

2007

*Emergency Response to Disaster Affected Population  
(ERDAP) Project – Final Evaluation Report*

Financed by Austrian Development Cooperation  
Contract # 2451-03/2006

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15 January 2008



## ACKNOWLEDGEMENTS

I wish to thank CARE staff in Nairobi and Garissa for facilitating and making the evaluation a success. Special mention goes to Margaret Ochiel (Nairobi), Amina and Shena of the CARE Sub-Office in Garissa for their logistical support. Drivers Joseph Mutwiwa and Derow Ahmed provided safe and dignified support throughout the evaluation.

Thanks also go to all those who committed their time to the evaluation team including Government of Kenya staff and farmers as well as farmers' representatives. Members of the evaluation team (Zahra Sheikh Hassan and Athman Farsi) are also recognized for their efforts.

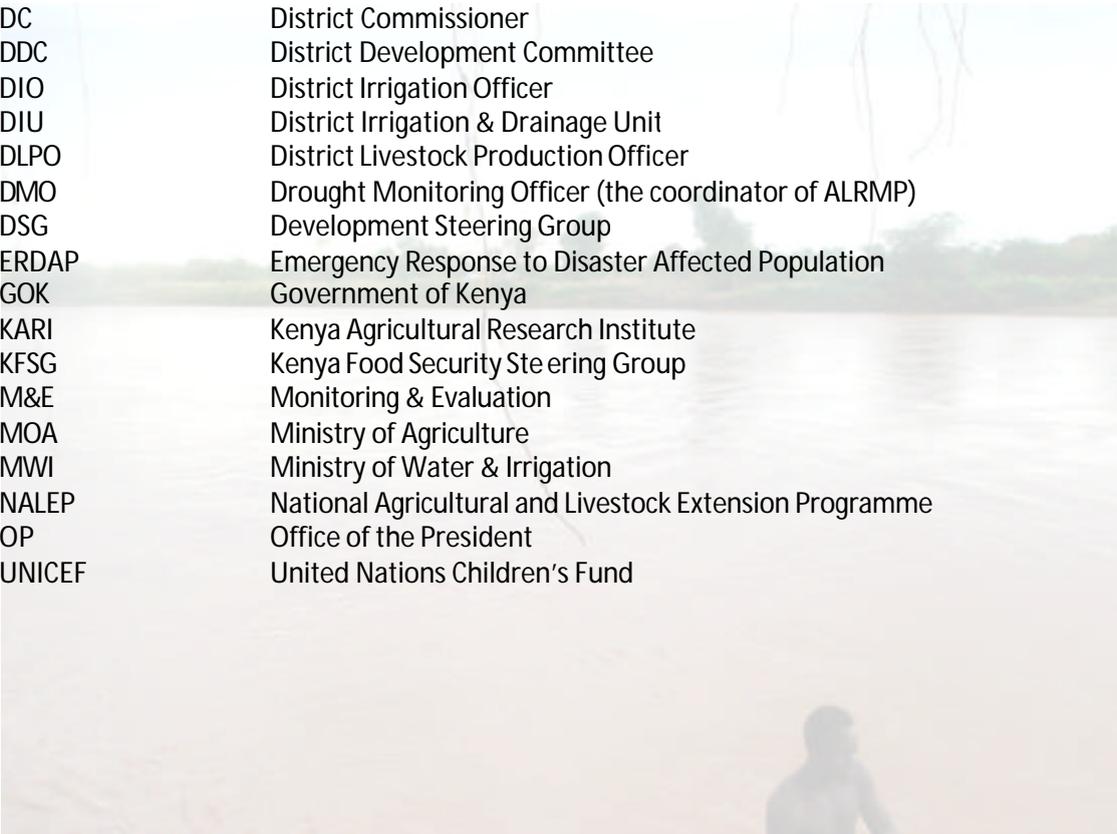
I salute all the many individuals who, in different ways, made this evaluation a success.

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## ABBREVIATIONS



A/DIO	Assistant District Irrigation Officer
ADA	Austrian Development Agency
ADC	Agricultural Development Corporation
ALRMP	Arid Lands Resource Management Project
CDC	Community Development Committee
D/DAO	Deputy to the DAO
DAEO	Divisional Agricultural Extension Officer
DANIDA	Danish International Development Agency
DAO	District Agricultural Officer
DC	District Commissioner
DDC	District Development Committee
DIO	District Irrigation Officer
DIU	District Irrigation & Drainage Unit
DLPO	District Livestock Production Officer
DMO	Drought Monitoring Officer (the coordinator of ALRMP)
DSG	Development Steering Group
ERDAP	Emergency Response to Disaster Affected Population
GOK	Government of Kenya
KARI	Kenya Agricultural Research Institute
KFSG	Kenya Food Security Steering Group
M&E	Monitoring & Evaluation
MOA	Ministry of Agriculture
MWI	Ministry of Water & Irrigation
NALEP	National Agricultural and Livestock Extension Programme
OP	Office of the President
UNICEF	United Nations Children's Fund

## EXECUTIVE SUMMARY

CARE with funding from the Austrian Development Cooperation implemented an irrigated agriculture project, namely, the Emergency Response to Disaster Affected Population (ERDAP) Project, in the arid Garissa District of North Eastern Province of Kenya. The project was part of CARE's emergency operations strategy and initiative at developing economic livelihood capacities of pastoralist communities.

The ERDAP project aimed to assist communities in Garissa District affected by natural disasters (drought and floods) regain their livelihood security through the provision of improved farm inputs and sustainable access to irrigation water for a total beneficiary population of 1,000 people ("200 directly and about 800 indirectly") comprising of pastoral drop-outs and marginalized riverine Bantus living along the Tana River with limited support.

This project was initially designed as an emergency response to drought affected population to run from 1<sup>st</sup> November 2006 to 30<sup>th</sup> July 2007. However, and following November-December 2006 floods that destroyed property, crops and irrigation infrastructure amongst the target communities, the project was modified (vide ADA approval dated 24<sup>th</sup> January 2007) to an emergency response to communities affected by natural disasters (now droughts and floods) and with a revised closure date of 30<sup>th</sup> September 2007. The philosophical turning point for this project was a shift from aiming to improve the livelihoods of drought affected population to assisting the disaster affected communities to regain their livelihood security. The project design provided for an end of program final external evaluation which this report fulfills.

The evaluation applied a rapid appraisal approach which involved consultative meetings with farmers, focus group discussions, key informant interviews, observations and photographic coverage. Reference was made to secondary data available in the project and Government offices alongside other technical materials. Eight of the 13 group farms supported by the project were visited.

The study team comprised of a lead consultant with experience in project design, monitoring and evaluation, two research assistants with previous knowledge of the project and a driver. The robustness of the evaluation was limited by the absence of monitoring data at household level. However, farmer groups were able to provide group level data on basic indicators such as crops and acreage under cultivation. The information collected was organized along key thematic concerns of the evaluation.

The end-of-project evaluation aimed to determine the effectiveness and appropriateness of the interventions and provide recommendations in view of technical, management, sustainability, community participation and partnerships with key stakeholders. Additionally, this report assesses the efficiency, effects/impact and sustainability of interventions and provides a highlight of lessons learnt. The summary of the findings is presented below.

**Relevance:** The project is based in Garissa District, one of the arid districts of North East of Kenya, and a predominantly pastoralist community whose economic fortunes have been affected by recurrent emergencies mostly droughts, floods and livestock disease outbreak such as the Rift Valley Fever reported in early 2007. Irrigation agriculture along River Tana has been highlighted as one of the viable livelihood security options in the District. The ERDAP project

started off to overcome the effects of recurrent droughts but heavy rains and floods in its first month (November 2006) occasioned a redesign to address disasters (droughts and floods). The necessary approvals were effected in January 2007.

Sub-sector priorities for crop development in Garissa District include improving agricultural output, improving on the value of livestock and crop output (products), and, marketing of agricultural products. Recommended processes include expansion of land under irrigation and improved production of horticultural products with high demand. The destruction to irrigation infrastructure, crops and property following the 2006 floods provides a clear justification for assisting the small scale farmers to regain their livelihood security.

*Effectiveness:* The project aimed to reach 1,000 persons (200 direct and 800 indirect beneficiaries) through at least 10 group farms. The project eventually supported 301 farmers (direct beneficiaries) with about 1,505 indirect beneficiaries thus convincingly surpassing the target of 1,000 persons. The project also supported 13 farmer groups against the target of 10 groups. The target communities perceived their livelihood security and economic opportunities to have been reinstated to about 33% of pre-floods situation (stated by the farmers as a recovery of one third of where most of them were before the floods). While the project had targeted a 50% recovery of pre -floods situation, this evaluation considers the performance to be commensurate with the resources injected into these groups as well as the short duration of the interventions at the farm level which allowed for only one crop cycle.

