Farmer-led irrigation Multi-Stakeholder Dialogues: Ethiopia

Inclusive and Sustainable Expansion of Farmer-Led Irrigation

Thursday, 14 October| 9:00 to 13:45pm EAT

Welcome

YOU ARE LOGGED IN

WE WILL START THE SESSION SOON

You have been automatically muted.

Please use camera only when you are speaking.

The session will be recorded; a link will be circulated afterwards.

Feel free to use the Q&A window for your questions.

Farmer-Led Irrigation Multi-Stakeholder Dialogues: **Ethiopia**

Inclusive and Sustainable Expansion of Farmer-Led Irrigation in Ethiopia

Thursday, 12 May 2022 | 9:00 to 13:45pm EAT

INNOVATION LAB FOR Small Scale Irrigation | USAID FROM THE AMERICAN PEOPLE | IWMI International Water Management Institute | 2030 Water Resources Group | HOSTED BY WORLD BANK GROUP Water | MINISTRY OF AGRICULTURE

Time	Sessions and Speakers
8.30 – 9.00	Registration
9.00 – 9.05	Opening - Welcome remarks and introductions
9.05 – 9.15	Updates on AWM-TF's ongoing activities
9.15 – 9.50	**Session 1: Setting the scene**
9.50 – 10.45	**Session 2: Group discussion** Validating the key constraints & report to plenary
10.45 – 11.00	Coffee Break
11.00 – 11.55	**Session 3: Group discussion** Identifying and prioritizing suitable interventions to address key constraints and scale FLID & report to plenary
12.00 – 12:50	**Session 4: Panel Discussion** Key interventions to support scaling sustainable FLI
12.50 – 13.00	Closing remarks, 2030 WRG
13.00 – 14.00	Lunch provided with take away option

8:30 – 9:00

Registration

Dr. Abdulkarim Seid

IWMI

Welcoming Remarks

Zeleke Belay

Ministry of Agriculture

Updates on AWM-TF

Session 1

Setting the Scene

Ollando Allan, Zeleke Belay, and Minh Thai

Setting the Scene

UgIFT
MICRO-SCALE
IRRIGATION PROGRAM
Improving farmers' livelihood

Propelling Farmer-led irrigation in Uganda: Experience from the Microscale Irrigation Program

12th May 2022

OLLANDO ALLAN – SEN. ENGINEER

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Animal Industry and Fisheries

Visit the Ministry of Agriculture Web-page

https://www.agriculture.go.ug/micro-scale-irrigation-program/

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Why irrigation in Uganda?

- Agriculture in Uganda is predominantly rain-fed,
- increasingly adversely affected by the climate change and variability manifested in erratic rain patterns, prolonged dry spells, and floods.
- As a result, farm-level productivity is far below the attainable potential for most crops
- **Need for increase crop**

Irrigation is practiced on **only 1% of the land**
Irrigation is now a national priority. The National Irrigation Policy (2018) sets an ambitious target of developing irrigation over 1,5 million ha by 2040.

Microscale Irrigation
Smallscale Irrigation
Medium Scale Irrigation
Largescale Irrigation

- Individual- size of landholding
- Less sensitive to land tenure
- Leverage farmer's money (co-financing).
- Fast in design and installation
- Easy operation and management
- Farmer-driven -> FARMER-LED IRRIGATION DEVELOPMENT (FLID)

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Uganda Microscale Irrigation Program

A farmer can join the Micro-scale Irrigation Program if:

He/she wants to irrigate a small plot of land, up to **2.5 acres.**

He/she has access to land for **one year or more.**

He/she can pay for **part of the cost** of the irrigation equipment.

He/she wants to **grow and sell high-value crops** like horticulture crops and coffee.

He/she has access to **water** near his/her land.

Program Objective

- To support individual farmers to acquire and utilize microscale irrigation equipment

Technologies


Photo: FarmBiz

HOSE PIPE

Solar pump


Example of a solar pump (Photo: Futurepump)


