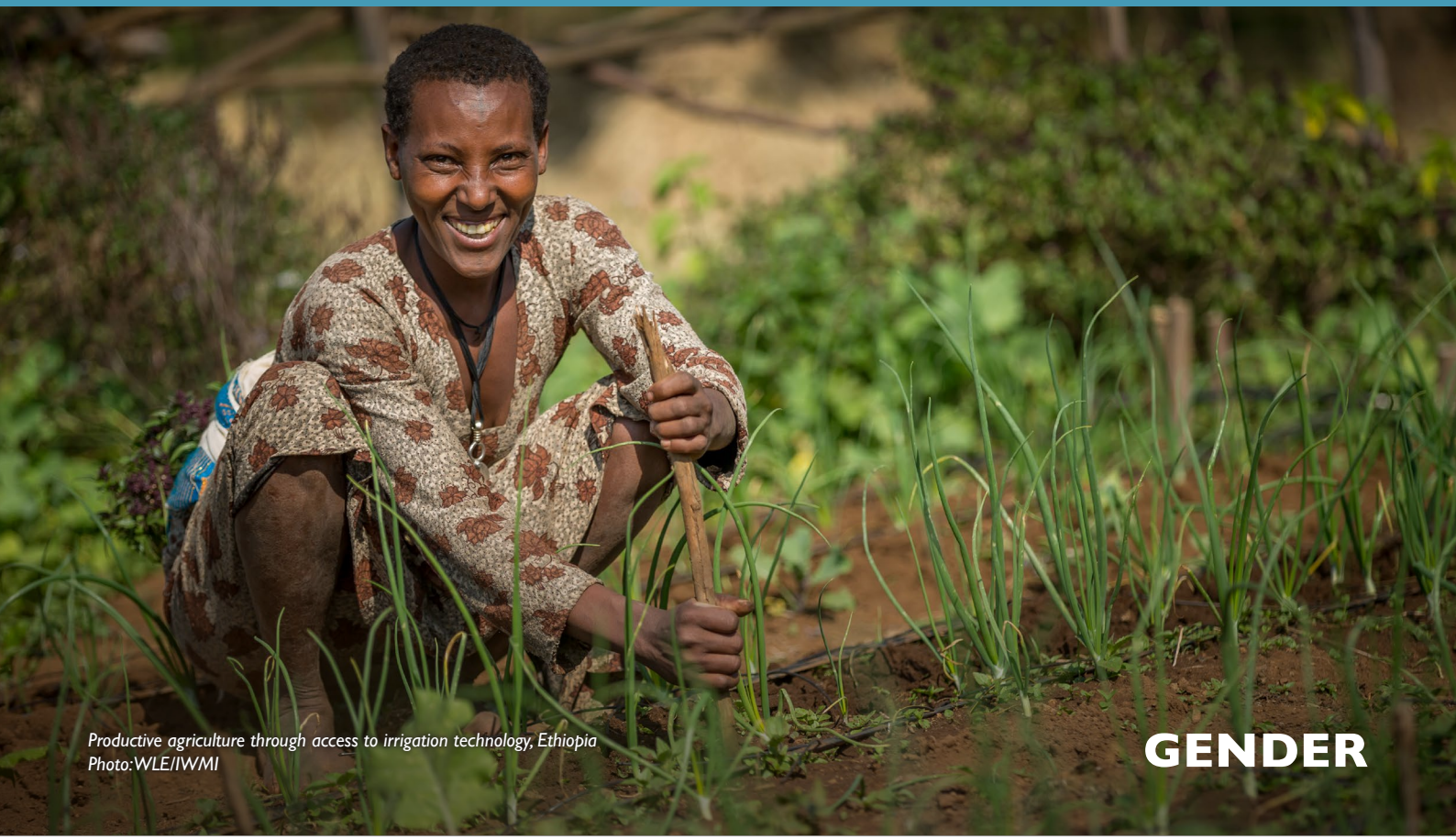
FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative



Productive agriculture through access to irrigation technology, Ethiopia
Photo: WLE/IWMI

GENDER

Feed the Future Innovation Lab for Small Scale Irrigation (ILSSI)

