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## **Africa to Asia and Back Again: Testing Adaptation in Flood-Based Farming Systems**

### **2015 Annual Progress Report**

Submitted

by

the project team

to

**the International Fund for Agricultural  
Development**

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*Farmer network exchange Taunsa, Pakistan*



*Flood-based farming and water harvesting leadership course at ICRAF, Nairobi-Kenya*

*Establishing versatile farmer networks and nurturing young talent to become future leaders in promoting flood-based farming systems forms the spine of the strategic goal of the Spate Irrigation Network Foundation and the project team*

## 1. Introduction

The programme: Africa to Asia and Back Again: Testing Adaptation in Flood-Based Farming Systems is designed to contribute to the build-up of the practical knowledge and national and local capacity to systematically and comprehensively support the productive use of Flood-based Farming Systems (FBFS) for poverty alleviation and inclusive growth in water-stressed regions of Africa and Asia with relatively short flood periods.

The programme: Africa to Asia and Back Again: Testing Adaptation in Flood-Based Farming Systems will introduce promising practices - that balance multifunctional productivity and safeguard environmental values - (flood management and utilization measures, approaches to adaptation, governance, agronomic/fishery practices, and breeds/varieties) from Africa to Asia and back. It will identify and document these practices and share them between countries (South-South cooperation) and introduce them in policies, capacity building and tailored support programmes. The aim is to give an important impetus to dry area flood based farming systems, following the experience in spate irrigation in the last five to ten years, and contribute to the up-scaling of meaningful investments in these often forgotten production systems.

The programme is supported by IFAD (1.2 Million USD) for the period April 2015 to March 2018 and EC (1.5 Million Euros) for November 2016 to August, 2018. The IFAD component focuses on consolidating and building upon the achievements of the preceding project Spate Irrigation for Rural Economic Growth and Poverty Alleviation (SIREGPA). This project was successfully implemented in Ethiopia, Sudan, Yemen and Pakistan by UNESCO-IHE in partnership with MetaMeta and the four country units, hosted respectively by SPO (Pakistan), WEC (Yemen), HRC (Sudan) and Mekelle University (Ethiopia). from 2011 to 2014. Whereas the IFAD component largely works on building out activities in the existing countries, the EC fund on the other hand is earmarked for up-scaling the achievements in four new countries (Myanmar, Afghanistan, Malawi and Kenya).

This programme will be part of and contribute to the wider CGIAR Research Program on Water Land and Ecosystems (WLE) managed by IWMI. In this context, joint activities will be explored with WLE partners in the project target countries. The ultimate objective is for this project to reinforce and be reinforced by the relevant WLE activities in sustainable agricultural water management at research and policy level, with the 'Africa to Asia' working particularly on FBFS in often dry regions where occasional floods are vital water resources.

This document reports the progress made (against the set goals, objectives and outcomes) during the first implementation year of the IFAD component of the programme. Following the presentation on the challenges faced and the remedial measures taken, the financial expenditure is detailed.

## 2. What does the programme aim to achieve?

The overall goal, objectives and outcomes set at the start of the programme in April, 2015 are as summarized below.

### 2.1 Overall goal

Help develop Flood-based Farming (FBFS) policies and programmes that will meaningfully invest in rural people, based on action research and south-south documentation of practical experiences, imbedded in long term capacity building and program development at various levels.



## 2.2 Specific objectives

- Strengthened knowledge network established within and across the target and other selected countries in Africa and Asia: Establish a strengthened network that builds upon the existing SpNF and the outreach and regional and national centres of ICRAF, and is equipped with the platform and mechanisms for active engagement of farmer leaders from different countries and the merger of practitioners (including farmers, policy makers, investors and educators) within and across the target and other selected countries in Africa and Asia. The long term (5-7 years) ambition is to transform the current network into a farmer owned FBF Network.
- Human resources, local institutions and FBFS knowledge strengthened: Knowledge base strengthened of men and women staff of local institutions contributing to water and food security in the estimated 30 million hectares under FBFS taking evidence based local practice in the eight target countries as the point of departure.
- Capacity Building delivered: Undertake capacity building including mainstreaming in farmer learning centres, and in higher education and contributing to the development of a group of young male and female professionals.
- Investment programs and policies developed: Pertinent policies and investment programmes informed of and shaped by FBFS good practices<sup>i</sup>, supported by South-South shared documentation and evidence generating research.

## 2.3 Project outcomes

The project is expected to deliver the following outcomes by March, 2018

Programme components	Expected outcomes
<b>Network Development</b>	<ul style="list-style-type: none"> <li>▪ Four current country networks in Ethiopia, Sudan, Yemen and Pakistan consolidated and strengthened with farmer membership increased to 30-40%</li> <li>▪ Four new networks established with a minimum of 50 members promoting documented good practices, innovation in AR4D (Agricultural Research for Development) and training materials</li> <li>▪ Network mechanisms (include website and internal communication maintained)</li> </ul>
<b>Knowledge development and management</b>	<ul style="list-style-type: none"> <li>▪ At least six new practical notes on cross-country relevant themes collaboratively developed and disseminated:               <ul style="list-style-type: none"> <li>○ This will showcase a documentation of good practices related to FBFS and translated in key languages</li> <li>○ Africa to Asia to exchange programme on at least three of these themes</li> </ul> </li> <li>▪ In addition, at least eight quick-win solutions oriented research programmes linked to capacity building of young professionals</li> <li>▪ Develop Guidelines on FBFS</li> <li>▪ Prepare knowledge products in the desired IFAD formats</li> <li>▪ Knowledge promotion activities through the eight national networks</li> </ul>
<b>Capacity building</b>	<ul style="list-style-type: none"> <li>▪ Three existing MSc programmes (Ethiopia, Pakistan and Yemen) consolidated and two-three new MSc programs started with comprehensive modules on FBFS</li> <li>▪ 50 young professionals trained to be competent future leaders and promoters of FBFS at the short course annually offered by UNESCO-IHE, MetaMeta, ICRAF and partners.</li> <li>▪ Short regional course for key stakeholders in the programmes implemented annually with satellite courses</li> </ul>

	<p>in key regions. This will benefit at least 240 practitioners and professionals and 40 policy makers.</p> <ul style="list-style-type: none"> <li>4 Farmer Learning Centres established with complete training packages on FBFS including videos and practical notes (FBFS mainstreamed into four vocational training centres) and equipped to provide paid-for local services<sup>1</sup>. They will provide services to over 1600 male and female farmers. Farmer to farmer exchange programs implemented involving at least five countries</li> </ul>
<b>Support to investment programmes and policies</b>	<ul style="list-style-type: none"> <li>6 proposals for national or provincial/ regional investment programmes or development policies by national governments and/or IFAD/donors discussed and preliminary accepted in stakeholder consultations <ul style="list-style-type: none"> <li>Africa to Asia to exchange at least 2 proposals</li> </ul> </li> <li>On request, and depending on availability of budget, technical support provided to IFAD investment programmes active in the project sites</li> </ul>

## 2.4 Target groups and their benefit streams

Within the 8 intervention countries, the project is expected to provide specific benefit streams to key target groups as outlined below.

