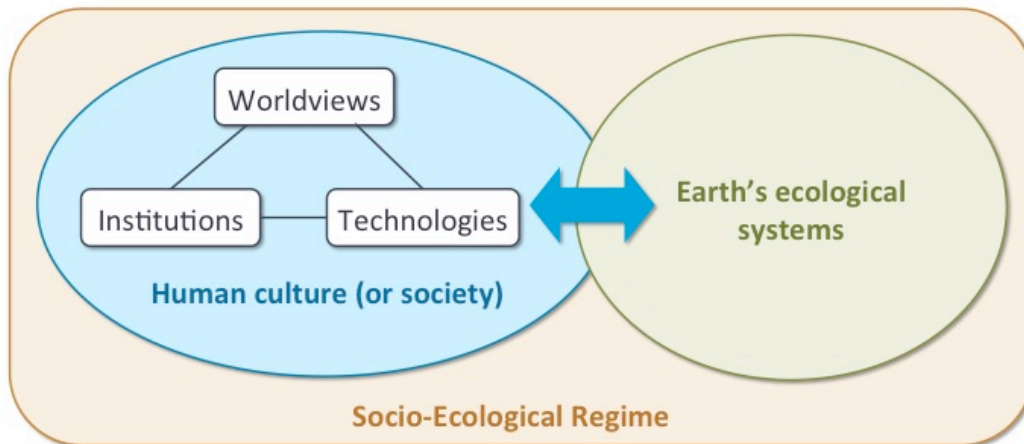


Complex Social Systems: Worldviews, Institutions, Technologies

BBAS 423 Leading Social Change with Systems Thinking

Worldviews, Institutions, and Technologies (WITs):¹



Human cultures, or societies, are composed of an interdependent set of worldviews, institutions, and technologies, which interrelate with the Earth's ecological systems to produce a socio-ecological regime. Sustainability requires a transition to a new socio-ecological regime, which requires the transformation of worldviews, institutions, and technologies.

<p>Worldviews²</p>	<p>Worldviews are collections of fundamental <i>beliefs</i> about the physical and moral nature of existence. These include:</p> <ul style="list-style-type: none"> • Beliefs about <i>how the world is</i> (beliefs about how the world works, including models of cause and effect, and/or the operation of supernatural forces). • Beliefs about <i>how the world ought to be</i> (ideological visions of a better world and ideas about how we can attain it). • A person's <i>place within the world</i> (a person's sense of identity and belonging within reality).
<p>Institutions</p>	<p>Institutions are jointly understood <i>rules</i> of appropriate social behaviour. These include:</p> <ul style="list-style-type: none"> • Formal rules, such as constitutions, laws, and contracts • Informal rules, such as norms and cultural customs • Enforcement mechanisms
<p>Technologies</p>	<p>Technologies are collections of <i>procedures</i> that transform matter, energy, and information to fulfill human purposes. Technologies capture natural phenomena in order to achieve human goals. Technologies thus involve both:</p> <ul style="list-style-type: none"> • Hardware: an aspect of the physical world that a technology can capture. • Software: the individual and social actions required to capture and utilize a natural phenomenon.

Outstanding Issues to Ponder and Discuss:

- Can we deliberately design and manage the transition from an empty world WIT to a more sustainable alternative, or will the transition be forced upon us by crisis?
- The “Systemic Roadblocks to Sustainability” article identifies a number of problems with the current socio-ecological regime and make suggestions for alternative WITs. Which of these critiques and suggestions do you find most/least convincing or plausible?
- How does *power* operate within WIT regimes and cultural evolution?

Scaling Social Innovation Up, Out, and Deep:

A social innovation is “any initiative, product, programme, platform or design that challenges, and over time changes, the defining routines, resource and authority flows, or beliefs of the social system in which the innovation occurs.”³

	Description: ⁴	Strategies:
Scaling out	The spread of an innovation to more individuals and communities. Scaling out expands the number of niches an innovation fills.	Deliberately replicating the innovation in additional areas and populations while maintaining its consistency. Spreading the principles of the innovation so that it can be modified and adapted to diverse contexts.
Scaling up	Changes to laws, rules, and policies that are conducive to the innovation. Scaling up improves the institutional context so that the innovation can fill more niches.	Changing laws and policies through policy development, partnering, and advocacy.
Scaling deep	Changes in values and cultural practices to be more conducive to the innovation. Scaling deep reshapes the worldviews that underpin the institutional context of the innovation.	Spreading big ideas by changing the narrative surrounding the problem and by telling stories that shift beliefs and norms. Investing in transformative learning that shares knowledge widely through communities of practice, distributed learning platforms, and participatory approaches.

¹ Based on: Beddoe, R., et al. (2009). Overcoming systemic roadblocks to sustainability: The evolutionary redesign of worldviews, institutions, and technologies. *Proceedings of the National Academy of Sciences of the United States of America*, 106(8), pp. 2483-2489.

² The specific definitions of this table are from: Lawrence, M. (2019). *Violence, conflict, and world order: Rethinking war with a complex systems approach*. [Doctoral Dissertation, University of Waterloo]. <https://uwspace.uwaterloo.ca/handle/10012/15545>.

³ Westley, F., and Antadze, N. (2010). Making a difference: Strategies for scaling social innovation for greater impact. *The Public Sector Innovation Journal*, 15(2): art. 2.

⁴ Table adapted from: Moore, M., Riddell, D., and Vocisano, D. (2015). Scaling out, scaling up, scaling deep: Strategies of non-profits in advancing systemic social innovation,” *The Journal of Corporate Citizenship*, 58, pp. 67-84.