

Agricultural Water Management Platform

Proceedings of the Launching Workshop held in Addis Ababa, Ethiopia, January 15-16, 2015

Organized by

International Water Management Institute (IWMI) in collaboration with the Ministry of Agriculture, Natural Resources Management Directorate, Ethiopia, and the Global Water Initiative East Africa (GWI EA) of the Cooperative for Assistance and Relief Everywhere (CARE), Ethiopia

Simon Langan, Hussein Kebede, Desalegne Tadesse and Bethel Terefe, editors



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PROGRAM ON
Water, Land and
Ecosystems

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Edited by

**Simon Langan, Hussein Kebede,
Desalegne Tadesse and Bethel Terefe**



International Water Management Institute (IWMI)
P. O. Box 2075, Colombo, Sri Lanka

The editors: Simon Langan is Principal Researcher – Agricultural Water Management and Head of the East Africa and Nile Basin Office of the International Water Management Institute (IWMI) in Addis Ababa, Ethiopia; Hussein Kebede is Senior Irrigation Agronomist, Chair of the Small-scale Irrigation Task Force (SSI-TF) and now the Agricultural Water Management Platform (AWMP) at the Ministry of Agriculture, Natural Resources Management Directorate, Addis Ababa, Ethiopia; Desalegne Tadesse is Communications Officer at the East Africa and Nile Basin Office of IWMI in Addis Ababa, Ethiopia; and Bethel Terefe is Program Policy Advisor, Global Water Initiative East Africa (GWI EA) - Cooperative for Assistance and Relief Everywhere (CARE), Ethiopia.

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Front cover photograph shows onion farming in Ziway, Ethiopia (*photo:* Desalegne Tadesse).

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Acknowledgements

Collaborators

This workshop is a collaboration of the following organizations:



International Water Management Institute (IWMI)



Ministry of Agriculture, Ethiopia



Global Water Initiative East Africa (GWI EA)



Cooperative for Assistance and Relief Everywhere (CARE)

Donors



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Acronyms and Abbreviations

AGP	Agricultural Growth Program
ASSP	Agriculture Sector Support Program
ATA	Ethiopian Agricultural Transformation Agency
AWM	Agricultural Water Management
AWMP	Agricultural Water Management Platform
CARE	Cooperative for Assistance and Relief Everywhere
CBPWMP	Community-based Participatory Watershed Management Planning
CGIAR	A global research partnership for a food-secure future
CPWF	CGIAR Challenge Program on Water and Food
CRGE	Climate-resilient Green Economy
CSA	Climate-smart Agriculture
DAG	Development Assistance Group, Ethiopia
DRM&FS	Disaster Risk Management and Food Security
EIAR	Ethiopian Institute of Agricultural Research
ESIF	The Ethiopian Sustainable Land Management Investment Framework
FS	Food Security
FTI	Fast-track Investment
GCCA	Global Climate Change Alliance
GHG	Greenhouse Gas
GTP	Growth and Transformation Plan
GWI	Global Water Initiative
GWI EA	Global Water Initiative East Africa
IFAD	International Fund for Agricultural Development
ILRI	International Livestock Research Institute
IP	Innovation Platform
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
JICA	Japan International Cooperation Agency
LPA	Learning and Practice Alliance
M&E	Monitoring and Evaluation
MERET	Managing Environmental Resources to Enable Transitions
MoA	Ministry of Agriculture
MoWIE	Ministry of Water, Irrigation and Energy
NGO	Nongovernmental Organization
NRMD	Natural Resources Management Directorate
PASIDP	Participatory Small-scale Irrigation Development Program
PSNP	Productive Safety Net Program
RED&FS SWG	Rural Economic Development and Food Security Sector Working Group
SLM	Sustainable Land Management
SSI	Small-scale Irrigation
SWC	Soil and Water Conservation
TC	Technical Committee
TF	Task Force
ToR	Terms of Reference
WLRC	Water and Land Resource Centre

Foreword

This report provides a comprehensive record of the Launching Workshop of the Agricultural Water Management Platform (AWMP), held at the International Livestock Research Institute (ILRI) Campus, Lalibela Hall, Addis Ababa, Ethiopia, on January 15-16, 2015. The objective of the platform is to facilitate experience sharing, learning and policy engagement on agricultural water management (AWM) issues in an integrated manner.

The workshop was organized by the Ministry of Agriculture, the Global Water Initiative East Africa (GWI EA) program of CARE, Ethiopia, and the East Africa and Nile Basin Office of the International Water Management Institute (IWMI). The launching meeting was convened to communicate to stakeholders the development of this new national, multi-stakeholder AWMP that evolved from an existing Small-scale Irrigation Task Force (SSI-TF), which was established and functional under the Sustainable Land Management Technical Committee (SLM TC), and to discuss the objectives and working modalities of the platform. The meeting also aimed to enable sharing of experiences on learning platforms, small-scale irrigation, and soil and water conservation issues among stakeholders engaged in research and development activities.

The workshop brought together 60 participants from government offices at federal and regional levels, and representatives from research institutions and nongovernmental organizations (NGOs) working on issues related to AWM. Guest speakers from various stakeholder organizations were invited to share experiences, including good practices and research findings. The discussions from the meeting were expected to culminate in refining and sharing the terms of reference for the platform, compilation of the workshop proceedings, and presentation of a summary brief on key lessons identified with implications for policy and practices.

The organizers would like to thank all the presenters and facilitators of the various sessions of the workshop, and the Ministry of Agriculture, CARE, Ethiopia, and IWMI staff who organized and coordinated this workshop, as well as the many other individuals who provided support or assistance and successfully managed the event.

The Organizing Committee
January 2015

The State Minister opens the launching workshop of the Agricultural Water Management Platform



HE Ato Sileshi Getahun, State Minister, Ministry of Agriculture

The launching workshop of the Agricultural Water Management Platform was attended by HE Ato Sileshi Getahun, State Minister, Ministry of Agriculture, Ethiopia.

On behalf of the Natural Resources Management Directorate, the Minister thanked all workshop participants for their active participation and effective deliberations. He further acknowledged the co-organizers, CARE, Ethiopia, and the International Water Management Institute (IWMI), for their active involvement in organizing and successfully facilitating the launching event.

He was grateful to the organizers and facilitators for their effective time management and the excellent facilitation roles played. He also thanked all government institutions, international organizations, donor agencies and development partners for the enthusiasm they showed by sending their representatives to the launching event, and for sharing their experiences to make the platform more productive.

The Minister further encouraged participants of the launching event to effectively coordinate and enhance networking on improved agricultural water management practices, which can be scaled up to new areas and benefit the rural communities engaged in both rainfed and irrigated agriculture to sustainably increase agricultural production and productivity.

Executive Summary

Agriculture is the main pillar of the Ethiopian economy, contributing to 42% of the national gross domestic product (GDP), 70% of export earnings and 80% of employment. The bulk of production in the agriculture sector (90%) comes from smallholder farmers. The country has huge potential for agricultural development, but the sector has issues of poor production and productivity. Rainfall variability, land and soil degradation, and poor agricultural water management along with traditional farming systems contribute to these issues.

The Ethiopian government has given a very high priority to development of the agriculture sector, and has set up various working groups, technical committees and task forces to coordinate and align efforts of different actors (government, donor agencies, nongovernmental organizations [NGOs] and research institutions) in the sector. The Small-scale Irrigation Task Force (SSI TF) is one such coordination structure that was set up by the government to ensure alignment, strengthen harmonization and facilitate sharing of experience on irrigation.

However, realizing the need for a more comprehensive and integrated approach on agricultural water management (AWM) issues and understanding that this could not be addressed by a narrow thematic focus on SSI, the Ministry of Agriculture (MoA) is proposing to evolve the SSI TF into a national Agricultural Water Management Platform (AWMP).

This shift includes adopting a ‘water-smart’ agriculture approach, which promotes a holistic AWM that focuses on improving water management both in rainfed and irrigated agriculture. This requires addressing, in an integrated manner, issues of soil and water conservation (SWC), soil fertility management, sustainable recharge of water sources, and technologies needed to lift, store, use and distribute water for irrigation. The AWMP is expected to facilitate sector dialogue, enhance sharing of experiences and learning on these broader themes.

The launch of the AWMP took place on January 15-16, 2015, where over 60 participants from government offices at federal and regional levels, donor agencies, research institutions, NGOs and other development partners attended the workshop. The workshop was held to discuss and agree on the objectives and working modalities of the AWMP as well as to share experience and lessons from program implementation and research around the broader themes of the platform.

The first experience: sharing focused on watershed management, SWC and ‘climate-smart’ agriculture (CSA) approaches, where national policy directions were presented, was followed by a sharing of lessons from program implementation and research. The presentations showed that land degradation in the form of soil erosion is a serious problem in Ethiopia, affecting agricultural land, especially in the highland areas. Joint efforts from the government and development partners under the Ethiopian Sustainable Land Management Investment Framework (ESIF) have brought positive results in the past few years. However, the agriculture sector needs to ensure sustainability of the measures taken (for example, SWC structures) and the quality of implementation. The sector also needs to develop better systems of monitoring the changes that occur as a result of adopting sustainable land management measures at watershed levels. Research on sustainable land management needs to be better coordinated and should include long-term monitoring of the watersheds.

On SWC, lessons from program implementation and research showed that physical SWC conservation methods need to be combined and strongly supported with biological methods, including improved agronomic practices, to achieve improvements in crop yield and economic returns to farmers. The sector also needs to find various ways of improving farmers' incentives to invest in SWC, as immediate results are not visible.

Deliberations on SSI included presentations of national policy directions, lessons from programs implemented by the government and research undertaken by two research institutions. The presentations showed that Ethiopia has a high hitherto untapped potential for small-scale irrigation, including household irrigation. Some progress has been made in the first Five Year Growth and Transformation Plan implementation period, resulting in the expansion of cultivated land under irrigation and a high demand for irrigation technologies. At an institutional level, progress is being made in relation to the implementation of an Irrigation Water Users Proclamation, development of a small-scale irrigation capacity building strategy and upgrading the Small-Scale Irrigation case team to a directorate level. This was actually the real commitment and timely decision taken by the higher management of the MoA to further strengthen the institutional capacity to effectively deliver the required technical and managerial support services at all levels.

However, the sector still faces several challenges that need to be addressed. There are implementation capacity problems throughout, starting from government offices to the private sector and down to the level of Water Users' Associations (WUAs) as well as farmers. Planning in the sector is constrained by a lack of hydrological, geological and meteorological data. Interventions and debates in the sector are very much focused on infrastructure development, while limited attention is paid to irrigation agronomy and value chains, where there is a huge gap. Irrigation water management is very poor, and studies and interventions to improve water-use efficiently are very limited.

