



The iCASS Platform: Nine principles for landscape conservation design

An Innovation System Framework for Sustainability

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Perspective Essay

The iCASS Platform: Nine principles for landscape conservation design

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ABSTRACT

The Anthropocene presents society with a super wicked problem comprised of multiple contingent and conflicting issues driven by a complex array of change agents. Super wicked problems cannot be adequately addressed using siloed decision-making approaches developed by hierarchical institutions using science that is compartmentalized by discipline. Adaptive solutions will rest on human ingenuity that fosters transformation towards sustainability. To successfully achieve these objectives, conservation and natural resource practitioners need a paradigm that transcends single-institution interests and decision-making processes. We propose a platform for an emerging and evolutionary step change in sustainability planning: landscape conservation design (LCD). We use existing governance and adaptation planning principles to develop an iterative, flexible innovation systems framework—the “iCASS Platform.” It consists of nine principles and five attributes—innovation, governing stakeholders, assessing current and plausible future landscape conditions, spatial design, and granty design. The principles are organized around four cornerstones of innovation: people, purpose, process, and product. The iCASS Platform can facilitate LCD via processes that aim to create and empower social networks, foster stakeholder involvement, engender co-production and cross-pollination of knowledge, and provide multiple opportunities for deliberation, transparency, and collaborative decision-making. Our intention is to pivot from single-institution, siloed assessment and planning to stakeholder-driven, participatory design, leading to collaborative decision-making and extensive landscape conservation.

1. Introduction

The dawn of the Anthropocene—an era characterized by human-induced global ecological change and uncertainty—presents a preview of a possible future quite different from the environment that fostered the emergence and prosperity of present-day human societies. Adapting to the Anthropocene’s complex array of change is a “super wicked” problem (Levin, Cashore, Bernstein, & Auld, 2012, p. 2; Waddock, 2013), comprised of multiple, contingent, and conflicting issues. Super

wicked problems cannot be fully assessed using siloed decision-making approaches developed by hierarchical institutions using disciplinary science (Norris, O’Rourke, Mayer, & Halvorsen, 2016). Finding adaptive solutions for how to thrive in the Anthropocene rests on human ingenuity fostering transformability toward social, economic, and ecological sustainability. To that end, we propose a platform for an emerging and evolutionary step change in sustainability planning: landscape conservation design (LCD) (see Table 1).

Our theory of change (Fig. 1) is grounded in the belief that just as

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Attribution

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Landscape Conservation Design

(Campellone et al., 2018)

"A stakeholder-driven, participatory process that:

- 1) Integrates societal values and cross jurisdiction, multisector interests with the best available science & traditional knowledge (*the people*);
- 2) Assesses spatial and temporal patterns, vulnerabilities, risks, and opportunities for landscape elements valued by stakeholders (*the process*);
- 3) Results in a set of spatially explicit products and multi-objective adaptation strategies (*the products*); and
- 4) Protects biodiversity, conserves ecosystem services, and promotes landscapes that are sustainable for current and future generations (*its purpose*)."