Photo: Futurepump

SPRINKLER

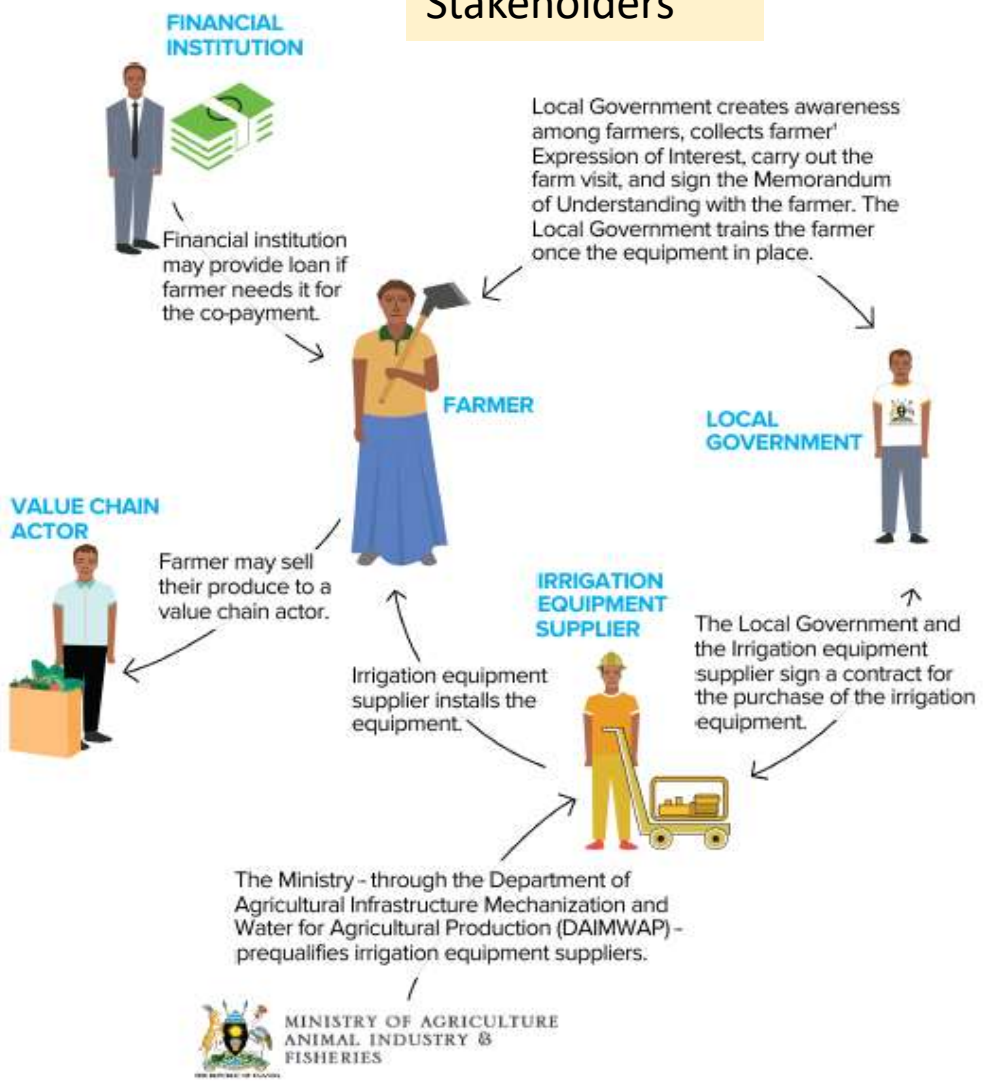
Petrol/Diesel pump


Example of a petrol/diesel pump (Photo: Just water pumps)


Photo: Stanford University

DRIP

Stakeholders



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A subsidy-based program

- **Smart subsidies and incentives** to small-scale farmers greatly enhance technology uptake.

  - Government is subsidizing purchase of irrigation equipment (between 25% and 75%) with a maximum contribution of 2,000USD per acre per farmer

The Program builds on a matching grant in which the micro-scale irrigation equipment is purchased blending private and public money.

For the public portion, the Program created a new **micro-scale irrigation budget line at the Local Govt** level,

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Overcoming the knowledge constraint

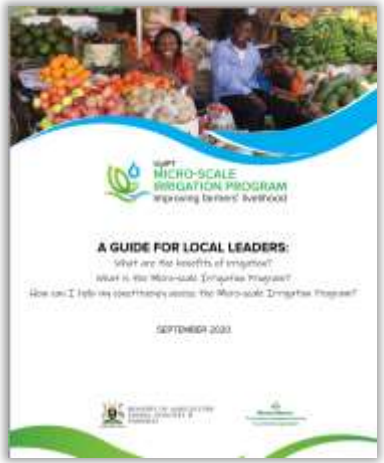
- **Building capacity** and **addressing knowledge constraints** coupled with **increasing awareness** and buy-in from stakeholders are critical for program success.

Central and Local Staff

Mass mobilisation and capacitation

Technical manuals

Brochures for local leaders



Intensive dynamic on-line training

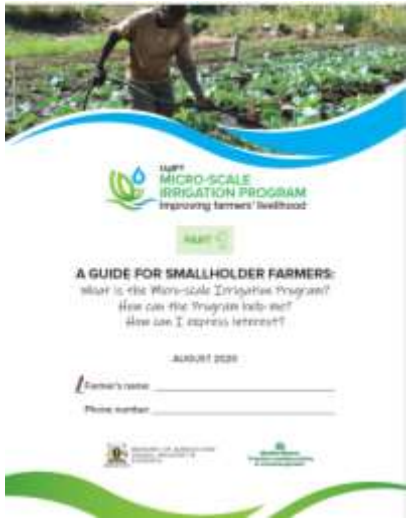
Visit the Ministry of Agriculture Web-page

https://www.agriculture.go.ug/micro-scale-irrigation-program/

Smallholder farmers

Mass media and outreach campaign

Farmer info brochures



Private Sector Actors

Brochures for financial institutions

Irrigation demonstration sites

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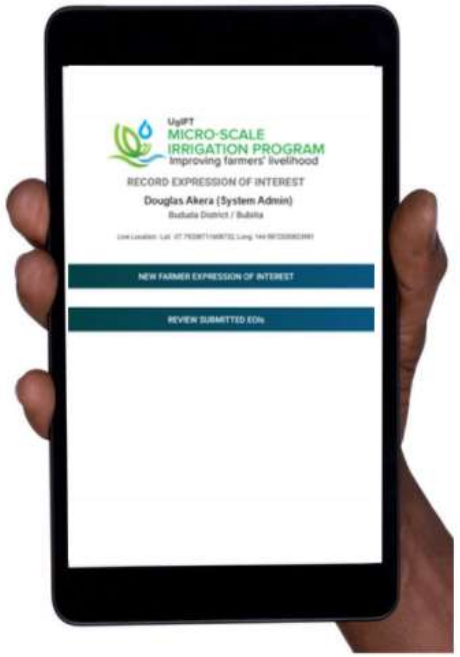
Digital Technology for Data Collection and Management

- Use of **digital technologies and systems** facilitates data collection, knowledge management, planning, research and development.

- IrriTrack App was developed and is in use by the District staff to collect data from farmers.



- Program Management Information System (MIS)
- Supports integrated planning and development, and monitoring and evaluation
- Provides feedback from farmers and other key stakeholders.
- Tracks extension support provided to farmers
- Shown above is an Extract of the Dashboard

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Micro-scale Irrigation Program

FY 2021/22
(Year 1)

Attendees Of awareness raising events
46,246

Successful EOIs
22,673

Successful Farm Visits
8,655

Procurement
- **5952 Farmers** approved for procurement
- **1000+ farmers** undergoing procurement

Procurement
- **27 farmers** sites completed
- **87 Farmers** sites ongoing
- **25 farmers** sites yet to commence

- **137 farmers** receiving equipment
- **3.3Bn** committed to the contracts
- **820m** farmer cofunding collected

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lessons learnt

- Combination of both online training and physical support for technical staff

Training and Capacity building

Targets

- Set targets for each LGs, and these shall be yardstick for monitoring and service delivery

- Awareness focusing on the subsidy, criteria for selection of farmers, farmer cofunding obligations
- constant stakeholder engagement

Awareness creation

Equipping for data collection and O&M

- Equipping of the LG technical staff to support farm visits and O&M, to be procured by LGs