Addressing these challenges would require developing research capacity on irrigation in research institutions, enhancing knowledge and skills on irrigation at various levels, and strengthening coordination between the extension and natural resource management sectors within MoA.

While the adoption of irrigation technologies has started increasing among better-off and male farmers, women farmers are left behind and there is a huge gender gap. To ensure equity, methods need to be designed to help poor farmers and women farmers adopt irrigation technologies. Such methods can include addressing problems in the technology supply chain and technology subsidies or reduction of the 38% taxation on technologies such as water-lifting pumps.

Irrigation development is carried out by various entities (federal, regional, *woreda* and private/households) without effective coordination and exchange of information as well as little regulation on the amount of water extracted. This practice leads to the unsustainable use of the available water resources, conflicts and can have environmental impacts in the long term. The sector needs to adopt an integrated irrigation water management system (a river basin management approach) and regulate extraction of water from various sources.

The content of the main body of this report is divided into four sections. The first section presents the background to the development of the AWMP and details of the launching workshop. The second section covers the inaugural session, including introductory remarks and keynote addresses. The third section of the report presents a summary of the presentations and

discussions on the objectives and working modalities of the AWMP, lessons from other learning platforms in the sector, policy directions, and lessons from program and research on watershed management, soil and water conservation, climate-smart agriculture and small-scale irrigation, including household irrigation. Finally, the last section presents the concluding remarks by HE Ato Sileshi Getahun, including the main points on the way forward.

Background to Launching of the Platform

Ethiopia has a great agricultural potential when taking into consideration its vast areas of fertile land, rich biodiversity and diverse climate, which is suitable for various agricultural development activities. The availability of a large labor force, even though unskilled, is also another potential. Despite this potential, however, the sector has remained underdeveloped. Production and productivity is low due to limited input utilization and the predominantly backward nature of the farming systems practiced. Variable rainfall, characterized by uneven spatial and temporal distribution and shortage (at least in access to water) during the main crop growing period, is a major challenge for the sector which results in frequent crop failures, forcing a significant segment of the population to depend on food aid. In addition, limited adoption of improved AWM practices, increased incidence of crop pests and associated crop yield losses, poor post-harvest crop handling and processing, weak marketing infrastructure and information systems are also constraints affecting the sector's performance.

Considering the key role of the agriculture sector in the country's economy in reducing poverty, and realizing the need to sustainably increase production and productivity, the government of Ethiopia, donors and development partners have established a common platform to harmonize and align development efforts on agriculture. The platform, known as the Rural Economic Development and Food Security Sector Working Group (RED&FS SWG), was formally established in April 2008 with the aim of supporting country-led long-term agricultural development plans.

The RED&FS SWG platform was given the following mandates by the Government of Ethiopia:

- (i) Share information on government policies, strategies and programs.
- (ii) Review sector-level implementation status, and other ongoing efforts of the government and requirements of the agriculture sector.
- (iii) Coordinate and harmonize efforts of various development partners supporting the sector.
- (iv) Interact with, and mobilize, partners to provide additional support so as to achieve the United Nations Millennium Development Goals (MDGs) at country level.

Under the RED&FS SWG, three technical committees (TCs) are established: (i) Agricultural Growth Program (AGP), (ii) Sustainable Land Management (SLM), and (iii) Disaster Risk Management and Food Security (DRM&FS). These TCs are chaired by the respective State Minister of MoA, and co-chaired by two representatives of the Development Assistance Group (DAG). The membership of the TCs is drawn from the government, DAG members and development partners actively engaged in the thematic sectors mentioned above.

As per the decision of the SWG Executive Committee, under each TC, ad hoc task forces are established on key specific issues of importance. The task forces are made directly accountable to the respective TCs under which they are established.

Following the mandate given to it, the Sustainable Land Management Technical Committee (SLM TC) established five *ad hoc* task forces. One of these is the Small-scale Irrigation Task Force (SSI-TF), which was set up in 2011. The task force was given a mandate to ensure harmonization, strengthen alignment and facilitate experience sharing on matters related to small-scale irrigation.

However, AWM is more complex in its nature and requires a more comprehensive approach involving a wider range of stakeholders actively working in the area of agriculture, water and land. The narrow focus of the SSI-TF did not help to address the AWM issue in a holistic and integrated manner. Realizing it would be timely and reasonable, and a decision was made to develop the SSI-TF into an AWMP with a broader thematic focus.

Therefore, AWMP is a new multi-stakeholder platform that is evolving from the SSI-TF and aims to promote water-smart agriculture as an approach. This requires integrating improved farming systems and more efficient water management practices, by exploring the use of innovative techniques and technologies that are more appropriate and affordable by smallholders. It aims to ensure that smallholder farmers become more resilient to climate shocks and sustain their livelihoods, achieve food security, and produce high quality and surplus produce for markets, ultimately increasing their income and improving their standard of living.

The AWMP promotes a water-smart agriculture approach that encourages systematically developing water resources for use in a more efficient manner to meet the predetermined agricultural objectives, while also ensuring sustainable management of the available natural resource base. The approach will require an integrated outlook to addressing improvements in rainfed farming to capture, store and conserve water in the soil profile, and using groundwater and surface water flows to smooth out fluctuations in freshwater availability. It also aims to balance the use of water resources at farm and local community levels of production, without compromising the natural environment. The approach encourages a more systematic and efficient use of a scarce resource, water, and is coherent with the principle of Integrated Water Resources Management (IWRM).

Developing the platform into an AWMP entails broadening the thematic areas of the platform to include SWC, watershed management and SSI issues, including water harvesting. It also requires bringing together several stakeholders working in these thematic areas to be actively engaged with the platform and share their experiences. In addition, the platform is expected to increase linkages across sectors, for example, between the water and agriculture sectors, involving key actors actively working in natural resource management and agricultural development.

The platform will effectively link with other technical task forces established and working under SLM, AGP and food security pillars or TCs. The platform will provide an umbrella under which coordination and learning across organizations, programs and sectors will be facilitated and approaches harmonized. It will provide an opportunity to share research recommendations, best practices and institutional innovations focused on AWMP for uptake and wider scaling up. It also aims to build the capacity of stakeholders to link learning with future policy and program development.

Inauguration Session

Introduction to the Workshop

Hussein Kebede, Senior Irrigation Agronomist, and Chair, Small-scale Irrigation Task Force (SSI-TF)/Agricultural Water Management Platform (AWMP), Ministry of Agriculture, Natural Resources Management Directorate, Addis Ababa, Ethiopia

Ato Hussein Kebede, Ministry of Agriculture (MoA), Natural Resources Management Directorate (NRMD), Chair of the Small-scale Irrigation Task Force (SSI-TF) and now the Agricultural Water Management Platform (AWMP), convened the workshop by welcoming participants and guest speakers to the launch. He extended his appreciation to HE Ato Sileshi Getahun, State Minister, MoA, and participants for honoring the organizer's invitation to attend and contribute to the workshop.

Your Excellency, Ato Sileshi Getahun, State Minister, MoA, and dear participants of the workshop. On behalf of the SSI-TF, hereafter referred to as the AWMP, and on behalf of MoA, which is hosting the event in collaboration with CARE, Ethiopia, and IWMI, I would like to welcome you all to this workshop on the establishment of the AWMP to be held today and tomorrow here at the ILRI compound.

Dear all, allow me to introduce the program of the workshop, objective of the gathering, and to acknowledge HE Ato Sileshi Getahun and esteemed participants for honoring the organizer's invitation to attend and contribute to the workshop. I would also like to extend special thanks for the resource persons from the member organizations of the AWMP for their support in making the necessary arrangements for providing presentations on various best practices and research interventions. During the two-day workshop, the meeting will address the following outstanding issues on AWM:

- Policies, strategies, challenges and opportunities in small-scale irrigation and other crosscutting issues.
- Water management technologies and innovations, and thoughts and best practices that can be scaled up to transform the subsistence agriculture sector into a modern system.

To this end, the workshop brings together more than 50 participants from federal and regional government offices, research institutions, development partners, NGOs and donors involved in the agriculture sector. Therefore, the main objectives of the evolved AWMP are as follows:

- Share the reasons for the establishment of a multi-stakeholder AWMP.
- Share experiences, learning from different community participatory approaches, and research interventions on SSI, SWC, SLM and water-smart agricultural practices through presentations.

- Agree on the way forward to strengthen coordination and networking to facilitate cross-sectoral learning events and draw lessons to further scale up improved AWM practices.

Consequently, the agenda for the two-day workshop included the following:

- Keynote addresses by Esther Watts, Program Director, CARE, Ethiopia, and Simon Langan, Principal Researcher – Agricultural Water Management and Head of the East Africa and Nile Basin Office of IWMI, Addis Ababa, Ethiopia.
- Opening remarks by HE Ato Sileshi Getahun, State Minister, Ministry of Agriculture.
- Details of the program (see section, *Workshop agenda*).

Finally, I kindly request you to introduce yourself before the opening of the session. Accordingly, workshop participants introduced their names, institutions they came from and their responsibilities.

Thank you



Ato Hussein Kebede, MoA, NRMD

Keynote Addresses

Keynote address from Cooperative for Assistance and Relief Everywhere (CARE)

Esther Watts, Program Director, CARE, Ethiopia

In her keynote address, Esther Watts, Program Director, CARE, Ethiopia, gave a brief overview of the agriculture sector in Ethiopia, challenges faced and how such multi-stakeholder platforms can contribute to the sector. She also explained how CARE, under its Global Water Initiative East Africa (GWI EA) program, came to support the development and launching of this platform.

The agriculture sector, she explained, is still the backbone of the Ethiopian economy, contributing to 42% of GDP, 70% of export earnings and employing about 80% of the population. She further highlighted that, in the past decade, the sector had shown significant growth, with agricultural GDP growing by 7% in the past year alone. However, she noted that the sector is also grappling with serious challenges, such as a high level of vulnerability to climate shocks, soil erosion in many parts of the country, limited land conservation practices and low agricultural productivity.

She further remarked that multi-stakeholder actors, including the government, NGOs and development partners/donor agencies, are developing, financing and implementing a wide range of programs on agriculture, where a huge wealth of learning is obtained on what kind of approaches work well and where. She also elaborated how further opportunities for cross-learning through sharing this experience at a national level could contribute.

Therefore, she said, a national learning forum between government offices, NGOs and research institutions convened by the MoA can provide an umbrella under which learning across organizations and programs can be shared more effectively. This will strengthen the capacity of actors within different sectors, such as the government, donor agencies and NGOs, to link learning from program implementation into future programming and policy development.