Overall, the target groups were able to reinstate their pre-floods acreage under cultivation by an average of 41% and production volumes by an average of 32% remarkably because of project interventions. For some groups, their entire crop production was only reinstated after CARE provided and/or serviced their irrigation equipment. However, farmer preference to plant maize during the yet to come October-November rains ensured a near zero crop replacement through maize seed distribution while farmers did not indicate when they would plant the bean seed - said to perform poorly in the target area. There was less than 5% crop replacement through distribution of banana and mango seedlings due to the small number of planting materials available to the project with farmers appealing for more of such seedlings.

All the 13 CARE supported groups were supplied with an assortment of farm tools including machetes, hoes, spades, wheelbarrows and knapsack sprayers. But there were missed opportunities towards promotion of improved irrigation practices due to the slashing of the agricultural training budget which had to be reduced after the 2006 flooding as more funds were needed for reinstating the destroyed irrigation equipment. Nevertheless, observations during field visits indicated that most groups irrigated some distance away from the river bank to avoid its (river bank) erosion.

*Efficiency:* The project issued complete engine/pump sets to 3 groups, stand-alone engines to another 3 groups and then repaired old engine/pump sets for another 5 groups. One other group received an engine and had its old one repaired. The thirteenth group did not receive any of the equipment due to a land tenure conflict that was beyond the scope of the project. The said equipment reinstated/improved the efficiency of group farming operations. However, the option of providing stand-alone engines for coupling to old pumps proved inefficient as modifications became apparent before coupling could be done and the ensuing breakdowns of the old pumps affected the efficiency of the new engines.

Inefficiencies also arose from the identification/selection of certified seed as well as the decision on the volume of the seed per farmer. The issuance of maize and bean seed was pegged at 2kg of each type per each of the registered members of the farmer groups. This volume overestimated the number of active farmers and/or the installed capacity at the farms implying that most of the seed could not have been planted during the life of the project. Besides, farmer preference to plant maize during the October-November season further delayed the conversion of the issued seed into a crop on the farm with commensurate shortfalls in expected acreage under cultivation and production volumes.

Effects/Impact: The project impacted positively in addressing local priorities especially access to certified seed, tools and irrigation equipment as well as links to potential markets, advocacy and boosting farmer morale in crop production. However, the interventions experienced challenges such as low utilization of seed, inability to resolve further marginalization of minority groups and failure to provide organizational development services for farmer groups. The land tenure conflict is believed to have been beyond the scope of this project while capacity building was largely affected by the slashing of the agricultural extension budget.

Sustainability: The interventions are bound to continue after the project due to the provision of the single most important investment in the irrigation schemes, the engine/pump sets, as well as encouraging the participation of other agencies in supporting crop production and marketing. However, the sustainability of interventions in the long term may be affected by the high cost of lifting water by pumping, communal land tenure system that hinders individual choice in land exploitation and weak institutional capacity for the farmer groups.

Lessons Learned: It was apparent that the provision of engine/pump sets was a significant factor in motivating the target community to embrace irrigated agriculture as a potential option in ensuring their livelihood security. Equally important would be scheme development (particularly canal lining) and bush clearing (preferably for new entrants) both of which commanded substantive initial costs. Besides, farmers recognized their short history of crop farming and appealed for enhanced training indicating that continued programming in the area should cater for extension services. The conflict that affected the marginalized minority group indicated that more resources than envisaged in this project would be necessary to address the underlying land tenure issues.

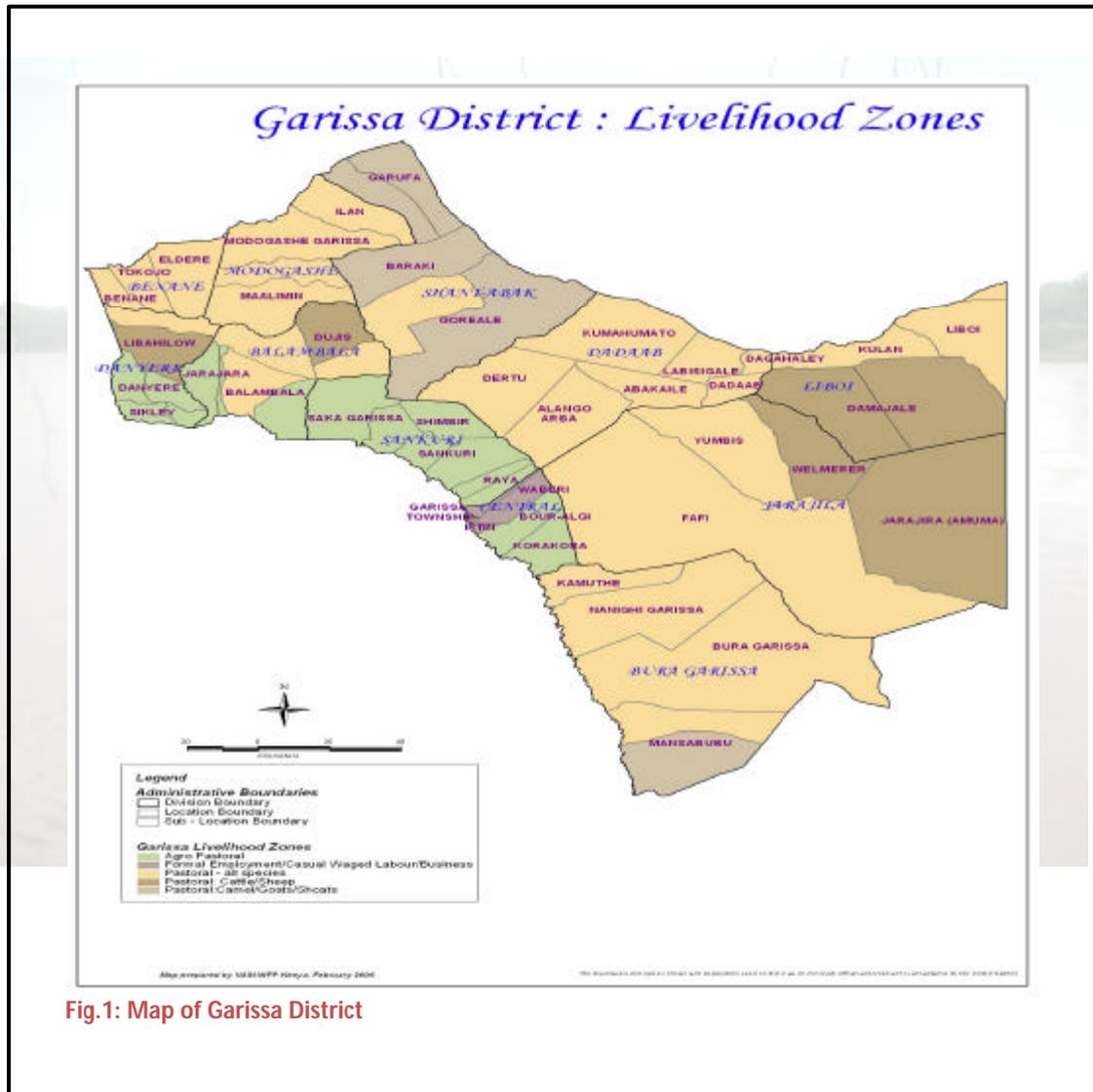
Conclusions and Recommendations: Overall, the project surpassed its target of reaching 1,000 people as it reached 1,806 of the population affected by disasters (droughts and floods). These comprised of 301 direct beneficiaries (against a target of 200) and 1,505 indirect beneficiaries (against a target of 800). The project was found relevant as it aimed to provide relief to a population with a high incidence of poverty whose inability to command resources has been further compounded by natural disasters. The project is considered an overall success in view of its ability to adapt to changes (particularly emergence of floods midstream), ability to deliver its services within a shortened project life and meet its targets substantively.

It is recommended that investment on each group farm be raised (the alternative being to support a smaller number of groups using a similar budget) to accommodate a basic irrigation package comprised of, say, engine/pump sets, irrigation scheme design, canal lining, ample agricultural extension services, flood control measures, institutional capacity building and enhanced partnerships (advocating for continued farmer support by stakeholders with longer term mandates in the target community).

**1.0 INTRODUCTION**

**1.1 Background**

CARE, with funding from the Austrian Development Agency (ADA), implemented an irrigated agriculture project - the Emergency Response to Disaster Affected Population (ERDAP) Project in the arid Garissa District of North Eastern Province of Kenya, as part of CARE's strategy and



**Fig.1: Map of Garissa District**

initiative at developing economic livelihood capacities of pastoralist communities (see Fig.1 above for map of Garissa).

Recurrent droughts preceding the November 2006 rains had been manifested in the near total loss of livestock and a precarious food insecurity situation turning otherwise self dependent pastoralists into destitute and a majority (53%) of the District's population relying on a WFP funded general food distribution program. This situation was confounded by heavy rains during the months of November and December 2006 combined with Tana River bursting its banks and destroying the already precarious livelihoods of communities subsisting along the river. The ensuing floods covered a large part of Garissa District up to January 2007 completely cutting off some villages from the rest of the District.

