ILSSI approach to gender as a cross cutting issue

Introduction

Feed the Future and its Innovation Lab on Small Scale Irrigation (ILSSI) approach gender by recognizing that women are important food producers and therefore reducing gender inequality is critical to achieving global food security. Improving the status of women can lead to increases in agricultural productivity, poverty reduction and improved nutritional outcomes.[1]

Feed the Future and ILSSI therefore integrates gender-based analysis in all its work. To track changes in women's empowerment levels that might occur as a direct or indirect result of interventions under Feed the Future, USAID employs the Women's Empowerment in Agriculture Index (WEAI), which measures indicators across five domains of empowerment: production, resources, income, leadership, and time. ILSSI identifies these domains as relevant to irrigation and informs the Lab's gender responsive[2] approach to research design and implementation. Indeed, ILSSI partner IFPRI identified "irrigation as an entry point for women's empowerment (through increased asset ownership and control over resources and reduced time spent on water collection)" (Domenech and Ringler, 2013). An ILSSI working paper produced by Domenech (2015), expanded on the earlier paper and identified four potential impact pathways linking irrigation with gender and positive *nutrition* outcomes in Africa:

- Irrigation as a source of more diverse foods (through increased agricultural productivity and crop diversification);
- Irrigation as a source of income (from market sales and employment generation, particularly in the lean season);
- Irrigation as a source of water supply, sanitation, and hygiene (through multiple water use, reducing environmental enteropathy), and
- Irrigation as an entry point for women's empowerment (through increased asset ownership and control over resources and reduced time spent on water collection).

At the same time, potentially adverse linkages between irrigation and nutrition from irrigation, such as through water-related diseases (such as malaria) or increased water pollution from agro-chemicals, and the role that women and men play in these linkages, are being addressed in ILSSI.

ILSSI thus seeks to contextualize the overall Feed the Future gender responsive approach to irrigation and localize this to project countries and Feed the Future areas in Ghana, Ethiopia and Tanzania.

Integration of gender into research

There is limited research-based literature on the links between irrigation and gender on issues related to production, resources, income, leadership and time. ILSSI will expand upon this body of research with further field-based studies. In addition, ILSSI seeks to further understand the complex linkages between gender, irrigation and *nutrition*, which has had little attention in the past. Toward that, the

[1] http://www.feedthefuture.gov/approach/Gender--Integration

[2] Gender sensitive and gender responsive: Often used interchangeably, the terms describe project design and implementation informed by gender analysis (although gender responsive may include additional measures to redress key areas of gender inequality); Gender blind: describes approaches to project design and implementation with little or no evidence of performing a gender analysis or considering local gender norms and relations; Gender neutral: describes project design and implementation in which gender analysis was conducted but no impact on gender relations was identified.

research is identifying the factors that constrain women from both accessing and benefitting from small scale irrigation (SSI) development, including critical decision-making processes at household level. The research results will be important to establish an evidence base for developing pathways for the expansion of SSI in Africa that can reduce constraints to and expand benefits from SSI for both women and men, thereby contributing to improved outcomes for nutrition and health.

Central research questions on gender

1. What are the links between irrigation, nutrition and gender?
2. What are the key constraints to adoption of irrigation technologies and practices by women and men? What are the key constraints to equitable benefits from investment in irrigation and agriculture water management practice by women and men?
3. What measures can be taken to reduce constraints to expand SSI by women and men?
4. What measures can be taken to ensure equitable distribution of benefits from SSI between men and women?

Small scale irrigation questions within WEAI domains

The WEAI domains outline important areas for gender equitability in agriculture, including for irrigation. Specific areas of inquiry in the ILSSI research are relevant to the five domains of the WEAI, as represented in the table below.

Domain	**Related research Q on SSI across genders**
Production	Decision making roles of men and women on use of water (including for irrigated fodder and livestock)
	Differential access to water for irrigation
	Decision making roles of men and women on adoption of irrigation technologies and/or practices
	Decision making roles and ownership of men and women regarding the types of crops to grow for irrigated vs. non-irrigated production
	Level of satisfaction with water sources
	Preferred sources of SSI across genders
	Access to/who makes decisions on credit for various uses (including for purchase or irrigation equipment)
Information	Access to information/extension services for irrigation, and if/how respondent used that information
Income	Decision making on use of income
Leadership	Membership in water users' associations or other local committees involved in water management
	Comfort in speaking in public about infrastructural issues, including wells, roads, water supplies, etc.
Time	Time spent by men and women on use of irrigation equipment

Additional gender-related questions in household survey

In addition to the irrigation themes highlighted in the WEAI, several questions in the household questionnaire highlighted below touch on gender-relevant themes. Furthermore, we focus on connections between irrigation, gender and nutrition specifically, since women who are empowered may have greater potential to improve nutritional outcomes for their households through irrigation and other pathways.

