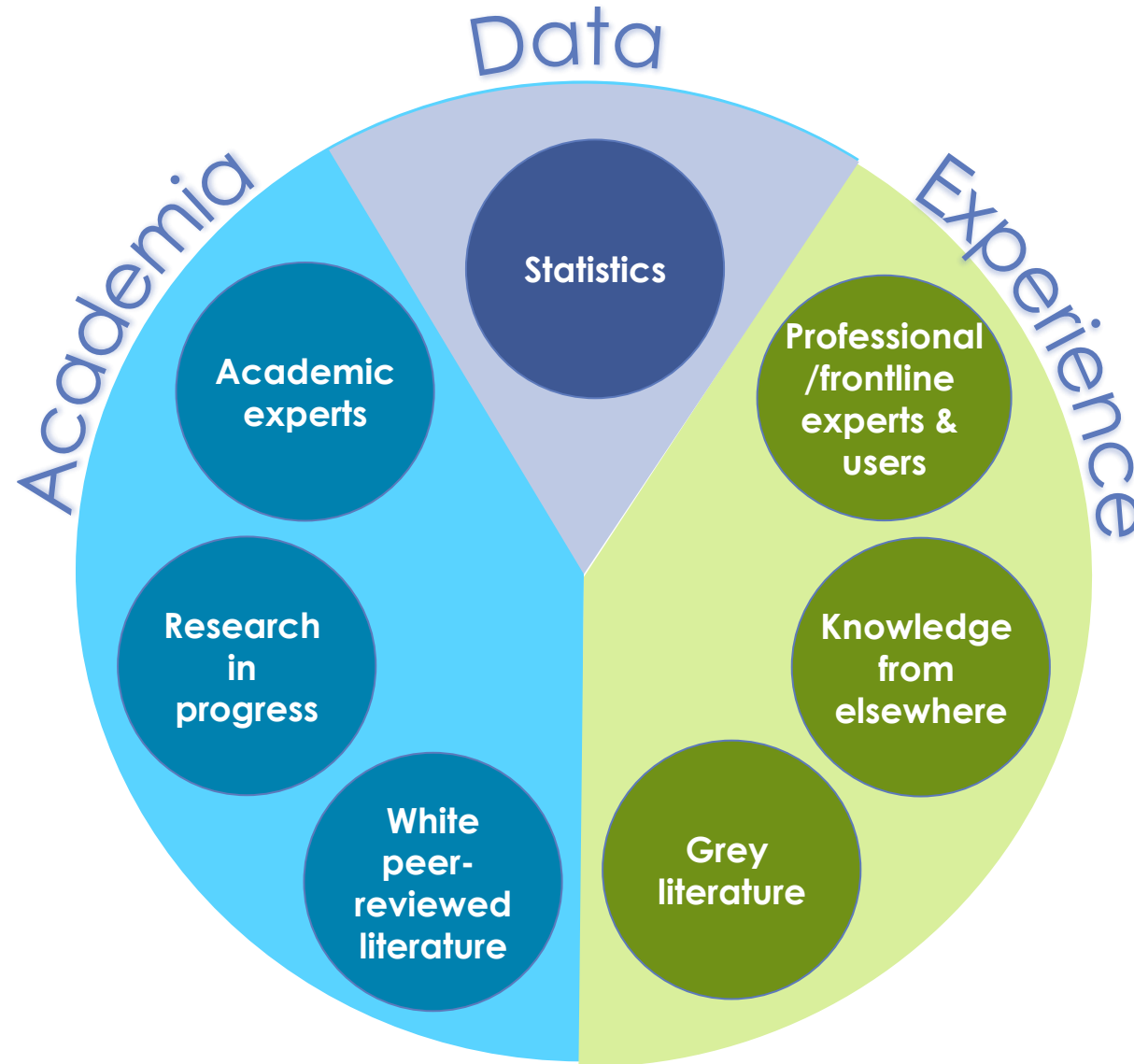
From data to wisdom

Data

Raw numbers and fact

Information

Data that has been analysed and interpreted

Knowledge

Information that is known by an individual or groups

Wisdom

Use of knowledge to achieve a common good

Sources of knowledge

Data

Academia

Experience

Statistics

Academic experts

Research in progress

White peer-reviewed literature

Professional /frontline experts & users

Knowledge from elsewhere

Grey literature

Why front line evidence is so crucial

People on the front line often have a clearer idea of:

- The issues
- Why the situation is as it is
- Why previous initiatives works or didn't work
- How new options can be put into practice
- Pitfalls to avoid
- Opportunities to harness

