# One Health, complex systems and community engagement

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**Risk, Response & Social Systems**

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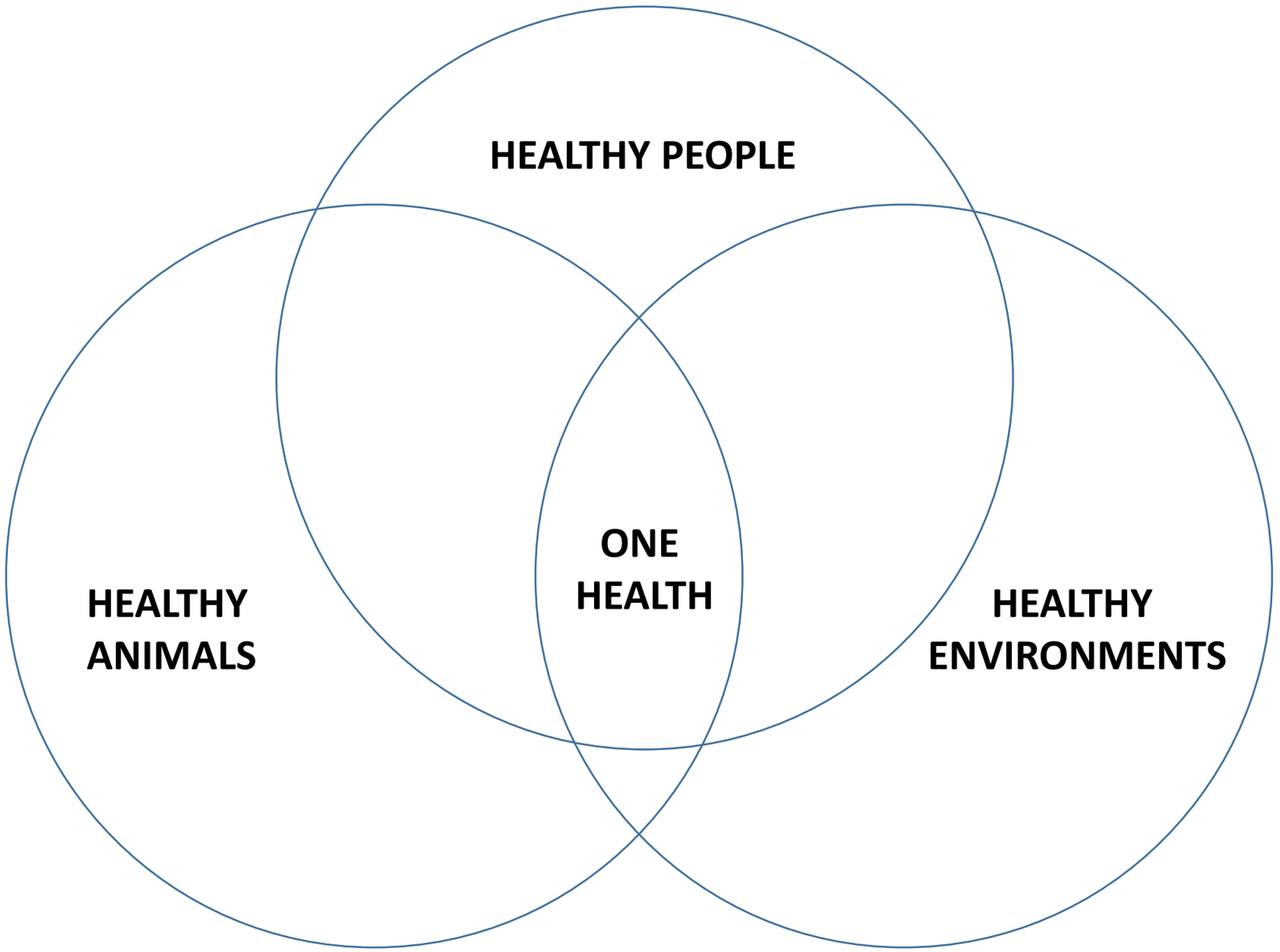
# One Health




