



TERAA: Teamwork for Effective Research Action in the Americas

Strengthening Teamwork to Confront Socio-Ecological Challenges: Generating New Knowledge for Effective Action in the Americas

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Montevideo. March 19, 2015

Presentation Outline

- I. TERAA Project
- II. Survey Data Analysis
- III. Next Steps
- IV. Questions, Disscusion, and Feedback



TERAA PROJECT



Research Problem

The existing gap between scientific knowledge production and policymaking presents a significant problem in the context of increasing uncertainty and risk in socio-ecological systems.





How to tackle the problem?

Transforming the current interface between science and policy requires **improved understanding of the individual and group dynamics of transdisciplinary (TD) research**.



Objectives

1. To identify **individual attributes** and **team characteristics** that positively or negatively influence team research outcomes.

2. To analyze **relations** between individual attributes, team characteristics, and possible research outcomes.

3. To **develop an agent-based conceptual framework** grounded in empirical data to represent the complex relations between team dynamics and team research outcomes.



Research Questions

- 1. How do **individual attributes** and **team characteristics** interact to influence TD research/action **outcomes**?
- 2. What **combinations** of **individual attributes** and **team characteristics** lead to TD research/action **outcomes** that successfully bridge the knowledge- action gap?





Conceptual Model



Outcomes

Outcomes	Description
Science Impact	Lowest tier of possible outcomes; Production and dissemenation of scientific knowledge through peer- reviewed pulblication, masters' theses, dissertations, book chapters, and conference presentations (Olsen et al. 1997; Olsen 2003)
Policy Impact	Second tier of possible outcomes; Integration of scientific findings into policy documents for governments and NGOs (Olsen et al. 1997; Olsen 2003)
Social-Ecological System (SES) Impact	Highest tier of possible outcomes; Visible, on-the- ground solutions and action-based projects that are enacted to improve SES problems (ex. Water scarcity, biodiversity loss) (Olsen et al. 1997; Olsen 2003)

Survey Data Analysis



Survey Highlights

- 1. Study Sites
- 2. Demographics
- 3. Incentives, Motivations, Interests
- 4. Teamwork Perspectives
- 5. Scenarios
- 6. Team Effectiveness



Study Sites

Target:

- IAI TD/ID Projects
 - CRN
 - SGP-HD & SGP-CRA
 - Seed Grants
- 22 Projects (Current and Past)

Survey Response Rate:

- 159 invited
- 87 responses (45 completed)



Demographics



Incentives & Motivations



Teamwork Perspectives



Team Structure of Projects



Number of answers

Scenario: Priority Outcomes



Team Effectiveness

Factors related to Team Success		Outcomes		
1.	Previous experience with team members	Science	Policy	SES Impact
2.	Face to Face Interaction	Impact	Impact	(OSE)
3.	Joint Training Activities	(OSI)	(OPI)	
4.	Trust			
5.	Leadership from the PI			
6.	Leadership by the PI and Co-Pis			
7.	Presence of a mix of physical scientists,			
	social scientists, and engineers			
8.	Presence of practitioners and			
	stakeholders			
9.	Academic Incentives			
10.	Policy Incentives			
11.	. Prestige of the team			
12.	. Openness to risk			

Team Effectiveness





Individual and Team Dimensions

	Individual		Team			
Factors	Cognitive	Conative	Affective	Structure	Function	Composition
Previous experience with the team members			x		x	
Face to face interaction	x				x	
Joint training activities			x		x	
Trust			х		x	
Strong leadership from PI	x			x		
Strong leadership shared by the PI and Co-PIs	x			x		
Presence of a mix of physical scientists, social scientists, and engineers	x					x
Presence of practitioners and stakeholders		x			x	
Academic incentives		х				x
Policy incentives	x			x		
Prestige of the team		х				x
Openness of team members to take risks			х		x	

Synthesis



NEXT STEPS





Interview design

- 1. History of involvement: Exploring personal connections/friendship
- 2. Generic teamwork skills (Kozlowski & Ilgen, 2007): Collective setting of goals
- 3. Generic teamwork skills: social interaction
- 4. Generic teamwork skills: Collective setting of goals
- 5. Interactional competence (Halvorsen, 2013): communication
- 6. competence: managing conflict-mediation.
- 7. Interactional competence:
- 8. Pluralism " Open to otherness" (Mitcham, 1989)
- 9. Effective action-Menthal models
- 10. Effective action- Framing
- 11. Effective action- Emotional numbing
- 12. Salient information.
- 13. Effective action-Boundary organizations.



ABM Tool Development: Scenarios

Scenario	Variable Values	Impact on Outcomes
Scenario 1	Prestige = False Incentive-Academia = False Incentive-Policy = False Train-Together = False Face-to-Face Interaction = False Trust = False Previous Experience = True	Science-Impact = 0.4 (partial success at each time step) Policy-Impact = 0 (none) SES-Impact = 0 (none)
Scenario 2	Prestige = False Incentive-Academia = True Incentive-Policy = True Train-Together = True Face-to-Face Interaction = True Trust = False Previous Experience = True	Science-Impact = 0.6 (partial success at each time step) Policy-Impact = 0.2 (partial success at each time step) SES-Impact = 0 (none)
Scenario 3	Prestige = True Incentive-Academia = True Incentive-Policy = True Train-Together = False Face-to-Face Interaction = True Trust = True Previous Experience = True	Science-Impact = 0.7 (partial success at each time step) Policy-Impact = 0.5 (partial success at each time step) SES-Impact = 0.1 (partial success at each time step)

Results: Agent Based Model



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Thank You!

- Inter-American Institute for Global Change (IAI)
- Centro Interdisciplinario de Respuesta al Cambio y a la Variabilidad Climatica – Espacio Interdisciplinario – UdelaR

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QUESTIONS, DISCUSSIONS & FEEDBACK