Key Messages

- Women and men have distinct priorities, challenges, preferences and needs when it comes to learning about, accessing and using different irrigation technologies.
- Enhancing equity and inclusion in small scale irrigation can improve the resilience of households to adverse climatic, economic or health-related challenges.
- Empowerment of women is one of the four main pathways that link small scale irrigation to improved nutritional security. Interventions must be designed to enhance empowerment.
- Overcoming gaps in women's access to credit and information for irrigated production is critical. Finance and information tools and products must be designed to be gender-sensitive.
- Women use irrigation water resources for multiple purposes, so they should be included in initiatives to strengthen local management of water across dispersed water users and uses.
- Private sector actors and entrepreneurs need support in reducing their risks and contributing to building resilient market systems to enable equitable access to SSI for women and youth.

Small scale irrigation (SSI) has tremendous potential to support the achievement of economic growth, health and nutritional, and resilience goals. If this potential is to be fully realized, ensuring access to SSI for women and integrating gender approaches into irrigated value chains is critical.

The benefits of improving women's access to participate in SSI are clear. SSI can improve agricultural productivity, especially for nutrition dense crops, and extend growing seasons. Irrigated production in turn increases incomes, improves family health and nutrition, and strengthens household and community resilience to climate and weather variability.

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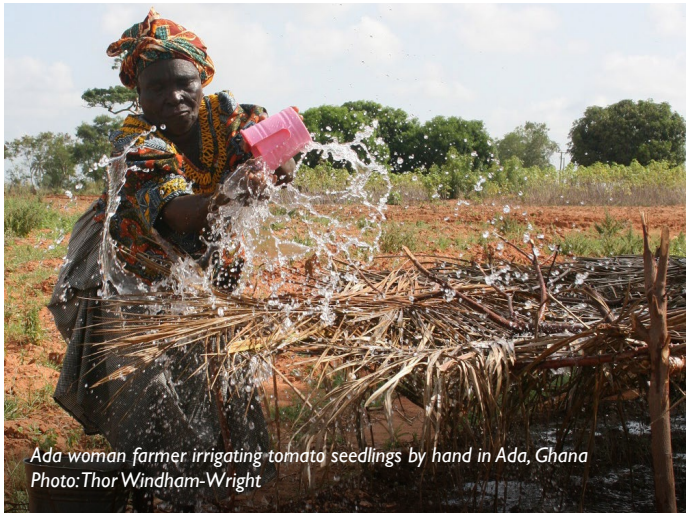
Around 1 million hectares in Ethiopia, 750,000 hectares in Tanzania, and 211,000 hectares in Ghana have been identified through ILSSI research as suitable for irrigation of nutrient-dense crops and irrigated fodder. In Mali, small scale solar irrigation pump technology is suitable, as an affordable, climate-smart solution, for production on over 4.4 million hectares.

However, introduction of SSI brings opportunities for both empowerment and exclusion. Consequently, ILSSI's gender responsive approach looks at multiple, interconnected issues in irrigation equipment supply chains through to irrigated value chains. Researchers and private sector actors are together identifying approaches to overcome constraints and make SSI technologies available to women. ILSSI partners are exploring the specific irrigation-related needs and preferences of women in market systems, and how these differ from those of men. Collaborative activities are ensuring actors in frontier markets are applying new approaches to reach women and resource poor irrigators. Our research provides a basis for advocating for equitable expansion of SSI, alongside guidance for gender and nutrition sensitive irrigation investments. While SSI offers many potential benefits, ILSSI's research informs implementing partners on how to introduce new technologies and design project interventions to avoid unintentional burdens for, and exclusion of, women. Women must be included in local water management to ensure continued access to water resources as SSI expands. Small scale irrigation development that empowers women is key to ensuring equitable outcomes and enhanced achievement of development goals.

Women and men have distinct priorities, challenges, preferences and needs when it comes to learning about, accessing, and using different irrigation technologies.

Understanding and addressing women's specific irrigation needs, as well as those of men, can help to significantly increase the overall number of people adopting and benefitting from SSI technologies.