- Improved data capture and analysis of relevant information for research

Microscale Irrigation MIS and Irritrack app

Ensuring Farmer copayment readiness

- Phased farmer copayments
- Financial institutions brought on board

- Bring on board the competent equipment suppliers
- build supplier capacity on program approach and intensify follow up

Irrigation equipment suppliers

Sustainability

- Putting in place technical staff to provide support
- training on O&M for equipment
- Training on irrigated agronomy though FFS

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Thank you







For Correspondences: UgIFTirrigation@agriculture.go.ug

Webpage: https://www.agriculture.go.ug/micro-scale-irrigation-program/

Presentation for

Multistakeholder Dialogue: Inclusive and Sustainable Expansion of Farmer-led Irrigation in Ethiopia under the f/f Topics

1. *Updates on AWM-TF*
2. *Application of the FLID Concepts and Principles in the upcoming Ethiopia Food System Resilience Program (EFSRP)*

Zeleke Belay

Senior Irrigation Engineer

May, 2022

Addis Ababa, Ethiopia

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Updates on AWM-TF Activities

Ministry of Agriculture (MoA)

Small Scale Irrigation Development Directorate (SSID)

Zeleke Belay, Senior Irrigation Engineer

E-mail: zelebelay70@gmail.com

Cell Phone : 0913829544

Agricultural Water Management Platform (AWM-TF)

- Putting in place with National FLID Strategic issues –AWM-TF team support and give direction for the f/f strategic activities ;
  - Provide Technical Support for National Standard Of Irrigation Efficiency Parameters for smallholder irrigation schemes proposal development & modalities in Ethiopia
  - Provide technical support to Develop Implementation Strategy For FLID Public Private Partnerships (PPPs)
  - Support & Follow up the implementation of IMSET
  - Support Multistakeholder Dialogue: Inclusive and Sustainable Expansion of Farmer-led Irrigation in Ethiopia
  - Technical Support on FSRP program Design; *Micro-Scale Irrigation Technology (MSIT)*

2) Application of the FLID Concepts and Principles in the Upcoming Ethiopia Food System Resilience Program (EFSRP)

May, 2022 Ethiopia

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Presentation Topics

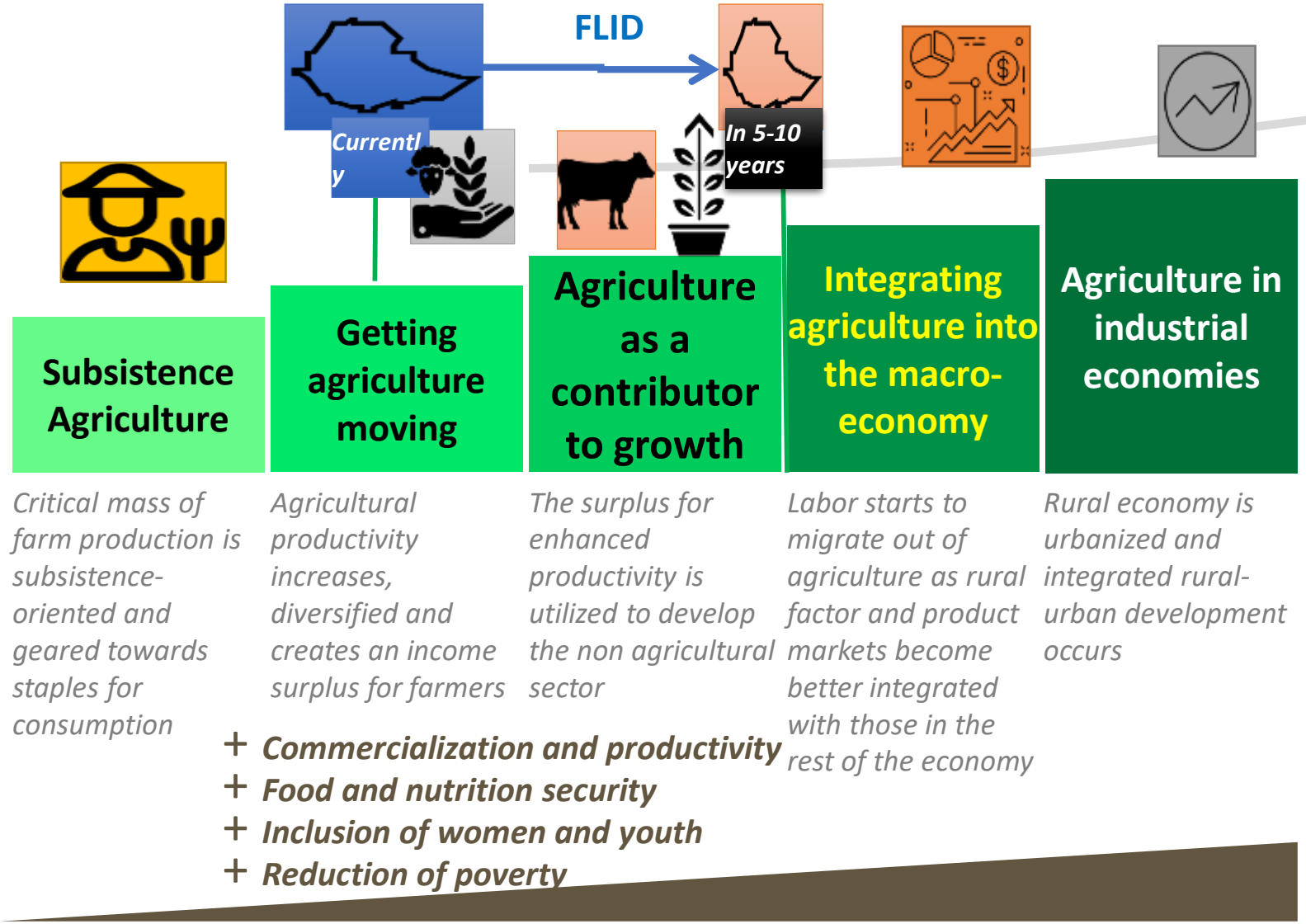
1. **Ethiopian Irrigated Agricultural Perspectives**

