

Framing Futures using C&I

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Aspirational futures

Values



- The MP indicator set is built upon SFM values that are important to people.

Aspirations



- Together they describe progress toward an aspirational future for our forests.

Deliberating futures



National level

- Indicators may be used to frame deliberation around the intended and unintended effects of policy and legislation.



Sub-national level

- They may be used to describe a holistic context for decision-making and management options which maybe poorly understood.



Linking indicators in systems social and biophysical systems



Settings

- Indicators may be used to describe and explore relationships between environmental, social, economic and institutional settings and policy.



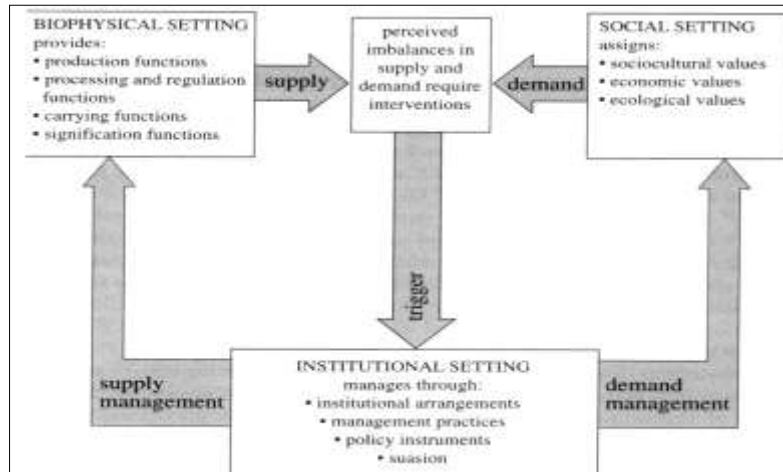
Functions

- Indicators may be used to inform function evaluations relating to land use and ecosystems.



Indicators in function evaluation

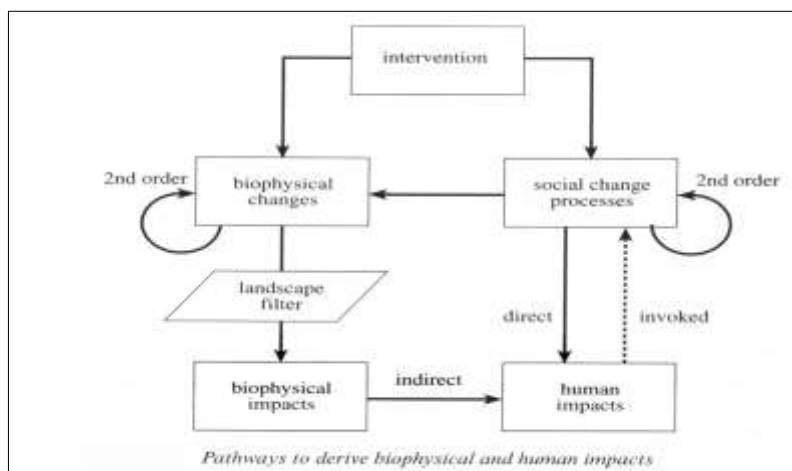
(Slootweg et al. 2001)



SCION
Landschap - Cultuur - Landbouw

Indicators in shaping and evaluating interventions

(Slootweg et al. 2001)



SCION
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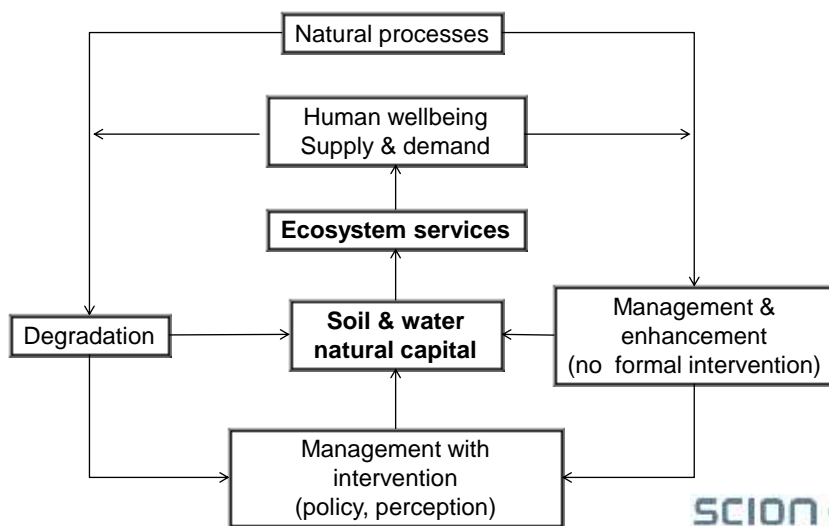
Contextual examples



Ecosystem services

- Using function evaluation indicators be used to inform the supply and demand relationship between natural capital and ecosystem services.

Natural capital and ecosystem services



Contextual examples



Flow-on effects

- Or inform deliberation of the flow on effects between geophysical effects and social considerations.
- Useful tool in developing climate change adaptation and resilience strategies.



Waiapu Catchment – Case Study



The Waiapu Legacy

Troubled past



- Large Maori population
- Forest clearances following colonisation
- Reduced resilience
- Series of social and economic shocks
- Environmental degradation from highly erodible soils
- Climatic shocks (cyclonic events)



Waiapu Futures

Using indicators



- To describe community aspirations to restore ecosystem health and function, and social wellbeing.



Waiapu Futures

Using indicators



- To demonstrate to policy makers the need integrated approaches around future actions.
- To tailor interventions to meet needs.
- To understand and monitor intended and unintended effects.



Mapping flow on effects using indicators

<i>Biophysical changes</i>	<i>Impact/issue</i>	<i>Effect/outcome</i>	<i>Social/economic/cultural changes</i>	<i>Human impacts</i>	<i>Flow-on impacts</i>
<i>Loss of physical support functions for natural forest flora & fauna (landslide etc.).</i> Depletion and ecosystem performance	Ecosystem degradation or destruction (C1,3,4)	Loss of habitat (C1.1, 1.2, 1.3a) Reduced forest area & forest production (C6.1) Changes in supply of key flora and fauna (C1.2,6.3)	Reduced availability/accessibility of wild foods (C6.3) Reduced availability of forest materials/fibres etc. & chemicals (C6.3) Loss of natural pharmaceuticals /medicines (C6.3, 6.5) Loss of biodiversity (C1.1, 1.2) Loss of recreational opportunity (e.g. hunting, walking, relaxing) (C,6.3, 6.4)	Nutrition/health effects (C6.5) Loss of cultural practises and associated knowledge (6.5) Reduced independence /self-reliance (C6.3) Changes in livelihoods strategies (6.3)	Reduced individual and collective health & wellbeing (C6.5) Reduced quality of living environment/amenity, and sense of place (C6.5, 6.3) Reduction in cultural integrity & identity (C6.5) Psychological and spiritual stress/loss (6.5). Loss of local and regional cultural diversity (6.5).



Summary

Using indicators



- To frame sustainability issues for multiple stakeholders.
- In describing function evaluation.
- To monitor and describe progress.
- As a dynamic and interactive tool.