Women face specific constraints to SSI investment at multiple stages (awareness, adoption and continued use). For households to realise the full benefits of SSI, market actors and development initiatives must reach women through preferred information sources, suitable financial tools and credit products, and facilitated market linkages toward profitability. Intrahousehold relations and social context influence women's control over the produce, profits and assets related to SSI. Consequently, projects need to design interventions in ways that ensure women gain the benefits, making continued use of and investment in them more likely. Tools such as the Guidance for inclusive irrigation interventions help identify where the main constraints to inclusion are. This tool points to what actions can be taken by irrigation policymakers, private companies and development projects, to make access to SSI more equitable and inclusive.



Ada woman farmer irrigating tomato seedlings by hand in Ada, Ghana
Photo: Thor Windham-Wright

Differing preferences in type and installation of SSI technology must be factored in to offer the overall household the greatest value. For example, situating SSI technologies suitable for multiple purposes close to the household enables them to be used for backyard garden production, livestock watering and domestic use. The right combination of technologies and location can potentially reduce the domestic and irrigation time burdens on woman and children.

Participation in SSI should be farmer-led across the irrigated value chain. In some cases, women prefer to take on roles in irrigated value chains other than engaging directly in field irrigation. Facilitating opportunities for women to engage at various points in the irrigated value chain can lead to cumulative benefits. For example, in Ethiopia, women who began producing irrigated fodder to support livestock have seen significant improvements in dairy production leading to enhanced nutrition and family incomes (including sufficient surplus to cover school fees), and improved livestock health. This led to expansion of community fodder markets and improvements in climate resilience.

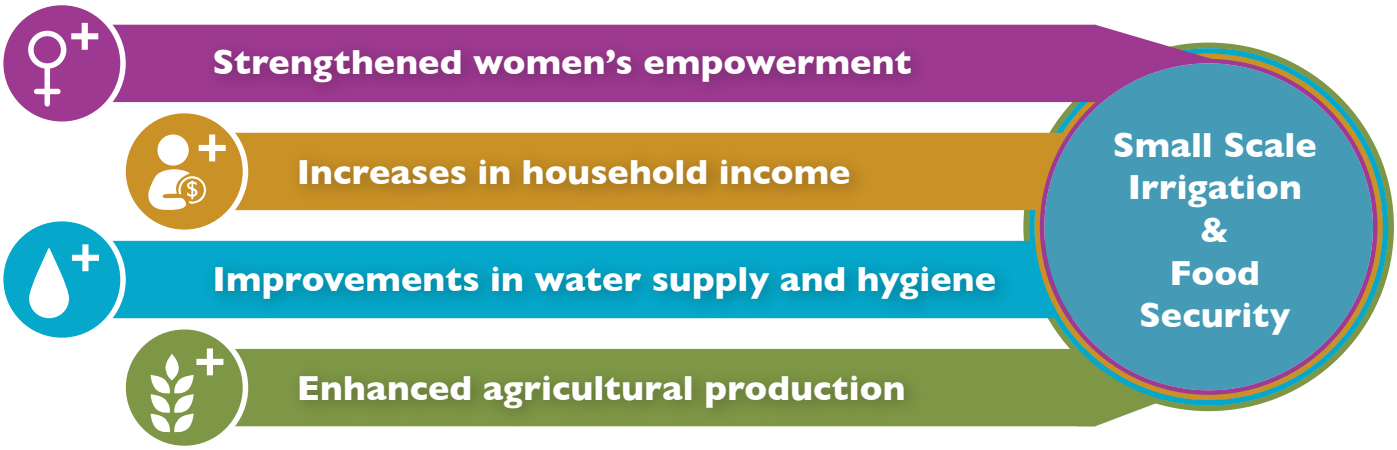
Enhancing equity and inclusion in small scale irrigation can improve the resilience of households to adverse climatic, economic or health-related challenges.

Strengthening the resilience capacity of households and communities to shocks and stresses, such as droughts, floods, disease or malnutrition, through SSI is best achieved if women and men are equally able to participate and benefit. ILSSI research suggests that irrigating households have access to water for multiple uses, including production, and smoother income and consumption across extreme events and shocks. A greater focus on equity and inclusion has the potential to achieve significant

improvements in resilience. For example, through crop diversification by enabling women to participate more fully in SSI, or by offsetting climatic and other production risks by improving access to financial tools such as agricultural insurance. ILSSI works with partners to strengthen insurance products based on irrigated production indices.