LOCAL

REGIONAL

GLOBAL

# Wicked problems

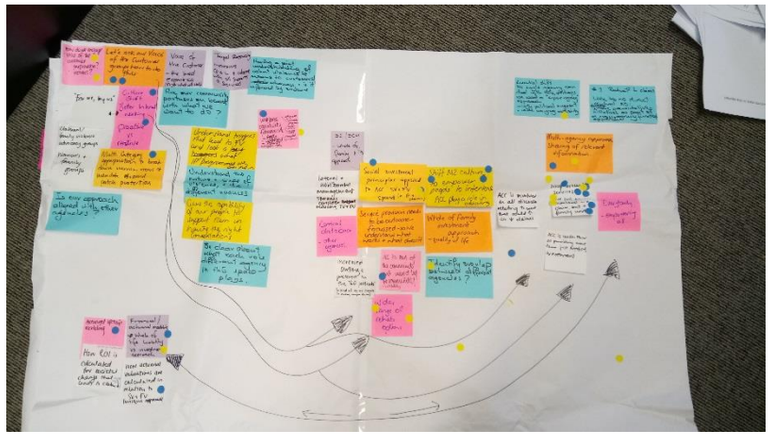
- Inter-related issues cutting across institutional silos and multiple scales
- Multiple government agencies, businesses, non-governmental organisations, communities and individuals with ‘stake’
- Multiple ways of framing the problem, different knowledge sets and competing values across economic, environmental, social and cultural criteria
- Conflict, power relations and vested interest
- Uncertainty about the possible effects of action

# Thinking about systems (systems science)

OR

# Using systems to think? (systems thinking)

https://en.wikipedia.org/wiki/Citric_acid_cycle



# What is systems thinking?

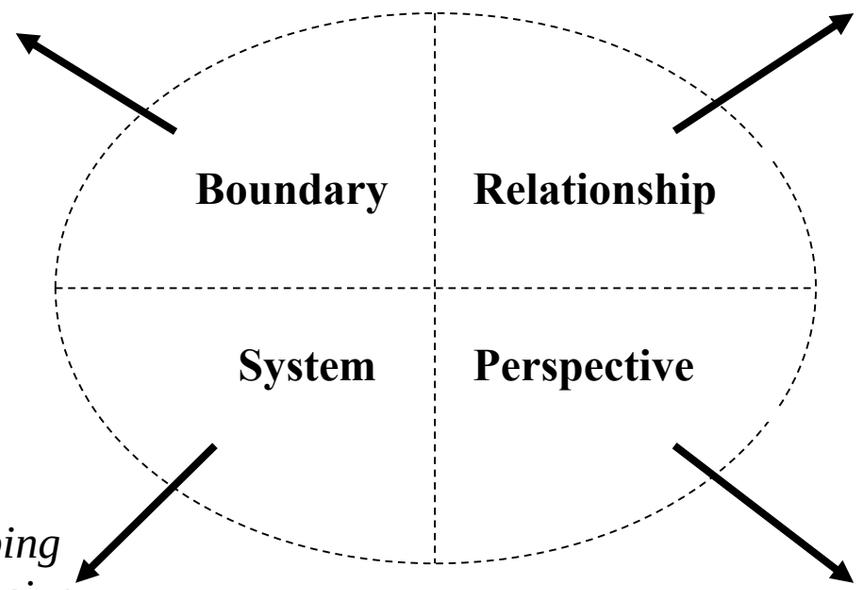
| | |
|---|---|
| **Inter-relationships** | • What is the nature of the inter-relationships within a situation?<br>• What are the patterns that emerge from those processes, with what consequences and for whom? |
| **Boundaries** | • How is a situation being framed?<br>• What is explained within the system and what is exogenous to the system? |
| **Perspectives** | • What are the different ways in which this situation can be understood?<br>• How are these different understandings going to affect the way in which people judge the success of an endeavour? |

Williams (2010)

# Systems approaches

*Approaches for exploring value and boundary judgments about what should be included in or excluded from analysis*

*Approaches for understanding complex causality; feedback; vicious and virtuous circles; and the possible consequences of intervention*