She also explained that CARE, Ethiopia, is implementing a 'water for agriculture' program (referred to as the Global Water Initiative) with financial support from the Howard Buffett Foundation. The program promotes action research and linking learning from research to policy and practice communities using learning and practice alliances (LPAs) at local (district and zonal) level, and working with other platforms at national and regional levels. As part of its core objective to facilitate learning on water for agriculture, together with partners such as IWMI, the program is supporting the development and launching of this national AWMP hosted by MoA.

Finally, she stressed that CARE will be happy to continue working with MoA and other development partners to take such initiatives forward, and to help smallholder farmers improve their production and livelihoods.



Esther Watts, Program Director, CARE, Ethiopia.

Keynote address from the International Water Management Institute (IWMI)

Simon Langan, Principal Researcher – Agricultural Water Management and Head of the East Africa and Nile Basin Office of IWMI, Addis Ababa, Ethiopia

Your Excellency, Ato Sileshi Getahun, State Minister, Ministry of Agriculture, and distinguished participants.

It is a great honor for me to deliver, on behalf IWMI, a keynote speech and to welcome you all to this very important forum on the establishment of the Agricultural Water Management Platform (AWMP).

I would like to first congratulate the organizers for the excellent arrangements made for holding the workshop, and also trust that all the participants are enjoying their stay in the beautiful ILRI campus.

Saying this, let me start by providing a brief introduction on the activities of IWMI's East Africa and Nile Basin Office in Ethiopia. This regional office of IWMI has been responding to the need for improved AWM through its significant projects in collaboration with MoA, Ministry of Water, Irrigation and Energy (MoWIE), Ethiopian Agricultural Transformation Agency (ATA) and other partners. This body of work is aimed at increasing water and land productivity in a sustainable manner, which secures the provision of ecosystem services, improves food security, reduces poverty, and promotes gender and social equity.

Ethiopia has huge potential for agricultural development. However, this potential is overwhelmed by a number of challenges, including capacity building and provision of technologies. Today's gathering is one of various initiatives to overcome bottlenecks and improve agricultural water management in the country, based on the generation and sharing of data, and evidence to support changes in policy or practices.

The domination of smallholders in the agricultural system of the country makes small-scale irrigation crucial to ensure food security and increased prosperity beyond the household level. In this regard, AWMP is an essential instrument that contributes to accelerating and achieving SLM and other programs led by the Government of Ethiopia, and entertains innovative ideas and new research findings. Therefore, I consider the evolution of the current 'Small-scale Irrigation Task Force' into a multi-stakeholder platform with a broader focus on AWM to be very timely and appropriate. This kind of learning platform is a good opportunity to share experiences, trace constraints, and speedup the improvement of water management with a view to raising production and productivity to achieve food security and reduce poverty.

I hope that over the coming two days we will have successful meetings that will explore many fruitful ideas regarding improved water management.

To conclude, I wish to reiterate the commitment of IWMI in supporting the initiative, and also reaffirm to work actively with our partners and support the goals of the AWMP.

Thank you



Simon Langan, Principal Researcher – Agricultural Water Management and Head of IWMI East Africa and Nile Basin Office.

Keynote address from the Ministry of Agriculture

HE Ato Sileshi Getahun, State Minister, Ministry of Agriculture, Addis Ababa, Ethiopia

Workshop participants

Ladies and gentlemen

On behalf of the Ministry of Agriculture, I feel honored to address the opening of this launching event of the multi-stakeholder platform on **Agricultural Water Management**.

The agriculture sector remains the driving engine of the economic sector of Ethiopia. The sector is employing more than 80% of the population, which is directly engaged in diversified agricultural activities for their livelihoods. The sector is contributing about 42% to the national GDP and 70% of export earnings, and it is also considered as the main supplier of agricultural raw materials for the expansion and development of the industrial sector. The main agricultural production is coming from smallholder farmers and about 90% of the bulk production is from this sector.

Ethiopia has huge potential for agricultural development, taking into account the resource bases, land, water, biodiversity and diverse climates, which are suitable for successfully growing diversified crops and livestock farming. Therefore, sustainable management of these natural resource bases integrated with appropriate technologies, including improved AWM practices, can sustainably increase agricultural production and productivity to adequately supply agricultural products and reduce poverty.

It is in view of this fact that the Ethiopian government is making substantial efforts in the agriculture sector, which has been given prime attention to be the priority area of interventions by enacting various policies and strategies. It is also necessary to effectively link these efforts with the industrial development strategy to transform the agriculture sector into commercialization and enhance its contribution to the overall economic development of the country.

Despite its potential, however, the agriculture sector still faces constraints and challenges that need to be alleviated, including low agricultural input utilization, dependency on traditional farming systems, unpredictable rainfall, limited adoption of improved and efficient agricultural water management practices, increased incidence of crop pests and associated crop yield losses, improper handling of post-harvesting and processing of agricultural products, and weak marketing infrastructure and information systems.

Of these constraints, ensuring efficient agricultural water management is a fundamental element that needs to be given adequate emphasis to sustainably use the limited water resource for boosting agricultural production and sustainably improving rural livelihoods. In this context, the availability in sufficient quantity and quality of, and reliable access to, the available resource is found to be crucial to enhancing and sustaining agricultural production. In this respect, increasing and improving investments for improved agricultural water management to effectively support smallholder livelihoods is still a priority in the sub-Saharan African

countries, including Ethiopia. This critically requires coordinated efforts of all actors actively engaged in the agriculture sector.

Considering the key role of the agriculture sector in the country's economy and in reducing poverty, and realizing the need to sustainably increase production and productivity, the Government of Ethiopia, donors and development partners have established the RED&FS SWG platform to harmonize and align development efforts in agriculture. This common platform aims to support country-led, long-term agricultural development plans to ensure food security and also meet the MDGs.

Among the three pillars established under the RED&FS SWG platform, the SLM TC is responsible for the natural resource sector. The SSI-TF is, therefore, one of the ad hoc task forces established which is directly accountable to SLM TC. In this context, considering the need and the economic importance of water for sustainable agricultural development, the SLM TC has decided to evolve the SSI-TF into an AWMP to be used as a broader platform to enhance sharing of experiences and facilitate learning events for innovations on improved AWM involving key stakeholders. Therefore, I am confident that the newly evolved AWMP will be a good opportunity to bring together key stakeholders actively working in the agriculture sector, and use the platform to enhance experience sharing events, entertain innovative ideas and share new research findings that could be appropriate to be picked up by smallholders who will use them accordingly in their farming activities. This will help to increase agricultural production and productivity to increase farmers' income and improve their standard of living, which can contribute towards the overall economic development of the country.

It is extremely important to establish a clear understanding on the comprehensive nature and concept of AWM, which encompasses technologies, products and practices that are applied to lift, store and distribute water to be used by smallholder farmers in an equitable and efficient manner to enhance agricultural production and productivity. AWM includes, but is not limited to, soil and water conservation measures targeted at reducing runoff and enhancing infiltration opportunities to increase soil moisture and recharge groundwater, small-scale irrigation including rainwater harvesting, drainage of excess water from wetlands and re-collecting the drained excess water to be stored in a reservoir and reused for agriculture purposes, conservation agriculture, improved agronomic practices and soil fertility management aimed at increasing land productivity to ultimately boost agricultural production and productivity. It is also vital to indicate that AWM is dealing with the overall agricultural systems, both crop and livestock, and any form of integrated water resources management aspects to enhance sustainable agricultural development through improved AWM practices.

The AWMP is, therefore, evolved with the following objectives:

- Share information on government policies, strategies and programs/projects focused on AWM and provide a space where stakeholders will be able to provide feedback.
- Improve sectoral and cross-sectoral coordination, harmonization, communication and cross-sectoral learning events to further enhance improved AWM.
- Organize national learning events on selected thematic areas under AWM and related topics, sharing best practices and lessons from various programs implemented across the country.
- Document best practices identified and lessons learned as outputs of the learning events in a series of publications for wider dissemination to further scale up and provide support to capacity building on documentation of best practices.

- Facilitate researchable issues to the national and international research institutes to be integrated into their research programs.

Therefore, AWMP aims to enhance experience sharing and facilitate the learning events on improved AWM practices to ensure sustainable water resources management for increased agricultural production and productivity. The stakeholders identified as actively participating in this particular platform are, therefore, expected to contribute their part to effectively harmonize and align their efforts towards meeting the shared strategic vision-boosting agricultural production.

With this opening remark, it is my pleasure to declare that the launching event of the agricultural water management platform is officially opened.

Thank you



HE Ato Sileshi Getahun, State Minister, Ministry of Agriculture

Presentations

Putting AWM at the center of the agenda, the 13 presenters made brief presentations on lessons learned from program implementation, and research on small-scale irrigation, soil and water conservation and watershed management. The topics covered by the various stakeholders included the following:

- Rationale and objectives for evolving SSI-TF into the AWMP.
- Learning and Practice Alliance (LPA): Lessons from the Global Water Initiative East Africa (GWI EA)/Cooperative for Assistance and Relief Everywhere (CARE).
- Lessons from innovation platforms: Experience of the International Livestock Research Institute (ILRI).
- Watershed management in Ethiopia: Principles, achievements and some challenges.
- Overview of the climate-resilient green economy (CRGE) strategy in the agriculture sector and update on fast-track investments (FTI).
- Lessons and experiences from the Global Climate Change Alliance (GCCA).
- Lessons from research on soil and water conservation: The case of Adulala Watershed.
- Research review and recommendations for sustainable land management in Ethiopia.
- Determinants of farmers' investments and impacts of soil and water conservation practices in Ethiopia: Review and synthesis.
- Overview of small-scale irrigation development in Ethiopia: Policy, strategies, achievements, opportunities and challenges.
- Review of research outputs and available technologies that are affordable for smallholder farmers: Adoption, constraints and challenges in promoting available irrigation technologies.
- Lessons from the implementation of small-scale irrigation projects: The experience of SSI projects with MoA (Participatory Small-scale Irrigation Development Program [PASIDP], AGP and former Agriculture Sector Support Program [ASSP]).
- Lessons from the Household Irrigation program (ATA).
- Lessons from the AgWater Solutions Project (IWMI).

This section will provide summaries of the presentations made.

Session I: Experiences and Lessons from Existing Sector Platforms:

Establishment of the Agricultural Water Management Platform (AWMP): Rationale, objectives and working modalities

Hussein Kebede, Senior Irrigation Agronomist, and Chair, Small-scale Irrigation Task Force (SSI-TF)/Agricultural Water Management Platform (AWMP), Ministry of Agriculture, Natural Resources Management Directorate, Addis Ababa, Ethiopia

Ato Hussein Kebede, MoA, NRMD, and Chair, SSI-TF, and now the AWMP, made a brief presentation about the rationale for evolving the SSI-TF into the AWMP, and the objectives, duties and responsibilities, working principles and procedures of the platform.

