

**An ACP-EU Technology Transfer Network on Rainwater Harvesting
Irrigation Management for Sustainable Dryland Agriculture, Food Security
and Poverty Alleviation in Sub-Saharan Africa (AFRHINET) Project**

Project Brief

By

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1.0 Introduction

The AFRHINET project is part of an **ACP-EU Cooperation Programme in Science and Technology (S & T II)** that aims to enhance the knowledge and use of Rainwater Harvesting Irrigation (RWHI) Management for small-scale irrigation in rural drylands of sub-Saharan Africa. This will be achieved through the implementation of integrated theoretical and practical capacity-building, and the development of technology-transfer and demonstration projects in the field of RWHI. The Centre of Advanced Studies in Environmental Law and Policy (CASELAP) of the University of Nairobi, through this project, will develop into a regional Research and Technology Transfer Centre in RWHI management. In addition, CASELAP is developing a transnational network platform for cooperation and exchange of experience in RWHI management in sub-Saharan Africa.

Other institutions involved thus far include Hamburg University of Applied Sciences, HAW (Germany), University of Addis Ababa (Ethiopia), Edward Mondlane University (Mozambique), University of Zimbabwe (Zimbabwe), International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Southern and Eastern African Rainwater Network/International Centre for Research in Agroforestry (SEARNET/ICRAF), and WaterAid. The network will comprise micro-enterprises, nongovernmental and public actors, academic/scientific institutions, and rural dryland communities, especially farmers, women and youth groups.

Rain-fed agriculture is the principal livelihood of rural communities. Yet population pressure and uncertain climate is posing serious repercussions to achieving both environmental sustainability and poverty reduction in sub-Saharan. In dryland areas, crops are grown close to their limits of thermal tolerance resulting into depressed crop yields. This leads to chronic food insecurity, poor health and increased poverty levels. Although semi-arid and dry sub-humid environments are at the brink of water resource scarcity, the untapped potential of green water recapitalization is enormous and largely unrecognized. Rainwater harvesting can offer a sustainable solution to agricultural water resource scarcity and improve food and water security in rural drylands of Kenya.

1.1 Objectives of the AFRHINET Project

This project aims to achieve the following specific objectives:

1. To foster scientific and technological (S & T) capacities on Rainwater Harvesting Irrigation (RWHI) management, the quality of research and the capacity to attract funding, of the scientific and technological communities.
2. To set up market-oriented and technology-transfer framework to better capitalize and disseminate innovative and efficient research results, knowhow and technologies.
3. To develop capacity of S & T communities, businesses/micro-enterprises, and other private, non-governmental and public sectors, and local communities to practically implement adequate RWHI management
4. To strengthen the link of scientific and technological communities with the regional markets, businesses/micro-enterprises, and other private, non-governmental and public sectors, policy-making actors, and local communities.
5. To establish long-term transnational ACP-EU network on RWHI
6. To disseminate, transfer and replicate project activities and outcomes, beyond the project partnership.

In order to achieve the project objectives most efficiently, the activities are structured into six work packages (WPs). The tasks envisaged in each work package are led by one of the project partners with respective support from the other partners as shown below:

1. **WP1** Project management, monitoring and evaluation: Hamburg University of Applied Sciences (**Germany**);
2. **WP2** Baseline study on needs, potential and market oriented products in the field of RWHI: Edward Mondlane University (**Mozambique**);
3. **WP3** Developing scientific and technological capacities on RWHI management for improved food security and poverty alleviation: University of Nairobi (**Kenya**);
4. **WP4** Research and Technology-Transfer Centres on RWHI and Sustainable Dryland Agricultural Water Management: University of Zimbabwe (**Zimbabwe**);
6. **WP5** Building food, poverty and climate resilient communities: Demonstration of innovative RWHI management: University of Addis Ababa (**Ethiopia**);

7. **WP6** Networking, promotion, dissemination and awareness: Hamburg University of Applied Sciences (**Germany**)

