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SCALING UP OF INTEGRATED RAINWATER HARVESTING AND MANAGEMENT AND COMPLEMENTARY LIVELIHOOD SYSTEMS IN SEMI ARID DISTRICTS OF KENYA

APPRAISAL REPORT

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Currency exchange rate

1 Euro (EUR)	109,647 KES
0,852 UA	<i>As of May2012</i>

Acronyms and Abbreviations

AfDB	-	African Development Bank
ASAL	-	Arid and Semi Arid Lands
AWF	-	African Water Facility
CBO	-	Community Based Organization
CIG	-	Common Interest Groups
DAO	-	District Agricultural Office
DAT	-	Draught Animal Technology
DED	-	German Development Service
DLO	-	District Livestock Office
DWO	-	District Water Office
EU	-	European Union
ERHA	-	Ethiopia Rainwater Harvesting Association
GAA	-	German Agro Action
GHA	-	Greater Horn of Africa
GHARP	-	Greater Horn of Africa Rainwater Partnership
GoK	-	Government of Kenya
IGAD	-	Inter-Governmental Authority on Development
IPCC	-	International Panel on Climate Change
ISGM	-	Institutional Strengthening and Grant Management Programme
IWRM	-	Integrated Water Resources Management
KRA	-	Kenya Rainwater Association
MDG	-	Millennium Development Goals
ME&R	-	Monitoring, Evaluation and Reporting
MoA	-	Memorandum of Agreement
NGO	-	Non-Governmental Organization
NRWA	-	National Rainwater Association
OFDA	-	Office of U.S. Foreign Disaster Assistance
PAC	-	Project Advisory Committee
PMC	-	Project Management Committee
PAF	-	Poverty Action Fund
RELMA	-	Regional Land Management Unit
RHM	-	Rainwater Harvesting and Management
RWH	-	Rainwater Harvesting
SAE	-	Semi-Arid Environments

SearNet - Southern and Eastern Africa Rainwater Partnership
SIDA - Swedish International Development Agency
SKI - Skillshare International
UNDP - United Nations Development Programme
URWA - Uganda Rainwater Association
USAID - United States Agency for International Development

Result-based Logical Framework Analysis

Hierarchy of Objectives	Expected Results	Reach	Performance Indicators	Baseline	Targets	Assumptions/ Risks**
<p>1. Goal Contribute to the improvement of sustainable livelihoods in vulnerable communities living in semi-arid areas</p>	<p>1. Impact <u>Improved livelihoods of the target groups through:</u> (i) food security and household income, (ii) health and education, (iii) drought and climate resilience.</p>	<p>1. Beneficiaries Subsistence farmers/herders (pastoralists and agro-pastoralists) in semi-arid districts of Kenya (average of 150,000 people in three districts)</p>	<p>Indicators 1. Reduced dependents on food relief 2. Increased household income 3. Malnutrition and underweight in children below 5 4. Primary school attendance and performance 5. Reduced population affected by drought Source: Project baseline, government statistics Periodicity: Bi-annual</p>	<p>1. 200,000 persons (2011) 2. 20 € per month (2011) 3. 10,000 children (2011) 4. 20,000 pupils and 1,000 joining secondary schools (2011) 5. 75% (2011) Time Frame: 15 years</p>	<p>1. 100,000 persons (2025) 2. 40 € per month (2025) 3. 5,000 children (2025) 4. 25,000 pupils and 1,500 joining secondary schools (2025) 5. 25% (2025)</p>	<p>Assumption: Political stability Risk: Population growth exceeding economic growth Mitigation: Integrate risks and conflict management in capacity building</p>
<p>2. Purpose Assist rural communities in three districts to improve food security and rural livelihoods</p> <p>Demonstrate and advocate to stimulate interest in rainwater harvesting and management and complementary technologies to improve health and income</p>	<ul style="list-style-type: none"> • 2. Outcome: Increased water and food security – production and variety of food crops and livestock • Improved health and education through empowerment of local communities (children, women, youth and men) through better access to water and sanitation, livelihood diversification, income generation, improved natural resources management and increased resilience to climate variability • Experience widely disseminated to CBOs and schools in similar conditions in Kenya and Eastern Africa • Improved government support for RHM for multi-sectoral and integrated water and land management in semi-arid areas 	<p>2. Beneficiaries</p> <ul style="list-style-type: none"> • Beneficiary CBOs and neighbouring communities (average of 15,000 people in three districts) • Primary schools for rural development in semi-arid areas (average of 1,200 pupils in three districts) • National and local authorities involved in water management including Catchment Area Advisory Committees (CAACs) 	<p>2. Outcome Indicators Indicators Water and Food Security 1. Average no. months per year with access to water for productive uses 2. Average no. months per year when families eat 1 meal or less per day 3. Average no. of women involved in productive activities 4. Community women income increase Health and Education 5. Incidence of water and hygiene related illness (stomach ache, diarrhoea and vomiting) in school children 6. Improved school attendance, retention and performance 7. Improved performance of girls in schools Knowledge Sharing and Policy Advocacy 8. Reviewed and revised government policies and drylands development strategies.</p>	<p>Baseline (2011) Water and Food Security 1. 3 months (2011) 2. 6 months (2011) 3. 80 women (2011) 4. Vegetable market initial income for women Health and Education 5. 100 pupils (2011) 6. Average of 180 children have good performance in class 7&8 (2011) 7. Average of 200 girls have good performance in class 8 (2011) Knowledge Sharing and Policy Advocacy 8. Draft RHM related policy (2011) Time Frame: 7 years</p>	<p>Target (2018) Water and Food Security 1. 6 months (2018) 2. 3 months (2018) 3. 140 women (2018) 4. 40% of Women increase their income by 25% (2018) Health and Education 5. 50 pupils (2018) 6. Average of 220 children increase their performance in class 7&8 (2018) 7. Average of 250 girls increase their performance in class 8 (2018) Knowledge Sharing and Policy Advocacy 8. Draft policy adopted and recommendations for reforms submitted (2018)</p>	<p>Risk:</p> <ul style="list-style-type: none"> • Potential conflicts of use between smallholder farmers and pastoralists • Potential conflicts at communal level • Lack of coordination between ministries and district offices • During extremely dry years water yields of the RWH systems may not achieve full productive capacity • unhygienic behaviour with an influx of new population • Communities aversness to change – slow adoption of technology and behaviour change • knowledge developed is not used effectively • Inadequate O&M

ACTIVITIES	OUTPUTS		Indicators:	Baseline (2011)	Target (2016)	Mitigation:								
<p>Infrastructure development</p> <ol style="list-style-type: none"> Communal water pans/earth dams School roof-catchment tanks Communal sanitary facilities Schools sanitary facilities Household farm ponds Schools farm ponds <p>Cost: €328,200</p> <p>Complementary technologies</p> <ol style="list-style-type: none"> Micro-irrigation systems Draught animal technology Fodder production & preservation Tree / vegetable nurseries Improved honey production <p>Cost: €81,350</p> <p>Knowledge Sharing and Policy Advocacy</p> <ol style="list-style-type: none"> Evaluation of past projects in target districts National and regional stakeholders' workshops Community capacity building RHM handbook for CBOs Preparation of policy briefs Biannual newsletters Audio-visual documentary <p>Cost: €175,940</p> <p>Management, Monitoring & Evaluation</p> <ol style="list-style-type: none"> Baseline survey update Periodic monitoring & progress reports Final project evaluation <p>Cost: €176,320</p>	<p>Infrastructure for Rainwater Harvesting and Management developed</p> <p>RHM systems and auxiliary structures operational and providing benefits for multiple use – livestock and crop production, domestic consumption and hygiene</p> <p>Complementary technologies for improved rural livelihoods introduced and promoted</p> <ul style="list-style-type: none"> Vegetable production improved at household and school level, Draught animals used for rangeland rehabilitation, land preparation and dam de-silting Manual hay balers used for hay preservation Income from sale of vegetable and fruit/agro-forestry tree seedlings Income from honey production <p>Knowledge consolidated and disseminated for replication by CBOs and development partners; and Projects approach and results used to inform better integration of RHM systems and complementary technologies into national drylands development policies</p> <p>Scaling up and leverage from government and development partners</p> <p>Project completed in time and within budget and</p> <p>M & E and lessons learnt documented and available for future projects in GHA and support for RHM for multi-sectoral and integrated water and land management in SAE</p>	<ul style="list-style-type: none"> Target community group members (CBOs) Communities in the vicinity of the project sites Primary schools in semi-arid districts of Kenya National and local authorities involved in water management for semi-arid rural areas 	<p>Infrastructure</p> <ol style="list-style-type: none"> 2 earth dams/water pans 6 school tanks (50m³) 4 sanitary facilities (VIP latrines and bathrooms) 12 sanitary facilities for schools (VIP latrines) 120 farm ponds (50m³) 6 school ponds (72m³) <p>Complementary Technologies</p> <ol style="list-style-type: none"> 240 community drip kits installed (50-litre jerrican kit) and 6 school drip kits installed (230-litre mini tank kit) 2 technology demonstrations (DAT) 2 demonstrations done 6 tree and vegetable nurseries established and 5,000 seedlings planted 60 beehives installed <p>Knowledge and Policy</p> <ol style="list-style-type: none"> Publication on past experiences Attendance of national and regional workshops and 3 workshop proceedings Community training attendance/reports CBO replication handbook and training material Three (3) policy briefs produced Six (6) biannual newsletter Video/DVD produced and disseminated <p>Monitoring & Evaluation</p> <ol style="list-style-type: none"> 4 baseline survey reports 12 quarterly progress reports 1 Project Completion Report (PCR) 	<p>Infrastructure</p> <ul style="list-style-type: none"> Inadequate water sources No school water sources No facilities Inadequate sanitation No micro-irrigation No micro-irrigation <p>Improved livelihood Technologies</p> <ul style="list-style-type: none"> No micro-irrigation No DAT No hay balers No seedling nurseries Traditional bee-keeping <p>Knowledge & Policy</p> <ul style="list-style-type: none"> Incomplete documentation Inadequate experience sharing Low community capacity No community handbook/training material Low policy advocacy Low information dissemination No documentation <p>Monitoring & Evaluation</p> <ul style="list-style-type: none"> Inadequate baseline data M&E plan <p>Implementation plan</p> <p>Time Frame: 5 years</p>	<p>Infrastructure</p> <ol style="list-style-type: none"> 2 dams constructed 6 tanks constructed 4 units of sanitary facilities constructed 18 blocks of VIP latrines constructed 120 ponds constructed 6 ponds constructed <p>Improved livelihood Technologies</p> <ol style="list-style-type: none"> 246 drip kits installed 2 demonstrations conducted 2 hay balers introduced 6 nurseries established 60 improved beehives installed <p>Knowledge and Policy</p> <ol style="list-style-type: none"> One publication 3 workshops organized and 100 copies of proceedings 4 communities trained Handbook and training material 3 policy briefs produced 6 newsletters disseminated 200 copies of Audio/visual DVDs disseminated <p>Monitoring & Evaluation</p> <ol style="list-style-type: none"> 4 baseline reports 12 M&E reports Comprehensive PCR 	<p>Mitigation:</p> <ul style="list-style-type: none"> These two different communities are addressed with specific approaches for each livelihood system Participatory implementation process and capacity building The Project Advisory Committee will comprise representatives of central and decentralized government Adequate safety factors in design, training on impact with limited resources, possibility for cost-effective expansion to increase water in future Training on improved sanitation and hygiene Awareness creation, training, demonstration and exposure to new technologies and implementation approach Effective participatory involvement of stakeholders in knowledge development and sharing as well as policy advocacy O&M will be ensured through adequate capacity building and follow up of relevant district-based government officers 								
<p>Total cost: €839,700 (10% contingencies)</p> <p>Time Frame: 3 years</p>	<table> <tr> <td>AWF</td> <td>€689,500 (82.1%)</td> </tr> <tr> <td>KRA</td> <td>€ 86,350 (10.3%)</td> </tr> <tr> <td>Communities</td> <td>€54,850 (6.5%)</td> </tr> <tr> <td>Government</td> <td>€ 9,000 (1.1%)</td> </tr> </table>	AWF	€689,500 (82.1%)	KRA	€ 86,350 (10.3%)	Communities	€54,850 (6.5%)	Government	€ 9,000 (1.1%)					
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0. EXECUTIVE SUMMARY

0.1 **Project Origin:** Livelihoods of most rural communities in the arid and semi-arid lands (ASAL), which cover about 80% of Kenya and 70% of the Greater Horn of Africa (GHA), are frequently disrupted by persistent droughts and related famine associated with climate change. This is due to erratic, low and unpredictable rainfall. The communities are mainly pastoralists but agro-pastoralism is becoming common and pastoralists are being pushed to the marginal areas. Conflicts over diminishing pasture and scarce water sources are therefore becoming more common. Moreover, the current drought/famine being experienced in GHA calls for more sustainable interventions to reduce the negative effects on livelihoods.

0.2 **The Project:** Kenya Rainwater Association (KRA), a foundation of 300 members which ensures Secretariat of the Greater Horn of Africa Rainwater Partnership (GHARP), has been promoting integrated RHM systems and complementary technologies for improving and sustaining rural livelihoods in ASAL. The project is based on the needs assessment of vulnerable communities in the ASAL and the replication of a cost-effective technological package which has been tested in two earlier phases.