Since its establishment in 2011, the SSI-TF, set up by the SLM TC, has helped to support harmonization, strengthening alignment and facilitating experience sharing on matters related to small-scale irrigation. However, gradually, new requests and innovative ideas coming from stakeholders, and realization of the need for a broader focus and integrated approach on AWM issues, has led to the decision to develop the SSI-TF into an AWMP.

In his presentation, Ato Hussein indicated that AWM issues are complex and require application of an integrated approach for planned development, distribution and use of water resources. This requires addressing issues of soil and water conservation measures (reducing runoff and increasing infiltration opportunities) to preserve soil moisture and ensure groundwater recharge, as well as developing technologies for lifting, storing and distributing water for irrigation. It also involves a range of other methods used to improve water management, such as drainage of excess water and reuse, rainwater harvesting, conservation methods and various agronomic practices that help to improve the soil structure, moisture and nutrient content. Therefore, widening the narrow SSI thematic focus and involving stakeholders working on broader AWM issues in the platform has become reasonable and timely.

He then presented the objectives and working modalities of the AWMP, including a list of proposed members.

The AWMP will be hosted by MoA, NRMD, and chaired by the Director of the **upcoming Small-scale Irrigation Development Directorate**, and will be directly accountable to SLM TC. The AWMP will be co-chaired and served as secretariat by representatives identified from development partners: International Fund for Agricultural Development (IFAD), Country Office, Ethiopia, and IWMI, respectively, as was the case in the previous SSI-TF. Rotating the position of the co-chair and secretariat will also be considered in the future. Membership of the AWMP will include research institutions, government organs, NGOs and donor agencies.

Lessons from Learning Practice Alliance (LPA) platforms: The case of the GWI EA program of CARE

Bethel Terefe, Cooperative for Assistance and Relief Everywhere (CARE), Ethiopia

The second presentation was made by W/rt Bethel Terefe, CARE, which focused on lessons from the learning practice alliance platform in the GWI EA program of CARE. In her presentation, Bethel introduced GWI which was established in 2007 with financial support from the Howard G. Buffett Foundation for a five-year phase to intervene on water and sanitation in arid and semiarid regions.

In 2012, the program came to focus on water for agriculture. This project was implemented by CARE International in three countries in East Africa: Ethiopia, Uganda and Tanzania. The major goal of the project was to promote improved AWM to enable smallholder farmers to improve their production and productivity, their food security and resilience to climate shocks.

The strategy employed by the project is action research and demonstrations with model farmers at the local level. At the national level, it supports the consolidation of knowledge on improved AWM practices and technologies; facilitates platforms that bring research, practices and policy communities together; and engages in advocacy for greater attention and investment in AWM.

As presented by W/rt Bethel, improved production and income of champion farmers as a result of adopting improved agronomic practices, inputs and household irrigation technologies is achieved by the program at the local level. Furthermore, greater interaction (communication and working relations) between farmers, research institutions and woreda agricultural staff, capacity building and exposure of *kebele* and *woreda* agricultural staff to new methods through participating in the assessment, and working with research institutions were some of the achievements of the program.

Some of the challenges observed were: the need for a huge coordination effort on scheduling of action research activities to ensure full participation of key stakeholders, turnover of members from the LPA and action research groups for various reasons, the need for strong facilitation, the need for much more time, and regular monitoring and documentation of changes in the way stakeholders work together.

Finally, Bethel stated that detailed information on evaluation of the LPA approach and the project, in general, can be found at the following websites:

Evaluation of the LP approach: http://www.gwieastafrica.org/media/GWI_MechanismOfActionResearch_01_08_2014.pdf

Project: <http://www.gwieastafrica.org/>

Lessons from innovation platforms: Experience of ILRI

Zelalem Lema, International Livestock Research Institute (ILRI), Addis Ababa, Ethiopia

The third presentation was by Zelalem Lema, ILRI, which revolved around the lessons from Innovation Platforms (IP). He presented ILRI's experience in establishing and running innovation platforms in selected sites.

An Innovation Platform (IP) is defined as a space for learning and change. The platforms consist of a group of individuals (who often represent organizations) with different backgrounds and interests coming together to diagnose problems, identify opportunities and find ways to achieve their goals. The members jointly design and implement activities as a platform or coordinate activities by individual members.

Similar to the LPA approach described above, action research through IPs is important to ensure innovation is not carried out by research institutions in isolation, which tends to limit uptake. IPs in the agriculture sector are useful as they enable addressing of complex issues that require an integration of efforts from diverse stakeholders, and they also help to make research more demand-driven.

In his presentation, Zelalem explained the establishment of IPs in three sites in the Blue Nile River Basin (Diga, Jeldu and Fogera) under the Nile Basin Development Challenge (NBDC) of the CGIAR Challenge Program on Water and Food (CPWF). The IP members were composed of research institutions, NGOs, farmers, extension agents and community-based organizations (CBOs). Through the IPs, community members and other stakeholders identified key natural resource management challenges in the site, which included: land degradation, soil erosion, free grazing and shortage of feed for livestock, among others. To bridge the gaps, the communities and all other relevant stakeholders of the IP jointly identified and proposed options, planned and implemented interventions, and monitored and evaluated the process. Among the interventions implemented were the establishment of an innovation fund for inputs and training, training of farmers on livestock feed preparation, exchange visits and cross-learning with other communities, and introduction of livestock feed in the area, which has a joint purpose of environmental protection.

The IPs were more successful in two of the sites, resulting in the bridging of gaps identified and complementing the national SLM efforts. The process also helped stakeholders to realize the benefits of joint planning and implementation. On the other hand, the time demand of the process, staff turnover and the need for incentives to get IP members involved in the project were challenges faced by the project.

Plenary discussion

The plenary discussion covered comments and inputs from participants on the AWMP, and questions to the two presenters who shared experiences on learning platforms.

One of the main concerns raised about the platform was the duplication of work with a water resources management platform established under the MoWIE, Ethiopia. The platform is supported by the Japan International Cooperation Agency (JICA) and involves several stakeholders, government agencies and NGOs working on water resources management issues. Responses from the participants stated that, although there are similarities between the two platforms, there are differences in the scope of their work. Effort will be made to improve cross-sectoral coordination through the inclusion of a representative from the MoWIE, Irrigation Directorate, as a member in the AWMP.

Further comments were provided by participants on the membership of the AWMP and the role of members. A suggestion to include representatives from the private sector was accepted, and participants greatly supported the idea of revolving the co-chairmanship and secretariat roles among members at regular intervals. A note was made to be clear and consistent in the use of terminology such as 'platform' or 'task force' when referring to the AWMP, as it will have implications on its purpose.

Session II: Watershed Management, Soil and Water Conservation, Government Policy, and Lessons from Programs and Research

Watershed development in Ethiopia: Principles, achievements and some challenges

Ato Tefera Tadesse, Director, Natural Resources Management Directorate, Ministry of Agriculture, Addis Ababa, Ethiopia

Ato Tefera Tadesse, Director, Natural Resources Management Directorate, Ministry of Agriculture, presented an overview of Ethiopia's Sustainable Natural Resources Management Policy direction, strategies, interventions and impacts.

He started by explaining that, within sub-Saharan Africa, Ethiopia is considered to be one of the countries that is seriously affected by land degradation. Fifty-percent of the highland area is severely degraded. The direct cost of land degradation is estimated in terms of nutrient loss with topsoil erosion, lost production due to nutrient and soil loss, costs of forest removal and loss of livestock carrying capacity. There are also indirect costs, such as loss of environmental services, silting of dams and riverbeds, irregular flow of streams and rivers, and reduced groundwater capacity. All of these lead to social costs, such as malnutrition, poverty and migration.

There have been efforts to address the land degradation issue in the country since the 1970s. However, lack of integration and employment of a piecemeal approach, poor community participation and sustainability constrained their impact. A major shift came in 2009 with the establishment of the Ethiopian Sustainable Land Management Investment Framework (ESIF). The framework aimed to provide a national-level strategic framework that helps to guide, prioritize, plan and implement sustainable land management interventions by the public and private sector. Guiding principles were adopted for initiatives to be implemented under the framework, which included: ecological, sociocultural and economic sustainability. Supportive policy and institutional infrastructure was also put in place with the setting up of the Natural Resources Management Directorate (NRMD) within the Ministry of Agriculture (MoA) and different directorates under it. Key sector strategies, such as the Growth and Transformation Plan (GTP) and the CRGE, included natural resource management as a major pillar and set attainable targets.

Under the ESIF, several initiatives were planned and implemented. Some of these initiatives include the Managing Environmental Resources to Enable Transitions (MERET) project, Productive Safety Net Program (PSNP), SLM, PASIDP and ASSP. Under these initiatives, several natural resource management activities are undertaken. These include

construction of terraces on farmland and hillside, tree planting, gully rehabilitation, area closures and pastureland management; and development of water harvesting and storage structures, such as dams, community ponds and hand-dug wells. The initiatives were also used to build rural infrastructure, such as rural roads, schools, health posts, etc.

In addition, government-led widespread community mobilizations are carried out for soil and water conservations with the sole engagement of local communities. The strategies employed here included the setting up of a development army structure in every village, capacity building through trainings, and providing inputs and organizing experience sharing opportunities around best practices identified. The total free community labor mobilized for natural resource management activities is estimated to be ETB 27.82 billion in the past 3 years alone.

As a result of the interventions, significant impacts are observed. Impacts are seen in the form of a reduction in sedimentation and enhanced water harvesting, small-scale irrigation, forage production and improved land availability for agriculture. Further, the changes have led to increased farm income and assets of households, improved agricultural production, food security, and improved household and community resilience to climate shocks.

However, major challenges, such as minimized maintenance of existing physical soil and water conservation structures, reduced quality of implementation, shortage of capital to invest on land management and free grazing, remained persistent.

Overview of the Climate-resilient Green Economy (CRGE) strategy in the agriculture sector and update on fast-track investments (FTI)

Ato Sertse Sibuh, CRGE Coordinator, Ministry of Agriculture, Natural Resources Management Directorate, Addis Ababa, Ethiopia

Overview of the CRGE in the agriculture sector, institutional arrangements for implementation and major interventions identified for fast-track investments were presented by Ato Sertse Sibuh, CRGE Coordinator, MoA, NRMD.

In his presentation, Sertse highlighted the devastating impacts that climate change can have in the country unless appropriate measures are taken. Among the key points raised, 10% of the Ethiopian population lives under chronic food insecurity and rely on food aid in an average rainfall year, which could get worse in the context of climate change. Climate change impacts can also reduce the GDP growth rate of the country by up to 2.5% every year.

