



Expert Committee



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Approach



The committee hosted **3 workshops** for public input on the study charge in **Austin, TX, Washington, DC, and Santa Cruz, CA.**



Project staff examined the relevant research and data on workforce, research, and curricular needs in sustainability.



Committee members spoke with Congressional staffers to understand **current legislative efforts** on sustainability education.



Key Frameworks for Sustainability

Theoretical Frameworks

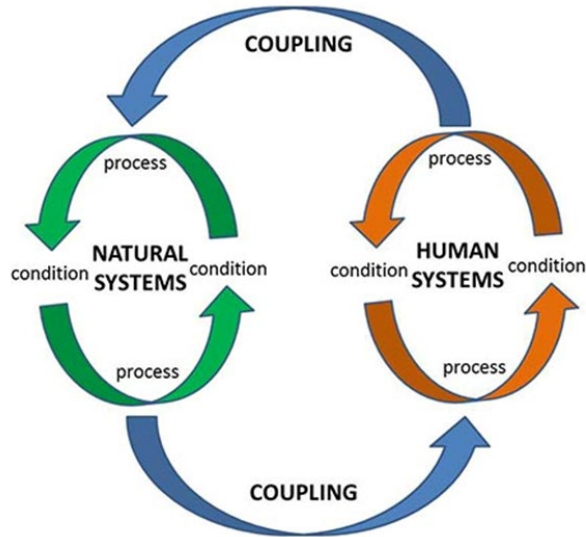
- Coupled Human and Natural Systems Framework
- Social-Ecological Systems Framework

Goal-oriented frameworks

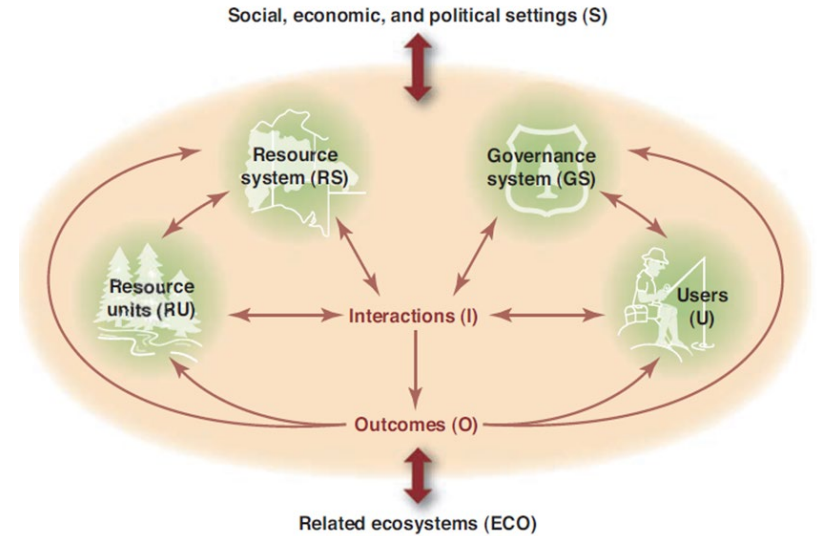
- Sustainable Development Goals
- Safe and Just Sustainable Development



Coupled Human and Natural Systems Framework



Social-Ecological Systems Framework



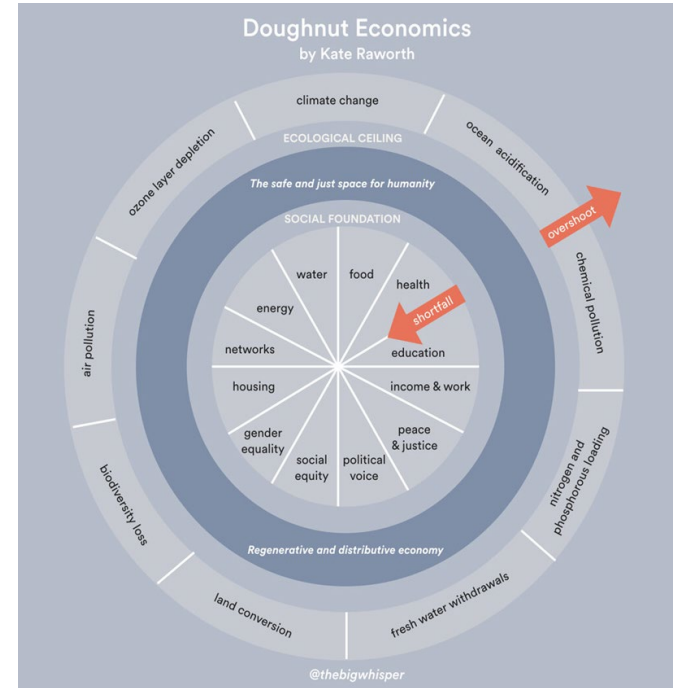
SOURCE: National Science Foundation. 2018. Dynamics of Coupled Natural and Human Systems Program Solicitation. NSF 18-503. Available at <https://www.nsf.gov/pubs/2018/nsf18503/nsf18503.htm>; Ostrom, 2009, 420. Available at <https://science.sciencemag.org/content/325/5939/419>.

