

# Chronicles

Summer 2012

NEWSLETTER OF THE ADAPTING LIVESTOCK SYSTEMS TO CLIMATE CHANGE  
COLLABORATIVE RESEARCH SUPPORT PROGRAM



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LIVESTOCK-CLIMATE CHANGE **CRSP**

# USAID and Women's Empowerment in Agriculture Index (WEAI)

By: Sandra L. Russo

The Women's Empowerment in Agriculture Index is an innovative tool comprised of two sub-indexes: one measures the five domains of empowerment for women and the other measures gender parity in empowerment in the household. Individual level data is to be collected and then aggregated. Because it is a new tool, it has yet to be implemented fully and it does not over-ride or replace the numerous ADS directives on gender analysis and inclusion. Nevertheless, the Index contains important elements that could inform researchers on design, how to deliver better interventions, and point to approaches that would allow them to be more successful in implementation. The two parts to the Index consist of the five domains of empowerment (5DE) and the gender parity index (GPI). The 5DE consists of five domains and ten indicators as outlined below in Table 1.

**Table 1:** Five domains of empowerment in the WEAI.

Domain	Indicator
<b>Production</b>	Input in productive decisions Autonomy in production
<b>Resources</b>	Ownership of assets Purchase, sale, or transfer of assets Access to and decision on credit
<b>Income</b>	Control over use of income
<b>Leadership</b>	Group member Speaking in public
<b>Time</b>	Workload Leisure

The GPI is a relative inequality measure that reflects the inequality in 5DE profiles between the primary adult male and female in the household and shows the percentage of women who have achieved parity with respect to their male counterparts. If gender disparity exists, the GPI shows the relative disempowerment gap between the 5DE score for women compared to men. The GPI score can be improved by increasing the percentage of women who have gender parity or by reducing the empowerment gap.

At this point in time, it is not expected that projects will have to develop programs to address all of the domains and improve gender parity. It is possible, however, for current projects to examine their research and development activities and consider how to address some of the empowerment questions that must, of needs, arise as gender issues that merit attention.



The WEAI hopes to help women gain power in agriculture through increased empowerment. (Photo by Sarah McKune)

Table 2 begins the process of asking those questions and suggests ways to obtain that information within a LCC CRSP project context.

In many projects, especially those that lean heavily towards biophysical research and technology, for example, irrigation, plant breeding, veterinary care, etc., there is a tendency to make assumptions about gender and to make mistakes when adding gender into project planning. These gender “assumptions” can include (but are not limited to) the following:

**1. Livestock research is gender neutral so gender issues can be ignored.**

**Reality** – If the research has people-level impacts, the research is not gender-neutral. Many projects tend to be gender blind, i.e., ignore gender considerations altogether. A project can only be deemed gender neutral after conducting a gender analysis that clearly indicates the project will not have a differential impact on men and women nor be adversely affecting existing gender norms and roles.

**For example** – When monitoring vegetation and land use changes to determine possible changes in livestock corridors, it should be evident that there are people moving with those livestock. Who are those people and what are the vegetation, water sites, and landscape changes that are affecting them? Are there gender differences? If so, what are these differences? Do women have to go further to collect water? Does the change in vegetation impact human diets and if so, how?

<i>Domains</i>	<i>Questions to obtain missing information</i>	<i>Methods to obtain gender information</i>
<b>Production</b>	Do women have input into livestock production decisions, either sole or joint? Do women have autonomy in production practices? Are they able to change crop production?	All people-level data disaggregated by sex. Observation Surveys, Focus groups
<b>Resources</b>	What assets do women own and do they have control of these assets, including livestock? Can women purchase, sell, or transfer their assets? Do women have access to credit and can they make decisions about credit? Is climate change impacting women's access to natural resources including feed, forage, crops, water, and fuel wood?	Surveys Focus groups
<b>Income</b>	Do women have control over the use of their income? If there is a change in production, are women able to control those decisions that impact their incomes?	Surveys Focus groups
<b>Leadership</b>	Does a woman belong to a group? What is the group's purpose? -Does she have a leadership role in the group? Is a woman comfortable speaking in public and is she allowed to speak in public? Do women have the business skills to successfully enter the market place?	Observation Surveys Focus groups
<b>Time</b>	What is the allocation of time to productive and domestic tasks, i.e., workload? What are women's livestock management and care responsibilities? Has climate change impacted her daily workload? Is there satisfaction with available time for leisure activities?	Observation Surveys Focus groups

