



**FEED THE FUTURE**

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



REPORT ON  
**STRENGTHENING  
CAPACITY**

for sustainable irrigation management and markets



# REPORT ON **STRENGTHENING CAPACITY**

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FEED THE FUTURE INNOVATION LAB FOR SMALL SCALE IRRIGATION

## **Increased information and capacities in the irrigation sector support sustainable scaling**

Irrigation promotes increased farm income and economic growth, as well as nutritional security, climate adaptation and improved resilience. Farmer investment in irrigation is increasing and more private sector companies are working to build access to equipment in frontier markets. Institutions, organizations and individuals across sectors can contribute to expanding small-scale irrigation if greater capacity is achieved across the food system.



As more and more farmers rely on irrigation to adapt to climate change, capacity is needed to support equitable benefit and sustainability of natural resources.

The Innovation Lab for Small Scale Irrigation aimed to strengthen capacity to generate greater trust, knowledge sharing and collaboration between the private companies, public agencies, and research and scientific institutions across sectors.

YOUNG SCIENTISTS, STUDENTS, AND GRAD STUDENTS SUPPORTED IN DEGREE-GRANTING PROGRAMS SINCE 2013:

# 124 AND COUNTING

## Supporting future scientists and evidence-based decision making

ILSSI contributed to expanding the cohort of young scientists that will provide evidence for policy, planning, and decisions in the future. Graduate students at 8 national universities in Ethiopia, Ghana and Tanzania were supported for field studies, data collection and analysis, and presentation and publication of research. The project also supported students to participate in national and global conferences and publish open access journal articles.

## Integrating sectors and strengthening markets through dialogues

Decreasing risks for market actors and farm producers in frontier markets requires high trust and regular information flows between actors. ILSSI facilitated engagement between public, research and private actors to create stronger systemic linkages in irrigated value chains and irrigation equipment supply chains. With ILSSI support, IWMI convened [multi-stakeholder dialogue platforms](#), providing a focused space for networking, exchanging information and catalyzing innovation. Dialogue platforms in Ghana, Ethiopia and Mali strengthened capacity within the overall market system. Companies have identified partners and investment opportunities through the platforms, and farmer organizations have increased access to information on water for agriculture and irrigated production inputs.

# 13

PROMOTED SHARED LEARNING AND TRUST THROUGH MULTI-STAKEHOLDER DIALOGUE PLATFORMS

# 20%

OF IDSS TRAINEES WERE WOMEN TARGETING EQUITY IN SCIENCE



## Monitoring, analyzing, and planning for sustainability

ILSSI worked to link demand for information by decision-makers and planners, strengthening analytical skills of scientific institutions to reliably provide needed information. Through short-term training for individuals and institutions on the [Integrated Decision Support System](#), the project enhanced capacity for water and natural resource planning and monitoring from plot to watershed scale, and from basin to regional levels. Local institutions and public agencies hosted trainings tailored to their needs and specific case studies. ILSSI provided IDSS trainings for hundreds of men and women scientists from basin

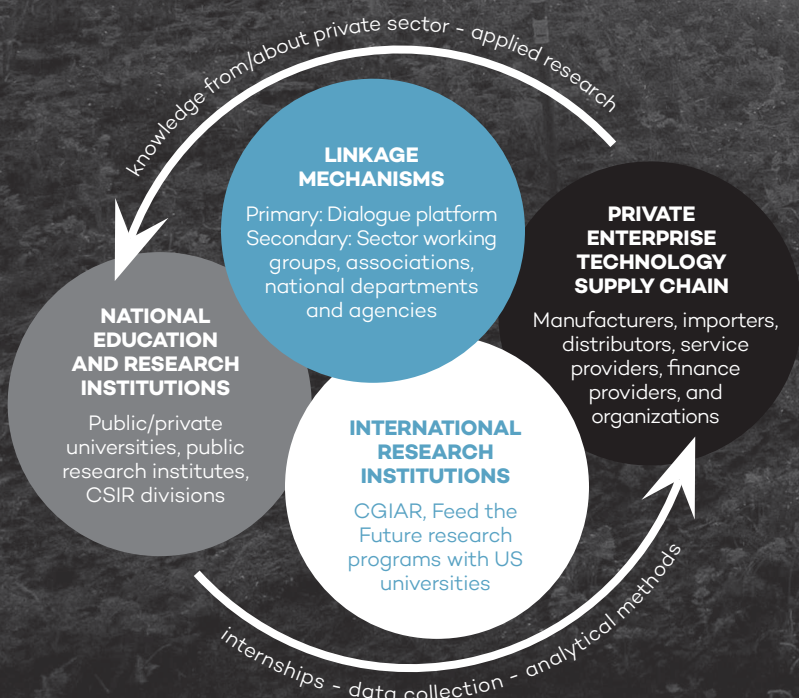
authorities, irrigation agencies, donors and non-government organizations, and companies in the water sector, as well as research institutions and national universities. Peer-reviewed publications applying IDSS tools in African countries increased multifold. IDSS methods were institutionalized into the Bahir Dar University (BDU) curriculum for sustaining capacity and BDU faculty now provide trainings in Ethiopia and other African countries. In addition, mentoring helped to harmonize use of the IDSS tools within regions and basins.