Types of knowledge

Know what
Data, facts, theories, learning from thinking

Knowhow
Practical knowledge, learning from doing

Know why
Why it works, learning from experimenting

Know with
Learning through social interaction

Know who
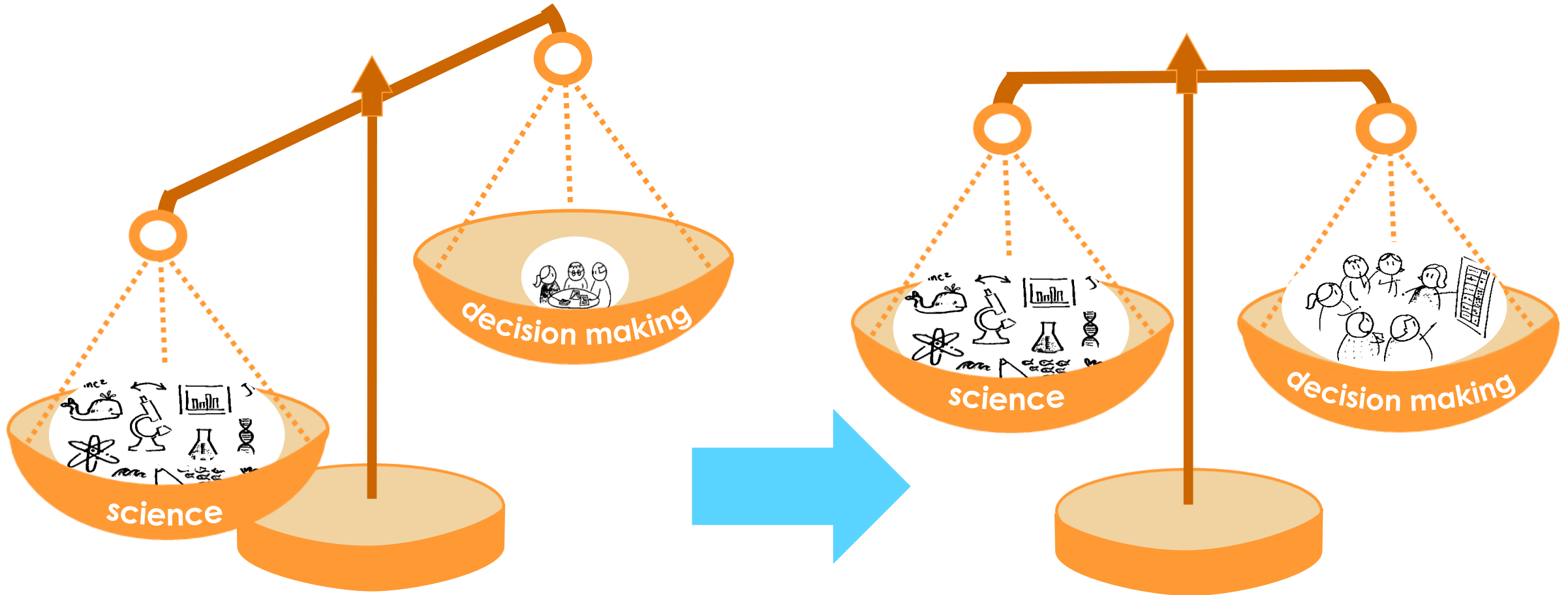Who is responsible or needs to know

Know which
Values, meanings, why to do or not do something

Know when
When something will work or needs to happen
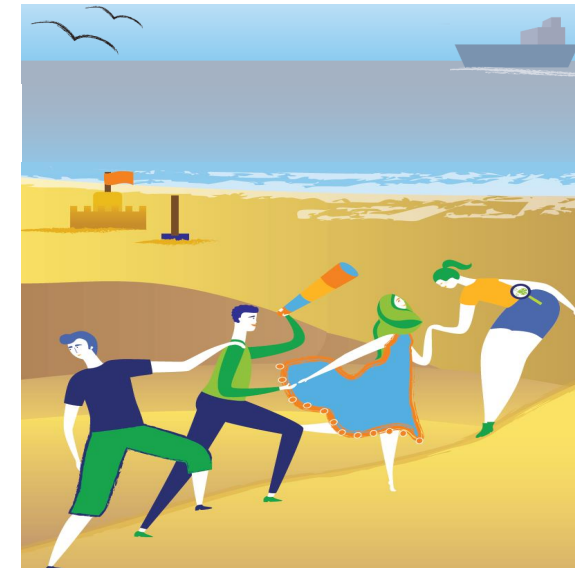
Investing in wise decisions

Want better decisions? …
Invest in better decision-making!

Investing in wise decisions

We know how to do great science and invest in it
We must learn how to do great decision making
and invest in that too!

Good data   +   Great decision processes =   Better outcome for nature and people

Investing in wise decisions

- Decide with, not for

- All forms of knowledge

- Design processes

- Facilitate to encourage open minded thinking, principled negotiation, and constructive dialogue

- Factor in times to think laterally and creatively

Investing in wise decisions

- Deliberate over options

- Factor in knock-on and long term effects

- Ensure decision points use techniques that mitigate mental glitches and social norming

All we have to do is get the numbers right

All we have to do is tell them the numbers

All we have to do is explain what we mean by the numbers

All we have to do is show them they've accepted similar numbers in the past

All we have to do is show them it's a good deal for them

All we have to do is treat them nicely

All we have to do is make them partners

Fischhoff (2002)

All we have to do is decide well together!

Dialogue Matters (today!)

How to make data work for nature?

- Good data as starting point but not the whole picture
- Work with people to co-design, co-produce decisions and co-deliver outcomes
- Invest in wise decisions
- For better outcomes for nature and for people!

Questions