The goal is to contribute to the mainstreaming of rainwater harvesting and management (RHM) in the Integrated Water Resources Management (IWRM) implementation in response to rural development challenges posed by climate change in drought prone regions of Kenya. The purpose is to promote scaling up of integrated RHM systems and complementary technologies in three semi-arid districts of Kenya, share experiences among stakeholders, and review current policies and strategies, with the aim of influencing government and development partners' policy towards adoption of innovative and sustainable drylands development. The project will influence policy through evaluation of past projects in a number of semi-arid districts, and demonstration of the impacts of integrating RHM with complementary livelihood systems.

The Project has been adjusted to start with scaling up and policy advocacy in Kenya, and consolidate knowledge and financial leverage to enhance technology transfer and replication in other neighbouring countries, especially Ethiopia and Uganda. There will be two demonstration sites for the pastoral livelihood systems in *Baringo* district and two for the agro-pastoral livelihood systems (in *Kiambu West* and *Laikipia East*). The results will be used for awareness creation and policy advocacy based on tangible benefits and impacts with the aim of encouraging government and development partners to increase investments to enhance promotion, widespread adoption and scaling up at national and regional level.

The project comprises four components: (i) RHM Infrastructure Development for Domestic and Productive Use; (ii) Complementary technologies for Improved Livelihoods and Income Generation; (iii) Knowledge sharing and Policy advocacy and (iv) Project management, monitoring and evaluation.

The Project will enable Kenya and GHA countries to address multiple uses of rainwater as per IWRM principles, hence fighting water scarcity by optimising water uses and improving water security in semi-arid areas.

0.3 **Conclusion and Recommendation:** As a response to drought and climate change adaptation in GHA, it is recommended that the AWF grant KRA an amount of € 689,500 to finance the implementation of the *Integrated Rainwater Harvesting and Management Project in Kenya* as described in the present report. Contributions by the Recipient, communities and local governments will cover 17.9% of the *total project cost of 839,700 €*.

1. BACKGROUND

1.1.1 Livelihoods of most rural communities in the arid and semi-arid lands (ASAL), which cover about 80% of Kenya, are frequently disrupted by persistent droughts and related famine. This is due to erratic, low and unpredictable rainfall in Semi-Arid Environment (SAE), with annual rainfall ranging 500-800mm/yr, which is being aggravated by climate change leading to extreme conditions – frequent droughts and floods. The rainfall pattern is bimodal: long rains (March-May) and short rains (October-December). The seasonal rainfall lasts on average for 3 months with variations in on-set and cessation dates. The communities are mainly pastoralists but agro-pastoralism is becoming common and pastoralists are being pushed to drier areas. Land degradation and conflicts over diminishing natural resources (pasture and water) are becoming more common, and is being aggravated by climate change. The recent 2010/2011 drought has exposed the government unpreparedness leading to emergency operations to save human lives, and restore human dignity – such interventions are not sustainable, and hence the need for urgent solution.

1.1.2 To address livelihood challenges in the ASAL, governments and development partners need to focus more on scaling up tested sustainable solutions to address the development challenges posed by recurrent droughts to complement the emergency relief and humanitarian operations after every drought cycle. Drought preparedness and management should be aimed at building the capacity of the affected communities by making them more resilient to minimise the impacts of subsequent droughts. One of the promising interventions is the promotion of integrated rainwater harvesting and management (RHM) for improving water supply, food security and sustainable livelihood. The project will focus on scaling up former pilot projects by acting as a catalyst to promote integrated RHM widespread adoption and replication in Kenya and GHA by government, development partners, and target communities.

1.1.3 The three-phased programme development concept of the Greater Horn of Africa Rainwater Partnership (GHARP) is used for this project (see annex 4). **Phase I** identified and evaluated the performance of RHM systems in the region with the aim of promoting “best practices” in water management for improving water supply and food security. Six case studies conducted in Ethiopia, Kenya, Tanzania and Uganda identified different promising RHM systems, suitability under different environments, and factors hindering their promotion, adoption and scaling up such as technology dissemination approaches, inadequate information and technical support, poor workmanship, inadequate stakeholders' participation, socio-cultural issues, negative environmental impacts, cost effectiveness, low sustainability. **Phase II** focus was on piloting, testing and improving viable integrated RHM systems and IWRM implementation approaches. Appropriate interventions have been developed for agro-pastoral and pastoral communities. Interventions for pastoral communities are mainly communal-based whilst for agro-pastoralist communities are mainly implemented at household. Seven pilot projects were implemented in different semi-arid districts in Kenya. For the pastoral communities, the main output is communal rainwater storage earth dams/water pans for multiple uses i.e. 30,000 - 50,000m³/year for a population of 3,000 - 5,000 people. For agro-pastoral communities the main output is household farm ponds i.e. 100m³/year per household for vegetable production under micro-irrigation with estimated gross annual income of KES 20,000 - 50,000 with outdoor drip irrigation and KES 100,000 - 200,000 with greenhouses. The school component of the technological package provides 100m³/year per school for drinking, 100 - 200m³/year per school for micro-irrigation and gender sensitive sanitary facilities - i.e. separate blocks of VIP latrines for boys and girls. Effective stakeholders' participation of benefiting communities has been demonstrated, and incorporation of their views in project design and implementation has ensured their support and sustainability. Livelihood benefits have increased through inclusion of income generation to ensure sustainability and reduce impact of drought.

Phase III, which adopted lessons learnt from Phases I and II, focus on **improvement, replication and scaling up of promising RHM systems and complementary technologies**. This commenced in 2006, in 4 semi-arid districts in the Rift Valley province, and is on-going in 8 other SAE districts.

1.1.4 The proposed project focuses on Phase III and aims to promote the scaling up of the promising technological package through evidence-based field demonstrations in three semi-arid districts of Kenya, and documentation and information sharing to influence policy change and investments. The project is innovative and unique due to its demonstration that the integrated technological package – integrated RHM systems and complementary technologies – should be incorporated in an overall

IWRM approach to water management as a response to rural development challenges posed by adaptation to climate change in drought prone regions of Kenya and GHA and by multiple uses of water. The project adopts participatory implementation approach, and incorporates capacity building to ensure sustainability. The scaling up of the technological package under different socio-cultural setups provide opportunities for improvement, wide spread promotion & adoption, and financial leverage from government and other development partners.

1.1.5 The project was identified by the applicant, who approached the KEFO for advice and presented the project idea in August 2008. It was agreed that the applicant develop a concept note to be shared with AWF. The eligibility of the proposal was confirmed in November 2008. AWF requested for more information related to the applicant and partnership status including supporting letters from relevant ministries¹. The resubmitted proposal accompanied by requested documents was reviewed by the Application Screening Committee (ASC) and a feedback was sent by AWF on May 2009 requesting for revision. The applicant resubmitted a revised proposal in June 2009. In November 2009, KEFO visited the applicant's office to verify some of the information submitted. During the appraisal mission in April 2010 an aide memoire was signed limiting the infrastructure implementation to Kenya and Ethiopia. After the second internal review of the draft appraisal report in September 2010 by AWF, the applicant limited the infrastructure replication to cover Kenya only.

1.1.6 Community level interventions are pro-poor and will enhance wide participation in project planning and implementation. This ensures that the target communities fully understand the proposed project interventions. Besides improving the livelihoods of the people and promoting a sustainable rural development strategy in the Kenya and GHA, the project will also increase awareness, advocacy and replication of integrated RHM systems and complementary technologies in other IWRM implementation activities.

1.2 Sectoral Priorities

1.2.1 The proposed project fits well within the sector priorities for ASALs development, achievement of MDGs and Africa Water Vision 2025. The project aims to reduce poverty, increase food security, enhance climate change adaptation as well as IWRM implementation and diversify livelihood systems for disadvantaged people in ASALs Kenya. The project will also contribute directly to the achievement of two Millennium Development Goals (MDGs) and indirectly to all the other six MDGs. Firstly, it will contribute to MDG 1 (eradicate extreme poverty and hunger) by reducing the number of people who suffer from extreme poverty and hunger through enhanced food security and diversified livelihoods in the SAE. Secondly, it will contribute to the achievement of MDG 7 (ensure environmental sustainability: reduce by half the proportion of people without sustainable access to drinking water and basic sanitation) by reducing the proportion of people without sustainable access to safe drinking water and improved sanitation. Section 1.2.2 briefly outlines the water sector priorities, which prioritize RHM as one of the feasible interventions to improve the livelihoods of ASAL communities.

1.2.2 The social economic development goals are highly dependent on the availability of good quantity and quality of water. To ensure the availability of adequate water resources, the Water Act 2002 and the IWRM Strategy propose catchments development and management activities and investments in storage facilities and infrastructure. Data from various sources indicate that 40-50% and 50-60% of about 40 million people in Kenya have no access to clean drinking water and improved sanitation respectively. Moreover, Kenya's HDI in 2010 is 0.470 compared to 0.541 in 2009, which gives the country a rank of 128th out of 182 countries (UN Human Development Report 2010). Large disparities within the country mean that the situation is far worse in the marginalised ASAL which cover about 80% of Kenya's land surface area. Recently the government created a ministry to fast-track ASAL development agenda by addressing the historical marginalisation through increased budgetary allocation.

¹ Kenya Rainwater Association is a legal entity registered under the Societies' Act, Laws of Kenya

1.3 Problem Definition

1.3.1 The livelihoods of the rural communities in the three targeted semi-arid districts i.e. *Baringo*, *Kiambu West* and *Laikipia East* in Kenya are affected by a number of climatic, environmental, social and economic constraints. The communities subsistence livelihood systems, both pastoral and smallholder farmers, are dependant on livestock and rainfed crop production respectively, which is frequently affected by low and unreliable rainfall. Climate change is increasing the frequency of droughts leading to crop and livestock failures and a cyclical reliance on food relief. Water scarcity leads to low food production, food insecurity, malnutrition among children, poor sanitation, and water related diseases.

1.3.2 Smallholder farmers are unable to grow enough products at a sufficient scale to respond to market demand while also satisfying household consumption due to inappropriate skills, knowledge, technology and insufficient access to agricultural inputs e.g. water, seeds and agro-chemicals. This has resulted in land degradation, food insecurity and poor human health. Moreover, inadequate technical knowledge and skills, as well as ignorance of indigenous and traditional knowledge of pastoral communities by government and external support agencies exacerbate food insecurity. This has also led to low adoption of promising technologies such as RHM systems. Furthermore, there are limited opportunities besides rainfed agriculture and pastoralism to diversify and improve livelihoods in the ASALs.

1.3.3 Therefore communities adopt unsustainable natural resources management (e.g. deforestation for charcoal burning) which has negative environmental impacts. The problems affect women more due to their gender roles of water collection and food production and their concomitant limited access to and control over production and income resources. Women are involved in farming but men usually take control of profit-oriented activities. The problem is not unique to the three districts, but most of the semi-arid areas.

1.3.4 The proposed project addresses the outlined problems. The project is based on the community need to improve food security and overall livelihoods – socio-economic development. Besides water and food security, the project will also mitigate environmental degradation and enhance the capacity of the community to sustainably and productively manage their resources and to cope with the effects of climate change. The project is contributing to the mainstreaming of RHM in the Kenya IWRM implementation in response to rural development challenges posed by climate change in drought prone regions of Kenya.

1.4 Beneficiaries and Stakeholders

1.4.1 The project targets 2 pastoral communities in semi-arid *Baringo* district, and 2 agro-pastoral (smallholder farmers) community groups in the semi-arid *Kiambu West* and *Laikipia East* districts. The beneficiaries will also include 6 schools within the target communities, and neighbouring communities – through peer learning and knowledge sharing. The target groups are gender-diverse vulnerable low income pastoral (i.e. semi-nomadic and sedentary pastoralists) and/or agro-pastoral (i.e. migrant smallholder farmers and transitional pastoralists) communities whose livelihoods have been devastated by persistent drought, famine, living in marginal areas where inadequate water resources availability and integrated management are the most limiting factors and a challenge to socio-economic development.

1.4.2 The proposed project targets existing groups of diverse ages (18-46 years) and gender, who have organised themselves into community-based organisations (CBOs) in order to find solutions to their common problems at the community level. The activities will ensure that different people have a stake in the projects' success by targeting specific age and gender groups: roof catchment systems, drip irrigation and improved sanitation for schools - school children (boys and girls of 7-16 years); farm ponds and micro-irrigation vegetable production will target women groups; bee keeping and tree nurseries will target youth groups and men; while IWRM will integrate all groups.

1.4.3 To ensure the participation and involvement in decision making of the extreme poor and women, water management committees will involve both women and men from different socio-economic backgrounds. As a result of the project, women will increase their income and have shorter distances to travel to collect water. To ensure the benefits of these changes are accrued to women gender discussions will be incorporated into project trainings so that underlying assumptions regarding gender roles and control of resources can be reevaluated. It is estimated that in each target district, about 3,000 - 5,000 people (i.e. 500 - 800 households) will benefit either directly or indirectly from the project.