**Table 2:** Questions to ask about domains of empowerment in the LCC CRSP projects. (Adapted from: Women's Empowerment in Agriculture Index (USAID, 2012))



In many projects, women are often subject to assumptions about gender (Photo by Sarah McKune)

## **2. Having a woman on the project team means gender issues will be addressed.**

**Reality** – Non-local women may not understand local gender norms while local women (from within the country) may not be from the area, class, or caste and are unable to understand local (community) gender norms and/or can't enter the community.

**For example** – Being female does not automatically grant an understanding of local gender norms.

## **3. Including women in training events means gender issues will be addressed. Corollary assumptions are:**

- a.** When women are trained, they will use the training.
- b.** When women are trained, they will tell others about what they learned.

**c.** When women are trained, they will be willing to attend additional trainings.

**Reality** – Women may not fully understand the training content due to language or literacy issues. Gender roles in the community may prohibit women from sharing their knowledge with others. Women may have attended the training for other reasons. Women themselves tend to underestimate their roles in livestock production and they may think they do not have the expertise to pass on that training. The training may not meet women's needs.

**For example** – In Tanzania, less than 40% of women had been contacted by an extension officer (Njuki et al., 2011) Why is that? What can a project do to ensure that women participate in training and receive information? Should training be separated for males and females? Would an existing women's group be an appropriate training audience?

## **4. Earning an income will increase women's autonomy and enhance their economic and social status.**

**Reality** - The implementers need to know how increased access to resources can be translated into changes in the strategic choices that women are able to make.

**For example** – Project teams have to look beyond increases in household income to the distributional impact and changes in decision-making, management of income, and gender equity.

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# Collaborative Research Support Program (CRSP) Partnerships

By Shana Gillette  
Deputy Director, Livestock-Climate Change CRSP

The CRSP community of scientists is an evolving research network that spans the U.S. and 40 Countries. Despite wide recognition that partnerships across sectors are essential for research breakthroughs in agricultural development, institutional support for such partnerships has traditionally been limited. At the university level, the Collaborative Research Support Programs (CRSPs) have been among the first programs to support international research partnerships for development. The CRSP community of scientists is a dense, evolving research network formed through partnerships with universities, research centers, and institutes in more than 40 states.