## 1.2 Project Description

Based on its experience in North Eastern Province of Kenya, CARE developed an irrigated agriculture project (ERDAP) as a viable strategy to regain (and possibly sustain) the livelihoods of communities in Garissa District affected by natural disasters (mainly droughts and floods).

The project aimed to assist communities in Garissa District affected by natural disasters regain their livelihood security through the provision of improved farm inputs and sustainable access to irrigation water for a total beneficiary population of 1,000 people comprising of pastoral drop-outs and marginalized riverine Bantus living along the Tana River with limited support.

This project was initially designed as an emergency response to drought affected population to run from 1<sup>st</sup> November 2006 to 30<sup>th</sup> July 2007. However, and following November-December 2006 floods that destroyed property, crops and irrigation infrastructure amongst the target communities, the project was modified (vide ADA approval dated 24<sup>th</sup> January 2007) to an emergency response to communities affected by natural disasters with a revised closure date of 30<sup>th</sup> September 2007. The key change for this project was a shift from emphasis on improving the livelihoods of drought affected population to assisting the floods affected communities regain their livelihood security.

The project entered into partnerships with existing group farms whose irrigation infrastructure and crops were damaged during the floods in November/December 2006. A total of 13 farms were supported through provision of engines, pumps, farm tools (sprayers, wheelbarrows, hoes, spades, pangas), seeds (maize & beans), seedlings (bananas & mangoes) and donkey carts besides some basic extension services. Relations were maintained with the Office of the President (Provincial Administration & Special Programmes/ALRMP), Ministry of Agriculture, Ministry of Water & Irrigation and other agencies collaborating through the Garissa District Development Steering Group.

As part of design the project was to undertake an end of programme final external evaluation. This report fulfils that requirement.

### 1.3 Evaluation Methodology

The evaluation applied a rapid appraisal approach which involved consultative meetings with farmers, focus group discussions, key informant interviews, observations and some substantive audio and photography coverage. Reference was made to secondary data available in the project and Government offices alongside other technical materials.

Interviews were held with farmers and their officials at eight (8) of the thirteen (13) farms supported by the project (see Photo 1). The visited farms were distributed along the 3 administrative divisions of Bura (Nanighi and Hidaya farms), Central (Towfique, Salama & Nasib farms) and Sankuri Division (Tawakal, Sankuri and Tasbih farms). Other interviews were held with Government of Kenya staff and an array of CARE staff.

Triangulation (comparison of data between sources) helped to improve the quality (validity and reliability) of information

use of checklists on key issues improve the process of information

Photo 1: An interview with a farmer at Salama Farm



while helped to gathering.

The study team comprised of a lead consultant with experience in project design, monitoring and evaluation, two research assistants with reasonable knowledge on the project and a driver. CARE's sub-office in Garissa provided logistical support that made the field work possible.

The robustness of the evaluation was limited by the absence of household level data on the target community and the lack of transaction data (records by farmers and project staff) responding to the project deliverables as things happened. Some basic tools for a panel data collection framework (see Annex 3) had been proposed in the November 2006 Baseline Study but were not adopted probably owing to resource constraints, particularly the slashing of the agricultural extension budget. As a result, information at the farmer group level has been used to assess the performance of the project. The information collected was organized along key thematic concerns of the evaluation, especially appropriateness and effectiveness of the project interventions.

## 1.4 Structure of the Evaluation Report

The report contains an executive summary providing a succinct understanding of why the evaluation was initiated, what results were expected from the project, how the evaluation was carried out, and what was achieved and learned. The main body comprises this introductory section, a presentation of findings (sections 2.0 to 6.0 covering project relevance, effectiveness, efficiency, effects /impact, and, sustainability respectively) and a discussion on the findings (sections 7.0: lessons learned & section 8.0: conclusions and recommendations). Table 1 below helps to link the objectives as per the evaluation TORs with the expanded report format applied on this report

<b>Objective 1:</b> Effectiveness of the ERDAP project in the recovery of livelihood security of the target population	Section 3.0
<b>Objective 2:</b> Appropriateness of ERDAP's irrigated agriculture strategy in the recovery of livelihood security of the target population	Section 2.0
<b>Objective 3:</b> The appropriateness and effectiveness of group farms and community participation	Sections 2.0 & 3.0
<b>Objective 4:</b> The degree to which project objectives have been achieved	Section 3.0
<b>Objective 5:</b> Make recommendations with respect to technical interventions, management, sustainability, community participation and capacity building as well as partnerships with key stakeholders	Section 8.0
Additional Sections (i.e., not on evaluation TORs) covering Efficiency, Effects/Impact, Sustainability and Lessons Learned	Sections 4.0, 5.0, 6.0 & 7.0



## **2.0 PROJECT RELEVANCE (APPROPRIATENESS)**

This section establishes the commensurateness of the project in terms of local and national needs and priorities and describes key changes in the project during implementation.

### **2.1 Justification**

Garissa District is one of the arid districts of Kenya and registers among the lowest welfare indices in the country. The proportion of individuals living below the poverty line is estimated at 64% in the North Eastern Province, the 2<sup>nd</sup> highest poverty incidence in the country after Nyanza Province (65%), indicative of the community's inability to command resources. Other deprivations are evident in key areas such as education, health, nutrition and access to credit as described presently.

In education, about 40.5% of the school going age (6-17 years) population in Garissa has never attended school, even for a single term, compared with 6.2% nationally<sup>1</sup>. Gross primary and secondary school attendance rates in the district are estimated at 71.5% and 15.3% respectively, compared to national rates at 117% and 40% respectively. There is a high incidence of parents not taking children to school (58.1%) and large proportions of children failing to go to school because of working either for pay or at home (15.8%). The proportion of the district's population aged 15 years and above who cannot read and write<sup>2</sup> is almost three times (57.9%) the average of rural Kenya (20.3%).

Surprisingly, health estimates from the KIHBS (2005/6) show that the proportion of individuals who were ill in the District was considerably lower (18.9%) than the national average of 27.4% with the most commonly mentioned sickness being malaria, accounting for 47% of the illnesses. About 20.3% of the illnesses were self-diagnosed (compared to 36.1% nationally), while 73.6% were diagnosed by a medical worker (compared to 46.2% nationally). However, the KIHBS also shows that 77% of the children in the district are delivered at home and 22.6% in health facilities with a large 76% (almost three times the national average of 27.4%) of the children delivered by untrained traditional birth attendants. Estimates further indicate that more than one quarter (26.8%) of the children in the district were underweight, reflecting both conditions of chronic and acute under-nutrition and confirming the extent of nutritional problems.

Only 3.5% of households in North Eastern Province are able to access credit, which marks the lowest access countrywide and compares poorly with the leading Nyanza Province (51.6%) and the national average (30.7%). Furthermore, all the North Eastern households observed to have taken credit during the 12 months of the KIHBS survey were distributed between the other two districts (Wajir and Mandera) but not Garissa District.

Available data (national level only) indicate that households classified the occurrence of death in a member of the household to be the most severe shock in terms of negatively affecting the welfare of the household. This is followed by loss of salaried employment, illness, fire and drought/floods in that order. Garissa district has experienced long spells of drought as well as

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<sup>1</sup> Kenya National Bureau of Statistics (2007). *The Kenya Integrated Household Budget Survey, 2005-06*

<sup>2</sup> Based on self assessed literacy

floods after every 4-5 years. The most recent drought was in 2004 whose effects were further compounded by the November-December 2006 floods.

The main economic activity is pastoralism whose productivity over the years has suffered from recurrent droughts, flooding, livestock diseases (such as the Rift Valley Fever outbreak in 2007) and unfavourable markets occasioning the pastoralists to diversify from livestock keeping to adoption of irrigated agriculture as one of the viable options for livelihood security. This situation existed during project start-up and remains a valid justification for the intervention.

## 2.2 Changes of the Project

The project started in November 2006 as the Emergency Response to Drought Affected Population designed to overcome the effects of recurrent droughts which had resulted into a precarious food insecurity situation for a majority of the Garissa District's population. Within the first month of operation, Garissa District was inundated with heavy rains and floods that again worsened the livelihoods of the local community, especially those in farming. To better meet the new challenges, the project was modified and changed its name to Emergency Response to Disaster Affected Population. A summary of the modified design is presented in Annex 4a while the original design is presented in Annex 4b for reference.

The project redesign involved a shift of the development objective from improving livelihoods of drought affected communities to livelihood recovery of drought and flood affected communities. While the original strategy was comprised of "provision of improved farm inputs, access to irrigation water, and markets", the modified strategy removed access to markets but retained "provision of improved farm inputs and sustainable access to irrigation water." The most prominent change in the delivery of services was the increment in the budgetary allocation for engine/pump sets, an aspect recommended before the floods in the original baseline study. The other significant change was removal of the agricultural training component, apparently as a result of the enhanced budgetary allocation for engine/pump sets.