Target Groups	Benefits
50 Policy shapers	Informed policy statements and understanding of practical opportunities of developing Flood-based Farming Systems (FBFS)
400 practitioners and professionals	Enhanced skills and attitudes and access to best practices in Africa and Asia; special attention for female professionals
1600 Male and female farmers, fishermen and livestock herders (TOT; Training of Trainers)	Increased knowledge on water security and productive and sustainable use of FBFS
8 National governments	Guided investments – covering entire range of activities from agricultural/pastoral improvement to governance
8 (Inter)national partner organization	increased outreach and leverage – in shape of educational programs or thematic investment programs
6 IFAD development/investment programmes related to the themes/ located in the project area	Leadership in the development of FBFS and enhancement and support of investment portfolio

## 3. What did the programme achieve in first year of implementation

The first year of implementation (April 2015 to March 2016) focussed on strengthening the network and setting in motion a number of key activities in education, guideline development and research. There were also a number of administrative challenges that affected the implementation of activities as may be expected of a first year with new partners.

The highlights of the first year are:

- In the existing countries a start has been made to move the Spate Irrigation Network from being a network of practitioners and professionals to a network of farmers and water users. Contact have been made with a large number of existing farmer organizations

- In Pakistan a first farmer to farmer program took place – involving joint visits and exchange of seeds. In Pakistan farmer training programs have started too and a national event was held too, attended by over 100 key persons.
- For the existing network work has started to strengthen the network using the so-called canvas model (see annex 3)
- For five new countries (Afghanistan, Kenya Malawi, Myanmar as well as Somalia) country network activities have been identified as well as the hosting arrangement. These will be funded under EU funding, which is in the process of being operationalized to the implementing organisations. In Somalia the country network activities will be connected to a newly started EU project on spate irrigation in the country. The plans for the new countries for the first year are given in annex 4.
- Updated FBFS courses are incorporated in University Curricula in Pakistan (Rawalpindi, DG Khan, Gomal), Ethiopia (Mekelle), Sudan (Kasala) and Yemen (Sana'a).
- Work has started on two guidelines. The first is a design guideline for spate irrigation systems. The second is a guidance on project development in spate irrigation. Work on a third guidelines on flood based farming systems in general has started and a contribution for a reference book on water harvesting in Africa has been drafted.
- Several new videos have been produced/ made available documenting flood-based farming activities in Sindh (Pakistan), Sudan, Somaliland, Tanzania and Tunisia. These will be further improved and disseminated as a finished product in 2016.
- Work has started on new practical note on fodder production from spate irrigation, using low tech diversion structures
- A start was made with introducing electric milk churners as a labour saving and income generating/ value chain development activity in Sudan, Ethiopia and Kenya. In Kenya connection was made with a dairy program in West Kenya. In Sudan, 12 pioneer women are already generating a weekly income of 50 Euros.
- Research proposal on soil moisture management in Sudan finalized and preparations for data collection are in final stages.
- Research has been initiated in this year with funding from other programs on conflict management (Afghanistan) and water distribution and ecosystems services (Sudan, Ethiopia) – that can be followed up with the research components under the program, now that funding is being released (see later).
- Six PhD students in various programs (not funded from the current project) have started to work on topics related to spate irrigation.

A more detailed description of several activities is given below.

### **3.1 Network development**

This year, the program has achieved to build up a stronger network of water user associations (e.g. database of contacts of water user associations, WUA Apex Sudan), government institutions (e.g. Tigray Water Resources Bureau and Tigray Bureau of Agriculture in Ethiopia; MuslimAid in Sudan), NGOs (e.g. Research and Development Foundation and Oxfam Novib in Pakistan) and Research Institutes (e.g. collaboration between Mekelle University, Baher Dar University and Hawassa University in Ethiopia). In addition work started to make a strategy for the existing networks in Yemen, Sudan, Ethiopia and Pakistan, using the canvas model. The Spate Irrigation Network Foundation was also formally registered.

### 3.2 First leadership course

The Leadership Training Course on Flood based Farming Systems took place from 29 February to 11 March 2016, involving 25 program leaders from nine countries (Ethiopia, Kenya, Malawi, Sudan, Myanmar, Afghanistan, Pakistan, Somalia and Yemen). Several (4) of the participants came with own funding. As the project is set out to establish networks of practitioners and farmers to manage and participate in field activities, developing a crop of professionals with the passion, vision and capacity to support not only project activities but also FBFS in their respective countries and regions at large is vital. The training was organized by ICRAF in cooperation with MetaMeta and consisted of a one week of training and discussion in Nairobi, followed by an extensive visit to Tanzania, co-organized by the Sokoine University of Agriculture (SUA). This consisted of deliberations with farmers to showcase the application of FBFS and rainwater harvesting in the Pangani River Basin. During the events in Tanzania the Kilimanjaro Resolution was prepared (see box 1).



**Figure 1: Participants group photo after the opening session in Nairobi (Photo by Elsabijn Koelman)**

#### Box 1: Kilimanjaro Resolutions

After lengthy deliberations, the leadership course participants developed the Kilimanjaro resolutions as stipulated below:

- The members endorse the establishment of Spate Irrigation Network Foundation as a means of enabling member nations to get funds to further the network.
- We welcome the inclusion of other relevant partners that can contribute to the objectives of the Flood Based Farming Systems Research Project. Management will look at the modalities for collaboration and new opportunities for engaging with other actors to expand the network.
- On communication, the meeting agrees to produce a monthly e-newsletter for the Network.
- The participants mandate ICRAF to establish a mentorship programme for young professionals who attended the Leadership Training Course.
- Regarding farmers, the participants commit as a group to leave footprint with the farming community through capacity building, demonstration and any other means.



### 3.3 Tree and crop seeds exchange

Tree and crop seeds from Pakistan were brought to the Leadership Training Course and shared with partners from different countries. The partners will explore the benefits of the new tree and crop seeds by planting them in pilot areas of the spate schemes with the engagement of agricultural research organizations.

