

Gaps and Pathway of Integration between Natural and Social Sciences in Global Change Research

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The transdisciplinary study between natural and social sciences is very challengeable because of their differences in research subjects, objectives, data and methodology. In recent 20 years, the merging sustainability sciences in climate, environment, ecosystem, energy, food, resources and human health provide the new opportunity for integration between natural and social sciences. This talk is focusing some methodologies on how to integrate these two types of sciences in sustainability science. First, the integrated study between natural and social sciences should be solution-oriented, and co-design, co-production with other stakeholders. Secondly, the integrated study should be balanced in top-down (natural) and bottom-up (social) approaches, focusing on the scientific issues in local level, which needs the efforts on social upscaling and natural downscaling by overcoming the uncertainties. To communicate the knowledge of uncertainties is one of the most important tasks for natural scientists when they try to work with social scientists and stakeholders. Last, we bring out some discussion on needs of experts in charge of communication in transdisciplinary study, the tendency of looking down social science in current global change and sustainability research, and the mismatching of current evaluating system to sustainability science.

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