**AFRICAN DEVELOPMENT FUND**

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**REPUBLIC OF KENYA**

# SMALL-SCALE HORTICULTURE DEVELOPMENT PROJECT

## APPRAISAL REPORT

**AGRICULTURE AND AGRO-INDUSTRY DEPARTMENT** **July 2007**

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PROJECT INFORMATION
Date: May 2007

The information provided hereunder is intended to provide some guidance to prospective suppliers, contractors, consultants and all persons interested in the procurement of goods and works for projects approved by the Boards of Directors of the Bank Group. More detailed information and guidance should be obtained from the Executing Agency of the Borrower.

| | | | |
|---|---|---|---|
| 1. | COUNTRY | : | Kenya |
| 2. | PROJECT TITLE | : | Small-scale Horticulture Development Project (SHDP) |
| 3. | LOCATION | : | The project is located in 8 districts, namely, Narok, Mbeere, Machakos, Nakuru North, Kajiado, Loitokitok, Marakwet, and Meru South |
| 4. | THE BORROWER | : | Government of the Republic of Kenya. |
| 5. | EXECUTING AGENCY: | | Ministry of Agriculture, P. O. Box 30028, Nairobi. |
| 6. | DESCRIPTION | : | The project comprises three components: (i) Irrigation and Infrastructure Development; (ii) Farmer Support and (iii) Project Coordination. |
| 7. | TOTAL COST | : | UA 19.75 million (100%) |
| | Foreign Cost | : | UA 11.52 million (58%) |
| | Local Cost | : | UA 8.23 million (42%) |
| 8. | BANK GROUP LOAN | | |
| | ADF Loan | : | UA 17.00 million (86%) |
| 9. | OTHER SOURCES | | |
| | Government of Kenya | : | UA 2.18 million (11%) |
| | Beneficiaries | : | UA 0.58 million (3%) |

10. ESTIMATED STARTING DATE AND DURATION: January 2008 for 6 years.

11. PROCUREMENT OF GOODS AND WORKS: Goods and Works will be procured through National Competitive Bidding, Force Account, National Shopping and using National Procedures. Watershed management and other environmental activities will be carried out under Force Account.

12. CONSULTANCY SERVICES REQUIRED AND STAGE OF SELECTION: Short term consultancy services for survey, design and supervision of scheme rehabilitation, infrastructure development, capacity building and audit, will be procured through Short List and Direct Negotiation.

13. ENVIRONMENTAL CATEGORISATION: The project is classified as Category II

## CURRENCY EQUIVALENT

(May 2007)

1 UA = 105.11 KES

## GOVERNMENT FISCAL YEAR

July 1 – June 30

## ACRONYMS AND ABBREVIATIONS

| | | |
|---|---|---|
| ADF | ..... | African Development Fund |
| ASAL | ..... | Arid and Semi-arid Land |
| AWP | ..... | Annual Work Plan |
| CAADP | ..... | Comprehensive African Agricultural Development Programme |
| CSP | ..... | Country Strategy Paper |
| EIA | ..... | Environmental Impact Assessment |
| EIRR | ..... | Economic Internal Rate of Return |
| EMCA | ..... | Environmental Management and Coordination Act |
| ERS | ..... | Economic Recovery Strategy for Wealth and Employment Creation |
| ESMP | ..... | Environmental and Social Management Plan |
| EU | ..... | European Union |
| EUREPGAP | ..... | European Retailers Protocol for Good Agricultural Practice |
| FPEAK | ..... | Fresh Produce Exporters Association of Kenya |
| FI | ..... | Financial Institutions |
| GDP | ..... | Gross Domestic Product |
| GEMS | ..... | Gender Equity Mobilization Unit |
| GoK | ..... | Government of Kenya |
| GPN | ..... | General Procurement Notice |
| GTZ | ..... | Gesellshaft fur Technische Zusammenarbeit |
| ha | ..... | Hectare |
| HCDA | ..... | Horticultural Crop Development Agency |
| HH | ..... | Households |
| HIV/AIDS | ..... | Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome |
| ICB | ..... | International Competitive Bidding |
| IDD | ..... | Irrigation and Drainage Department |
| IFAD | ..... | International Fund for Agricultural Development |
| IGAs | ..... | Income Generating Activities |
| KACE | ..... | Kenya Agricultural Commodity Exchange |
| KARI | ..... | Kenya Agricultural Research Institute |
| KES | ..... | Kenya Shillings |
| MDGs | ..... | Millennium Development Goals |
| M&E | ..... | Monitoring and Evaluation |
| MFI | ..... | Micro-finance Institution |
| MoA | ..... | Ministry of Agriculture |
| MoCDM | ..... | Ministry of Cooperative Development and Marketing |
| MoLFD | ..... | Ministry of Livestock and Fisheries Development |
| MoLS | ..... | Ministry of Land and Settlement |
| MoWNR | ..... | Ministry of Water and Natural Resources |
| MTR | ..... | Mid Term Review |
| NCB | ..... | National Competitive Bidding |
| NEMA | ..... | National Environment Management Authority |
| NEPAD | ..... | New Partnership for Africa's Development |
| NGO | ..... | Non Governmental Organisation |
| O&M | ..... | Operation and Maintenance |

| | | |
|---|---|---|
| PCR | ..... | Project Completion Report |
| PCU | ..... | Project Coordination Unit |
| PM&E | ..... | Participatory Monitoring and Evaluation |
| PRA | ..... | Participatory Rural Appraisal |
| PRSP | ..... | Poverty Reduction Strategy Paper |
| PSC | ..... | Project Steering Committee |
| RMC | ..... | Regional Member Country |
| SACCO | ..... | Savings and Credit Co-operative |
| SHDP | ..... | Small-scale Horticulture Development Project |
| SRA | ..... | Strategy for Revitalising Agriculture |
| ToR | ..... | Terms of Reference |
| UA | ..... | Unit of Account |
| USAID | ..... | United States Agency for International Development |
| WRMA | ..... | Water Resources Management Authority |
| WUA | ..... | Water Users' Association |

# EXECUTIVE SUMMARY

## 1. PROJECT BACKGROUND

1.1 About 80% of the population of Kenya lives in the rural areas and derive their livelihood largely from agriculture, with about 56% living below the poverty line. Kenya's agriculture is largely dependent on seasonal rainfall but the amount of rainfall has not been adequate to sustain crop production, leading to serious food insecurity. Available estimates indicate that about 50.6% of the Kenyan people lack access to adequate food which is more severe in the arid and semi-arid lands. Hence, in order to have secured food production, there is a need to minimize dependence on rain-fed agriculture by utilising water resources for irrigation under sustainable environmental management.

1.2 The Economic Recovery Strategy for Wealth and Employment Creation, place particular emphasis on revitalising agriculture as the engine of economic growth to deal with the major economic problems. The Strategy for Revitalising Agriculture (2004–2014) envisages increased agricultural productivity, including diversification into high value horticultural crops for the market, thereby economically empowering the poor farmers, and reducing the number of people suffering from hunger or starvation. The horticulture sub-sector is the third most important foreign exchange earner after coffee and tea and is often viewed as a growth engine of the economy. It is against this background that the proposed Small-scale Horticulture Development Project (SHDP) was conceived by GoK. The project will focus on improving horticultural crop production through rehabilitation and expansion of irrigation infrastructure in selected existing gravity-fed surface irrigation schemes. Apart from improved irrigation infrastructure, the project will also focus on improved production and post-harvest handling technologies, market accessibility, financial services and capacity building. The project will contribute to achievement of core MDG objectives of poverty alleviation and sustainable development and promoting gender equality and empowerment of women through their involvement in project activities.

## 2. PURPOSE OF THE LOAN

The ADF loan of UA 17.00 million will be used to finance all investment costs (except minor scheme works) and part of the recurrent costs of the project.

## 3. SECTOR GOAL AND PROJECT OBJECTIVE

The overall sector goal of the project is to contribute to poverty reduction and enhance food security. The specific objective is to increase household incomes of small-holder horticultural producers through increased production of horticultural products and enhanced marketing.

## 4. DESCRIPTION OF PROJECT OUTPUTS

In order to achieve the stated objective, the project will focus on:

(A) Irrigation and Infrastructure Development Component: will rehabilitate 9 existing smallholder irrigation schemes covering an area of 2,886 ha benefiting 5,812 households including 30% female headed households; construct 8 livestock watering points; facilitate formation of 8 irrigation scheme Water Users' Associations (WUAs); construct 9 WUA office blocks with rural domestic water supply and sanitation facilities; rehabilitate 3 scheme's access roads and facilitate environmental management.

(B) Farmer Support Programme: with 2 sub-components (Horticultural Production and Marketing; and Financial Services Support) which will promote: 100 farmer groups engaged in horticultural production and marketing activities; formation of at least 90 women IGA groups to carry out agro-processing activities; construction of 9 storage/grading sheds and 9 market sheds; strengthening the farmers' capacity in production and marketing of horticultural crops and link them to financial institutions; staff and beneficiary training; and short term technical assistance.

(C) Project Coordination: will provide resources for coordination and management of project activities during implementation.

## 5. PROJECT COSTS

The estimated total project cost, including contingencies, is UA 19.75 million of which UA 11.52 million (58%) will be foreign exchange, and UA 8.23 million (42%) will be local costs.

## 6. SOURCES OF FINANCE

The project will be financed by the ADF and the Government of Kenya and the Beneficiaries. An ADF loan amounting to UA 17.00 million or 86% of total costs will be used to finance 99.6% of the investment costs, as well as 48% of recurrent costs (parts of all categories excluding salaries). The GoK contributions amounting to UA 2.18 million, or 11% of total costs, will finance salaries of PCU and national staff and part of the operating costs. The beneficiaries will contribute UA 0.58 million or 3% of the total costs towards their share of infrastructure maintenance of irrigation schemes, WUA blocks, storage/packing sheds, marketing sheds and agro-processing IGA equipment.

## 7. PROJECT IMPLEMENTATION

The project will be implemented over a period of 6 years. The Executing Agency will be the Ministry of Agriculture At the national level, the Project Coordination Unit (PCU) of the just ended IFAD Eastern Province Horticulture and Traditional Crops Project will be strengthened and used for the day-to-day coordination and monitoring of implementation of the project activities. At the District level, implementation will be carried out through the office of the District Agricultural Officer. A District Project Coordination Committee will be formed at each district level for facilitation and coordination of all technical matters pertaining to implementation.

## 8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions: Given the focus on improvement to horticulture crop production through irrigation development, improvement to marketing and strengthening of financial services to farmers, the SHDP is expected to have a significant impact on food security and poverty alleviation. Strengthening of Water Users' Associations will also comply with the local community participation in irrigation management proposed under the 2002 Water Act.

8.2 Recommendation: It is recommended that a loan of UA 17.00 million be granted to the Government of Kenya for the purpose of implementing the project as described in the report and subject to the conditions specified in the loan agreement.

# Kenya: Small-scale Horticulture Development Project
## Result-Based Logical Framework

| Hierarchy of Objectives | EXPECTED RESULTS by sector and theme | REACH | PERFORMANCE INDICATORS SOURCE & METHOD | INDICATIVE TARGETS TIMEFRAME | Main Assumptions/Risks |
|---|---|---|---|---|---|
| **Sector Goal/Theme** | **Sector/Theme Long term Outcome** | **Beneficiaries** | **Verifiable Indicators Long Term outcome** | **Target Indicators and Timeframe** | |
| Contribute to poverty reduction and enhance food security | 1. Increased smallholder farm incomes<br><br>2. New job opportunities<br><br>3. Increased horticultural product quality leading to better prices of farm produce. | 1. Target smallholder farmers<br><br>2. Rural population<br><br>3. Consumers in Kenya | 1. Value of sales by smallholder farmer groups<br><br>**Source:** M&E reports. | 1. Smallholder sub-sector contribution to agricultural GDP increases from 80% in PY1 to 85% per annum in PY6 | **Assumption** Continuity in GoK reform policy<br><br>**Risk mitigation:** Government Policy decision already taken to encourage investment and economic growth |
| **Project Objective** | **Sector/Theme: Medium Term Outcome** | **Beneficiaries** | **Indicators Medium Term Outcome** | **Target Indicators and Timeframe** | **Assumptions/ Risks** |
| Increase household incomes of small-scale horticultural producers through increased production of horticultural products and enhanced marketing | 1. Increased access to irrigated land<br><br>2. Increased horticulture productivity<br><br>3. Increased incomes for smallholder farmers<br><br>4. Improved environmental management<br><br>5. Organised market.<br><br>6. Improved farmers' linkages to financial institutions. | 1. About 5,812 households within the project area, 1,740 of whom will be female headed households<br><br>2. More than 200,000 households directly or indirectly benefit from the project activities | 1. Increase in crop yields obtained by farmers from irrigation schemes.<br><br>2. Average income within the participating smallholder farmer groups<br><br>3. Smallholder farmers sales from agriculture products increased<br><br>3. Systematic and sustainable linkages to financial institutions established and maintained<br><br>**Source**: M&E and project quarterly progress reports | 1. Yield increased from 2.5 t/ha to 3.5 t/ha (maize); 30 t/ha to 38 t/ha (cabbages); 2.6 t/ha to 8.5 t/ha (French beans); 2.3 t/ha to 4.3 t/ha (chillies); 6.8 t/ha to 12.8 t/ha (onions); 6.9 t/ha to 40.1 t/ha (tomato) ; 3.6 t/ha to 6.6 t/ha (okra); 1.9 t/ha to 3.3 t/ha (snow peas); 12.7 t/ha to 17 t/ha (bananas); from PY1 to PY6<br><br>2. Gross margin of farm household is estimated to increase from about US$ 500 in PY1 to US$ 2013 in PY6. | **Assumption**<br>- Good access to markets.<br>- No major drought occurs.<br>- No major changes in river morphology.<br>- No conflict among beneficiaries<br>- Financial institutions willing to operate in targeted areas.<br><br>**Risk Mitigation**<br>- Construction of block water pans<br>- Capacity building.<br>- Effective communication & sensitisation of farmers and other stakeholders. |
| **Activities/Inputs** | **Sector/Themes Short-Terms OUTPUTS** | **Beneficiaries** | **INDICATORS Short-Terms outputs** | **TARGET INDICATORS TIMEFRAME** | **Assumption/statement and Risk Mitigation** |
| **1. Irrigation and Infrastructure Development** | **Irrigation and Infrastructure Development** | Farmers<br>WUA | Irrigation and infrastructure rehabilitated and efficiently managed | Area provided by irrigation infrastructure | |
| 1. First set of scheme infrastructure rehabilitation in 3 sites in 3 districts<br><br>2. Second set of scheme infrastructure design and rehabilitation in 6 sites in 5 districts.<br>3. Supervise rehabilitation works.<br>4. Rehabilitation of 3 scheme access roads.<br>5. Construction of 8 livestock watering ponds. | 1. Increased irrigated land from 1,173 ha to 2,886 ha through rehabilitation and extension of existing irrigation schemes<br><br>2. Improved farming performance and efficiency<br><br>3. Improved scheme management through formation and empowering of 9 WUAs. | Smallholder farmers/households within the 9 sites in 8 districts<br><br>9 WUA members and 9 schemes farmers<br><br>9 irrigation schemes | 1. No of irrigation schemes rehabilitated and operational<br><br>2. No ha of existing irrigation schemes improved<br><br>3. Improved horticultural cropping pattern and yield in project area<br><br>4. Quality of scheme operation and maintenance improved through | 1. First set of schemes improved covering 246 ha in 3 existing irrigation schemes in 3 districts and operational by end of PY2.<br><br>2. Second set of schemes improved covering 2,640 ha in 6 existing irrigation schemes in 5 districts and operational by PY4<br><br>3. Cropping intensity increased from | Assumptions<br>1. Favourable weather conditions prevail.<br>2. Full participation of project beneficiaries.<br>3. Farmers will be responsive and actively participate in WUA.<br>Risks and Mitigations:<br>Risks:<br>The farmers will not be able to operate and maintain the irrigation |

