

## Resilience and public engagement for advancing sustainability policy, research and education

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In seeking for pathway for overcoming sustainability challenges through policy, research and education, how we design the approach to address will affect our future sustainable society. For the design, given the complex systems around sustainability it is critical to take into account 1) all sustainability challenges are interlinked with the climate change directly or indirectly, and 2) the climate change impacts on human societies systemically, 3) while humans have driven pervasive decline of life on Earth.

Specifically, resilience approach, based on systems approach which recognizes inextricable links between complex and non-linear systems and is characterized by feedback loops and uncertainty (Berkas et al. 2003), is about enabling the capacity to create human, social and natural environments to adapt, recover, or transform even in facing challenges or adverse changes. This is best accomplished by looking at human, social and natural systems as a continuum. In other words, to nurture, strengthen, or create resilience within human, social, and natural systems, the interconnectedness of, or linkages among systems, is critical in operationalizing resilience where collaborative human actions can play a role. More operationally, the resilience approach is applicable for designing resilience, within and through the whole of organizations, communities and public policy, by looking at issues, resources or relevant systems in the context of at least four lenses, e.g. “Linkage”, “Temporal,” “Process” and “Scale” points of views (Shimizu & Clark, 2019).

The resilience approach is critical for addressing Sustainable Development Goals (SDGs) which covers a holistic challenge for human, social and natural systems with complexity and uncertainty. This kind of challenge cannot be addressed separately or through ad-hoc efforts, but requires transforming our human and social ways especially because humans have driven pervasive decline of life on Earth as mentioned in the above. While SDGs list all kinds of human, social and natural systems-related challenges whose holistic picture is critical especially because multiple issues for SDGs are interlinked, the operational approach which can address complex issues systemically and operationally is not provided in the SDGs. For this, the resilience approach can contribute to the operational aspects.

Especially since the resilience approach brings about the nexus views of human, social and natural systems, the views can result in raising public engagement level or creating “commons” at different scales and levels. For example, the author has designed to implement some educational programs or projects by using the resilience approach, such as “Creating Kyoto Commons: Forests and Resilience toward Sustainability” which was designed to support Kyoto Resilient City (Kyoto City was chosen as one of among 100 resilient cities by the Rockefeller Foundation in 2017) with two-full day sessions. The sessions combined lectures, field work in forests and collaborative works for graduate students across

different schools within Kyoto University, with the major goal of promoting systems views of or capacities for human, social and natural systems for sustainability challenges in SDGs. Although the example event was a small project, the questionnaires for the participants revealed the event influenced their mindsets and views to raise their engagement level in facing the challenges.

As such, the author will present with the focus on 1) what is resilience approach, 2) how the approach can be (or has been) practically linked with public engagement or creating “commons” , and 3) how the approach linked with public engagement or commons can be a pathway for overcoming sustainability challenges to advance policy, research and education for SDGs.

Keywords: Resilience, Sustainable Society, Public Engagement, SDGs, Commons