Tree/ crop seed varieties	Characteristics	Given to partners from
Acacia Nilotica (babul)	Fast growing Shade and fodder Nitrogen fixation Commercial value – fuel wood Heat tolerant	Sudan
Prosopis cineraria (jand)	Nitrogen fixation Fodder Drought resistant Useful for any kind of soil Heat tolerant Not forest tolerant Arid	Ethiopia
Almond, macademia, walnut	Commercial value Less water use	Ethiopia
Sesbania tree variety	Erect poles – commercial value Fast growing Leguminous Roofing Seeds = protein feed for animal/ poultry	Ethiopia
China berry (bakayan)	Related to neem	Ethiopia
Crop seeds		All 3 countries (Ethiopia, Sudan, Yemen)
Chick pea		
Rapeseed		
Cheena millet	Teff type of plant	
Guar	Very drought resistant Wide variety of commercial uses For dairy cows	
Sesame white		
Sesame black		
Wild teenda	Wild pumpkin	

### 3.4 The internship program 2016

The implementation of Internship Program (IP) have started in January 2016 and aims at nurturing young talent and transforming young professionals into visionary future leaders. The pioneer 9 interns from the 9 countries will work as integral part of the local and international project team existing of MetaMeta & SpNF (the Netherlands), ICRAF (Kenya), Hydraulic Research Centre (Sudan), WEC (Yemen), Mekelle University (Ethiopia) and SPO (Pakistan). They will thus have all the opportunities to learn from and exchange experiences with their peers and fellow interns. Preparation for the program have been made with candidates being selected - to be operationalized as soon as the EU funding is transferred to the implementing organizations. The interns will in particular be engaged in the following activities:

- Co-develop scientifically sound and practically relevant proposals within the broad areas of focus of the FBFS project (Themes Soil moisture and fertility management; New crops; Resolving water distribution and conflicts: Water governance; Water use efficiency: Command area development)
- Conduct field research and translate major findings into useful knowledge products and recommendations in particular for farmers and other end users.
- Co-present outcomes in relevant project meetings, regional and international conferences

### 3.5 Practical notes

Exchange of practical knowledge started in particular on tree crops, fodder production and use of use of rural technologies. Two videos lectures were placed on the WaterChannel about “Flooding Rangeland for Fodder Production in Somaliland” and “Spate Irrigation in Somaliland”.

- <http://www.thewaterchannel.tv/media-gallery/6225-flooding-rangeland-for-fodder-production-in-somaliland>
- <http://www.thewaterchannel.tv/media-gallery/6224-spate-irrigation-in-somaliland>

### 3.6 Promotion of rural technology – a gender focus

The technology of electric milk churners to produce butter have been demonstrated to dairy experts of Mekelle University, to shop owners in dairy products in Addis Ababa and to the NGOs Muslim Aid in Sudan and GIZ in Kenya. Mekelle University, the shop owners of Addis Ababa as wells as both NGOs were interested to look for opportunities to distribute the milk churners from Pakistan to Ethiopia, Sudan and Kenya. There are already some success stories to build upon in Sudan - 12 pioneer women are harnessing benefits. The electric churners have been found very useful. The women mentioned that electric churners when compared with the traditional technologies reduced workload significantly, are easy to operate and handle and doubled the production and income. It now takes them 20 minutes to produce butter from 1 liter of milk. Furthermore - apart from butter and yoghurt for home consumption - they can produce 3 bottles (total 4.5 liters) of ghee per week and sell it for a very attractive price - 140 Sudanese pounds per bottle (14 euros) - on the market. The next step is to either produce the churners in the country or arrange larger scale import from Pakistan. Finally there are contacts with the National Farmers' Union of Zambia and Heifer from



**Figure 2: Milk churning demonstration in Kassala, Sudan to staff of Muslim Aid.**

Tanzania, who have an interest in the technology as well as in other rural technology (choppers, oil presses).

### 3.7 Country specific results

#### *Pakistan*

Farmer networks have been created in four parts of the country. A first farmer to farmer exchange was organized in Taunsa. This farmer network exchange meeting was an opportunity for farmers from different regions (DI Khan, DG Khan and Balochistan) to exchange and get access to new (improved) crop seeds from their respective areas: red kidney bean; mung bean; moth bean. Moth bean for instance disappeared from DG Khan but farmers are keen to reintroduce this pulse yet had no access to seeds, which are still common in Balochistan. In the meeting, moreover the different translated practical notes on the use of minor crops, legumes, drinking water ponds, grain storage, desert mushrooms and truffles in spate irrigation were discussed and the different systems in the host area (DG Khan) were jointly visited. All in all 60 farmers took part in the exchange.

Investment proposals have been prepared on command area development in several of the recently upgraded systems in Balochistan and DG Khan. Similarly a proposal for spate irrigation development in Awaran District in Balochistan was prepared for national funding. Most of the spate irrigation areas are depending on earthen reservoir for domestic needs. Information on improvement of drinking water ponds that was added in the concept note of Khokhar Ganda in Balochistan, can lead to more suitable techniques for treating the flood water for domestic use.

On December 7, 2015 Sindh Agriculture University Tandojam (SAU), Research and Development Foundation (RDF) and Mehran University of Engineering and Technology Jamshoro (MUET), Sindh-Pakistan organized the National Conference “Spate Irrigation: Potential and Prospects”. This major event brought more than 100 farmers, civil society representatives and university staff together in order to share and gain knowledge on the potential and challenges of spate irrigation in Pakistan, especially in Sindh. A media campaign was organized that yielded over 30 news items. The conference has led to more attention and awareness on the potentials of spate irrigation and created a larger network for collaboration and culminated in the Tando Jam declaration. There have been several related outputs:

- Two PhD candidates in Pakistan have started to do research on spate irrigation
- There is interest in Tando Jam University to do more applied research
- A farmer network for Sindh was created that undertook several trials
- Publication on preparing acacia nilotica under hurri system was finalized

Research proposals on soil moisture and fertility management and water distribution conflict were prepared by young graduate experts. These will contribute to global understanding of these topics – if interlinked with like-minded research programme - will lead to a better understanding on improving soil moisture and fertility management and resolving water distribution conflicts in spate schemes in Sindh, Balochistan, Punjab and KPK. The 2 young graduate experts will develop new research skills and knowledge on these topics.

Finally the new course module that will be developed on ecosystem management / water allocation will upgrade the curricula on spate irrigation at the Arid Agriculture University, Gomal University and DG Khan Agriculture college.

#### *Yemen*

The documentation of the 51 WUAs in for the major wadis in Tahama region and the 9 WUAs and contact persons in wadis Tuban and Wadi Ahwar in Aden region is used for building a platform for more collaboration and knowledge exchange between WUAs, farmers, research institutions.

BSc research on “Soil Water Conservation Techniques in Spate Areas - Using Traditional Knowledge. Case study: Tihama region” and the MSc research on “Mulching Techniques for Soil Water Conservation and its Impact in Groundwater Conservation” - Case study: Wadi Zabid – Tihama region”. The research will be implemented in 2016 in the Tihama Region in cooperation with water users associations.

### *Sudan*

The database of 92 active Water Users Associations (WUAs) and the identification of the 14 WUAs in Khor Abu Habil identified is used for building a platform for more collaboration and easier knowledge exchange between WUAs, research institutions and other (cross-country) network members.

The aim of the research “Soil Moisture - on-farm flood water management in the in Gash Agricultural Scheme” undertaken by two young professionals of HRC - Yasir M. O. Hageltom and Ahmed Abdulbagi Alamin – is to evaluate the performance of on farm flood water management in the Gash. The outcomes of the research can contribute to improved water management and allocation in the Gash scheme. The beneficiaries will be the farmers who can use water more productively for crop cultivation, livestock watering, groundwater recharge and other activities. The research can also contribute to improved policies on water allocation in the Gash scheme.

Discussion was started on re-greening appropriate to the extremely arid conditions – using the hurri systems or managed natural revegetation.