## The CRSP Network Informs Research for the CGIAR

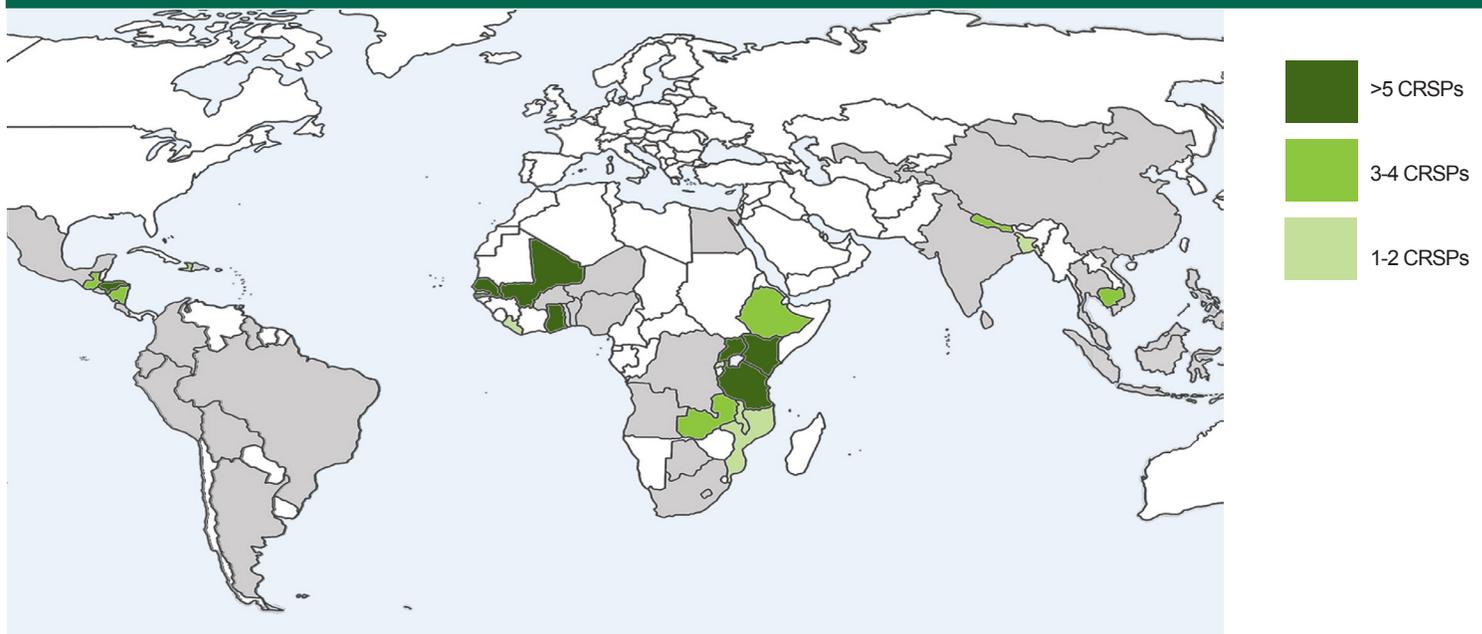
The CRSP community of scientists is both national and global in reach. The CRSPs have projects in Latin America, Central America, Africa, and Asia. These international partnerships have increased opportunities for international research exchange across the U.S. and highlight the importance of research for development. Through CRSP support, CRSP scientists have formed research partnerships that inform ongoing international in development. All CRSPs have played a similar role in informing research for at least one CGIAR center and/or consortia. These partnerships have helped define the type of partnerships that are expected to be at the core of the 21st century university: cross-sector collaboration, U.S. universities as global entities, cross-disciplinary, cross-university, and the university as ubiquitous in time and space.

The CRSPs have developed a macro-perspective on what factors contribute to effective partnerships:

- A community of U.S. and international scientists
- Trust and communication
- A sustained research effort over several years
- Transparency of efforts
- Complementary strengths

BASIS	●							●		●				
IPM		●	●			●			●			●	●	●
SANREM				●	●							●		
PULSE					●				●					
PEANUT						●			●					
INTSORMIL						●			●					
AQUAFISH							●							
HORT									●					
LIVESTOCK										●	●			
NUTRITION								●						
	CIFOR	ICARDA	ICIPE	ICRAF	CIAT	ICRISAT	IDRC	IFPRI	IITA	ILRI	CCAFS	CIMMYT	CIP	IRRI

Figure 1. CRSP connections with CGIAR centers and consortia



CRSP cross-sector partnerships exist in all the Feed the Future countries, focusing on research activities that are:

- Applied
- Problem-centered
- Demand-driven
- Entrepreneurial
- Network-embedded
- Rapidly expanding access to new knowledge

**Figure 2.** CRSP partnerships in FtF (green) and other (gray) countries

## CRSP Partnerships are Setting the Direction for the 21st Century University

In the past five years, there has been a fundamental shift at the university level toward engaged scholarship, research that actively engages students in solving global problems through cross-disciplinary collaboration. The universities that have already participated in CRSP activities are now setting the direction for how engaged scholarship will occur at the undergraduate and graduate level. CRSP partners already have the experience of building and maintaining partnerships that lead to outcomes at the field level. In particular, the CRSP community of scientists is already committed to the type of research that will benefit development in the next five years in Feed the Future (FtF) countries.

## CRSP Connections with the Private Sector are Built on Understanding, Trust, and Respect

Public-private partnerships are an important and growing component of CRSP projects in the Feed the Future countries. Agriculture is still a significant contributor to the GDPs of these countries (often close to twenty percent or more), so public-private research partnerships can contribute significantly to equitable economic growth. In particular, the growth of small agricultural industries can benefit women, involving them in agricultural decision-making and resource generation. In Zambia and Kenya, CRSP projects are reducing the gender gap in assets by increasing women's income, thus contributing to development effectiveness as described in USAID's Women's Empowerment in Agriculture Index.