## 2.3 Relevance in Relation to National Needs

Kenya's medium term strategy to foster economic growth and reduce poverty is entrenched in three fundamental pillars (economic growth, poverty alleviation, and, good governance) as described in the Investment Programme for Economic Recovery Strategy (IP-ERS), 2003-07. To improve equity and reduce poverty, the IP-ERS focuses on universal primary education, improved access to basic health care, expanded productive capacity in agriculture, development of the traditionally overlooked arid and semi-arid areas, and upgrading the living conditions of the urban poor. As already mentioned, Garissa District is one of the arid areas referred to here.

Sub-sector priorities for crop development in Garissa District<sup>3</sup> include improving agricultural output, improving on the value of livestock and crop output (products), and, marketing of agricultural products. The Garissa District Development Plan, 2002-2008, recommended putting more land under irrigation and highlighted improved production of horticultural products like tomatoes, mangoes, brinjals, melons, onions, etc., which are in great demand. Also recommended is for farmers to get loans and form group farms and for agencies to encourage gravity irrigation system which is cheaper.

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<sup>3</sup> *Garissa District Development Plan, 2002-2008. Ministry of Planning and National Development, pp26-27*

## 2.4 Relevance in Relation to the Target Groups

Recurrent droughts over the years weakened the pastoralist resource base of the target community leaving them severely food insecure. As an option to enhancing their livelihood security some of the pastoralists took to irrigated agriculture along River Tana. Also farming along River Tana are marginalized riverine communities (among them former pastoral drop-outs as well as the minority Bantu community) eking out a living from alluvial soils deposited by floods and receding flood water (see Photos 2.1 – 2.4).

In an already weakened productive system, the floods of November 2006 submerged many of the farms along the river, destroying irrigation infrastructure, crops and other property and in the process consigning many households to destitution. Consequently, the ERDAP project, aiming to assist these farmers who have been affected by the natural disasters regain their livelihood security, is found congruent with the needs of the target group.



**Photo 2.1:** Women and children take their livestock to the river in search of water near Salama Farm



**Photo 2.2:** A village submerged in the Garissa floods



**Photo 2.3:** Extension services at Hola Umoza – a riverine minority (Bantu) community living near Nanighi trading centre in Bura Division



**Photo 2.4 (below):** A harvest of maize using alluvial soils and receding flood water at Hidaya Farm – a riverine community (ex-pastoralists)

### 3.0 EFFECTIVENESS

The project effectiveness is here determined in terms of its defined objectives, showing the extent to which such objectives have (probably) been met.

#### 3.1 Achievements against Project Objectives

##### 3.1.1 Achievements against provision of farm inputs/tools

**Result 1:** Improved farm inputs and tools provided to farmers in selected communities

The project aimed to provide improved farm inputs and tools. The tools issued comprised of machetes (pangas), hoes, spades, wheelbarrows and knapsack sprayers for each group. Photo 3.1 shows a group of farmers trying out new hoes provided by the project. The key indicators for assessing this result are discussed below.

Photo 3.1: Farmers try out new tools



**Indicator 1.1:** On average a 50% reinstatement of food production in communities

target

Overall, the target farms registered a 32% reinstatement of food production (see Table 3.1a below). The highest reinstatement of crops was registered under tomatoes demonstrating both the popularity of the crop amongst the target communities as well as the seasonal preference since the crop is largely planted during the months of April-June. These months traditionally coincide with long rains even though there were no rains this year. There was hardly any reinstatement of beans, kales and pawpaws. Beans were said to perform poorly in the area (for instance, Tasbih and Nanighi's crops reportedly failed to germinate) while kales had a very poor market as it is reportedly consumed by farm labourers and the few 'non-locals' in Garissa town only.

**Table 3.1a: Percent reinstatement in production volume and sales of surplus produce**

Description	Production (tons)			Sales (Ksh'000s)		
	Before	After	Recovery	Before	After	Recovery
Bananas	30	6	22%	329	71	22%
Mangoes	29	10	35%	1,710	600	35%
Tomatoes	31	22	71%	220	144	65%
Melons	9	1	7%	648	30	5%
Capsicum	30	5	16%	592	96	16%
Others <sup>x</sup>	9	-	0%	108	-	0%
<b>Total</b>	<b>137</b>	<b>44</b>	<b>32%</b>	<b>3,606</b>	<b>941</b>	<b>26%</b>

<sup>x</sup> Others = maize, beans, onions, kales and paw paws

**Indicator 1.2:** On average at least 20% reinstatement in cash available within target communities as a result of sale of surplus agricultural produce

Cash reinstatement was estimated at 26% of the cash available during the period before the floods (see Table 3.1a above). The value of yield declared to have been shared among group members for own consumption (as in the case of tomatoes for Sankuri Women Group Farm)

was not computed even though the yield is accounted for. As well, there were other success cases like Hidayat Group Farm's good maize harvest and good yields in tomatoes, capsicum and water melons which were grown using receding flood water without CARE support. Such yield would not be seen as an outcome of the project.

### 3.1.2 Achievements against provision and servicing of engine/pump sets

#### Result 2: Safe access to irrigation water

**Indicator 2.1:** On average a 20% reinstatement in the acreage under production for enhanced food production

Farmers from 8 of the farms supported by the project indicated that the acreage under production was reinstated by 41% of the pre-floods situation (see Fig.3.1a below). There were wide variations in the percent reinstatement of acreage under production from a low of 15% for Sankuri Women Group to a high of 94% for Tasbih.

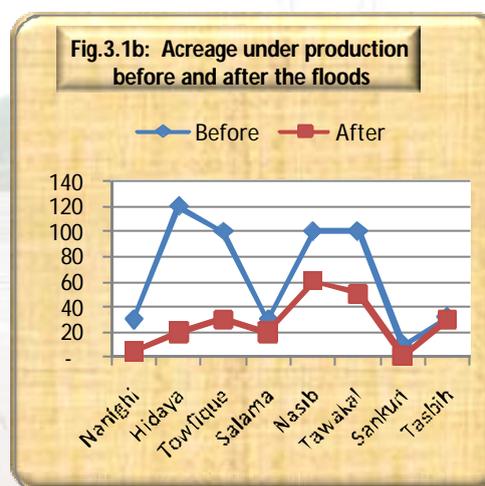
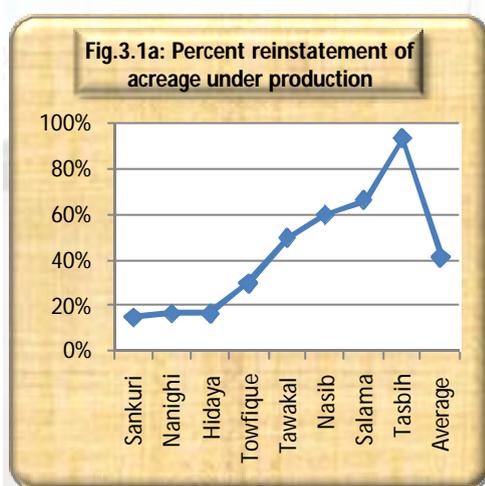


Fig.3.1b above indicates the variations in acreage under production between the period before floods and the period after project interventions. Some farmers explained that part of the reasons for not achieving a higher reinstatement was due to lack of heavy tractors (caterpillar) for bush clearing and frequent break-downs of the caterpillar in the District. For instance, one farm had raised Ksh120,000 for the caterpillar but the money was refunded after one month of waiting as the caterpillar was not available due to break-downs at every farm it ventured and also due to high demand. Other farmers said that the cost of bush clearing was a hindrance to expansion of land under cultivation.

**Indicator 2.2:** Effective watering system established (minimum requirements for river bank farming established)

While the project indicated the need for a flood recovery strategy (land reclamation, river bank reinforcement and infrastructure recovery) opportunities were missed towards implementation of such activities that would have demonstrated safe access to irrigation water. However, and despite the project's failure to establish the 'minimum requirements for river bank farming', it is envisaged that appropriate measures would have involved construction of dykes, leaving space

between the river bank and farmed area, river bank reinforcement by use of gabions besides encouraging farmers to plant trees along the river especially where the river banks had already been cleared for farming. In an earlier attempt to river bank protection, HIDAYA had planted 70 acacia plants towards this effort but all save for 1 plant were washed away by the 2006 floods. Photo 3.2 demonstrates the level of river bank erosion as seen along the Hidayah Farm.



Photo 3.2: River bank erosion along Hidayah Farm

In view of other irrigation practices, this evaluation noted that horticultural crops were likely to be watered twice a week while long term crops (mainly fruits trees such as pawpaws, mango and avocados, as well as bananas) were watered once a week - a practice that routinely got compromised due to various capacity gaps. All group farms visited were likely to apply excess water, had poorly designed and poorly maintained canals, and exhibited poor farm planning (save for Salama Farm) with small plots and highly diversified crops scattered around the command area resulting in cumbersome irrigation scheduling.