### *Ethiopia*

The Raya valley in Tigray, Kobo Girana valley in Amhara and Omo basin in SNNPR are the selected focus areas for the Ethiopia program. Furthermore a team from the Bahir Dar university is undertaking a research on country database of WUAs active in spate irrigated areas. This research will be used for building a platform for more collaboration and easier knowledge exchange between WUAs, research institutions (Mekelle University, Bahir Dar University, Hawassa University) and government institutions (Tigray Water Resources Bureau and Tigray Bureau of Agriculture and Rural Development)

The regional short course in Mekelle University was implemented for a third consecutive year in September 2015. The aim is to train qualified professionals with a comprehensive understanding and technical skills in participatory approaches, integrated watershed development in ASAL areas as well as FBFS and techniques to enable them to better plan, design, and manage FBFS. This year, 8 members from both Turkana and Marsabit counties, Kenya have attended the regional short course in Mekelle University.



### 3.2 Summary key verifiable results

Programme components	Results obtained	Means of verification
<b>Project Coordination</b>	<ol style="list-style-type: none"> <li>ICRAF (Kenya): a) participated at project launch, work plan and budget meeting held in Ethiopia -14-15 May 2015, b) signed a Sub-agreement with IWMI-WLE, c) signed a Sub-agreement with Mekelle University d) Secretariat support: Eng. Maimbo Mabanga Malesu, an Internationally Recruited Staff – IRS at ICRAF, coordinates the project at ICRAF. Eng. Alex Oduor a Kenyan Nationally Recruited Staff supports him. Ms. Elske Koelman, a Young Expert Professional and an intern Ms. Hazel Gichun'gwa also provide technical logistical support to the project. Others included ICRAF administration and finance providing the day-to-day support.</li> <li>MetaMeta (the Netherlands): a) participated at project launch, work plan and budget meeting held in Ethiopia - 14-15 May 2015 b) signed an agreement and addendum with IWMI-WLE c) signed a Sub-agreement with SPO Pakistan, WEC Yemen and HRC Sudan. MetaMeta also made a visit to IFAD end of April 2015 to introduce the program to IFAD senior program managers</li> </ol>	<ol style="list-style-type: none"> <li>ICRAF (Kenya): a) Workshop proceedings b) Sub-contract agreement document between ICRAF and IWMI fully executed on 23 September 2015 c) Sub-contract agreement document between ICRAF and Mekelle University fully executed on 19<sup>th</sup> January 2016 d) Staff contracts with FBFS deliverables included.</li> <li>MetaMeta (the Netherlands): a) Workshop proceedings b) Agreement and Addendum documents with IWMI-WLE c) Sub-contract agreement document between MetaMeta and SPO Pakistan, WEC Yemen and HRC Sudan.</li> </ol>
<b>Network Development</b>	<ol style="list-style-type: none"> <li>Pakistan: Networks in Sibi/Narri Balochistan, Sindh, Punjab and KPK updated. WUAs have been included into the network.</li> <li>Yemen: a) 51 WUAs and contact persons documented for the major wadis in Tahama region. 9 WUAs and contact persons documented for wadis Tuban And Wadi Ahwar in Aden region.</li> <li>Sudan: a) database of 92 active Water Users Associations (WUAs) prepared b) 14 WUAs in Khor Abu Habil identified. However re-formation of these WUAs with new regulations is currently taking place.</li> <li>Ethiopia: a) Project areas have been selected (Raya valley in Tigray, Kobo Girana valley in Amhara and Omo basin in SNNPR.b) Teams to undertake the activities have been established from Mekelle and Hawassa Universities</li> </ol>	<ol style="list-style-type: none"> <li>Pakistan: Updated list of farmers and other new network members in Balochistan. Progress reports April-Nov 2015 &amp; Nov 2015-Jan 2016</li> <li>Yemen: Tables with WUA contacts available</li> <li>Sudan: WUA contacts and relevant documents are available</li> <li>Ethiopia: Draft Sub-contract agreement document between Mekelle University and Hawassa University to be fully executed very soon</li> </ol>