1.4.4 Besides the beneficiary communities and their neighbouring communities, government departments, Catchment Area Advisory Committees (CAACs), and private sector actors, involved in the provision of specialised services will also benefit from the project. Due to the dynamic settlement patterns and human movement in the semi-arid areas, the total number of beneficiaries is expected to increase through on going social learning and integration. The schools' component, when targeting school children has a greater multiplier effect. It will provide clean water, reduce burden and save time spent by children in fetching water, and improve sanitation and hygiene and reduce health risks, and also improve nutrition. Moreover, it will enhance publicity and advocacy forRWH, and led to change of attitude since children are change agents. The schools will also act as technology demonstration site due to its accessibility by the communities, government personnel and development agencies. Schools in the ASALs are also used as distribution centres for relief food and venues for development meetings.

1.4.5 The project will engage all the relevant stakeholders at the district level especially decentralized public services through strengthening collaboration with relevant government departments (especially water and irrigation, and agriculture through their district officers), which will offer technical backstopping and capacity building. Other line ministries district officers (e.g. health, livestock, and environment) will also be engaged in capacity building. Engagement of decentralized public services will ensure continued community support after implementation.

2. THE PROJECT

2.1 Impacts

2.1.1 The proposed project will impact positively on the livelihoods of the target groups through:

- Improved and enhanced food security and poverty reduction as a result of improved water supply & management, crop & livestock production², knowledge & awareness creation on RHM and supplementary livelihoods.
- Increased supplementary household income generated from the use of tree and vegetable seedlings, livestock and honey production, improved watershed conservation and rangeland rehabilitation, hence increased productivity of ASALs, reduced conflict over water (through increased water supply) and pasture resources (through fodder production and preservation). This will improve family income leading to socio-economic benefits and poverty reduction – increased opportunities e.g., crop diversification and yields, social capital/assets.
- Improved children health and education through improved water supply for multiple use (drinking and micro-irrigation), and sanitation and hygiene in schools. Water supply will be improved through construction of RWH tanks (for roof catchment) and farm ponds (for surface runoff), while sanitation will be improved through construction of separate VIP latrines for boys and girls, and promotion of good hygiene practices such as hand-washing with soap after using latrines and before meals.
- Improved resilience to drought and climate change for the two types of communities.

² The project will improve crop & livestock production through water for micro irrigation and fodder production and preservation will also improve livestock production.

2.2 Outcomes

2.2.1 The main outcomes envisaged as a result of the proposed project are related to (1) water and food security, (2) health and education, (3) knowledge sharing and policy advocacy, including environmental conservation, drought and climate change resilience and government support.

*Water and Food Security –
including Environmental Conservation and Climate Change Adaptation*

- 10,000 – 15,000 pastoral and agro-pastoral (smallholder farmers) community members in three ASAL districts of Kenya have increased and sustainable water supply available for domestic, livestock and agricultural uses for an average 6 months.
- Increased agricultural production leading to improved food security and enhanced income for pastoral & agro-pastoral communities in the 3 districts. Increased number of women involved in productive activities
- Community women income increase

Health and Education

- Improved access to safe water supply, sanitation and hygiene in 6 target primary schools for 2,000 - 3,000 school children and 45-60 teachers.
- Reduction in the incidence of water and hygiene-related illness of school children leading to increased attendance, retention and performance.

*Knowledge Sharing and Policy Advocacy –
to improve community capacity, government and development partners support*

- Reviewed past related projects and relevant government policies and programmes to identify gaps that should be addressed through policy reforms to enhance adoption, replication, and scaling up of RHM in Kenya and GHA as part of IWRM implementation in semi arid areas.

2.3 Project Outputs

2.3.1 The immediate outputs of the proposed project include: (i) RHM Infrastructure Development, (ii) Complementary Technologies for Improving Livelihood and Income Generation, (iii) Knowledge Sharing and Policy Advocacy – enhanced awareness of target communities, government and development agencies/partners, and (iv) Project Management, Monitoring, Evaluation and Reporting.

2.3.2 *RHM Infrastructure Development for Domestic and Productive Use:*

- 2 water pans/earth-dams rehabilitated/constructed with auxiliary facilities (water regulations systems and sanitary facilities) in one pastoral district (*Baringo*);
- 6 roof-catchment tanks for rainwater storage (each 50 m³) and 6 improved sanitary facilities (different VIP latrine blocks for boys and girls) in 6 schools in 3 districts.
- 120 farm ponds (50 m³) for households lined with ultra-violet resistant plastic and fitted with hand pumps constructed in 2 agro-pastoral districts targeting smallholder farmers (*Kiambu West* and *Laikipia East* pastoral districts) for livestock (chicken and zero-grazing cows);
- 6 farm ponds (72 m³) to demonstrate micro-irrigation systems in schools (1 per school);

2.3.3 *Complementary Technologies for Improving Livelihood and Income Generation:*

- 240 low-head drip/micro irrigation systems (50-litre jerrican kits) installed for vegetable production;
- 6 low-head drip irrigation systems (230-litre mini-tank kit) for schools (1 per school);
- 2 demonstrations for draught animal technology (dam scoop for de-silting reservoirs);
- 2 demonstrations on forage/fodder production and preservation (manual hay-balers);
- 6 tree and vegetable nurseries established at schools;
- 60 improved beehives installed within the 3 semi-arid districts; and
- Watershed management & conservation in 3 semi-arid districts.

2.3.4 *Knowledge/Information Sharing and Policy Advocacy (including capacity building):*

- 4 communities trained on project and financial management, record keeping, resource mobilisation, IWRM, operation & maintenance, soil and water conservation, draught animals, hygiene & sanitation, marketing and entrepreneurship, leadership training, etc.
- Information documentation and dissemination addressing mainly the needs of CBOs, governments and development agencies through production of relevant products;
- Information products will include publication of project activities and results; 12 issues of *MVUA Newsletter*; 3 workshop proceedings reports (2 national and 1 regional); handbooks in English and Swahili on project implementation process and results; production of video for awareness creation and publicity on project activities and results; upgrading of the GHARP/KRA information centre; development of publicity materials; and continuous sharing of information among relevant stakeholders.

2.4 Project Activities

Infrastructure development

2.4.1 *Construction of water pans/earth dams:* The proposed project aims to construct and/or rehabilitate 2 communal water pans and/or earth dams of between 20,000 - 30,000 m³. The rainwater storage structures will provide water for livestock, domestic consumption and micro-irrigation for more than 1,500-2,000 people and 2,000-3,000 livestock in each site. The construction will also entail installation of auxiliary structures such as storage/regulation tank, community watering points, leveling of excavated soils on the site for drip irrigation demonstration site, livestock watering troughs, filtration gallery, fencing the dam area and demonstration plots and minor protective work on the catchment area. To reduce water contamination, gender-sensitive communal VIP latrines and bathrooms will be constructed downstream of the water reservoirs.

2.4.2 *Construction of farm ponds - lined underground storage reservoirs:* Ultra-violet (UV) resistant plastic lined underground tanks – open rectangular farm ponds – will be constructed as water sources micro-irrigation – for households (50 m³) and schools (72 m³). The farm ponds are excavated manually to the specified dimensions and lined with a 0.8 mm thick high density UV resistant plastic material, which prevents seepage losses, whilst evaporation is reduced by roofing the ponds either with iron sheets (schools) or shade nets (households). The roof is also a security measure to prevent drowning of children and livestock. To draw water, simple and cheap hand pumps or treadle pumps are used. The farm ponds are also fitted with double chamber silt traps – to improve water quality. Eutrophication is controlled by sand filters around the suction pipes.

2.4.3 *Roof catchment systems (tanks & gutters) and improved sanitation in schools:* In order to ensure water quality the guttering system will incorporate foul-flush device and screen filter to divert first flush and debris from entering the tank. Moreover the hygiene and sanitation trainings will incorporate different methods of household treatments such as boiling, solar disinfection (SODIS), chemical treatment, etc. The project will introduce gender-segregated VIP latrines – separate blocks for boys, girls and teachers – as part of the auxiliary facilities for the schools' project component.

Complementary technologies

The complementary technologies are directly linked with RHM infrastructure development and they enhance the benefits/ impacts of improved water supply leading to improved livelihoods.

2.4.4 *Establishment of micro-irrigation systems:* Drip irrigation technology is water-use efficient and appropriate in water-scarce areas, and fits well with RHM systems. To diversify livelihoods and improve nutrition and household income, low-head drip irrigation systems (50-litre and 230-litre mini-tank kits) will be provided and installed at (a) individual farms (for smallholder farmers)– 50-litre kit to provide vegetables and income, (b) demonstration sites (schools and next to communal dams (for pastoral communities)) and (c) selected members of the pastoral communities. The community, especially women and the youth, will be trained on the simple operation and maintenance procedures of the drip irrigation systems. The community will be linked to the drip systems suppliers (private sector) through the Ministry of Agriculture and KRA for spare parts. Local artisans among the community will be trained on how to repair some of the components

2.4.5 *Establishment of tree and vegetable nurseries:* Sources of seedlings for vegetables and trees including fruits are rare in the ASAL districts. Promotion of drip irrigation and watershed management will be supported by a local source of seedlings. Nurseries will be established at the demonstration sites and women groups will be in charge as an income generating venture. This component will be implemented in collaboration with the Ministry of Agriculture, Forestry departments and relevant NGOs. Common vegetable species such as kale, spinach, cabbages, carrots, onions, and capsicum will be introduced. Drought resistant tree species e.g. *acacia nilotica* (Egyptian thorn), *acacia tortilis* (umbrella thorn), *balanites aegyptiaca* (desert date), *moringa stenopetala* (horseradish tree) and *melia volkensii* will be promoted. In particular, the marketing of produced vegetables will add income for women.

2.4.6 *Forage production and preservation:* Introduction of fodder production technologies will yield excess forage whose storage and preservation will contribute to livestock productivity and survival during the dry seasons. A simple manual hay baler will be introduced to the pastoral communities to help conserve excess forage. There will be plenty of forage from demonstration plots (i.e. rangeland rehabilitation using simple animal drawn tined harrow – for breaking the hard crust to increase infiltration and hence grass establishment) and conserved water catchments.

2.4.7 *Watershed management and environmental conservation:* To ensure sustainability of the constructed water pans/earth dams, the management of their catchment areas is a prerequisite. The watershed management will be improved through construction of soil conservation structures such as contour bunds, trash/stone lines, gully control structures and planting of drought resistant trees. A variety of suitable trees will be available at the tree nurseries. Livestock grazing in the watershed will also be controlled and direct livestock watering from water pans/earth dams will be prohibited by provision of watering troughs downstream of the water reservoir. To reduce siltation of the dams, an animal drawn dam-scoop will also be introduced to regularly de-silt the dams. The Ministries of Agriculture, Livestock, Water, Health and Environment will be involved together with environmental conservation oriented NGOs.

2.4.8 *Improved bee keeping and honey production:* Traditional honey production is one of the few non-livestock based sources of income in most pastoral communities which has been compromised by water scarcity and deforestation. Improved bee keeping and the introduction of trees/shrubs that flower at different times of the year will mutually support each other. Honey production will be incorporated into dam catchment protection as bees thrive with water and produce income from non-fruit trees. This component will be implemented in collaboration with research institutions, NGOs, relevant government ministries and private sector dealing with production of beehives, honey processing and marketing. Women and youth will be targeted for additional income generation from bee products.

Knowledge Sharing and Policy Advocacy

2.4.9 *Capacity building and institutional strengthening:* Community capacity building involves training sessions, focus group discussions, demonstrations, exposure visits, and community meetings. Formal and informal training sessions will cover leadership, project and financial management, record keeping, resource mobilisation, IWRM, operation and maintenance (O&M), environmental conservation, draught animal technology, hygiene and sanitation, marketing and entrepreneurship. Linkages with government departments will be established. Community capacity building will be a continuous process and will include both post- and pre-project periods. Institutional strengthening of GHARP/KRA will focus on: governance, leadership and management systems; resource mobilization; strategic planning; development of effective collaboration, regional partnership and networking with other stakeholders.

2.4.10 *Upgrading information centre:* Currently, GHARP/KRA Secretariat operates an information centre, providing researchers, NGOs, university students, etc. with RHM and related materials, such as books, workshop/conference proceedings, journals, newsletters, magazines, technical manuals, project reports. The GHARP/KRA information centre will be improved and upgraded to meet increasing demand whilst the website will be updated (www.gharainwater.org) to provide improved and effective on-line information.

2.4.11 *Evaluation of existing projects and policies*³: The knowledge documentation will focus on analyzing past and ongoing RWH projects in 20 districts, highlighting lessons learnt and how to achieve better integration into sector policies. Existing policies on ASALs/drylands development will be reviewed and recommendations made on reforms to bridge gaps and to make them more effective. A scale up strategy is one of the expected outputs that will be developed in collaboration with the government and development agencies. This will include a review of relevant development policies, strategies, and programmes and advocacy for adoption and inclusion of proven RHM package in current and future national IWRM and development strategies. The following laws, policies, strategies and programmes will be considered:

- The 2002 Water Act;
- National Policy for the Sustainable Development of Northern Kenya and Other Arid Lands, “Releasing Our Full Potential” – Draft Sessional Paper of April 2010;
- National Water Storage Policy (2010) – draft submitted to Cabinet, which requested that it be harmonized with the New Constitution (2010); and,
- Strategic Plan for the Ministry of State for the Development of Northern Kenya and Other Arid Lands – the current plan is for 2008-2012.