Sustainable Development Goals



SOURCE: United Nations, 2019. Communications materials. Available at <https://www.un.org/sustainabledevelopment/news/communications-material>; The Big Whisper, 2020, based on Raworth, 2012. Available at <https://www.thebigwhisper.com/blog/2019/12/23/introduction-to-doughnut-economics-and-thoughts-for-how-to-apply-this-framework-to-your-endeavor>

Safe and Just Sustainable Development





Recommendations

The committee offers a set of recommendations by 3 principal themes:

1. Strengthening sustainability educational programs at undergraduate and graduate levels.
2. Building the academic environment for sustainability in higher education institutions.
3. Developing a sustainability workforce to understand and address current and future sustainability challenges.

Academic institutions of higher education should embrace sustainability education as a vital field that requires specifically tailored educational experiences and the development of core **sustainability-focused competencies and capacities** delivered through courses, majors, minors, certifications, research, and graduate degrees in sustainability.

Sustainability curricula and programs in higher education should encompass key and emerging sustainability content areas to prepare students to address complex sustainability challenges in a real-world setting while incorporating **problem-based and solution-oriented approaches** to sustainability.

Sustainability curricula and programs in higher education should train students to understand the highly interdependent, varied, and complex contexts of sustainability (including organizational contexts); to develop their ability to discern and address the historical and contemporary trajectories and consequences of sustainability processes; and to apply their learning in **experiential learning settings** (community, organizational, service) so that learners can be more effective implementers of effective transitions toward sustainability.



Academic leaders should encourage the development of, implementation of, and participation in interdisciplinary sustainability programs that bridge disciplinary silos by fostering effective strategies such as team teaching, curriculum planning, interdisciplinary advising and preparation of graduate students, and educator trainings across departments about competencies and content areas of sustainability. Sustainability programs can be launched and evolve under a variety of institutional arrangements, but a **commitment to and value of inclusivity and interdisciplinarity is of fundamental importance, particularly from top leaders** of higher education institutions.

Sustainability education programs should prioritize **attracting and supporting students with varied backgrounds and lived experiences**, supporting them for success in a variety of sustainability careers. This also requires **attracting and retaining faculty from diverse backgrounds** in sustainability education programs, with additional attention to **equity, inclusion, and local and Indigenous knowledge** in the content of the curriculum and the institutional setting.

Federal agencies should increase their support for sustainability education programs, and they should include **provisions for minority-serving institutions** to apply for and receive grants to establish or revise sustainability education programs.

To strengthen and support sustainability education programs, **research** should be conducted on (i) **the effectiveness of sustainability curricula for achieving program-level goals and contributing positively to communities of practice, along with impacts on activities within higher education institutions overall**; (ii) **the marketplace for sustainability jobs and pathways for students to secure those opportunities**; (iii) **how core competencies and content areas in sustainability programs may be converging, diverging, or otherwise evolving**; and (iv) **how these programs will prepare students for a post-2030 agenda for sustainable development**.

Completion of a sustainability program in higher education should improve students' ability to **design, implement, and lead proactive change** toward a sustainable world. Thus, sustainability education programs should provide training and mentoring support to enhance capacities of their graduates to translate knowledge to effective action to meet emerging local, regional, national, and global needs.

Professional societies focusing on sustainability education should pursue collaborative opportunities to (i) provide a forum for convening sustainability students, researchers, and professionals; (ii) build partnerships with the public and the private sectors; (iii) offer formalized training and mentorship; (iv) promote information sharing; (v) develop shared principles and values; (vi) establish a model for assessing sustainability education programs; and (vii) establish and lead a cross-sectoral effort to track and analyze employment in sustainability-focused jobs.

Strengthening Sustainability Programs and Curricula at the Undergraduate and Graduate Levels

(2020)


Consensus Study Report

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