## As the Early Adopter, CRSP Will Lead in Shaping the Research Future

The CRSP has been an early adopter of partnership practices that are increasingly in demand at universities that want to remain relevant in a global future. The CRSP has already modeled how universities can reshape their institutional practices to respond more readily to the research demands of international development. In the past five years, resistance to these needed changes has decreased as universities recognize the importance of cross-disciplinary research across public and private sectors. The partnership of the Aquafish CRSP with the WorldFish Center, for example, has led to widespread dissemination of innovative technologies. In the next five years, the CRSP will continue to pilot new initiatives such as regional innovation consortia, regional knowledge platforms, and research alliances to model ways for universities to engage in international research.

*\*Initiated by Title XII legislation, Collaborative Research Support Programs mobilize the capacities of land-grant universities to address issues of food security, human health, agricultural growth, trade expansion and sustainable use of natural resources in the developing world. The CRSPs receive core funding from the United States Agency for International Development, Bureau for Food Security. The views expressed herein are those of the author(s) and do not necessarily reflect the views of USAID.*



Dr. Gillette is an assistant professor in the Department of Clinical Sciences in the College of Veterinary Medicine and Biomedical Sciences at Colorado State University. Her current research focuses on the communication of uncertainty, improvement of decision support tools, and the co-management of the environment and animal health in developing and transition economies.

## Graduate Student Profile:

# Ajit Kumar Karna



*Ajit Karna studies disease transfer between livestock and humans.*

Ajit Kumar Karna's research focuses on borders: the shared environment between humans and their livestock, the diseases that infect them both and the expansion of disease patterns caused by warming global temperatures.

Karna, who is a veterinarian by training, became interested in climate change while working on a Masters Degree in International Public Health at the University of New South Wales in Sydney, Australia. "Until then, I'd not heard much about climate change," Karna said.

But it quickly became clear that climate change was expanding the available habitat of disease carrying-vectors, like mosquitos, in his native Nepal to include higher altitudes. Vector expansion has significant impacts for his field of study, zoonosis, or the transfer of disease between humans and animals.

"Seventy percent of human diseases have animal origins, and climate change may increase transmission between the species," Karna explained. Rabies and plague are commonly known examples, but other diseases not usually associated with livestock, like tuberculosis, are also transmitted between humans and animals, especially in areas where animals and humans live close together or in poverty.

Karna's thesis work is focused on mosquito species that



*Karna examines a pig's tongue for signs of cysticercosis, or tapeworm infection, in a Kathmandu Valley slaughterhouse.*

carry Japanese encephalitis, a fever that affects 50,000 people worldwide each year. The infection kills about 15,000 people and leaves many more with severe neurological defects that greatly impact livelihood.

In Nepal, Japanese encephalitis, along with dengue fever and malaria, are common in the Southern plains of the country, which are favorable for vector breeding. In this region, the government provides some vaccination programs.

But warming temperatures have made higher altitudes more hospitable to some vector species including the culex mosquito, which carries the virus, exposing naïve populations of humans and animals for the first time.

Adding to the complexity of the problem is that livestock, which live in or very near households in the mid-hills region, harbor the virus without getting sick themselves, but pass the virus to their owners. "I want to investigate if there are further ways to protect unprepared human populations and their livelihoods from emergence of the disease at the community level," Karna said.

After finishing his Master's degree in Australia, in Fall 2012 Karna will begin a Ph.D. program in epidemiological public health at Purdue University in West Lafayette, Indiana.

## Graduate Student Profile:

# Chandra Kant Dhakal

Chandra Kant Dhakal intimately understands the importance of raising and selling livestock for Nepalese families. Profits from his own family's livestock helped support him through his undergraduate education at Institute of Agriculture and Animal Science (IAAS), Tribhuvan University in Rampur, Nepal.



*Chandra Kant Dhakal studies agricultural economics in Nepal to investigate how households can maximize their livestock market decisions while adapting to climate change.*

Now a graduate student, Dhakal studies the impact of climate change on the agricultural economics of community livestock systems like those that put him through school. "I realized that every aspect of livelihood is directly related to economics. Unless and until economics are improved,

you can't really change anything," Dhakal explained.

His Master's degree research study will focus on the rural farming areas of the mid-hills and hilly regions in Nepal, areas where the majority of households, more than 75 percent, raise livestock as a vital part of family income.