The CRGE is developed by the Ethiopian government as a policy response to climate change threats, with an aim to build climate resilience and take steps to ensure the economy is green (carbon neutral) and sustainable by 2025.

The agriculture sector CRGE has four major pillars:

- 1) Improvements in crop and livestock production practices and efficiency by integrating with sustainable land management while reducing emissions.
- 2) Protecting and re-establishing forests for the ecosystem services they provide and as carbon sinks.
- 3) Expanding electricity generation from renewable sources of energy for domestic and regional markets.
- 4) Leapfrogging to modern and energy-efficient technologies in transport, industrial sectors and buildings.

The pillars are implemented through the existing government institutions, which are mainstreamed into existing sector strategies, frameworks, programs and projects.

Ato Sertse further updated the participants on the interventions selected for the agriculture sector CRGE FTI and the progress made to date. The FTI is implemented by MoA, with the objective of reducing the sector's vulnerability to climate change, reduce greenhouse gas (GHG) emissions and contribute to increasing per capita income. The project is carried out in selected watersheds that are vulnerable to climate change. The project has five main outputs:

1. Building the capacity of institutions involved in implementing the agriculture sector CRGE at various levels.
2. Increasing the productivity of crops through climate-smart agriculture (CSA): activities implemented included measures to improve soil fertility management through crop

cover, organic fertilizers, crop rotation, intercropping, conservation tillage, deep planting, adopting resilient crop varieties and other similar measures.

3. Increasing the productivity of livestock through CSA: measures introduced included fodder production, area closure to improve communal grazing land, pastureland management and enacting community bylaws, among others.
4. Conserving productive land and rehabilitating degraded land: measures included the adoption of physical and biological conservation methods, gully rehabilitation, reforestation, rangeland management, etc.
5. Building the resilience and adaptation capacity of farm and pastoral households: measures introduced included strengthening community based climate monitoring and early warning systems, expanding rainwater harvesting and small-scale irrigation structures, introducing rural saving and credit cooperatives, etc.

To date, FTI has accomplished various activities related to awareness creation and training, provision of support and supervision, and provision of technical assistance and capacity building. In the process, it has encountered some challenges in mainstreaming interventions in the regular activities of institutions, slow adoption rate of some technologies and poor implementation capacity at local levels.

Lessons and experiences from the Global Climate Change Alliance (GCCA)

Berhanu Mengesha, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Berhanu Mengesha, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, presented the lessons and experiences from the Global Climate Change Alliance (GCCA) project.

The GCCA is a four-year project implemented from 2012 to 2016 by GIZ and MoA with funding provided by the European Union. The project strives to address climate change adaptation, mitigation and livelihood improvement by combining CSA technologies/measures. It field-tested and analyzed the impact of various CSA technologies in order to recommend good practices for scaling up under MoA. The project sites are located in 34 districts (one micro-watershed in each *woreda*) in the Blue Nile River Basin, and covered an area of about 40,000 hectares with potential beneficiaries of 21,300 households.

The project adopted the definition of the Food and Agriculture Organization of the United Nations (FAO) to classify technologies and practices as ‘climate-smart’. The defining criteria included the potential to increase agricultural productivity, income and food security, while increasing adaptive capacity at multiple levels, decreasing GHG emissions and increasing carbon sinks.

The major project components were participatory sustainable forest management, climate-smart crop and livestock production, and ensuring there was an adequate supply of water.

The interventions showed very promising results. In one site, Ambo, an increase in yield of crops ranging from a 53-66% was recorded as a result of the combined use of soil and water conservation methods, improved crop varieties and agronomic practices, such as crop rotation and compost.

Overall, in the project sites, the measures helped to reduce deforestation in order to successfully implement zero grazing and improve the income of households from participatory forest management activities, such as beekeeping. Rehabilitated gullies led to flood control and generation of springs. The project also helped to raise the awareness of communities, build human capacity on adaptation and mitigation measures, and supported the development of community institutions, such as watershed associations and user groups.

The main challenges encountered by the project revolve around monitoring and evaluation (M&E) of impact. There is a problem in the standardization of M&E systems in CSA. The project also found it difficult to measure the unit impact of specific technologies, and measures in improving adaptation or mitigation or supporting livelihoods. Most of the interventions happened at micro-watershed level, but their impact was measured at household level, which is highlighted as a challenge to effectively measure impact of the interventions.

Lessons from research on soil and water conservation

Ato Abera Assefa, Representative, Ethiopian Institute of Agricultural Research (EIAR), Addis Ababa, Ethiopia

Ato Abera Assefa, representative of Ethiopian Institute of Agricultural Research (EIAR), presented research evidence on SWC measures and lessons from Adulala Watershed.

The presentation started with the explanation that land degradation and soil erosion are common problems in Ethiopia, and provided background information on how they are connected with the recurrent drought and famine witnessed in various parts of the country. The years 1984 and 2009 were the worst drought years in the country's recent history, where up to 6.2 million people were affected. The impacts were worst felt in areas characterized by severe land degradation. Huge efforts to improve soil and water conservation were undertaken between 1977 and 1988 through the construction of soil bunds, stone terraces and seedling plantations with limited impact, due to the lack of sustainability. The adoption of participatory IWRM later helped to improve sustainability.

The presentation showed evidence-based research that indicated the impact of SWC measures, such as terraces, enclosures, alley cropping, intercropping and conservation tillage, from trials conducted in different parts of the country. He also presented lessons from previous studies which highlighted that the construction of bunds as a SWC measure has a high opportunity cost in terms of labor requirement, and it takes up cultivable area and can cause waterlogging uphill of the bunds.

Abera then presented lessons from the Adulala Watershed in East Shoa Zone, where EIAR has a research program that was tested on farmers' plots. At the initial stage of the research, an erosion risk assessment was carried out in the watershed, which showed soil losses in the amount of 63 tons per hectare per year. About 56% of the watershed land was affected by extreme erosion. EIAR implemented various interventions such as farmland terraces, tree planting on mountainous areas, gully rehabilitation, grass multiplication, introducing improved crop varieties, improved energy-saving stoves in households and moisture conservation techniques such as conservation tillage. The impact of the measures employed was assessed and the following recommendations are made:

- Clear practical strategies for scaling up and extending SWC processes must be developed.
- Partnerships must be built on mutual trust, respect and ownership.
- Sustainable water conservation measures should have realistic short- and medium- term gains to make them economically realistic and attractive.
- Cross-disciplinary, adaptive learning processes for researchers and development workers to provide a continuum of research and development.
- There must be a consensus on the problems to be addressed, and the desired research and development aims.
- Conservation planning should reflect extreme weather events, not just normal weather patterns.

Research review and recommendations for sustainable land management in Ethiopia

Gete Zeleke, Director, Water and Land Resource Centre (WLRC), Addis Ababa, Ethiopia

Dr. Gete Zeleke, Director, Water and Land Resource Centre (WLRC), delivered a broad presentation on research review and recommendations for sustainable land management (SLM) in Ethiopia.

The presentation started by explaining that soil erosion is the dominant form of land degradation in Ethiopia, with impacts on-site, off-site and at transboundary level in the form of siltation and flooding. It indicated that research on SLM should follow the physical boundary, and should include data collection and assessments on biophysical and socioeconomic situations before and after SLM interventions. Biophysical assessments of a watershed can include land use, degradation status, biodiversity, soil and hydrology, while socioeconomic assessments can include income, assets, poverty situation, indigenous practices, etc. After SLM investments, impact assessments can focus on the availability of surface water and groundwater, physical and chemical properties of soil, soil loss, biodiversity, income, etc.

The presentation identified major players in SLM/IWRM research in Ethiopia, which are academic institutions, EIAR, CGIAR and other specialized research centers, such as WLRC. It further explained the shortcomings of the different groups of research institutions, which included short duration and lack of an extended monitoring system.

Gete then presented experiences of the WLRC on SLM/IWRM research. He explained some of the research sites set up by the center that are currently generating empirical evidence on hydrology, sediment level, land use and productivity. The impact of IWRM activities on model sites is monitored and documented as part of its knowledge management efforts. Seven research observatories have been set up by the center since 1981. Anjeni observatory set up in 1984 is presented as one example. The presentation also showed monitoring data on soil loss and rainfall-runoff-sediment yield collected from Anjeni and other sites.

The center also conducts research in learning watersheds together with the Amhara Agricultural Research Institute (ARARI) and Oromia Agricultural Research Institute (OARI), and regional bureaus of agriculture. The objective of these joint research activities is to identify determining factors needed to rehabilitate degraded land and improve community livelihoods through participatory integrated watershed management. The approaches used in these studies include baseline surveys, and continuous data collection on the biophysical and socioeconomic situation of the watersheds. Knowledge generated from the WLRC research activities and sector debates are available through the website of the center (www.wlrc.eth.org).

Finally, Gete made the following recommendations to improve knowledge management and research in the SLM/IWRM sector:

- Paucity of primary data is one critical issue in SLM. Therefore, support for maintaining long-term monitoring stations is a priority.

- All regional/federal research institutes and/or higher learning institutions should maintain long-term primary data generation set-ups preferably for every major agro-ecology.
- A comprehensive baseline survey should be documented before SLM interventions.
- Review and documentation of past experiences is needed (WLRC might lead).
- Annual forum on lessons learned (developmental research review meeting) from SLM interventions should be organized.
- Capacity building on the establishment of research watersheds need to be organized (WLRC can assist).
- Best design and use of MSc/PhD studies for SLM research need to be reengineered.
- We need to develop a culture of data sharing and management. WLRC can serve as the national hub for knowledge management.

Understanding determinants of farmers' investments in, and impacts of, soil and water conservation in Ethiopia: Review and synthesis

*Zenebe Adimassu, Simon Langan and Robyn Johnston
International Water Management Institute (IWMI)*

Although there has been a considerable effort to reduce soil erosion and improve land productivity in Ethiopia, farmers' investments in SWC remain limited. There is a long and rich tradition of empirical research that seeks to identify the determinants that affect farmers' investments in SWC practices. Nevertheless, the results regarding these determinants have been inconsistent and scattered. Moreover, the impacts of different SWC practices have not been reviewed and synthesized. Thus, this paper reviews and synthesizes past research in order to identify determinants that affect farmers' investments in SWC practices, and to also assess the impact of SWC practices within the framework of ecosystem services, particularly in relation to provisioning and regulating ecosystem services. The review identified several determinants that affect farmers' investments in SWC practices, which are categorized into two groups: (i) factors that are related to farmers' capacity to invest in SWC practices, and (ii) farmers' incentives to invest in such practices. Farmers' investments in SWC are limited by both the capacity to invest and incentives from their investments related to land improvement. The review also showed that farmers' capacities to invest in SWC practices and their incentives for making such investments have been influenced by external factors, such as institutional support and policies. This suggests that creating enabling conditions for enhancing farmers' investment capacities in SWC practices, and increasing their incentives for making such investments, is crucial. The review and synthesis showed that the impact of most SWC practices on provisioning ecosystem services (e.g., crop yield) is negative, which is mainly due to the reduction of effective cultivable area due to soil/stone bunds. However, these practices were very effective in regulating ecosystem services, such as soil erosion control, soil fertility improvement and surface runoff reduction.