<p><b>Knowledge development and management</b></p>	<ol style="list-style-type: none"> <li>1. Pakistan: a) 2 Spate Notes, The use of minor crops in spate irrigation and Potential for spate irrigation in Pakistan have been translated to Sindhi by our local partner Research and Development Foundation (RDF). They have circulated them to farmers including women groups, academia, research organization, donors, NGOs and government agencies in the country b) Translated Practical notes on "Food Legumes (Pulses) for Spate Irrigated Farming in Pakistan" and "Desert mushrooms and truffles in Pakistan" disseminated during the training need assessments in Sindh, Balochistan, Punjab and KPK. c) Farmer to farmer seed exchange and knowledge sharing meeting held on 18-28 February 2016. Seeds of kidney bean and chickpea (new for Balochistan), moth bean (new for KPK and Punjab) and sorghum + mung bean are exchanged between farmers of Balochistan, Punjab and KPK. d) Young graduate experts identified for research on soil moisture and fertility management and resolving water distribution conflicts. Terms of References (TORs) have been completed for these research topics e) Video of "Spate Irrigation Potential and Challenges in Sindh" produced by RDF and Oxfam Novib shared on <a href="http://www.thewaterchannel.tv">www.thewaterchannel.tv</a> f) 3 historical documents on Water distribution agreement Bhag Narri Balochistan, decision on allocation of additional water for Mithri Weir Balochistan and History and Revenue Collection Procedure at Bhag Narri Balochistan collected.</li> <li>2. Yemen: a) A country primary draft network plan prepared to identify country activities for three years (from year 2015 to 2018) b) A business canvas model for Country Networks of SpNF – Yemen prepared to identify country activities for three years (from year 2015 to 2018) 3) FBFS project - country network plan for three</li> </ol>	<ol style="list-style-type: none"> <li>1. Pakistan a) <a href="http://spate-irrigation.org/wp-content/uploads/2011/06/PN08_SINDHI_Minor-Crops-on-Spate.pdf">http://spate-irrigation.org/wp-content/uploads/2011/06/PN08_SINDHI_Minor-Crops-on-Spate.pdf</a> <a href="http://spate-irrigation.org/wp-content/uploads/2012/01/OP01_-SINDHI_Spate-Irrigation-Potential-In-Pakistan.pdf">http://spate-irrigation.org/wp-content/uploads/2012/01/OP01_-SINDHI_Spate-Irrigation-Potential-In-Pakistan.pdf</a> b) <a href="http://spate-irrigation.org/wp-content/uploads/2015/08/Practicale-Note-No-6.pdf">http://spate-irrigation.org/wp-content/uploads/2015/08/Practicale-Note-No-6.pdf</a> <a href="http://spate-irrigation.org/wp-content/uploads/2015/08/Practicale-No.14.pdf">http://spate-irrigation.org/wp-content/uploads/2015/08/Practicale-No.14.pdf</a> d) Terms of references e) <a href="http://www.thewaterchannel.tv/media-gallery/6291-spate-irrigation-in-sindh">http://www.thewaterchannel.tv/media-gallery/6291-spate-irrigation-in-sindh</a> f) <a href="http://spate-irrigation.org/wp-content/uploads/2013/05/160222_Water-Distribution-Agreement-Narri-Balochistan-Translation-from-Kalat-State-Document.pdf">http://spate-irrigation.org/wp-content/uploads/2013/05/160222_Water-Distribution-Agreement-Narri-Balochistan-Translation-from-Kalat-State-Document.pdf</a> <a href="http://spate-irrigation.org/wp-content/uploads/2013/05/160222_Decision-on-Allocation-of-Additional-Water-for-Mithri-Weir-Balochistan.pdf">http://spate-irrigation.org/wp-content/uploads/2013/05/160222_Decision-on-Allocation-of-Additional-Water-for-Mithri-Weir-Balochistan.pdf</a> <a href="http://spate-irrigation.org/wp-content/uploads/2013/05/160222_History-and-Revenue-Collection-Procedure-at-Bhag-Narri-Balochistan.pdf">http://spate-irrigation.org/wp-content/uploads/2013/05/160222_History-and-Revenue-Collection-Procedure-at-Bhag-Narri-Balochistan.pdf</a></li> <li>2. Yemen: Workplans and Business canvas model</li> <li>3. Sudan: Draft report based on field measurements and laboratory analysis is available</li> <li>4. ICRAF: Approved PhD Scholarship on FBFS</li> <li>5. Ethiopia: Research protocol on water use efficiency</li> </ol>
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	<p>years activities – Yemen partner was prepared (from year 2015 to 2018).</p> <ol style="list-style-type: none"> <li>Sudan: a) Research work on “On farm water management in GAS” has achieved 70% of its objectives planned for year 2015, i.e., field measurements completed, analysis partly finished. The implication of this research a very large – both in introducing proper water management in the 8-10 kilometer long mesqa’s that are now allocated to individuals and in rebalancing water delivery to the tail end Gash Die area. b) Working on (2) practical notes in Arabic languages.</li> <li>ICRAF: Two PhD students selected and proposals prepared and approved in partnership with DAAD scholarships and University of Nairobi</li> <li>Pakistan: one PhD student (Eng Matloob) is about to complete his PhD. Two new PhD candidates starting in Sindh.</li> <li>Ethiopia: a) Research on monitoring of water use efficiency of Oda and Tsige’a spate systems resumed as well as the distribution of ecosystem services over the entire sub catchment related to the use of run-off and flood water b) Research proposal by young professionals prepared, evaluated and is soon to resume.</li> </ol>	
<b>Capacity building</b>	<p>In selecting the beneficiaries, the project strictly adheres to the criteria that at least 30% and whenever possible 50% should be women.</p> <ol style="list-style-type: none"> <li>Pakistan: a) Training on Mung and Kidney Bean production and its disease control completed in KPK b) Training need assessment in Sindh, Balochistan and KPK completed c) On 4 September 2015, a one-day workshop on ‘Spate Irrigation: Potential and Challenges in Sindh, Pakistan’ was jointly organized by Research &amp; Development Foundation (RDF) and US-Pakistan Center for Advanced Studies in Water (USPCASW) in collaboration with Oxfam Novib and The University of Utah at ORIC Hall MUET Jamshoro</li> </ol>	<ol style="list-style-type: none"> <li>Pakistan: c) <a href="http://www.mueta.edu.pk/news/spate-irrigation-workshop-jointly-organized-rdf-uspcasw">http://www.mueta.edu.pk/news/spate-irrigation-workshop-jointly-organized-rdf-uspcasw</a> d) <a href="http://www.thenews.com.pk/print/80334-spate-irrigation-key-to-sustainable-agriculture">http://www.thenews.com.pk/print/80334-spate-irrigation-key-to-sustainable-agriculture</a>, <a href="http://spate-irrigation.org/resource-documents/library-2/tandojam-2015/">http://spate-irrigation.org/resource-documents/library-2/tandojam-2015/</a> f) MOU signed with Help foundation.</li> <li>Yemen: 2 a) Research proposals on “Soil Water Conservation Techniques in Spate Areas - Using Traditional Knowledge Case study: Tihama region” &amp; “Mulching Techniques For Soil Water Conservation And It Impact In Groundwater Conservation” - Case study: Wadi Zabid – Tihama region”. b) Agenda and list of participants Leadership course Nairobi</li> <li>Sudan: Agenda and list of participants Leadership course Nairobi</li> <li>ICRAF: Proceedings of Leadership Training Course 29 February – 11 March 2016.</li> </ol>

	<p>d) On December 7, 2015 Sindh Agriculture University Tandojam (SAU), Research and Development Foundation (RDF) and Mehran University of Engineering and Technology Jamshoro (MUET), Sindh-Pakistan organized the National Conference "Spate Irrigation: Potential and Prospects". e) Expert identified to prepare the module on ecosystem management / water allocation for the course at Arid Agriculture University, Gomal University and DG Khan Agriculture college. f) In Rajanpur, Punjab a 2 Days TOT in understanding spate irrigation issues was conducted for Help Foundation.</p> <p>2. Yemen: a) One BSc research proposal in "Soil Water Conservation Techniques in Spate Areas - Using Traditional Knowledge . Case study: Tihama region" finalised. One MSc research proposal in" Mulching Techniques For Soil Water Conservation And It Impact In Groundwater Conservation" - Case study: Wadi Zabid – Tihama region finalized. 3 Young professional selected for the position of Internship program. The project head department will select one of the young professionals for the position. 1 Young professional (Madiha) will join the Leadership course in Nairobi</p> <p>3. Sudan: one assistant researcher from HRC-staff selected for the internship program b) 3 participants selected for Leadership course Nairobi c) Two MSc students may do research on project topics</p> <p>4. ICRAF: Leadership course on Flood based farming systems course conducted between 29<sup>th</sup> February and 11<sup>th</sup> March 2016 in Kenya and Tanzania for 23 participants drawn from Afghanistan, Ethiopia, Kenya, Malawi, Myanmar, Netherlands, Pakistan, Somalia, Sudan, Tanzania and Yemen. During the field visit the participants interacted with 20 farmers (17 Male and 3 Female)</p> <p>5. Ethiopia: a) Mekelle nominated three senior researchers from different parts of the country to participate in the leadership Training course on FBFS in Kenya and Tanzania. b) Course at Mekelle University was held between 19<sup>th</sup> and 30<sup>th</sup> October 2015. Course materials were upgraded that included some of the recent research findings of the WLE project, Turkana and Marsabit counties of Kenya.</p>	<p>5: Ethiopia: a) Proceedings of course b) Updated training curriculum</p>
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<b>Support to investment programmes and policies</b>	<ol style="list-style-type: none"> <li>1. Pakistan: a) Two project concept papers were developed (i) Khohar Ganda in Narri Balochistan and (ii) Livelihoods Project in Awaran Balochistan. Proposal on the livelihoods project in Awaran was signed by the government of Balochistan. The project will be implemented by the Balochistan Government. b) Expert identified to work on the proposal for command area development Spate Irrigation system in Narri Ganda, Balochistan. c) joint proposals with Oxfam Novib d) Build partnership of Arid Agriculture University and prepare the new proposal on LANSa project (Concerning Minor Crops in Spate Irrigation areas of Pakistan.</li> <li>2. ICRAF: Not yet assisted IFAD with proposals. However, a study on risk assessment for FBFS has been initiated involving a PhD student.</li> <li>3. Ethiopia: Discussions were held with IFAD PASSDIP coordination office of Ethiopia on international and national farmer-to-farmer experience sharing, promoting the hybrid design and sharing good practices through practical notes.</li> </ol>	<p>Pakistan: c) Partnership with OXFAM NOVIB and draft proposals d) University letter of consent on partnership</p>
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#### 4. Challenges faced and actions taken