2. **National Priorities & Systemic Issues**

3. **Emerging Program –-MSIT-Design**

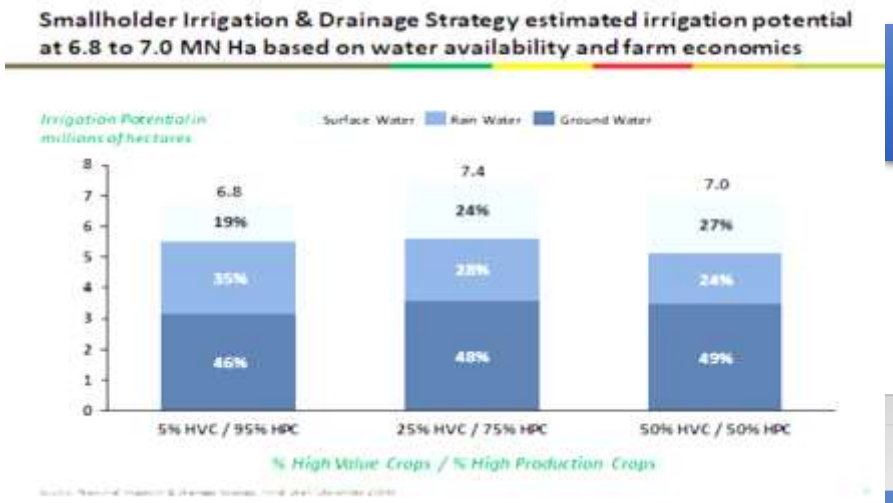
1) Ethiopian Irrigated Agricultural Perspectives

Ethiopia is in a "Agricultural Transformation-Getting Agriculture In To Moving stage" and aims to reach "Agriculture as a contributor to growth" stage over the next 5-10 years



