

Feed the Future Innovation Lab for Small Scale Irrigation

A multi-stakeholder dialogue on farmer-led irrigation in Ethiopia:

Engaging with Stakeholders from the Agricultural Water Management Task Force



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1. INTRODUCTION

The Feed the Future [Innovation Laboratory for Small scale Irrigation \(ILSSI\)](#) is a United States Agency for International Development (USAID) sponsored project led by Texas A&M University (TAMU) in collaboration with the International Water Management Institute (IWMI), the International Food Policy Research Institute (IFPRI), the International Livestock Research institute (ILRI), the World Vegetable Centre.

ILSSI addresses **small scale irrigation (SSI)** challenges through engagement with important multi-stakeholder initiatives. One initiative is the **research and learning partnerships**, which involves private sector, research institutions, investors, and others in identifying scaling pathways, demonstrating commercial potential, and reducing constraints to SSI scaling to generate market enablers. ILSSI also facilitates **multi-stakeholder dialogues (MSD)** that seek to institutionalize sustainable and inclusive scaling pathways, based on evidence from research and learning partnerships. ILSSI's approach to facilitating **small scale irrigation multi-stakeholder dialogues (SSI-MSD)** is to engage and interact with relevant, existing platforms to include, where feasible, sustainable SSI scaling and agricultural water management (AWM) agendas.

Multi-stakeholder platforms have been effectively used by the Government of Ethiopia, donors, and development partners to share information on government policies, strategies and programs. In the agriculture sector, the Rural Economic Development and Food Security Sector Working Group (RED&FS SWG) was formally established in 2008, with the aim of supporting country-led, long-term agricultural development plans, to meet Millennium Development Goals and the national Growth and Transformation Plan. Under the RED&FS SWG, three Technical Committees (TCs) were established – one of which is the Sustainable Land Management Technical Committee (SLM TC). The SLM TC has five functional, ad hoc task forces under its overall strategic guidance, with the Small-Scale Irrigation Task Force being one.

Since 2019, the Small-Scale Irrigation Task Force has evolved into a National multi-stakeholder Agricultural Water Management Task Force (AWM-TF) with a broader focus on water management issues. The AWM-TF is hosted by the Ministry of Agriculture, Natural Resources Sector and chaired by the Director of the Small-Scale Irrigation Development Expansion Directorate. To enhance facilitation and sharing of responsibilities among key actors, AWM-TF has two co-chairs and a secretariat identified from Development Partners. The International Water Management Institute (IWMI) in Ethiopia has co-chaired the Agricultural Water Management Task Force alongside the International Fund for Agricultural Development (IFAD), and the Food and Agriculture Organization (FAO).

A first meeting was co-organized by AWM-TF and IWMI, with financial support of ILSSI. To kick start engagement between AWM-TF and SSI-MSD, the meeting aimed to: 1) present ILSSI initiatives on private sector scaling activities, 2) share insights on SSI evolution in Ethiopia towards building climate change resilience, 3) share experiences on solar-based and other SSI irrigation developments in relation to scaling, and 4) reflect upon on how ILSSI's SSI-MSD initiatives can contribute to the AWM-TF and other platforms.

This report provides a consolidated multi-sectoral view of scaling SSI solutions based on the information collected during the SSI-MSD. The report covers key messages on (1) the evolution, constraints and opportunities of scaling SSI, (2) multi-sectoral collaboration for win-win innovation in SSI, (3) engaging the SSI-MSD, and (4) closing remarks.

1.1 Activities and participants

The meeting consisted of three sections: 1) update on AWM-TF's ongoing activities, 2) sharing insights on opportunities and risks of sustainable and inclusive SSI scaling, and 3) exploring how SSI multi-stakeholder dialogues can support the AWM-TF agenda. The meeting brought together 38 participants, representing different stakeholders, organizations and sectors (private sector, government agencies/Ministries, research organizations/universities, and agricultural value chain actors).

1.2. Methods

The meeting started with **updates** on the National Water Policy and Strategy Revision process, followed by a status report on the development of the Irrigation Management Information System, led by FAO. This was followed by **roundtable introductions**, which opened up to networking during the meeting. The meeting continued with **presentations** aimed at providing participants with a common understanding of SSI. Two presenters shared insights into their approaches and pathways to scaling of SSI sustainably and inclusively in Ethiopia. The presentation by the ILSSI explained how partnerships between research organizations and private sector actors (private research partnerships) and MSDs are combined to trigger interactive learning for systemic change and increase household access to technologies; while the presentation from the Agricultural Transformation Agency (ATA) used technology demonstration and farmer trainings. The presentation by IWMI on the evolution of the SSI in Ethiopia aimed at providing the participants with a common understanding on SSI and next steps in research, application, capacity, and policy and investment into SSI.

