



In Partial Fulfillment of the Requirements for the Degree of

**Doctor of Philosophy**  
**Jagadish Parajuli**

Will defend his prospectus

**Governing Farmer-Managed Irrigation Systems in a Rapidly  
Changing World**

**Abstract**

This dissertation seeks to understand the major drivers of change in the Farmer-Managed Irrigation Systems (FMIS) in Nepal: how multiple disturbances impact the robustness of the irrigation systems, how farmers and their institutions respond to these environmental changes and disturbances, and how the FMIS as an institution has changed over time. Fifteen FMIS have been selected from five districts of central Nepal for the purpose of this study. Data will be collected through field observations, household surveys, semi-structured interviews, and focus group discussions, and current data will be compared with data collected 25 years ago in the Nepal Irrigation Institutions and Systems database.

FMIS are community managed and operated irrigation systems. They have successfully governed the use of water resources for irrigation for many decades and in several countries. In the past, agriculture was the primary means of livelihood for over 90% of Nepal's population, which generated a strong need for collective action to ensure stable water supplies. The management rules of the FMIS made the system robust. Today, migration, urbanization and opening up of new markets have moved the population's focus from farming activities, resulting in a decline of investment of human, social and financial capital in the FMIS. Climate change is likely to exacerbate the social and environmental challenges the FMIS face.

This research will result in a diagnosis of the existing disturbances to the irrigation systems, recommendations for possible institutional and policy reform required to strengthen robustness of the irrigation systems, and conceptual insights into how local institutions reinforce individual adaptation strategies for a collective goal. As an exemplary institutional arrangement in the study of a Socio-Ecological System, the research findings aim to benefit similar institutions globally facing challenges to the sustainable governance of Common Pool Resources.

Monday, November 19, 2018  
1:00 PM  
Wrigley Hall, Room 481

Faculty, students, and the public are invited.

Supervisory Committee:

Dr. Hallie Eakin, Co-chair  
Dr. Netra Chhetri, Co-chair  
Dr. Marty Anderies, Member