Progress in the first year of implementation was (negatively) effected by a number of factors:

- As It was the first year of implementation some time was lost in the start-up phase – contract could only be finalized late July and first disbursement from IWMI was received only at the end of August. Consequently, this process also delayed the signing of the sub-agreements between the implementing organizations and the local partners. Moreover, ICRAF had to also conduct due diligence on Mekelle University before approving the sub-contract which was fully executed on 19<sup>th</sup> January 2016.
- One of the three implementing partners – UNESCO-IHE – withdrew from the program, after its core staff member on FBFS left. The responsibilities of UNESCO-IHE were taken over by MetaMeta. In this process time was lost, as the contract addendum only materialized in February 2016, affecting the financial throughput to Sudan and the program activities there.
- The disturbance in Yemen meant that local partner the Water and Environment Centre (WEC) Yemen could not do most of its planned activities, due to the very difficult situation (e.g. armed conflict) in the country.

The delays were partly compensated because the WLE program in Sudan and Ethiopia “Harnessing floods to enhance livelihoods and ecosystem services” that add value to ongoing decision making concerning Flood-based Farming Systems (FBFS) development in Raya Valley Ethiopia and Gash Sudan in which in the last year the network in these areas has been strengthened AND second the NWO research program Codifying Water Rights in Contested Basins of Afghanistan in which a basic understanding have been build-up of the spate irrigation systems in Afghanistan and contacts with new partners have been made.

Furthermore, the aim of the spate irrigation network in this project is move toward a farmers network. However, this requires time in order to build this up. First steps have been made in the four countries, Pakistan, Ethiopia, Sudan and Yemen through building up a network database of Water User Associations (WUAs).

Finally, the local partners (HRC, WEC, SPO and Mekelle University) use a business canvas model (see figure below) for a clear one page overview plan of the project in order to accelerate development of the network.

#### 5. Project costs and finances

The financial overview shows around 400 000 (four hundred thousand) USD remained unspent. This however covers the period April till December, 2015 as IWMI follows the rigid rule that regardless of the start date, annual financial budgets should have closed by December. As communicated in the 2015 work plan, the total 597840 USD budget request was made for the duration April 2015 to March 2016. To compensate for the lost time due to delays in contractual and financial disbursements, the project team made tremendous efforts and undertook major activities in the three months in 2016 and only had 140 000 cash in hand by 30 March, 2016. The activities completed include the leadership course in Nairobi and the field research on managing soil moisture and water governance in Sudan and that on flood-diversion efficiency monitoring in Ethiopia as well as the investment proposals in Pakistan.

## Annex 1: Statement of expenditure in USD

Name of the Centre: MetaMeta

Name of the Project: Africa to Asia & Back Again: Testing Adaptation in Flood-based Farming Systems

Reporting period: April to December 2015

Category of Expenditure (see explanatory text below)	Year 1: April to December 2015		
	Budget	Spent	Available
Salaries and Allowances (27%)	171.720	97.807,12	73.912,88
Operating costs (8%)	50.880	13.416,79	37.463,21
Consultancies (3%)	19.080	2.115,75	16.964,25
Travel and allowance including hotel (14%)	89.040	10.045,79	78.994,21
Equipment and Materials (5%)	31.800	3.435,62	28.364,38
Goods, Services and Inputs (3%)	19.080	5.015,47	14.064,53
Workshops (4%)	25.440	97,80	25.342,20
Trainings (30%)	190.800	59.000,00	131.800,00
<i>Sub-total direct costs (94%)</i>	597.840	190.934,34	406.905,66
Overhead - IWMI pass-through fee (4%)	To be filled by IWMI	To be filled by IWMI	To be filled by IWMI
Overhead - World Bank cost sharing percentage (2%)	To be filled by IWMI	To be filled by IWMI	To be filled by IWMI
<b>Total</b>			

We hereby certify that the above amounts have been expended for Eligible Expenditures for the proper execution of the Project in accordance with the terms and conditions of this Agreement dated \_\_\_\_\_

Name and title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Annex 2: Explanatory note for the budget categories

**Salaries and Allowances (27%):** Time assigned by key programme staff on major activities and deliverables, which includes:

- Preparing, coaching, monitoring, evaluating, synthesizing and writing-up innovative research programmes
- Preparing, conducting, evaluating capacity building programmes
- Formulating strategies and approaches for network strengthening and supporting their implementation
- Developing investment packages and policy support programmes, and guiding their operationalization
- Providing technical support for relevant ongoing IFAD development programmes
- Identifying path-ways for exchange of good practices and programmes

**Operating costs (8%)** - this covers project staff time and other expenditures for:

- Maintenance and development of [www.spate-irrigation.org](http://www.spate-irrigation.org) (migration to broader FBFS oriented website)
- Communication - teleconferencing, skypeing, telephone bills, couriers and related costs.
- Administrative tasks such as secretarial support and office running of the international and country spate irrigation networks and programmes.
- Programme coordination including organizing inception and annual project meetings, managing technical and financial project progress reports by the main implementing partners (ICRAF and UNESCO-IHE/MetaMeta).

**Consultancies (3%):** Hiring key international and regional experts for specific tasks in which the core project technical team has no sufficient expertise. Some of the activities identified at the proposal development and inception workshop were (a) preparation of the Flood-based Farming Systems (FBFS) guidelines and mainstreaming of FBFS in vocational training and farmer learning centres.

**Travel and allowance including hotel (14%)** - This is for the core programme staff for project related activities:

- Internal travel by country project staff: supervision, meetings, conferences, field research, training, etc within the country
- International travels: (a) Coordinators/deputy programme coordinators (SpNF, ICRAF, MetaMeta): Supervision mission to all programme operation areas, (b) all programme staff: annual project meeting and relevant regional and international conferences.

**Equipment and Materials (5%)**

- Rent/buy soil moisture, discharge, sediment measurement equipment; surveying, shallow groundwater drilling kits, staff and rain gauges, other equipment critical for implementing programme activities
- Office equipment: includes lease/purchase laptops along with printers and complete accessories

**Goods, Services and Inputs (3%)** - for instance:

- Crop varieties relevant for exchange among the target counties including sorghum; guar, other cash crops
- Milk churners and other simple processing equipment.

**Workshops (4%):** National and regional workshops with varied stakeholders to share and validate programme outputs. Costs include: organization, participants travel and accommodation, food and refreshment, venue renting complete with all necessary equipment, promotion materials.