The iCASS Platform: An Innovation System Framework

*A Set of Attributes & Principles Organized
By Four Cornerstones of Innovation:*

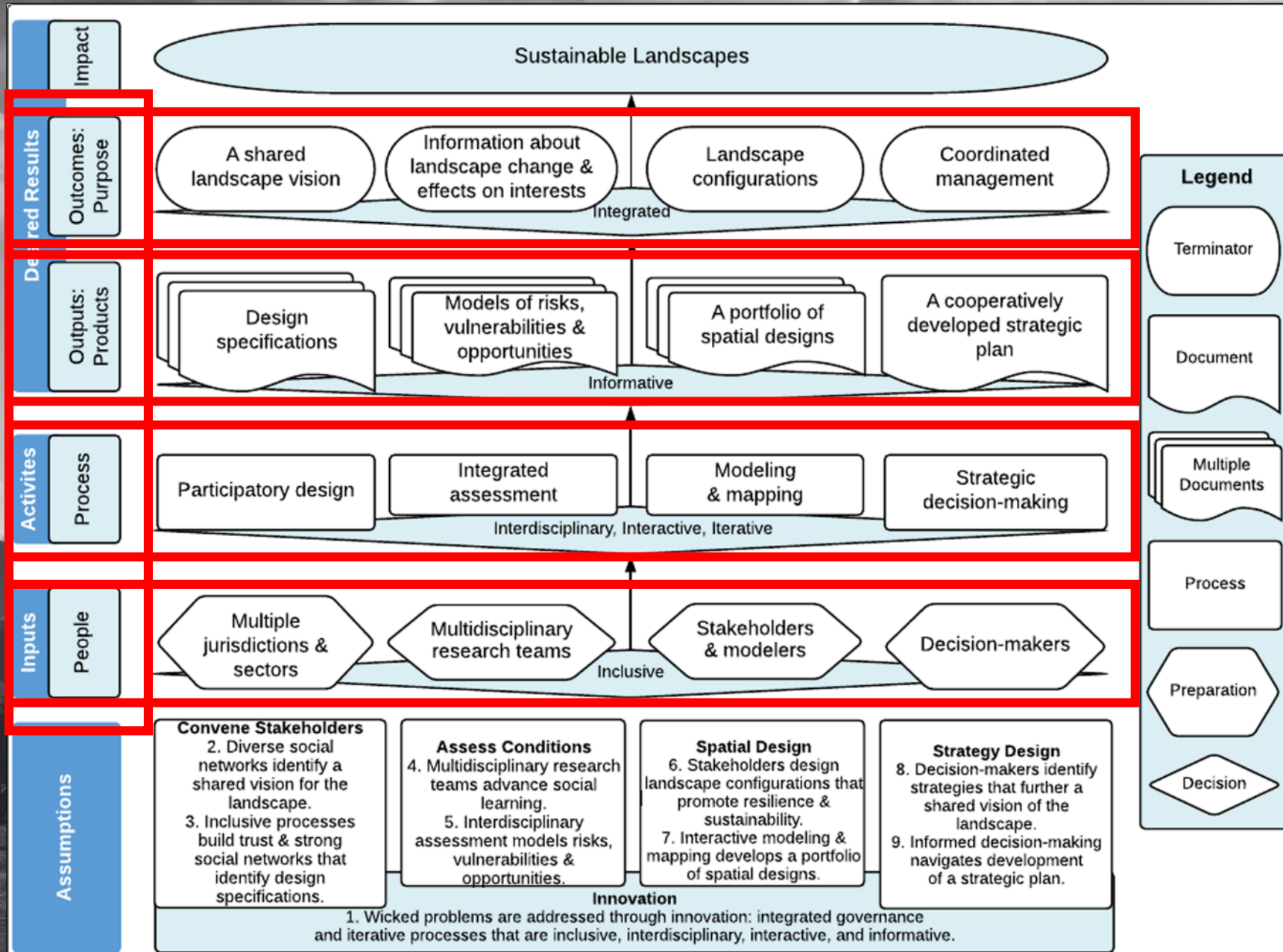
People

Purpose

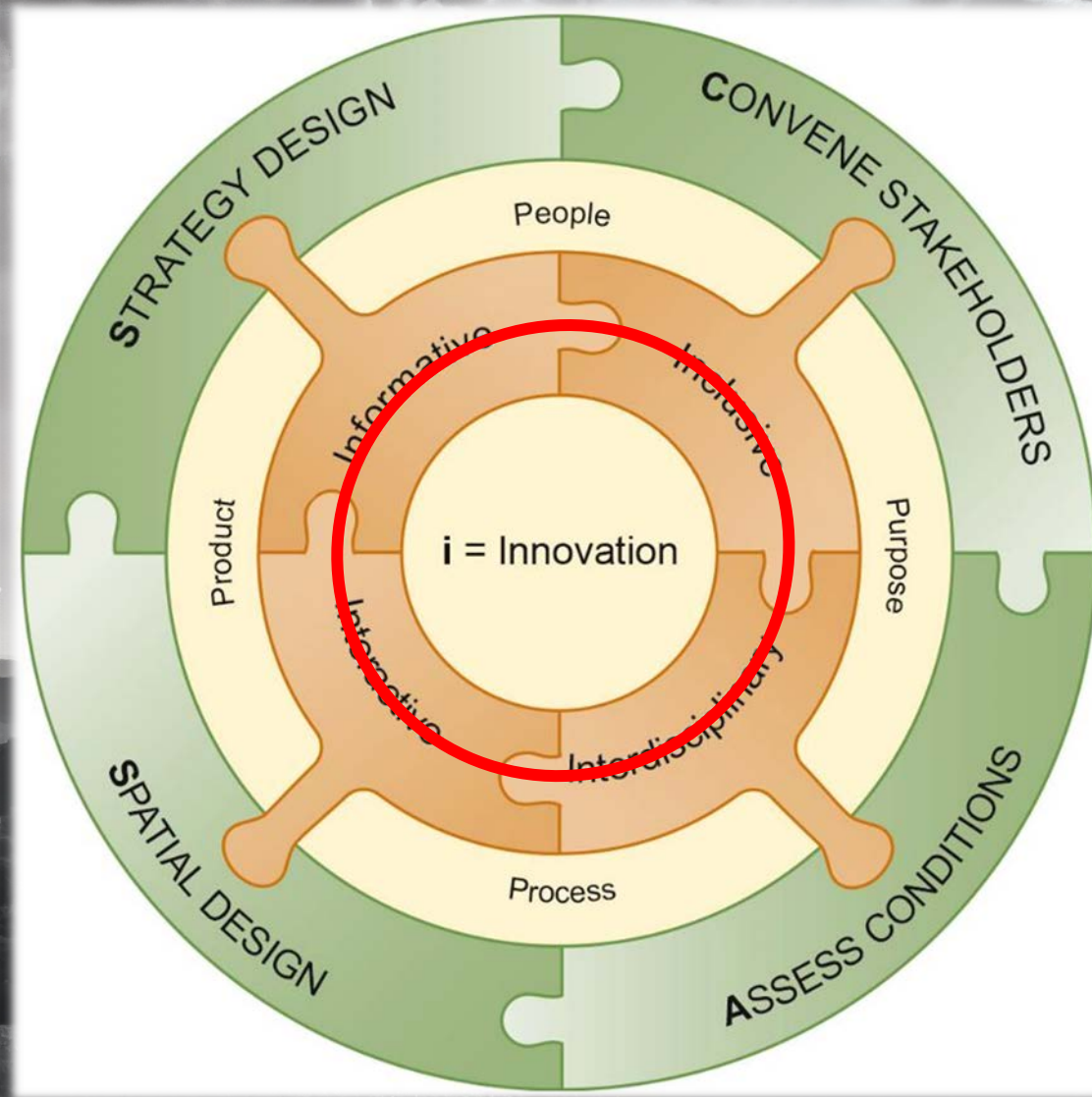
Process

Products

Theory of Change: Innovation Cornerstones



The iCASS Platform Attributes*: i = Innovation



* : an object closely associated with or belonging to a specific person, thing, or office

The iCASS Platform Principles*

Attribute:
i = Innovation



Principle #1

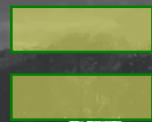
Wicked problems are
addressed through
innovation

