

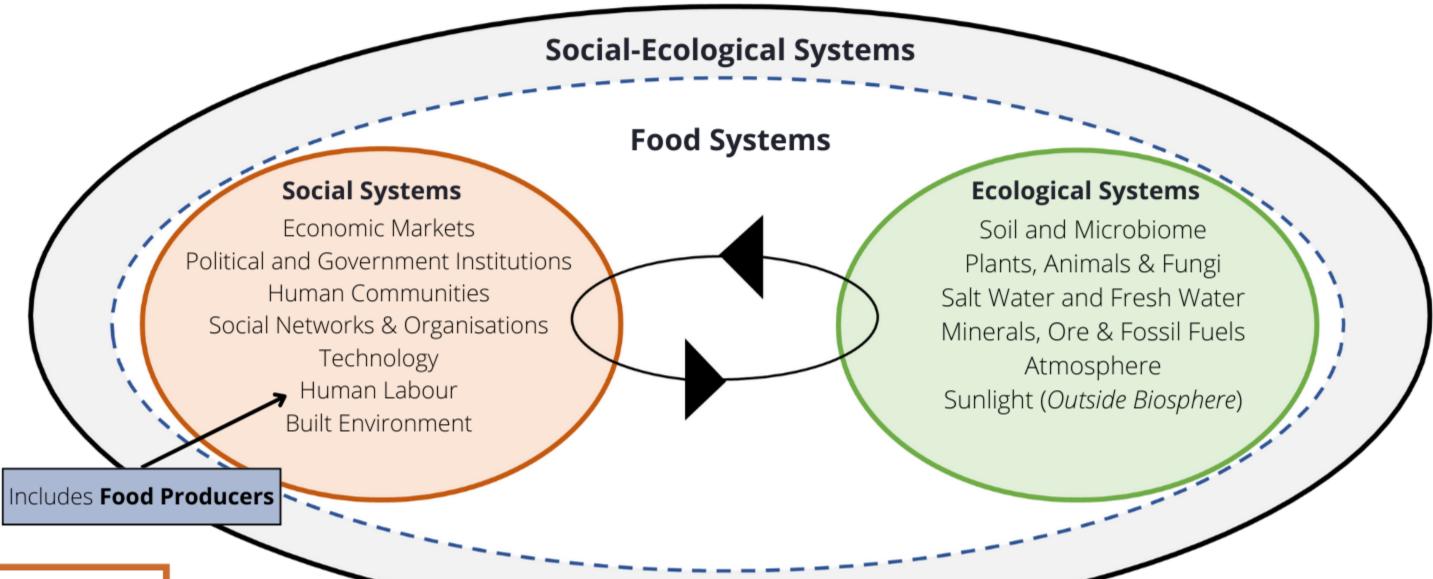
STEP 1: Understand *Social-Ecological Resilience* during unpredictable times

We live within social-ecological systems, whereby the resiliency of social systems - human populations and social well-being - are intertwined and dependent upon the capacity and resilience of the planet, the biosphere and ecosystems. Social systems influence and have impacts upon local and global ecological systems (Folke et al., 2016; Folke, 2006).

The impacts of the COVID-19 pandemic and climate change have increased the urgent need for more social-ecological resilient and sustainable food systems and supply chains that have greater capacity to adapt to the unpredictability of climate change, increases in natural disasters and human-induced shocks (Carey et al., 2020; Folke et al., 2016; Smith et al., 2016).

A Manual for Improving Social-Ecological Resilience through Fair and Just Transitions to Sustainable Food Systems

Social-ecological resilience is described as "the capacity to adapt or transform in the face of change in social-ecological systems, particularly unexpected change, in ways that continue to support human well-being" (Folke et al., 2016, p. 42).



STEP 5: Enable Fair & Just Transitions by formalising short food supply chains

Fair and just transitions to sustainable food systems can embed the welfare, knowledges and lived experiences of local food producers in a way that improves their capacities for sustainable food production within SFSCs (Alkon & Mares, 2012; Andree et al., 2016; Holt-Giménez, 2017). Doing so can increase local food producers' ability to thrive, feed our communities, regenerate the environment, and improve social-ecological resiliency.



This involves developing frameworks that formalise SFSCs, particularly more inclusive governance, assemblages and collective action, networking, advocacy, marketing narratives, and policy, legislation, funding, and incentives to become skilful stewards (Mendez et al., 2021; Marsden et al., 2018; Folke et al., 2016).

STEP 2: Learn how food systems & supply chains are embedded within Social-Ecological Systems

Food systems play an integral role in the social-ecological resiliency (Smith et al., 2016; Folke et al., 2016). Embedded within ecological systems and social systems, the resiliency, capacity, adaptability and sustainability food systems and supply chains are major factors in the health of ecosystems and sustaining the well-being of human communities, particularly during natural and human-induced disasters (Béné, 2020; Hodbod & Eakin, 2015; Smith et al., 2016).



Global and industrial food systems can have perversely negative impacts on social-ecological resiliency (Hodbod & Eakin, 2015; Folke et al., 2016). Large scale, simplified and industrial food production lacking ecological diversity are more susceptible to pests and diseases, reliant upon external inputs, and vulnerable to disturbances and shocks (Smith et al., 2016; Folke et al., 2016). Furthermore, long food supply chains are highly vulnerable to resource scarcities, global market fluctuations and geopolitical conflict (Hobbs, 2020).

The limited social-ecological resiliency of these food systems and supply chains negatively impacts social systems through food access and food insecurity, and ecological systems through contributions to anthropogenic climate change, environmental degradation and biodiversity loss (Holt-Giménez, 2017).

STEP 3: Identify solutions to unsustainable food systems and supply chains



Alternative food movements aim to transition to alternative, predominately localised, sustainable food systems that are underpinned by principles of resilience, capacity and adaptation to ecological and climatic changes (La Via Campesina, 2021; Holt-Giménez, 2017; Barrios et al., 2020).

Short food supply chains (SFSCs) that focus upon locality and distance between producers and consumers contribute to social-ecological resiliency through greater diversity in food production and scales, and flexibility and adaptability to local contexts (Paciarotti & Torregiani, 2020). This resiliency has been demonstrated during natural disasters, such as flooding events across East Australia (Smith et al., 2016).

STEP 4: Engage and learn from Food Producers as Stewards in Social-Ecological Systems

At the heart of more resilient and sustainable food systems and SFSCs are food producers and farmers. These individuals cultivate intimate, reciprocal and complex relationships with the land, and specific knowledges of local soils, biodiversity and climate (Goulet, 2013; de Souza Mello Bicalho & Trippia dos Guimarães Peixoto, 2016; Ingren & Ness, 2017; Isakson, 2014). They are also well-placed to improve Social-Ecological Resiliency through greater levels of stewardship, ethics, responsible management and care for the environment (Folke et al., 2016; Barrios et al., 2020).

Unfortunately, food producers, sustainable or not, are undervalued for their knowledges and contributions to food systems and as stewards of the land, with their narratives ignored or inaccurately reflected in decision-making, policy, regulation, and planning (Goulet, 2013). Furthermore, the systemic exploitation and compromised welfare of food producers is illustrated through precarious employment and rights, insecure land tenure, and the unfair distribution of wealth across supply-chains (Oxfam International, 2021; Holt-Giménez, 2017).

These conditions highlight concerns about how existing and aspiring food producers can be encouraged and supported to grow food sustainably within existing systems that are currently unfair and unjust (Young Farmers Connect, 2021; La Via Campesina, 2021).







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