Source: Digital Farmer Services, Agricultural Development Program

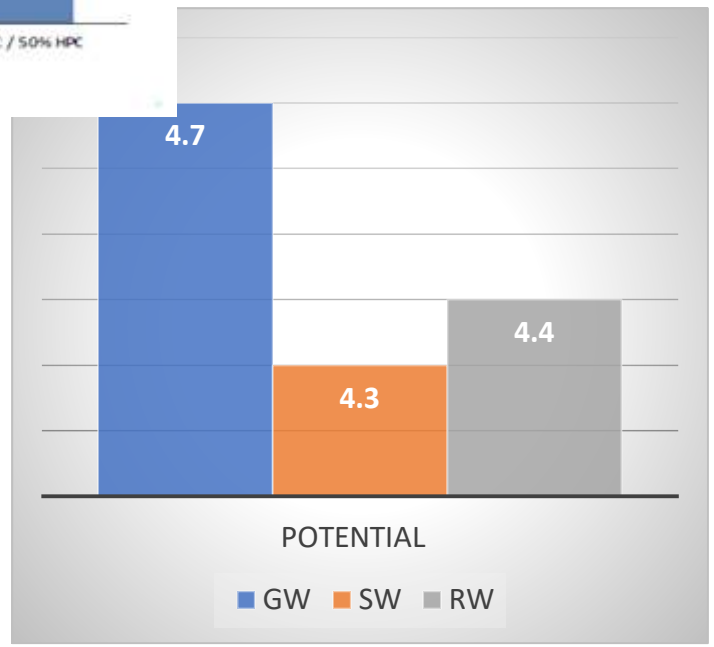
Irrigated Agriculture Context

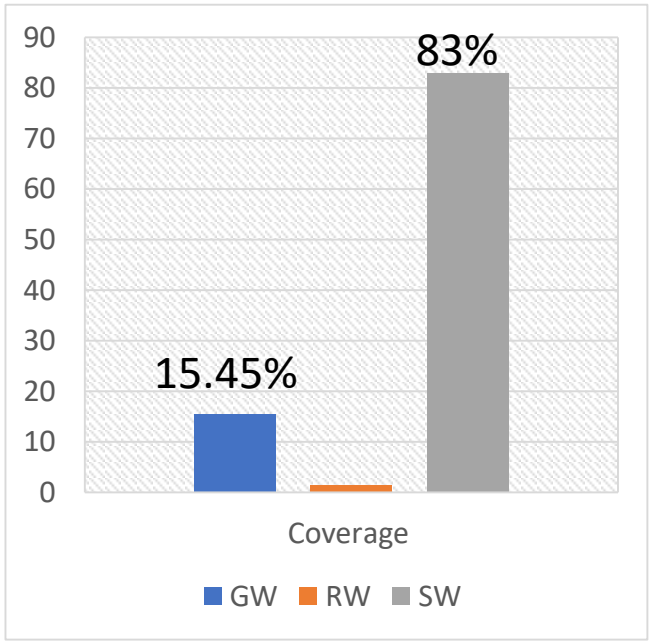


Physical Potential
11.1Mha

Coverage
900,000 Ha

Ethiopian Irrigation

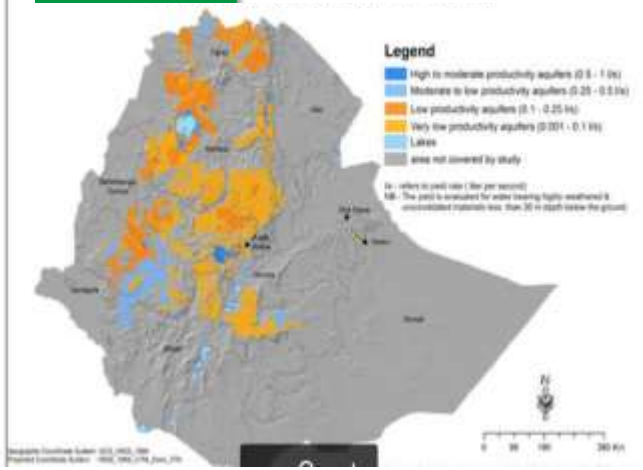




< 10% of irrigation potential is developed

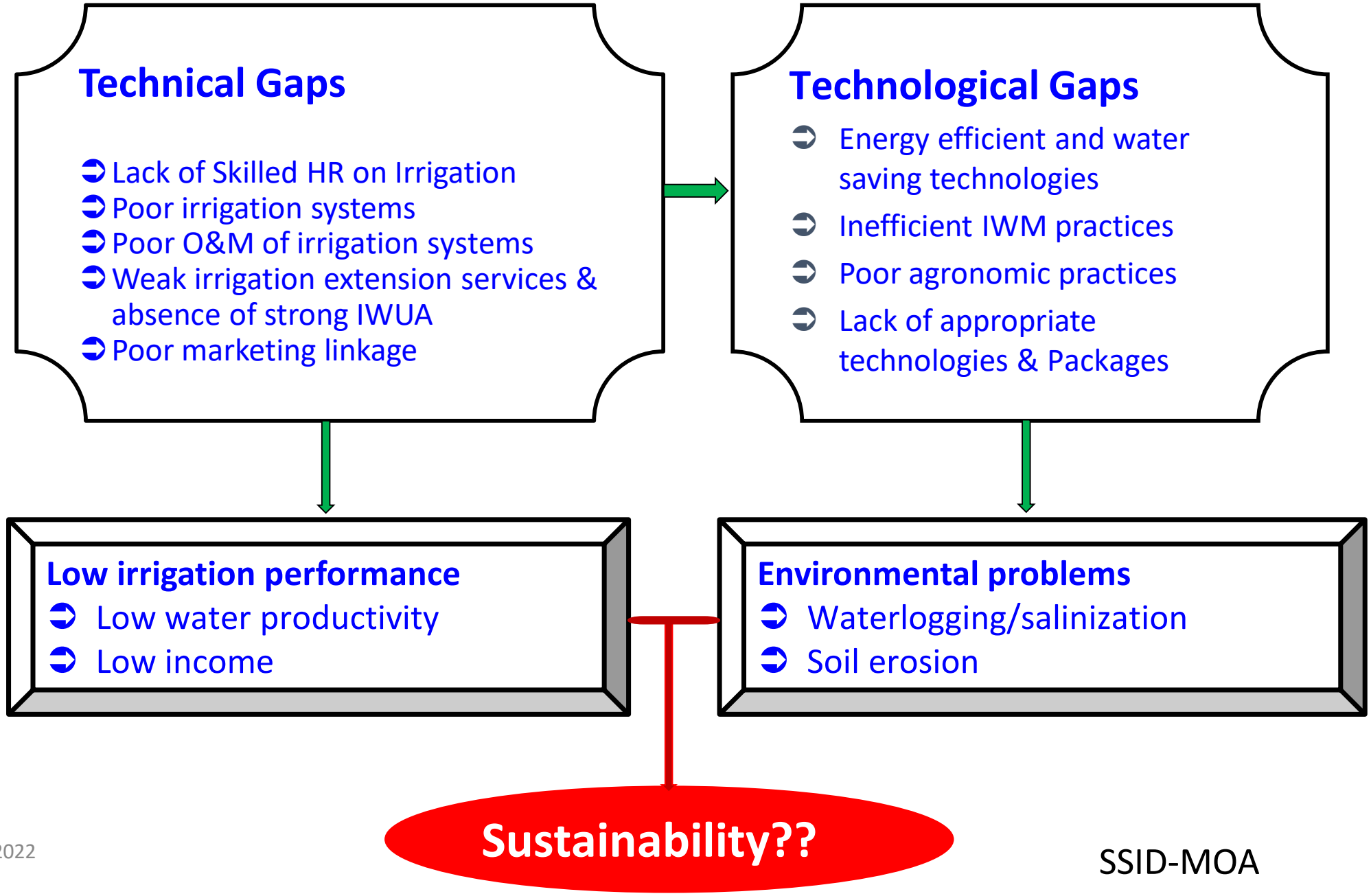
SGW and Experience in the use of SGW for FLID

Issues	Result Obtained
Quantity of shallow ground water ✓	▪ 18.29bm^3 water is available at a depth of less than 30 m & ▪ Well Spacing are defined based on annual recharge rate
HH and command area definition ✓	▪ 2,714,422ha of land can be irrigated ▪ 1,455,109 HHs beneficiary households
Water quality testing ✓	▪ 94.85% of the water quality qualifies for irrigation



- Small engine operated drilling (small diameter 6” diameter to 70m meter depth)
- Hand-dug wells (larger diameter 1.5m wide to 30m depth)
- Manual Tube well drilling small diameter 6” diameter to 50m meter depth

Major Challenges for FLID



Gov't Ethiopia Effort to Support the Sector Grow

MoA

ambitious plan of 400,000 ha FLID plan will be implemented by Ten Years plan (2020-2030)

Several reforms have been implemented to help the sector grow…

Mandated

Policies

- Irrigation financing
- Policy review on AWM investment and Water management
- SGW resource mapping
- Effective HR use
- Rural finance development

Strategy

- Policy review on Agricultural Development Led Industrialization (ADLI)

Programs & projects

Farmers Led Irrigation Development

- Smallholder Irrigation Development (SHID)
- Irrigation Ext
- Micro-Scale Irrigation Technology

Emerging program- *Ethiopia Food System Resilience Program (EFSRP)*

…which have been successful in advancing key development agendas

- HR capacity, technologies, systems, and services development
- Productivity (crops, livestock & NRs) growth
- Income and capital base for other sectors
- Poverty reduction
- Overall economic growth
- **High and Lowland Irrigated wheat development**

2) National Priorities & Systemic Issues

Prioritized Strategic issues for FLID/SHID

- **Resource Mapping (RWH, SW, GW & Spate-flood)**
- **Irrigation technology Supply chain & Scale up (Water lifting, saving…)**
- **Innovative Strategies for IWM Technologies**
- ***Leveraging the multiplier effects*** *of irrigation (benefit + sustainability)*
- **Can Private Sector Engagement takes the lead in Scheme administration via strong PPP linkages ?**
- **Bankable Irrigation Business Strategies**
- **Looking Irrigation for livestock's dev.'s Strategies**
- **Demanding irrigated wheat production & technology Packages**
- **ACC & HVC Irrigation technology packages**
- **How FLID schemes can be well managed ?**

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3) Upcoming Program – EFSRP-MSIT Technical Design

