

POLITICAL ECOLOGY, GENDERED LANDSCAPES, AND SENSE OF PLACE: LOCAL SOIL KNOWLEDGE AND ACCESS TO AGRICULTURAL RESOURCES IN SMALLHOLDER FARMING COMMUNITIES IN COCHABAMBA DISTRICT, BOLIVIA

KERI AGRIESTI AND DR. MARIA ELISA CHRISTIE

Virginia Tech



ABSTRACT

This poster presentation draws from the literature on political ecology, sense of place, ethnopedology, and gendered knowledge. It poses questions for upcoming field research on indigenous and gendered soil knowledge and access to agricultural resources in smallholder farming communities in Tiraque, Cochabamba District, Bolivia. The goal is to explore the extent, causes, and implications for consideration of differences in women and men's knowledge, beliefs, and perceptions of soils defined by gendered spaces in the landscape. Emphasis is placed on people's everyday connection with the soil. This work will contribute to research targeting community-based conservation agricultural production systems (CAPS) that is part of the Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program (SANREM CRSP), managed by Virginia Tech.

INTRODUCTION

Bolivia is a landlocked country in the heart of central South America, situated between the dry, arid Andes and humid lowlands of the Amazon Basin. The Andean Region is made up of diverse indigenous and mestizo population, an abundance of hydrocarbons, and contrasting geographic ranges. Bolivia is the second poorest and least developed country in the Western Hemisphere, with over 60% of its population living in poverty (USAID, 2005; World Bank, 2010). In the highlands, the indigenous and rural populations are "particularly vulnerable" (World Bank, 2010) to poverty because of various socio-economic and environmental issues with land ownership, education, climate change, soil erosion, and one crop dependency (the potato) (Alwang, 2009; Paulson, 2005; Zimmerer, 1993).



Figure 1: Map of Bolivia

The proposed research will take place in the highlands of Tiraque, Cochabamba District during June-August 2011. It is part of SANREM CRSP, which is in its fourth phase of using science to improve the livelihoods and food security of small farmers in the developing world. The current phase focuses on conservation agriculture production systems (CAPS) defined by the following components: year-round soil cover, low tillage, and crop rotations (FAO, 2008). While CAPS has been successful in some cases, its applicability to smallholder farmers has been challenged, with socio-economic factors such as increased labor requirements—especially for women—among the critical constraints to adoption (Giller, 2009). This work is part of the Gendered Perspectives for Conservation Agriculture Cross-Cutting Research Activity (CCRA) within SANREM CRSP. The Gender CCRA seeks to identify the gender-based constraints and opportunities for CAPS.



Figure 2: Tiraque, Cochabamba District, Bolivia

RESEARCH QUESTIONS

1. What are the gendered landscapes linked to beliefs and perceptions of soil fertility and soil management practices?
2. What are the implications of SANREM CRSP's proposed interventions on men and women's labor and time allocation, and access to assets, specifically information, land, and livestock?
3. How can participatory mapping help us understand social aspects of conservation agriculture production systems (CAPS)?

THEORETICAL FRAMEWORK

This project contributes to an understanding of nature-society relations from the perspective of gendered knowledge and gendered space in feminist political ecology. Born out of the intersection of cultural ecology and political economy, political ecology studies asymmetrical power relationships between humans and the environment (Blaikie and Brookfield, 1987; Paulson et al., 2003; Zimmerer and Bassett, 2003). Informed by political ecology and feminist critiques of science (Haraway, 1988; Harding, 1986), feminist political ecology addresses the gendered "sciences of survival" and gendered environmental rights and responsibilities at the scale of everyday life (Rocheleau, Thomas-Slayter, et al., 1996). Ethnopedology is the study of local knowledge, beliefs, perceptions, classification, and management of soils by local people (Barrera-Bassols, Zinck, et al., 2006; WinklerPrins and Barrera-Bassols, 2004). Informed by a gender analysis, the proposed study draws on these literatures to examine their overlap in the context of smallholder CAPS.

