ASU SCHOOL of SUSTAINABILITY

ARIZONA STATE UNIVERSITY

In Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Christopher Kuzdas

Will defend his prospectus

Toward Sustainable Governance of Water Resources in Guanacaste, Costa Rica

Abstract

Water management decisions in dry tropical regions are often made in contentious, high stakes, and occasionally violent contexts. The stakes will increase substantially in these regions if projections of significantly drier conditions become realized. Due to a lack of coherent central oversight, the dry tropics of Guanacaste Province in Costa Rica are a microcosm of local water governance innovations. Some of these innovations have successfully managed water disputes and others have failed to de-escalate disputes before they turn violent. This dissertation seeks to answer the question: what are novel governance schemes for anticipating and mitigating violent water conflicts and climate change impacts in dry tropical water systems? Proposed research is structured in four steps. The first step investigates why water conflicts occur in Guanacaste and why some disputes turn violent. Steps 2 - 4 use three connected watersheds in Guanacaste as a test case for exploratory and solution-oriented methods. The second step uses comprehensive sustainability principles to investigate how, and how well, regional water governance operates. The third step investigates potential futures of the regional water system using formative scenario crafting exercises. The uncertainties surrounding the pathways by which conflict could emerge in the regional water system are explored. The final step uses stakeholder workshops to develop and evaluate decision options that would be most effective at mitigating violent future conflicts – while also advancing compliance with sustainability principles - across the spectrum of water system futures. The objective is to produce the knowledge required to develop a flexible decision framework that would enhance the capacity of governance regimes to manage, anticipate, and mitigate conflict in tropical dry water systems across a variety of futures. This capacity is required for attaining sustainable water governance.

Monday, January 9, 2012
2:00 p.m.
Wrigley Hall (WGHL) 481

Faculty, students, and the general public are invited.

Supervisory Committee:
Dr. Arnim Wiek (chair)
Dr. Daniel Childers
Dr. Raffaele Vignola
Dr. Hallie Eakin
Dr. George Basil