RP program Components

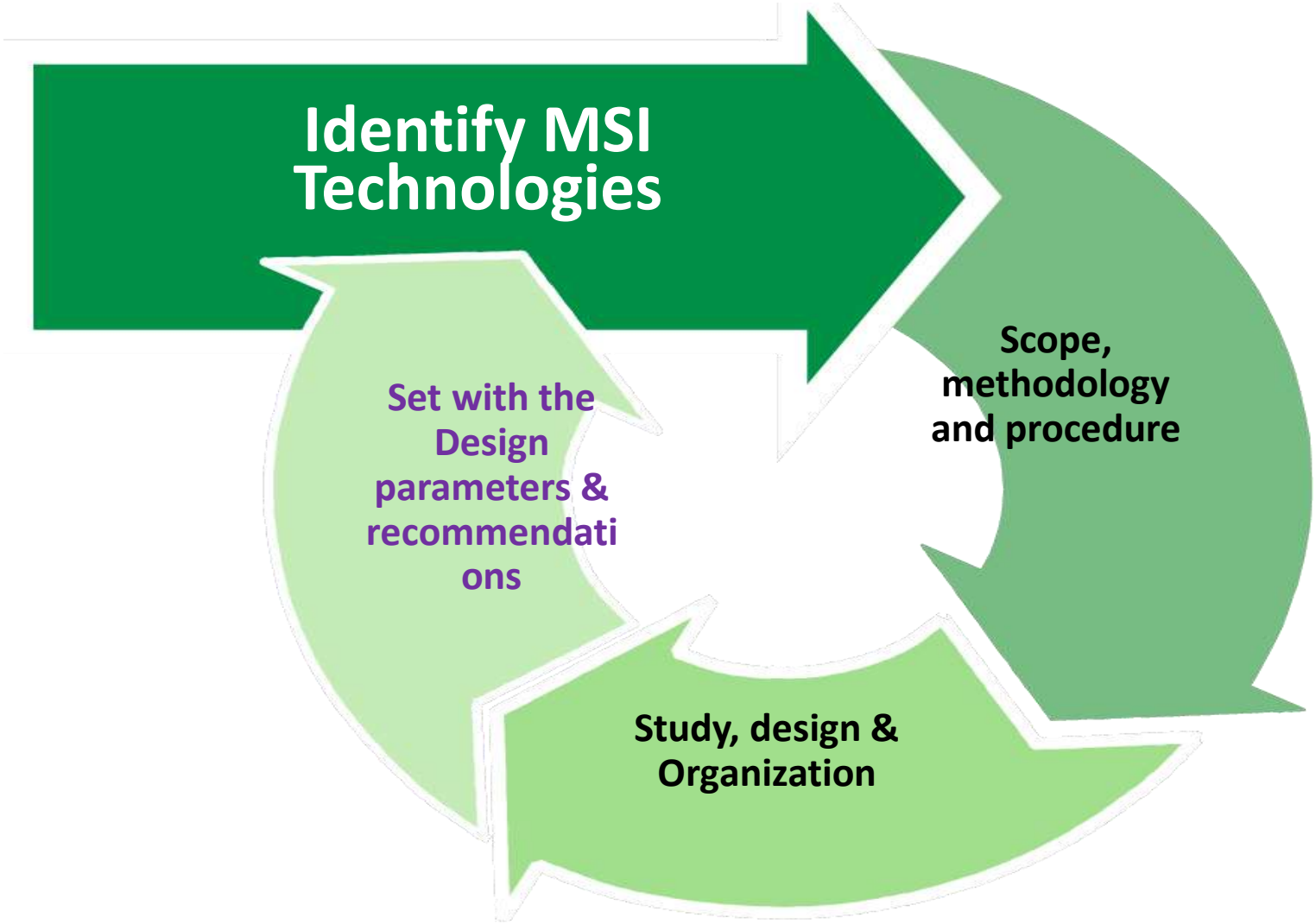
- ***Component-I: Transforming Agricultural Services and Innovation Systems***
- ***Component-2: Resilient Small-scale Irrigation Dev't Management (Subcomp-2.1:SSI-MI)***
- ***Component-3: Food Market dev't***
- ***Component-4: Improving enabling environment for food systems & Project Management***

Comp-2: Resilient SSI Dev't and Management

The objective of the Micro-Scale Irrigation (MSI) or Micro and Household Irrigation (MHI) intervention

➲ **to promote Farmers Led Irrigation Development (FLID) by incentivize farmers to purchase and use micro-scale irrigation equipment for increased availability and efficient use of irrigation water.**

Procedures for Designing MSIT



On- Farm Water Conveyance Technologies

- **Open Canal** (lined)
- **Pipeline** (if have slope)
- **Manual Pumps**
- **Hydraulic Ram Pump**
- **Engine Pumps**
- **Solar Pumps**




On-farm Water Application Technologies

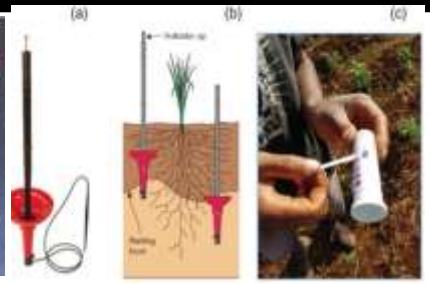
- **Surface irrigation systems**
- **Watering can/bucket**
- **Hose pipe**
- **Lay-flat hose**
- **Portable HDPE pipe**

- **Perforated spray tube**
- **Portable sprinklers**
- **Drip**




Soil-moisture Management Technologies

- **Wetting front detector**
- **Soil moisture sensor**
- **Water Measuring Devices**



MSIT Implementation Guidelines

Introduction

- Based on Uganda Micro-Scale Irrigation Program 2020
  - Modified for Ethiopian context