2.4.12 *Production of information material*: The advocacy will include information sharing and publicity of the project results and impacts among stakeholders and relevant government departments through the production and distribution of the semi-annual GHARP (*MVUA*) newsletter and the publication of two RHM handbooks (practical implementation process targeting CBOs in Swahili and an English version targeting policy makers and development partners to influence policy to mainstreaming of RHM in ASAL development) to support scaling up, policy reform and implementation. Training manuals will be produced. The project will also document the implementation process and results through production of a video/VCD/DVD and engagement of local print and electronic media to cover the project activities. Information sharing will also focus on related resources centres for international organizations (e.g. FAO, UNEP, UNDP and CG centres), NGOs, local universities and research centres.

2.4.13 *Stakeholders workshops*: Quarterly district stakeholders’ meetings will be used to share learning and ensure co-ordination of activities. A mid-term review and results dissemination workshop will be held. There will also be one regional (GHA) end of project workshop to share learning and engage policy makers and development partners, among other stakeholders.

2.4.14 *Scaling-up strategy*: The project will promote three technological packages; (a) for pastoral communities, (b) for agro-pastoral communities (smallholder farmers), and (c) primary schools (public demonstration sites). Therefore, the scaling-up strategy will be technological package specific, and will be incorporated in project design and implementation process to enhance ownership and sustainability. The basic principles focus on appropriate technology, demonstration & awareness creation, community capacity building (training of trainers, strengthening local leadership and technical skills (for O&M), and establishment/strengthening of common interest groups), stakeholders’ involvement (including public and private sector), and linkage to credit facilities and markets.

Project Management, Monitoring and Evaluation

2.4.15 *Project management, monitoring, evaluation and reporting*: Project management (see chapter 3.2, 3.7 and Annex 6) will incorporate participatory monitoring and evaluation, in which the PMC and PAC, and relevant government departments (e.g. Water and irrigation and Agriculture), will work closely with the communities and KRA project team to ensure effective implementation process. District level coordination will be done by the PAC composed of representatives of district line ministries together with local authorities, communities’ representatives and KRA community-based Technical Assistants.

³ Although this activity may seem beyond the scope of this project, it is achievable since it will be implemented in partnership with stakeholders especially district water officers (for past projects) and PAC will address the policy review.

2.5 Risks

2.5.1 The main risk for the project implementation and sustainability is a population growth exceeding economic growth which could be mitigated through the integration of risks and conflict management in capacity building.

2.5.2. Other risks are potential conflicts of use between smallholder farmers and pastoralists. The project envisages these two different communities with specific approaches for each livelihood system.

2.5.3 There could be conflicts at communal level that could hamper the implementation of the project. This will be mitigated by the project participatory implementation process and planned capacity building.

2.5.4 There could also be a lack of coordination between ministries and district offices. The Project Advisory Committee (PAC) will also include representatives of central and decentralized government, whose participation will be mainly motivated by their professional interests.

2.5.5 One major risk for achieving improved livelihoods is low seasonal rainfall amounts or too small catchment area to generate sufficient rainwater and poor distribution of rainfall when RHM systems may not yield adequate water and hence low reliability. This will be mitigated by providing adequate safety factors in the dimensioning of the technical design, incorporation of climate variability in community training and consideration of emergency measures such as water trucking for schools where constructed tanks offer storage potential. 2.5.6 Health benefits in pastoral areas may be affected by unhygienic behaviour which could increase through an influx of new population. Training on improved sanitation and hygiene in schools, and encouragement of pupils to act as catalysts for change at household and community levels will be used as preventive mitigation.

2.5.7 Risk averseness to change and slow adoption of new technologies by communities and stakeholders could affect the adoption of IWRM. The project will mitigate this through awareness creation, training, demonstration and exposure to new technologies and implementation approach. Exchange visits will be arranged to enhance peer learning from successful projects. The formulation of supportive policies and the availability of reference materials will equally address this risk.

2.5.8 If the knowledge developed through the project interventions is not used effectively the benefits for improved income and health will be reduced. The effective participatory involvement of communities, women groups, teachers and other stakeholders in knowledge development and sharing as well as policy advocacy are foreseen to encounter this.

2.5.9 There is a risk that O&M is not properly understood by the community. O&M will be ensured through adequate capacity building and follow up of relevant district-based government officers.

2.6 Cost and Financing plan

2.6.1 The total estimated cost of the project is 839,700 Euros as shown in the Table 1 below. The costs are shown for each component by source of financing and are based on current costs of doing similar work in the region. They include an allowance for contingencies at 10% of base costs.

2.6.2 The AWF grant is to finance all of the costs of the project, with the exception of part of the project management, reporting and personnel costs, which will be met by the recipient, and part of the infrastructure construction cost, which will be met by the beneficiaries in kind through their contribution in unskilled labour and local materials to construction work⁴. Local governments will meet the base salary cost for supervision of RHM infrastructure implementation. The additional contribution in the form of land allocated to the project has not been evaluated.

⁴ KRA has adequate capacity and experience to ensure counterpart contributions (target communities and government) will be available, and hence there is no risk of project derailment due to lack of co-funds.

Table 1: Total Project Cost Estimates by Component and Sources of Financing (in Euros)

<i>Component</i>	<i>Total Cost</i>	<i>AWF</i>	<i>KRA</i>	<i>Communities</i>	<i>GoK</i>
Component 1: RWH infrastructure	328,200	260,250	10,050	48,900	9,000
Component 2: Improved Livelihood	81,350	70,800	4,600	5,950	0
Component 3: Knowledge	175,940	157,140	18,800	0	0
Component 4: Project Management	176,320	123,420	52,900	0	0
<i>Total Base Cost</i>	<i>761,810</i>	<i>611,610</i>	<i>86,350</i>	<i>54,850</i>	<i>9,000</i>
Contingency (5% physical + 5% inflation, rounded)	77,890	77,890			
<i>Total Project Cost</i>	<i>839,700</i>	<i>689,500</i>	<i>86,350</i>	<i>54,850</i>	<i>9,000</i>
Percentage	100%	82.1%	10.3%	6.5%	1.1%

2.6.3 Table 2 below presents the Cost by Category of Expenditure. Goods and Works mainly refer to Component 1, Services are mainly required for Components 2 and 3 while Components 4 and 3 are dominated by operating expenditures under Miscellaneous.

Table 2: Cost by Category of Expenditure (all amounts in Euro – excluding taxes)

<i>Description</i>	<i>Cost</i>
Goods	170 050
Works	151 500
Services	86 300
Miscellaneous	281 650
<i>Total</i>	<i>689 500</i>

2.7 Relevance for AWF intervention

2.7.1 The project falls under the strategic pillar on investment preparation of the AWF combining elements of response to emergency with systematically addressing climate resilience at the community level and government policy. This is achieved through the local application of IWRM principles for the appropriate management of water resources for small-scale farmers, pastoralists and primary schools by community groups. This is an area of IWRM, which, so far, has been relatively marginalized.

2.7.2 The intervention will strengthen the ability of local communities to analyze and address issues of water scarcity in relation to food production and income-generating activities, while demonstrating locally adapted solutions that build on a combination of local knowledge, appropriate, low-cost technology, and collective action in optimizing multiple uses of water.

2.7.3 The project is of interest to the AWF in that it replicates and promotes approaches for meeting water needs for multiple uses in a way that has yet to be fully integrated into national strategies and policies. In addition, the project addresses the need for strengthening community involvement in IWRM practical implementation, and bringing local perspectives into the IWRM debate. This process, in turn, can be expected to contribute to the enhancement of local governance by inspiring and empowering women, men and youth to take part in (and responsibility for) natural resources management and conservation.

3. IMPLEMENTATION ARRANGEMENTS

Project implementation process will involve contracting for communal dams for the use of machinery, community participation for communal work (e.g. site clearing, digging of farm ponds, establishment of tree nurseries and tree planting), engaging local artisans for the construction of small works (e.g. auxiliary structures, rainwater tanks, and sanitation facilities), household labour for establishment of

micro-irrigation systems, procurement of goods and services, community training and information dissemination.

3.1 Recipient

3.1.1 The recipient of the grant will be the Kenya Rainwater Association (KRA) on behalf of GHARP as, legally, GHARP operates under the auspices of KRA. KRA is registered under the Society Act and is therefore a Foundation which comprises 300 members. It has a valid income tax exemption, and has been previously given VAT exemption on dam liners for farm ponds by the Kenya Revenue Authority. GHARP/KRA secretariat, hosted by KRA, will be implementing agency – taking the lead role and overall responsibility, for implementing the technical activities related to the construction of integrated RHM systems and incorporation of complementary technologies and supplementary livelihood systems in Kenya. GHARP/KRA secretariat will also coordinate with district-based government staff and stakeholders, and lead community capacity building.

3.1. The capacity of GHARP/KRA has been demonstrated by its past performance in implementing integrated RHM projects in Kenya and GHA including the following main projects undertaken since its establishment in 2001:

- *Strengthening regional rainwater networking mechanisms – Promoting adaptive strategies for food security in GHA.* The project was implemented in 2001-2003 and involved the identification and evaluation of the performance to promote best practices in RHM; the strengthening of regional and national rainwater networks; the facilitation and development of a regional network and strengthening the capacities of the five collaborating national associations⁵; and the publication and distribution of a book⁶
- *Promotion of RHM technologies in the Horn of Africa – Multi-Sectoral approach towards sustainable livelihood of pastoral communities.* The project was implemented in 2004-2005 and involved the promotion of RHM and related complementary technologies with the aim of improving the livelihood of pastoral and agro-pastoral communities in the GHA; two community based pilot projects; an integrated and multi-sectoral approach; and building the capacity of local communities to manage demonstration sites for various RHM systems.
- *The Ndeiya Karai integrated RHM project in Kiambu district, Kenya (2002- 2004) and a pilot RHM project for pastoral communities in Baringo district, Kenya (2005) were funded by the German Development Service (DED).*
- *Integrated RHM Systems & Complementary Technologies for Poverty Reduction & Sustainable Livelihoods in 8 Semi-arid districts of Kenya* funded by EU through Skillshare International (UK) (*on-going, commenced 2008*).

Their implementation improved knowledge dissemination including sectoral policies that take into account multiple uses of water for climate change adaptation in semi-arid area based on household income generation and improved nutrition.

3.1.3 The human resources of the GHARP/KRA Secretariat fluctuate since most staff are project based. Currently, there are 12 full time staff at the GHARP/KRA Secretariat: Regional/Projects Coordinator (IWRM, Ph.D.); Technical Officer (Agricultural/Environmental Engineer, B.Sc.); Information and Communication Officer (MA Publishing); Partnership and Funding Officer (M.Sc International Development); Administration and Finance Officer (Business Administration, B.B.A); Office Assistant (Secretarial, Diploma); Logistics Assistant (Certificate in Automobile Engineering); and 5 Technical Assistants (Diploma in Civil/Water Engineering and B.Sc. Agricultural Engineering). However, the project staff will be recruited competitively. Any existing staff who will be involved indirectly in logistics and administration will not be paid from the project funds, and their time will be considered as recipient's contribution to the project. In addition, the GHARP/KRA Secretariat have

⁵ Ethiopia Rainwater Harvesting Association – ERHA, Kenya Rainwater Association – KRA, Rainwater Association of Somalia – RAAS, Rainwater Harvesting Association of Tanzania – RHAT and Uganda Rainwater Association – URWA

⁶ “Rainwater harvesting for improved food security: Promising technologies in the Greater Horn of Africa”

appropriate equipment and offices for their current activities, which will require minimal upgrading to suit the project requirement.

3.14. The financial resources are based on the projects being implemented and also membership contributions, which mainly supplement the running of the Secretariat. The annual implementation budget of the GHARP/KRA Secretariat for the last 5 years was over 1.5 million Euros.

3.2 Project Organisation and Institutional Analysis

3.2.1 The recipient shall identify a suitable qualified project coordinator whose qualifications will be cleared with the AWF. The Project Coordinator shall be responsible for overall implementation of the project as guided by the Project Advisory Committee (PAC) and Governing Board (see Annex 6). (S)He shall prepare periodic work plans and reports, act as lead knowledge expert, arrange for procurement of services of consultants, contractors and suppliers, and oversee recruitment and management of project staff.

3.2.2 The PAC will be selected by the Governing Board and will be composed of experts and experienced team (5 members) drawn from KRA stakeholders (e.g. government (water and irrigation, agriculture, environment), universities, private sector, NGO). Their selection will be based on their technical expertise on different project components to ensure adequate technical support and backstopping and to evaluate the project implementation process. It also oversees the tendering process and verifies all the technical services offered to the project. The PAC also reviews all the information and publicity material produced by the project besides engaging governments in policy dialogue.

3.2.3 The Governing Board is elected by KRA members during General Assembly held after every two years. The Board represents different interest groups (CBOs, NGOs, private sector, government departments, research institutions/universities, development partners, etc.), and their role is policy guidance, governance, leadership, and linkage with stakeholders and development partners. The next Biennial General Meeting is scheduled for August 2012. It will not delay the project implementation in any way since the Constitution on elections, transition and governance.