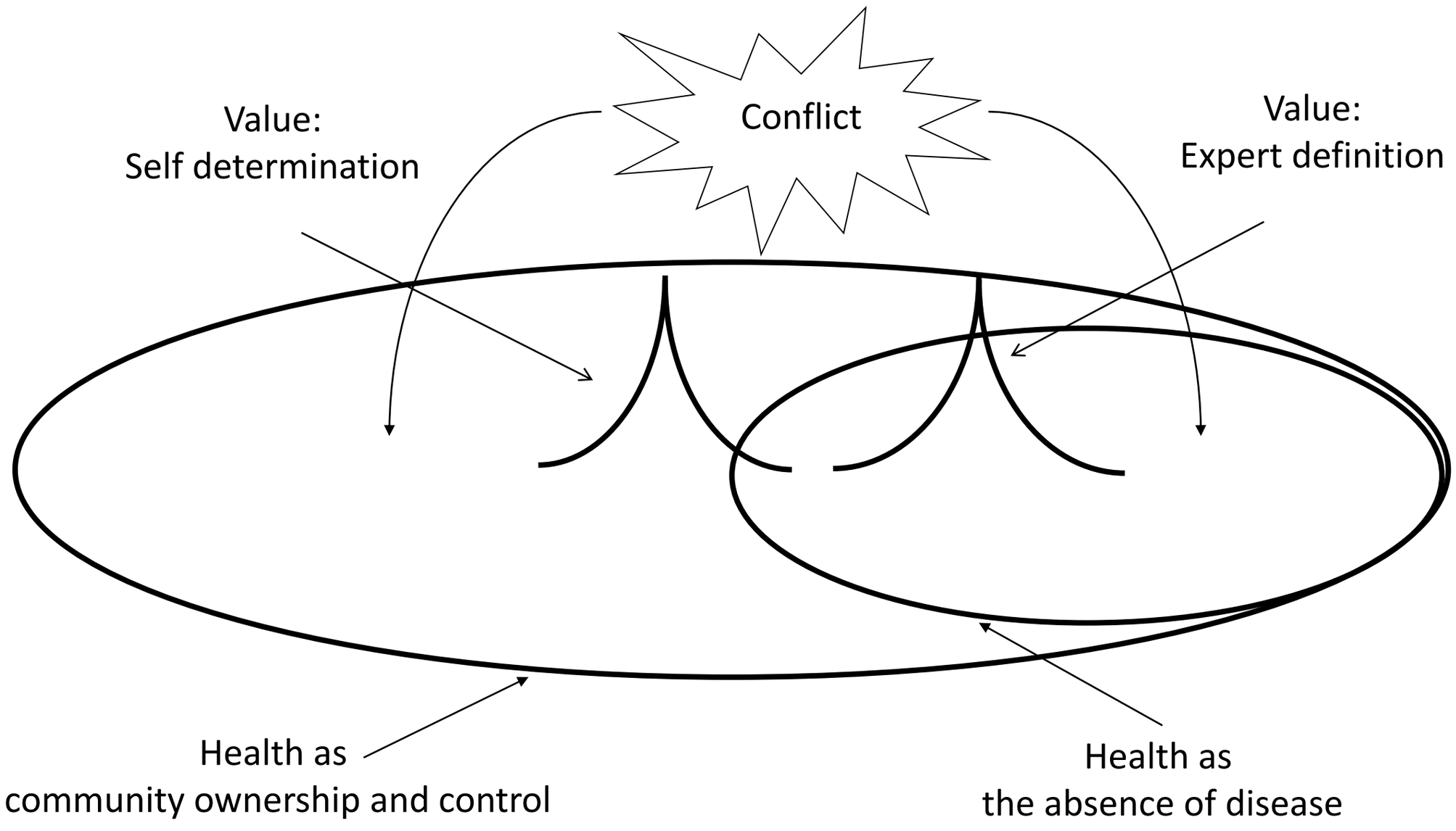



*Approaches for developing viable and highly responsive organisations at multiple levels (global to local)*