*: a comprehensive and fundamental law, doctrine, or assumption

The iCASS Platform: An Innovation System Framework

*A Set of Attributes & Principles
That Promote Innovation*

Innovation



Integrated
Governance



Iterative
Design
Processes

The iCASS Platform: An Innovation System Framework

Innovation Cornerstone:
People

Innovation Cornerstone:
Process

Inclusive

Interactive

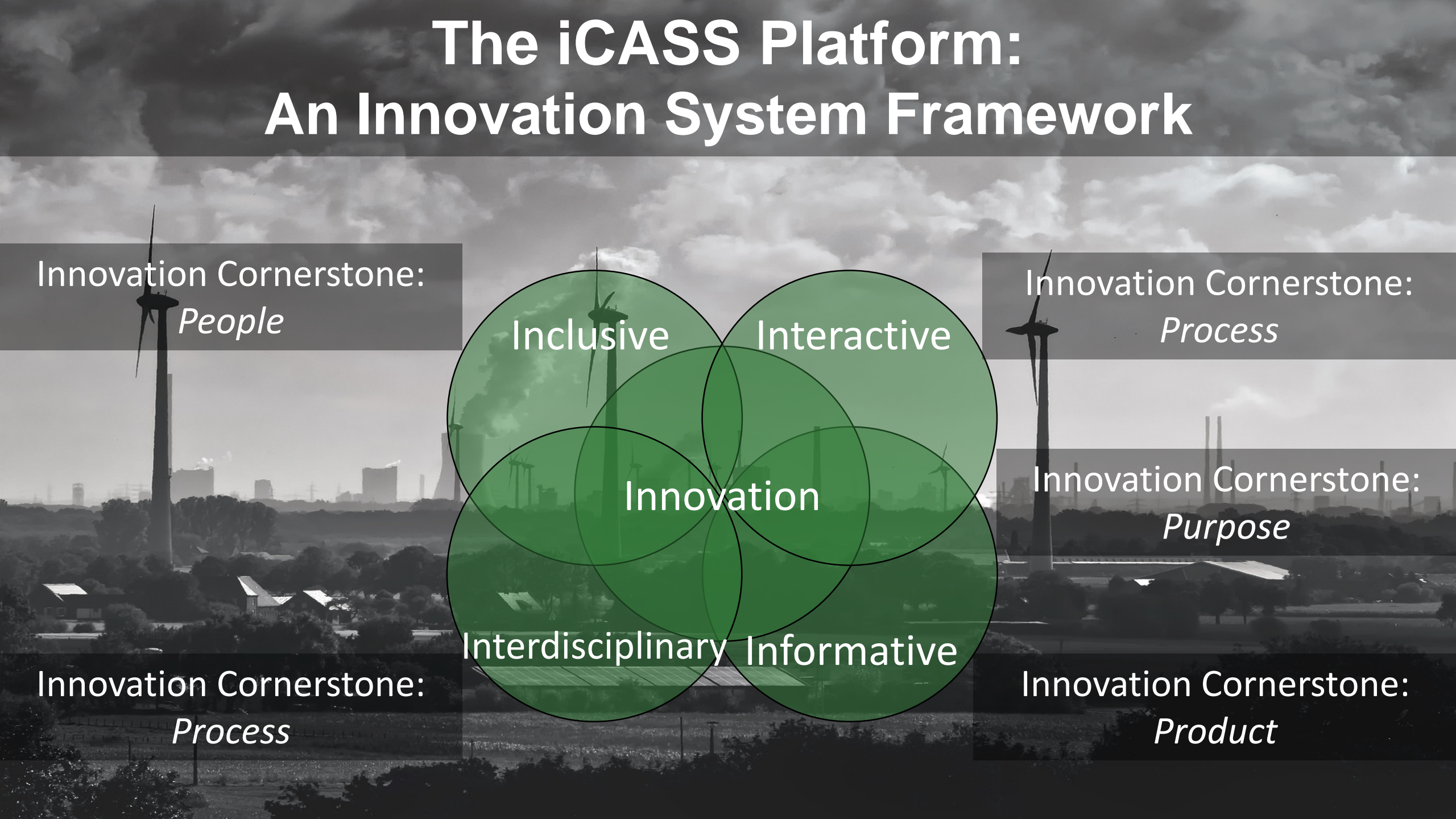
Innovation