UgIFT MICRO-SCALE IRRIGATION PROGRAM Improving farmers' livelihood

UgIFT: Uganda Intergovernmental Fiscal Transfers

MAAIF Ministry of Agriculture Animal Industry and Fisheries

Uganda Ministry for Agriculture, Animal Industries and Fisheries

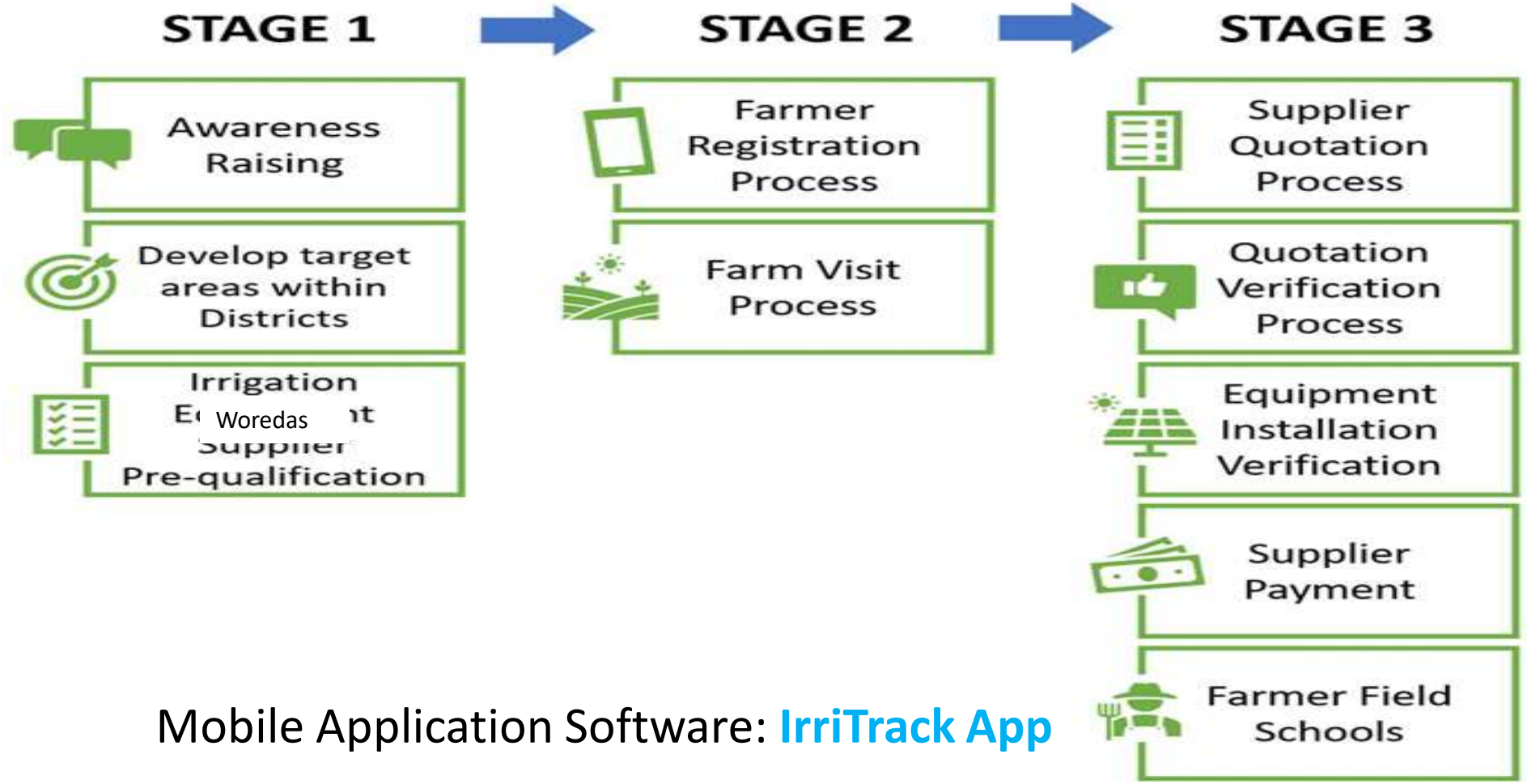
- Purpose of the Guidelines
  - Provide uniform procedures for the management of the Micro-scale Irrigation Intervention at National, Regional and Woreda levels

MSIT Implementation Guidelines (Continued)

Overview of the Micro-scale Irrigation Program

- Objective
  - *to promote farmers led irrigation development by incentivize farmers to have access to irrigation water and micro-scale irrigation technologies for increased availability and efficient use of irrigation water.*
- Key components
  - Farm size: 0.2 ha for individual and up to 20 ha for groups of farmers
  - Water sources: easily accessible (rivers, streams, springs, ponds, wells)
  - Co-payment by the Farmers: 25% for solar pump system and 50% for all other irrigation equipment
  - Simple technologies: including (a) on-farm irrigation water supply technology; (b) water application technologies and (c) soil-water moisture management technology

MSIT Implementation Guidelines
(Continued)



Mobile Application Software: **IrriTrack App**

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Thank You

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International Water Management Institute

CGIAR

Current Status of scaling farmer-led irrigation development in Ethiopia

Thai Thi Minh, IWMI
Email: t.minh@cgiar.org

Farmer-led irrigation development (FLID) in Ethiopia

- **SSI/FLI advantages**
  - less expensive and easier to implement and manage
  - larger opportunity for farmers' investment
  - Suitable to shallow groundwater (~2 million ha)
- **Significant expanding**
  - 0.85 million ha in 2010 to 2.35 million ha in 2014 and 2.53 million ha in 2019
- **Receiving a greater attention in the policy reform**
  - expanding SSI/FLI by an additional 1.75 million hectares
  - ensuring access to irrigation water of at least 80% of smallholder farmers
- **Donors and development partner's interests and commitment**
  - Facilitate market development and private sector investment
  - Investment in the best practices and technologies

Source: Eshete et al., 2020; Gebul, 2021

FLID: Involvement of diverse farmers (1)

Resource-rich farmers

- Cultivating in a relatively large land area, including home garden and field
- > 0.5 ha of mainly irrigated vegetables and fruits
- Access to (shallow) groundwater and motor pumps
- Financial potential to invest in modern technologies
- High capacity of pump with payment schedule

Resource-limited farmers

- Relatively small home garden area
- Access mainly to shallow well
- Small area of irrigated vegetables at the semi-commercial production
- Limited financial capital, especially female farmers
- Low/medium capacity for irrigation and other uses

FLID: Involvement of diverse farmers (2)