The **keynote** by Mr. Nabil Ishak, Vice-chairman of the Ethiopian Solar Energy Development Association (SEDA-Ethiopia) inspired participants to link private and public sector interests in jointly overcoming systemic barriers. He shared SEDA-Ethiopia's holistic approach to encouraging productive use of energy to generate income for members. SEDA-Ethiopia works closely with different entities including governmental and non-governmental organizations, which encourages members to import certified products, train end-users, and provide after-sales services.

Finally, the **breakout group discussion** tasked participants to reflect on how SSI-MSD can support the Agricultural Water Management Task Force (AWM-TF) agenda. Participants were asked to brainstorm on: (1) how AWM-TF can serve multiple stakeholder's interests; (2) the AWM-TF stakeholders' expectation from the SSI dialogues; and (3) how interaction and collaboration between the AWM-TF and the SSI multi-stakeholder dialogue should be organized. This created a setting where participants from different backgrounds and sectors worked together in a cross-sectoral and cross-institutional manner, initiating a collaborative culture in the SSI Dialogue process.

2. HIGHLIGHTS

2.1 The AWM-TF: Ongoing issues

The AWM-TF evolved from focusing on SSI to agriculture water management. Specifically, the AWM-TF promotes Water-Smart Agriculture as an approach for integrating improved farming systems and more efficient water management practices by exploring the use of innovative approaches, techniques, and technologies that are more appropriate for smallholders. The AWM-TF has the following broad objectives: 1) share information on government policies; strategies, and programs/ projects; 2) improve sectoral and cross sectoral coordination, communication, and cross-sectoral learning for improved agricultural water management; 3) organize national learning events and share best practices from various programs implemented; and 4) document and build capacity to implement best practices for wider dissemination and scaling-up across the sectors.

The AWM-TF effectively links with other technical task forces established under the Agricultural Growth Program and Food Security Pillars. It builds the capacity of stakeholders to link learning with policy advocacy, future programming, and scaling-up of best practices to sustain improved AWM. Recently, the AWM-TF has been working on 1) developing national irrigation guidelines, 2) supporting the Ministry of Agriculture in proposal development and resource mobilization, and 3) developing an irrigation management system. For the national irrigation guidelines, AWM-TF has been facilitating the revision of the existing Ethiopian water policy and strategy by taking into account national and global issues. FAO is taking the lead in the development process for irrigation management systems.

2.2. Small scale irrigation: Evolution, constraints, and opportunities

Common understanding of small scale irrigation

The term 'small scale irrigation' (SSI) varies from country to country and from one professional community to the other. SSI has also been called 'small private irrigation', 'farmer-led irrigation', 'market-led irrigation', 'informal irrigation', 'micro-irrigation', and 'traditional irrigation scheme'. In the context of Ethiopia, SSI is referred to as micro-irrigation. Micro-irrigation or SSI is characterized by: 1) self-provisioned access to water; 2) using a range of technologies; 3) individual, household, or group scale; 4) multiple sources of water; 5) a lack of formal governance for water source management; 6) supplemental and dry season irrigation; 7) multiple uses (livestock, domestic); and 8) are often high value crops.

Potential, challenges and opportunities of micro irrigation in Ethiopia

Using solar energy in Ethiopia for SSI has huge potential. An [assessment of areas suitable across Ethiopia for smallholder solar irrigation](#) showed that around 2.5 million ha could be irrigated tapping into shallow groundwater up to a depth of 7 meters; solar pumps with lifting potential up to a depth of 25 meters would increase suitable areas to over 6 million ha. However, equitable access to and benefits from SSI is challenging in Ethiopia. Research has shown that male and female farmers have different priorities when it comes to irrigation. Female and male farmers perceive multiple benefits differently, have varied incentives, and different priorities. Women prefer technologies that save labor, support multiple purpose water use, work over multiple seasons, are installed near the home, and are suitable for gardens. To address these, the promotion of SSI should: 1) ensure that targeting programs meet diverse goals/benefits; 2) increase credit access and financial training for women; and 3) reduce credit bias for purchasing technologies (e.g. currently favoring male dominated households).

To support SSI development in a sustainable and inclusive manner, initiatives across sectors have developed a number of building blocks, including, but not limited, to: business model development; increasing access to technologies; developing appropriate finance; and broadening access to capital. The evolution of SSI needs to address multiple elements, including: 1) enhance investments to support household and community resilience; 2) manage trade-offs by managing natural resources with evidence-based planning, monitoring, accuracy of land suitability/water availability, market accessibility, technology affordability, and financial and credit markets; 3) facilitate environment to target inclusivity, equality, and nutrition entry points along irrigated agricultural value chains; and 4) increase attention to water governance at multiple scales. These elements are necessary to ensure technologies and scaling approaches for SSI are environmentally sustainable, economically viable, and socially inclusive.