# 1390

TRAINEES LEARNED TO USE IDSS TOOLS TO STRENGTHEN WATER RESOURCE PLANNING IN FIVE COUNTRIES



Tanzanian government official opens a training on IDSS in 2017



## SYSTEMS APPROACH TO CAPACITY DEVELOPMENT

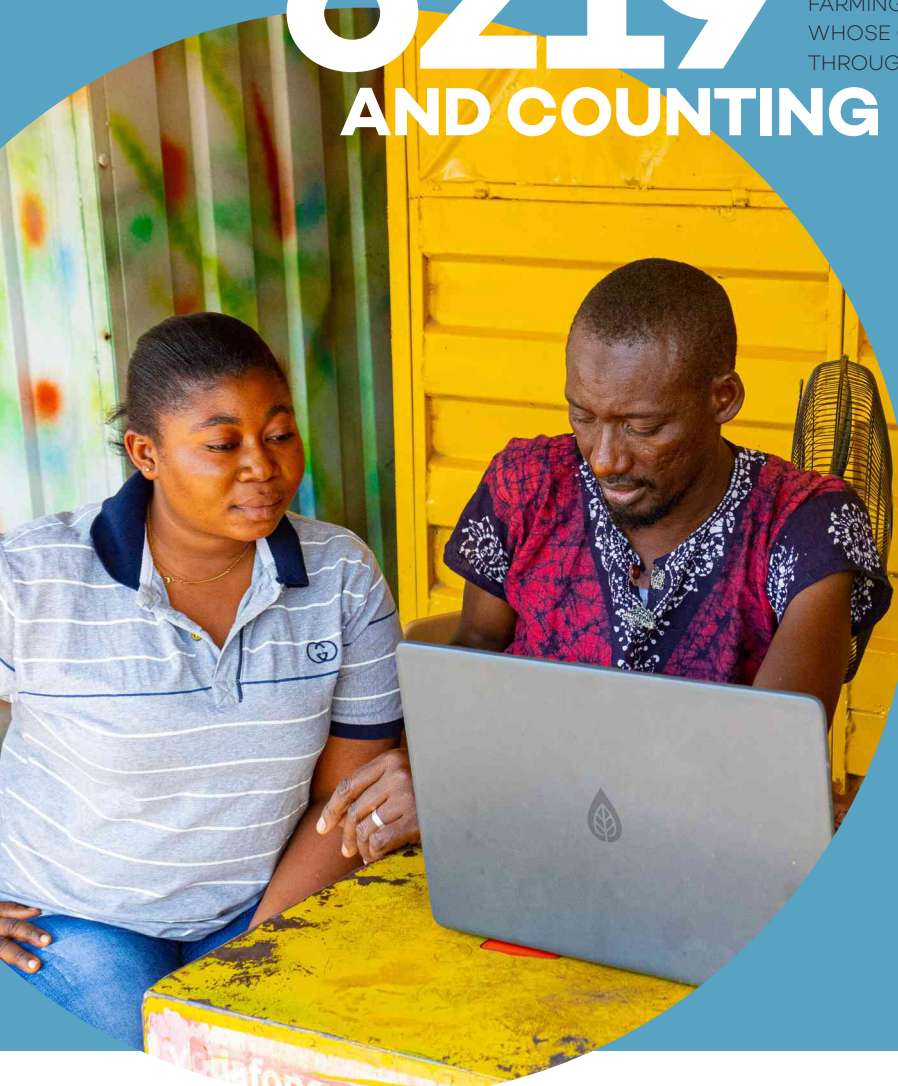
Smallholder investment in irrigation relies on a robust market system. Based on an understanding of market constraints and capacity gaps, ILSSI project partners sought to integrate private companies into all project activities, from research to capacity development and outreach.