GENDER ANALYSIS

The Gender Dimensions Framework (GDF) will facilitate a gender analysis of data collected. The GDF incorporates the following four dimensions: access to and control over key productive assets, including information; beliefs and perceptions; practices and participation; and laws, rights, policies, and institutions; and the cross-cutting dimension of power (Rubin et al., 2009).

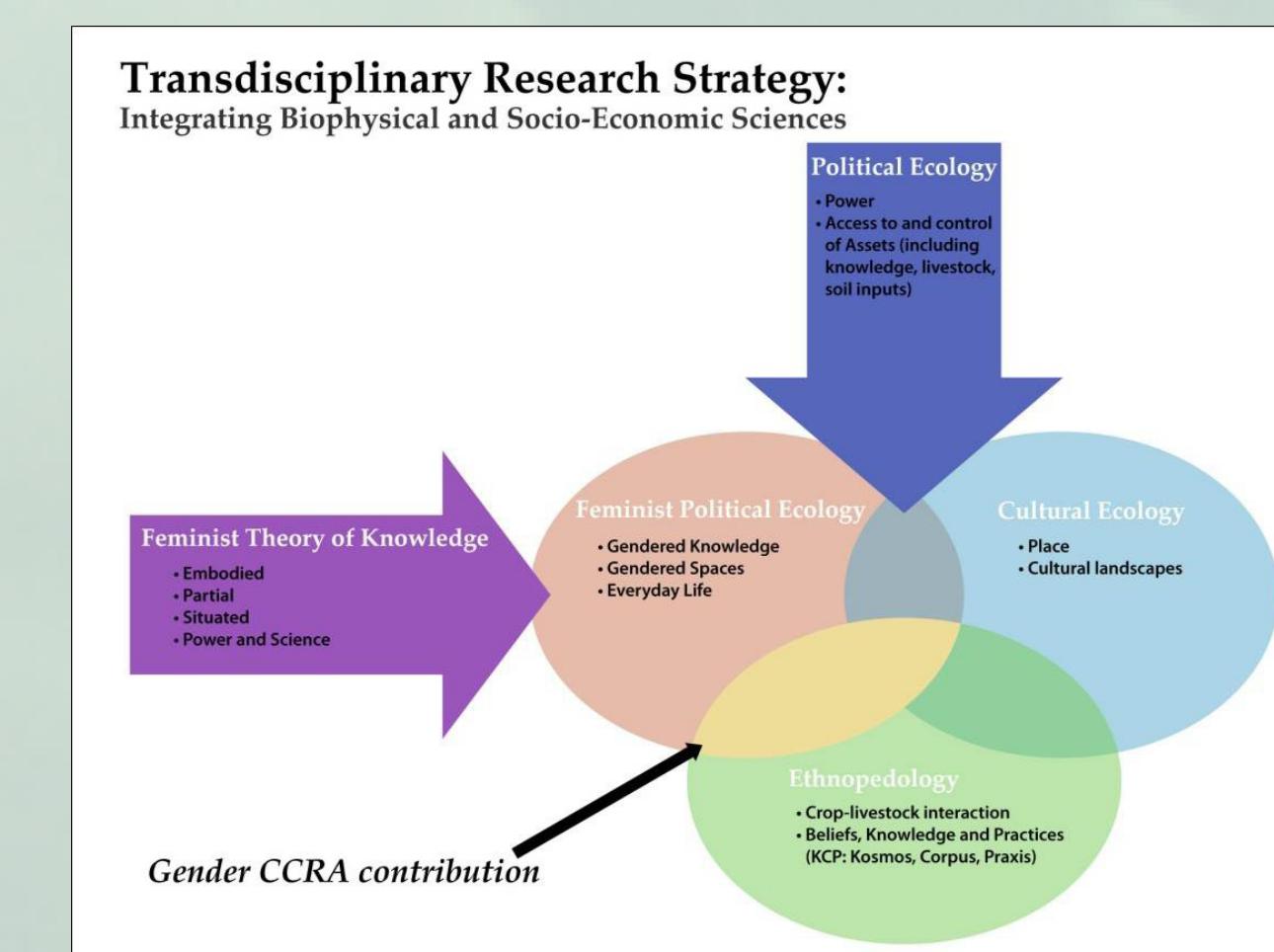


Figure 3: Theoretical framework

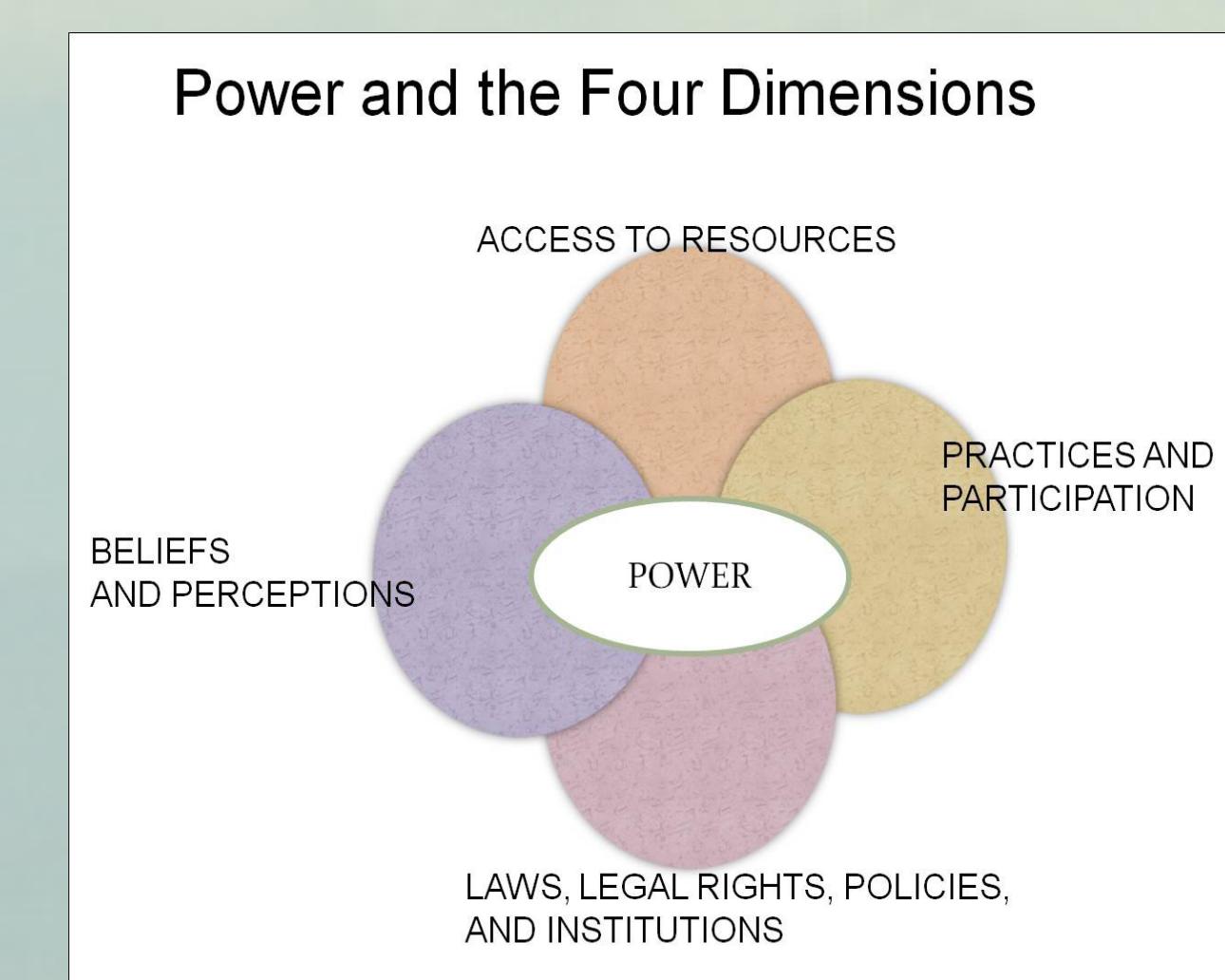


Figure 4: Gender Dimensions Framework

METHODS

Preliminary research includes a literature review of CAPS, political ecology, feminist political ecology, gender and development literature, ethnopedology, and an initial analysis of previous development research of the area. Field work will consist of participatory, qualitative research techniques, including: focus group discussions, socio-economic activity charts, participant observation, transect walks, structured and unstructured interviews, participatory mapping, and interpretation of photographs and soil samples. Because this research will be conducted in a Quechua-speaking indigenous community, nonverbal and participatory techniques will be an important element of the methods.