Keywords: Soil and water conservation, Ecosystem services, External factors, Farmers' incentives, Motivation, Net Present Value.

Plenary discussion

The plenary discussion on watershed management, and soil and water conservation (SWC) was facilitated by Gete Zeleke from WLRC. The following main points came out of the discussion:

- It is paramount that we ensure the sustainability of SWC practices implemented by mobilizing ETB 28 billion worth of free community labor.
- It is important to ensure cross-learning between the various climate change initiatives that are being carried out in the country.
- Participants argued about the role of physical SWC measures in climate-smart agriculture or whether they should be considered as one. It was explained that physical SWC structures alone are not sufficient to meet the criteria of climate-smart agriculture and need to include protection of the area. In addition, to observe positive and higher economic returns from physical SWC measures (for example, soil bunds), it needs to be combined with biological measures. A single physical measure can have a negative impact on yield, but combined with a number of biological measures (to manage soil moisture and fertility) can result in improved yields.
- Farmers don't see the return from land conservation activities quickly, in order to provide them with the incentive to continue managing watersheds. Therefore, it is suggested that conservation activities need to be combined with agricultural intensification.
- Participants asked WLRC regarding the research studies on the overall SLM-related interventions, as to whether there were any trials to study with and without intervention scenarios. The response was that, in SLM studies, it is technically and scientifically correct to see an area before and after. In order to assess the situation with and without intervention, requires finding highly identical areas and this is naturally unrealistic.
- In response to a question, WLRC stated that it had captured hydrological data in its monitoring sites, and the data was available for anyone who is interested in accessing and using it.

Session III: Progress in Achieving Policy Targets on Small-scale Irrigation, and Lessons from Research and Program Implementation

Overview of small-scale irrigation development in Ethiopia: Policy, strategies, achievements, opportunities and challenges

Ato Hussein Kebede, Senior Irrigation Agronomist, and Chair of SSI-TF/AWMP, Ministry of Agriculture, Natural Resources Management Directorate, Addis Ababa, Ethiopia

The first presentation of the session on small-scale irrigation (SSI) was made by Ato Hussein Kebede, Senior Irrigation Agronomist, MoA, NRMD, and Chair of SSI-TF/AWMP. The presentation provided an overview of policy directions in the agriculture sector, role of SSI in the country's development, potential available, and some strides made with the last GTP at policy and institutional levels. He also provided detailed challenges the sector encountered, lessons learned and future directions for SSI development.

Ethiopia is currently following a labor-intensive agricultural strategy focused on the proper use of agricultural land, which tries to maximize agricultural development within diversified agro-ecological zones. IWRM is expected to be the guiding principle of water resources management. In the agriculture sector, the country follows a market-led agricultural development strategy. Irrigation is promoted to develop resilience of the sector to climate variability, enhance crop and land productivity per unit area, and increase the annual agricultural production volume significantly to sustain domestic food supply, supply of raw products to domestic industries and increase export earnings.

Although actual estimates vary, Ethiopia has a high irrigation potential from groundwater and surface water sources. However, only 5% of this potential is being harnessed up to now. Most of the cultivated land is under rainfed agriculture, although post-GTP1 figures show that 30-37% of the agricultural land is now irrigated.

The presentation also displayed achievements made in the SSI sub-sector during the GTP1 period at policy, institutional and ground levels. Under the GTP, irrigated land increased to 2 million hectares. The adoption and production of high-value crops also greatly increased. Sustainable land management efforts underway in the country contributed a lot to the sector, by reducing sediment transport and siltation of irrigation infrastructure, and increasing recharge and use of groundwater for irrigation downstream.

At policy and institutional levels, the sector developed pump standards to alleviate the problem of frequent failure of pumps and associated supply chain problems encountered by

farmers using water-lifting pumps for irrigation. An irrigation WUA proclamation was enacted in 2014, which now provides the legal basis for community groups managing irrigation water supply schemes. The sector also developed a SSI capacity building strategy, set up a task force on SSI and recently completed the preparation phase to set up a SSI directorate under the Natural Resources Management Directorate of the Ministry of Agriculture. All of these factors will help to improve the attention given to the agriculture sector.

However, the SSI sub-sector is still facing some daunting challenges as explained below:

- Inadequate institutional and technical capacity on irrigation in the sub-sector.
- Limited participation of farmers in the development of irrigation schemes, and inadequate skills in irrigation water management.
- Low performance of irrigation schemes, below their design capacity.
- Weak research support in technology development and weak research-extension-farmers linkage.
- Weak supply of agricultural inputs and credit system.
- Weak market infrastructure development and market information system.
- Poor data management of SSI schemes.
- Limited availability of funds and technical capacity in SSI infrastructure development and management.
- Inadequate data (meteorological, hydrological and geological) needed for planning SSI.
- Weak coordination between the agriculture and water sectors.
- Limited capacity and involvement of the private sector in SSI development.

On the other hand, the existence of high-level political commitment and a supportive policy environment, as well as the fact that water-centered development is taken as key to ensuring sustainable economic development in the country, are recognized as opportunities.

The presentation concluded by highlighting that, in the short and medium term, SSI will remain at the center of the agricultural development strategy of the country. The sector will give priority to improving the performance of existing irrigation schemes, and developing institutional capacity to complete and expand new irrigation infrastructure in a timely manner. Improving the management of the database containing information on SSI schemes is another priority area. The sector will also work on improving strategic and applied research for appropriate and affordable irrigation technologies, and improving the research-extension-farmer linkage. SSI development will increasingly be made part of IWRM and Community-Based Participatory Watershed Management Planning (CBPWMP).

A review of irrigation water management studies for crop production in Ethiopia

Ato Fitsum Y., Melkassa Agriculture Research Center, Ethiopia

The presentation made by Ato Fitsum Y., Melkassa Agriculture Research Center, mainly focused on irrigation water-use efficiency, based on experiments carried out by the center in various sites.

His presentation started by explaining that the availability of water at the right times in the right quantities is one of the most important factors that influences crop yield. Good water management at farm level provides the right amount of water at the right time to the root zones of crops with minimum runoff and deep percolation losses. Efficient water management can be achieved through efficient methods of conveyance and water distribution on the farm, appropriate methods of water application, scientific timing of irrigation according to the needs of plants, and removal of excess water from irrigated lands. The correct amount of water applied is determined by crop water requirement, and the need for irrigation based on climate, soil condition and growth stages of the crops.

He then presented the results of field experiments on selected crops (alfalfa, banana, cotton, groundnut, kenaf, sesame, maize, lentil, onions and wheat) carried out in diverse agro-ecologies. The experiments looked at irrigation water-use efficiency, crop water requirement, best irrigation interval and rate of water application for the crops in different agro-ecologies at various growth stages and across different planting seasons.

Finally, he made the following recommendations to improve research in the irrigation sector, especially focusing on the efficient use of irrigation water:

- Research on irrigation technologies and practices is in the relatively early stages in the Ethiopian agricultural research systems, and needs to be further strengthened and supported through funding and capacity building of the research institutions.
- Improving the proper use of irrigation water in the farming community should be a priority area and included in the research agenda.
- Technology for reducing evaporation and seepage losses from harvested water is another priority for research.
- Research and interventions in the sector should prioritize low moisture areas and cash crops.
- Close collaboration among stakeholders in conducting AWM research is needed.
- Technologies or improved practices for increasing water productivity while minimizing salt development are a high priority as surface irrigation is widely used.
- Promoting proven small-scale water-saving and efficient technologies, and drip irrigation systems, where applicable, is important.
- Most of the results now reported are from the experimental station, and verifying the results obtained from farmers' plots needs to be the next task.

Lessons from small-scale irrigation projects implemented by MoA (PASIDP, AGP and the former ASSP)

*Ato Daniel Assefa, Agricultural Growth Program, Ministry of Agriculture,
Addis Ababa, Ethiopia*

The presentation delivered by Ato Daniel Assefa, Ministry of Agriculture, Agricultural Growth Program, covered experiences from the three recent major SSI projects implemented by MoA, and described achievements of the projects as well as challenges faced, which have broader implications for the sector.

The following projects were covered in the presentation:

- 1) Agriculture Sector Support Program (ASSP): Implemented from 2005-2013 with support from the African Development Bank and was operational in all the 10 regions of the country. The project included components of SSI, water harvesting, crop production and marketing, watershed management and capacity building.
- 2) Participatory Small-scale Irrigation Development Program (PASIDP): Implemented from 2008-2015 with financial support from IFAD and operated in four regions. It included development of SSI schemes and institutional capacity.
- 3) Agricultural Growth Program (AGP): Implemented from 2010-2015 with financing from the World Bank and operated in four regions. Components of the project include agricultural production and commercialization, and small-scale irrigation development and management.

These three projects have made significant impact in introducing SSI technologies, such as diversion, micro-dams, pumps, spate irrigation and groundwater development, for irrigation. They have dramatically raised farmers' demand for irrigation. They have also provided support to strengthen institutions managing irrigation water at local community level and at the level of public institutions. The three projects, combined, have reached 110,564 households.

The projects have encountered several challenges. At project management level, there were problems related to poor implementation capacity that resulted in poor utilization of funds and extension of the project period. The weaknesses in implementation capacity also reflected some wider sector problems, such as weak technical capacity to prepare for the study and design of SSI schemes, inadequate availability of hydrological and geological data to plan SSI schemes, etc. Coordination between implementing agencies was often difficult.

In the implementation, more attention was given to construction of the schemes and gaps are seen in improving agronomic practices, diversifying crop varieties and creating market linkages for farmers. Efficient use of water by farmers was also poor. Operation and maintenance (O&M) of irrigation schemes faced severe challenges, as WUAs are not well organized and lacked follow-up support. There is limited collection of fees for O&M of the schemes and handover of the scheme to the communities is often not carried out properly.

Most of the SSI schemes operated under their production capacity. The reason for this was the failure of farmers to irrigate the entire irrigation command area. Farmers that have a large area of land in the irrigation command area are sometimes not able to irrigate all their land, while others may lack farmland in the irrigation command area. Redistribution of land in the irrigation command area was a very sensitive measure to carry out.