Empowerment of women is one of the four main pathways that link small scale irrigation to improved nutritional security. Interventions must be designed to enhance empowerment.

4 pathways that link SSI with improved nutrition and food security



Four pathways have been identified linking SSI with improved nutrition and food security. One is the empowerment of women. When women are able to make decisions about irrigation technology, or irrigated produce, or when women's water collection time burden for agriculture is reduced through irrigation, then irrigation can be a route to women's empowerment. This is supported by other research on the impact of irrigation on nutrition, health, and gender, which also identifies irrigation as an entry point for women's empowerment.

The Women's Empowerment in Agriculture Index (WEAI), which measures the empowerment, agency, and inclusion of women in the agriculture sector, identifies five domains of empowerment: production, resources, income, leadership, and time. All five are applicable to the proliferation of SSI and wider distribution of its benefits. ILSSI research in Ethiopia indicates that empowerment may in turn lead to more of a household's resources being allocated to nutritious foods and healthcare.

The diets of women, children and households more generally have a high seasonable variability, and often an overall lack of diversity, particularly in rural communities. Irrigation can play a role in offsetting this towards achieving improved nutrition and greater nutritional diversity, especially in the dry season. However, ILSSI research indicates that the links between nutritional outcomes for women farmers and their families, and irrigation, are complex. Nutritional outcomes have improved in some women farmer focused irrigation interventions in certain contexts, but some studies show that household nutrition can be negatively impacted by the varying ways in which irrigation can affect the burden of labour on women. Overall, the potential for irrigation to influence diets is there, but research in Ethiopia and Tanzania indicates it is significantly context specific.

Overcoming gaps in women's access to credit and information for irrigated production is critical. Finance and information tools and products must be designed to be gender-sensitive.

Business models and finance tools and products are often inadvertently gender-biased. Private companies may not prioritise women farmers as a potential market segment. Private and public actors must consider the specific needs and circumstances of women, youth and other resource poor groups, to enable more people to invest in SSI. Reaping the benefits of SSI requires working across sectors. ILSSI is working with a range of partners, including irrigation equipment companies, financial service actors, and irrigated produce off-takers to develop more inclusive approaches to finance, such as asset-based finance, pay-as-you-go, seasonal repayment plans and more inclusive asset-based finance. Through ILSSI, researchers are collaborating with private-sector solar irrigation equipment suppliers to integrate a wider, more inclusive, gender-sensitive set of credit assessment criteria, benefitting both women farmers and equipment suppliers.