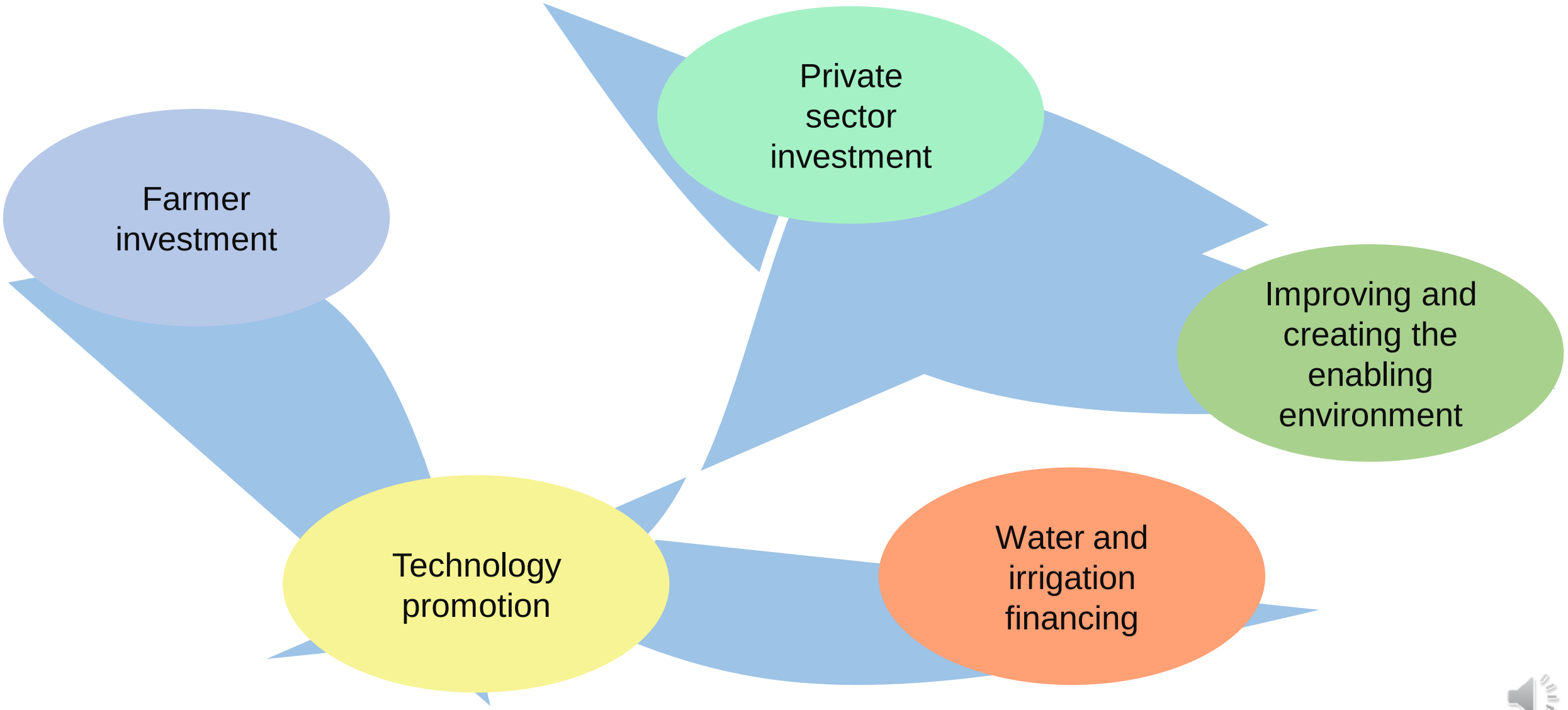
Farmers groups

- Individual ownership to cultivated land
- Collective access to surface water source and marketing irrigated products
- Potential to collectively invest in relatively high-capacity pump
- Medium/high-capacity pump for irrigation for the collective use or individual use

Irrigation scheme farmers

- Individual ownership to cultivated land in the area in an irrigation scheme, using gravity or motor pumps
- Water Association User governs the water use
- Potential to collectively invest in irrigation equipment
- Medium/high capacity of pump for irrigation for the collective use and movable pump for individual use

Existing pathways to scale FLID in Ethiopia



Constraints to scale FLID (1)

Water resources

- Increasing surfacewater stress (Rift Valley, Lake Tana)
- Limited access to shallow groundwater (up to 25 m)
- Drilling challenges in areas with high shallow groundwater potential

Technology

- Limited availability
- Quality of technologies
- Lack of the supply of technology and service bundles
- Limited affordability of technologies
- Lack of gender-sensitive technologies

Finance

- The lack of loans for purchasing pumps
- Informal credit is risky
- Social inclusion and group dumanics challenging the loan scheme for faremr cooperative

Markets

- Limited access to farm inputs due to scarcity
- Expensive and poor delivery services during the irrigation season
- Limited output market linkages
- Poor barging power

Constraints to scale FLID (2)

Policy and legal

- No strategy and incentive mechanisms for scaling FLID
- Limited funding and capacity to implement the policy programs
- Inefficient implementation
- Lack of private sector engagement

Private sector investment

- Uncertainties for the private sector investment
- The dominant role of government agencies
- Inclusive business is emerging
- Limited understanding and insights into the private sector business and market development

FLID scaling practices

- Technology-centered focus
- The dominance of supply-driven approaches
- Neglect of stakeholder engagement and farmer participation

Session 2

Group Discussions

Discussion Questions

Validating key constraints in terms of:

1. Land and water resources related challenges (focus/linked with shallow groundwater development)
2. Farmer access to finance and subsidy for farmers
3. Farmer access to the technology supply chain
4. Policy and Legal (focus on tax exemption and its implementation)
5. Markets: access to input and output markets

Reporting back to plenary

Coffee Break

11:00 – 11:20

Session 3

Identifying and prioritizing suitable interventions to address key constraints and scale FLID

Discussion Questions

Identifying and prioritizing suitable interventions to address key constraints and scale FLID in terms of:

1. Water access
2. Financing and subsidies
3. Technology supply chain challenges
4. Policy and legal
5. Market

Reporting back to plenary

Session 4

Panel Discussion

Joy Busolo

2030 Water Resources Group

Closing remarks