| Hierarchy of Objectives | EXPECTED RESULTS by sector and theme | REACH | PERFORMANCE INDICATORS SOURCE & METHOD | INDICATIVE TARGETS TIMEFRAME | Main Assumptions/Risks |
|---|---|---|---|---|---|
| 6. Technical Assistance.<br>7. Environmental Mitigation.<br>7a. Preparation of an ESIA study and site specific ESMP for the 9 irrigation schemes to be rehabilitated.<br>7b. Implementation of site specific ESMP.<br>7c. Undertake catchment conservation and spring protection.<br>7d. Support to Lake Bogoria Basin WUA.<br>7e. Undertake Environmental Audit.<br>7f. Undertake Environmental Monitoring. | 4. Improved 3 scheme access roads<br><br>5. ESMP and ESIA for all the 9 schemes prepared<br><br>6. Environmental Licence, for the project, obtained | 8 project districts | scheme management by the WUAs<br><br>5. TA person months provided for works supervision<br><br>6. No of ESMP and ESIAs completed<br><br>7. Payment of EIA processing fees, implementation of mitigation measures.<br><br><u>Source</u>: M&E Reports, QPR, Supervision Reports, ESIA Reports, ESMP, and Environmental Audit Reports. | 1 in PY1 to 2.0 times by PY 5<br><br>4. Crop productivity (rice, maize and vegetables) increased from 1% in PY1 to 8% by PY 6<br>5.<br><br>6. 9 WUAs formation process commenced in PY1.<br><br>7. 9 ESMPs and ESIAs completed by PY1 and environmental mitigation measures before, during and after project implementation.<br><br>8. 1 environmental licence obtained by PY2 | schemes efficiently<br><br><u>Risks Mitigations</u><br>1. Sensitisation of farmers<br>2. Participatory project designed and implementation.<br>3. WUA formation and farmers' capacity building. |
| **Component Cost: UA 12.07 million** | | | | | |
| **2. <u>Farmers Support Component</u>** | **Water Management, Crop Production, Marketing, Extension, Financial Services** | | | | |
| 2.1 <u>Horticultural Production and Marketing</u><br><br>1. Conduct Training Needs Assessment<br>2. Conduct Training of Trainers course<br>3. Construct storage/grading sheds<br>4. Construct marketing sheds<br>5. Facilitate local study tours.<br>6. Facilitate assorted farmer training<br>7. Provide support to extension service<br>8. Support to Extension Service<br>9. Procure goods and TA<br>10. Community development activities<br>11. Formation of farmers' marketing cooperative societies<br>12. Formation of IGA women groups<br>13. Procurement of IGA equipment<br>Conduct marketing study/research | 1. Improved irrigation water management, irrigated crop husbandry practices Integrated Pest Management techniques, and post harvest handling.<br>2. Improved gender appreciation.<br>3. Improved capacity for district staff and extension staff.<br>4. Existing and/or improved market informat6ion systems<br>5. Marketing cooperatives organized, trained and operational | 1. Small holder farmers<br><br>2. WUAs<br><br>3. District staff<br><br>4. Beneficiary families | 1. No of storage/grading sheds constructed.<br><br>2. No of marketing sheds constructed<br><br>3. No of IGA equipment procured and distributed to women groups<br><br>4. No of other IGA activities established<br><br>5. No of farmers trained<br><br>6. No of field staff trained<br><br>7. No of farmers' marketing cooperative societies formed<br><br><u>Source</u>: M&E, QPR and Supervision Reports | 1. 9 storage/grading sheds constructed by end of PY3<br><br>2. 9 marketing sheds constructed by end of PY3<br><br>3. 39 assorted IGA agro-processing equipment procured and distributed to women IGA groups by end of PY3<br><br>4. 90 other income generating activities established by end of PY3<br><br>5. 1,300 farmers trained, 500 of which would be women, yearly from PY2 to PY6<br><br>6. 80 field staff trained , at least 15 of which will be women, from PY1 to PY2<br><br>7. 9 scheme farmers' marketing cooperatives formed by PY3 | **Assumption/statement**<br>- staff and farmers willing to be trained.<br><br>**Risk mitigations**<br>Continuous sensitization of farmers on importance of group formation & training |
| 2.2 <u>Financial Services</u><br>1. Financial products development | 1. Training and awareness conducted in financial products development and business development services | Financial institution staff<br>Marketing cooperative society members | 1. No of cooperative societies trained and linked to financial institutions | 1. 9 farmers marketing cooperative societies trained and linked to financial institutions by end of PY4 | **Assumption**<br>Financial institutions willing to participate in the project activities |

| Hierarchy of Objectives | EXPECTED RESULTS by sector and theme | REACH | PERFORMANCE INDICATORS SOURCE & METHOD | INDICATIVE TARGETS TIMEFRAME | Main Assumptions/Risks |
|---|---|---|---|---|---|
| 2. Business development services<br><br>3. Procurement of TA services<br><br>4. Contract management training | | WUA members<br>IGA women groups | 2. No of groups trained in contract management<br><br>Source: M&E, QPR and Supervision Reports | 2. 9 farmers marketing cooperative societies, 9 WUA members, and 18 women IGA groups trained in contract management by end of PY4 | **Risk Mitigation** :<br>Proper liaison and sensitisation of the financial institutions and beneficiaries |
| **Component Cost: UA 6.42 million** | | | | | |
| **a. Project Coordination**<br><br>• Secondment of PCU staff by GoK<br>• Preparation of bidding documents<br>• Preparation of contract documents;<br>• Recruitment of consultants/TAs<br>• Recruitment of contractor<br>• Procurement of goods<br>• Establish Project Steering Committee (National)<br>• Establish District Project Coordination Committees<br>• Establish and implement participatory monitoring and evaluation system<br>• Conduct socio-economic baseline<br>• Midterm review<br>• End of Project Evaluation (PCR)<br>Conduct Annual Financial Audit | **Project Coordination**<br><br>- Project Coordination Unit established and staff seconded<br><br>- Timely and efficient project implementation | Project staff<br><br>District staff<br><br>Ministry officials | • Quarterly Progress Reports.<br>• Supervision Reports.<br>• Bidding Documents.<br>• Contracts Documents.<br>• Monthly Monitoring and Evaluation Reports.<br>• Midterm Review Report.<br>• Project Completion Report.<br>• Annual Financial Audit Report.<br>• Minutes of PSC and DPCC meetings. | 1 Project Coordinator, 1 Accountant, 1 Procurement Specialist, 1 Monitoring & Evaluation Specialist, 1 Gender Specialist, 1 Horticulture Specialist, 1 Irrigation Engineer, 1 Administrative Assistant, 1 Messenger, and 4 Drivers seconded by GoK are in place by end of first quarter PY1. | **Assumption**<br>No delays in secondment of staff and establishment of PCU<br><br>**Risk**<br>Inadequate qualified staff within civil service<br><br>**Risk Mitigation**<br>Qualified staff from private sector will be recruited on competitive basis |
| **Component cost: UA 1.26 million** | | | | | |
| **Total Project Cost: UA 19.75 million** | ADF Loan: UA 17.00 million<br>GOK: UA 2.18 million<br>Beneficiaries: UA 0.58 million<br>**Total: UA 19.75 million** | | | | |

# 1. ORIGIN AND HISTORY OF THE PROJECT

1.1 About 80% of the population of Kenya lives in the rural areas and derive their livelihood largely from agriculture. But more important is the fact that 56% of the Kenyan people live below the poverty line with over 80% of these in the rural areas. Women are generally poorer than men and suffer more severely from the ill effects of economic down turn. 52.5% of Kenyan males in the rural areas and 49.2% of those in urban areas live below the poverty line. In both instances the statistics for females is higher; 54.1% of rural and 63.0% of urban women live below the poverty line. Kenya's agriculture is largely dependent on seasonal rainfall. In many instances, the quantity of rainfall has not been adequate to sustain crop production, leading to serious food insecurity in the country. Estimates available indicate that about 50.6% of the Kenyan people lack access to adequate food. The incidence and prevalence of food insecurity is more severe in the arid and semi-arid lands (ASALs). Hence, in order to have secured food production, there is a need to minimize dependence on rain-fed agriculture by utilising water resources for irrigation under sustainable environmental management.

1.2 In this context, GoK formulated the Strategy for Revitalising Agriculture 2004 – 2014 (SRA) towards the implementation of the ERS. The strategy envisages increased agricultural productivity, including diversification into high value horticultural crops for the export market, thereby economically empowering the poor farmers, and generally reducing the number of people suffering from hunger, famine or starvation. The horticulture sub-sector is the third most important foreign exchange earner after coffee and tea and is often viewed as a growth engine of the economy. The sub-sector is dominated by smallholder growers who constitute about 80% and produce about 55% of the total exports.

1.3 It is against this background that the Small-scale Horticulture Development Project (SHDP) was conceived by the GoK. A Concept Paper was prepared by GoK in October 2003 and presented to the Bank. In 2005, the Bank sent a mission to study the feasibility of the project and results indicated that irrigated horticultural crop production was technically and economically viable. Based on the recommendations of the study, GoK requested the Bank's assistance to finance the project. The Bank reviewed the feasibility study and preparation report produced by the consultant Carlo Bro, and found it to be of good quality as it came up with a bankable project. Consequently, the project was appraised in May 2007 by a Bank Group mission. The SHDP as outlined in this report is rooted on the priorities and vision of GoK and is in line with the Bank Group's strategy for Kenya as articulated in the Country Strategy Paper (2005-2007) and May 2007 update, which seeks to reduce vulnerability and improve equity through the improvement of agricultural productivity and competitiveness.

# 2. THE AGRICULTURE SECTOR

## 2.1 Overview of the Sector

2.1.1 The agricultural sector is the backbone of the national economy of Kenya, contributing directly 26% of the Gross Domestic Product (GDP) and 60% of the export earnings. Tea is Kenya's leading agricultural foreign exchange earner followed by coffee and horticultural crops. Moreover, through links with manufacturing, processing, distribution and service-related sectors, agriculture indirectly contributes a further 27% of the country's GDP. Crop production accounts for about 80 % of agriculture's contribution to GDP.

2.1.2 Agricultural production and livestock husbandry are the primary sources of livelihood for the majority of rural households which live in relatively small areas of medium-to-high agricultural potential which account for about 16% of total land area. Farming is typically carried out by 3.5 million farming families with landholding size of less than 2 ha, occupying roughly 60% of the 38 million ha under cultivation, which account for 75% of total production. These farmers also account for about 55% of marketed agricultural produce. Rural households have given priority to self-sufficiency in staple food but the progressive sub-division of land has forced some of them to switch to higher value cash crops to generate income to buy food.

2.1.3 Crop production is generally grouped into two categories: food crops and cash crops based on their use. The main food crops are maize, rice, wheat, sorghum, potatoes, cassava, vegetables and beans. Smallholders grow maize, potatoes, beans, peas, sorghum, sweet potatoes, cassava, bananas, and oilseeds. Farmers are increasingly diversifying from maize to horticultural production. Although there are still important large scale coffee, tea, and sisal plantations, an increasing number of peasant farmers grow cash crops.

## 2.2 Land Use and Land Tenure

2.2.1 Land Use: Of Kenya's total land area of 576,000 km² it is estimated that 16% is of high and medium agricultural potential with adequate and reliable rainfall which is dominated by subsistence and commercial agriculture. About 84% of Kenya is arid and semi-arid (ASAL) and not suitable for rain-fed farming due to low and erratic rainfall. In the ASALs, about 20% is arable and 34% is suitable for livestock production while the remaining 46% is too dry and can only accommodate nomadic pastoralism.

2.2.2 Land Tenure: Land in Kenya is designated as (i) communal land, (ii) trust land and (iii) privately owned land. The communal land ownership system is based on traditional customary rights. Government trust land is held by ministries or state corporations or other public institutions for public use such as buildings, forests, research and national parks. Privately owned lands are registered with title deeds under a freehold or leasehold system which can be used as collateral security to access bank or other institutions credits. Culture and traditions continue to support male inheritance of family land while there is lack of gender sensitive family laws. Women's right under communal ownership are not defined which allow men to dispose of family land without consulting women. Few women have land registered in their names and lack of financial resources restricts their entry into the land market.

2.2.3 National Land Policy: Kenya has no National Land Policy but the Government is currently in the process of formulating one. The draft Policy aims to ensure the maintenance of a system of land administration and management that will provide all Kenyans with the opportunity to access and beneficially occupy and use land. The Government will also enact a "Land Act" to govern all categories of land once the policy is adopted. Among the principles guiding the acquisition, use and disposal of land rights will include non-discrimination in ownership of, and access to land under all tenure systems.

## 2.3 Poverty, Health and Gender Aspects

2.3.1 The proportion of population living below the poverty line declined from 52.3% in 1997 to 45.9% in 2005, according to data from the 2006 Kenya integrated household budget survey. The proportion of urban dwellers living in absolute poverty dropped from 49.2% in 1997 to 33.7% in 2005, while the percentage of rural inhabitants fell from 52.9% to 49.1%.

Women are generally poorer than men and suffer more severely from the ill effects of economic down turn. 52.5% of men in rural areas and 49.2% of those in urban areas live below the poverty line whilst 54.1% of rural and 63.0% of urban women live below the poverty line.

2.3.2 Women are key to agricultural production and contribute about 60% to 80% of all labour in household, reproductive and agricultural production. However, they contribute about 50% in cash crop production but receive only 7% of agricultural extension information. Women are increasingly becoming farm managers and heads of households and generally work more hours than men especially during wet season which attributes to bad health, poor nutritional status, and high child and maternal mortality. Ironically, men have greater access to productive resources such as land, credit and extension services. Girls also drop out of school, forced into early marriage and pregnancies, hence less educated than boys. As a result of social and cultural practices, women's position remains secondary to their husbands in decision-making including those on productive resources, labour allocation, mobility and children.

2.3.3 About 7.63 million children (2007) are now attending primary school, compared to 5.9 million in 2000, due to the free primary education policy. However, around 1.2 million children remain out of school, mostly living in arid and semi-arid areas and in the urban slums. The proportion of children fully immunized has risen from 57% in 2003 to 61% in 2005, and the proportion of pregnant women attending antenatal clinics has increased from 42% to 56% over the same period. The number of in-patients with malaria has declined from 30% in 2003 to 18% in 2005. The proportion of adults infected with HIV/AIDS declined from 6.7% in 2003 to 6.1% in 2005. Women are more susceptible to the infection, and prevalence among them is five times that of men.

## 2.4 Financial Services

2.4.1 Inadequate access to credit, finance, inputs, capital investment and modern farming technology has been identified as a major cause of low productivity. The Kenyan financial rural market has shown considerable demand for credit and other financial services. Credit for farming remains the most dominant need with an increasing demand from 53.7% in 2000 to 71.2% in 2004 but less than 60% of this demand is served. Development of the agricultural finance market is still low. Despite a strong operational financial system with relatively large outreach, the focus has remained mainly on micro-enterprises not related to primary agricultural production. Access to agricultural credit and rural finance has been limited and concentrated within the most productive agricultural regions producing sugarcane, coffee and tea. Most farmers do not get the required credit partly due to the risky nature of rain-fed agricultural farming, lack of collateral, variable incomes and limited opportunities for diversification and mitigating risk.

2.4.2 The key institutions involved in rural financing include the Cooperative Bank, Equity Bank, Kenya Commercial Bank, some NGOs, micro-finance institutions (MFIs), savings and credit cooperative societies (SACCOs) and community based financial services organizations. SACCOs, MFIs and building societies are increasingly targeting this expanding rural market. SACCOs also are significant suppliers of agricultural credit. The MFIs provide agricultural credit to 0.6% of the rural households and focus on economically active poor entrepreneurs. MFIs have played a key role in helping the low-income earners access non-agricultural loans.

## 2.5 Institutional Framework

2.5.1 Ministry of Agriculture (MoA): The MoA is the lead ministry for the agriculture sector with a mandate to promote and facilitate production of food and agricultural raw materials, ensure food security, promote agro-based industries, agricultural export and sustainable agricultural practices. The core functions of the MoA include formulation, implementation and monitoring of agricultural policies, development and coordination of sector programs, regulatory management and quality control of inputs and produce and capacity building.

2.5.2 Horticultural Crop Development Agency (HCDA) is a parastatal established under the 2002 Agriculture Act. HCDA offers vital services to the horticulture sub-sector to facilitate increased production of top quality horticultural produce for the export and local market. HCDA has constructed 9 horticulture produce cooling facilities (Nairobi Horticultural Centre and 8 district satellite depots). To use these facilities, farmers contract HCDA and pay 17% handling commission. HCDA has been an implementing agency for the marketing component of the IFAD Eastern Province Horticulture and Traditional Food Crops Project.

2.5.3 Ministry of Water and Natural Resources (MoWNR): has responsibilities in policy formulation, sector coordination, supervision including regulation in the water sector. The Irrigation and Drainage Department (IDD), within MoWNR, is responsible for development and provision of technical support in operation and maintenance of smallholder irrigation schemes.

2.5.4 Ministry of Gender, Sports, Culture and Social Services has the overall coordination role related to gender issues in the concerned sectors as well as in the national policy framework. It has prepared and reviewed the existing national legal and institutional framework that has implications for ensuring gender responsive law reform.

2.5.5 Kenya Agricultural Research Institute (KARI): has the mandate for conducting applied research for all crops except coffee, tea and tobacco with a view to improve agricultural productivity in a wide range of agro-ecological conditions. KARI operates 25 research stations. KARI, together with the National Irrigation Board and the MoA, has carried out operational research in agronomy and crop protection in national irrigation schemes.

2.5.6 National Environment Management Authority (NEMA): NEMA supervises and coordinates overall matters related to the environment and is the principal overseer of implementation of all policies related to environmental management. NEMA is the 'clearing house' for the Convention on Bio-diversity. It acts as the central coordinating hub and facilitates access to data and information by all stakeholders.

## 2.6 Sector Development Constraints

The central constraint to agricultural development is the limited availability of good arable land making expansion of cultivated area difficult. In spite of its contribution to Kenya's economy, agricultural growth has been well below its potential as a result of the unfavourable macro-economic and external environment. For the major export crops, constraints include an inappropriate legal and regulatory framework, natural disasters such as droughts and floods, poor infrastructure, inadequate markets and marketing infrastructure, inadequate storage and processing capacity for perishable commodities, weak and ineffective research-extension-farmer linkages, and poor governance in key institutions supporting agriculture.