3.2.4 In the project areas, the local councils/assemblies will be engaged together with the government departments to ensure effective community participation and project sustainability. They will also help the target communities mobilize resources to meet their contributions (i.e. community contributions). The government departments (water and irrigation, agriculture, livestock, environment, health, education) will ensure adherence to government regulations and standards, by offering technical supervision and monitoring. They will also be engaged in community mobilization and training. The stakeholders consist of KRA members, target communities/CBOs, government departments, research institutions, development agencies (NGOs), local councils, and donors.

3.2.5 The Projects Coordinator will be supported by the following staff: Project Administrator, Project Accountant, Technical Officer, Information Officer, Technical Assistants, and Logistics Assistant, as required (*see Annex 6*). Individual consultants shall be recruited for the mid-term review and the facilitation of national and regional workshops.

3.2.6 Project staff, especially the technical team, shall undertake community mobilization, training and follow up support of the beneficiaries as necessary. They shall also undertake surveys that feed into a system of participatory Monitoring & Evaluation. Technical supervision of contractors shall be the responsibility of District Water & Irrigation, and Agriculture Offices in collaboration with the Technical Officers and their Assistants. The District Water Office will also be in charge of site selection, topographical survey, design, bills of quantities and quality control, and will work closely with the technical project team.

3.2.7 Each of the beneficiary communities (CBOs) shall sign a Memorandum of Understanding (MoU) with KRA⁷ regarding implementation of the project in their respective areas and shall undertake to be part of the participatory monitoring of the programme. The MoU shall also state the communities' responsibilities and contributions, which shall include a clearly demarcated amount of site works to be executed prior to the contractor taking over. The MoU will also be reviewed periodically to ensure its adherence to the project implementation process.

⁷ A sample of such MoU has been submitted to AWF and is attached in Annex 9.

3.3 Implementation schedule

3.3.1 The project shall be implemented over a period of 36 months from approval. The timing of activities is shown in the graph below. The first 3 months after grant approval notification will focus on meeting conditions for first disbursement and baseline surveys. All activities concerning capacity building, learning materials, establishment of infrastructure and supporting technologies for improved livelihood will be fully completed by the end of 30th month. The last six months will focus on knowledge documentation and dissemination.

	Year	2011				2012				2013				2014				
	Quarter (3 months period)	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Proposal review and revision																		
Grant Agreement Signature																		
Fulfillment of condition precedent to 1 st disbursement																		
Project Activities																		
Baseline surveys																		
Project planning and consultation with stakeholders																		
Evaluation of past projects in 20 ASAL districts																		
Project planning workshop																		
Production and distribution of workshop proceedings																		
Pilot site visits, surveys and preparation of BoQs																		
Tendering for services and evaluation of tenders																		
Community mobilization and sensitization																		
Development of water sources and auxiliary facilities																		
Construction of sanitation facilities																		
Establishment of drip irrigation demonstration plots																		
Establishment of tree/vegetable seedling nurseries																		
Setting up demonstration plots for forage production																		
Demonstration on hay making and storage systems																		
Watershed improvements and conservation																		
Introduction of improved honey production system																		
Capacity building of target communities																		
Production and distribution of bi-annual newsletter																		
National results dissemination & advocacy workshop																		
Regional results dissemination & advocacy workshop																		
Production and distribution of workshop proceedings																		
Project monitoring, evaluation and reporting/feedback																		
Production of publicity & advocacy material																		
Publication of project results																		
Formulation of follow-up activities and exit strategy																		
Final project report and close out																		

3.4 Procurement Arrangements

3.4.1 Procurement arrangements are summarized in Table 3 thereafter. In the interest of project sustainability, to allow for the participation of local communities, to increase the use of local materials and know-how/skills, and labour-intensive technologies, procurement of goods, works and acquisition of consultancy services financed by AWF will be in accordance with the Bank's *Guidelines for Procurement under Community-Based Investment Projects* and the *AWF's Operational Procedures*. A summary of relevant main Clauses is provided in Annex 5.

Table 3: Procurement arrangements (under AWF funding)

<i>Description</i>	<i>Shortlist</i>	<i>Shopping</i>	<i>Other**</i>	<i>Total</i>
<i>Consulting Services</i>				
Community capacity building	13,400			13,400
CBO training manuals, publicity material	12,000			12,000
Workshop facilitators, regional & national	2,800			2,800
Project Coordinator	50,000			50,000
Mid term review consultant	3,300			3,300
<i>Sub-total for Consulting Services</i>				81,500
<i>Non-Consulting Services</i>				
Video/VCD/DVD for policy advocacy / publicity		10,900		10,900
<i>Sub-total for Non Consulting Services</i>				10,900
<i>Goods</i>				
Purchase computers, desktop & laptop		1,800		1,800
Purchase and supply of materials for farm and school ponds			112,200	112,200
Purchase 4WD vehicle		35,000		35,000
Purchase of motorbikes and bikes		5,600		5,600
Low cost drip irrigation, 50L & 200L		15,450		15,450
Purchase hay baler, dam scoop, beehives, DAT equipment		8,800		8,800
<i>Sub-total for Goods</i>				178,850
<i>Works</i>				
Construction of earth dams / water pans			78,900	78,900
Construction of school tanks (roof catchment)			34,000	34,000
Auxiliary structures and facilities			13,500	13,500
Construction of school VIP latrines			19,800	19,800
Establishment of seedlings nurseries			5,300	5,300
<i>Sub-total for Works</i>				151,500
<i>Miscellaneous</i>				
Community capacity building		8,800		8,800
CBO training manuals, publicity material		11,000		11,000
National planning workshop		13,100		13,100
Mid-term national dissemination and policy advocacy		16,400		16,400
Regional RWH dissemination, strategy & policy workshop		24,600		24,600
Office running costs		41,700		41,700
Salaries for Technical personnel, 1 officer, 2 assistants,			95,450	95,450
Evaluation of past projects in 20 districts			11,300	11,300
DWO: topographic survey, dam design, supervision			15,300	15,300
External training, GHARP/KRA, ERHA, URWA			6,600	6,600
Travel allowances for country project teams			4,700	4,700
Project Monitoring by Advisory Committee			17,800	17,800
<i>Sub-total for Miscellaneous</i>				266,750
<i>Grand Total</i>	81,500	198,850	414,850	689,500

* All amounts in Euro – excluding taxes - excluding non AWF funding of 150 200€

** "Other" may be Procurement under Community-Based Investment or national procedures

3.4.2 Based upon this provision in the Rules, and in the context of Community-Based Investment Projects (CBIPs), Local Competitive Bidding (LCB) which is competition advertised in the locality or province of the subproject, and Local Shopping, that is, shopping in which the list is derived from all local or provincial suppliers, is utilized in this guideline, in addition to the other modes of procurement outlined in the Rules. Procurement of locally available materials (e.g. sand, cement, ballast, timber, iron sheets, etc.), local artisans and casual labour will be done at the community level. While procurement of specialised services and items such as dam construction, dam liners, shade nets, drip kits, beehives, hay balers, DAT equipments, etc. will be done at the executing agency level, together with other office based procurement activities (e.g. staff recruitment, office equipment (e.g. computers), vehicle, motor bikes, consultancy services, etc.).

3.4.3 Procurement of services, goods and works (such as materials and artisans) will involve the respective community under the final responsibility of the Executing Agency. To ensure quality and efficient use of the Grant, Local Competition shall be the preferred option. GHARP/KRA secretariat has used this mode of shared procurement with one of the target community in *Laikipia* East. Payments to service providers will be paid directly against authentic invoices and appropriate documentation (e.g. signed delivery slips, contracts, etc.).

3.4.4 KRA shall be responsible for: (a) the design, construction and supervision of RHM infrastructure, (b) introduction of complementary technologies for improved livelihoods, (c) knowledge sharing and policy advocacy including community capacity building, documentation, production and dissemination of information material, and organizing stakeholders' meetings/workshops, and (d) project management, monitoring, evaluation and reporting. Most of the services are non-consultancy related and will be undertaken by project staff. The services of the Project Coordinator and PAC will be on part-time basis (percentage of time will be distributed among different projects). Consultancy services include hiring of workshop facilitators, auditors, project evaluator.

3.4.5 Local competitive bidding will be used for major construction works e.g. earth dam/water pans, short listing for consultancy services and minor construction works, and shopping for specialized supplies (e.g. drip kits, simple hand pumps, dam liners for farm ponds), construction material and local service providers (e.g. masons). Single source selection will not be permitted unless there are inadequate local suppliers and established supply chain. Payments for service providers will be paid directly against authentic invoices and back-up documentation (e.g. signed delivery slips). Earth dam construction will follow prior review.

3.4.6 The project staff will be recruited competitively through advertisement through relevant email contact, national newspapers and website. Single source selection will only be permitted for some critical project staff with preferential skills to enhance the capacity of the project team. However, most project staff positions will be advertised, to allow for competitive recruitment and to attract qualified candidates.

3.4.7 Services for consultants, workshop facilitators and trainers shall be procured through Short Listing for an aggregate value of 81,500 €. Goods worthy 169,650 € will be procured through shopping and distributed over the three semi-arid districts. Works worthy 151,600 € will be procured through national competitive bidding (78,900) and short-listing (72,700 €).

3.4.8 Due to the dispersed and remote locations for the works, it will be necessary to hire several local contractors and artisans to carry out the works using simple contracts. These services, goods and works will be procured through shopping. The selected contractors and artisans will be required to use unskilled labor from the community where possible and they should be able to train local youths on the job who will later be responsible for maintenance of the facilities. If no contractor can be found in the district or if it is clearly demonstrated that Force Account is a more sustainable option for community involvement, it will be permitted.

3.4.9 Responsibility for procurement of goods and acquisition of services rests with the KRA and target CBOs. It is the Recipients' obligation to assure that the AWF funds are used in a cost efficient manner and only for eligible project expenditures. The Recipient will also build the capacity of the target CBOs to ensure procurement of services and goods under their responsibility is done according to the Bank's regulations. The procurement process shall be transparent and allow adequate competition

between different suppliers or service providers and facilitate easy control by AWF of the procurement processes and the use of project funds. The latter will be verified during or after the course of the project implementation by the AWF/Bank staff and the Project Auditor.

3.4.10 Procurement of two packages (earth dams) in excess of 30 000 € shall be subject to prior review by the AWF. All others shall be subject to a post review procedure unless otherwise required by the AWF. In any case the Recipient will maintain accurate records of procurement steps including signed evaluation forms, minutes of the opening of bids and proposals and all meetings on all procurement processes. KRA have undertaken similar projects, and her procurement procedures have been used under both EU and USAID funding, and hence they are adequate for AWF project. The procurement procedures are well elaborated in her Management Policies and Procedures Manual.

3.4.11 The Recipient shall prepare and submit a Procurement Plan acceptable to the AWF, setting forth (a) the particular contracts for goods, works and consulting services during the life of the project; (b) the proposed modes of procurement; and (c) the related AWF review procedures (prior or post review). The Procurement Plan will cover 18 months and will be updated annually or as needed throughout the duration of the project. The mode of implementation and all revisions to the Procurement Plan are subject to prior approval by the AWF. See Annex 7 for procurement plan for the first 18 months.

3.4.12 The Recipient will follow sound procurement and implementation principles including *transparency* in the selection of suppliers, contractors or consultants; grouping of small supply contracts to increase *competition*; assurance of required *standards* of goods, works and services; *community consultation* in particular for community contributions; *advertisement* of procurement opportunities; *shopping* with at least three written quotations; *limitation of direct purchase* to exceptional circumstances – when bidding failed or is not possible.

3.5 Disbursement Arrangements

3.5.1 The Special Account method will be used for disbursement of funds from the AWF. The Recipient will open two Special Accounts, one in Euro currency and the other in local currency (Ksh.) with a local commercial bank acceptable to the AWF, into which the advances will be deposited. All disbursement requests shall be denominated in Euro currency and request in other currencies shall not be disbursed. The Special Accounts will be replenished on the condition that the preceding advance has been utilized and justified up to at least 50 percent and that the previous balance has been fully justified. Audit of the project shall include the use of the special account and attestation that: (i) the requests for replenishment of the revolving fund submitted are consistent with relevant information, (ii) the internal controls and procedures used for their preparation, are reliable enough to justify the requests for replenishment, and (iii) the goods and services financed from the special account have been received by the project.

3.5.2 The expected disbursement schedule is shown in Table 4 below.

Table 4: AWF Expenditure and Disbursement Schedule (amounts in Euros)

<i>Category of Expenditures</i>	<i>Tranche 1</i>	<i>Tranche 2</i>	<i>Tranche 3</i>	<i>Total</i>
Goods	50 000	69 650	50 000	169 650
Works	25 000	101 600	25 000	151 600
Services	25 000	24 000	25 000	74 000
Miscellaneous	100 000	86 450	100 000	286 450
<i>Total</i>	<i>200 000</i>	<i>289 500</i>	<i>200 000</i>	<i>689 500</i>
Percentage	29%	42%	29%	100%

3.6 Accounting and Audit Arrangement

3.6.1 The Recipient shall maintain adequate records to account for grant funds and disbursement payments from the Special Account for services rendered, custody of supporting documents, preparation of Project Financial Statements (PFS) ready for audit reviews. AWF shall arrange for audit of PFS. Progress Reports shall include financial information.