The presentation raised further challenges faced by the irrigation projects that have wider implications for the agriculture sector. It was stated that institutional arrangements in the sector is not conducive to develop water and land resources in an integrated manner. There is also no exchange of information and data between regions and the federal government, who separately plan and execute irrigation schemes without consultation with each other. A more serious threat to the sector is the fact that there is a low level of water resource protection and management, as anyone can extract water from existing water resources without regulations. This will have an impact in the long term. We are currently seeing conflicts over water use, as a result of this.

Lessons from the Household Irrigation program (Ethiopian Agricultural Transformation Agency [ATA])

Ato Seyoum, Head, Household Irrigation Department, Ethiopian Agricultural Transformation Agency (ATA), Addis Ababa, Ethiopia

In this session, Ato Seyoum, Head, Household Irrigation Department, ATA, presented an overview of implementation of the sustainable household irrigation service provision model pilot program, findings from a review undertaken and lessons learned.

Implementation of the model started in 2013/2014 by ATA. The program tried to introduce interventions to address blockages across the household irrigation value chain. The interventions targeted blockages in input supply; access to household irrigation technologies, finance and information; agronomy; and market linkages. A combination of interventions were implemented in 21 pilot *woredas* in Amhara, Tigray, Southern Nations, Nationalities and People's Region (SNNPR), and Oromia, in collaboration with MoA, regional bureaus of agriculture, EIAR and other partners. Coordination and governance structures for the program are formed at *woreda*, national and regional levels to implement interventions or to provide guidance, monitoring and oversee implementation, depending on the level. An assessment of the pilot program is carried out by ATA after one year to look at the relevance and effectiveness of interventions and their sustainability.

Seyoum then presented the results of the assessment on the various interventions. Some of the main findings are described below.

- Some of the interventions are not implemented as intended for different reasons. For example, training provided on the selection of high-value crops for household irrigation were not cascaded down by experts as expected.
- Organized and coordinated demand collection for irrigated agriculture input supply (for seeds, fertilizers and chemicals) was not carried out by cooperatives and *woreda* agriculture offices.
- Although in certain places interventions directed to strengthen supply of household irrigation technology, and ensure knowledge and skills worked well, overall, *woreda* agriculture offices or the working groups were not able to link small and micro enterprises trained on household irrigation technology skills with farmers.
- Access to credit remained a challenge for farmers to buy inputs or household irrigation technologies, as there was a weak link between farmers and micro-finance institutions, although the situation was better in the Amhara region.
- From the interventions directed at improving irrigation agronomic practices, the information communication through a new information and communications technology (ICT) system, interactive voice response (IVR), worked very well. In the future, the program will work on raising awareness of more farmers about this system

of information provision. The trainings provided on agronomic practices were also cascaded down, but the program realized the need to improve the training content on post-harvest crop management.

- The interventions on market linkages were not very successful. Although cooperatives have entered into contract agreements to outsource production to a buyer, Ethiopian Fruit and Vegetable Marketing share company (Etfruit), a very limited percentage of the targeted amount was sold to the buyer in the end. The program realized the need for capacity building of cooperatives and farmers on contract farming. It also saw the need to look for diversified buyers.
- The coordination and governance structures did not work very well, with poor understanding of the program at *woreda* and regional levels, and poor follow-up at regional level. To improve the governance system, the program will include *woreda* administrator and zonal agriculture staff, and make *woreda* administrators chair persons of the working groups at *woreda* level.
- The main challenge of the project was in ownership of the program by implementers at lower levels. To tackle this problem, the program has proposed including program activities as part of the annual work plans of staff in *woreda* and regional agriculture offices and bureaus.

Seyoum ended his presentation by giving an overview of the program's plan for 2014/2015, where additional interventions are introduced to correct weaknesses seen in the first year of the pilot implementation.

Lessons from the results of smallholder irrigation technologies (IWMI)

Simon Langan, Head, International Water Management Institute (IWMI), East Africa and Nile Basin Office, Addis Ababa, Ethiopia

Abundant research evidence confirms that smallholder farming is the main engine for economic growth, poverty reduction and food security in Ethiopia. However, farmers frequently suffer from limited access to technology and market infrastructure. The technologies are usually not capital intensive and can be financed by farmers themselves. They can be used on diversified types of water sources, such as lakes, rivers, ponds and shallow groundwater wells. These small-scale affordable technologies and approaches enable farmers to produce crops in the dry season, which will provide them with an additional income through the production of cash crops for markets. Smallholder irrigation technologies provide an opportunity for women farmers to earn an income, as they can be used for backyard cultivation and cultivation of horticultural crops. All these great potentials necessitated the AgWater Solutions Project to identify factors that influenced the adoption of water-lifting technologies (particularly motor pumps) by smallholder farmers and to look for market access.

Trends and data collected from four regions (Amhara, Oromia, SNNPR and Tigray) and also across the country (Ethiopia, Ghana and Burkina Faso) show that investing in smallholder irrigation technologies is crucial to enhance income and livelihoods of the rural people.

Findings on smallholders' awareness of various irrigation technologies and average costs of investment for water-lifting pumps showed that 77-87% of smallholders had a very high awareness about irrigation technologies. Nevertheless, actual adoption of the technologies is low (ranging from 27-30%). The technologies were mostly adopted by better-off and male farmers. Adoption rate was very low among women farmers. Various types of taxes made up 36% of the price of the motor pumps.

The major factors found to hamper adoption of the irrigation technologies were as follows:

- High upfront investment costs involved in implementing the technology, and lack of credit and information about markets.
- Poorly developed equipment supply chain, low-quality pumps, limited choice, high taxes and transaction costs.
- Frequent breakdown of pumps, high maintenance cost, limited supply of spare parts and maintenance service.
- Farmers lack of information and knowledge on irrigation, and poor access to inputs such as improved seeds and markets.

To address these problems various interventions are needed at different stages of the smallholder irrigation technologies input supply chain.

Plenary discussion

The discussion on the small-scale irrigation session was facilitated by Simon Langan, IWMI. The following key points were raised during the discussion.

- In the Ethiopian irrigation sector, the focus so far has mainly been on physical infrastructure with limited attention being paid to the agronomy part and also to irrigation value chains. We need to move away from sub-sector debates and discussions dominated by irrigation engineers, and include other aspects of irrigation. There should be better integration between the small-scale irrigation unit under NRMD and extension section within MoA. Although both MoA and ATA are working to build the capacity of various actors in the irrigation value chain, starting from production to marketing, more effort is needed to improve involvement of the private sector.
- Farmers' affordability of household irrigation technologies was discussed. Participants suggested there may be a need for subsidies for irrigation technologies to improve adoption by farmers. According to the results of the AgWater Solutions project, about 38% of the cost of the pump is tax. Cutting down some of this tax can be one way of making the pumps more affordable and improving the adoption rate.
- Quality of water-lifting pumps used for irrigation is a serious challenge in the sector. Some of the imported pumps do not fit the local context and farmers refuse to adopt the technology once they experience failures. To address the need for quality control of pumps, the Ethiopian Revenues and Customs Authority has set up a standard, and all the engine pumps pass through the examination of the authority.
- Efficient use of irrigation water is an area where there is a huge gap in the country. Participants appreciated the presentation made by the Melkassa Agriculture Research Center on irrigation water-use efficiency, but noted some of the water measurements may be difficult to explain to farmers. They also asked about the plans to document and disseminate the researcher recommendations. It was explained that the experiments are all field trials and need to be verified on farmers' plots before they can be recommended to end users. Although the water management measures used in the study are difficult for farmers, there are simple water measurement devices that can be suggested.
- A comment was made about the need to improve regulation of water use. With the increased use of pumps for lifting water from surface water sources, drying up of rivers can occur, if done without proper regulation.
- In the household irrigation program, it was discussed that lack of ownership of the program at *woreda* and regional levels has been the main challenge. Learning from experience in the first year of the pilot project, the program has included *woreda* administrators and zonal-level staff in the program coordination and governance structures, in addition to putting the program activities in the annual work plans of government staff. As a result of these changes, the program is seeing positive results in the current year's implementation.
- Collaboration between MoA and MoWIE is raised as a crucial point. Participants suggested the AWMP can support collaboration and all the relevant ministries, including the MoWIE.
- A comment was made that initiatives on AWM technologies should work to integrate water provision for livestock as well.

Session IV: Discussion on the Way Forward for the Platform

The last session on the way forward was facilitated by Simon Langan, IWMI. Accordingly, Simon invited Helen Pankhurst, Senior Advisor, CARE, and HE Ato Sileshi Getahun, State Minister, Ministry of Agriculture, to lead the closing session.

Helen Pankhurst thanked the organizers of the workshop and summarized some of the main themes that emerged. These included the fact that there was much to be learned from the different initiatives currently in place by different actors, the government, NGOs, research institutions and the private sector. The need for better information flow, collaboration and coordination was also very clear. She reiterated the fact that Ethiopia was a country where there was significant potential for water-smart agriculture, but in a context of complexity and variation. This was particularly the case given that the solutions cut across water, land and climate considerations, and involved people and their different motivations and livelihood choices. Solutions had to be tailored to specific contexts, which themselves were liable to change. There was a clear will to continue the dialogue across differences, and she hoped the AWMP under MoA would do just that.

In his concluding remarks, HE Ato Sileshi Getahun underlined that during the two days of the launching workshop of the AWMP, a series of papers were presented and discussed. The topics covered included lessons and experiences of innovation platforms, research findings and recommendations of irrigation technologies, and improved water management practices, particularly in the area of SWC and small-scale irrigation development. In addition, agriculture sector policies, strategies and priority interventions for enhanced AWM were highlighted. The presentations and discussions have helped to share experiences, draw lessons and identify important issues that need attention and action.

At the end of the concluding remarks given by HE Ato Sileshi Getahun, action points were suggested on immediate and future priority areas to further strengthen the AWMP:

- After returning back to their respective working areas or organizations, participants are expected to provide short debriefs or feedback reports on the main issues entertained during the launching event, and the main objectives and operational modalities of the platform to create awareness among the officials of the respective institutions/ organizations.
- The proceedings of the launching event will be finalized and distributed to all participants and members of the platform to facilitate the experience sharing and learning more widely.
- The chair, in close consultation with the co-chair and secretariat of the platform, will further refine the draft ToR developed for the AWMP by taking into account the inputs obtained from participants during this launching meeting, and further decisions will be taken based on consultation with key stakeholders regarding the need for two co-chairs for the platform to encourage participation of stakeholders.
- In order to keep the momentum, it will be very important to arrange agenda items and call the next meeting as soon as possible, focusing on outstanding issues that emanated from the launching meeting.