Domain	Related research Q on SSI across genders
Land	Name on the land registration certificate
	Who in the household makes decisions regarding each of the household plots
Income	Who makes sales-related decisions on each crop
Time	Time spent collecting water, by adult/child women and adult/child men
	Labor hours spent for various production activities (planting, weeding, harvesting, irrigating, etc.) for both seasons, for adult/child women and adult/child men
Nutrition	Dietary diversity of the female respondent; anthropometry of female respondent (if of childbearing age); health and nutrition practices, including prenatal visits, child breastfeeding and complementary feeding practices, household dietary diversity, and WASH practices

Methodology

The questions outlined in the table are explored using both qualitative and quantitative methods. Tools such as surveys, focus group discussions, and in-depth interviews are implemented in control sites and in intervention sites where ILSSI consortium partners IWMI, ILRI and NCA&T are facilitating action research interventions on small scale irrigation. In addition, women and men farmers are participating in field-level pilot interventions in all three project countries; and household participation in pilots target both female- and male-headed households. Data are collected at the farm level through farmer field books that record inputs, including labor, farm/plot level outputs, and income generated from agricultural activities.

Gender research outputs and knowledge products

IWMI and IFPRI have jointly developed a protocol for Focus Group Discussions (FGDs) to be conducted in Ethiopia, Tanzania and Ghana. The goal of these FGDs will be to better understand the relationship between resources, technology use, adoption and access, and gender. These FGDs will take place in all intervention sites, and one control site will be surveyed for each intervention village. There will be one group of men and one group of women interviewed at each site. The topics in the protocol include 1) understanding livelihood resources (e.g. common livelihood activities, roles, and the influence of institutions in these roles), 2) understanding household water use (e.g. water sources, who collects water, and time collecting water), 3) how improvements in water technology could improve livelihoods, 4) irrigation practices (e.g. how technology is used and for which crops, and gender roles/responsibilities), and 5) innovation and agricultural technology adoption (e.g. characteristics of early adopters, and effects on social standing). By separating the FGDs by gender, we will be able to compare men and women's responses to better understand their perceptions of gender roles in water technologies and practices.

IFPRI plans to use the data collected from the household survey and FGDs to inform a publication on the role of gender and irrigation. We will use data from both qualitative and quantitative sources, including the WEAI, to explore the relationship between irrigation and women's empowerment.

Integration of gender into cross-cutting activities: capacity development and engagement

In addition to research that seeks to identify constraints and opportunities for sustainable intensification of farming practices using SSI for men and women farmers, ILSSI is also using a gender responsive approach to capacity development. The capacity development activities contribute to the

research outputs of the project, increasing the incomes of farmers through the pilot interventions, and strengthening skills and competencies in each country for longer-term research and institutional capacity. Capacity development under ILSSI includes a number of components summarized below.

IWMI and ILRI are partnering with national research institutions to design and implement research in all three countries. Both male and female students and young professionals are identified from universities and research institutes to support field-level interventions and data collection, with mentoring from IWMI and ILRI researchers. Students are linked with IWMI and ILRI researchers for planning and preparing theses/dissertations, and for guidance on publishing the results of the research. Post-doctoral students, including women from the region, are also provided opportunities for field experience and skill development on various modeling tools used by ILSSI. Specifically, TAMU-led training on IDSS target current and future research leaders that are women, as well as men. TAMU is leading two trainings per year in each of the three ILSSI focal countries on the suite of models being applied in the research, including SWAT, APEX and FARMSIM. Local partners collaborate on the trainings through hosting, advertising and selecting candidates for training. The expected outcome of the capacity development is to enable individual professional development for women scientists in the region.

Additionally, IWMI is collaborating with local partners to provide training on managing credit specific to SSI technologies. The trainings target the inclusion of female-headed households and women farmers, in addition to men farmers. The expected outcome of the trainings is to strengthen knowledge and capacity to increase access to credit for farmer investments in SSI technologies and to inform design of finance products for SSI targeted at women.

IFPRI is collaborating with USAID in developing a training on gender, to be administered in each of the countries. The training will cover basic concepts of gender analysis, their application to irrigation, connections to nutrition, and how to monitor progress, including the use of the WEAI and USAID's Gender Integration Framework, with applications to irrigation and nutrition. The expected outcome is to strengthen capacity to recognize and address gender issues in irrigation. In preparation of the ILSSI gender workshops that are planned to be implemented back-to-back with USAID gender training in the three ILSSI countries, a gender training needs assessment was implemented in the three countries in early 2015. The training will strengthen local capacity to address and include gender as a component of projects in other sectors, including irrigation, nutrition and agriculture. The project will not only train members of government and academic institutions, but also local implementing and collaborating partners, on considerations for mainstreaming gender into programs and policies.

References

Domenech, Laia and Ringler, Claudia. 2013. The impact of irrigation on nutrition, health, and gender: A review paper with insights for Africa south of the Sahara. IFPRI Discussion Paper 1259. Washington, D.C.: International Food Policy Research Institute. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/127480

Domènech, Laia. 2015. Is reliable water access the solution to undernutrition? A review of the potential of irrigation to solve nutrition and gender gaps in Africa South of the Sahara. IFPRI Discussion Paper 1428. Washington, D.C.: International Food Policy Research Institute (IFPRI). http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129090