



FEED THE FUTURE

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



RESULTS FROM THE INNOVATION LAB FOR SMALL SCALE IRRIGATION

Neville P. Clarke, Director, Feed the Future Lab for Small Scale Irrigation

ILSSI Symposium January 31st, 2018



THE TEXAS A&M UNIVERSITY SYSTEM



INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T STATE UNIVERSITY



FEED THE FUTURE

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

IMPACT OF RESEARCH ON IRRIGATION IN SMALLHOLDER FARMING SYSTEMS



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T
STATE UNIVERSITY



FEED THE FUTURE

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

SCOPE

Elements of Agreement and Overview

Field Studies

Household Surveys

Integrated Analysis and Upscaling

Stakeholder Engagement and Capacity Development



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR.



NORTH CAROLINA A&T
STATE UNIVERSITY



FEED THE FUTURE

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

ELEMENTS OF AGREEMENT AND OVERVIEW

ILSSI Objective: Increase food production, improve nutrition, protect the environment and accelerate economic development through improved access to small-scale Irrigation technologies.



THE TEXAS A&M UNIVERSITY SYSTEM



INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T STATE UNIVERSITY

ELEMENTS OF THE AGREEMENT

Countries - Ethiopia, Tanzania, Ghana

Target - smallholder farmers in zones of influence

Components - Studies in farmer's fields, Household Surveys, Analysis, Capacity Development

Consequences of interventions – production, environment, economic, nutritional

Scaling - farm to national levels

Stakeholders – practitioners at local levels, national decision makers, private sector investors in infrastructure, future development donors

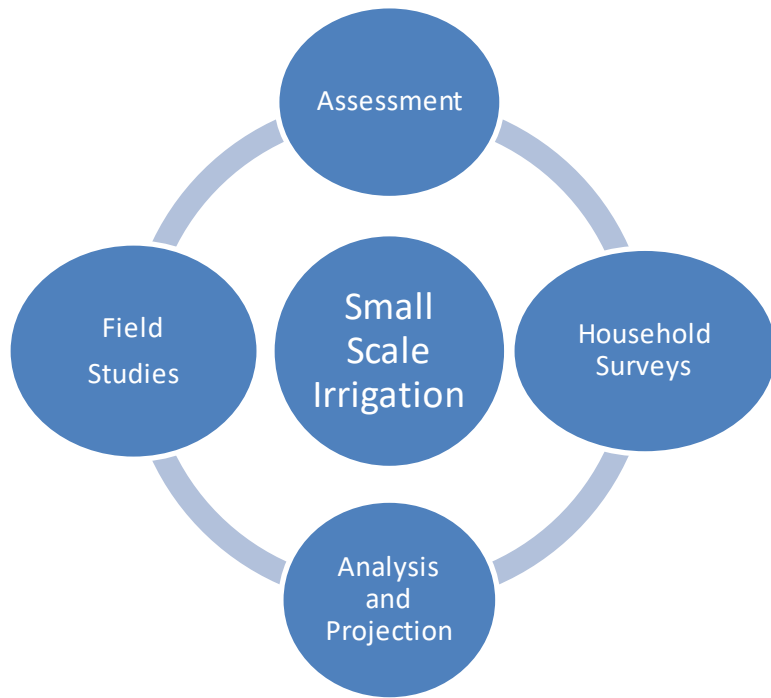
Capacity development – individual, institutional