2.3. Scaling of small scale irrigation: Existing approaches and ways to move forward

Technology demonstration and transfer approach

Experience shared by ATA on the ISGWID Project - Solar & Drip Irrigation Demonstration Progress is an example of SSI scaling. This approach starts with a study to assess farmers' practices of irrigation (e.g. flood, solar pumps, drip irrigation), followed by a demonstration of alternative technologies. This approach assumes that farmers and local communities will adopt demonstrated technologies. However, this assumption is challenged by: 1) contextual factors, such as water availability and productivity; 2) market linkages and input supply; 3) ownership of the technologies and favorable conditions for farmers' adoption; 4) potential lack of a storage-conveyancing-application chain, as well as irrigated agricultural value chain such as post-harvest and pest management interventions; and 4) sustainability of the technology transfer.

Innovative approach to address multiple scaling pathways

ILSSI has been working on scaling of SSI in Africa since 2013. Learning from past research on the potential of SSI is one of ILSSI primary activities. Partnering with multiple actors, stakeholders, and sectors to accelerate sustainable and inclusive scaling of farmer-led irrigation is vital. ILSSI applies a multiple scaling pathway

approach, building upon lessons learned regrading suitability, trade-offs, environmental impact, and economic constraints of SSI. It requires each actor to undertake different roles to strengthen technology supply chains, finance, and market linkages for agricultural value chains. This approach addresses systemic barriers to trigger changes towards sustainable and inclusive SSI systems.

ILSSI seeks to develop business models and financial modalities that are viable for companies to lower financial barriers for smallholder access, while being inclusive to vulnerable irrigators. ILSSI develops relationships with private sector companies to better understand issues around pricing/tariff, smallholder farmers' willingness to borrow and invest into irrigation, pay-as-you-go systems, and market linkages for irrigation technologies and agricultural products. Facilitating **multi-actor dialogues** yield tangible outcomes and solutions, encourage collective action, and support adjustments to current policy, leading to more sustainable development.

Ways to move forward

To support sustainable and inclusive scaling of SSI a technology needs to sit along a storage-conveyancing-application chain and be embedded in an ecosystem of support services, materials, and agricultural value. Sustainable and inclusive scaling of SSI, therefore, needs holistic processes: application, research, capacity building, and policy and investment. For **the application**, it is necessary to test suitable bundled innovations and to overcome systemic barriers in adoption of and equitable access to and scaling of SSI.

The research should focus on analyzing and learning from multiple scaling pathways and private research scaling partnerships; synthesizing evidence on impacts of scaling on social inclusivity, landscape transformation, and natural resource management; mitigating investment risks; improving SSI decision-making and water abstraction; understanding water's conjunctive use; and developing digital innovation for crop insurance, SSI finance, and inclusive scaling. **Capacity building** priorities should be given to AWM innovation grants and internships for young professionals and students within the private sector, and foster interactive learning among the public sector and development actors on designing and implementing inclusive SSI solutions.

Policy and investment should focus on engaging multiple actors in policy dialogues, supporting institutional reform, contributing towards national strategies for climate and drought risk management to guide investments into SSI, and developing virtual platforms to support investment decisions and scaling initiatives by the public and private sector.

3. ENGAGING MULTI-STAKEHOLDER DIALOGUES AROUND SMALL SCALE IRRIGATION

3.1. Multi-stakeholder dialogues around small scale irrigation: Why engage?

In its project life-cycle and scope, ILSSI has been facilitating multi-stakeholder dialogues around small scale irrigation (SSI-MSD) which target stakeholders across sectors and seek to institutionalize inclusive scaling pathways based on evidence from research and learning partnerships (Figure 1). SSI-MD initiatives are expected to improve conditions for irrigation investments in new markets. ILSSI's **approach to facilitating SSI-MSD** is to interact and engage with existing and relevant platforms and processes at different levels.

In **Ethiopia**, ILSSI engages with AWM-TF to support **SSI-MSD**. The AWM-TF addresses new developments or initiatives and shares relevant experiences, innovative ideas, and research. Moreover, AWM-TF provides an umbrella for coordination and learniacross organizations, programs, and sectors. It also provides an opportunity to share research recommendations, best practices, and institutional innovations on agricultural water management. Finally, IWMI – one of ILSSI's partners and a co-chair of the AWM-TF - has been contributing to the AWM-TF in setting the AWM agenda, hosting of TF meetings, and sharing key findings and lessons from ongoing projects.