## 2.7 Sector Development Policy and Strategy

2.7.1 Economic Recovery Strategy for Wealth and Employment Creation (ERS): The ERS is one of the main Government strategies for reviving the economy and creating employment. The Strategy aims to: i) create 500 000 jobs annually; ii) reduce poverty level by at least 5% from the current 56.8% level; iii) raise GDP growth rate from 2.3% in 2003 to 7% in 2007; and iv) contain the annual inflation rate to below 5%. Agriculture has been identified in the ERS as the main productive sector through which the country will generate wealth and create employment as well as achieve food security and reduce poverty.

2.7.2 Strategy for Revitalising Agriculture (SRA): The vision of the Government is to transform Kenya's agriculture into a profitable, commercially oriented and internationally and regionally competitive economic activity that provides high quality gainful employment to Kenyans. The SRA provides the road map for facilitating participatory rural development through equitable and improved access to productive assets and services in the agricultural sector. The overall objective of the SRA is to raise household incomes, create employment, ensure food and nutrition security by raising the productivity of the sector through efficient research and extension service support and adequate provision of support services; and increasing the area under irrigation. The MoA's strategic plan mainstream issues and concerns of rural men and women into development projects to promote gender equity for sustainable farming systems and improved livelihoods. According to GoK officials, the SRA is on track and progressing very well. Furthermore, MoA has set up the Agriculture Sector Coordinating Unit to implement the SRA which plays the role of promoting public private partnerships.

2.7.3 Water Act 2002: It places emphasis on the involvement of water users in planning and management decision making. Water Users' Associations are responsible for cooperative management of water resources at sub-catchments level and all water user groups including irrigation Water Users' Association (WUA) are members. The Water Act 2002 also makes provision for the management and conservation of water resources through the issuance of water permits which takes into account many factors, including allowance for satisfying the existing permit holders including downstream human and environmental requirements. The application for a water permit is subject to public consultation.

2.7.4 Irrigation Policy: Kenya has no irrigation policy. However, the draft National Irrigation and Drainage Policy has been prepared and is in the final stages of consultation with Parliament. The current Irrigation Act concentrates only on the National Irrigation Board and the associated national irrigation schemes, without covering other types of irrigation schemes. The Government's strategies include increasing area under irrigation, promotion of community managed systems, mobilization of adequate financial resources for the sector and providing relevant training to smallholder farmers.

2.7.5 The National Gender and Development Policy is currently with the Parliament to be passed as a bill. It is expected to provide a framework for advancement of women which would lead to greater efficiency in resource allocation and utilization to ensure empowerment of women. It also aims to provide equal opportunities to men and women, and effective integration of gender issues at the community level. The GoK has recognised that women face legal discrimination and lack legal protection; particularly regarding rights to and control over resources. The MoA, in 1999, established a Gender Equity Mobilization Unit (GEMS) under the Extension Division. GEMS developed gender training resource manuals and has facilitated the training of staff in gender analysis and mainstreaming.

# 3. HORTICULTURE SUB-SECTOR

## 3.1 Overview of the Sub-sector

3.1.1 Large-scale growers dominate commercial horticulture, while the majority of horticultural growers (about 80%) are small-scale farmers. However, virtually all rural households located in arable areas grow fruits and vegetables for home consumption and sale. A wide range of horticultural crops is grown which include bananas, mangoes, tomatoes, brinjals, french beans, summer flowers, apples, plums, peaches, carrots, kales, cabbages, snow peas, greenhouse flowers and local vegetables. These crops are grown under both rain-fed and irrigated conditions but production is inadequate due to seasonality and unreliability of rainfall. High potential agricultural land is heavily populated, so plots farmed by households are mostly small which has led to settlement and farming activities in the ASALs. Irrigated horticulture for high value crops is considered a viable and very attractive option for the development of irrigation in the arid and semi arid areas.

3.1.2 The area under horticulture crops increased from 226,989 ha in 1998 to 403,749 ha in 2005 which is mainly attributed to the expansion of vegetable cultivation from 91,297 ha to 245,660 ha (269%) during the same period. Between 2004 and 2005, the area under vegetable crops increased by 4.2%, but the overall production decreased by 15.4%, mainly as a result of a drought. Of the estimated production of 2.5 million tonnes of vegetables in 2005, irish potatoes accounted for about 39%, cabbages 21%, tomatoes 14%, kale 13%, onions 3% and bananas accounted for 54%. The yields and quality of horticultural crops especially by smallholder farmers are below the expected potential but there is substantial potential for improvement through expansion of irrigated horticulture and intensification of production which will contribute to generation of improved farm incomes and better living standards. Smallholder irrigation schemes comprise about 45.6% of the estimated 102,930 ha under irrigation in Kenya. These schemes, like the proposed SHDP irrigation schemes, are developed on land which is either communally or individually owned by smallholder farmers, some of whom have title deeds. In most cases farmers share the same water sources, including water delivery systems, and WUAs are formed to take full responsibility of scheme operation and maintenance.

3.1.3 Horticultural Exports: Kenyan horticulture is the third leading agricultural export, following tea and coffee. Exports of horticultural produce are estimated to account for about 3 to 5% of horticultural production. Fresh produce accounts for about 30% of horticultural exports, and include green beans, onions, cabbages, snow peas, avocados, mangoes and passion fruit. Flowers exported include roses, carnations, statice, astromeria, and lilies. Export statistics for fruit, vegetables and flowers, over the past five years, have shown significant increases in both quantities and total export values. In 2004, the horticultural export market, was reported to be worth 32.5 billion KES (US$ 466 million), an increase of 13% compared with 2003. The main export destination for fresh horticultural produce is Europe, Middle East and other African countries. Fresh Produce Exporters Association of Kenya (FPEAK) and Kenyan horticultural exporters have been proactive in the development of the industry's codes of practices.

3.1.4 Domestic Market: Although no financial values are available for domestic sales, it is currently estimated to account for sales of 95% - 97% of horticultural production by quantity. Fresh vegetables and fruits are significant components of the local diet, with estimations of annual per capita consumption of about 20 kgs in rural areas and 40 kgs in urban areas. About

one third of all output is consumed by the household which produced it and the majority of production is traded within rural areas. In urban areas, fruits and vegetables account for around 25% of all expenditure on food. Most fruits and vegetables are purchased from small-scale traders located in or around municipal markets or from retailers who sell from small shops, kiosks or roadside stalls. There is a small, growing amount of sales of higher-quality produce through supermarkets which is thought to account currently for about 5% of the total quantity of marketed production.

### 3.2 Horticulture Sub-sector Constraints

3.2.1 The main constraints facing the smallholder horticulture producer include high prices of farm inputs, poor distribution of farm inputs stockists, poor quality of seeds, and limited access to suitable credit facilities**.** Horticulture crops are often affected by high incidence of pests and diseases, and inadequate technical knowledge regarding pests and disease identification and control. Marketing is also a major problem for smallholder horticulture producers where middlemen frequently exploit farmers for both export oriented crops and produce for local market. The problem is aggravated by lack of cold storage facilities, poor post harvest handling techniques, and congested markets. Poor road infrastructure to horticulture production areas contributes to high post harvest losses of horticultural produce and higher transportation costs. This also affects availability of farm inputs provided by buyers to their contracted farmers. Finally, smallholder commercial horticulture is constrained by inadequate technical information and skills with the extension staff and farmers who are not able to source information.

3.2.2 Water Resources Management: The shortage of water is also a major constraint to horticulture development in Kenya. Given that the most of Kenya's land area is ASAL, the country's heavy reliance on rain-fed agriculture slows the process of attaining food security and self-sufficiency. This is acerbated by the fact that the pace of irrigation development in the country is very slow, with only 19% of the total potential 65,800 ha having been developed to date. There are several factors constraining irrigation development in the country, chief among them being inadequate funding and the absence of a clear-cut government policy on irrigation development in the smallholder sector. To improve water services delivery, GOK has embarked on the water sector reforms. MoWNR initiated the process of developing a national water resource management strategy (NWRMS) in April 2003, which was revised in December 2004. The main role of the NWRMS is the operationalisation of the 2002 Water Act, which led to the establishment of the Water Resources Management Authority (WRMA) in November 2003 as the lead agency with respect to water resources planning, development and management in Kenya.

### 3.3 Horticulture Sub-sector Policy

3.3.1 In order to accelerate the rate of horticultural growth and production, a Policy Paper on Horticulture Industry Development is under elaboration. The overall objectives of the draft Policy are: (i) to facilitate increased production of high quality horticultural produce in order to; meet the rising demand for more food and nutritious diets for the growing population; attain food self-sufficiency and security at household, local and national levels; ensure dependable supply of suitable raw materials to the agro industries; and meet the increasing demand for top quality produce in the export market; (ii) to earn foreign exchange by diversifying crops grown in suitable agro-ecological zones; (iii) to generate more employment opportunities within the horticultural sub-sector by introducing labour intensive enterprises and use of appropriate technology; (iv) to enhance development in arid and semi-arid areas through horticultural production under irrigation;

(v) to contribute to generation of income and alleviation of poverty; and (vi) to facilitate and coordinate private sector participation.

3.3.2 The Government intends to achieve the above objectives through the following strategies: (i) development and improvement of infrastructure, which will include development and maintenance of rural access roads leading to market outlets and upgrading of access roads in potential horticultural production areas; (ii) encouraging horticultural crop production under irrigation; (iii) financing and credit; (iv) crop inputs; and specific production strategies for major horticultural crops.

### 3.4 Development Partners' Interventions

3.4.1 There are a number of current development partners' funded smallholder targeted horticulture projects and programmes which seek to address issues related to food security and poverty reduction. These projects include: (i) IFAD - Smallholder Horticulture Marketing Programme which addresses inefficiencies and constraints in input supply and horticultural marketing with the aim of (a) reducing into-farm unit cost of inputs, (b) improving the quality of inputs and the services that input suppliers provide to smallholders, (c) raising the quality of horticultural produce traded in the domestic market, and (d) increasing and stabilizing farm-gate prices; (ii) IFAD - Eastern Province Horticulture and Traditional Food Crops Project aimed at the improvement of smallholders' income and food security through increased production of smallholder horticultural and traditional food crops by means of irrigation, dissemination of appropriate crop packages, strengthening and reorienting support services and supporting beneficiary participation in planning and development; although the project closed on 30$^{th}$ June 2007, it has established institutional structures for the implementation of similar projects in the future. (iii) KfW - Smallholder Irrigation Programme - Mt. Kenya seeking to improve the livelihoods and the farm income of smallholder farmers through the establishment of irrigation schemes for production of high value vegetable crops for domestic and export markets; (iv) GTZ - Private Sector Development in Agriculture which provide support to small and medium-sized enterprises in selected agricultural value-added chains, including vegetables, to make better use of market opportunities through economically optimised and environmentally friendly production methods and better framework conditions, (v) USAID Kenya Horticulture Development Programme aims to increase incomes of smallholder farmers through new product development, domestic market interventions, marketing services, policy interventions and environmental management.

3.4.2 Lessons Learnt from Past Interventions in Kenya: The experiences from past interventions in Kenya provide valuable lessons for consideration in formulating new initiatives. One of the most significant lessons is that farmers' responses can also be enhanced through an early and active involvement in the project identification and promotion, in addition to focusing on the problems, constraints and opportunities that relate to their basic needs. The feasibility study revealed that most of the existing smallholder irrigation schemes were developed using a top-down approach with limited farmer participation. Based on these lessons, the Small-scale Horticulture Development Project has promoted the involvement of farmers from the onset, during planning, design and implementation. The beneficiaries already have WUAs in place which will be responsible for scheme operation and maintenance.

3.4.3 Inadequate preparation and selection of appropriate technological packages could also lead to low or poor farmer response. The important lesson here is the choice of appropriate technology through a rigorous analysis and assessment of different strategic options which

could enhance the relevance and rapid acceptance of the projects by local communities. During scheme design, simple gravity-fed irrigation technology, in line with irrigation experience of beneficiaries, was adopted. This will contribute to building on local knowledge and customs, on building the farmers' ownership towards the irrigation scheme and in strengthening capacity building and create awareness in terms of scheme ownership.

3.4.4 Another important lesson is that there is a need to put in place an effective productive and marketing system to ensure that the farmers are able to sell the surpluses generated and thus increase their incomes. Based on experience in gender mainstreaming in agriculture and learnt lessons, the major issues/challenges to agricultural production are socio-cultural constraints; illiteracy; limited access to resources; land utilization rights; high workloads (low involvement of men) and low participation of women in decision making processes. The proposed project has taken these lessons into consideration in its design.

3.4.5 Bank Group Agriculture Sector Portfolio in Kenya: Prior to ADF-IX, the Bank had not intervened effectively in the agriculture sector in Kenya, but was concentrating on cleaning-up the sector portfolio. With the advent of the new regime, the Bank reviewed its strategy in the country and re-introduced assistance to the sector. Since the ADF-IX, the Bank has approved 4 agricultural projects. These operations quickly became effective (between 3 to 12 months), which constitute record breaking achievements in project management in the Bank. The Government has, through its own reforms, removed bottlenecks to effectiveness and implementation. It has for example, stopped the lengthy parliamentary approvals of loans, and it has allowed the use of external audits for the projects. Both the Government and the Bank have taken adequate actions and measures to have a healthy portfolio, with close monitoring and support for implementation.

## 4.0 THE PROJECT

### 4.1 Project Concept and Rationale

4.1.1 Improvement of productivity and competitiveness of smallholder horticultural producers is essential for poverty reduction. The project will focus on intensification of crop production through rehabilitation and extension of existing irrigation infrastructure, empowering farmers to own and manage their schemes and improve productivity. Irrigation will enable farmer to produce at least two crops per year, even in the dry season when prices are high and farmers suffer from food-insecurity. The project will also focus on improved production, post-harvest handling technologies, market accessibility, financial services and capacity building.

4.1.2 During the project design, a number of options were considered and analysed in arriving at the selected irrigation technologies which included appropriateness of the irrigation technology under consideration, cost effectiveness and extent of environmental impact. Sprinkler and drip irrigation systems were considered initially but drip system was dropped due to technical complexity in relation to the limited level of experience of the target farmers and also high investment cost. The project will improve the efficiency of the existing gravity-fed surface irrigation systems through lining of the conveyance system and construction of hydraulic structures which will enable extension of the scheme areas.

4.1.3 The project will link the selected horticultural crops to be grown under irrigation to market opportunities. Such crops will include onions, cabbage, tomato, French beans, maize,

kale, chillies, okra, snow peas, and bananas. Intensive training of farmers and staff will be provided focussing on demands of irrigated crop production. Farmers will be encouraged to organise themselves into WUAs and marketing cooperatives that will enhance their price bargaining ability for marketing their produce. The project will also build the capacity of community to identify and implement integrated watershed management activities. It will rely on existing institutional structures to deliver its services.

4.1.4 The preparation of the proposed project benefited from the lessons learnt from the successes and failures of past irrigation projects. The project design also took into consideration the *formulated guidelines for smallholder irrigation and drainage development, the elaboration of a training master plan for Irrigation Drainage Branch staff,* and *the framework for training and management of WUAs toward sustainable community-based smallholder irrigation and drainage development*. The scheme designs were done through interactive and participatory approach involving farmers and other stakeholders to enhance ownership and sustainability. WUAs will bear the scheme operation and maintenance costs.

### 4.2 Project Area and Beneficiaries

4.2.1 Project Area: The project will be implemented in 8 Districts namely Machakos District (Kabaa and Kauti irrigation schemes), Narok District (Mosiro irrigation scheme), Nakuru North District (Lari Wendani irrigation scheme), Kajiado District (Ngurumani irrigation scheme), Loitokitok District (Namelok irrigation scheme), Marakwet District (Kabono/Kapkamak irrigation scheme), Mbeere District (Kathiga/Gacheru irrigation scheme) and Meru South District (Mbogoni irrigation scheme). (see Annex 1). The target irrigation schemes, which are currently operating under the traditional systems, lie within agro-ecological zones of medium to low agricultural potential where climatic conditions are unfavourable for rain-fed agriculture. Annual rainfall, varies from 500 mm to 900 mm, is poorly distributed and exhibits a bimodal pattern.

4.2.2 Farmers, at the target 9 existing irrigation schemes, have been practising surface irrigation for several generations. However, most of the target schemes are operating at low efficiencies (40%) due to poor technical designs, as the systems were put in place by farmers with limited inputs from GoK. There are high water losses due to seepage and spillage which result in soil salinisation in some schemes due to prolonged water logged conditions.

4.2.3 Water Resources: All the schemes except Namelok and Kauti abstract water from large perennial rivers which have big catchment areas. Namelok scheme abstracts water from perennial springs whilst Kauti scheme's water source is Muoni dam, on Umanthe river, whose reservoir capacity has been reduced from 7.5 to 3 million $m^3$ due to siltation.

4.2.4 Project Beneficiaries: The 8 project districts have a total population of about 4,428,519 people out of which 52% are women. Although the irrigation schemes will directly benefit 5,812 households (35,000 people), it is estimated that more than 1,000,000 people in the 8 districts will indirectly benefit from the irrigation schemes, horticultural production and marketing, income generating activities, catchment conservation and extension services.

### 4.3 Strategic Context

4.3.1 The proposed project supports Kenya's vision and current development strategy that focuses on growth and poverty reduction as articulated in the ERS. The project is also in line

with the SRA which outlines the development of irrigation and market access as a means of improving food security and income. The project will support the development of water resources for the proposed irrigation schemes and address the socio-economic and legal constraints to further irrigation development for an increase in agricultural production. The implementation of the project in these areas will address the issue of poverty reduction and income generation. Increased horticulture crop production and productivity will be linked to markets as the country's strategy includes market-based approach to increased productivity. This will enable smallholder farmers to build upon existing market linkages, as well as to diversify, intensify and commercialize their production.