Figure 5: Community mapping exercise, Bolivia

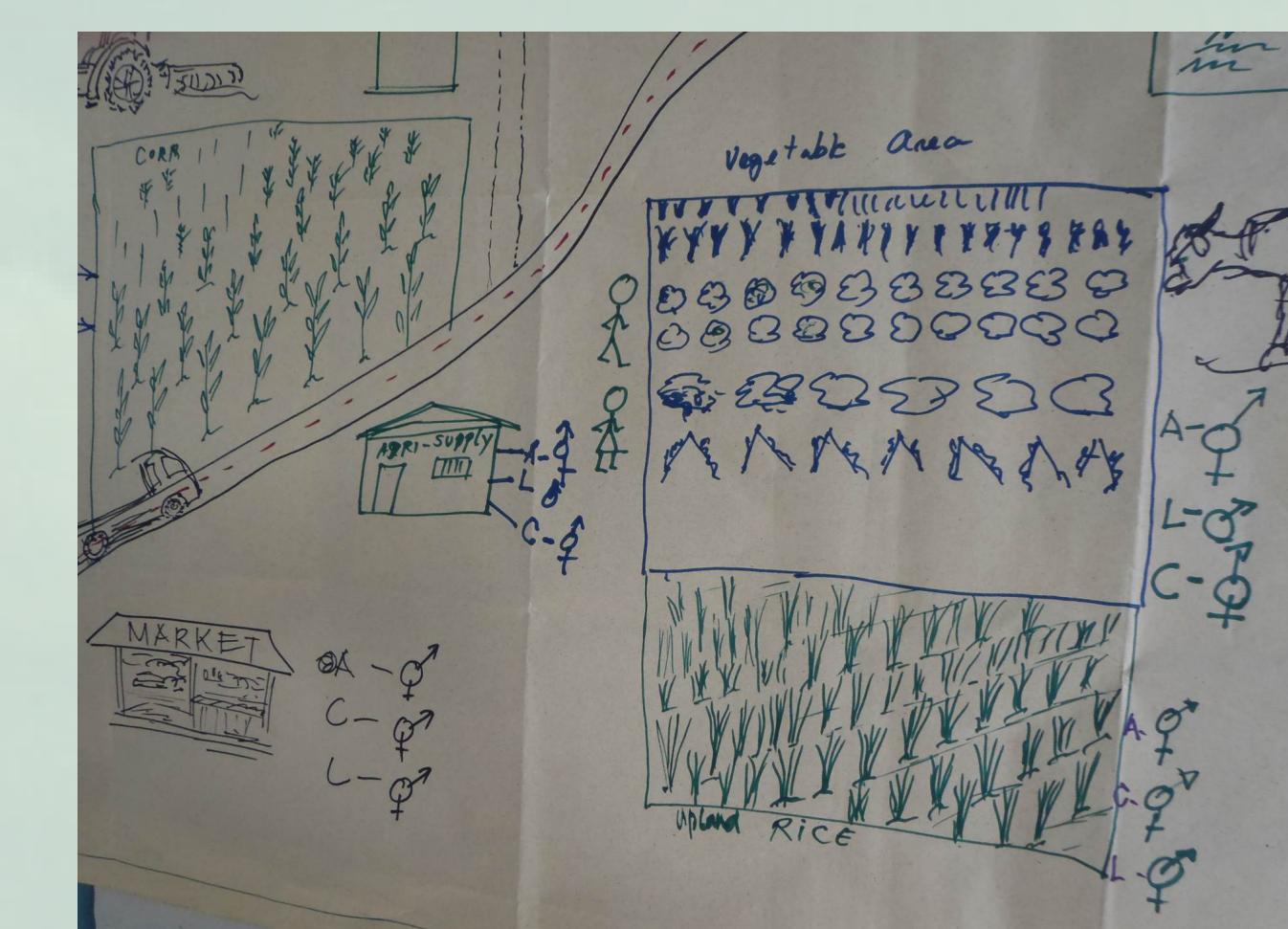


Figure 6: Participatory map showing gendered access, control, & labor

ACKNOWLEDGEMENTS

This publication/presentation was made possible by the United States Agency for International Development and the generous support of the American People for the Sustainable Agriculture and Natural Resources Management Collaborative Research Support Program under terms of Cooperative Agreement No. EPP-A-00-04-00013-0 to the Office of International Research, Education, and Development at Virginia Polytechnic Institute and State University.

Special thanks to the Gender team at the Office of International, Research, Education and Development (OIRED), Dr. Deborah Rubin, Dr. Larry Grossman, Dr. Korine Kováčiková, Dr. Susan Paulson, and Lead Designer Mark "Amado" Ohland.

REFERENCES

Alwang, Jeff. (2009). Conservation agriculture as a potential pathway to better resource management, higher productivity, and improved socio-economic conditions in the Andean Region. Blacksburg, VA: SANREM CRSP.

Barrera-Bassols, N., J. A. Zinck, et al. (2006). Symbioses, knowledge and management of soil and land resources in indigenous communities: Ethnopedology at global, regional and local scales. *Catena* 65(2): 118-137.

Blaikie, Piers M., & Brookfield, Harold C. (1987). Land degradation and society. London; New York: Methuen.

Food and Agriculture Organization (FAO). (2008). Conservation Agriculture. 2008-07-08 <http://www.fao.org/ag/ca/index.html>

Giller, K. E. (2009). Conservation agriculture and smallholder farming in Africa: The heretics' view. *Field crops research* 114(1): 23.

Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, 14: 575-599.