Innovation Cornerstone:
Purpose

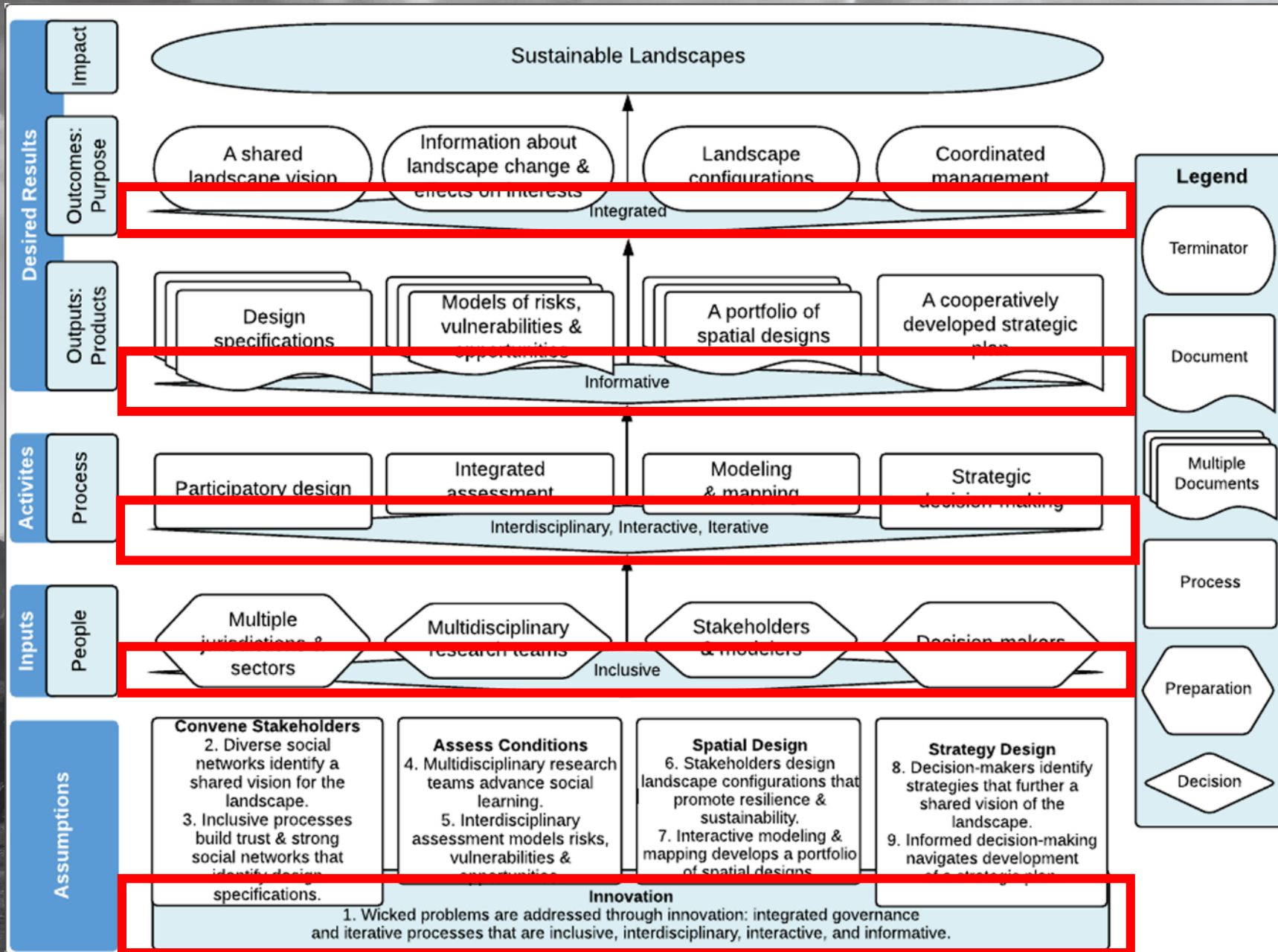
Innovation Cornerstone:
Process

Innovation Cornerstone:
Product

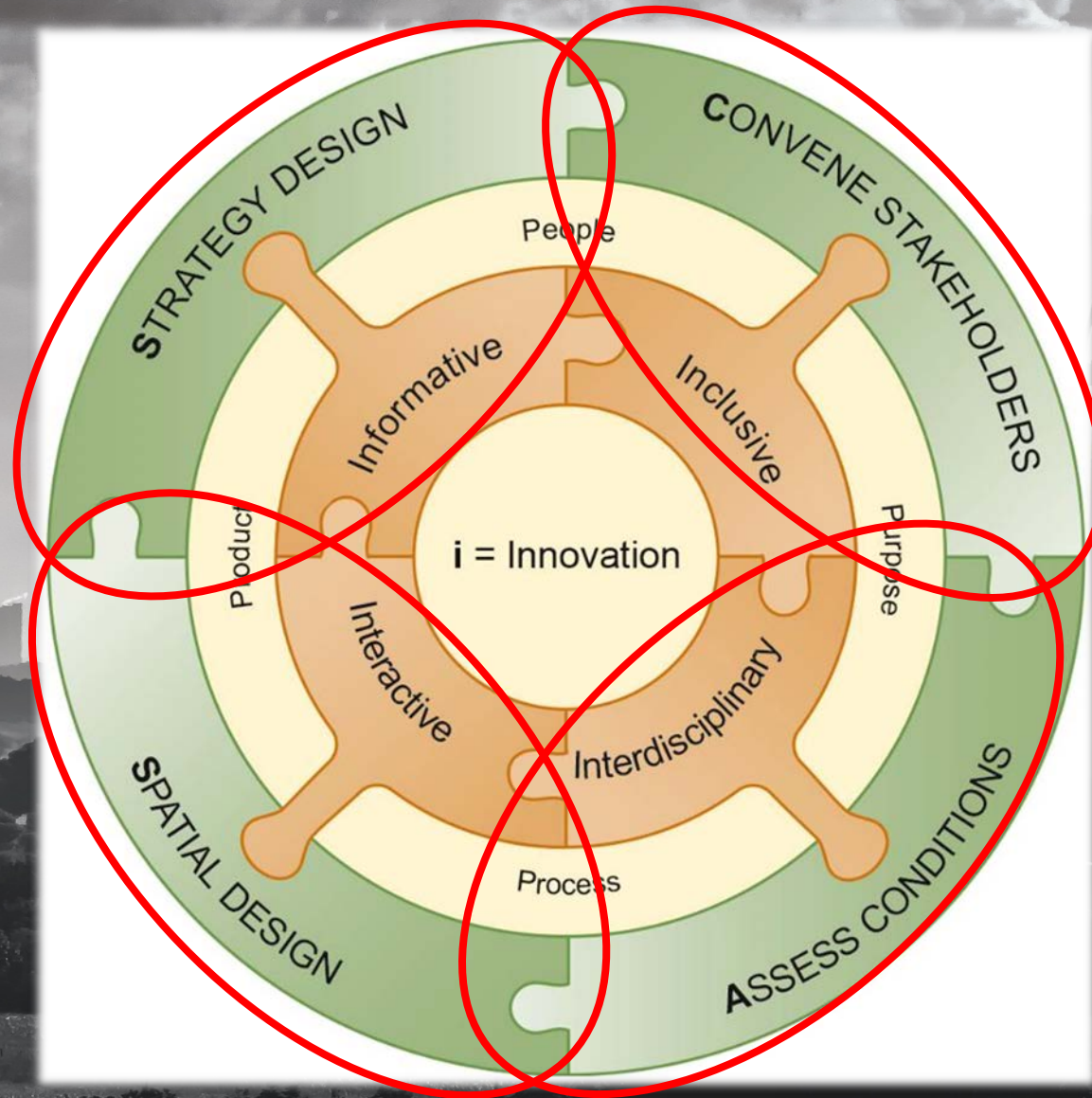
Interdisciplinary Informative



Theory of Change: Innovation