These regions of Nepal have been particularly affected by climate change. Higher temperatures and erratic wet and dry seasons have caused a shortage of feed and fodder for livestock, an increase in unpredictability of seasonal animal disease and a decrease in available pasture lands as more people move into lowland areas.

The changing climactic profile increases the cost of raising healthy livestock, according to Dhakal. His research will investigate the impacts of climate change since 1980 in order to inform education and help farmers better predict coming challenges to livestock cultivation in the region. These challenges might be met by increasing veterinary care and education, expanding households' knowledge of local market systems or even shifting the numbers and type of livestock farmers select.

"I want to investigate how we can improve the livelihood of marginalized poor people in rural areas through the proper mechanisms of market systems, which could be one of the best ways to soften the impacts of climate change," Dhakal said.

*Dhakal's research will focus on households and markets in the Kaligandaki River Basin.*



# Graduate Student Photo Essay: Tara Nath Gaire



Tara Nath Gaire, now a veterinarian, grew up tending livestock with his grandfather and father. His family keeps goats and cattle to sell and use their milk and manure.



Gaire (bottom right) meets with livestock owners and farmers to identify what could best help them adapt to climate change and how policy makers could help support them, including land management policies, surveillance of vector borne diseases, and social safety nets including livestock insurance markets. “My research focuses on helping farmers adapt to climate change,” Gaire said.

**Figure 1:** Tara Nath Gaire surveys a farm in the mid-hills region of Nepal as part of his LCC-CRSP-funded thesis investigating the interaction between climate change and animal-human disease patterns in one of the most vulnerable areas of the country.

**Figure 2:** Increasing humidity in Nepalese grasslands increases the prevalence of vectors, like mosquitoes, which carry diseases that infect both people and animals, Gaire explained.

**Figure 3:** A Nepalese woman brings water to her household cattle. The majority of families in Nepal’s mid-hills region raise livestock for animal products and to supplement their family’s income. The closeness of humans and livestock allow transmission of diseases like Japanese encephalitis and malaria between the two groups.

**Figure 4:** Gaire will study vector-borne diseases in the region, including Japanese encephalitis, dengue fever and malaria which can be transmitted from animals to humans by intermediaries like mosquitoes.

**Figure 5:** Livestock farmers and household livestock owners have similar needs, but can lead to competition for food resources like forest fodder. Better disease screening, education about herd selection and improved sanitation conditions may be easy ways for commercial and household farmers to adapt to changing disease patterns according to Gaire.

**Figure 6:** Many households supplement livestock feeding with fodder from local forests. Fodder availability can be affected by changing climates and human migration patterns as people move to higher altitudes alongside warming temperatures.

**Figure 7:** Animals from many households graze collectively in some villages, providing further opportunity for vector-borne and parasitic disease transmission.

**Figure 8:** The borders of grasslands and Chitwin National Park provide a location to study the transfer of disease between livestock and wildlife.

*(Figures on next page)*



# USAID and WEAI continued...

## Brief Review of LCC CRSP Gender Efforts

All of the LCC CRSP seed grant project reports and new multi-year project proposals were reviewed. The emphasis on gender inclusion in the LCC CRSP Request for Proposals meant that projects have paid some attention to gender but to a greater or lesser extent. For the most part, the LCC CRSP projects have included gender in some way in their projects. An earlier gender review of the GL-CRSP offered the following questions as a means for assessing gender inclusion:

1. Were gender issues taken into account during project design and implementation?
  2. Is sex disaggregated data collected?
  3. Are gender components incorporated into all activities?
- (Rubin, 2005)

All of the LCC CRSP projects could answer Questions one and two affirmatively. Each project had one or more activities that included gender, e.g., identifying women as a category for training.

Nevertheless, the “devil is in the details” in some of the targeted gender components. This goes back to the assumptions that are made about gender research by non-experts. Sometimes the disconnects are trivial but sometimes these can be serious.

For projects that are highly biophysical in research approach with limited people-level contact, the gender components are weaker. Climate change will impact vegetation and water sources which will, in turn, impact herd movements and land use. People move (or not) with those herds and make decisions about mobility, marketing, health care, and food security. These people are impacted by the research and should be included; activities to include them should be gender sensitive.

For projects that intend to include female researchers, it is unclear whether the project team fully understands that simply being female is not a substitute for having gender expertise. A female GIS specialist is probably not any more aware of gender dynamics in a rural village than a male GIS specialist nor would it be fair to assume that a female scientist would “handle” all of the gender work for the project.