### 3.1.3 Achievements in livelihood recovery

**Project Goal:** Livelihood recovery for the drought and flood affected communities through the provision of improved farm inputs and sustainable access to irrigation water

**Indicator:** 75% of farmers confirm to have access to food and household income as a result of: crop replacement, reinstatement of acreage under cultivation and production volumes, improved access to efficient farming tools and improved farming practices

There was no household level information to confirm this statistic but group level data demonstrate that there was an average recovery of food production by 32% (hence access to food) and an average recovery of sales income (access to household income) by 26% (see section 3.1.1 above) thus confirming that active farmers improved their access to food and household income. The number of active farmers is derived from the only available irrigation schedules from Tawakal farm (29 active versus 68 registered members) and Salama farm (8 active versus 30 registered members). This translates to active farmers being 38% of all registered members, equivalent of 301 active farmers out of 797 registered members from all the 13 groups supported by the project.

Since the relevant data was captured at group level only, the variations in household access to food and income could not be immediately determined. However, and since the group level data comprises of all active farmers, it is still credible to conclude that all the active farmers improved their access to food and household income thus surpassing the target of 75% of farmers. But if reference to 'farmers' was taken to mean all registered group members, only the 38% of the farmers considered active would effectively be argued to confirm access to food and household income following project interventions. The key aspects of this indicator are discussed below.

a) Crops replacement through seed distribution

Improved crop production through distribution of certified seeds was recommended by the Kenya Food Security Steering Group (KFSG, 2005) and CARE adopted this as one of its interventions. Table 3.1b below indicates the planting materials procured by the project for distribution to target beneficiaries thereby improving the availability and access aspects of seed security. About 20.3% of maize seed and 46.9% of bean seed did not reach the target beneficiaries – a situation described here as a system leakage. On their part, farmers failed to plant 79.4% of total maize seed procured and 53% of total bean seed procured – this stage has been described as leakage during administration (i.e., during planting). This translates into an overall utilization rate of 0.3% for maize seed and 0.1% for bean seed suggesting that the selection of these crop enterprises was unpopular. Both banana and mango seedlings received a high utilization rate of 94% with an overall leakage of 6% attributable to system losses.

**Table 3.1b: Distribution of planting materials**

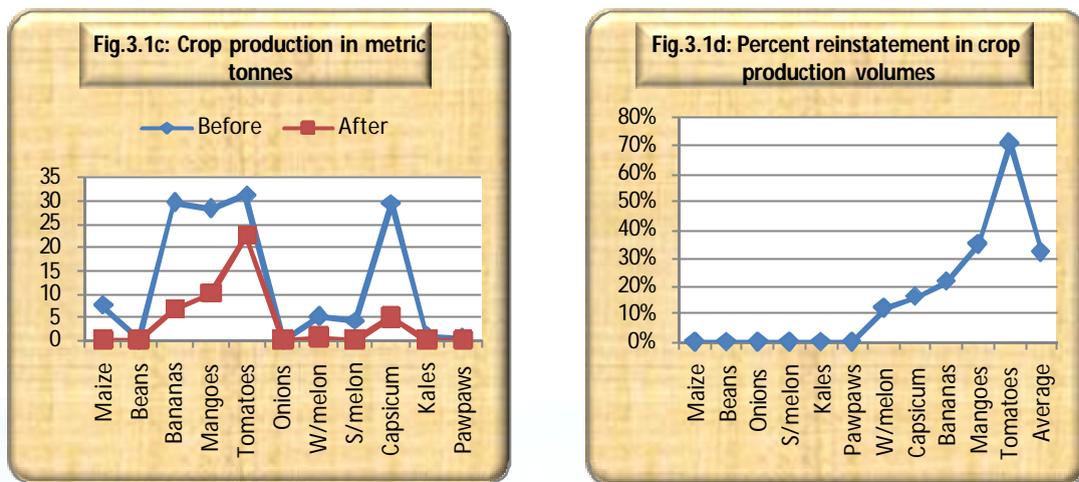
Description	Maize Seed (kg)	Bean Seed (kg)	Williams TC Banana Seedlings	Mango seedlings
Procured	2,000	3,000	1,000	1,000
Not issued	406	1,406	60	60
Issued	1,594	1,594	940	940
Planted	6	4	940	940
System leakage	20.3%	46.9%	6.0%	6.0%
Admin leakage	79.4%	53.0%	-	-
Overall leakage	99.7%	99.9%	6.0%	6.0%
Utilization rate	0.3%	0.1%	94.0%	94.0%

The low utilization rate for maize and bean seed suggests little scope for crop replacement through these seeds during this season – farmers cited the October-November rains as being more appropriate for maize. However, the mango and banana seedlings were well adopted and farmers even indicated they would want more, say, a minimum of 10 seedlings of each crop per farmer since these were among the most valued crops and are better able to survive droughts and floods compared to other crops.

Overall, crop replacement through seed distribution was computed at zero for maize and beans and less than 5% for bananas and mangoes using the example of Salama Farm who were issued with 50 mango seedlings to replace a loss of 1000 plants as well as 50 banana seedlings to replace a loss of 1200 plants.

b) At least 50% pre floods production volume measurable by percentage of acreage being cultivated and the production volumes reinstated

The reinstatement of acreage under cultivation reached an average of 41% for all the groups interviewed (see Fig.3.1a in Section 3.1.2 above) while production volumes were reinstated to about 44 tons from a pre-floods volume of 137 tons (the “before” and “after” production volumes for each crop are shown in Fig.3.1c below). This translates to 32% reinstatement of pre-floods volumes, falling short of the target of 50% by 18 percentage points. Fig.3.1d below indicates the percent reinstatement in crop production volumes by select crop enterprises. The reinstatement of production volumes was higher in tomatoes, the most popular crop for the April-July season, and lowest in the maize enterprise which is preferred for planting during the October-November rains.



c) Access to efficient farming tools

Improved crop production through distribution of appropriate farm tools was also recommended by the Kenya Food Security Steering Group (KFSG, 2005). The ERDAP project issued each of the 13 target groups an assortment of farm tools including 20 machetes (pangas), 10 hoes, 10 spades, 1 wheelbarrow and 4 knapsack sprayers. This helped farmers to replace old and worn out tools and/or access tools they did not have before. The tools eased the activities on the farms and further encouraged the farmers to resume farming and hence contributed towards reinstatement of acreage under production and production volumes. Concerns were raised about the uniform distribution of tools irrespective of the size of the groups or size of farms while other concerns related to the knapsack sprayers which were said to be too delicate in handling and easily broke down.

d) Improved irrigation practices

The initial project design intended to promote improved irrigation practices through an effective watering system in terms of irrigating horticultural crops at least twice a week and once a week for the longer term crops. The modified project design revised this to read an 'effective watering system established' through minimum requirements for river bank farming. None of these approaches were actively monitored by the project due to budgetary constraints with respect to extension work. However, observations and discussions with farmer groups during this evaluation indicate that most of the groups (Nanighi, Nasib, Salama, Sankuri, Tasbih, Khulmis) farmed some distance from the river bank while a few (Hidaya, Towfique and Tawakal) discharged water to earth drop structures too close to the river bank besides farming. Farming some 30 metres away from the river bank is widely accepted as measure for reducing river bank erosion.

3.1.4 *Achievements in overall objective*

**Overall Objective:** Communities in Garissa District affected by natural disasters regain their livelihood security

**Indicator:** Community members perceive their household security and economic opportunities reinstated to at least 50% pre flood situation

The target communities perceived their livelihood security and economic opportunities to have been reinstated to about 33% of pre-floods situation (stated by the farmers as a recovery of one third of where most of them were before the floods) and hence falling short of the target 50%. The level of reinstatement of economic activities is considered commensurate to the level of inputs injected by the project. For instance, some groups who previously operated 4 engine/pump sets (such as Tawakal farm) were now operating with the only one engine donated by the project and hence resumption of activities would be limited accordingly. Midstream changes necessitated by floods also affected the project's lifespan such that farmers could only manage one crop cycle by the end of project.

Besides the above indicator, the project also aimed to reach 1,000 persons described as "200 direct and 800 indirect beneficiaries". The overall group farms' listing indicates that there were 797 registered members (see Table 3.1c).

Description	Registered group members			Active (38%)	Percent of total
	Women	Men	Total		
Marginalized riverine group/ Bantu	20	21	41	16	5%
Marginalized riverine group/ pastoral drop-outs	32	22	54	20	7%
Pastoral drop-outs	332	370	702	265	88%
<b>Total</b>	<b>384</b>	<b>413</b>	<b>797</b>	<b>301</b>	<b>100%</b>
% by gender	48%	52%	100%		
Target # of farmers (direct beneficiaries)				200	
% farmers direct beneficiaries reached				151%	

Accounting for active and non-active members as derived in section 3.1.3 above, the project effectively reached 301 small scale farmers (the direct beneficiaries) thus surpassing the target of 200 direct beneficiaries. At an average household size of 6 members, this translates to supporting a total of 1,806 persons (1505 being indirect beneficiaries), convincingly surpassing the target of 1,000 persons.

The marginalised riverine Bantu accounted for 5% of the beneficiaries followed by the marginalised riverine pastoral drop-outs at 7%. The bulk of the beneficiaries (88%) were pastoral drop-outs largely living in villages (including peri-urban Garissa) away from the farms.

