AFRICA TO ASIA: TESTING ADAPTATION OF
FLOOD-BASED FARMING SYSTEMS (FBFS) PROGRAMME

# 1ST ANNUAL LEADERSHIP COURSE IN FLOOD-BASED FARMING AND WATER HARVESTING

**DATES: 29 FEBRUARY TO 11 MARCH, 2016.**
**NAIROBI-KENYA & MOSHI TANZANIA**

## Course Background

The leadership course in flood based farming and water harvesting shall be organized annually in East Africa. This course will serve as a platform for the exchange of new and innovative ideas, experiences and knowledge among young and mid-career professionals.

## Key learning objective

- Contribute to nurturing development leaders with a good understanding of the bigger picture related to participatory approach, watershed management and climate change and variability.
- Develop practical know-how and specific skills for sustainable development and management of FBFS and Water Harvesting systems.

## Course content

The 1st week will be covered at ICRAF in Nairobi and shall entail the introduction of FBFS and RWH systems; flood diversion & distribution; flood hydrology & sediment management; and multiple use of floods including; road water harvesting, ground water recharge, rangeland management, agroforestry, as well as adaptation to climate change. Fifty percent of the time will be set-aside for group exercises and discussions.

In Week 2, participants shall proceed for a field excursion by road to the Pangani Catchment at the slopes of Mt. Kilimanjaro in Tanzania. They will interact and share their experiences with the farming community of Makanya Catchment.

## Target Group

The course targets 30 participants who are policy and decision makers, mid-career and young professionals, flood irrigation practitioners, as well as farmer leaders from Governmental agencies, NGOs, Consulting firms, Academia and the farming community. These participants should already be directly or indirectly engaged in land and water development with special bias to FBFS. They shall be drawn from countries with current practice or potential in flood-based farming. Each of these participants shall be encouraged to join the International Spate Irrigation Network Foundation

## Course requirement

- A good command of English.
- At least a BSc degree in any land and water development field.
- Basic knowledge of flood management and water harvesting.
- Exceptions are farmers and practitioners who may not have formal education but possess unique and valuable field experiences in FBFS and water harvesting.

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# Programme Highlights

## Day 1: Monday 29th of February

**Introduction & acquaintance with organizing institutions**

- Welcoming retmarks; getting to know ICRAF, SpNF and MetaMeta - *Eng. Maimbo Malesu, Dr. Frank van Steenbergen*
- Touring the premises of ICRAF Headquarters – *Eng. Alex Oduor, Ms. Koelman*
- Official opening of the FBFS leaders course – *Prof. Tony Simons* - Director General ICRAF
- Leadership discussion focused on: (1) Knowledge management; (2) Capacity development; (3) Networks; (4) Policy; (5) Investment – *Dr. Jane Mutune* and *Dr. Frank van Steenbergen*

## Day 2: Tuesday 1st of March

**Floods for multiple uses**

- Mentorship: presentation on mentorship component - presentation AWARD
- Flood-Based Farming Systems (FBFS) - Major contributors to water and food security *Dr. Abraham Mehari Haile*
- Water harvesting – practices and recent innovations – *Eng. Maimbo Malesu*
- Managing floods: quintessential adaptation to climate change and variability – *Dr. Frederick Kahimba*
- Innovation in conjunctive use of floods & groundwater - *Dr. Abraham Mehari Haile*
- Roads for water harvesting – the triple benefits – *Dr. Frank van Steenbergen*
- Discussion and reflections – All participants

## Day 3: Wednesday 2nd of March

**Social organization and water governance**

- IWRM principles and practices: Usefulness and limitations in managing FBFS - *Dr. Abu Obieda*
- Water Users Associations managed FBFS: some success stories and lessons learned - *Dr. Frank van Steenbergen*
- Flood water governance and on-farm management: examples from the field - *Dr. Abraham Mehari Haile*
- Success stories of community-managed water harvesting systems - *Ms. Elsabijn Koelman*
- Water harvesting systems in Sudan: rich diversity & history, significant contribution to water & food security - *Dr. Abu Obieda*

## Day 4: Thursday 3rd of March

**The nexus between rainwater harvesting & flood-based farming**

- Participatory design approach and strategy – *Dr. Frederick Kahimba*
- Water harvesting systems design for flood based farming in the Drylands – The case of Trapezoidal Bunds - *Eng. Alex Oduor*
- Flood water diversion and distribution systems design: Field-tested principles and practices – *Dr. Abraham Mehari Haile*
- Discussion and reflections – All participants

## Day 5: Friday 4th of March

**Topic: The unchartered frontier – Basin-wide benefits of FBFS**

- Improving basin micro-climate – how and to what extent –*Mr. Mathijs Kool*
- Improving bio-diversity – how and to what extent – *Prof. Jan de Leeuw*
- Site seeing - City of Nairobi – *Ms. Koelman & Ms. Hazel Gichung'wa*

## Day 6: Saturday 5th of March

**Free day**

## Day 7: Sunday 6th of March

**Travel to Moshi-Tanzania by road**

## Day 8: Monday 7th of March

### Introduction of the Pangani Basin at the slopes of Mountain Kilimanjaro - Moshi, Tanzania

- Formation of groups & highlights of the field trip to Pangani Basin FBFS - *Ms. Elsabijn Koelman*
- Introduction of the Pangani Basin and the Makanya Flood Plains - *Prof. Henry Mahoo*
- Understanding the upstream-downstream institutional linkages and floodwater sharing practices – *Prof. Henry Mahoo*
- Highlights on the upper catchment and introduction to the Ndiva Night fills– *Dr. Frederick Kahimba*