Harding, S. (1986). The Science Question in Feminism. Ithaca, NY, Cornell University Press.

Paulson, S. (2005). Gendered Practices and Landscapes in the Andes: The Shape of Asymmetrical Exchanges In S. Paulson & L. L. Gezon (Eds.), Political ecology across spaces, scales, and social groups (pp. 174-195). New Brunswick, NJ: Rutgers University Press.

Paulson, S., L. Gezon, et al. (2003). "Locating the political in political ecology: an introduction." *Human Organization* 62(3): 205.

Rocheleau, D. E., B. P. Thomas-Slayter, et al. (1996). Feminist political ecology: global issues and local experiences. London; New York: Routledge.

Rubin, D., C. Manrie and K.N. Barrett. (2009). Promoting Gender Equitable Opportunities in Agricultural Value Chains [Handbook]. Greater Access to Trade Expansion (GATE) Project under the Women in Development IOC. USAID.

USAID. (2005). USAID/Bolivia country strategic plan 2005-2009.

WinklerPrins, A., & Barrera-Bassols, N. (2004). Latin American ethnopedology: A vision of its past, present, and future. [Proceedings Paper]. Agriculture and Human Values, 21(2-3) 139-156.

World Bank. (2010). "Bolivia." from <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/LACEXT/BOLIVIAEXTN/0,,menuPK:322289~pagePK:141132~piPK:141107~theSitePK:322279,00.html>

Zimmerer, K. S. (1993). Soil erosion and social (dis)courses in Cochabamba, Bolivia: Perceiving the nature of environmental degradation. *Economic Geography*, 69(3), 312-327.

Zimmerer, K. S. and T.J. Bassett (2003). Political ecology: an integrative approach to geography and environment-development studies. New York, Guilford Press.



Figure 7: Interpretation of photographs & soils with Dr. Christie



Figure 8: Family potato harvest in Tiraque