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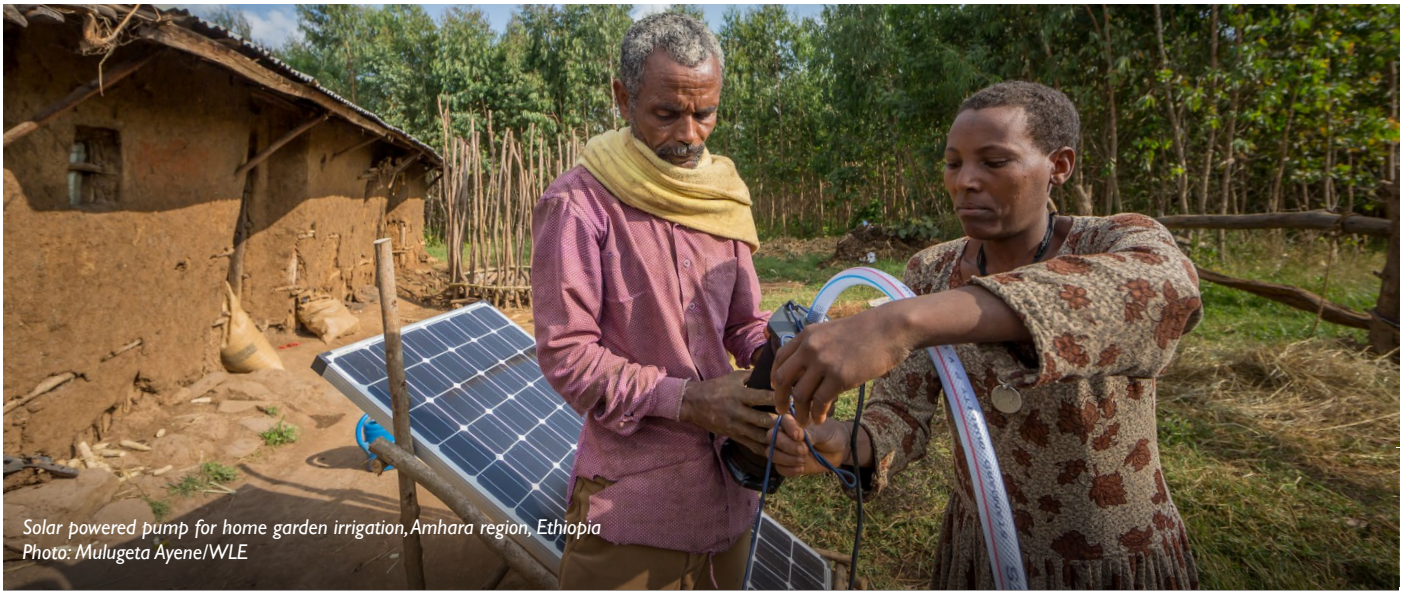

Solar powered pump for home garden irrigation, Amhara region, Ethiopia
Photo: Mulugeta Ayene/WLE

Women use irrigation water resources for multiple purposes, so they should be included in initiatives to strengthen local management of water across dispersed water users and uses.

The effectiveness of efforts to strengthen water resource governance is greatly improved when both men and women actively participate. By enhancing shared understanding of water resources, decisions made about them, and the potential consequences of these decisions, communities are better able to manage them for the benefit of all. While potentially leading to more sustainably and inclusively managed irrigation across the community, this can also result in improved equity in the distribution of SSI benefits. In Ethiopia, as the use of groundwater for irrigation expands ILSSI researchers have been working with communities, using experiential learning processes to improve water resource governance, with these aims in mind. A key priority is ensuring women's voices are heard when decisions are made about the use of and access to collectively managed water resources.

Private sector actors and entrepreneurs need support in reducing their risks and contributing to building resilient market systems to enable equitable access to SSI for women and youth.

Often, the perception among private sector companies is that women don't represent a priority customer segment because of their lower spending power and reduced influence over household decisions. This reduces the likelihood that women farmers and produce aggregators will be considered by irrigation equipment suppliers in business models. Women are often notably absent, as a market segment, in irrigation supplier client acquisition strategies. Consequently, marketing materials or finance tools and products are not developed for women nor with women in mind. Yet women farmers contribute significantly to food supply and post-harvest management, as well as agricultural labor supply, and so with the right access could prove to be a rewarding sales target group.

This gap is a missed opportunity on both sides of the equation, one that ILSSI researchers are working, in partnership with the private sector, to address. ILSSI provides competitive awards to small and medium enterprises enabling them to offset the costs and risks associated with developing and trialling new approaches in frontier markets. ILSSI is working alongside solar irrigation equipment suppliers to explore markets, outline market segments, analyze financial tools and products, and test new distribution approaches with the aim of reaching more women and youth. ILSSI engages young entrepreneurs and recent graduates as interns, jointly placed with private sector and research partners, to undertake data collection and gain experience in agri-business. In these and other ways, ILSSI research results are put to use by companies and innovative entrepreneurs to reduce pain points and strengthen their gender-responsive client acquisition strategies.

The Feed the Future Innovation Lab for Small-Scale Irrigation (ILSSI) is a research-for-development project that aims to expand farmer-led, small scale irrigation in Ethiopia, Ghana, Mali, and Tanzania. Now in its second phase (2019-2023), ILSSI is working to identify the best ways to expand the use of small scale irrigation within environmentally sustainable limits. ILSSI is a part of the U.S. Government's Feed the Future Initiative.

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