4.3.2 The proposed project is anchored on Pillar II of the Bank Group's Country Strategy Paper (CSP 2005-2007) and the May 2007 update, which seeks to reduce vulnerability and improve equity through the improvement of agricultural productivity and competitiveness. The CSP has highlighted the importance of agriculture and rural development, on which the livelihoods of most of the poor depend. Smallholder irrigation development has been selected as a priority in the CSP. The project is in line with the Bank's vision of supporting technological, institutional and policy changes as well as transforming rural economies in Regional Member Countries (RMCs) and empowering rural populations to improve their productivity and real incomes in an equitable and environmentally sustainable manner. The project will also contribute to the achievement of core MDG objectives of poverty alleviation and sustainable development and Pillar 2 of NEPAD's Comprehensive African Agricultural Development Programme (CAADP) which focuses on improvement of rural infrastructure and trade related capacities for improved market access. The project builds on the experiences gained from the various Bank financed projects in Kenya. The choice of this intervention is in line with the ADF X strategy on selectivity to boost production and productivity, food security and poverty reduction in RMCs.

### 4.4 Project Objective

The overall sector goal of the project is to contribute to poverty reduction and food security in rural Kenya. The specific objective is to increase household incomes of small-scale horticultural producers in the project area through increased production of horticultural products and enhanced marketing.

### 4.5 Project Description

4.5.1 The project will comprise 3 components namely: (i) Irrigation and Infrastructure Development (ii) Farmer Support and (iii) Project Coordination.

#### A. IRRIGATION AND INFRASTRUCTURE DEVELOPMENT

4.5.2 This project will rehabilitate and extend 9 existing gravity-fed smallholder irrigation schemes covering 2,886 ha, benefiting 5,812 households including 30% female headed households. These are: Kabaa (240 ha), Mosiro (30 ha), Lari Wendani (80 ha), Ngurumani (325 ha), Namelok (400 ha), Kabono/Kapkamak (98 ha), Kauti (66 ha), Kathiga/Gacheru (80 ha), and Mbogoni (100 ha) covering a total area of 1,419 ha in order to improve irrigation water management and scheme efficiencies. Rehabilitation will include headworks, irrigation and drainage systems and in-field road networks. The project will fund the extension of a further 1467 ha of irrigation area at Kabonon/Kapkamak (702 ha) which will have a gravity-fed sprinkler system, Mosiro (270 ha), Lari Wendani (20 ha) and Ngurumani (475 ha). Eight

livestock watering troughs will be provided at Mosiro (3), Ngurumani (2) and Namelok (3) schemes, and supplied with water from the respective scheme's irrigation network.

4.5.3 Three schemes, namely Kauti, Kathinga/Gacheru and Mbogoni sites already have design reports, engineer's estimates, tender documents and drawings which require minor review by IDD. The three schemes will be tendered out in PY1 and rehabilitation activities will be completed by end of PY2. The project will also fund the desilting of Muoni dam (Kauti scheme) to increase its reservoir capacity from 3 to 7.5 million $m^3$. Production of the preliminary and detailed design of the remaining 6 schemes will be done by consultants in PY1. The same consultants will be responsible for construction supervision. The consultants will also produce scheme specific operation and maintenance manuals. Contractors will be recruited to carry out the rehabilitation works, maximum 2 schemes per contractor, which will be completed by end of PY4. The IDD will be responsible for overall supervision including quality control. To ensure scheme sustainability, farmers will be responsible for construction of minor works including field canals and drains, footpaths, cut-off drains and small water pans and meet the cost of scheme operation and maintenance. Since the mechanism for collection of water charges, for scheme operation and maintenance are not yet in place, the IDD and WUAs will facilitate the process in consultation with the WRMA.

4.5.4 For systematic irrigation scheduling, the contractors will establish a mini-climatic station, near each scheme comprising a rain-gauge, class-A evaporation pan, and wet and dry bulb thermometers. Discharge measuring structure will be constructed on the main canal near the intake structure. Fixed staff gauges, for river stage measurement, will be installed at convenient location upstream of the scheme headworks.

4.5.5 Scheme access will be improved through spot gravelling on isolated bad sections of the road, totalling not more than 2 km, and provision of appropriate crossings along the 135 km scheme access routes. In PY1, one consultant will prepare the roads' inventories, designs, tender documents. One contractor will be recruited for each road, to carry out rehabilitation activities, from PY2 to end of PY3. Overall supervision will be done by Ministry of Public Works.

4.5.6 During PY1, the communities will be sensitised, using appropriate PRA tools, on project aspects including gender issues on land rights and division of labour. The project, using a consultant, will also assist target farmers to form eight gender-sensitive Water Users Associations (WUAs) which will be the umbrella organisations for irrigation scheme operation and maintenance with their executive committees comprising at least 30% dynamic female members. Other block committees will be formed as necessary in a demand driven manner.

4.5.7 The project will construct nine WUA office blocks (one per scheme) based on a standard design. Each WUA office block will be supplied with potable water from a borehole to be constructed complete with pump, overhead storage tank and communal fountain.

B. FARMER SUPPORT COMPONENT

4.5.8 This component will comprise 2 sub-components, namely horticulture production and marketing; and financial services support.

4.5.9 Horticultural Production: The project, through KARI and HCDA, will focus on improvement of irrigation water management to enhance high value crop production and

encouraging the private sector to supply recommended inputs so that the technologies, once established, can be sustained beyond project life. The major horticultural crops which will be grown within the schemes include tomatoes, onions, french beans, chillies, kale, cabbage, okra, maize, snow peas and bananas. The project will promote intensive cultivation of these crops, based on the recommended cultural and agronomic practices, in order to achieve potential yields and good marketable quality. This will be achieved through: promotion of integrated crop management; use of improved crop inputs; enhanced soil fertility; integrated pest management; and proper irrigation water management.

4.5.10 Based on the results of an initial training needs assessment, training modules will be developed which will be used to train the staff and farmers. Farmer training will focus on building capacity to approximately 116 selected farmer groups, in groups of 25, targeting both male and female farmers within a scheme, committee members, lead/contact farmers and women groups. The training will cover irrigation water management, irrigation agronomy, post harvest handling, integrated pest control, gender sensitisation and HIV/AIDS issues. The project will also conduct field days and farmer tours to enable diffusion of information and experience sharing between farmers to promote good agricultural practices. Training will be undertaken by service providers including MoA, NGOs and HCDA.

4.5.11 Horticultural Marketing: The project will promote activities which will improve market information and strengthen male and female farmers' capabilities for market development and encourage their active participation in marketing and profit sharing. The project will train about 100 farmer groups in marketing techniques in order to: (1) develop a better understanding of the marketing dynamics, the marketing chain (producers, traders, processors, transporters, etc) and the product quality requirements, (2) develop market strategies to target the sales of a product at a particular market at a specific time of the year, (3) discuss and provide training in the feasibility of cultivating crops out of season, (4) explore, develop and provide training in agro-processing with NGOs and other partners, and (5) provide training in new horticultural crops, once a market has been identified. The project will also facilitate formation of one farmers' marketing cooperative society per scheme which will be fully trained and responsible for all marketing issues. The project will, for each scheme, construct one communal storage/grading shed and one marketing shed to be managed by the WUAs. The project, in close collaboration with the MoA, HCDA, FPEAK, Ministry of Cooperatives, and relevant NGOs will investigate alternative domestic, regional and export markets, as well as identify existing and potential crops, provide support to marketing linkages in the form of contracts, set up and implement the participatory Market Information System for each scheme, and product promotion programs for horticultural crops.

4.5.12 The project will facilitate formation and training of women groups to venture into income generating activities (IGA) within each scheme. At least 10 women IGA groups, focusing on different agro-based commodities, will be formed per scheme by PY3 using appropriate participatory appraisal tools. The groups will also be encouraged to venture into small scale individual investments out of the initial material, inputs and equipment injection which will be provided by the project. Through improved income, the women IGA groups will be able to hire labour and access productive resources to invest in other activities. The project will provide the groups with agro-processing and value addition equipment with respect to the scheme demand. These will include cassava and orange fleshed sweet potato equipment; baking ovens; spinning and weaving equipment; and agro-processing posho mills.

4.5.13 Financial Services: The project will facilitate access to capital and financial services for farmers and strengthen the current agriculture credit market in the project area. Project support will, however, not involve any line of credit, but rather entail helping active financial intermediaries operating in the scheme areas (e.g. Cooperative Bank, Equity Bank, Commercial Bank of Kenya, micro-finance institutions) build their capacities, increase their outreach and ability to respond to the needs of the various actors along the supply chain by offering a wider range of financial services. Training and sensitisation of farmers, through technical assistance, will focus on savings mobilization, credit management, basic accounting and business development services and understanding and compliance with administrative and financial requirements of financial institutions. The aim is to ensure that their activities are sound and bankable, thereby creating a viable critical mass that would justify the continuous operation of the financial institutions in the scheme areas.

4.5.14 Support will be provided to selected financial institutions for the development of a range of financial products adapted to serve small farmers, service providers, rural entrepreneurs and agribusinesses in the small-scale horticulture industry. This will enable them to increase their outreach towards the project farmers through the farmers' groups/marketing cooperatives formed under the project. Support to the FIs will mainly be in the form of needs assessments, product conception and staff training in assessing and understanding the needs of farmers, developing innovative collateral and risk management mechanism. The project will enter into partnership with the financial intermediaries selected following a competitive process, with at least one financial institution linked to each scheme. On their part, the partner financial intermediaries will utilise their own financial resources and savings mobilized to extend credit and other financial services to the project communities. Office space to enable the FIs carry out their transactions in proximity to the communities will be made available within the WUA office blocks.

### C. PROJECT COORDINATION COMPONENT

4.5.15 The Project will provide resources for management and coordination, including equipment for project and district coordination, training, monitoring and evaluation, supervision, preparation of audit and progress reports and studies. Overall project coordination will be the responsibility of a Project Coordination Unit (PCU) which will comprise of a Project Coordinator, an Accountant, a Procurement Specialist, a Monitoring and Evaluation Specialist, a Horticulture Specialist, Gender Specialist, an Irrigation Engineer and support staff who will all be deployed by the GoK.

## 4.6 Production, Market and Prices

4.6.1 A variety of horticultural crops like tomatoes, onions, chillies, French beans, vegetables, and fruits will be grown in the schemes. The project will contribute, annually, additional 32,900 mt of tomatoes, 3,810 mt of French beans, 750 mt of chillies, 4,329 mt of onions, 4,618 mt of cabbages and 2,165 mt at full project development in PY6. In order to ensure maximum returns per household, the project will assist smallholder farmers to target high value crops and access export market. Most of the smallholders in the schemes also produce cereals like maize for their food security needs, as well as sell the surplus income in the market. The project will produce an extra 722 mt of maize annually by PY6.

4.6.2 Most of the horticulture produce is marketed in the local domestic market to mainly urban centers and hotels, supermarkets and retail outlets. The domestic market is currently

estimated to account for sales of 95% - 97% of Kenyan horticultural production by volume. Kenyan horticultural exports account for the remaining 3-5% of horticultural production. The main export destination for fresh horticultural produce is Europe and little is exported to the Middle East and other African countries.

4.6.3 In this project, prices of products will be affected positively by the expected improvement in the quality and standard of the produce, but also by the improvement of market access through improved transportation and efficient price transmission as farmers will be better placed to gauge the market demand and supply conditions.

### 4.7 Environmental and Social Impacts

4.7.1 The project is classified as Category 2 and requires an Environmental and Social Management Plan (ESMP). The nine (9) target sites are existing schemes on which farmers have been practicing surface irrigation for many years. Site-specific environmental audits have been prepared during the Feasibility Study undertaken by Carl Bro in 2005. All irrigation schemes are required to comply with the Water Act (ref: establishment of WUAs and securing a water permit). The Executive Summary of the ESMP is in Annex 7.

4.7.2 Pursuant to Kenya's Environmental Management and Coordination Act (EMCA, 1999) and Environmental (Impact Assessment and Audit) Regulations (EIA Regulations, 2003), the proposed Project and its sub-projects fall under the prescribed lists of projects for which an EIA Study is required. NEMA has recommended that site-specific EIA studies be prepared for each scheme. Official issuance of the EIA Licenses with specific Terms and Conditions is expected to be delivered during the 1st, 2nd and 3rd year of the project's implementation. Review and approval of the EIA Studies by NEMA will be conditional prior to the start of physical works.

4.7.3 Positive social and environmental impacts resulting from the improvement of the performance of the irrigation and marketing infrastructures as well as enhanced methods of horticultural productivity include: (i) improvement of food security and livelihoods of the farmers and the people living near the irrigation schemes; (ii) creation of employment; (iii) contribution to foreign exchange earnings; (iv) promotion of improved agricultural methods and efficient utilization of farm inputs and natural resources and; (v) strengthening of WUAs and optimization of their operational performance. From an environmental standpoint, the improvement of the irrigation scheme will reduce water losses, hence increasing water equity. The project will also minimize dependence on rain-fed agriculture and reduce climate change vulnerability, characterized by uneven and unpredictable rainfall distribution and occurrence of droughts, through irrigation infrastructure and water storage facilities. In addition, climate risk management will include the protection of watershed and riverbanks through land-use planning which will increase the resilience of the receiving ecosystems, establishment of conservation committees and afforestation activities will ensure sustainability of the schemes. Wildlife conservation will be promoted since several irrigation schemes are situated near wildlife migratory routes.

4.7.4 The rehabilitation and extension of 9 existing smallholder irrigation schemes will also generate a number of negative social and environmental impacts within the recipient farmer communities and ecosystems. The negative environmental and social impacts resulting from the rehabilitation and extension of these schemes are expected to be minimal and site specific, on the condition that mitigation measures are implemented during the construction and operational phases. These measures will be further defined during the scheme-related EIA and ESMP. The

generic expected negative impacts during construction and operation phase are being presented in Section B of the ESMP's Executive Summary in Annex 8. Environmental impacts of the environment (ref: climate change) will also be included within the scope of the ToRs for the ESIA studies and adaptation measures mainstreamed into the scheme related ESMP. No resettlement is expected from the rehabilitation/extension of the irrigation schemes.

4.7.5 Enhancement and mitigation measures for the identified negative environmental impacts are mostly anticipated during the construction phase. Code of Good Practices for Construction will be enforced and ESMP's mitigation measures included into Work Contract. During the operational phase, Farmer Support Component will ensure promotion of environmentally-sound agricultural practices by farmers. In particular, regular and tailor-made training courses will be provided on water management so that there is no over-irrigation and water logging, on soil fertility program, on environmental protection of the upper watershed catchments and riverine vegetation along the riverbanks, on stabilization of the ravine banks, on maintenance of environmental water flow, on maintenance of the wildlife migration corridors, on promotion of Integrated Pest Management, on increasing the technical resilience of the farmers in relation to climate risks through the introduction of drought-resistant seeds, the establishment and strengthening of group's organization (WUAs) to diversify their production and to adopt agriculture appropriate agricultures practices (e.g. crops are planted further apart so that moisture is available for each row), on handling of fertilizers and pesticides, public health, hygiene and sanitation and maintenance of the irrigation infrastructures.

4.7.6 Additional institutional, financial and operational environmental management measures have been recommended, including: (i) recruitment of a local environmental consultant to coordinate the EIA Studies and implementation of ESMP; (ii) preparation of EIA/ESMP for each scheme with specific budget; (iii) preparation of an AWP for the implementation of the ESMP and watershed management activities for each irrigation site; (iv) preparation of the Project's quarterly and annual environmental monitoring report and of the annual self-audit; (v) preparation of a watershed management action plan to ensure that the upper catchments are protected thus ensuring sustainability of downstream investments; and, (vi) coordination of a three-level monitoring program by the GoK authorities to ensure compliance with legal, regulatory and standards requirements. NEMA and District's EIA's Technical Advisory Committee will supervise the implementation of the ESMPs. The costs for the enhancement/mitigation measures are mainstreamed into project budget (ref: Annex 7 and Detailed Cost Tables).

## 4.8 Project Costs

The total project cost is estimated at UA 19.75 million, including contingencies. The foreign exchange component amounts to UA 11.52 million, representing 58% of the total cost, while local cost would be UA 8.23 million, or 42% of total cost. Summaries of cost estimates by components and by category of expenditure are in Tables 4.1 and 4.2 respectively.