<i>Domain</i>	<i>Gender constraints</i>	<i>Gender opportunities</i>	<i>Examples of livestock specific issues</i>
<b>Production</b>	Lack of decision-making about production.	Determine under what conditions women could make production decisions.	What are women’s roles in livestock production?
<b>Resources</b>	Lack of access to assets, information, technology, and credit. Possible negative impacts of climate change on availability of resources.	Understand the causes of lack of access and control of resources in order to design interventions that will work for women.	Is there a species or product difference between women and men? If women produce small stock, milk, or eggs, address their needs accordingly.
<b>Income</b>	Lack of control of income or inability to earn own income.	Determine women’s roles in production and where they could control the income; provide access to markets; understand how women prefer to earn and save.	Women often produce and sell for the farm gate, e.g., milk, eggs. Would access to a producers’ organization, cooperative, or regional market improve their income earning abilities?
<b>Leadership</b>	Fear of public speaking, not belonging to a group.	Work with existing groups; form new groups; provide opportunities for all women to have a voice.	Do women belong to livestock producer groups, do they need their own group, are they in leadership positions?
<b>Time</b>	Excessive workload.	Find labor-saving technologies that will work for women.	Feed and forage technologies including improved feeds, forage choppers and creative ways that allow women to access these are needed.

**Table 3:** Determining gender issues relevant for livestock project design and implementation



Projects should pay attention to and monitor designs and activities to see the actual engagement of women. (Photo by Sarah McKune)

For projects that want to intentionally recruit males and females equally and even recognize that training might be needed to bring females' qualifications up to the level that is needed by the project, there may yet be other issues that would prevent this from happening. These would be related to cultural and social norms in the community or area and should be carefully (and candidly) discussed with knowledgeable local people.

For projects that intend to recruit females for further training, e.g., for graduate school or even scientific exchange visits, there may be institutional barriers limiting women's full participation which have to be understood.

For projects that intend to distribute mobile phones to households or put mobile phones in the hands of women, recent research is indicating that this approach may not work for several reasons. One phone per household generally means that a male in the household gets the phone. One phone per woman generally means that a male gets the phone. Also, women seem to not be comfortable using text messaging for receiving and sending information (USAID, 2012). These data are relatively new and fly in the face of conventional wisdom about mobile technologies. It would be worth checking with the users to see if the phones are being used as intended.

For most projects, people-level data collection is being disaggregated by sex. All projects should be sure they are doing this. Some gender analysis is being done to modify training approaches so as to be sure to include women. Positive affirmative action, as mentioned above, is being practiced for capacity building and participation as researchers. How will the team know if their gender efforts are being successful? Are they able to modify their activities if gender differences appear? The gender indicators that they select should go beyond process and output indicators.

## Conclusion and Next Steps

Almost all the current and completed LCC CRSP projects have included gender into their project designs. Still, project designs and activities may have to be re-thought immediately or as soon as monitoring and evaluation shows that there is an issue. If women are not attending meetings, why not? If women are not participating in research activities, e.g., participatory research or community design sessions, why not? Is the research that is being done important to women, does it meet their needs?

## Recommendations for LCC CRSP to Build on Niches and Incorporate Gender Equity Concerns

1. Assist the project teams in developing gender indicators by utilizing either gender specialists or engaging other team members (including local staff) and monitor these carefully.
2. Assist the project teams to carefully review planned gender inclusion activities to ensure that results are positive and not harmful to women participants.
3. Address gender differences in capabilities to cope with climate change adaptation.
4. Provide training, as needed, to build capacity to deliver gender interventions.
5. Develop a gender, livestock and climate change database (some of it is started here) that researchers can access.
6. Offer a joint conference that engages gender, livestock and climate change researchers globally to exchange ideas and research results.

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Dr. Sandra L. Russo earned her Ph.D. in Agronomy, with a minor in Animal Science, from the University of Florida in 1981. She worked in Africa from 1981-1986 in Kenya and the Gambia on international development projects that targeted small farmers, including women. Current research interests revolve around gender and water issues, environment, and agriculture. She is currently working on an ecofeminist textbook that stresses service learning and activism.

# Chronicles

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