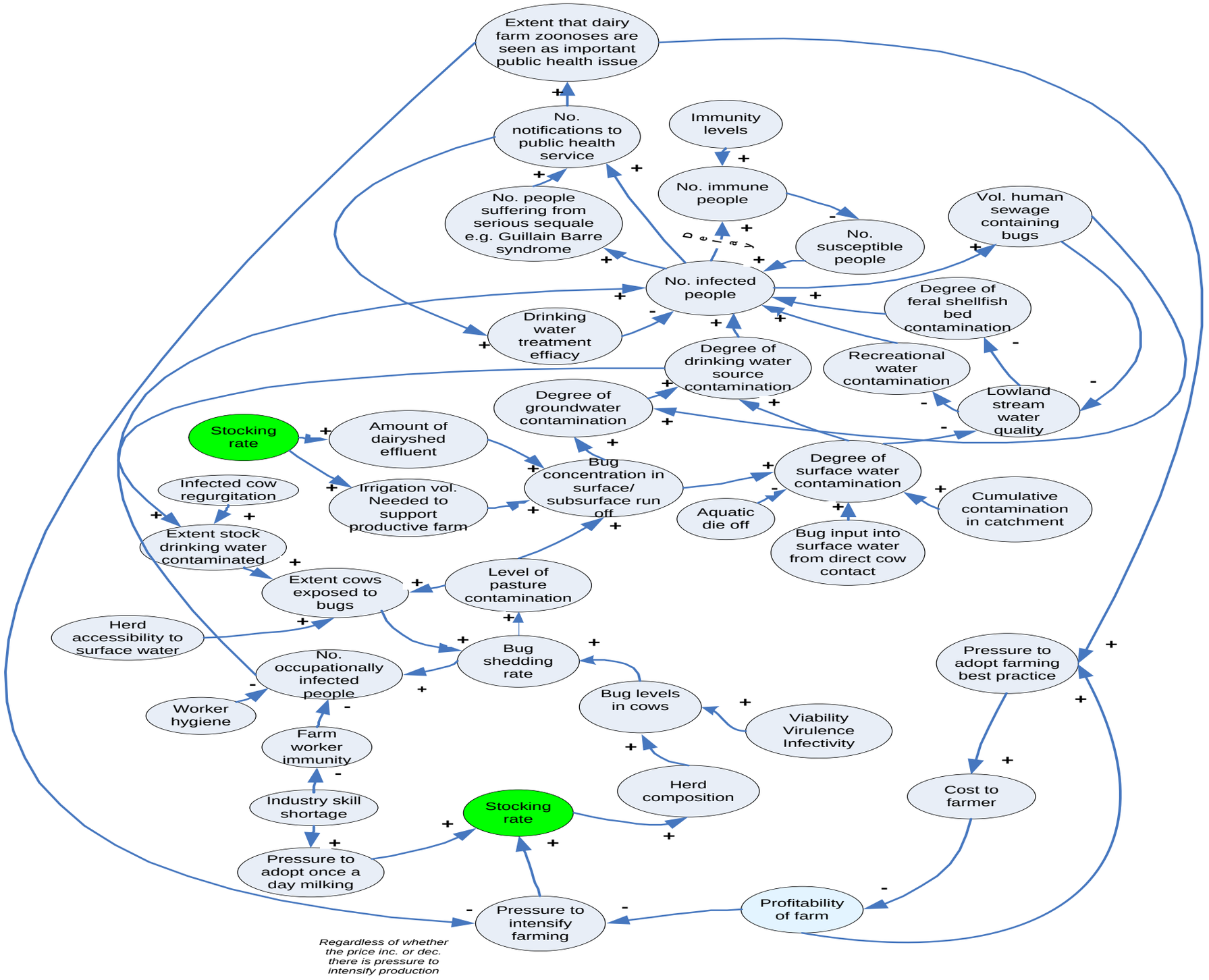
*Approaches for addressing conflict; exploring multiple perspectives; developing mutual understanding; and agreeing solutions that people are willing to implement*

(Midgley, 2008, adapted from Cabrera and Colosi, 2008)