Table 4.1 Summary of Cost Estimates by Component

| | (KES '000) | | | (UA) | | | % Foreign Exchange |
|---|---|---|---|---|---|---|---|
| | **Local** | **Foreign** | **Total** | **Local** | **Foreign** | **Total** | |
| **A. Irrigation & Infrastructure Development** | 398,736 | 668,958 | 1,067,694 | 3,793,516 | 6,364,358 | 10,157,874 | 63 |
| **B. Farmer Support** | | | | | | | |
| 1. Horticultural Production | 137,046 | 131,878 | 268,924 | 1,303,830 | 1,254,670 | 2,558,501 | 49 |
| 2. Horticultural Marketing | 66,143 | 158,734 | 224,877 | 629,278 | 1,510,166 | 2,139,444 | 71 |
| 3. Financial Services Support | 28,032 | 43,008 | 71,040 | 266,692 | 409,171 | 675,863 | 61 |
| **Subtotal** | 231,221 | 333,620 | 564,841 | 2,199,800 | 3,174,008 | 5,373,808 | 59 |
| **C. Project Coordination** | 80,981 | 31,269 | 112,250 | 770,442 | 297,486 | 1,067,929 | 28 |
| **Total BASELINE COSTS** | 710,939 | 1,033,846 | 1,744,785 | 6,763,758 | 9,835,853 | 16,599,611 | 59 |
| Physical Contingencies | 48,470 | 103,385 | 151,855 | 461,136 | 983,585 | 1,444,721 | 68 |
| Price Contingencies | 106,174 | 73,237 | 179,411 | 1,010,123 | 696,761 | 1,706,885 | 41 |
| **Total PROJECT COSTS** | 865,583 | 1,210,468 | 2,076,050 | 8,235,017 | 11,516,199 | 19,751,217 | 58 |

Table 4.2 Summary of Cost Estimates by Category of Expenditure

| Categories | (KES '000) | | | (UA) | | | % Foreign Exchange | % Base Costs |
|---|---|---|---|---|---|---|---|---|
| | **Local** | **Foreign** | **Total** | **Local** | **Foreign** | **Total** | | |
| **I. Investment Costs** | | | | | | | | |
| **A. WORKS** | 162,091 | 648,365 | 810,456 | 1,542,110 | 6,168,441 | 7,710,552 | 80 | 46 |
| **B. GOODS** | 25,507 | 102,027 | 127,534 | 242,668 | 970,671 | 1,213,338 | 80 | 7 |
| **C. SERVICES** | 70,864 | 283,454 | 354,318 | 674,185 | 2,696,741 | 3,370,926 | 80 | 20 |
| **Total Investment Costs** | 258,462 | 1,033,846 | 1,292,308 | 2,458,963 | 9,835,853 | 12,294,816 | 80 | 74 |
| **II. Recurrent Costs** | | | | | | | | |
| A. STAFF SALARIES | 187,752 | - | 187,752 | 1,786,243 | - | 1,786,243 | - | 11 |
| B. OPERATING COST | 264,725 | - | 264,725 | 2,518,552 | - | 2,518,552 | - | 15 |
| **Total Recurrent Costs** | 452,477 | - | 452,477 | 4,304,795 | - | 4,304,795 | - | 26 |
| **Total BASELINE COSTS** | 710,939 | 1,033,846 | 1,744,785 | 6,763,758 | 9,835,853 | 16,599,611 | 59 | 100 |
| Physical Contingencies | 48,470 | 103,385 | 151,855 | 461,136 | 983,585 | 1,444,721 | 68 | 9 |
| Price Contingencies | 106,174 | 73,237 | 179,411 | 1,010,123 | 696,761 | 1,706,885 | 41 | 10 |
| **Total PROJECT COSTS** | 865,583 | 1,210,468 | 2,076,050 | 8,235,017 | 11,516,199 | 19,751,217 | 58 | 119 |

## 4.9 Sources of Financing

As shown in Table 4.3, the project will be financed by the ADF and the Government of Kenya (GOK). Annex 3 gives the sources of finance by categories of expenditure (list of goods and services). An ADF Loan amounting to UA 17.0 million or 86% of total costs will be used to finance 99.6% of the investment costs, as well as 48% of recurrent costs (parts of all categories excluding salaries). The GOK contributions amounting to UA 2.18 million, or 11% of total costs, will finance salaries of national staff (including all the PCU staff) and part of the operating costs while beneficiaries will provide labour and materials worth UA 581,400 mainly for construction and operations and maintenance of the irrigation schemes.

Table 4.3: Sources of Finance

| | KES '000 | | | UA | | | |
|---|---|---|---|---|---|---|---|
| | Foreign | Local | Total | Foreign | Local | Total | Percent |
| ADF Loan | 1,210,468 | 575,146 | 1,785,613 | 11,516,199 | 5,471,846 | 16,988,045 | 86.0 |
| GoK | - | 229,326 | 229,326 | - | 2,181,772 | 2,181,772 | 11.0 |
| Beneficiaries | - | 61,111 | 61,111 | - | 581,400 | 581,400 | 3.0 |
| Total | 1,210,550 | 865,583 | 2,076,050 | 11,516,199 | 8,235,017 | 19,751,217 | 100.0 |

# 5. PROJECT IMPLEMENTATION

## 5.1 Executing Agency

The Executing Agency will be the Ministry of Agriculture through the Horticulture Division of the Department of Land and Crop Management.

## 5.2 Institutional Arrangements

5.2.1 Project Co-ordination Unit (PCU): At the national level, the PCU of the just ended (30 June 2007) IFAD Eastern Province Horticulture and Traditional Crops Project established in the Horticulture Division of the Ministry of Agriculture will be used for this project. This will ensure that experienced and efficient staff familiar with the horticulture industry are retained to manage this project. The PCU will be responsible for the day-to-day coordination and monitoring of implementation of the project activities. In this regard, the PCU will ensure that project activities are initiated and are adequately budgeted for, consolidate project records, submit all procurement documents to the Bank for review and approval, compile and submit all disbursement applications and quarterly progress reports, and undertake annual audits of all project accounts and submit the audit reports to the Bank. As indicated in para. 4.5.15, the PCU staff will be provided by the Government.

5.2.2 Project Steering Committee (PSC): At the national level, a PSC would be established to oversee project implementation. The PSC would be chaired by the Permanent Secretary, MoA, and comprising representatives from the Ministry of Finance, Ministry of Environment and Natural Resources, Ministry of Water and Irrigation, Ministry of Agriculture, Ministry of Gender, Sports, Culture and Social Services, Director-General of NEMA or their representatives, and representatives of project beneficiaries. The Project Coordinator will be the Secretary to the PSC. The main task would be to review and approve the project's annual work plans and related budget to ensure adherence to project development objectives. The PSC will also provide guidance to project management and resolve problems that might arise during project implementation. The PSC will also monitor performance of the project and advise it on policy issues. The Committee shall meet at least twice a year.

5.2.3 Coordination at the District Level: The implementation of project activities at the District level would be carried out through the office of the District Agricultural Officer. A District Project Coordination Committee will be formed at each district level and comprise the relevant technical departments, representatives for the schemes and will be chaired by the District Commissioner. It will meet quarterly and guide the implementation of the project and endorse work plans, budgets and progress reports. The Committee will be responsible for facilitation and coordination of all technical matters pertaining to the implementation.

## 5.3 Supervision, Implementation and Expenditure Schedule

5.3.1 The Bank's Field Office will contribute actively to the overall supervision of the project. The project will be supervised twice each year, to ensure that the Bank's procurement and financial management procedures and guidelines are adhered to. Through the project's monitoring system, the PCU will monitor progress of the programme and submit quarterly progress reports to the Bank. A Mid-Term Review (MTR) will be undertaken by end of PY3 and a Project Completion Report (PCR) will be prepared by both the GoK and the Bank towards end of PY6.

5.3.2 The project has been designed to be implemented over a period of six years. This time period will provide sufficient time for the technical design to be finalised at project inception, for the infrastructure to be rehabilitated and the capacity building to take effect so that communities are able to take over responsibility for the operation and maintenance of the schemes. It is planned that the first year of project implementation will be focused mainly on organizational aspects and training of communities in participatory approaches and technical design preparation. It will also focus on the recruitment of the technical assistance. The bulk of project activities will take place in PY 2 to 5 in order to ensure that identified activities can be implemented before project closure.

5.3.3 The expenditure schedules by components and by sources of finance over the project period is projected to be as shown in Tables 5.1 and 5.2 below.

Table 5.1 Expenditure Schedule by Component (UA)

| Component | Totals Including Contingencies (UA) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
| **A. Irrigation & Infrastructure Development** | 1,069,532 | 2,954,898 | 3,569,959 | 2,807,389 | 817,341 | 849,663 | 12,068,782 |
| **B. Farmer Support** | 539,165 | 934,988 | 2,446,049 | 1,240,794 | 750,209 | 505,416 | 6,416,622 |
| **C. Project Coordination** | 395,013 | 179,415 | 164,014 | 170,635 | 170,511 | 186,225 | 1,265,813 |
| **Total PROJECT COSTS** | 2,003,710 | 4,069,301 | 6,180,022 | 4,218,819 | 1,738,062 | 1,541,304 | 19,751,217 |

Table 5.2 Expenditure Schedule by Source of Finance (UA)

| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total |
|---|---|---|---|---|---|---|---|
| ADF Loan | 1,682,752 | 3,650,508 | 5,659,822 | 3,723,579 | 1,245,389 | 1,025,994 | 16,988,045 |
| GOK | 320,958 | 402,401 | 399,420 | 360,227 | 341,541 | 357,226 | 2,181,773 |
| Beneficiaries | - | 16,393 | 120,780 | 135,012 | 151,132 | 158,084 | 581,400 |
| **Total** | 2,003,710 | 4,069,301 | 6,180,022 | 4,218,819 | 1,738,062 | 1,541,304 | 19,751,217 |

## 5.4 Governance Issues

5.4.1 Kenya's socio-economic performance has in the past been undermined by poor governance and corruption. Kenya ranks low, both in absolute terms and relative to the regional average, on key indicators of governance including control of corruption, rule of law, regulatory quality, and government effectiveness. Steadfast implementation, including enforcement, will be key to the success of the fight against corruption. In recent years, several initiatives have been undertaken by the Government to promote good governance through reforms in public financial management, civil service, privatization of public enterprises, and anticorruption (see Annex 10**)**.

5.4.2 Anti-Corruption Measures during Project Implementation: The Bank undertakes to jointly screen and verify the integrity of staff being recruited for the PCU; ensure that all procurements of Bank-financed activities are publicly disclosed; strengthen capacity of the PCU to handle project financial accounting and auditing requirements; the Bank will organize a launching workshop during which PCU staff will be trained on Bank rules and procedures regarding financial management, audit, procurement and general project management; ensure

the project is supervised twice a year, and the Kenya Field Office will also help in monitoring performance of the project.

5.4.3 Furthermore, the Bank-financed Institutional Support for Good Governance Project (approved in 2006) is assisting the GOK to improve public financial management in the areas of procurement, auditing, and also to intensify the fight against corruption. The project has three main components: Improving the Public Financial Management System, with special emphasis on three departments, namely: Procurement, Internal Audit and the National Audit Office; second, to strengthen the Kenya Anti-Corruption Commission in its fight against corruption; and third, to enhance performance at the ADB desk in Kenya.

### 5.5 Procurement Arrangements

5.5.1 Procurement arrangements are summarized in Table 5.3 below. All procurement of goods, works and acquisition of consulting services financed by the Bank will be in accordance with the Bank's *Rules of Procedure for Procurement of Goods and Works* or, as appropriate, *Rules of Procedure for the Use of Consultants*, using the relevant Bank Standard Bidding Documents.

5.5.2 Works**:** Procurement of civil works valued at less than UA 0.60 million, per contract, will be carried out under National Competitive Bidding (NCB) procedures consequently 10 contracts will be awarded for irrigation rehabilitation works, total sum of UA 5.90 million, and 3 contracts will be awarded for roads rehabilitation works with a total value of UA 0.38 million. The type, location and scope of works, dispersion of their sites may not attract, international contractors. Moreover, an adequate number of local contractors are available in the country which will ensure good competition. Environmental management works, including catchment conservation and spring protection, estimated at UA 1.70 million will be carried out under Force Account given that the responsible Government authority is adequately staffed, equipped and organised to carry out the works, and also because the works are small and scattered in remote locations to attract qualified contractors. Due to the size of the contracts, the following contracts will be implemented using NCB under the national procedure: 9 contracts will be awarded for WUA office block construction valued at a total of UA 0.58 million; and 9 contracts, valued in total at UA 0.54 million, will be awarded for construction of 1 storage shed and 1 marketing shed per site.

5.5.3 Goods: Contract for vehicles valued at UA 0.46 million, and office/agro-processing and Income Generating Activities equipment valued at UA 0.81 million will be procured under NCB procedures. Given the values and quantity of goods to be supplied, international suppliers will most likely not be interested. Furthermore, a number of international suppliers' agents are available within the country and this will ensure competitive prices and good quality. Motorcycles with a total value of UA 83,033, office furniture and small equipment valued at UA 40,742 and bicycles valued at UA 1,147 will be procured using national shopping following National Procedures.

5.5.4 Services: Procurement of consulting and training services will be undertaken on the basis of shortlists of qualified consultants, in accordance with the Bank's "Rules of Procedure for the Use of Consultants". The services of individual consultants with a total value of UA 0.82 million, environmental audit services valued at UA 33,446 and financial audit services valued at UA 61,710 will be procured under short list. Community mobilisation and training activities amounting to UA 2.78 million in aggregate will be through direct contracting of suitable service providers and institutions because of their nature and specificity. Baseline surveys, monitoring and evaluation, mid-term review, project completion review, and environmental licence will be carried out using shortlists following National Procedures. The

procurement of audit will be carried out during PY3 and PY6 by a private consultant using short list under national procedures. For the procurement of services estimated to cost UA 350,000 and above, announcements shall be published in United Nations Development Business and the local press. If the amount of the contract is less than UA 350,000, the Borrower may limit publication of the announcement to national or regional newspapers. However, any eligible consultant may express the desire to be short-listed.

5.5.5 Miscellaneous: The project will finance the cost of operations and maintenance of vehicles valued at UA 2.50 million.

5.5.6 General Procurement Notice: The text of a General Procurement Notice (GPN) has been agreed with the GoK and it will be issued for publication in Development Business, upon approval by the Board of Directors.

5.5.7 National Procedures and Regulation: Kenya's national procurement laws have been reviewed and determined acceptable.

5.5.8 Executing Agency: The PCU, which will comprise a procurement specialist, will be responsible for the procurement of goods, works, and services. The technical departments within the line ministries will participate in preparation of the tender technical specifications and bid evaluation.

Table 5.3: Summary of Procurement Arrangements (UA million)

| **Procurement Category** | **Unit Costs in UA million** | | | | |
|---|---|---|---|---|---|
| | **NCB** | **SL[1]** | **Other[2]** | **N.B.F.** | **Total** |
| **1. WORKS** | | | | | |
| 1.1 Irrigation Rehabilitation | 5.90(5.90) | | | | 5.90(5.90) |
| 1.2 WUA Buildings & Water Supply | | | 0.58(0.58) | | 0.58(0.58) |
| 1.3 Storage & marketing Sheds | | | 0.54(0.54) | | 0.54(0.54) |
| 1.4 Minor scheme works | | | | 0.05 | 0.05 |
| 1.5 Access Road Rehabilitation | | | 0.38(0.38) | | 0.38(0.38) |
| 1.6 Environmental Management | | | 1.69(1.69) | | 1.69(1.69) |
| **2. GOODS** | | | | | |
| 2.1 Vehicles | 0.46(0.46) | | | | 0.46(0.46) |
| 2.2 Motorcycles | | | 0.08(0.08) | | 0.08(0.08) |
| 2.3 Bicycles | | | 0.001(0.001) | | 0.001(0.001) |
| 2.4 Equipment | 0.81(0.81) | | | | 0.81(0.81) |
| 2.5 Small Office Equipment & Furniture | | | 0.04(0.04) | | 0.04(0.04) |
| **3. SERVICES** | | | | | |
| 3.1 Technical Assistance | | 0.86(0.86) | | | 0.86(0.86) |
| 3.2 Training | | | 2.26(2.26) | | 2.26(2.26) |
| 3.3 Community Mobilisation | | | 0.52(0.52) | | 0.52(0.52) |
| 3.4 Surveys & Studies | | 0.18(0.18) | | | 0.18(0.18) |
| 3.5 Baseline surveys, M&E, MTR and PCR | | | 0.08(0.08) | | 0.08(0.08) |
| 3.6 Financial Audit | | 0.06(0.06) | | | 0.06(0.06) |
| 3.7 Environmental Licence | | | 0.02(0.02) | | 0.02(0.02) |
| 3.8 Environmental Audit | | 0.03(0.03) | | | 0.03(0.03) |
| 3.9 Environmental Monitoring | | | | 0.01 | 0.01 |
| **4. MISCELLANEOUS** | | | | | |
| 4.1 Personnel | | | | 2.14 | 2.14 |
| 4.2 Operating Cost | | | 3.06(2.50) | | 3.06(2.50) |
| **TOTAL** | **7.17(7.17)** | **1.13(1.13)** | **9.25(8.70)** | **2.20** | **19.75(17.00)** |

[1] *SL = Short List and applies to the use of consulting services only*
[2] *Other: includes Direct Contracting, National Shopping, National Procedures and Force Account.*

5.5.9 Review Procedures: The documents subject to review and approval by the Fund before promulgation will include: Specific Procurement Notice; Tender Documents, Requests for proposal; Tender Evaluation Reports, Reports on Evaluation of Consultants' Proposals, including recommendations for contract award. Draft contracts will also be subject to the Bank's approval if they have been amended from the drafts included in the tender documents. The Bank's non-objection for the consultancy technical proposals evaluation report will be required before proceeding of the financial evaluation.