## Day 9: Tuesday 8th of March

### Field tour of the Upper catchment & discussions with the community

- Tour of the upper catchment of the Pangani Basin to see the Ndiva reservoirs - *Dr. Fredrick Kahimba*
- Consultative meeting with the Bangalala community & discussions on Ndiva irrigation systems – *Prof. Henry Mahoo, Dr. Frederick Kahimba*
- Presentation from Pangani Basin on Integrated Catchment Management – *Water Officer*
- Group exercise and discussion on the Ndiva irrigation system – *Dr. Frederick Kahimba and Mr. Mathijs Kool*

## Day 10: Wednesday 9th of March

### Field tour of the Lower catchment & discussions with the community

- Tour of the Makanya flood plains - *Prof. Henry Mahoo*
- Consultative meeting with the Makanya community & discussions on Spate irrigation systems - *Prof. Henry Mahoo, Dr. Frederick Kahimba*
- Group exercise and discussion on the Makanya Spate irrigation system – *Prof. Henry Mahoo and Ms. Elsabijn Koelman*

## Day 11: Thursday 10th of March

### Presentations by the Participants

- Group 1: Floodwater resources and FBFS in the Upper Pangani Basin – Moderated by *Eng. Alex Oduor*
- Group 2: Presentations on Spate irrigation systems in Makanya – Moderated by *Mr. Mathijs Kool*
- Presentations on country experiences in FBFS – Moderated by *Ms. Elsabijn*
- On-going projects and ideas for new projects in FBFS and water harvesting – *Eng. Maimbo Malesu*
- Official closing, certificate awarding, group photos – *Eng. Maimbo Malesu, Prof. Henry Mahoo, High Ranking Tanzania Govt Official*
- Farewell reception and social evening in Moshi, Tanzania – *Ms. Elsabijn Koelman, Ms. Hazel Gichung'wa*

## Day 12: Friday 11th of March

### Travel back to various destinations

- Road travel from Moshi to Nairobi and flights from JKIA – *Ms. Elsabijn Koelman, Ms. Hazel Gichung'wa*

# INSTITUTIONAL PROFILES

## World Agroforestry Centre (ICRAF)

ICRAF is a CGIAR Consortium Research Center with its headquarters in Nairobi, Kenya. It has six regional offices located in India, Indonesia, Kenya, Malawi, Peru and Cameroon. The Centre's vision is a rural transformation in the developing world as smallholder households strategically increase their use of trees in agricultural landscapes to improve their food security, nutrition, income, health, shelter, energy resources and environmental sustainability. The Centre's mission is to generate science-based knowledge about the diverse roles that trees play in agricultural landscapes, and use its research to advance policies and practices that benefit the poor and the environment. The Centre is guided by the broad development challenges pursued by the CGIAR. These include poverty alleviation that entails enhanced food security and health, improved productivity with lower environmental and social costs, and resilience in the face of climate change and other external shocks.

## MetaMeta

Meta Meta is a group of development-oriented companies that are established to deliver socially relevant but economically viable services. MetaMeta is headquartered in the Netherlands, but registered branches in Ethiopia and Turkey. MetaMeta Research facilitates policy discussion, supported by stakeholder engagement and applied research on water and natural resource management. MetaMeta Research has adopted four themes - spate and flood based irrigation, groundwater management, urban water management and natural resources governance. The aim is to bring the practical 'how to' knowledge on such topics further by dissemination and training.

## Spate Irrigation Network Foundation (SpNF)

Spate Irrigation Network Foundation (SpNF) is an international foundation of FBFS (spate irrigation, flood recession and inundation, flood plain agriculture, flood spreading weirs)professionals, practitioners and farmers. The foundation promotes exchange of experiences and good practices, initiates and supports new programs and policies, and mainstreams education and trainings. The SpNF has about 800 active members from different corners of the world and operates a website www.spate-irrigation.orgthat attracts 1500 visitors/month. The website contains extensive grey material on flood-basedirrigation and related fields.

## The International Water Management Institute (IWMI)

The International Water Management Institute (IWMI) is a non-profit, scientific research organization focusing on the sustainable use of water and land resources in developing countries. It is headquartered in Colombo, Sri Lanka, with regional offices across Asia and Africa. IWMI works in partnership with governments, civil society and the private sector to develop scalable agricultural water management solutions that have a real impact on poverty reduction, food security and ecosystem health.

## Sokoine University of Agriculture

Sokoine University of Agriculture was established on 1 July 1984 by Parliamentary Act No. 6 of the same year. It is in Morogoro Municipality, which is about 200 km west of Dar es Salaam. The university has four campuses and one constituent college. SUA has six mandates: selling, customs care, training, research, consultancy and outreach. The University offers training that lead to awards of certificates, diplomas, bachelors, masters, and doctorates. Non-degree programmes include Diploma in Information and Library Science, Diploma in Records, Archives and Information Management, Diploma in Animal Health and Production, Diploma in Laboratory Technology.

# Course Facilitators

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