# Dealing with boundaries

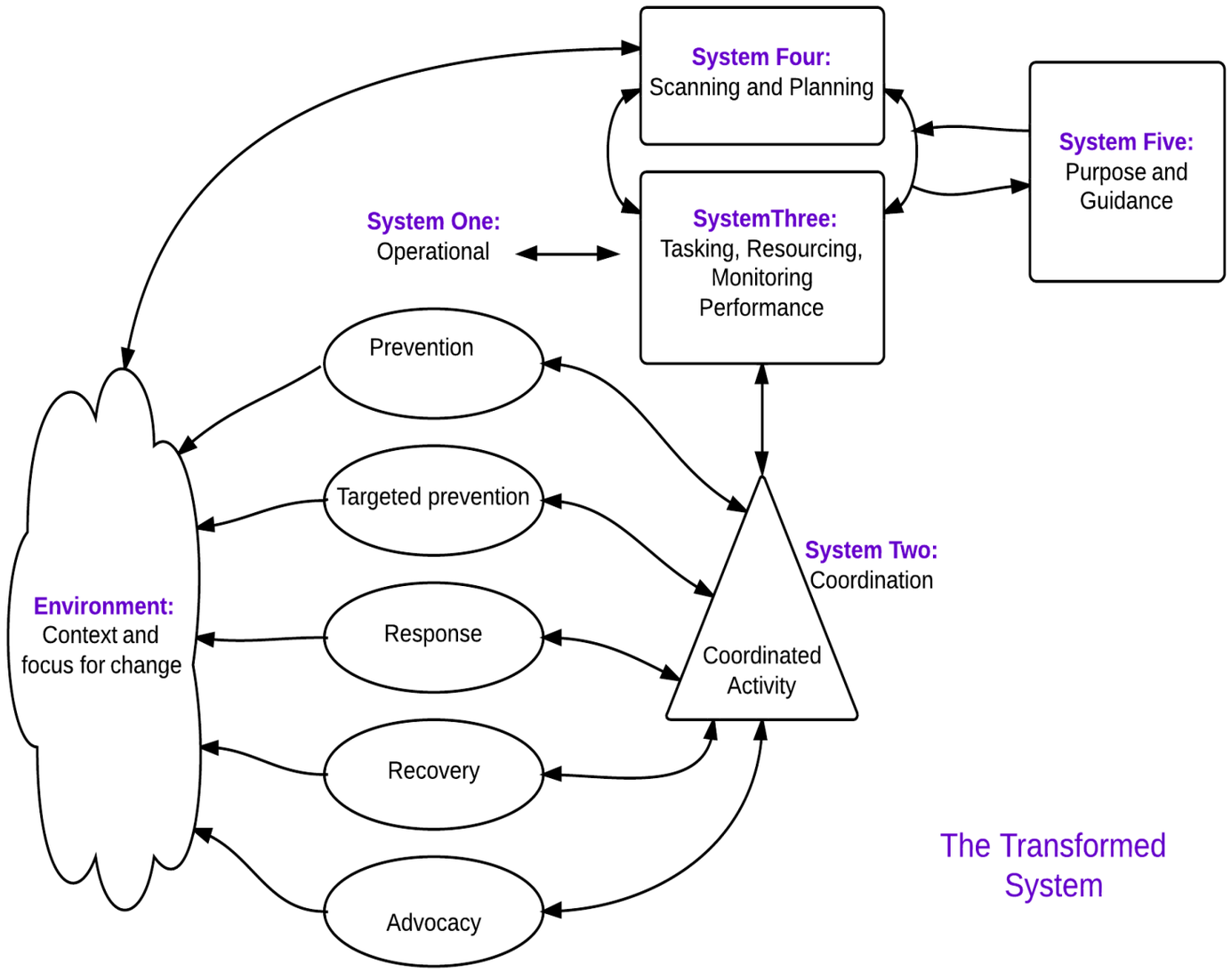


# Understanding complex causality



# Working with multiple perspectives

# Designing viable organisations




The Transformed System

# Why is engagement important?

- Boundaries are inevitable
  - Comprehensive analysis is impossible
  - Value and boundary judgments are closed related
  - How far ought we push out boundaries?

- Elements of a systemic intervention (Midgley, 2000)
  - Explore stakeholder values and boundaries for analysis
  - Challenge marginalisation
  - Draw on a wide range of systems methodologies

# An example

- Ministry of Health's Drinking Water Assistance Programme
  - Hokianga hapū participation
- Health
  - Absence of disease?
  - Community ownership and control?
- Outcome evaluation
  - Kaupapa Māori processes
  - Most significant change and participatory video
  - Action planning for drinking water supply sustainability

https://www.youtube.com/watch?v=kEO49SmP_BU

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