5.5.10 Post review: The Government has shown that it has the capacity and the experience necessary as regards the application of the Bank's Rules of Procedure for Procurement. The post procurement review will therefore be applied for individual contracts of value less than the following thresholds:

- Civil Works: UA 100,000
- Goods: UA 50,000
- Services: 20,000

## 5.6 Disbursement Arrangements

The disbursement methods for the ADF loan shall include the Direct Payment and Special Account methods. Proceeds from the loan shall be deposited into a Special Foreign Currency Account (FCA) to be opened in a bank acceptable to the Fund, and managed by the PCU. A Local Currency Account (LCA), also managed by the PCU, will be opened in a commercial bank acceptable to the ADF for purposes of transferring funds from the FCA to cover eligible expenditures in local currency. The opening of these two Special Accounts will be a condition precedent to first disbursement of the ADF loan. Following from the assessment of the financial and audit control environment which was found to be adequate, the ceiling of the special account will be fixed at US$ 2.0 million. Current Bank guidelines on disbursement will apply and these will be illustrated in more detail through the issuing of a disbursement letter to the Government.

## 5.7 Monitoring and Evaluation

Monitoring would be an integral part of project management activities. A consultant would be recruited for three months in the first year of the project to assist the project's M&E Unit with the establishment of a comprehensive monitoring and evaluation system for the programme. The consultant will provide an input at the end of the second year for a period of one month to assist with the analysis of the data collected. The monitoring and evaluation system would include, at the scheme level, a Participatory Monitoring and Evaluation system which will be used to generate and manage/consolidate gender disaggregated data. A gender sensitive baseline study would be undertaken in PY1 which would be followed up with annual gender sensitive surveys to assess performance and impact of project activities. The PCU M&E specialist will be responsible for compiling the gender sensitive quarterly and annual progress reports. The Bank will conduct regular follow-ups, review and supervision missions to closely monitor project implementation. The latter would be undertaken twice a year given the national coverage of the project. The Bank's Field Office will closely monitor the project implementation together with the PCU and GoK officials.

### 5.8 Financial Reporting and Auditing

5.8.1 The Project will maintain accounting records based on sound and acceptable accounting principles and in accordance with Bank guidelines. The project accountant will also ensure that the project is operating under an adequate control framework. A short-term consultancy will be financed by the project to set up an accounting system which will be in accordance with the Bank's Guidelines. The project accountant will prepare regular accounting reports for management, which will be part of the quarterly reports, as well as consolidated annual financial statements for the project.

5.8.2 All project accounts will be audited annually by independent external auditors acceptable to the Bank, and submitted to the Bank not more than 6 months after each fiscal year. These external auditors will be recruited based on the Bank's standard terms of reference (ToR) and through a shortlist under the supervision of the Office of the Comptroller and Auditor General of Kenya. The audit of the project special account will also be included in the terms of reference of the project auditors. The audit report will be reviewed by the Auditor General to ascertain conformity with the ToR before certification. Budgetary provisions for the annual audit will be included under the loan resources.

### 5.9 Aid Coordination

There is an Agriculture/Rural Development 'Development Partner's Group' composed of the different multilateral and bilateral development partners present in Kenya and which are involved in the agriculture and rural development sector. The Group is currently chaired by GTZ with the World Bank as the co-chair. It meets once a month and discussions are centred mainly on policy issues and new initiative including programme synergy and compliance with policies. There is currently no overall sector investment programme agreed among the different donors, and no sector wide formal coordination mechanism. However, with current changes in the agriculture, especially with the adoption of the SRA, and the move towards a Kenya Joint Assistance Strategy, the need for a more formal structure has become apparent. The Group is currently preparing partnership principles and a Code of Conduct towards this end. The Bank, through the Kenya Field Office, will participate in this group.

## 6. PROJECT SUSTAINABILITY AND RISKS

### 6.1 Recurrent Costs

6.1.1 The total recurrent cost under the project are estimated at UA 5.20 million (approximately 26% of total project costs) consisting of field allowances for the project staff, salaries for government PCU and extension staff and operating expenses, including operations and maintenance of infrastructures, vehicles and motorcycles. The recurrent cost will be financed by the ADF Loan (48%), the Government of Kenya (42%) and Beneficiaries (10%) as indicated in Annex 3b.

6.1.2 The GOK contributions to the recurrent costs mainly relates to salaries for existing staff and part of the operations and maintenance. The Government's budgetary allocations for the staff deployed to the project are already in place, through the annual budgets allocated to the concerned line ministries (Ministry of Agriculture, Ministry of Irrigation and Water) and the district administration.

## 6.2 Project Sustainability

6.2.1 The sustainability of the project will be due to a combination of a number of factors, most importantly the participatory approach. The participatory demand-driven approach adopted in the design of the project as well as factored in the implementation will promote a sense of ownership among the beneficiaries. The other key issue to the project sustainability will be the flow of additional resources and incomes to the resource poor communities, most of which is located in the fragile ASALs. The objective of the project is not necessarily to increase food production but to improve access to food through improved production of high value horticultural crops. It is believed that when farmers get the additional incomes from sale of produce, particularly horticulture, they become encouraged to sustain the project. The financial returns to the households coupled with the attainment of food security at community level will be enough to sustain interest in the project. The project has been designed in such a way that the commitments of the beneficiaries are obtained from the outset, thus fostering a sense of ownership. The fact that farmers will assume ownership and responsibility of the irrigation infrastructure at the various schemes after construction, and will thus bear the responsibility for O&M will further sustain flow of project benefits.

6.2.2 The project will focus on capacity building, including training the beneficiaries on efficient use and management of scarce water resources. Suitable service providers, with experience in capacity building and training for transformation will be identified and contracted to institute the process of participation and empowerment among stakeholders during implementation. The institutionalisation of a cost recovery and beneficiary contribution of efforts, the use of best service providers and reputable NGOs will minimise failure and sustain flow of outputs. The project will empower local contractors and create capacity for undertaking similar works. The application of best practices and provision of wide range of options add value to sustainability of flow of resources.

## 6.3 Critical Risks and Mitigating Measures

6.3.1 Some districts may lack the capacity to plan and supervise the implementation of project activities. This will be mitigated by provision of adequate training to the staff of all implementing agencies. Moreover, the recruitment of consultants to prepare the designs and to supervise the construction works and the use of other service providers would reduce the pressure off the District staff who would be able to better handle the overall supervision role.

6.3.2 The demand-led approach is likely to be more difficult to adopt in areas where communities are used to the traditional way of doing business. In order to mitigate against this risk, which could result in the neglect of the irrigation infrastructure, farmer mobilisation and awareness for project preparation, as well as site identification, has been done through full beneficiary participation. This approach will be maintained during project implementation.

6.3.3 A major risk concerns the amount of water available to the schemes and the amount of water left for users downstream (livestock, wildlife and human). The designs for rehabilitation or expansion of existing schemes and construction of new schemes will adhere to the provisions of the Water Act 2002 and take into account the water demand of the scheme farmers as well as those of downstream users, so that adequate flow is left in the water courses, even in the driest seasons. Moreover, each WUA will need to apply for a water abstraction permit from the relevant WRMA regional office which would indicate the amount of water that can be tapped from the river. As the availability of water is directly related to the state of the respective water

catchments, and their conservation, two strategic interventions would be undertaken, namely, protection of degraded catchments and updating of the water resources assessment.

6.3.4 The existence of input delivery and service provision in the project area is essential. The project assumes that the input and service provision will continue at the same scale as at present. Besides District staff, NGOs or private service providers can be used for extension and marketing support. In addition, despite the fact that the scheme farmers are potential clients, financial institutions may not be willing to operate in the project area very soon. The project aims to provide support to financial institutions in order to mitigate this risk.

## 7. PROJECT BENEFITS

### 7.1 Financial Analysis

7.1.1 Project financial analysis was carried out based on representative crop and farm budgets for the farming system of the project sites, using the prevailing cropping pattern and looking at incremental costs and benefits resulting from the proposed project interventions. Most of the data used for the analysis was derived from information gathered during the May 2007 appraisal mission, from the report of the CarlBro Intelligent Solutions study of 2005, data collated from the Ministry of Agriculture, and the district administrations.

7.1.2 The crop models and budgets have been developed for all the major crops which were then assembled into a representative model for the sole irrigation technology that would be implemented in all the project sites. The model focused on analysing nine key horticultural crops namely, tomatoes, onions, French beans, chillies, kales, cabbage, okra and banana, and maize which is representative of cereals produced on all the proposed irrigation schemes. The project was appraised with the objective of determining how irrigation and improved production and marketing processes and access to financial services would impact the farming and marketing activities of smallholder farmers who engage in producing and marketing the selected crops in the project areas.

7.1.3 The farm model is representative of all the farms in the scheme sites which will all be under the surface irrigation schemes. The total area under irrigation is 2886 ha which will host 5,464 households, amounting to 0.53 ha per household in the average. Total production in the irrigated scheme areas will increase significantly in the ‘with’ project situation as compared to the prevailing situation. The net incremental gross margin per household would reach KES 133,869 (US$ 2,013).

### 7.2 Economic Analysis

The economic analysis assesses whether or not the project is beneficial to the entire society. A standard conversion factor of 1 has been assumed as the Kenyan economy is very open, and foreign exchange is freely traded in the country, and as such does not carry any premium. Also, duties, taxes and price contingencies were excluded from the calculations. The economic analysis was carried out over a 20-year period. All calculations are in constant prices based on May 2007 price levels. The results of the analysis show that the project would be economically rewarding, with an economic internal rate of return (EIRR) of 29.5%. The Net Present Value at 12 % discount rate is KES 1.85 billion (UA 18.42 million). The summary of the economic analysis is presented in Annex 5.

## 7.3 Social Impact Analysis

7.3.1 Although the irrigation schemes will directly benefit 5,812 households (35,000 people), it is estimated that more than 1,000,000 people in the 8 districts will indirectly benefit from the project activities. The 5,812 direct beneficiary households include 30% who are female headed who are involved in irrigated horticultural crop production with the aim of improving food security and enhancing incomes. The scheme access roads will improve access to agricultural inputs and output to markets. Improved production, market access, post handling facilities and marketing sheds will improve the quality at which farm produce enter the marketing chain thus improving economic returns to farmers. The participatory approach adopted under the project will enhance the capacity of beneficiaries, especially women, to take advantage of proven technologies to increase profitability of horticultural crops. The project will contribute to reduction of poverty and improve livelihoods of the farmers. The major benefits will accrue from the project's contribution to development of sustainable horticultural practices, improved food security, nutrition, and sustainable environmental management practices. The poor segments of the target farmers, comprising poor female headed households who often have limited access to resources will benefit by having access to farmers' organisations, training and savings opportunities. Women's increased participation and access to better training and marketing opportunities will allow them to increase their incomes thus providing better nutrition, education and health for the household.

7.3.2 The target population will be equipped with improved skills and knowledge of production planning/development of business plans, availability of financial service products and their terms and conditions, and improved marketing. Through strengthening of farmers organisations, farmers will gain management skills and enhanced bargaining power. Since all training will be gender sensitive, farmers' awareness of access to and control over resources will increase and women will gain power and improve their position in the community. Women will have better opportunity to participate on equal basis with men and thus improving their decision-making levels within the WUA and committees, increased access to markets, and increased awareness of HIV/AIDS and other diseases such as malaria and bilharzias.

7.3.3 Horticulture is labour intensive and with increased access to means of production, it is expected that the project will contribute to reduction of unemployment amongst the target population and neighbouring areas as the demand for labour will increase. This will be of particular importance for the youth and the poor landless, who at present have limited access to income in the targeted communities, and who often prefer working within their home areas instead of migrating to urban areas in search of employment.

## 7.4 Sensitivity Analysis

A sensitivity analysis has been carried out to assess the impact on estimated project returns arising from changes in base case assumptions as presented below. The sensitivity analysis shows that: (i) A decrease of benefits by 10% will reduce the EIRR to 27.2% and; a 20% decrease in benefits will reduce the EIRR to 24.5%; (ii) An increase of cost by 10% will reduce the EIRR to 27.5% and; an increase of cost by 20% will reduce the EIRR to 21.9%; (iii) Delaying project benefits by 1 year will reduce the EIRR to 24.4%; and delaying benefits by 2 years will reduce the EIRR to 20.6%. These analyses show that the project is robust and can withstand a series of adverse effects by maintaining its EIRR above the assumed opportunity cost of capital of 12%.

# 8. CONCLUSIONS AND RECOMMENDATIONS

## 8.1 Conclusions

The project is demand-driven as there was considerable participation of stakeholders in the preparation process which will bring ownership of facilities and provide guarantee of sustainability. Further guarantees are provided by the technically unsophisticated nature of many of the interventions and their simple maintenance requirements and by the use of existing GoK structures for project implementation. The project meets the GoK vision and objective of improving productivity of smallholder agriculture. The project will also contribute significantly to achieving the MDGs of (i) halving the proportion of people living in extreme poverty by 2015, and (ii) promoting gender equality and empowerment of women through their involvement in project activities. The EIRR of the project is estimated at 29.5%. The project is technically feasible, economically viable, environmentally sound, and socially desirable. The project is participatory in its design and decentralised in its implementation with a significant beneficiary input intended to ensure sustainability.

## 8.2 Recommendations and Conditions for Loan Approval

It is recommended that an ADF loan not exceeding UA 17.0 million be granted to the Republic of Kenya for the purpose of implementing the project as described in this report, subject to the following specific conditions:

### A. Conditions Precedent to Entry into Force of the Loan Agreement

The entry into force of the Loan shall be subject to the fulfilment by the Borrower of the provisions of **sections 5.01** of the General Conditions Applicable to Loan Agreements and Guarantee Agreements of the Fund.

### B. Conditions Precedent to First Disbursement of the Loan

The first disbursement shall be conditional upon the fulfilment of the following conditions:
The Borrower shall have provided evidence satisfactory to the Fund of having:

(i) Opened in a bank acceptable to the Fund, a foreign currency special account and a local currency account into which the proceeds of the Loan shall be deposited(para 5.5);

(ii) Designated members of the PCU for the Project whose qualifications and experience are acceptable to the Fund, comprised of the following: a Project Coordinator, an Accountant, a Procurement Specialist, a Monitoring and Evaluation Specialist, a Horticulture Specialist, a Gender Specialist, and an Irrigation Engineer (para 4.5.15).

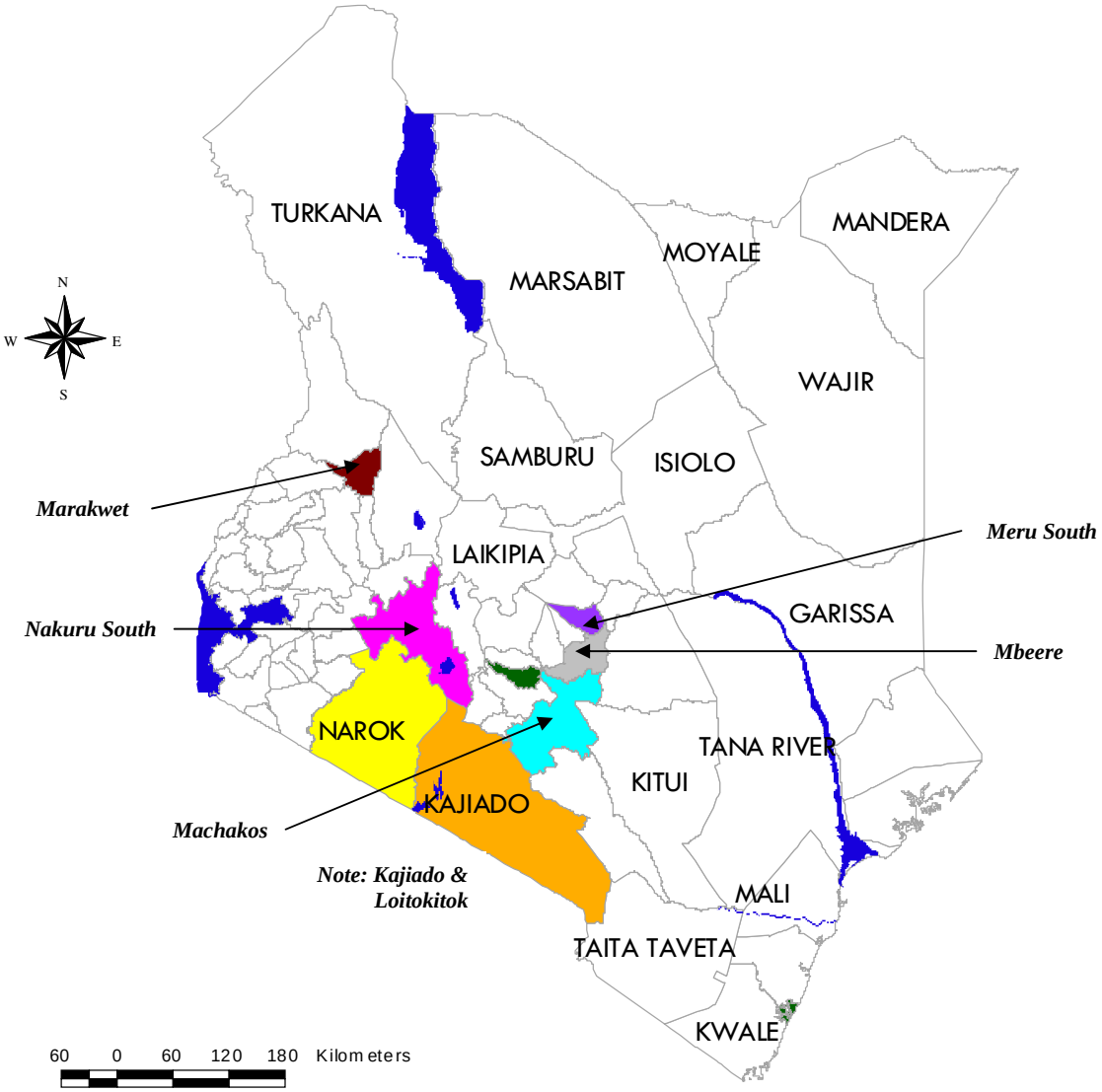
### C. Other Condition of the Loan

(i) The Borrower shall not commence physical rehabilitation of any specific irrigation scheme without prior approval of the site-specific EIA by NEMA (para 4.7.2);