3.6.2 An accrual accounting system and pre-numbered receipts shall be used. Payment vouchers shall be pre-numbered and filed sequentially. The payment vouchers shall be prepared by the Project Accountant and approved by the Project Coordinator. The ledger shall be maintained in computer software according to the management policy and procedures manual in force. Financial reports shall be generated and all bank accounts shall be reconciled monthly. An annual external audit shall be carried out by AWF, and funded by AWF administrative funds, separate from the Grant for the project.

3.7 Supervision, Monitoring and Evaluation

3.7.1 The supervision of the project by AWF will include regular communication and correspondence with the Recipient, as well as the review of the Quarterly Progress Reports and other documents. AWF may undertake a field supervision mission at any time, as may be needed. Two supervision missions are anticipated.

3.7.2 The monitoring of project progress and performance shall be based on the Logical Framework matrix during implementation and after completion. The monitoring of the project will be done by the Project Advisory Committee semi-annually. This will be assisted by the Project Coordinator and the national planning workshop, mid-term national results dissemination and policy advocacy workshop and mid term review.

3.7.3 The Recipient shall submit to the AWF the reports and documents noted in the following Table 5 below. The project completion report shall include details on project activities and a comprehensive expenditure report on the utilisation of the Grant. All documents shall be transmitted to the AWF by email, with hard copies to follow subsequently. Year means calendar year unless agreed otherwise and quarters end with the calendar months of March, June, September and December.

Table 5: AWF Reporting Requirements

<i>Documents to be Submitted to the AWF</i>	<i>Reporting Schedule</i>	<i>AWF Action</i>
1. Quarterly Progress Report in AWF format (with report on expenditures)	Within one month of end of quarter	Review and comment
2. Project Completion Report in AWF format	3 months before end of project	Review and acceptance
3. Minutes of Project Advisory Committee Meetings	Within 15 days of meeting	Review and comment
4. Minutes of any other project meeting or workshop	Within 15 days of meeting	For information / action

3.7.4 KRA will adopt continuous monitoring and self-assessment, and use participatory approaches to ensure effective engagement, participation and contribution of the target communities. Sound monitoring and evaluation will be pivotal to ensure learning from mistakes or challenges by implementing partners and will contribute to improved organisational capacity to implement sustainable and effective projects.

3.7.5 A baseline survey will be conducted against which necessary changes can be measured. The community level Project Implementation Committees, District Committees and a Project Advisory Committee (PAC) will be brought together to ensure oversight at different levels. A Technical Assistant will be based with the community to provide technical assistance throughout implementation and challenges will be shared at monthly staff meetings where they can gain advice from qualified colleagues. Spot checks will be made to project sites by head office (secretariat) staff. Unanticipated changes to communities' lives will also be sought so that we are aware of any unintended outcomes. An external mid-term review and end of project evaluation will be conducted. The review and evaluation

will use a participatory methodology and be carried out with full participation of all stakeholders. Stakeholders will be involved in the development of the terms of reference for the evaluations. The review and evaluation will include an assessment of progress towards outcomes, likely impact, and recommendations for future work and best practices that have the potential for replication.

4. PROJECT BENEFITS

The project benefits and impacts (e.g. improved water supply for multi-use and income generation) and capacity development will improve the livelihoods of the target communities and enhance resilience to climate change.

4.1 Effectiveness and Efficiency

4.1.1 The project addresses a problem identified by the beneficiary communities, namely improving the available water resources for productive and domestic uses, a cornerstone for rural livelihoods in semi-arid environments connected to food security and income.

4.1.2 The project is based on a participatory analysis, as well as replication of successfully implemented approaches. The proposed intervention focuses on providing lasting, appropriate and affordable solutions to address the problem of lack of water for multiple uses at critical seasons and throughout the year. Promoted technologies depend on the predominance of pastoralist or agro-pastoralist lifestyles. Efficiency will be reached through the community and participatory approach.

4.2 Sustainability

Multiple uses of Rain water

4.2.1 Enough water storage will be ensured to allow sustainability of the RWH systems for multiple uses. Safety factors need to be taken into account for catchment storage dimensioning during the technical design.

Operation and maintenance of project facilities

4.2.2 Operation and maintenance of project facilities will be assured through community ownership and participation; support to income generating activities; promotion of traditional knowledge for sustainable development, appropriate technologies and farming methods; active involvement of the government departments; and institutionalised internal monitoring and governance structures of project partners and target groups to carry on with activities beyond the project.

4.2.3 Each project site will have a local management committee in charge of the project components in that area. The capacity of the target groups (CBOs) and the committee in each project site will also be built to regulate the use of the facilities and to ensure that each user contributes towards operation and maintenance. Maintenance and operation will be enhanced through training to community members including women and youth. The types of RHM systems and complementary technologies being promoted require very limited financial resources to sustain their benefits. Income generating activities will contribute to funding.

Institutional arrangements for the continuity of project results

4.2.4 Building the capacity of KRA as well as the collaborating CBOs through training and mentoring will ensure that they are well equipped with necessary tools and skills to advance their mandate and maintain continuity of the project results. The target groups will be empowered to enhance their own strategies to improve their livelihoods based on the project results. The communities will be encouraged to formulate a monitoring plan, led by a 'community project committee' in each site to continuously evaluate and document project implementation process and anticipated impacts.

4.2.5 The involvement of government officers from project related departments (e.g. water and irrigation, agriculture, livestock, health and environment) will also ensure continued working relationship with the target groups and beneficiary communities to consolidate the gains of the project.

Gender equity in accessing project benefits

4.2.9 The estimated number of target beneficiaries is 10,000 – 15,000 people of which approx. 55% will be women. The project will encourage equal participation of women in the local management committees responsible for regulating use of and maintenance of project components with particular emphasis on management of water sources, since they bear the burden of fetching water and also management of the seedling nurseries. The sale of seedlings will lead to enhanced incomes thus improving their livelihoods.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary and Overall Assessment

5.1.1 The proposed project addresses the aspirations of the target communities and falls within the development plans of semi-arid areas of each country. The proposed project complements the national and regional policies and IWRM plans implementation besides complementing the AfDB Rural Water Supply and Sanitation Initiative. The project identification process involved different stakeholders and the proposed interventions have shown promising results to improve rural livelihood systems under similar conditions. The proposed complementary technologies are linked to increasing productivity and efficient use of water harvested for multiple purposes.

5.1.2 The project will enhance collaboration and networking, stakeholders institutional strengthening, awareness creation, capacity building, widespread adoption & replication, and subsequently water supply, food security, improved livelihoods and adaptation to climate change in the drought prone GHA. The project aims to transfer, replicate and scale up successfully piloted technology. Capacity building and participatory implementation process assures effective community involvement, contribution and ownership. The proposed project will have a catalytic effect and influence provision of more resources, by governments and development partners, through its multi-sectoral implementation approach and knowledge consolidation & dissemination component.

5.1.3 The project sites will demonstrate how RHM systems and complementary technologies can improve livelihoods of marginalized people, and hence contribute to formulation of strategies to cope with water scarcity and food insecurity associated with looming climate change and variability. It will therefore improve water security in semi arid areas and integrate lessons learnt for policy change.

5.2 Recommendations

5.2.1 It is recommended that an AWF grant not exceeding **689,500 €** be extended to the Recipient Kenya Rainwater Association (KRA) for the purpose of implementing the proposed project described in the present report, subject to the following specific conditions:

Conditions precedent to First Disbursement

5.2.2 The Grant shall enter into force on its signature. Its first disbursement shall be conditional upon the fulfilment of the following conditions: The Recipient shall provide evidence that

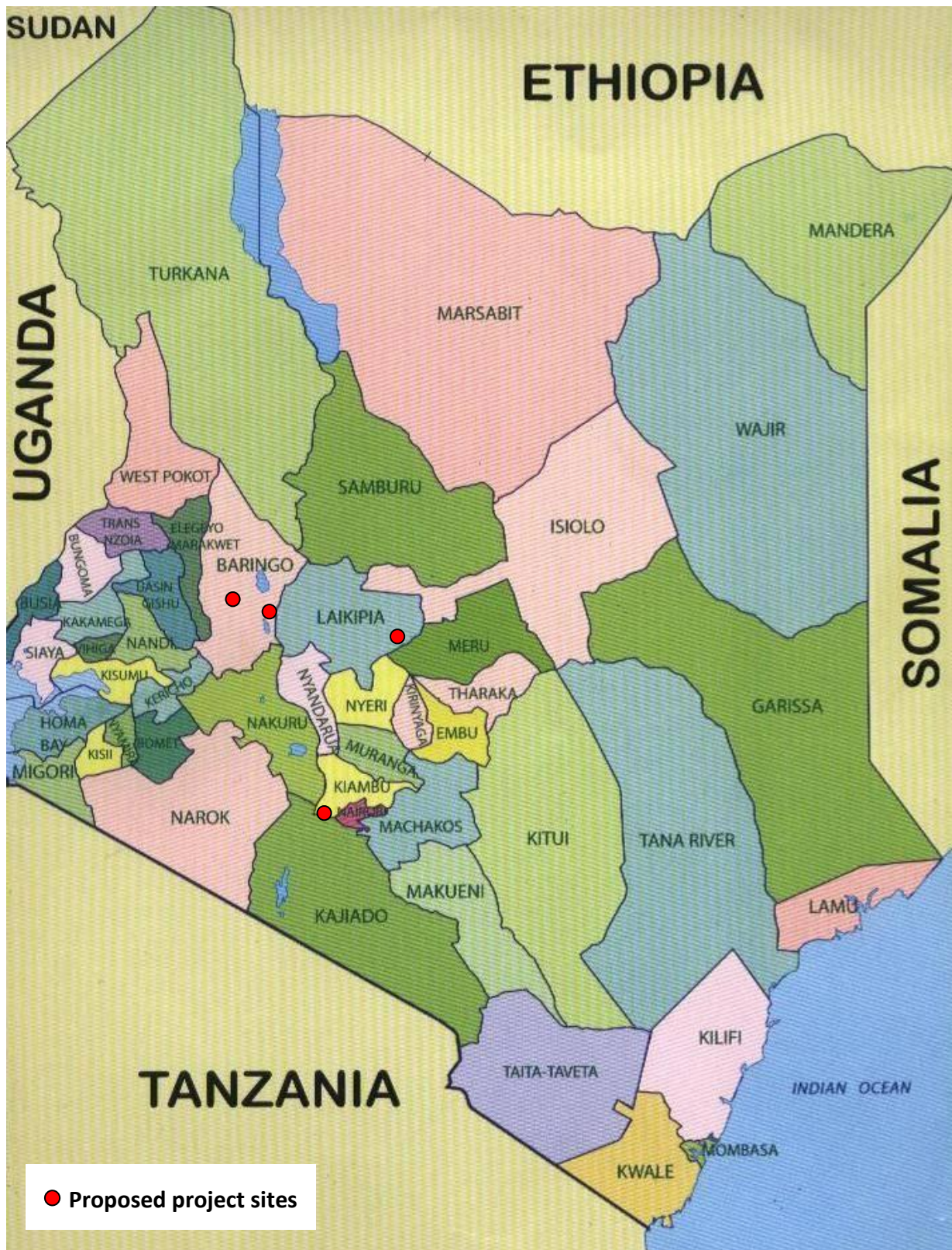
- a) Two Special Accounts (Euro and Kenya Shillings) have been opened at a bank acceptable to the AWF into which the AWF grant resources.
- b) A Project Coordinator has been designated with qualifications and experience acceptable to the AWF to execute the Project as described.
- c) A qualified Project Accountant has been designated or recruited.
- d) A procurement plan, which shall be in form and substance acceptable to the AWF, shall have been submitted by the Recipient. Any revisions to the procurement plan will be subject to the prior approval of the AWF; and
- e) A Memorandum of Understanding with each of the beneficiary communities, in form and substance acceptable to the AWF, has been fully executed by each party thereto.

5.2.2 The Recipient shall undertake to fulfil the following other conditions:

- a) Submit quarterly progress reports in a format acceptable to AWF within thirty (30) days of the end of each calendar quarter;
- b) Submit a project completion report in a format acceptable to AWF within 3 months following the end of the Project for AWF's approval; and
- c) Submit to AWF the minutes of each project advisory committee and each other project meeting and workshop, within fifteen (15) calendar days of the date of such meeting or workshop.