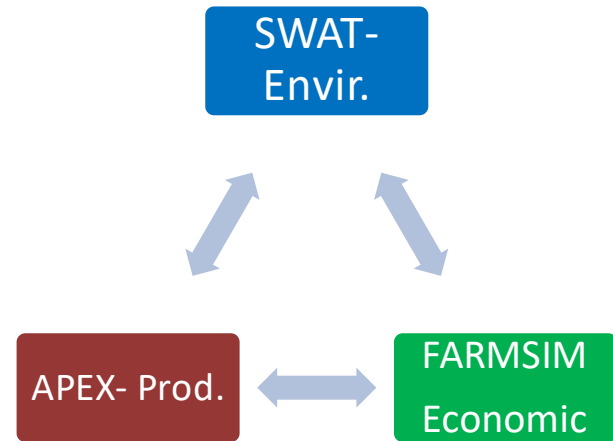
FEED THE FUTURE

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

COMPONENTS



Integrated Decision Support system



THE TEXAS A&M UNIVERSITY SYSTEM



INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T STATE UNIVERSITY



FEED THE FUTURE

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

INNOVATION LAB FOR SMALL-SCALE IRRIGATION PARTNERS



USAID
FROM THE AMERICAN PEOPLE



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR

Neville P. Clarke, Director ILSSI
n-clarke@tamu.edu

<http://ILSSI.tamu.edu>



RESEARCH
PROGRAM ON
Water, Land and
Ecosystems



THE TEXAS A&M
UNIVERSITY SYSTEM



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T
STATE UNIVERSITY



FEED THE FUTURE

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

PRINCIPAL COLLABORATORS

Africa RISING

Livestock and Irrigation Value chains for Ethiopian Smallholders (LIVES)

Sustainable Intensification Innovation Laboratory (SIPSIN)

Nutrition Innovation Laboratory

Horticulture Innovation Laboratory

CGIAR Research Program on Water, Land and Ecosystems



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR.



NORTH CAROLINA A&T
STATE UNIVERSITY



FEED THE FUTURE

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

STATUS OF ILSSI PHASE ONE

Fifth of five year cooperative agreement

Field research and household surveys near completion

Analysis and reporting scheduled completion July

Final report due August 2018

Favorable external review completed and reported to USAID

Renewal decision for Phase Two pending



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T
STATE UNIVERSITY



RELATION TO U.S. GOVERNMENT GLOBAL FOOD SECURITY STRATEGY

Objective 1 – Inclusive and sustainable agricultural led economic growth

- Increased income through small-scale irrigation
- Consistent and reliable year-round product for markets
- Development of infrastructure supporting small scale irrigation
- Increased labor use in agriculture, with attention to women's time
- Farming systems seeking best combination of production, environmental and economic consequences of interventions
- Principles for improved water management and conservation
- Capacity to plan and evaluate new SSI methods at national level



RELATION TO U.S. GOVERNMENT GLOBAL FOOD SECURITY STRATEGY

Objective 2 – Strengthened resilience among people and systems

- Increased production of food in dry season – year round
- Offset weather extremes through use of small scale irrigation
- Commercialized, irrigated kitchen gardens for women farmers
- Farmers planning production systems for use of SSI – best outcomes
- Capacity building to enhance irrigation knowledge and improve planning methods
- Capacity for evidence based planning and evaluation at national level



RELATION TO U.S. GOVERNMENT GLOBAL FOOD SECURITY STRATEGY

Objective 3 – a well-nourished population especially among women and children

- Increased quantity and quality of foods for women and children
- Increased income for purchase of food
- Increased diversity of foods produced
- Year-round access to fresh foods
- Collaboration with SIIL and NI labs to strengthen focus on nutrition



FEED THE FUTURE

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

www.feedthefuture.gov



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR.



NORTH CAROLINA A&T
STATE UNIVERSITY



FEED THE FUTURE

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

OVERALL RESULTS

- Irrigated production in dry season to expand fresh food availability, income and increase resilience
- Water Lifting – evolving from manual to diesel and solar power
- Water Delivery – application of drip irrigation and wetting front detectors – more crop per drop
- Farming systems management approach to make best use of purchased inputs and labor
- Define best relationship between production, nutrition, environment, and economic consequences



THE TEXAS A&M
UNIVERSITY SYSTEM



INTERNATIONAL FOOD
POLICY RESEARCH INSTITUTE
sustainable solutions for ending hunger and poverty
Supported by the CGIAR



NORTH CAROLINA A&T
STATE UNIVERSITY



SMALL SCALE IRRIGATION TECHNOLOGIES: PROVEN BENEFITS AND SUSTAINABILITY



Livelihood benefits

- Improves labor efficiency; can reduce labor time across multiple water uses
- Improves yields and incomes; reduces crop losses
- Multiple value chain opportunities



Environmental sustainability

- Improves water and land productivity
- Nutrient management opportunities
- On-farm, off-farm water management opportunities



Nutrition Outcomes

- Irrigators perform better than non-irrigators in household food security and dietary diversity





SSI SOLUTIONS: MOVING FORWARD

Research and engagement to upscale:

- Match **technology packages suitable** to context, aim
- **Reduce labor** requirements through tech and tools
- Increase access to **finance products** and **information**
- Expand role of **private sector** supply and services
- Apply tools at multiple levels to **analyze trade-offs, and identify sustainable solutions**
- Strengthen **governance, regulatory mechanisms** to support monitoring and mitigation of risks