2.0 Description of Activities

The implementation methodology bears reference to achieving both long-term (i.e. expertise development, transfer and adoption of research and innovation, market-oriented research and technology, networking capacity, food security, poverty alleviation, etc.) and short-term (i.e. staff capacity, pilot and demonstration action, platform to network, etc) impacts. The AFRHINET project aims at close involvement and participation of local stakeholders and target groups (NGOS, businesses/micro-enterprises, consultancies, ministries, local communities, etc). The following activities will be implemented:

1. Baseline studies to assess capacity needs, potential and market oriented products in the field of RWHI. Regional and National Multi-Stakeholder events will be held to debate on the needs and measures to improve the inclusion and impacts of RWHI on agricultural, food security and poverty alleviation policies;
2. Development of self-replicable capacities on RWHI management. A two-phase capacity building programme, focusing on the scientific and theoretical basis, and the technical and practical implementation of RWHI management will be developed;
3. Research and technology-transfer centres, to serve as hubs of knowledge and expertise in the field of RWHI and sustainable agricultural management in rural dryland areas of sub-Saharan Africa;
4. Development of market-oriented research and technology-transfer strategies and policies, to better capitalize on and disseminate innovative and effective RWHI management practices;
5. Demonstration of innovative and adequate RWHI management, to show local communities, academic and scientific institutions, businesses/micro-enterprises, and non-governmental and public organizations that implementing RWHI projects for improved food security and poverty alleviation is feasible;
6. Networking activities, to enhance the networking capacity of academic and scientific institutions with other relevant stakeholders at national and international level;

7. Regular networking, dissemination and promotion events will also be implemented and materials published.

The AFRHINET activities will be undertaken in 36 months comprising of six semesters. Table 1 shows the project activities from 1st Semester to 6th semester.

Table 1: Project activities within six semesters (each semester is equivalent to six months)

Description	Semester					
	Semester 1	2	3	4	5	6
1.1 National multi-stakeholder workshop						
1.2 Baseline studies on the needs, potential and market-oriented products in the field of RWHI						
1.3 Local networking, promotion, awareness and dissemination event						
1.4 Regional networking, promotion, awareness and dissemination event						
1.5 Setting up the Research and Technology Transfer Centre, and the Transnational ACP-EU AFRHINET Network						
2.0 Capacity building programmes						
3.0 A draft research and technology-transfer strategy						
4.0 Transnational recommendation report						
5.0 Innovative pilot research and technology-transfer projects						
6.0 Study visits to the technology-transfer pilot projects and demonstration projects						
7.0 Feasibility Studies						
8.0 Publication of 3 sets of training materials						
9.0 Four publications						
10.0 Best-practice and technical guidance compilation						

3.0 Role and Participation in the Project of the Various Actors and Stakeholders

In order to contribute to improved food and water security, poverty alleviation and socio-economic resilience, and to achieve long-term impact in fostering endogenous self-replicable capacities, efficient technology-transfer, adoption, cooperation and networking in the field of RWHI management and sustainable dryland agricultural management, several actors and stakeholders will be actively involved in the implementation of the AFRHINET project. These are outlined in the Table 2.

Table 2: Role of AFRHINET Actors and Stakeholders

Stakeholders/Actors	Role/Reason
<ol style="list-style-type: none"> 1. Academic and scientific institutions. 2. NGOs; local and regional consultancies; businesses/micro-enterprises, public institutions; working in the sectors of agriculture, irrigation, water, rural development, education. 3. Policy-makers. 4. Local communities: Cooperatives, community interest groups involving farmers, women, youth groups, in rural areas and small entrepreneurs. 5. Professional associations/networks. 6. Representatives from relevant ministries/local authorities. 	<p>Role:</p> <ol style="list-style-type: none"> 1. Participation in baseline study. 2. Contribution and feed-back on AFRHINET concept development. 3. Provide external expertise for AFRHINET capacity-building. 4. Participants in AFRHINET networking events and workshops. 5. Multipliers for AFRHINET dissemination. 6. Cooperation partners in pilot technology-transfer projects and demonstration of innovative RWHI. <p>Reason:</p> <ol style="list-style-type: none"> 1. As potential developers and users of RWHI, they have best insight on the actual capacities and needs, market demands and potential. 2. Important multipliers of the project results. 3. Important decision-makers that can shape future agriculture, irrigation, rural development, educational policies and funding programmes.