ANNEXES

6.1 Annex 1: Map showing Project Sites in Kenya



6.2 Annex 2: Photos from one of the project site implemented by GHARP/KRA in Kenya

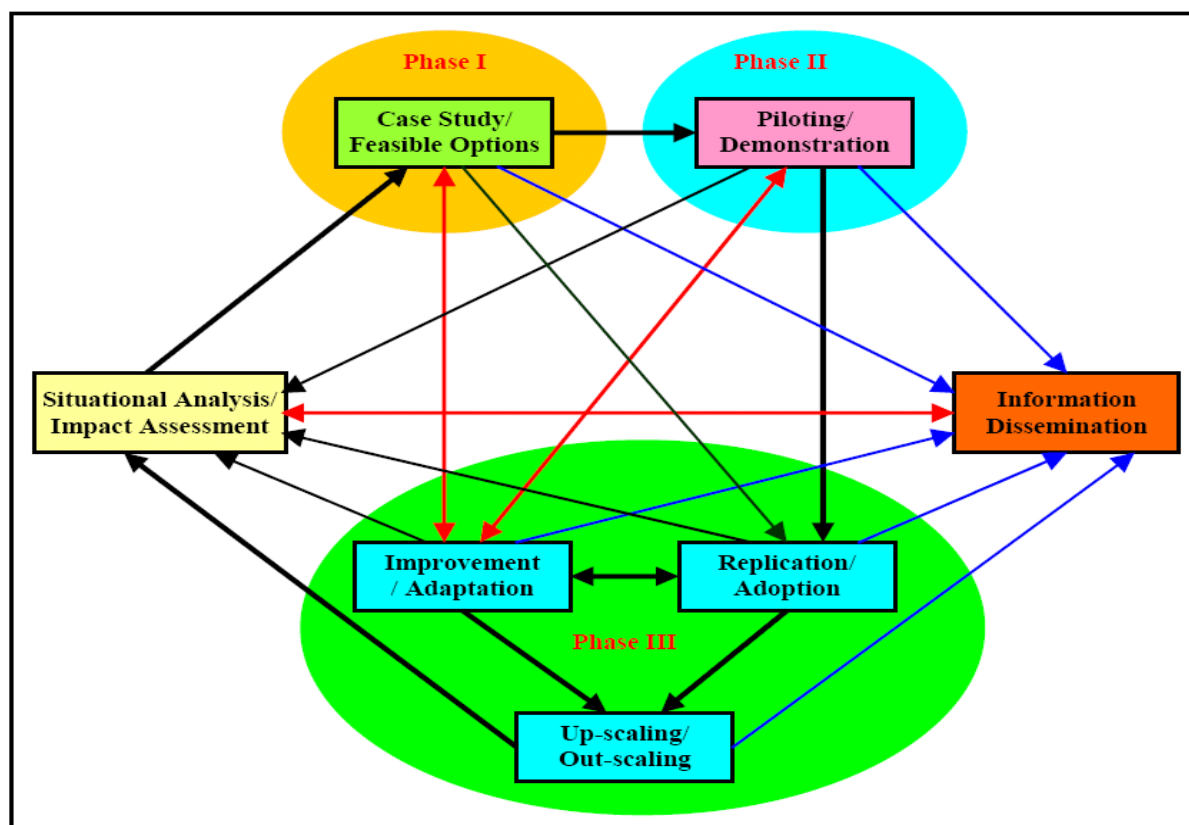


6.3 Annex 3: Budget Breakdown

Budget Item	Qty	Unit	Rate	Total (€)
<i>Component 1: RWH infrastructure</i>				
Topographic survey and dam design	2	site	900	1,800
Construction of earth dams / water pans	2	site	38,000	76,000
Supply of material and construction, farm ponds	120	site	1,050	126,000
Supply of material and construction, school ponds	6	site	1,500	9,000
Construction of school tanks (roof catchment)	6	site	5,500	33,000
Monitoring, evaluation and reporting by DWO	12	quarter	1,750	21,000
Auxiliary structures and facilities (community water point, trough, toilets, bathrooms)	2	site	6,500	13,000
Technical Officer, 36 months	36	month	700	25,200
Technical Assistant, 24 months, 2 persons	48	month	350	16,800
Purchase motorbike	2	LS	3,200	6,400
<i>Subtotal</i>				<i>328,200</i>
<i>Component 2: Improved Livelihood</i>				
Construction of school VIP latrines	6	site	3,200	19,200
Low cost drip irrigation, 50L	240	site	60	14,400
Low cost drip irrigation, 200L	6	site	225	1,350
Establishment of tree and vegetable nurseries	6	site	850	5,100
Forage production and preservation demonstration	2	site	1,100	2,200
De-silting of dams, demonstration	2	site	1,300	2,600
Improved bee keeping and honey production	6	site	700	4,200
Community capacity building	4	site	5,075	20,300
Transport of equipment (hay balers, dam scoops, drip kits)	3	LS	1,000	3,000
Logistics Assistant	36	month	250	9,000
<i>Subtotal</i>				<i>81,350</i>
<i>Component 3: Knowledge</i>				
Evaluation of past projects in 20 selected districts	20	LS	500	10,000
National planning workshop	1	LS	12,000	12,000
Institutional strengthening of GHARP/KRA	1	LS	6,000	6,000
Documentation of best practices and CBO training manual in Kiswahili	1	LS	15,000	15,000
Publicity materials	1	LS	6,000	6,000
Production of video/VCD/DVD for policy advocacy and publicity	1	LS	10,000	10,000
Mid-term national dissemination and policy advocacy workshop	1	LS	15,000	15,000
Regional RWHM strategy and policy workshop, air fare for 12 participants @ €500, transport for 18 Kenyan participants @ €30, allowance for 50p*4d @ €80	1	LS	22,540	22,540

Regional Workshop facilitator	4	day	250	1,000
National Workshop facilitator, 4 days per workshop	8	day	200	1,600
Information Officer	36	month	600	21,600
Project Coordinator, 3d/month	108	day	250	27,000
Additional direct costs for logistics, supplies and project administration, stationery, office supply, office rent, newsletter production, utilities and communication, vehicle and motorcycle operation and maintenance, bank charges, insurance	4%	rounded	705,410	28,200
Subtotal				175,940
Component 4: Monitoring and Evaluation				
Project Monitoring by Advisory Committee	6	semester	5,000	30,000
Mid term review consultant	1	LS	3,000	3,000
Purchase 4WD vehicle	1	LS	35,000	35,000
Purchase bikes for PMC (communities)	8	LS	50	400
Purchase desktop computers	1	LS	800	800
Purchase laptop computer	1	LS	800	800
Technical supervision and monitoring (allowances)	144	day	30	4,320
Project Administrator	36	month	800	28,800
Project Accountant	36	month	500	18,000
Project Coordinator, 3d/month	108	day	250	27,000
Additional direct costs for logistics, supplies and project administration, stationery, office supply, office rent, newsletter production, utilities and communication, vehicle and motorcycle operation and maintenance, bank charges, insurance	4%	rounded	705,410	28,200
Subtotal				176,320
Contingencies				
Physical	5%	rounded	761,810	38,000
Inflation	5%	rounded	799,810	39,890
TOTAL PROJECT COST				839,700
<i>Contribution by GHARP</i>				<i>86,350</i>
<i>Contribution by Communities (in kind)</i>				<i>54,850</i>
<i>Contribution by Governments (in kind)</i>				<i>9,000</i>
Requested from AWF				689,500

6.4 Annex 4: GHARP/KRA Programme Development Concept



Note: The proposed project fall under Phase III – scaling up and policy advocacy

The three-phased programme development concept of the Greater Horn of Africa Rainwater Partnership (GHARP) is used for this project.

Phase I identified and evaluated the performance of RHM systems in the region with the aim of promoting “best practices” in water management for improving water supply and food security. Six case studies in Ethiopia, Kenya, Tanzania and Uganda and contributed to the institutional strengthening of GHARP and its member associations as well as collaboration, networking and information sharing among stakeholders. The case studies confirmed that a number of promising RHM systems and complementary technologies exist that would improve food security and reduce poverty among the communities living in the water scarce GHA region. The results highlighted that realising the benefits required to improve and adapt the RHM systems, build the capacity of the land-users and disseminate best practice amongst stakeholders, which Phase II strives to accomplish.

Phase II focus was on piloting and testing viable integrated RHM systems and implementation approaches. Appropriate interventions have been developed for agro-pastoral and pastoral communities based on existing land use and socio-economic conditions. Interventions for pastoral communities are mainly communal-based whilst for agro-pastoralist communities are mainly implemented on individual land even though a similar community based participatory approach is adopted. The Kenya Rainwater Association (KRA), which hosts the GHARP Secretariat, has implemented seven pilot projects in different semi-arid districts in Kenya. Effective participation of benefiting communities has been demonstrated, and incorporation of their views in project design and implementation has ensured their support and sustainability. Livelihood benefits have increased through inclusion of income generation to ensure sustainability and reduce impact of drought.

Phase III focus on improvement, replication and scaling up of promising RHM systems and complementary technologies, and it forms the core of current and future GHARP activities. Phase III commenced in 2006, in 4 semi-arid districts in the Rift Valley province of Kenya, and is currently ongoing in 8 other ASAL districts of Kenya. Lessons learnt from the previous Phase(s) are used to enrich formulation and implementation of new projects.

6.5 Annex 5: Procurement under Community-Based Investment Projects

A 5.1 Recognising the special nature of Community Based Investment Projects (CBIPs) the Bank's Rules of Procedure for Procurement of Goods and Works, stipulates in its Clause 4.12 that:

“Where, in the interest of project sustainability, or to achieve certain specific social objectives of the project, it is desirable in selected project components to (i) call for participation of local communities and /or non-governmental organisations (NGOs), or (ii) increase the utilisation of local know-how and materials, or (iii) employ labour-intensive and other appropriate technologies, the procedures, specifications, contract packaging shall be suitably adapted to reflect these considerations, provided these are efficient. The procedures proposed shall be outlined in the Appraisal Report, the President's Memorandum and the Loan Agreement”.

A 5.2 Based upon this provision in the Rules, and in the context of Community-Based Investment Projects (CBIPs), Local Competitive Bidding (LCB) which is competition advertised in the locality or province of the subproject, and Local Shopping, that is, shopping in which the list is derived from all local or provincial suppliers, is utilised in this guideline, in addition to the other modes of procurement outlined in the Rules.

A 5.3 Furthermore the Banks Guidelines for Procurement under Community Based Investment Projects (September 2000) provide in Clause 3.8.1 and 3.8.2 for:

“Direct Purchase, direct contracting, direct negotiations or sole source contracting is permitted only in exceptional circumstances when it is clear that competitive bidding is not possible or has been attempted and no response was obtained. This is because it does not encourage competition or afford the same levels of accountability regarding the use of funds. It is employed when there is only one contractor, supplier or consultant available; or when the project requires community participation to increase project sustainability.”

“Direct contracting of implementing agencies, communities, or qualified NGOs, for simple works (often in remote areas or of a nature or size that would not attract contractors), may be permitted if it can be demonstrated to increase project sustainability through the use of community labour or materials. Such an entity shall hire the necessary labour, purchases the required goods and materials and executes the works, almost like a commercial contractor would do. However, the advantages of increased sustainability through direct contracting of community groups shall, in all cases, be weighed against the benefits of encouraging or initiating grassroots commercial activities and competition.”

A 5.4 In 3.9 Force Account - the Banks Guidelines for Procurement under Community Based Investment Projects (September 2000) stipulate:

“Force Account as is the procurement of works through the use of the Borrower's own personnel and equipment. It is permitted where it is the only practical method of construction and when there are clear mechanisms to ensure accountability for the use of funds. Works to be constructed under Force Account shall have; (i) a detailed description of the component items; (ii) a set of technical specifications; and (iii) supervision team independent from the management of the Force Account, to carry out control of quality and quantities. The supervision team who shall monitor the implementation of the works, can be qualified NGOs or skilled artisans employed by the Government Agency on a long-term basis and who can also provide training to communities. Payments for works shall be made using fixed rates for completed production targets. Payments shall be made only upon certification by the supervision team that the construction is completed and in conformity with the pre-determined specifications.”