SSI-MSD's contributions

The SSI-MSD can contribute to the AWM-TF through: 1) private sector engagement in SSI scaling; 2) capacity development for sustainable and resilient AWM scaling; 3) cross-sector engagement in SSI and AWM scaling; facilitation of cross-sector interactive learning to enhance inclusive AWM; sustainable and resilient AWM technologies, practices and approaches; and 4) support irrigation policy and planning processes.

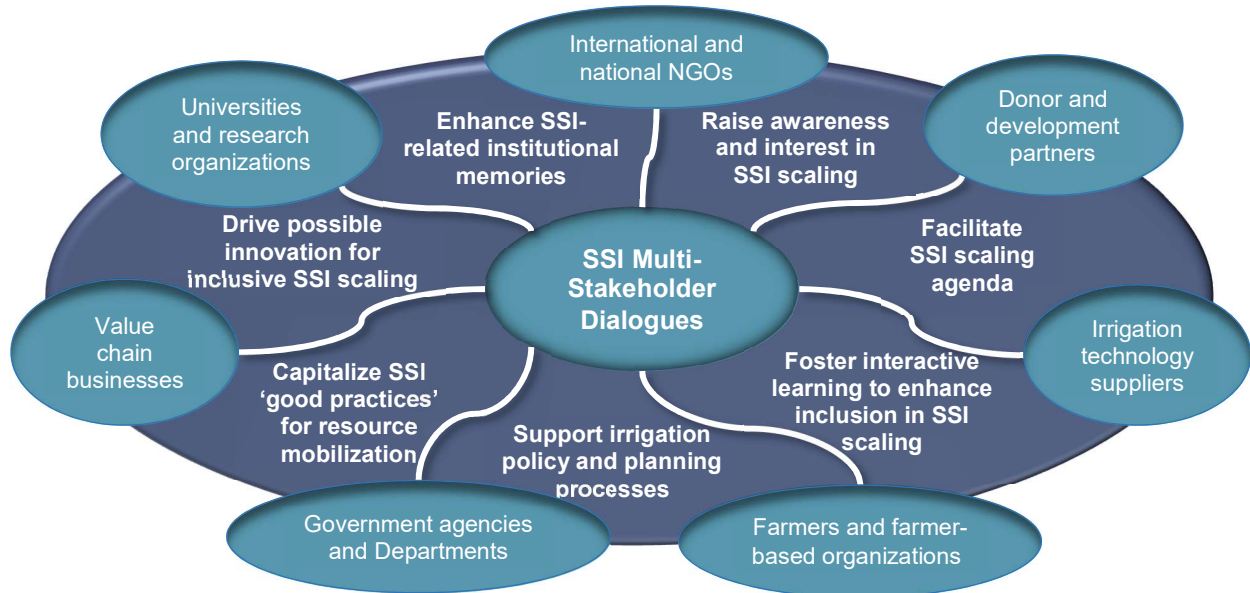


Figure 1. SSI Dialogue Space Framework

3.2. Organizing SSI-MSD's engagement with the AWM-TF

Results from the breakout group discussion indicate a number of potential improvements, including: 1) facilitate a common agreement on specific SSI goals; 2) clarify actors involved (private sector, policy makers, farmers, researchers and development partners) and their roles to enhance inclusion; 3) create space for private sector (membership and inclusive engagement; and 4) strength communication among actors (e.g. sharing of best practices). It is vital to bring together efforts that meet AWM-TF stakeholders' expectations, including: 1) integrate the SSI-MSD into the AWM-TF to enhance efficient information exchange and deal with constraints; 2) develop action plans for collaborative implementation; 3) identify other stakeholders needed to successfully scale SSI; 4) establish an ad hoc group to support private sector constraints; 5) organize regular meetings to enhance stakeholder commitment; 6) assist technology endorsement and dissemination; and 7) share best practices and technologies.

To meet the expectations of AWM-TF stakeholders, the SSI-MSD should organize its interactions and collaboration with the AWM-TF based on principles of 1) aligning with AWM-TF's leading role, 2) supporting AWM-TF by sharing best practices on SSI scaling, and 3) having a smart approach and exit strategy to enhance collaborative learning. Participants suggested SSI-MSD convene separately, with key actors from AWM-TF and, to ensure that there is a two-way information flow and follow-up, key actors from AWM-TF will participate in SSI-MSD.

4. NEXT STEP

Conducting a SSI-MSD, in coordination with AWM-TF, is an important convening space where actors come together to agree and collaboratively clarify the goals and roles. There were points raised during the group presentations that need to be followed up. These include: 1) learning and sharing from other initiatives (e.g. WASH multi-stakeholder forum); 2) recruit all relevant stakeholders; 3) set clear goals to reach inclusive and sustainable scaling of SSI and 4) plan on how to achieve goals, and who needs to be part of the process. The SSI-MSD also plans to further investigate existing and relevant platforms to expand its engagement with a larger group of stakeholders and platforms.