

5th Annual International Training

Integrated Watershed Management and Flood-based Farming Systems

In ASAL Areas, Horn of Africa



Institute of Water and Environment, Mekelle University, Ethiopia, 7 - 17 August 2017

Background and Relevance

The majority of land mass at the Horn of Africa is arid and semi-arid (ASAL) with limited water sources and a (agro-) pastoral population of 30 Million. Due to climate change, droughts, floods and degradation of nature are increasing leading to recurrent food crises and vulnerability. ASAL areas are endowed with numerous seasonal rivers that bring huge seasonal, short and heavy floods. These floods are often unpredictable and can be destructive, if not managed properly, leading to eroded and degraded river valleys, loss in arable and pasture land, and depletion of soils.



Flood-based farming systems (FBFS) are the only option to transform such seasonal floods from forces of destruction to sources of livelihood for the most vulnerable ASAL community. FBFS are for multiple uses: crop, rangeland and agro-forest production, domestic and livestock water supply, recharging groundwater, soil conservation and rehabilitation of degraded land as well as climate change adaptation. The techniques are (1) spate irrigation, (2) flood recession and inundation, (3) flood-spreading weirs (FSW). FBFS already covers 15 Million hectare in Sub-Saharan Africa, supporting 75 Million people, are the quintessential adaptation to climate change, strengthen resilience and support food security in ASAL areas. However, capacities for FBFS are limited and for successful introduction and modernization, the watershed perspective is essential.

The Short Course

This short course was established in 2013 following extensive field research to the ASAL lowlands of Ethiopia. It is designed in to:

- ▶ reduce the acute shortage of FBFS planners, designers, managers and researchers
- ▶ support participatory planning, implementation and maintenance of FBFS
- ▶ develop capacities in watershed approaches for the development of FBFS

The training is happening for 5th time, annually, graduating more than 130 professionals from East and West Africa. The short course has been under constant upgrade to include recent developments in the field and accommodate the comments of participants. Accordingly, the following new contents have been included into the modules:

- ▶ Hybrid spate irrigation systems & flood spreading weirs
- ▶ Ecosystem services of watershed management & FBFS
- ▶ Application of CROPWAT 8 software in the design and management of FBFS

Course Objective

To qualify professionals with comprehensive understanding & technical skills in participatory approaches, integrated watershed development in ASAL areas as well as FBFS & techniques to enable them to better plan, design and manage FBFS.

Target Participants

Applicants are

- ▶ working in public institutions, private companies, development organizations, or research and academics
- ▶ mid-career professionals in water, agriculture, NRM, rural development
- ▶ living and working in ASAL areas, Horn of Africa
- ▶ expected to be proficient in English & have at least a BSc level



Courtesy: GIZ, Afar (Ethiopia)



Flood-Based Livelihoods
Network Ethiopia



Course Modules

Module 1	Module 2		Module 4	Module 5	Module 6
Introduction to Flood-based Farming Systems	Watershed Management	Participatory Planning, Implementation	Water and Land Management	Participatory Design of FBFS	Field Visit
<i>Provides a comprehensive overview of FBFS</i>	<i>Provides the bigger, territorial picture</i>	<i>Provides concrete awareness and skills</i>	<i>Provides skills for the determination of crop water requirement (CWR), design duty and irrigation scheduling using software</i>	<i>Provides technical skills for the design</i>	<i>Provides practical experience and learning in the field</i>
<ul style="list-style-type: none"> - History, status and potential - Differences with conventional irrigation systems - International and regional examples (Sudan, Yemen, Pakistan, Kenya and Ethiopia) 	<ul style="list-style-type: none"> - IWRM - Participatory water allocation - River basin water balance - River basin development phases - Irrigation demand calculation - Impact of watershed management on sustainability of FBFS - Ecosystem services of watershed management & FBFS 	<ul style="list-style-type: none"> - Target group participation – concepts and resourcing - Setting up and resourcing participatory management process - Techniques and methods (stakeholder mapping, PRA and triangulation) 	<ul style="list-style-type: none"> - Calculation of potential evapotranspiration - Determination of CWR - Determination of irrigation water requirement and design duty - Irrigation scheduling - Soil moisture conservation - Application of CROPWAT 8 software for design and management of FBFS 	<ul style="list-style-type: none"> - Spate irrigation design approach and principles - Flood analyses - Design for intake, operation, maintenance - Hydrology - Sediment control and management - Design of Hybrid spate irrigation systems & FSW - Impacts of FSW (groundwater recharge, rangeland, rehabilitation, agricultural productivity) 	<ul style="list-style-type: none"> - Good examples and failed systems - Practical knowhow through discussions with experts, farmers, (agro-) pastoralists, engineers, development planners and extension workers - Practical group exercise

Course delivery

The course

- ▶ covers six modules in 10 days
- ▶ is conducted by national and international experts assuring high quality of content, delivery and organization
- ▶ uses a broad variety of interactive and modern teaching methods, formats and instruments
- ▶ supports regional experience, knowledge and technology sharing
- ▶ includes a field trip with practical field work



Further practical information

- ▶ Maximum number of participants is 45
- ▶ Application procedure: Apply by sending an email to tesfa_alemge@yahoo.com. You will receive a confirmation and more information within a week.
- ▶ Registration fee includes course related costs: teaching, lunch, tea breaks and excursion.
- ▶ Not covered are DSA, accommodation and travel costs.
- ▶ Participants will be granted a certificate.

Location and Contact

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Organized by

Mekelle University

Date

7 - 17 August 2017

Price

900 Euro

Deadline Subscription

15th July 2017



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