**Training (30%)** Total costs (tuition fee, travel and accommodation, visa, insurance and related logistic) for various very relevant training opportunities for programme staff and the key target groups:

- FBFS leadership course on FBFS at ICRAF, Kenya
- The regional training workshops organized by programme staff and partners
- On-site training of young professions and farmers through exchange programmes
- Production and dissemination - promotional materials (posters, videos, flyers, brochures); programme outputs (research reports, policy and practical notes, guidelines, investment proposals).

**Management fees/overheads - indirect costs (6%)**

- 4% of grant amount through-put and handling fees for IWMI
- 2% World Bank/CGIAR cost sharing percentage



## Annex 3 Canvas model to strengthen existing networks

Business Ecosystem					
How is the business embedded in local institutions? How does the project address barriers to doing business? What strategies are used to influence the business-ecosystem?					
<b>Partners</b> Who are the partners? Who are the suppliers? Which key resources are acquired from partners? Which key activities do the partners perform? What are the main motivations for the partnership?	<b>Key activities</b> What key activities are needed to deliver value? - operating the distribution channels? - maintaining customer relationships? - managing revenue streams?	<b>Value proposition</b> What value is delivered to the customers? Which of the customers' problems is it solving? What combinations of products and services are offered to each Customer segment? Which customer needs are satisfied?	<b>Customer relationships</b> What type of relations are established with customers (segments) and how are they maintained? How are these integrated in the rest of the business model? How costly are these?	<b>Customer Segments</b> For whom is value created? Who are the most important customers?	<b>Beneficiaries</b> Who are the customers of the customers? Who else benefits from the business besides (direct) customers? What are the most important stakeholder groups identified?
<b>Governance</b> Who took the initiative for the partnership? Who is leading the partnership? Which partners are crucial, will cause the business to fail when they move away? How is the partnership organized, structured? How does the partnership deal with unforeseen circumstances?	<b>Key resources</b> What key resources are required for: - creating the value proposition? - operating the distribution channels? - maintaining customer relationships? - managing revenue streams?		<b>Channels</b> Through which channels are Customers reached? How are these channels integrated? Which ones work best and which are most cost-efficient? How are these (being) integrated with customer routines?		
<b>Cost structure</b> What are the most important costs inherent in the business model? Which key resources are most expensive? Which key activities are most expensive?		<b>Impact</b> What impact is generated on the longer-term? To what degree are sustainability issues addressed or solved? To what extent is poverty alleviated?	<b>Revenue streams</b> For what value are the customers and beneficiaries willing to pay? For what do they pay already and how do they pay? How would they like to pay? How much does each revenue stream contribute to overall revenues?		

## Annex 4: First year plans for five new network countries

Operational Work Plan and Estimated Budget for Myanmar EC funded FBFS Country Programme: March 2016 – Feb. 2017

Work Package	Main deliverables	First quarter	Second quarter	Third quarter	Fourth quarter	Responsible person(s)	Estimated Budget in EUR
1. Network Development	1. Core group in flood-based Farming System established within the host organization: Ministry of Agriculture and Irrigation and INEPAS						2000
	2. Final report and country-wide map on the status and potential of FBFS in Myanmar completed (this builds upon the existing overview paper: ( <a href="http://www.spat-irrigation.org/wordpress/wp-content/uploads/OP_09_SI_MyanmarLQ.pdf">http://www.spat-irrigation.org/wordpress/wp-content/uploads/OP_09_SI_MyanmarLQ.pdf</a> ))						5000
	3. Database of relevant farmer groups/associations, professionals, government and non-government organizations prepared						4000
	4. Effective communication mechanism identified for each of the various network partners: farmers, professionals, government and non-government organizations						3000
	5. One young professional intern employed at the Ministry of Agriculture and Irrigation and becomes an integral part of the core group and project team. The intern is hosted 9 months by the Ministry of Agriculture and Irrigation and INEPAS, 3 months in the Netherlands at Meta Meta and SPN. See attached guide note on the internship Programme. The intern will receive 2500 Euros monthly stipend for 9 months and Myanmar 2500 Euros for project related travel, accommodation and fieldwork expenses.						4750
	6. Meetings with various FBFS network partners to discuss, among others, project activities and contribution of partners as well as identify participatory action research priority areas						5000
2. Knowledge development and management	1. Conduct action research on the top priority topic identified in the FBFS network partners meeting. The intern is to be engaged in the research work under supervision of senior staff from the Ministry of Agriculture and Irrigation, INEPAS and IVMI-Myanmar. 2. Prepare research report						7000
3. Capacity Building	1. Identify training needs assessment and conduct training for the identified farmer groups/associations, professionals in government and non-government organizations (use of the materials from the Leadership Course in FBFS held in Nairobi from 29/02 to 11/03 and other materials available at: <a href="http://spat-irrigation.org/resource-documents/training-material/">http://spat-irrigation.org/resource-documents/training-material/</a> ). Give one or two lectures/seminars on relevant topics in FBFS in at least one relevant university, following the lectures/seminars, the course materials prepared at the university curriculum requirements and submitted for consideration to be integrated into the curriculum.						10000
	Support to the FBFS core group secretariat						2500
4. Support to investment programmes and policies	1. One investment proposal for FBFS is developed						4000
	2. One policy note in FBFS is ready						2750
Total							50000

Operational Work Plan and Estimated Budget for Malawi EC funded FBFS Country Programme: March 2016 – Feb. 2017

	Deliverables	Indicator	Target	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Estimated Costs (EUR)
1	<b>Networking and Collaboration</b>							
1.1	Identify and confirm the host organisation	No of Organisation	1					0
1.2	Sensitise relevant stakeholders to get buy in Flood Based Farming	No of Stakeholders	10					0
1.3	Conduct meetings of relevant stakeholders to strategise on Flood Based Farming	Meeting Reports	2					4050
1.4	Establish website for the Rainwater Harvesting Association	No of Websites	1					1800
1.5	Compile database of farmers and Farmer Organisations participating in Flood Based Farming Practices	Database	1					850
1.6	Compile documents and publications on Flood Based Farming, Rainwater Harvesting and small scale water resources	No of Documents	5					240
1.7	Conduct study to Review the Flood Based farming experience in Malawi Baseline study	Report	1					12500
1.8	Establish effective communication mechanism for farmers, farmer groups and other interest groups on Flood Based farming Practices in Malawi	Report	1					1000
1.9	Produce EC Materials for Flood Based Farming Systems and Rainwater Harvesting	No of EC Messages	4					1800
1.1	Identify Young Professional for the Mentorship Programme	No	1					0
1.11	Organise National Workshop on Flood Based Farming System	No of Workshops	1					7500
2	<b>Knowledge Management</b>							
2.1	Identify and compile database of experts in different fields related to Flood Based Farming and Rainwater Harvesting	Database	1					1000
2.2	Conduct meetings with scientists to identify areas for Participatory Action research	No Meetings	3					1300
2.3	Give Lectures in University and Colleges on Flood Based Farming	No Lectures	4					1400
2.4	Mainstream Flood Based Farming Practices in the Curriculum	No Curricula	2					1500
3	<b>Capacity Building</b>							
3.1	Identify key farmer groups and associations to be trained	No groups	1					810
3.2	Conduct Training Needs Assessment	Report	1					1300
3.3	Develop training modules for different categories of stakeholders (medium level and farmer level)	No Modules	1					2400
3.4	Conduct Training Sessions for identified groups and professionals	No of Sessions	3					6300
3.5	Provide support to Rainwater Harvesting Association Secretariat	Report	1					4250
							TOTAL	50000