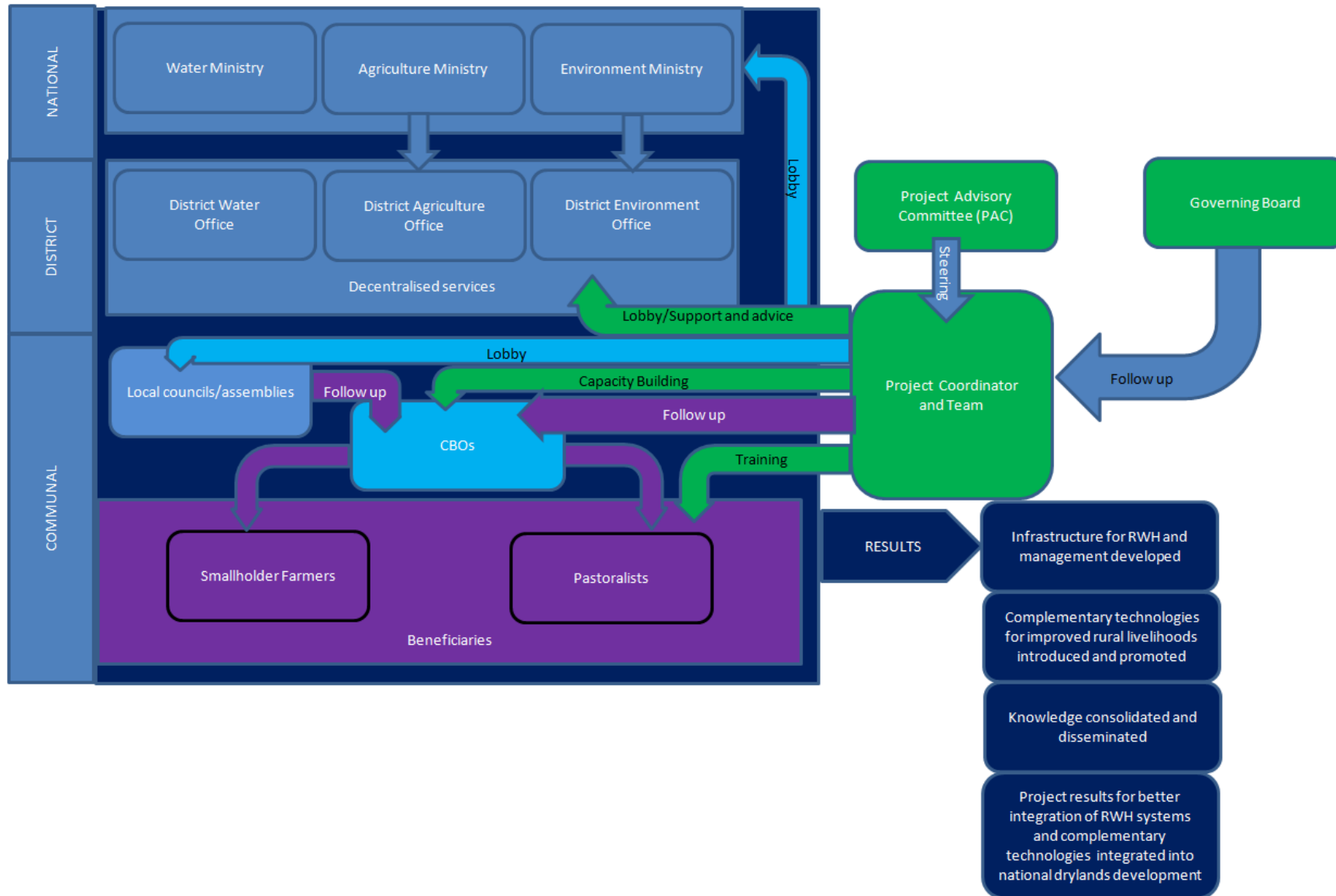
A 5.5 Due to the dispersed and remote locations for the works it will be necessary to hire several local companies to carry out the works using simple contracts. Therefore works will be procured through shopping. The selected companies will be required to use where possible unskilled labor from the community and they should be able to train local artisans on the job who will later be responsible for

maintenance of the facilities. In case this method fails (no contractor could be found) or it is clearly demonstrated that Force Account is the better and more sustainable option (community involvement etc) it will be permitted as well.

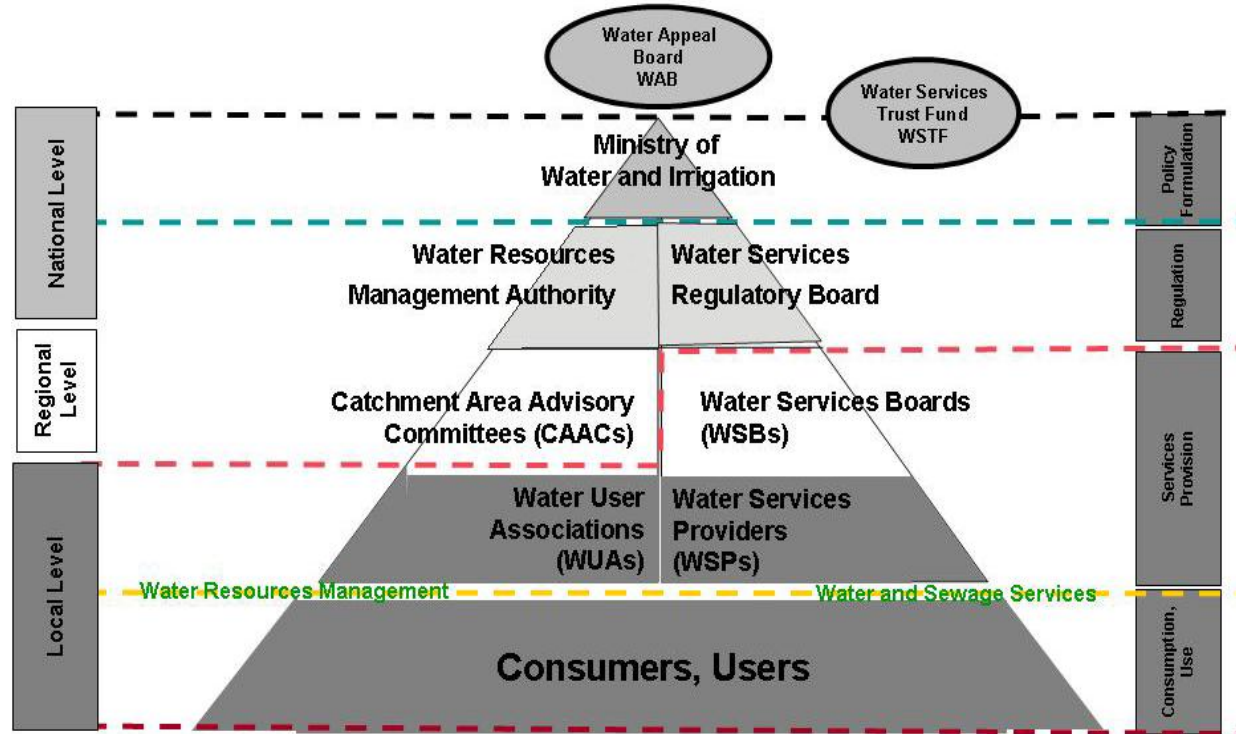
A 5.6 Responsibility for procurement of goods and acquisition of services rests with the Recipient. It is the Recipients' obligation to assure that the AWF funds are used in a cost efficient manner and only for eligible project expenditures. All procurement activities shall be transparent and allow adequate competition between different suppliers and service providers and facilitate easy control by AWF of the procurement processes and the use of funds. The latter will be verified during or after the course of the implementation of the project by the Project Auditor employed by AWF.

A 5.7 The Recipient will follow sound procurement and implementation principles including *transparency* in the selection of suppliers, contractors or consultants; grouping of small supply contracts to increase *competition*; assurance of required *standards* of goods, works and services; *community consultation* in particular for community contributions; *advertisement* of procurement opportunities; *shopping* with at least three written quotations; *limitation of direct purchase* to exceptional circumstances – when bidding failed or is not possible.

6.6 Annex 6a: Project Management Framework



Annex 6b: Kenya Water Sector Institutional Framework



The institutional set-up of the Kenyan Water Sector (Figure by Engineer Mahboub Maalim, Permanent Secretary of the Kenyan Ministry of Water and Irrigation) (ArticleInfoResources entitled “Water sector reform in Kenya: First experiences are positive”, August 2007)

6.7 Annex 7: Project Staff and Time Allocation

Title of Project Staff	No. of Positions	Staff Engagement and Time Allocation
Projects Coordinator	1	This is a part-time position, 6 days per month, which are distributed among all the main project components.
Project Administrator	1	This is a full time position dedicated to project administration and management
Technical Officer	1	This is a full time position dedicated to technical backstopping and support for project implementation.
Information Officer	1	This is a full time position dedicated to project information documentation and dissemination.
Project Accountant	1	This will be a full time position dedicated to project financial management - procurement, accounting and auditing.
Technical Assistant	2	This is a full time field based position dedicated to monitoring and field logistics including community capacity building during the project implementation process.
Logistic Assistant/ Driver	1	This is a full time position that will be dedicated to the project field transport and office logistics.

Note:

- The proposed project implementation and management structure (3.2.5) show the staff positions and their working relationship, including liaison with stakeholders.
- The GHARP secretariat is hosted by the Kenya Rainwater Association (KRA) in Nairobi, the legal entity under which GHARP operates. This means the project staff will be based at the GHARP/KRA Secretariat and project sites.
- The project staff will be recruited competitively, which will also apply to staff working in other projects, who may seek to take new positions through promotion. Therefore, the project funds will only support specified project positions, and will not support existing staff *per se*. Nevertheless, some of the existing organization staff will offer necessary supporting roles to the project implementation as part of recipient project contribution.
- However, the part-time Project Coordinator will be managing other projects and performing organizations' roles based on time allocation, which will be captured in a well documented timesheet. Moreover, if the Project Administrator will be competence enough, she/he may additionally take up the Operations Manager position, and consequently share his/her time among different projects, which will top up the enumeration.

6.8 Annex 8: Procurement Plan for the First 18 Months

<i>Goods and Non-Consulting Services</i>										
Package description	Lot Number	Lot Description	Estimated Amount (€)	Lump sum or Unit rate	Procurement Method	Pre-or Post- Qualification	Prior or Post Review	SPN Publication Date	Contract Start Date	Comments
Purchase computers, desktops & laptops			1 800		Shopping		Post	Jul 2012	Aug 2012	
Construction materials and construct farm ponds			112 200		Other ⁸		Prior	Jul 2012	Aug 2012	Ex: advance contracting
Purchase 4WD vehicle			35 000		Shopping		Post	Jul 2012	Sep 2012	
Purchase motorbikes and bicycles			5 600		Shopping		Post	Jul 2012	Sep 2012	
Video/VCD/DVD for policy advocacy			10 900		Shopping		Post	Jul 2012	Sep 2012	
Procure low cost drip irrigation kits, 50L & 200L			15 450		Shopping		Post	Feb 2013	Apr 2013	
Purchase hay baler, dam scoop, beehives, DAT equipment			8 800		Shopping		Post	Mar 2013	May 2013	
Total Cost			189 750							



⁸ “Other” may be Procurement under Community-based Investment or national procedures

Works										
Package description	Lot Number	Lot Description	Estimated Amount (€)	Lump sum or Unit rate	Procurement Method	Pre-or Post-Qualification	Prior or Post Review	SPN Publication Date	Contract Start Date	Comments
Construction of earth dams/water pans			78 900		Other		Prior	Oct 2012	Jan 2013	Ex: advance contracting
Construction of school rainwater storage tanks			34 000		Other		Post	Nov 2012	Jan 2013	
Construction of auxiliary structures and facilities			13 500		Other		Post	Jan 2013	Mar 2013	
Construction of school VIP latrines			19 800		Other		Post	Jan 2013	Mar 2013	
Establishment of seedlings nurseries			5 300		Other		Post	Mar 2013	Apr 2013	
Total Cost			151 500							

<i>Consulting Services</i>							
Description	Selection Method	Lump sum or Time-Based	Estimated Amount (€)	Prior/Post Review	EOI Publication Date	Contract Start Date	Comments
Project coordinator	Short list		50 000	Prior	Jul 2012	Sep 2012	
CBO training manuals, publicity material	Short list		13 400	Post	Oct 2012	Jan 2013	
Mid term review consultant	Short list		3 300	Post	Jan 2013	May 2013	
Workshop facilitators, regional & national	Short list		2 800	Post	Feb 2013	Apr 2013	
Community capacity building	Short list		12 000	Post	Mar 2013	May 2013	
Total Cost			81 500				

6.9 Annex 9: Sample of MoA between KRA and target communities

Double-click on the picture to open the file.



**GREATER HORN OF AFRICA RAINWATER PARTNERSHIP
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Memorandum of Agreement:

Implementation of Ildungisho Integrated Rainwater Harvesting and Management Project in Narok South District

Introduction

Kenya Rainwater Association (KRA) is a non-governmental, not-for-profit and non-partisan national membership association with diverse multi-disciplinary and multi-sectoral members. Our objective is to promote rainwater harvesting & management systems and complementary technologies for improving water supply, sanitation & hygiene, food production & security, livelihood, poverty reduction & alleviation & sustainable management of natural resources, and mitigation & adaptation to climate change & variability.

The GHARP/KRA Secretariat is implementing an EU-funded project in collaboration with Skillshare International (UK) entitled “*Integrated rainwater harvesting and management systems and complementary technologies for poverty reduction and sustainable livelihood in semi-arid districts of Kenya*”. One of the project sites is *Ildungisho* in *Narok South District*. The community-based project includes the following components:

1. Construction of a 20,000m³ earth dam, including auxiliary structures, that will benefit 600 households, estimated 5,000 livestock and wildlife;
2. Construction of improved community sanitary facilities (eco-sanitation and bathrooms) at the earth dam site;
3. Introduction and demonstration of complementary technologies and supplementary livelihood systems (e.g. micro-irrigation, tree/vegetables seedling nurseries and draught animal technology (for rangeland rehabilitation, de-silting of earth dams, and conservation tillage);
4. Promotion and demonstration of improved bee keeping and honey production (apiculture);
5. Introduction of fodder production and preservation (manual hay baler);
6. Construction of a roof catchment system at *Ildungisho* Primary School consisting of a 50m³ rainwater storage tank, guttering system and water regulation unit;
7. Construction of improved sanitation facilities at *Ildungisho* Primary School;
8. Construction of 50m³ farm pond and installation of drip irrigation system for vegetable production for school feeding programme; and
9. Capacity building of *Ildungisho* community on various project management aspects to enhance operation, maintenance, sustainability & improved livelihoods.

Promoting rainwater harvesting and management systems & complementary technologies for sustainable development