Overall, there was fair distribution of beneficiaries between men (52%) and women (48%) as noted in Table 3.1c above. Emphasis on supporting women was visible through the selection of one (1) women group (Sankuri Women Group) and the selection of Khulmis Group Farm whose women were separately registered as a women group even though the household plots on the Farm were not demarcated by gender. On their part, the Nasib Farm reports the presence of 30 women on their register who are heads of households. The women in Nasib Group Farm were in the process of registering as a women group (in the fashion of Khulmis Group Farm mentioned above) to further promote women participation in the group activities.

### 3.2 Factors Affecting Achievement of Objectives

Factors and processes found to have had a positive or negative impact on the achievement of objectives include:

#### Positive

- Farmer interest helped to sustain activities despite resource constraints

- Availability of irrigation water throughout the year
- The long rains in April-May 2007 did not exacerbate the situation after the floods
- Lack of intra-group conflicts
- Supportive political environment including revitalised district level government departments
- Partnership with Ministry of Agriculture especially in training
- Availability for most of the groups
- Access to farm inputs, tools and irrigation equipment

#### Negative

- The preference by farmers to plant maize and bean seed during the yet to come (that is by end of project) October-November rains limited the expected crop under cultivation and the subsequent yields measurable within the project period
- The option of providing new engines to be coupled to old pumps limited the effectiveness of the intervention as the old pumps frequently broke down and the new engines would rendered idle in the meantime
- A land tenure conflict was cited as a factor limiting the project's support to the only selected marginalised riverine Bantu community thus lowering the potential outcomes from working with this group
- Inadequate pumping capacity (relative to previous capacity) determined the proportionate reinstatement of acreage/crop under cultivation beyond the resource capacity of the project

### 3.3 Effectiveness of Group Farms and Community Participation

The project design anticipated training of farmers in group reconstitution but in practice there was no group dynamics training instituted owing to a slashed extension budget. Nevertheless, the project interacted with beneficiaries through farmer groups which were assumed to be active and cohesive on the basis of a common clan nomenclature within each group. However, no formal assessment on group management was undertaken and neither was training conducted towards institutional capacity building, as already explained, due to slashing of the agricultural extension budget. Field visits indicated that the project was very dependent on group officials, especially the Chairmen, instead of groups (or group committees). Besides, most activities on the farm such as fuelling of the engines was an individual responsibility, choice of crop and management of canals were individually sanctioned thus making the group concept rather weak. Exceptions were noted in Salama, Tawakal and Tasbih farms where decisions on cropping patterns were well coordinated at group level.

The Tawakal Group reported to have had 4 engine/pump sets which were all destroyed by the 2006 floods. Following the provision of a new engine by CARE and the repair of another considered serviceable, the project was still operating at less than half its original pumping capacity. The group resolved to irrigate the perennial fruit trees only (mangoes, citrus, avocado, etc) and defer any planting of the otherwise popular horticultural crops till such a time as their pumping capacity may have improved sufficiently to cater for the other crops. This decision was respected and enabled the farmers in the group to revive their fruit trees and avoid water stress. It is a good example in the effectiveness of group farms and community participation.

## 4.0 EFFICIENCY

### 4.1 Progress in relation to original planning

The November 2006 floods affected activities since most villages were inaccessible for three months – up to about end of January 2007. The floods occasioned modifications to the design of the project of whose approvals were reportedly effected January 2007.

Most activities were done on schedule as per the modified work plan save for repairs of old engines belonging to group farms. The service/repair of engines for Nasra (2 engines) and one each for Tasbih, Qorder, Khulmis, Tawakal and Qabobey took place between 16 May – 20 June 2007 instead of the planned dates within March and April 2007. However, the distribution of engines in March 2007 did not result to their immediate use on the farms due to their incompatibility with the old pumps that the farmers had. During the evaluation, Nasib Farm was still struggling with a new engine (issued by CARE) coupled to a pump that frequently broke down and rendered the engine inefficient (see Photo 4). However, and indicative of a coping mechanism, the farmers leased another engine/pump set “from another group in Garissa town” as theirs was being repaired.



*Photo 4: Nasib Farm's broken pump in the foreground and a leased engine/pump set in the background*

Modifications to engines and pumps took about two months. For instance, Nanighi's engine was issued in March but installed at the end of May. Overall, the incompatibility of the new engines and the old pumps meant delays in implementation of follow-on activities as requisite modifications were undertaken. Provision of complete engine/pump sets would optimize results as the frequent break-downs of equipment are checked simultaneously.

### 4.2 Results in relation to the input of resources

The overall assessment by farmers is that they regained about one-third of their household security and economic opportunities compared to pre-floods situation (see 3.1.4 above). This perception is based on their full appreciation that the project enabled/motivated a majority of them to go back to their farms as well as on the reality of how much of their farms they had been able to revive by the end of the project.

The provision of new engines without pumps was seen to introduce delays in implementation and inefficiencies (arising from breakdowns of the old pumps) during implementation (see 4.1 above) while the provision of maize and bean seed during the April-May season was considered inopportune as farmer preference angled towards horticultural crops like water melons and tomatoes considered more lucrative during that season (see 3.1.3 above). The reinstatement of acreage under cultivation and the production volumes (and sales) achieved were obviously less than would have obtained if the engines worked earlier and more efficiently and seeds of more popular crops during this season were introduced in place of maize and beans.

## 5.0 EFFECTS/IMPACT

The impact (effects) of the project on the general situation of the target communities was assessed in view of local priorities/needs as discussed below.

### 5.1 Local Priorities, Local Needs

The local priorities identified under the Kenya Food Security Group in an assessment carried out in 2005 re-affirmed the priorities under the Garissa District Development Plan, 2002-2008. These were: improved crop production through certified seeds and use of appropriate farming tools; absence of agencies supporting crop production in the area; inadequate market access; lack of farm inputs, seeds and tools; inadequate staffing/funding at the department of agriculture; frequent break-down of engine/pump sets; low adoption new technologies; wildlife menace; and, limitations associated with the communal land tenure.

### 5.2 Impact on Target Groups

Project interventions impacted the target group positively in terms of: improved access to farm inputs, seeds and tools; linking farmers to a sunflower processor (see Photo 5) which is likely to have long term impact on market accessibility, hence on livelihood security; advocating for other agencies to support crop production in the area; and, reviving farmer morale to resume farming through the provision of engines (absence of pumps in some cases notwithstanding).

Negative effects were noticed through the low utilization of seeds due to poor seed identification/selection as well as break-downs of pumping stations due to coupling of new engines with old pumps. The reported land tenure conflict denied the project scope for assisting the minority group.

### 5.3 Impact on Institution Building

The project intention to train farmers on group reconstitution did not take effect mainly because of slashing of the extension work budget. With a near zero extension work budget and farmers living away from the farms, the project interaction with group members was mainly handled through group officials thus limiting the mentoring that project staff would have conducted on the individual farmers particularly with respect to group dynamics.

### 5.4 Other Effects of the Project

As part of its visibility work, the project erected sign-boards with directions to group farms and recognizing the support of CARE and financing by Austrian Development Cooperation. This trend peaked with some other agencies erecting similar sign-boards and hence increasing overall awareness of the efforts towards irrigation farming. In a negative sense, one such sign-board erected by CARE was uprooted suggesting competing interests among the beneficiary community and indicating the need for further awareness to ensure that overzealous persons do not destroy visibility materials.



*Photo 5: Garissa farmers on tour at a sunflower processing plant in Thika Town*

## 5.5 Factors that Explain the Impact Ascertained

The overriding factors affecting the impact of the project include the short duration of the project, changes to the design of the project mid-stream due to emergence of floods as well as revisions to the budget to cater for higher demands arising from the destruction on property and irrigation infrastructure. The slashing of the agricultural extension budget was a significant factor not only in reducing extension services but also in lessened focus towards the proposed panel data monitoring framework. Other factors include deep seated land tenure problems that were beyond the scope of this project.

## 6.0 SUSTAINABILITY

### 6.1 Extent of sustainability

The provision of engine/pump sets will help sustain irrigated crop production in the short and medium term. The intervention is said to have spurred interest in other agencies (such as the Umoja Maintenance Ltd – a sunflower seed processor) to support crop production and marketing in the area further enhancing sustainability. However, sustainability may be impeded by the predominantly communal land tenure system which could be rallied against individual s'/groups' expansion requirements and/or the acquisition of research land needed by institutions like the Kenya Agricultural Research Institute (KARI) as there is likely to be no land adjudication. Inadequate research land affects the ability of KARI to undertake adaptive research aimed at resolving poor flowering, withering and pest infestation of, say, tomatoes during the January-March hot season (*Jilal* in Somali) when tomatoes fetch a good price in the market and in turn affects the sustainability of the tomato enterprise among others

The low allocation of resources towards agricultural training as well as training in irrigation management further affects the sustainability of project achievements as the scope for training in efficient farming practices is reduced. Maintenance of irrigation equipment may be affected by lack of group savings while, by itself, pumping water from the river remains inefficient in the long term with cost-effective solutions only in gravity-fed systems.

