Transdisciplinary Research

Investigación Transdisciplinaria

UNIVERSIDAD DE LA REPUBLICA URUGUAY

Valentín Picasso, University of Wisconsin – Madison, USA Universidad de la Republica, Uruguay

IAI - Professional Development Seminar:
Transdisciplinary Approaches to Integrating Policy and Science for Sustainability
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Outline

- Why?
- What?
- How?



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A more complex reality...



Why?

- Complex sustainability real world problems
- Input from all sources (disciplines and actors)
- Solutions require guidance from goals, norms and visions, for interventions and strategies
- Increased legitimacy, ownership, and accountability
- Credibility (scientific)
- Salience or relevance (practitioners)



X-disciplinary research types



Tress et al, 2005

Definitions

- "Transdisciplinarity is (Lang et al, 2012):
 - a reflexive, integrative, method driven scientific principle
 - aiming at the solution or transition of societal problems and concurrently of related scientific problems
 - by **differentiating** and **integrating** knowledge from various scientific and societal bodies of knowledge."

Other terms

- post-normal science
- Mode-2 thinking
- co-produced knowledge

Lang et al, 2012

Brandt et al, 2013

Used term: interdisciplinary with a participatory approach	(Sherren et al., 2010) (Wolfe et al., 2007)	"[] transdisciplinarity: a research approach that is interdisciplinary, integrated and participatory." "[] integrate approaches that span the natural and social sciences and traditional knowledge research process that is collaborative, interdisciplinary, policy-oriented, and reflective of northern priorities"
	(Payton et al., 2003)	"They were both designed to be interdisciplinary in approach, involving natural scientists [] as well as anthropologists and social scientists from Europe and the host countries. They were both participatory, [] involved the collection, integration and interpretation of local and scientific knowledge []."
Used term: participatory action research	(Moller et al., 2009)	"Adaptive co-management and Participatory Action Research (PAR) promotes [] learning through a partnership [] between science and Traditional Ecological Knowledge (TEK) to determine the sustainability of titi (sooty shearwater, <i>Puffinus griseus</i>) harvests by Rakiura Maori in southern New Zealand."
	(Leclerc et al., 2009)	"[] participatory approaches have been developed to help a variety of stakeholders engage in a learning process [] Similarly, some researchers have chosen to deal with complexity by integrating and stimulating more feedback from the field. Action-research is one such posture, and an instrument for sustainability science [] to improve a situation implies implementing actions and evaluating the consequences of these actions."
Used term: multidisciplinary with a participatory approach	(Serrat-Capdevila et al., 2009) (Gaulke et al., 2010)	"[] multidisciplinary collaboration between academia and stakeholders can be an effective step toward collaborative management [] putting science at the service of a participatory decision-making process []." "In an effort to prevent an ongoing series of failures, the administration of the Park requested an evaluation from a collaborative, multi-disciplinary project that included the Park, Sichuan University and the University of Washington."
More general terms have been used: scientists/researcher/stakeholder and a participatory approach	(Cabrera et al., 2008)	"This paper describes the interactive and iterative process by which farmers, researchers, extension agents, regulatory agencies, and other stakeholders collaborated"
	(El Ansari, 2005)	"In this report, a community-based collaborative research partnership is a 'community-centred' participatory approach to research that equitably involves community members, agency representatives and researchers."





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"Green Revolution" logic



Problem 1: socioeconomics



Problem 2: environmental



Problem 3: feedback loops



Lang et al, 2012



В

Α

С

How?

В

- 1. Team up
- 2. Frame the problem jointly
 - **3. Define** object, objectives, questions, and success
 - 4. Design a **methodological** framework
- **5.** Assign appropriate **roles**
- 6. Apply integrative and transdisciplinary methods
- 7. Realize 2-dimensional integration
- c 8. Generate targeted products
 - 9. Evaluate impact
 - **10**.Facilitate continuous evaluation
- All 11. Mitigate conflicts
 - 12.Enhance participation

Communication

- NUA Never Use Abbreviations!
- Don't use JARGON
- Clarity
- Simplicity
- Explicit assumptions
- Ask, ask, ask



Team building

- Goals: get the grant, do the work, deliver products, enjoy it
- Different roles
- Stars
- Work
- Communication
- Social skills
- Doesn't have to be fair
- Every little bit helps



Project leader

- Time commitment
- Communicate effectively (email, phone, talk)
- Translate language
- Internal and external translator
- Little "disciplinary" contribution
- Integration and Implementation of Science (new "discipline"?)
- Check list the grant proposal
- Assign roles
- Balance interdisciplinary and feasibility
- Encourage enthusiasm, engaging
- Always THANK everyone



Transdisciplinarity

- In the team building
- In the problem definition
- In the methods and integration
- In the communication



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Questions for panel

- **1.** Transdisciplinary project:
 - a. Problem addressed?
 - b. Who was involved? Who started?
 - c. What methods / process did you use to integrate?
 - d. What were your products?
 - e. What were your impacts?
- 2. Challenges? How were they addressed?
- 3. Did you apply "principles"?
- 4. Lessons learned?