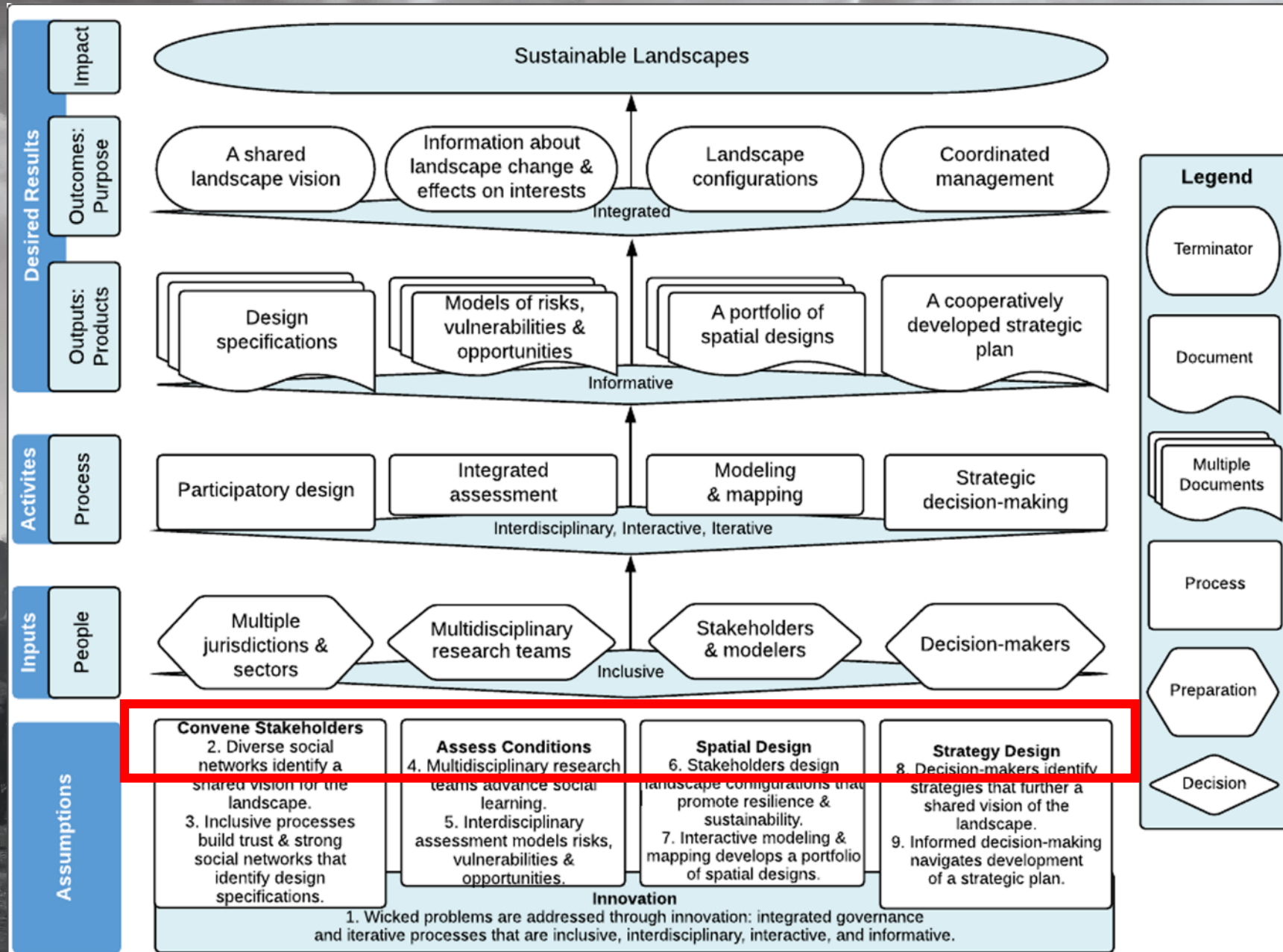


The iCASS Platform: Attributes*

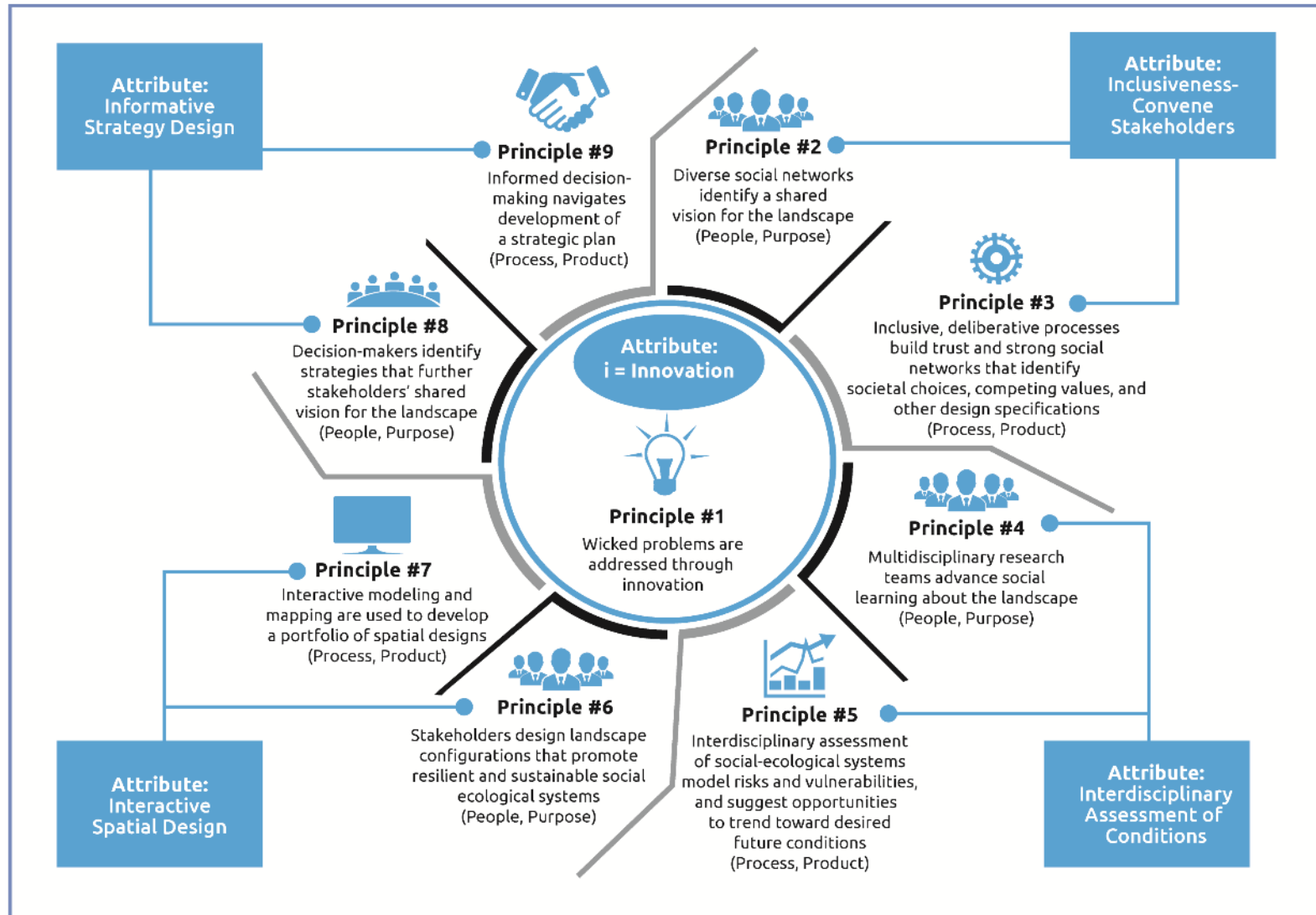


* : an object closely associated with or belonging to a specific person, thing, or office