Irrigated crop production still faces the risk of floods since the requisite flood control and river bank protection measures were not feasible under the project. The sustainability of irrigated farming was also subject to the returns on the crop enterprises relative to other competing livelihood engagements such as the more popular livestock keeping and the widely practiced wholesale and retail trading. The relative importance of livestock and crop farming among the target households could not be immediately determined but should be assessed in future programming.

Group members were fairly distributed between men (52%) and women (48%). During this evaluation's field visits women were particularly visible in Nanighi (best plots for bananas were owned by women), Nasib (with 30 women who are head of households), Hidaya (see Photo 6) and Sankuri (a women group). There was hardly any presence of women during visits to Salama, Towfique, Tawakal, Tasbih and Khulmisfarms.

Slashing of the extension budget reduced resources for institutional capacity building and hence limited opportunities for mentoring group members in sustainable organizational development issues.

## 6.2 Factors Influencing Sustainability

This section assesses the extent to which the project reflected on and took into account factors which, by experience, have a major influence on sustainability. The improved budgetary allocation for the Department of Agriculture at the District level indicates the likelihood of sustainable extension services in the medium term even though the project's collaboration with the department was based on one-off events. The project took account of the presence of adequate irrigation water as a factor for sustainability and also beefed up farmer morale in crop production thus improving the likelihood of sustaining the interventions.

Factors impeding the likelihood of sustainability of project achievements included short term funding (though this was by design since it was meant to be a short term relief project), very thinly spread extension work due to slashing of the related budget while some groups occupied land with problems beyond the scope of the project. For instance, land at Nanighi group farm was said to be full of cracks and, according to the Ministry of Agriculture staff, the group needed to relocate their farming to a more suitable land. In the case of Sankuri Women Group, their initial farm was extensively destroyed by the 2006 floods such that they have been leasing land from another group (Bara Farm) for the duration of the project. The leased land is far from the river with problems in pumping water to the farm and hence making this location unsustainable. Overall, factors such as application of excess water, poor canal management, poor farm planning and poor crop husbandry are bound to affect the sustainability of the farming enterprise due to soil degradation among other effects.



*Photo 6: A farmer from Hidaya awaits transport to ferry tomatoes to a local market*

## 7.0 LESSONS LEARNED

### 7.1 Operational Lessons Learned

The project indicated delays in delivery of project materials/equipment and some logistical problems compounded by a poor public transport system within the target area. The logistical challenges were brought about by the competing demands of the largely relief orientation of the project versus the underlying need for farm level extension services. The use of motor-bikes for extension staff may offer a potential solution.

The operational decision to provide engines without pumps caused implementation delays as necessary modifications were being done to make the new engines and the old pumps compatible. Issuance of complete engine/pump sets is recommended to ensure optimal results.

The project issued planting materials to non-target groups referred to as 'trial farms'. The absence of modalities for monitoring the 'trial farms' made it difficult to ascertain the associated outcomes.

### 7.2 General Experience

General experience: Partnerships: effective partnerships with the technical departments of agriculture, irrigation/drainage, social services as well as the provincial administration would make for good advocacy to ensure that the short term support by the project is offered continuity by departments/agencies with long term mandate in the target area.

Irrigation capacity: Minimum irrigation infrastructure requirements for small scale farmers lifting water from River Tana by pumping should be encouraged so as to stimulate improved farming techniques on the one hand and avoid perpetuating inefficient farming practices on the other hand. The District Irrigation Officer recommends some basic package comprised of well designed schemes, bush clearing, canal raising, division structures, farm store, and, a shallow well (for domestic water consumption). In the long term, large scale gravity-fed system is the preferred way for irrigation in Garissa District even though this was not feasible under the scope of this project.

## 8.0 CONCLUSIONS AND RECOMMENDATIONS

### 8.1 Conclusions

Overall, the project surpassed its target of reaching 1,000 people as it reached 1,806 of the population affected by disasters (droughts and floods). These comprised of 301 direct beneficiaries and 1,505 indirect beneficiaries. A total of 13 farmer groups were assisted, surpassing the 10 targeted at inception. The project was found relevant as it provided relief to a population with a high incidence of poverty and whose inability to command resources has been further compromised by natural disasters.

The target communities (specifically all the active farmers) perceived their livelihood security and economic opportunities to have been reinstated to about one-third of the pre-floods situation with a 41% reinstatement of acreage under cultivation, 32% reinstatement in production volumes and a reinstatement of 26% in household income from sale of surplus produce. While not every target was fully met, the project is considered an overall success in view of its ability to change course seamlessly during implementation so as to address the emergence of a new disaster (floods), ability to substantially deliver its services within a shortened period and observing quality programming despite a slashed budget for training.

### 8.2 Recommendations

**Technical:** Increased investment per target group to ensure optimal support arrangements including design of schemes, canal lining and division boxes alongside provision of engine/pump sets and other farm inputs (see also discussion under section 7.2 above). The community appeal for training due to their short history of farming implies that extension services should be prioritized.

**Management:** The management structure, particularly staffing, allocation and control of vehicles should be consistent with the depth of mentoring required in an agricultural project where distribution of inputs without sufficient and timely follow-up on implementation over the entire crop season is unlikely to be effective.

**Sustainability:** Investments in flood control and irrigation infrastructure (such as scheme design and canal lining) and ensuring farmer participation to improve on ownership and maintenance of irrigation systems would greatly promote sustainable agricultural practices.

**Community participation:** Beneficiary involvement in the choice of services offered is necessary for quality targeting subject to feasibility within the scope of the project. For instance, the project should avoid the socially acceptable distribution of, say, maize and bean seed to every registered group member – whether engaged in farming or not – to a more productive distribution of inputs against viable irrigation capacity.

**Capacity building:** Institutional capacity building particularly for farmer groups should be given priority not only for its value in the promotion of good governance but also as a viable channel for development interventions.

**Partnerships with key stakeholders:** Continued and enhanced partnership arrangements with key stakeholders are encouraged to foster cross-learning and advocacy.

## REFERENCES

1. CARE Proposal, 2006
2. CARE ERDAP – Amendment Justification of 15 January 2007
3. Garissa District Development Plan: 2002-2008
4. ERDAP Project Group Files
5. CARE-ERDAP Baseline Study Report – November 2006
6. CARE ERDAP Baseline Review Report – July 2007



## ANNEX 1: SUMMARY TORs

The end-of-project evaluation will determine the following objectives:

- Objective 1:** Effectiveness of the ERDAP project in the recovery of livelihood security of the target population
- Objective 2:** Appropriateness of ERDAP's irrigated agriculture strategy in the recovery of livelihood security of the target population
- Objective 3:** The appropriateness and effectiveness of group farms and community participation
- Objective 4:** The degree to which project objectives have been achieved, and,
- Objective 5:** Make recommendations with respect to technical interventions, management, sustainability, community participation and capacity building as well as partnerships with key stakeholders



**ANNEX 2: EVALUATION WORKPLAN**

Evaluation WorkPlan						
Time	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Morning	Travel: Nairobi- Garissa	Nanighi HIDAYA	Market Towfique Salama	Nasib Tawakal	Sankuri Tasbih	CARE office (logistics)
Afternoon	CARE office (preparatory meeting)	MOA officials Key informants	Town + CARE office Photos	Photographs (Tana River + view of Garissa Town from Tana River District)	Document Review	Travel: Garissa- Nairobi