Operational Workplan and Estimated Budget for Afghanistan EC funded FBFS Country Programme: March 2016 – Feb. 2017

Work Package	Main Deliverables	1st quarter	2nd quarter	3rd quarter	4th quarter	Budget in EUR
1. Network Development	1. Core group of flood-based farming system established within ATVI					2000
	2. 01 of 2 pages report and country-wide map on the status and potential of FBFS in Afghanistan completed (this builds upon the existing overview paper: <a href="http://www.spate-irrigation.org/wordpress/wp-content/uploads/OP10_Sl_Afghanistan_SF.pdf">http://www.spate-irrigation.org/wordpress/wp-content/uploads/OP10_Sl_Afghanistan_SF.pdf</a> )					5000
	3. Database of relevant farmer groups/associations, professionals, government and non-government organizations prepared					4000
	4. Effective communication mechanism identified for each of the various network partners: farmers, professionals, government and non-government organizations					3000
	5. One young professional (intern) employed at ATVI and becomes an integral part of the core group and project team (see attached guide note on the Internship Programme).					1000
	6. Meeting is organized with all Network partners: discuss, among others, project activities and contribution of partners. (Spate Irrigation Workshop for ATVI, Stakeholders, Media etc.)					5500
2. Knowledge development and management	1. Solution oriented research is conducted on water rights and conflict resolution mechanisms (this is common theme with other project target countries: Pakistan, Ethiopia, Yemen, and Sudan. Some of the key questions are: (a) What is the existing system of water rights and distribution rules as well as conflict resolution mechanisms in FBFS? (b) How is this system implemented? (c) if and how are these water rights and distribution rules codified? (d) What are the changes in (informal) local water institutions, water					7000
3. Capacity Building	1. A short course on FBFS integrated into the curriculum of the Agricultural Department (use is made of the materials from the Leadership Course on FBFS held in Nairobi from 29/02 to 11/03 and other materials available at: <a href="http://spate-irrigation.org/resource-documents/training-material/">http://spate-irrigation.org/resource-documents/training-material/</a> )					10000
	2. A short course on relevant FBFS themes given to farmer groups and local organizations active in the FBFS areas.					5500
4. Support to investment programmes and policies	1. One investment proposal for FBFS is developed					4000
	2. One policy note on FBFS is ready					3000
Total						50000

Operational Workplan and Estimated Budget for Somalia EC funded FBFS Country Programme: March 2016 – Feb. 2017

Work Package	Main Deliverables	First quarter	Second quarter	Third quarter	Fourth quarter	Responsible person(s)	Estimated Budget in EUR
1. Network Development	1. Establish core FBFS project team (two to three members) within and light, Amoud University for FAO Spate project						657
	2. 01 of 2 pages report and country-wide map on the status and potential of Spate and other FBFS in Somalia (see examples at: <a href="http://spate-irrigation.org/resource-documents/overview-papers/">http://spate-irrigation.org/resource-documents/overview-papers/</a> )						3000
	3. Database of relevant farmer groups/associations, professionals, government and non-government organizations prepared						1500
	4. Effective communication mechanism identified for each of the various network partners: farmers, professionals, government and non-government organizations						1500
2. Knowledge development and management	1. Document the process followed in Somalia to successfully organize farmer groups and associations. 2. Identify the FAO Spate project research activities that could be collaboratively done with the FBFS project						2000
3. Capacity Building	1. Develop a course on FBFS for Amoud University (use is made of the materials from the Leadership Course organized in Nairobi from 29 February to 11 March as well as materials available at: <a href="http://spate-irrigation.org/resource-documents/training-material/">http://spate-irrigation.org/resource-documents/training-material/</a> )						1000
Total							9657

Operational Work Plan and Estimated Budget for Kenya EC funded BFS Country Programme: March 2016 – Feb. 2017

Work Package	Main Deliverables	First quarter	Second quarter	Third quarter	Fourth quarter	Responsible person(s)	Estimated Budget in EUR
1. Network Development	1. Core group of Flood-based Farming System established within the host organization (Ministry of Water and Irrigation, Land Reclamation Department). The core group could consist of a project coordinator and a co-coordinator (one of this must be female and both should have some research and capacity building experience and familiarity with BFS), project supervisor (some one in management position) and a director of the department for instance (main responsibilities: facilitation and ensuring that things are not stuck in bureaucracy), Intern (young professional) (see item 5 below).						2500
	2. 01 to 02 pages report and a country-wide map on the status and potential of BFS in Myanmar completed (this build upon the existing interview paper (www.spat-irrigation.org/wordpress/wp-content/uploads/OPS_Spate_Kenya_SF.pdf))						5000
	3. Database of relevant farmer groups/associations, professionals, government and non-government organizations prepared						3500
	4. Effective communication mechanism identified for each of the various network partners: farmers, professionals, government and non-government organizations						2000
	5. One young professional (Intern) employed at the Ministry of Water and Irrigation and becomes an integral part of the core group and project team. The intern is hosted 9 months at the Ministry and 3 months in the Netherlands at Meta Meta and SPNF. See attached guide to the Internship Programme. The intern will receive 2500 Euros monthly stipend for 9 months in Kenya and 2500 Euros for project related travel, accommodation and field work expenses.						4750
	6. Meetings with various BFS network partners to discuss, among others, project activities and contribution to partners as well as identify participatory action research priority areas						5000
2. Knowledge development and management	1. Conduct action research on one top priority topic identified in the BFS network partners meeting. The intern is to be engaged in the research work under supervision of senior staff from the Ministry of Water and Irrigation, and CRAF. 2. Prepare Research report						8000
3. Capacity Building	1. Identify training needs assessment and conduct training for the identified farmer groups/associations, professionals in government and non-government organizations (use is made of the materials from the Leadership Course in BFS held in Nairobi from 29/02 to 11/03 and other materials available at: <a href="http://spate-irrigation.org/resource-documents/training-material/">http://spate-irrigation.org/resource-documents/training-material/</a> ) 2. Give one or two lectures/seminars on relevant topics on BFS at the university of Nairobi or other relevant university and middle level colleges that offer diplomas in irrigation and water resources. 3. Mainstream BFS in the curriculum of at least one university and one college.						Kenya
	Support to the BFS core group secretariat						2500
4. Support to investment programmes and policies	1. One investment proposal for BFS is developed as part of the Land Reclamation Department Plan to develop 50000 ha.						4000
	2. BFS is mainstreamed in the National Irrigation Policy currently being drafted and in preparation for ratification by the parliament. This would be typically three to five pages but lining BFS relevance, potential investment and development plans along with budget and concrete time frame for implementation.						2750
Total							40000