(ii) The Borrower shall within 6 months of 1st disbursement of the loan, submit to the Fund evidence of having designated members of the Steering Committee which

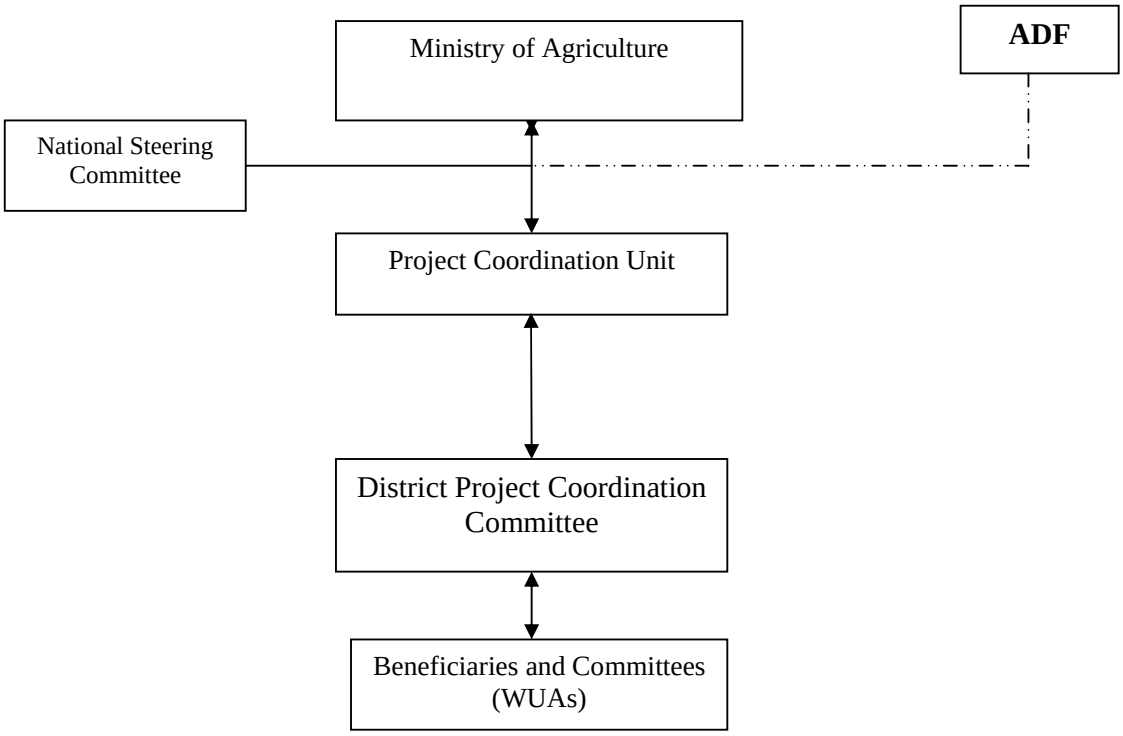
shall be chaired by the Permanent Secretary, Ministry of Agriculture and comprise: representatives from the Ministry of Finance, Ministry of Environment and Natural Resources, Ministry of Water and Irrigation, Ministry of Agriculture, Ministry of Gender, Sports, Culture and Social Services, Director-General of NEMA or their representatives, and representatives of project beneficiaries (para 5.2.2).

KENYA: Small-scale Horticulture Development Project
Map of Kenya showing Project Area



Kenya: Small-scale Horticulture Development Project

Project Organisation and Management



# Kenya: Small-scale Horticulture Development Project

## Annex 3a: Provisional List of Goods and Services – Categories of Expenditure

| CATEGORIES | (UA) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ADF | | Government | | Beneficiaries | | Total | |
| | Amount | % | Amount | % | Amount | % | Amount | % |
| **A. WORKS** | | | | | | | | |
| Irrigation Rehabilitation | 5,903,443 | 100.0 | - | - | - | - | 5,903,443 | 29.9 |
| WUA Buildings & Water Supply | 574,589 | 100.0 | - | - | - | - | 574,589 | 2.9 |
| Storage & Marketing Sheds | 538,790 | 100.0 | - | - | - | - | 538,790 | 2.7 |
| Minor Scheme Works | - | - | - | - | 50,139 | 100.0 | 50,139 | 0.3 |
| Access Roads Rehabilitation | 377,946 | 100.0 | - | - | - | - | 377,946 | 1.9 |
| Environmental Management | 1,690,731 | 100.0 | - | - | - | - | 1,690,731 | 8.6 |
| **Subtotal WORKS** | 9,085,500 | 99.5 | - | - | 50,139 | 0.5 | 9,135,639 | 46.3 |
| **B. GOODS** | | | | | | | | |
| Vehicles | 456,575 | 100.0 | - | - | - | - | 456,575 | 2.3 |
| Motorcycles | 83,033 | 100.0 | - | - | - | - | 83,033 | 0.4 |
| Bicycles | 1,147 | 100.0 | - | - | - | - | 1,147 | - |
| Equipment | 812,661 | 100.0 | - | - | - | - | 812,661 | 4.1 |
| Small Office Equipment & Furniture | 40,742 | 100.0 | - | - | - | - | 40,742 | 0.2 |
| **Subtotal GOODS** | 1,394,157 | 100.0 | - | - | - | - | 1,394,157 | 7.1 |
| **C. SERVICES** | | | | | | | | |
| Technical Assistance | 855,651 | 100.0 | - | - | - | - | 855,651 | 4.3 |
| Training | 2,256,971 | 100.0 | - | - | - | - | 2,256,971 | 11.4 |
| Community Mobilisation | 519,864 | 100.0 | - | - | - | - | 519,864 | 2.6 |
| Surveys & Studies | 183,811 | 100.0 | - | - | - | - | 183,811 | 0.9 |
| Baseline surveys, M&E MTR and PCR | 79,012 | 100.0 | - | - | - | - | 79,012 | 0.4 |
| Financial Audit | 61,710 | 100.0 | - | - | - | - | 61,710 | 0.3 |
| Environmental License NEMA | 19,750 | 100.0 | - | - | - | - | 19,750 | 0.1 |
| Environmental Audit | 33,446 | 100.0 | - | - | - | - | 33,446 | 0.2 |
| Environmental Monitoring | - | - | 8,914 | 100.0 | - | - | 8,914 | - |
| **Subtotal SERVICES** | 4,010,215 | 99.8 | 8,914 | 0.2 | - | - | 4,019,128 | 20.3 |
| D. PERSONNEL | - | - | 2,139,828 | 100.0 | - | - | 2,139,828 | 10.8 |
| E. OPERATING COST | 2,498,173 | 81.6 | 33,031 | 1.1 | 531,261 | 17.3 | 3,062,464 | 15.5 |
| **Total PROJECT COSTS** | 16,988,045 | 86.0 | 2,181,773 | 11.0 | 581,400 | 2.9 | 19,751,217 | 100.0 |

## Annex 3b: ADF/GOK Financing of Recurrent Costs (UA)

| Source | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | Total | % |
|---|---|---|---|---|---|---|---|---|
| ADF | 370,337 | 464,679 | 444,244 | 424,708 | 406,030 | 388,174 | 2,498,173 | 48 |
| Government | 319,578 | 400,980 | 397,957 | 358,722 | 339,991 | 355,631 | 2,172,859 | 42 |
| Beneficiaries | - | - | 87,034 | 135,012 | 151,132 | 158,084 | 531,261 | 10 |
| **Total Recurrent Costs** | **689,915** | **865,659** | **929,235** | **918,442** | **897,153** | **901,888** | **5,202,292** | **100** |
| % ADF Financing | 53.7 | 53.7 | 47.8 | 46.2 | 45.3 | 43.0 | 48 | |

# Kenya: Small-scale Horticulture Development Project
## Summary of Economic Analysis

A. Introduction

1. The proposed project has two core and one support components. The project comprises three components: i) Irrigation and Infrastructure Development; ii) Farmer Support, with two sub-components (Horticultural Production and Marketing; and Financial Services Support); and iii) Project Coordination, including support to district staff and deployment by GOK of project staff. Detailed cost tables have been given in Working Paper 1.

B. Cost Estimates

2. The following assumptions were made in estimating the project costs:
- the project will be implemented over 6 years; disbursement is over 6 years.
- costs are based on most recent updated prices, as determined during the appraisal mission in May 2007, excluding taxes. Costs are expressed in Kenyan Shillings, converted at KES 105.11 to the UA, rate for 1st May, 2007. It is assumed that GOK will take care of all associated taxes and duties or the Project will obtain waivers where appropriate;
- unit cost estimates for civil works are based on engineering design estimates as provided by the relevant Government authorities (Ministry of Agriculture, Ministry of Irrigation, the Roads Authority). Competitive bidding will be practiced for the implementation of irrigation works, roads construction, building construction and water supply, and this is expected to result in more realistic, market-based, costing of civil works;
- domestic price increases in Kenya have been assumed at 5.7% all through project period, representing average rate of inflation for the past 5 years; price contingencies for foreign costs have been assumed at 2.5%;
- cost estimates include physical contingencies of 10% of base cost; except for consultancy, specialist services, salaries and allowances;
- the Fund will cover all investment and most recurrent costs except for salaries which will be financed by the GOK. Beneficiaries will also contribute labour and materials for some of the irrigation infrastructure works

C. Project Benefits

3. The major benefits will accrue from the Projects contribution to the development of sustainable horticultural practices, improved food security and improved nutrition and health, and sustainable conservation and environmental management practices. In specifics, the project will encourage demand driven horticulture and rural development for sustainable poverty reduction.

D. Financial Analysis

4. Project financial analysis was carried out based on representative crop and farm budgets for the farming system of the project sites, using the prevailing cropping pattern and looking at incremental costs and benefits resulting from the proposed project interventions. Most of the data used for the analysis was derived from information gathered during the May 2007 appraisal mission, from the report of the CarlBro study, data collated from the Ministry of Agriculture, and the district administrations.

5. Crop models and budgets have been developed for all the major crops which were then assembled into a representative model for the sole irrigation technology that would be implemented in all the project sites. The model focused on appraising nine key horticultural crops namely, tomatoes, onions, French beans, chillies, kales, cabbage, okra and banana, and maize which is representative of cereals produced on all the proposed irrigation schemes. The project was appraised with the objective of determining how irrigation and improved production and marketing processes and access to financial services would impact the farming and marketing activities of smallholder farmers who engage in producing and marketing the selected crops in the project areas.

6. The farm model is representative of all the farms in the scheme sites which will all be under the surface irrigation schemes. The total area under irrigation is 2886 ha which will host 5,464 households, amounting to 0.53 ha per household in the average. Double cropping was assumed for all the horticultural crops. Total production in the irrigated scheme areas will increase significantly in the 'with' project situation as compared to the prevailing

situation. The net incremental gross margin per household as a result of the proposed intervention is KES 133,869 (USD 2,013). The table below presents the incremental production in weight as well as value:

| Crop | Projected project related production increase (ton/year) | Farm gate price ('000 KES/ton) | Additional production value ('000 KES year) |
|---|---|---|---|
| Tomato | 32,900 | 13 | 427,705 |
| Fr Beans | 3,810 | 30 | 114,286 |
| Chillies | 750 | 27 | 20,260 |
| Onion | 4,329 | 18 | 77,922 |
| Kale | 2,020 | 5 | 10,101 |
| Cabbages | 4,618 | 5 | 23,088 |
| Okra | 2,165 | 28 | 60,606 |
| Snow Peas | 1,010 | 20 | 20,202 |
| Maize | 722 | 17 | 12,266 |
| Banana | 620 | 8 | 4,964 |
| **Total** | **52,944** | | **771,400** |

E. Economic Analysis

7. The economic analysis assesses whether or not the project is beneficial to the entire society. A standard conversion factor of 1 has been assumed as the Kenyan economy is very open, and foreign exchange is freely traded in the country, and as such does not carry any premium. Also, duties, taxes and price contingencies were excluded from the calculations. The economic analysis was carried out over a 20-year period. All calculations are in constant prices based on current price levels. The results of the analysis show that the project would be economically rewarding, with an economic internal rate of return (EIRR) of 29.5%. The Net Present Value at 12 % discount rate is KES 1.85 billion (UA 18.42 million).

F. Sensitivity Analysis

8. A sensitivity analysis has been carried out to assess the impact on estimated project returns arising from changes in base case assumptions as presented below. The sensitivity analysis shows that: (i) A decrease of benefits by 10% will reduce the EIRR to 27.2% and; a 20% decrease in benefits will reduce the EIRR to 24.5%; (ii) An increase of cost by 10% will reduce the EIRR to 27.5% and; an increase of cost by 20% will reduce the EIRR to 21.9%; (iii) Delaying project benefits by 1 year will reduce the EIRR to 24.4%; and delaying benefits by 2 years will reduce the EIRR to 20.6%. These analyses show that the project is robust and can withstand a series of adverse effects by maintaining its EIRR above the assumed opportunity cost of capital of 12%.

**Summary of Economic Analysis**

Sensitivity of EIRR to changes in costs and benefits:

| benefits: | base case | - 1 year | - 2 years | - 10% | - 20% |
|---|---|---|---|---|---|
| base case : | 29.9% | 24.4% | 20.6% | 27.2% | 24.5% |
| costs + 10% | 27.5% | 22.5% | 19.1% | 25.0% | 22.3% |
| costs + 20% | 25.4% | 20.9% | 17.7% | 23.0% | 20.5% |
| costs + 40% | 21.9% | 18.2% | 15.4% | 19.7% | 17.3% |

| year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| total economic costs | 195,664 | 376,996 | 545,494 | 371,104 | 151,907 | 130,536 | 110,964 | 110,964 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 | 22,320 |
| total economic benefits | 0 | 0 | 75,754 | 151,509 | 378,772 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 |
| costs + 10% | 215,230 | 414,696 | 600,043 | 408,214 | 167,098 | 143,590 | 122,060 | 122,060 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 | 24,552 |
| costs + 20% | 234,797 | 452,395 | 654,593 | 445,325 | 182,288 | 156,643 | 133,157 | 133,157 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 | 26,784 |
| costs + 40% | 273,930 | 527,794 | 763,692 | 519,546 | 212,670 | 182,750 | 155,350 | 155,350 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 | 31,248 |
| benefits delayed 1 year | 0 | 0 | 0 | 75,754 | 151,509 | 378,772 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 |
| benefits delayed 2 years | 0 | 0 | 0 | 0 | 75,754 | 151,509 | 378,772 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 | 757,544 |
| benefits -10% | 0 | 0 | 68,179 | 136,358 | 340,895 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 | 681,789 |
| benefits -20% | 0 | 0 | 60,603 | 121,207 | 303,017 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 | 606,035 |
| net streams: | | | | | | | | | | | | | | | | | | | | |
| base/base | -195,664 | -376,996 | -469,740 | -219,595 | 226,865 | 627,008 | 646,580 | 646,580 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 |
| base costs/delay 1 year | -195,664 | -376,996 | -545,494 | -295,350 | -398 | 248,236 | 646,580 | 646,580 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 |
| base costs/delay 2 yrs. | -195,664 | -376,996 | -545,494 | -371,104 | -76,153 | 20,973 | 267,808 | 646,580 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 | 735,224 |
| base costs/benef. -10% | -195,664 | -376,996 | -477,315 | -234,746 | 188,988 | 551,253 | 570,825 | 570,825 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 | 659,469 |
| base costs/benef. -20% | -195,664 | -376,996 | -484,891 | -249,897 | 151,110 | 475,499 | 495,071 | 495,071 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 | 583,715 |
| costs+ 10%/base benef. | -215,230 | -414,696 | -524,289 | -256,706 | 211,674 | 613,954 | 635,483 | 635,483 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 |
| costs+ 10%/delay 1 year | -215,230 | -414,696 | -600,043 | -332,460 | -15,589 | 235,182 | 635,483 | 635,483 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 |
| costs+ 10%/delay 2 yrs. | -215,230 | -414,696 | -600,043 | -408,214 | -91,343 | 7,919 | 256,711 | 635,483 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 | 732,992 |
| costs+10%/benef. -10% | -215,230 | -414,696 | -531,864 | -271,857 | 173,797 | 538,200 | 559,729 | 559,729 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 | 657,237 |
| costs+10%/benef. -20% | -215,230 | -414,696 | -539,440 | -287,007 | 135,920 | 462,445 | 483,975 | 483,975 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 | 581,483 |
| costs+20%/base benef. | -234,797 | -452,395 | -578,838 | -293,816 | 196,483 | 600,901 | 624,387 | 624,387 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 |
| costs+ 20%/delay 1 year | -234,797 | -452,395 | -654,593 | -369,570 | -30,780 | 222,129 | 624,387 | 624,387 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 |
| costs+ 20%/delay 2 yrs. | -234,797 | -452,395 | -654,593 | -445,325 | -106,534 | -5,134 | 245,615 | 624,387 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 | 730,760 |
| costs+20%/benef. -10% | -234,797 | -452,395 | -586,414 | -308,967 | 158,606 | 525,146 | 548,633 | 548,633 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 | 655,005 |
| costs+20%/benef. -20% | -234,797 | -452,395 | -593,989 | -324,118 | 120,729 | 449,392 | 472,878 | 472,878 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 | 579,251 |
| costs+40%/base benef. | -273,930 | -527,794 | -687,937 | -368,037 | 166,102 | 574,793 | 602,194 | 602,194 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 |
| costs+ 40%/delay 1 year | -273,930 | -527,794 | -763,692 | -443,791 | -61,161 | 196,021 | 602,194 | 602,194 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 |
| costs+ 40%/delay 2 yrs. | -273,930 | -527,794 | -763,692 | -519,546 | -136,915 | -31,242 | 223,422 | 602,194 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 | 726,296 |
| costs+40%/benef. -10% | -273,930 | -527,794 | -695,513 | -383,188 | 128,225 | 499,039 | 526,440 | 526,440 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 | 650,541 |
| costs+40%/benef. -20% | -273,930 | -527,794 | -703,088 | -398,339 | 90,348 | 423,285 | 450,685 | 450,685 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 | 574,787 |