## ANNEX 3: INTERVIEW CHECKLISTS

<p><b><u>Agro-Technical Checklist</u></b></p> <ol style="list-style-type: none"> <li>1. Water resources accessibility quantity quality water permit</li> <li>2. Soil: soil texture; structure; profiles &amp; depths; and, salinity &amp; drainage</li> <li>3. Topography</li> <li>4. Capital &amp; Labour availability and cost</li> <li>5. Energy availability</li> </ol>	<p><b><u>Agricultural Records</u></b></p> <ol style="list-style-type: none"> <li>1. Name of crop planted</li> <li>2. Variety of crop planted</li> <li>3. Dates of land preparation</li> <li>4. Area planted</li> <li>5. Amount of seed used</li> <li>6. Type and quantity of chemicals used</li> <li>7. Quantity of hired labour (labour days)</li> <li>8. Dates of harvesting</li> <li>9. Amount of crop harvested</li> <li>10. Amount of crop consumed</li> <li>11. Amount of produce given to others</li> <li>12. Amount of produce retained</li> <li>13. Dates of marketing</li> <li>14. Amount of produce sold</li> </ol>
<p><b><u>Environmental and Health</u></b></p> <ol style="list-style-type: none"> <li>1. Water quality and quantity variations reduced water excess water shifting river bed leaving irrigated farms with no water</li> <li>2. Soil type</li> <li>3. Soil/water management in relation to: erosion; tree planting; waste disposal and hence pollution of soil and water</li> <li>4. Drainage</li> </ol>	<p><b><u>Health Risk Assessment</u></b></p> <ol style="list-style-type: none"> <li>1. Will project lead to favourable breeding sites for water-related diseases</li> <li>2. Involve change in drinking water quality</li> <li>3. Increase transmission of diseases through the human-vector contact</li> <li>4. Involvement of toxic substances</li> <li>5. Involvement of Ministry of Health</li> <li>6. Person responsible for monitoring health issues</li> </ol>
<p><b><u>Evaluation Questions (Household Level)</u></b></p> <ul style="list-style-type: none"> <li>• Asset ownership by irrigators</li> <li>• Nutritional status of the family</li> <li>• Ability to pay school fees</li> <li>• Employment creation</li> <li>• Food security status</li> <li>• Disease incidence</li> <li>• Farmer organization and management ability</li> <li>• Appropriateness of technology use on the project</li> <li>• Erosion</li> <li>• Water logging and drainage problems</li> <li>• Field canal efficiency: <ul style="list-style-type: none"> <li>✓ losses on canals</li> <li>✓ earth canals are affected by soil type</li> <li>✓ slope of water application</li> </ul> </li> </ul>	<p><b><u>Monitoring Financial Performance of an Irrigation Scheme</u></b></p> <p>Financial performance at the plot level:</p> <ol style="list-style-type: none"> <li>a) Train irrigators to keep records of the plots, and to analyze data</li> <li>b) Training subject: <ol style="list-style-type: none"> <li>i) Irrigators to keep records as it happens</li> <li>ii) Records should be kept in a logical manner following the sequence in which the farming operations take place</li> <li>iii) Record format should be simple and easy to understand</li> <li>iv) Recording is a continuous process from start to end of an enterprise</li> </ol> </li> </ol> <p>Other records to keep:</p> <ol style="list-style-type: none"> <li>a) Payments in kind</li> <li>b) Produce consumed</li> <li>c) Gifts/donations to relative/friends/others</li> <li>d) Barter exchanges</li> </ol>

## Modified Logical Framework

<b>Interventionslogik Intervention Logic</b>	<b>Indikatoren Indicators</b>	<b>Quellen der Nachprüfbarkeit Means of verification</b>	<b>Annahmen Assumptions</b>
<b>Oberziel Overall Objective</b> Communities in Garissa District affected by natural disasters regain their livelihood security	Community members perceive their household security and economic opportunities reinstated to at least 50% pre flood situation.	Reports and statistics from Garissa District authorities and Government of Kenya	
<b>Projektziel Project Goal</b>			
Livelihood recovery for the drought and flood affected communities through the provision of improved farm inputs and sustainable access to irrigation water	<p><i>75% of farmers confirm to have access to food and household income as a result of:</i></p> <p>a) <i>Crops replacement through seed distribution</i></p> <p>b) <i>At least 50% pre floods production volume measurable by percentage of acreage being cultivated and the production volumes reinstated</i></p> <p>c) <i>Access to efficient farming tools</i></p> <p>d) <i>Improved irrigation practices</i></p>	<p>Progress reports and periodic reports from districts</p> <p>Reports from Pre-implementation analysis and Final Evaluation</p> <p>Monitoring Reports</p> <p>Actual site visits</p>	<p>The district and government authorities will support CARE's continued intervention in the project area</p> <p>Political, security and economic conditions remain conducive for project operations</p> <p>Implications of the NGO policy do not obstruct operations</p> <p>CARE staff can safely access the project areas</p> <p>The conflict level in project area remains on same or improved level</p> <p>The long rains effect will not further exacerbate the current farm situation resulting into a dismal livelihood security</p>
<b>Ergebnisse Results</b>			
<b>Result 1:</b> Improved farm inputs and tools provided to farmers in	<p><i>Indicator 1.1: On average a 50% reinstatement of food production in target communities.</i></p> <p><i>Indicator 1.2: On average at</i></p>	<p>Progress reports</p> <p>Basic assessment of selected project sites of agricultural</p>	<p>Access to improved farm inputs and irrigation water will have a positive influence on levels of agricultural produce and household income</p>

selected communities	<i>least 20% reinstatement in cash available within target communities as a result of sale of surplus agricultural produce</i>	produce before and after project	Communities will see a benefit from the intervention and actively support / participate in all project activities
<b>Result 2:</b> Safe access to irrigation water	<i>Indicator 2.1: On average, a 20% reinstatement in the land under acreage for enhanced food production</i> <i>Indicator 2.2: Effective watering system established (minimum requirements for river bank farming established)</i>	Feedback from discussion with beneficiaries on developments attributed to the project	
<b>Aktivitäten</b> <b>Activities</b>	<b>Mittel</b> <b>Means</b>	<b>Kosten</b> <b>Costs</b>	<b>Voraussetzungen</b> <b>Pre-conditions</b>
1.1 Conduct pre-implementation review (baseline), and stakeholder consultation 1.2 Damage assessment review after floods 1.3 Procure and distribute new certified horticulture seeds and tools 2.1 Procure and distribute irrigation pumps 2.2 End of Programme Evaluation	Title 1 Personnel Title 2 Material and Equipment Title 3 Other costs Title 5 Evaluation Title 6 Documentation; PR Title 8 Reserve Title 9 Indirect Costs  Main means required for activities comprise:  Project staff Pre-implementation analysis & Final evaluation Material inputs (seeds, farm tools, pumps etc) Documentation/ Visibility materials Management and logistics including cars, support staff	Please refer to Budget	The security situation in the project area remains stable  CARE staff will have access to the target communities  During the coming planting season no further major natural disasters occur  CARE has continued good working relations with stakeholders, especially Ministry of Agriculture  CARE internal procedures and regulations are conducive and responsive

ANNEX 4b: ORIGINAL LFA

Interventionslogik	Indikatoren	Quellen der Nachprüfbarkeit	Annahmen
<b>Oberziel:</b>			
Communities in Garissa District affected by drought have secured a sustainable livelihood	Community members perceive that their households have improved livelihood security / economic opportunities	Reports and statistics from Garissa District authorities and Government of Kenya	The district and government authorities will support CARE's continued intervention in the project area
<b>Projektziel:</b>			
Drought affected communities have improved their livelihoods through the provision of improved farm inputs, access to irrigation water, and markets.	<i>75% of farmers confirm to have increased access to food and household income as a result of: Introduction of new/ improved crops; Increased production volume measurable by percentage of acreage being cultivated and the production volumes; Improved access to efficient farming tools; Improved irrigation practices;</i>	Progress reports and periodic reports from districts  Reports from Pre-implementation analysis and Final Evaluation  Monitoring Reports  Actual site visits	Political, security and economic conditions remain conducive for project operations.  The district and government authorities will support the intervention.  Implications of the NGO policy do not obstruct operations.  CARE staff can safely access the project areas.  The conflict level in project area remains on same or improved level. There will be no conflicts over resources between indigenous populations and agro-pastoralists
<b>Ergebnisse</b>			
<b>Result 1:</b> Improved farm inputs and tools provided to farmers in selected communities	<i>Indicator 1.1: On average a 20% increase in food production in target communities  Indicator 1.2: On average a 20% increase in cash available within target communities as a result of sale of surplus agricultural produce</i>	Progress reports  Basic assessment of selected project sites of agricultural produce before and after project  Feedback from discussion with beneficiaries on developments attributed to the project	Access to improved farm inputs and irrigation water will have a positive influence on levels of agricultural produce and household income  Communities will see a benefit from the intervention and actively support / participate in all project activities
<b>Result 2:</b> Enhanced access to irrigation water	<i>Indicator 2.1: On average, a 30% increase in the land under acreage for enhanced</i>		

	<i>food production Indicator 2.2: Effective watering system established (at least twice a week for the horticultural crops and once a week for the longer term crops)</i>	Training records	
<b>Aktivitäten</b>	<b>Mittel</b>	<b>Kosten</b>	<b>Voraussetzungen</b>
1.1.1. Conduct pre-implementation analysis and stakeholder consultation 1.1.2. Identify beneficiaries 1.1.3 Distribute new certified horticulture seeds and tools 2.1.1. Procure and distribute irrigation pumps 2.1.2 Provide training in appropriate farming and pump management and maintenance	Title 1 Personnel Title 2 Material and Equipment Title 3 Other costs Title 5 Evaluation Title 6 Documentation; PR Title 8 Reserve Title 9 Indirect Costs Main means required for activities comprise: <ul style="list-style-type: none"> <li>• Project staff</li> <li>• Trainer/s for capacity building</li> <li>• Pre-implementation analysis &amp; Final evaluation</li> <li>• Material inputs (seeds, farm tools, pumps etc)</li> <li>• Training materials</li> <li>• Documentation/ Visibility materials</li> <li>• Management and logistics including cars, support staff</li> </ul>	Please refer to Budget	The security situation in the project area remains stable  CARE staff will have access to the target communities  During the coming planting season no major natural disasters occur  CARE has continued good working relations with stakeholders, especially Ministry of Agriculture  CARE internal procedures and regulations are conducive and responsive