**Capacity strengthening aims to facilitate linkages, enhance trust, and co-create knowledge across sectors and actors.**



# 6219 AND COUNTING

INDIVIDUALS IN PUBLIC AGENCIES, COMPANIES,  
FARMING HOUSEHOLDS, AND UNIVERSITIES  
WHOSE CAPACITY HAS BEEN STRENGTHENED  
THROUGH SHORT-TERM TRAININGS



## CASE STUDY

### INNOVATIVE APPROACHES TO BUILD TRUST AND STRENGTHEN CAPACITY BETWEEN RESEARCH AND PRIVATE COMPANIES

Market system resilience requires capacity of actors, as well as trust and collaboration, particularly in countries where irrigation markets have been loosely integrated. Led by IWMI and Bahir Dar University in Ethiopia, students competed in a series of Agri-Hack-A-Thons to develop solutions for solar irrigation company partner Rensys Engineering. Students created ICT platforms to manage a growing sales and after-sales service network, which provided industry experience for post-project start-ups.

### Providing evidence-based guidance for equitable, impactful, sustainable outcomes

ILSSI created evidence-based guidelines, tools and videos for building awareness, knowledge, and skills at multiple scales. IFPRI worked with partners on [nutrition-sensitive irrigation investment](#) and integration of gender into small-scale irrigation projects, while IWMI worked with companies on gender responsive marketing strategies and finance for irrigation equipment supply. ILSSI also developed [guidance for safe irrigated farming practices](#).

### Supporting partnerships between research and farmer cooperatives

As [evidence](#) grew for the high potential in the irrigated fodder value chain, ILRI partnered with three dairy cooperatives to jointly develop business models and address market-based constraints. In addition to enhanced infrastructure, cooperatives participated in trainings on fodder seed production, storage and processing. Cooperatives increased membership and gained further investment. Fodder and fodder seed production, as well as dairy supply to the market, all increased.



## CONTRIBUTING INSTITUTIONS



**INTERNATIONAL WATER MANAGEMENT INSTITUTE (IWMI)** [iwmi.cgiar.org](http://iwmi.cgiar.org)

IWMI is a research-for-development organization with offices in 14 countries and a global network of scientists operating in more than 30 countries. For over three decades, IWMI has contributed to changes in water management for social and economic development. IWMI's vision is for a water-secure world. It is a research center of the CGIAR.



**INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE (ILRI)** [ilri.org](http://ilri.org)

ILRI works to improve food and nutritional security and to reduce poverty in developing countries through research for efficient, safe, and sustainable use of livestock—ensuring better lives through livestock. ILRI is co-hosted by Kenya and Ethiopia, with 14 offices across Asia and Africa and around 700 staff. ILRI envisions a world where everyone can access enough food and livelihood options to fulfill their potential. It is a research center of the CGIAR.



**BAHIR DAR UNIVERSITY (BDU)** [bdu.edu.et](http://bdu.edu.et)

BDU promotes advanced research, innovation, and graduates that respond to Ethiopia's needs. The university aims to improve lives through evidence-based and transformative community engagement. Within BDU, Bahir Dar Institute of Technology was a leading institutional partner in the Innovation Lab, supporting students in engineering and technology programs that prepare students to become entrepreneurs and innovators.



**WORLD VEGETABLE CENTER (WORLD VEG)** [avrdc.org](http://avrdc.org)

WorldVeg is an international nonprofit research and development institute committed to alleviating poverty and malnutrition in the developing world through the increased production and consumption of nutritious and health-promoting vegetables. Center researchers lead and participate in projects throughout Asia and Africa with 400 staff in partnership with governments, nongovernmental organizations, universities, research institutes, and the private sector to promote prosperity for the poor and health for all.



**INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE (IFPRI)** [ifpri.org](http://ifpri.org)

IFPRI provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries. Established in 1975, IFPRI currently has more than 500 employees working in over 70 countries and works with a wide range of partners. IFPRI's vision is a world free of hunger and malnutrition. It is a research center of the CGIAR.

