



SOCIAL SCIENCE RESEARCH PLANNING: CLIMATE CHANGE, BIO-ENERGY, AND NATURAL RESOURCES WORKSHOP

EXECUTIVE SUMMARY

On May 11, 2010, the National Institute of Food and Agriculture (NIFA) hosted a workshop to identify the role and unique contributions of social sciences to a systems approach in conducting research/education/extension projects and to discuss effective strategies for NIFA to foster transdisciplinary collaboration. The workshop participants consisted of nationally renowned scholars of multiple disciplines and NIFA National Program Leaders (NPLs). Success of NIFA's programs in climate change and bio-energy requires effective integration of social sciences with other scientific work in order to advance knowledge in meeting these societal challenges. This workshop focused on three questions designed to identify the needs and means for strengthening social sciences inclusion into NIFA programs. With each question are recommendations summarized from workshop discussions.

How do social scientists contribute to NIFA's achievement of long-term measureable impacts from projects in the priority areas of climate change, sustainable bio-energy, natural resources and the environment?

- Social scientists focus on human behavior, response to incentives, and decision-making, including the evaluation of trade-offs within institutional and cultural contexts. Through these unique perspectives, social sciences help frame researchable questions and inform policies that can change human choices.
- Successful collaboration is more likely to be achieved when the nature of the regional and local scale problem to be addressed informs program priorities and defines relevant contributions, i.e., problem-based scholarship, rather than requiring a pre-determined set of disciplines or fields.
- Social scientists consider institutions, policies, incentives, and regulations as variables with both the potential for change and influence on human behavior and outcomes.
- Social scientists can make good project leaders as they have a broad frame of reference that allows focus on the social, economic, behavioral, and political context in which a problem often takes place.

How can NIFA incentivize/foster/support transdisciplinary teams and how can social scientists more effectively work with other disciplines as a part of these teams?

- There are crucial differences between transdisciplinary and multidisciplinary research. To be successful, a transdisciplinary project requires participants who are aware of this distinction and who are also strong in their respective disciplines, leading to a unity of knowledge beyond individual disciplines.
- Long-term benefits can be achieved if social and biophysical scientists work closely together throughout the duration of a project, not just on the 'edges' or in parallel fashion. Transdisciplinary cooperation should be incorporated in framing the problem, team leadership, and program management, as well as in the research/outreach/teaching components of a project. This will allow the team to address the nature and complexity of real-world problems, and lead to reliable outputs and impacts.
- Every discipline, including social sciences, should bring its best science to transdisciplinary teams and its contributions to this team work should be recognized and rewarded.

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- Social scientists can, and should, provide leadership in clarifying the ways in which personal and social values enter into problem-solving scholarship.
- Collaborative environment should be provided or created to build respects for all disciplines.
- All scientists need to listen carefully to the knowledge, perspective, and the framing of questions by other disciplines to understand why other scientists are undertaking specific activities, beyond a description of the activities.
- All scientists should realize the importance of key stakeholders being actively engaged in meaningful ways from the beginning of project planning to the end as users of research results.

What strategies can NIFA undertake to facilitate the development and success of research/education/extension systems approaches to address societal challenges such as climate change and sustainable bio-energy?

- NIFA should encourage experimentation, recognizing that there may be some failure. The ability to learn from failure is an important piece of the adaptive management (both passive and active) needed to move forward.
- NIFA should incorporate transdisciplinary approaches in defining research/education/extension needs by involving social scientists at the beginning with other scientists to identify issues.
- NIFA should ensure that review panels incorporate both qualitative and quantitative expertise across disciplines, including social sciences, as part of the total team.
- NIFA NPLs, including social scientists, should be an active, engaged part of the transdisciplinary team throughout the lifetime of a project.
- NIFA should support education for graduate students in learning how to work in inter- and transdisciplinary teams to encourage problem-solving scholarship, even though the students may specialize in one discipline.

In summary, addressing societal challenges through systems approach can be framed as achieving sustainable systems with economic, environmental, and social components. Workshop participants see significant opportunities for NIFA to implement strategies within program design and the funding processes to further foster transdisciplinary systems research, extension, and education.