Theory of Change: Attributes

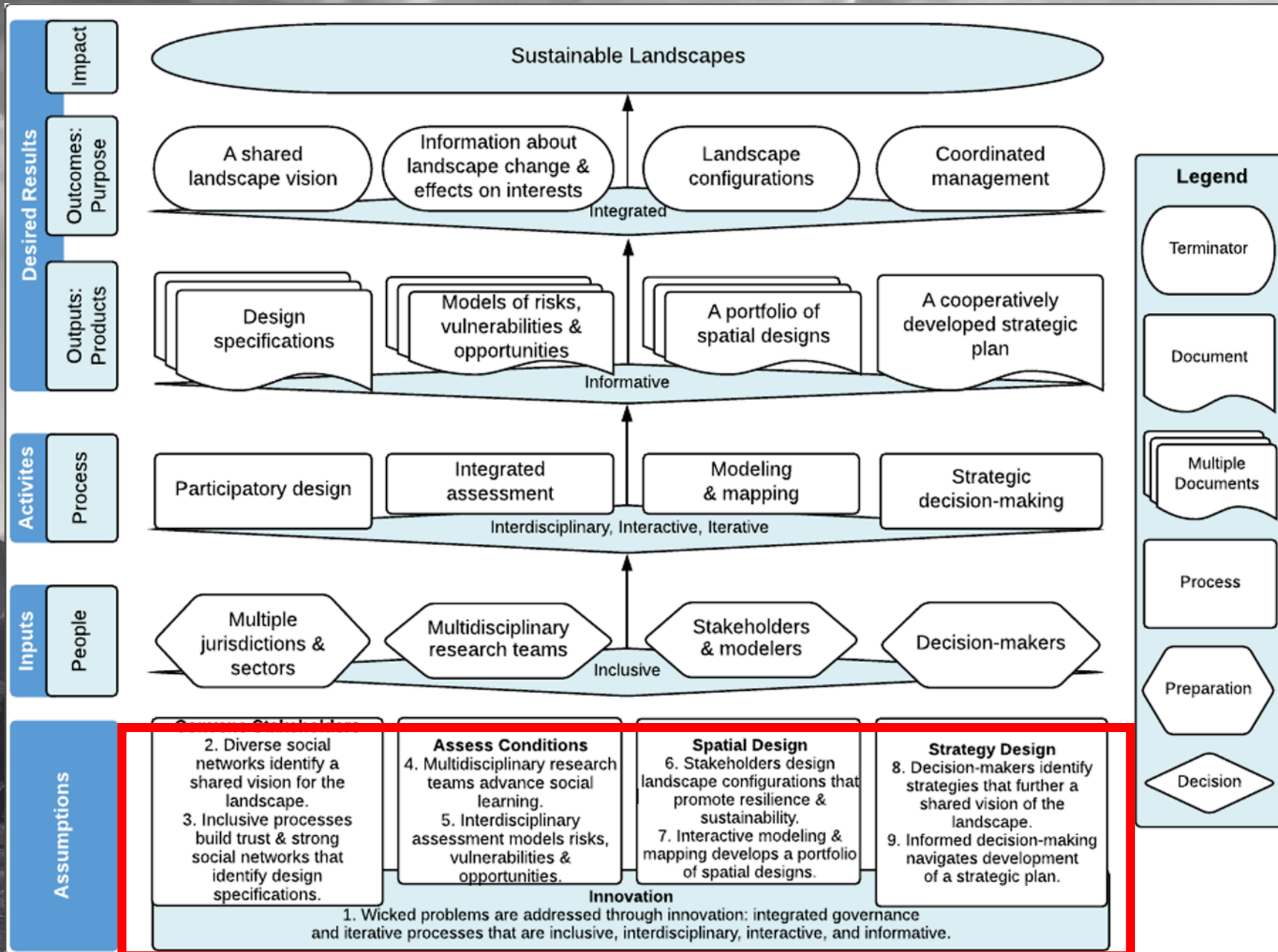


The iCASS Platform: Principles*

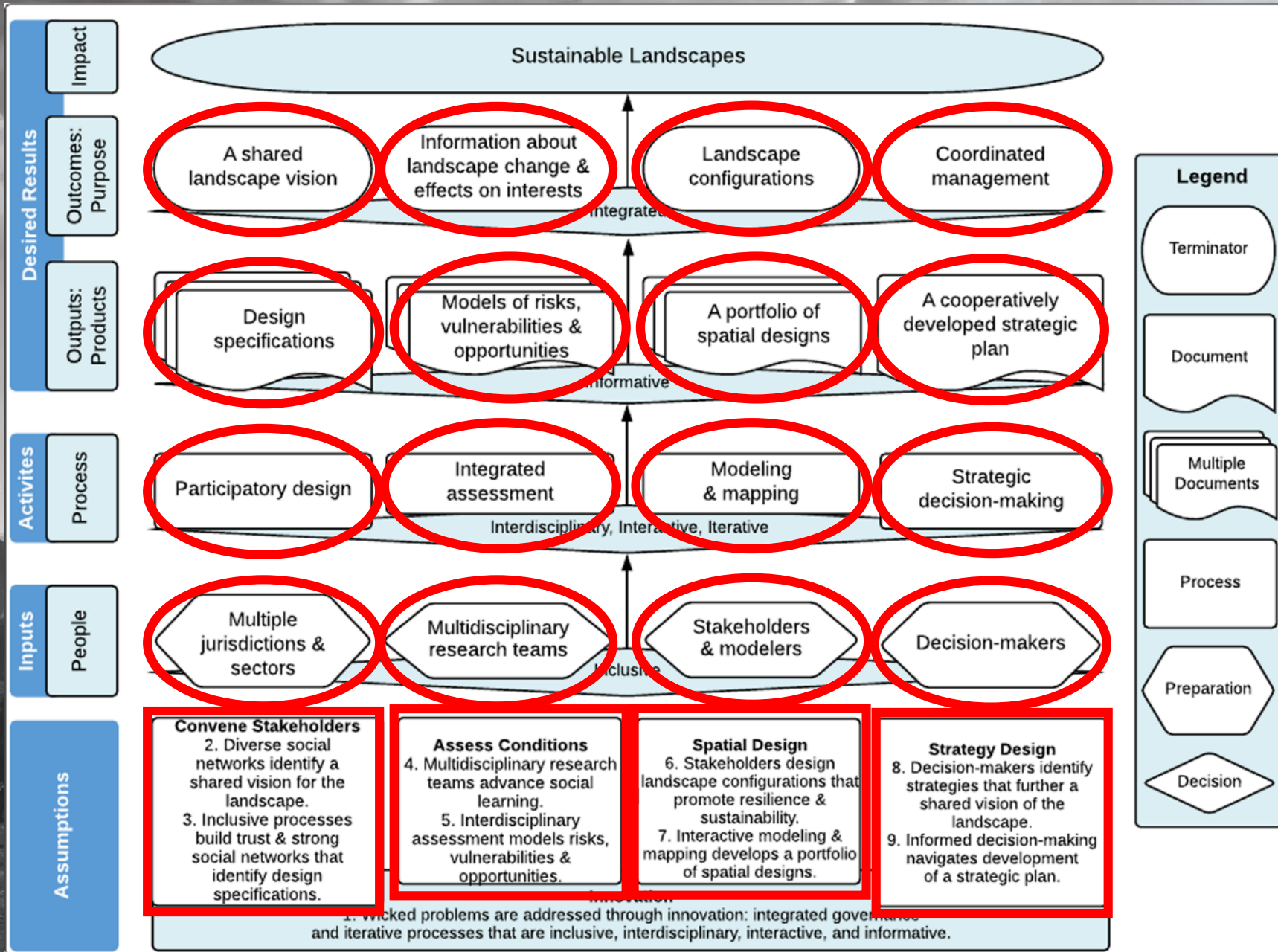


* : a comprehensive and fundamental law, doctrine, or assumption

Theory of Change: Principles



Theory of Change: Principles



Thank You!