- Considering the critical research gaps observed, there is a need to call core members of the platform to prioritize research agendas and identify key research institutions, both national and international, to involve, assist or fund identified researches.
- To keep the momentum going and move forward, it is suggested that the annual action plan developed by the former SSI-TF and endorsed by the SLM TC needs to be adopted and used by the AWMP to kick-start the process. For this purpose, a hard copy of the former SSI-TF action plan developed and endorsed for the 2007 Ethiopian Fiscal Year (2014/2015) is circulated to all members of the platform.

Finally, HE Ato Sileshi Getahun thanked all the participants for their active contribution to the discussions. He appreciated presenters and facilitators for effective deliberations and shared experiences. The active involvement of co-organizers, CARE, Ethiopia, and IWMI, in initiating discussions, organizing this launching event, and supporting logistics and the provision of the conference hall with full facilities was also acknowledged.

List of Participants

No.	Name	Organization	Responsibility
1	Ermias Baye	Ministry of Agriculture	Public relations
2	Legesse Seyoum	MERET	Tech-adviser
3	Daqem Kebede	Addis Zemen	Reporter
4	Amare Mugeru	CSI	Deputy Manager
5	Itsuro Talcahash	JICA	Water
6	Amerga Klarfie	MoA	Senior Irrigation Engineer
7	Zelalem Lema	ILRI	Manager
8	Cherenet Humus	Ethiopian Press Agency/ Berisa	Editor
9	Alazar Shiferaw	EPH Herald	Senior IBD engineer
10	Sufiyan	-	
11	Daniel Assefa	MoA/AGP	
12	Gebreyes Gurmu	EIAR	Deputy Director
13	Tibebu Chekol	MoA, SLM program	Water Shade Specialist
14	Kebede Jamal	MoA, NRMD	0911216227
15	Kalulise	IWMI	Director
16	Abere Assefa		Implantation shed
17	Fikump Fempuk	EIAR	Research Coordinator
18	Aklilu Mesfin	MoA	PWTA
19	Getachew Eshetu	MoA	Illigr. engineer
20	Hailu Hunde	GIY SUYL	Watershed Specialist
21	Seifu Atnafe	SNNPR	Natural Resource Process Owner representative
22	Berhanu Alemu	Ethiopian Broadcasting Corporation	Journalist
23	Tsegaw Lencha	CCROA	Coordinator
24	Kifle Bekele	Oromia Irrigation Development Authority	Exy. Cor. proces
25	Samuel Abiyu	JICA/MoA	Agricultural Development Advisor
26	Tsukamoto Shinemitsu	JICA/MoA	Senior expert
27	Esther Watts	CARE	Program Director
28	Dlani Wirtu	iDE	Program Director
29	Meseret Shiferaw	MoA	Senior expert
30	Getaneh Assefa	MoWIE	Project Coordinator
31	Hussein Kebede	MoA/NRMD	Senior Expert
32	Berhanu Mengistu	GIZ-SLM	
33	Kifle Gudeta	MoA	Assistant Director/soil
34	Mesfin Behailu	MoA	Director, SFIDR
35	Mekonen Getachew	MoA	NRM expert
36	Koen Fooster	FAO/AgWater Solutions project	Coordinator/AgWater Solutions project

(Continued)

No.	Name	Organization	Responsibility
37	Yibeltal Tiruneh	FAO	Irrigation and Water Resource Officer
38	Moges Worku	USAID	Productive Safety Net Program (PSNP) Advisor
39	Gete Zeleke	WLRC	Director
40	Leulseged Tamene	International Center for Tropical Agriculture (CIAT)	Researcher
41	Zenebe Admassu	IWMI	Postdoctoral Fellow
42	Sintayehu Mesele	CARE	PCDS-WASH
43	Amare Mengistu	FAO	Team Leader of Agriculture
44	Yacob Wendimu	DFAID/ECCD	Environment Advisor
45	Tsega Tariku	Radio Fana	Producer
46	Ayelech Demissie	Ethiopian News Agency	Reporter
47	Andualem Gebre	MoA	Irrigation Agronomy Expert
48	Bethel Terefe	CARE	Program Policy Advisor, GWI EA-CARE, Ethiopia
49	Desalegne Tadesse	IWMI	Communications Officer, IWMI East Africa and Nile Basin Office
50	Helen Pankhurst	CARE	Senior Advisor
51	Simon Langan	IWMI	Head, IWMI East Africa and Nile Basin Office

Note: These contact details were correct at the time when the workshop was held.



Participants of the AWMP launching workshop (*photo:* Desalegne Tadesse).

Workshop Agenda

Venue: International Livestock Research Institute (ILRI) Campus, Infocenter,
Addis Ababa, Ethiopia

Date: January 15-16, 2015

1. Key objectives
 - Share the establishment and evolving process of the Small-scale Irrigation Task Force (SSI-TF) into a multi-stakeholder agricultural water management platform (AWMP).
 - Share experiences, learning from programs and research interventions on small-scale irrigation, soil and water conservation, and sustainable land management through presentations and exhibitions, where participants showcase their work and develop further the concept and practice of water-smart agriculture.
 - Agree on the way forward to effectively use the AWMP for strengthening coordination and networking, facilitating cross-sectoral learning events and drawing lessons to further scale up best practices on improved AWM.
2. Expected outputs of the initial meeting on AWMP
 - Share ToR for evolving SSI-TF into AWMP (responsibility: Hussein Kebede).
 - Produce workshop proceeding (responsibility: CARE and IWMI).
 - Summary brief on key lessons identified with policy and practice implications (responsibility: the platform organizing committee)
3. Detailed agenda items

Time	Event	Presenter/Facilitator	Chair
Day one: January 15, 2015			
8:30 - 9:00	Registration of participants	Organizers – MoA, CARE and IWMI	
9:00 - 9:10	Introduction to the two-day program	Hussein Kebede, MoA, NRMD, Chair for SSI-TF/AWMP	
9:10 - 9:20	Keynote messages from co-organizers	Esther Watts, Program Director, CARE, Ethiopia	Hussein Kebede
9:20 - 9:25	Keynote messages from co-organizers	Simon Langan, Head, IWMI East Africa and Nile Basin Office	“
9:25 - 9:30	Opening address	HE Ato Sileshi Getahun, State Minister, MoA	“
Session I: Experiences and lessons from existing sector platforms			
9:30 - 9:40	Establishment of the Agricultural Water Management Platform (AWMP): Rationale, objectives and working modalities	Hussein Kebede, MoA, NRMD	Simon Langan, IWMI
9:40 - 9:55	Lessons from Learning Practice Alliance (LPA) platforms: The case of the GWI EA program of CARE	Bethel Terefe, CARE	“
9:55 - 10:10	Lessons from Innovation Platforms: Experience of ILRI	Zelalem Lema, ILRI	“
10:10 - 10:30	Plenary discussion on learning platforms, lessons and adopting the best modality for the AWMP	Participants	“
10:30 - 10:50	Tea break and exhibition	Organizers	
Session II: Watershed management, soil and water conservation, government policy, and lessons from programs and research			
10:50 - 11:10	Sustainable natural resource management: Policy direction, strategies and major achievements, lessons learned and experiences from regular development programs and projects	Tefera Tadesse, Director, MoA, NRMD	Gete Zeleke, WLRC
11:10 - 11:30	Overview of the Climate-resilient Green Economy (CRGE) strategy in the agriculture sector and update on fast-track investments (FTI)	Sertse Sibuh, CRGE Coordinator, MoA, NRMD	“

(Continued)

Time	Event	Presenter/Facilitator	Chair
11:30 - 11:50	Watershed development in Ethiopia: Principles, achievements and some challenges	Tefera Tedesse, Director, Natural Resources Management Directorate, MoA	“
11:50 - 12:10	Lessons and experiences from the Global Climate Change Alliance (GCCA)	Berhanu Mengesha, GIZ	“
12:10 - 12:30	Discussion	Participants	“
12:30 - 2:00	Lunch	Organizers	
2:00 - 2:30	Lessons from research on soil and water conservation	Ato Abera Assefa, Representative, EIAR, Soil and Water Conservation Research	“
2:30 - 2:50	Research review and recommendations for sustainable land management in Ethiopia	Gete Zeleke, WLRC	“
2:50 - 3:10	Review of soil and water conservation practices in Ethiopia	Zenebe Abebe, IWMI	“
3:10 - 3:30	Plenary discussion on challenges and lessons in soil and water conservation	Participants	Gete Zeleke, WLRC
3:30 - 4:00	Tea break and close of day one	Organizers	
Day two: January 16, 2015			
9:00 - 9:10	Recap of main events of day one	Bethel Terefe, CARE	
Session III: Progress in achieving policy targets on small-scale irrigation, and lessons from research and program implementation			
9:10 - 9:30	National policy objectives, priorities and targets on small-scale irrigation: Progress made in GTP1, achievements, lessons and plans for GTP2	Ato Tefera Tadesse, MoA, NRMD	Hussein Kebede
9:30 - 9:50	Review of research outputs and available technologies affordable for smallholder farmers: Adoption, constraints and challenges in promoting available irrigation technologies	Tilahun Hodofa or Fitsum Y., Melkassa Agriculture Research Center/Irrigation and Drainage Commodity Leader	“
9:50 - 10:30	Discussion	Participants	“

(Continued)

Time	Event	Presenter/Facilitator	Chair
10:30 - 10:50	Tea break		
10:50 - 11:10	Lessons from Implementation of small-scale irrigation projects: The experience of SSI projects with MoA (PASIDP, AGP and former ASSP)	Organizers AGP/PASIDP	HE Ato Sileshi Getahun, State Minister, MoA
11:10 - 11:30	Lessons from the household Irrigation program (ATA)	Ato Seyoum, Head, Household Irrigation Department, ATA Simon Langan, IWMI	“
11:30 - 11:50	Lessons from the results of smallholder irrigation technologies (IWMI)		“
11:50 - 12:20	Facilitated plenary discussion on challenges and lessons, and actions needed for the future to meet policy targets on small-scale irrigation	Participants	“
Session IV: Discussion on the way forward for the platform			
12.20 - 12.50	Facilitated discussion and agreement on the way forward	HE Ato Sileshi Getahun, State Minister, MoA	Simon Langan, IWMI
12.50 - 1.00	Closing remarks		
1.00 - 2.00	Lunch	Organizers	
End of the program			

Postal Address

P O Box 2075
Colombo
Sri Lanka

Location

127 Sunil Mawatha
Pelawatta
Battaramulla
Sri Lanka

Telephone

+94-11-2880000

Fax

+94-11-2786854

E-mail

ivmi@cgiar.org

Website

www.ivmi.org



IWMI is a
member of
the CGIAR
Consortium
and leads
the



RESEARCH
PROGRAM ON
Water, Land and
Ecosystems

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