



ARIZONA STATE UNIVERSITY

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy
Christopher Kuzdas

Will defend his dissertation

**Toward Sustainable Governance of Water Resources:
The case of Guanacaste, Costa Rica**

Abstract

Research shows that many water governance regimes are failing to guide social-ecological systems away from points, beyond which, damage to social and environmental well-being will be difficult to correct. This problem is apparent in regions that face water conflicts and climate threats. Existing research suggests general success factors to guide people in their efforts to govern water more sustainably. Yet, there remains a need to clarify what is it about governance that people need to change in water conflict prone regions, how to collectively go about doing that, and how research can actively support this. To address these needs, here I report on a multi-year collaborative research project in the dry tropics of Guanacaste Province, Costa Rica. The project addressed the overarching questions: How can water be governed sustainably in water-contested and climate-threatened regions? And, how can people transition current water governance regimes toward more sustainable ones? In pursuit of these questions, an integrated series of individual studies, each with their own methods, datasets, and contributions, were performed with a variety of partners and collaborators. These studies included: a participatory analysis and sustainability assessment of current water governance regimes; a case analysis and comparison of water conflict events; constructing and evaluating alternative governance scenarios; and, developing and initially implementing governance transition strategies. Results highlight the need for water governance that addresses asymmetrical knowledge gaps, reconciles disenfranchised groups, and supports local leaders. Yet, actions taken based on these initial results, despite some success influencing policy, found substantial challenges and complexity confronting them. In addition, in-depth conflict investigations in this project found that, more so than water supplies not meeting demands, deeply rooted issues such as friction between opposing local-based and national-level institutions are key conflict drivers in the region; and, accordingly, these issues would need to be overcome by efforts aiming for sustainable water governance. To begin addressing these issues, researchers and stakeholders, including those who had experienced conflicts, then constructed a set of governing alternatives and devised governance transition strategies that could actively help people achieve more sustainable alternatives and avoid the less

sustainable ones. These efforts yielded insight into the collective actions needed to implement more sustainable water governance regimes, including ways to begin addressing broader institutional and political barriers that drive harmful water conflicts. Actions based on these initial strategies yielded further opportunities, challenges, and lessons. Overall, the project addresses the research and policy gap between identifying what is sustainable water governance and understanding the strategies needed to implement it successfully in regions such as the Central American dry tropics that experience water conflict and climate impacts.

Wednesday, April 2, 2014

9:00am

WGHL 401

Faculty, students, and the general public are invited.

Supervisory Committee:

Dr. Arnim Wiek, co-chair

Dr. Dan Childers, co-chair

Dr. Raffaele Vignola, member

Dr. George Basile, member

Dr. Hallie Eakin, member