**Approved and Ongoing Operations in Kenya**

**(Based on CDW Reporting on Wednesday, June 13, 2007)**

| Project Designation | Main Sector | ADB/ADF/ NTF Window | Approval Date | Signature date | Entry into force date | Effect. Date | Initial Comp. Date | Revised Comp. Date | Last Disb. | Project Age(Yr.) | Overall IP Rating | Overall DO Rating | Amount Approved (UAC) | Amount Signed (UAC) | Net Signed Amount (UAC) | Total Disb. (UAC) | Undisb. Balance (UAC) | Percent. Disburs. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ASAL-BASED LIVESTOCK AND RURAL LIVELIHOOD | Agriculture | ADF | 17.12.2003 | 03.06.2004 | 22.09.2004 | 23.02.2005 | # | 31.12.2011 | 30.05.2007 | 3.5 | 2.36 | 1.50 | 18.41 | 18.41 | 18.41 | 5.71 | 12.70 | 31.00 |
| | | ADF | 17.12.2003 | 03.06.2004 | 22.09.2004 | 09.08.2005 | # | 31.12.2011 | 05.12.2006 | 3.5 | 2.36 | 1.50 | 3.17 | 3.17 | 3.17 | 1.45 | 1.72 | 45.73 |
| GREEN ZONES DEVELOPMEMT SUPPORT PROJECT | Agriculture | ADF | 12.10.2005 | 30.11.2005 | 27.02.2006 | 16.03.2006 | # | 31.12.2013 | 05.06.2007 | 1.7 | 2.57 | 2.25 | 25.04 | 25.04 | 25.04 | 2.33 | 22.71 | 9.32 |
| KIMIRA-OLUCH SMALLHOLDER IRRIGATION DEV. | Agriculture | ADF | 31.05.2006 | 14.07.2006 | 21.09.2006 | 20.10.2006 | # | 30.09.2013 | 07.02.2007 | 1.0 | 0.00 | 0.00 | 22.98 | 22.98 | 22.98 | 0.09 | 22.89 | 0.41 |
| | | ADF | 31.05.2006 | 14.07.2006 | 14.07.2006 | 06.11.2006 | # | 30.09.2013 | 23.03.2007 | 1.0 | 0.00 | 0.00 | 1.15 | 1.15 | 1.15 | 0.02 | 1.13 | 2.08 |
| | | ADF | 31.05.2006 | 14.07.2006 | # | # | # | # | # | 1.0 | 0.00 | 0.00 | 1.15 | 0.04 | 0.04 | 0.00 | 0.04 | 0.00 |
| TIOMIN KWALE TITANIUM | Ind/Mini/Quar | ADB | 26.07.2006 | 31.07.2006 | # | # | # | # | # | 0.9 | 0.00 | 0.00 | 26.53 | 26.53 | 26.53 | 0.00 | 26.53 | 0.00 |
| EWASO NGIRO NORTH NAT RES CONS PROJECT | Environment | ADF | 22.04.2005 | 16.06.2005 | 27.09.2005 | 06.02.2006 | # | 31.12.2012 | 14.03.2007 | 2.1 | 2.23 | 2.25 | 13.59 | 13.59 | 13.59 | 0.28 | 13.31 | 2.07 |
| | | ADF | 22.04.2005 | 16.06.2005 | 16.06.2005 | 09.03.2006 | # | 31.12.2012 | 27.03.2007 | 2.1 | 2.23 | 2.25 | 2.89 | 2.89 | 2.89 | 0.39 | 2.50 | 13.42 |
| ROADS 2000-DISTRICTS RURAL ROADS REHAB. | Transport | ADF | 12.07.2001 | 15.02.2002 | 29.04.2002 | 03.10.2003 | 31.12.2006 | 31.12.2006 | 29.05.2007 | 5.9 | 2.21 | 2.25 | 20.00 | 20.00 | 20.00 | 2.76 | 17.24 | 13.79 |
| RIFT VALLEY WATER SUPPLY & SANITATION | Water Sup/Sanit | ADF | 07.07.2004 | 06.09.2004 | 21.12.2004 | 22.03.2006 | # | 31.12.2009 | 16.03.2007 | 2.9 | 2.40 | 2.75 | 13.04 | 13.04 | 13.04 | 0.16 | 12.88 | 1.25 |
| | | ADF | 07.07.2004 | 06.09.2004 | 06.09.2004 | 22.03.2006 | # | 31.12.2009 | 10.04.2007 | 2.9 | 2.40 | 2.75 | 5.02 | 5.02 | 5.02 | 0.20 | 4.82 | 3.95 |
| Kisumu District Primary Schools Water an | Water Sup/Sanit | 5600 | 19.12.2006 | 29.01.2007 | 29.01.2007 | # | # | # | 21.05.2007 | 0.5 | 0.00 | 0.00 | 0.20 | 0.20 | 0.20 | 0.14 | 0.07 | 67.36 |
| LINE OF CREDIT TO CFC BANK LIMITED | Finance | ADB | 29.10.2003 | 18.03.2004 | 02.07.2004 | 02.07.2004 | # | 17.03.2005 | 02.02.2005 | 3.6 | 0.00 | 0.00 | 4.64 | 4.64 | 4.64 | 4.64 | 0.00 | 100.00 |
| EDUCATION III PROJECT | Social | ADF | 17.12.2003 | 03.06.2004 | 24.11.2004 | 24.11.2004 | # | 31.12.2010 | 24.05.2007 | 3.5 | 1.36 | 1.75 | 24.26 | 24.26 | 24.26 | 0.09 | 24.17 | 0.39 |
| | | ADF | 17.12.2003 | 03.06.2004 | 24.11.2004 | 24.11.2004 | # | 31.12.2010 | 28.03.2007 | 3.5 | 1.36 | 1.75 | 6.75 | 6.75 | 6.75 | 0.05 | 6.70 | 0.73 |
| | | ADF | 17.12.2003 | 03.06.2004 | # | # | # | # | # | 3.5 | 1.36 | 1.75 | 6.75 | 0.02 | 0.02 | 0.00 | 0.02 | 0.00 |
| RURAL HEALTH PROJECT III | Social | ADF | 07.07.2004 | 06.09.2004 | 15.03.2005 | # | # | 31.12.2010 | 27.07.2006 | 2.9 | 0.00 | 0.00 | 17.18 | 17.18 | 17.18 | 0.14 | 17.04 | 0.81 |
| | | ADF | 07.07.2004 | 06.09.2004 | 15.03.2005 | 18.04.2006 | # | 31.12.2010 | # | 2.9 | 0.00 | 0.00 | 6.00 | 6.00 | 6.00 | 0.00 | 6.00 | 0.00 |
| HUMANITARIAN EMERGENCY ASSISTANCE | Social | SRF | 29.03.2006 | 14.07.2006 | # | # | # | 31.03.2007 | # | 1.2 | 0.00 | 0.00 | 0.33 | 0.33 | 0.33 | 0.00 | 0.33 | 0.00 |
| INSTITUTIONAL SUPPORT FOR GOOD GOVERNANC | Multi-Sector | ADF | 26.07.2006 | 08.12.2006 | 08.12.2006 | 04.06.2007 | # | # | # | 0.9 | 0.00 | 0.00 | 5.52 | 5.52 | 5.52 | 0.00 | 5.52 | 0.00 |
| KENYA - CREATION OF SUSTAINABLE TSETSE A | Agriculture | ADF | 08.12.2004 | 04.02.2005 | 07.04.2005 | 09.12.2005 | # | 31.12.2011 | 25.04.2006 | 2.5 | 2.31 | 3.00 | 6.55 | 6.55 | 6.55 | 0.30 | 6.25 | 4.58 |
| KENYA/ETHIOPIA: MOMBASA-NAIROBI-ADDIS Rd | Transport | ADF | 13.12.2004 | 04.02.2005 | 07.04.2005 | 24.01.2006 | # | 31.12.2010 | # | 2.5 | 1.91 | 2.75 | 33.60 | 33.60 | 33.60 | 0.00 | 33.60 | 0.00 |
| | | | | | | | | | | | | | **264.76** | **256.92** | **256.92** | **18.76** | **238.16** | **7.30** |

**There are no outstanding Audits and PCR reports in the agriculture sector**

**Kenya: Small-scale Horticulture Development Project**
**Implementation Schedule (January 2007 – December 2012)**

| | Activity | Period | Responsibility |
|---|---|---|---|
| 1 | Loan Approval | September, 2007 | ADF Board |
| 2 | Loan Signature | October 2007 | ADF/GoK |
| 3 | Nominate Project Staff | November 2007 | EA |
| 4 | Set Up Project Steering Committee and hold 1st Meeting | November 2007 | GoK |
| 5 | Prepare GPN for publication | October 2007 | EA/ADF |
| 6 | Open Special Accounts – Foreign and Local | November 2007 | EA |
| 7 | Loan Disbursement Effectiveness | January 2008 | ADF |
| 8 | Project Launching | February, 2008 | ADF/GoK |
| 9 | Develop and Finalise Procurement Plan and Documents | February , 2008 | EA |
| 10 | Recruit TAs | March – July, 2008 | EA |
| 11 | Develop Reporting, M&E Arrangements | April-May, 2008 | DoI/M&E Specialist |
| 12 | Undertake Baseline Study | April-May, 2008 | DoI / M&E Specialist |
| 13 | Conduct Training | April, 2008/Continuous | DoI/Consultants |
| 14 | Recruit contractors | April 2008 | DoI |
| 15 | Scheme construction | September 2008 Continuous | EA |
| 16 | Procure Equipment and Other Goods | March-June, 2008 | EA |
| 17 | Monitoring and Reporting/Quarterly Reports | 15 Days After end of Each Quarter | EA |
| 18 | Audit Report | 6 Months end of Each Fin. Year | EA |
| 19 | Mid Term Review | January 2011 | EA and ADF |
| 20 | Project Completion Report | June 2014 | EA and ADF |

# Kenya: Small-scale Horticulture Development Project

**Environmental and Social Management Plan Summary**

**Project Title**: Small-Scale Horticulture Development Project
**Project Number**: P-KE-AAZ-002
**Country**: Kenya
**Environmental Category**: 2
**Department**: OSAN
**Division**: OSAN.1

**a) Brief description of the project and key environmental and social components**

The **project's sector goal** is to contribute to poverty reduction, enhance food security and improve the standard of living of the population in the project's target areas. The **specific development objective** is to increase household incomes of smallholder horticultural producers in the project area through increased production of horticultural products and improved marketing. **The expected project results** are: 1) to increase the agricultural production and productivity of the smallholders producers through irrigation development, thereby reducing the effects of climatic variation; 2) to increase the domestic supply of vegetables which will improve long-term food security and household nutrition; 3) to increase product quality leading to better prices of farm produces. **Induced impact results** would be an increase in producers' incomes, employment's opportunities, and contribution to the Government of Kenya's overall poverty reduction efforts. Best agricultural practices and environmental/natural resources management will be promoted throughout the project as well as the institutional strengthening of the stakeholders (e.g. farmers group, Water User Associations (WUAs) and governmental authorities at central and district levels.

The project will comprise three (3) main components. These are: **A. Irrigation and Infrastructure Development Component**: 1) Rehabilitation/extension of 9 existing farmer managed gravity-fed irrigation schemes covering a total area of 2,886 ha, construction of 8 livestock watering points, establishment of 8 irrigation Water User Associations (WUAs) and related office blocks, domestic water supply and sanitation, improvement of the scheme drainage networks, rehabilitation of road access to 3 sites and provision of appropriate crossings along the 135 km scheme access routes, desilting of the Muoni dam, construction of 94 individual plot-based 90-day earth storage structures (water pans); B. **Farmers' Support Component**, with 2 sub-components: 1) Horticulture Production through the establishment of 9 functioning scheme organization and related tools (scheme business and production plans), managed by WUAs, for the sustainable operation and maintenance of irrigation schemes, and training programs to 100 selected farmers groups on Integrated crop management, IPM, soil fertility and water conservation, irrigation water management, field drainage and post-harvest handling; 2) Horticultural Marketing, through support to market linkages, setting-up of scheme's Market Information System, facilitating the establishment of product promotion program for horticultural and food crops, provision of 6 local and 5 international market outlets, and delivery of marketing survey techniques to 100 farmers groups; C. **Project Management Component**: the Executing Agency (EA) for this Project will be the Ministry of Agriculture (MoA) through the Horticulture Division of the Department of Land and Crop Management. A Project Coordination Unit (PCU) will be established for the day-to-day coordination and monitoring of implementation of the project activities. The Irrigation Department will provide supervision to the consultants responsible for the scheme's detailed design. The implementation of project activities level will be carried out through the office of the District Agriculture Officer. A District Project Coordination Committee (DPCC) will coordinate all technical matters pertaining to the implementation.

The project will be implemented in eight (8) districts namely; Kajiado, Loitokitok, Marakwet, Machakos, Mbeere, Meru South, Narok and Nakuru North. The majority of the proposed irrigation schemes for rehabilitation/extension are located in the Arid and Semi-Arids Lands (ASALs), characterized by marginal rain-fed agricultural potential. These areas have continually been affected by the vagaries of the erratic rains, and the resultant recurrent droughts. Within these areas, the SHDP will target the vulnerable groups, which are food insecure, as well as introduce high value horticultural crops to enhance income generation. The direct **project's beneficiaries** are estimated at 5,812 households (about 35,000 peoples) composed of smallholder farmers, farmers groups, Water User Associations (WUAs), cooperatives and financial intermediaries. The **indirect beneficiaries** include the broader communities within the targeted areas (estimated at 1,000,000 people in the 8 districts) and the line ministries at central and district levels (MoA, MWD, MRLG) and all the stakeholders delivering services to the schemes. The National Environmental Management Authority (NEMA) will review and approve the EIA Study and related site-specific ESMP for each of the 9 irrigations schemes. The Project will be implemented over a six year period and its total cost is estimated at US$19,898 millions.

**b) Major environmental and social impacts**

Positive social and environmental impacts have been identified throughout project's preliminary technical design. Environmental and social impacts can occur at the construction and operational phases of the Project and its Sub-Projects. In terms of positive impacts resulting from improving the performance of irrigation and marketing infrastructure as well as enhanced methods of horticultural productivity, the following ones are considered of significant importance: 1) improvement of the overall food security and livelihoods of the farmers and the people living near the irrigation schemes. This will result in the overall improvement of the health and social well-being of the farmer's communities, reducing their vulnerability to drought and contribute to poverty reduction through increase agricultural productivity and farm income; 2) creation for employment for the peoples surrounding the irrigation schemes and catalysis of income generating activities for post harvest activities, including marketing and trade of agricultural inputs and produce and boosting small and medium size enterprise sector; 3) contribution to foreign exchange earnings as support will be allocated towards improvement of quality and certification of the produce to ensure access to foreign markets (e.g. EUREPGAP); 4) farmers and surrounding communities will have the opportunity, through the Farmer Support Component, to learn and practice improved agricultural methods and efficient utilization of farm inputs and natural resources (e.g. sound soil and water's management, IPM, pesticides management, etc.) and; 5) the technical and managerial assistance provided to the line ministries at the central and district levels and farmer groups, through the establishment of Water Users's Association will strengthen their institutional capacities and optimize their operational performance and support the subsidiary principle; 6) women, in particular, will have the opportunity to participate in farm-related income generating activities and contribute meaningfully to the socio-economic development of their communities. **From an environmental standpoint**, the improvement of the irrigation scheme will reduce substantially water losses, hence increasing water equity. As well, water permits will be allocated on the basis of flood based flow, and not on the river/stream base flow. By default, river flow downstream of the irrigation schemes during the dry season will be increased, including for downstream users and sensitive habitats. The project will also minimize dependence on rain-fed agriculture and climate change vulnerability, characterized by uneven and unpredictable rainfall distribution and increased frequency and intensity of droughts, through increasing the quantity available through irrigation infrastructure and water storage facilities. Protection of watershed and riverbanks through land-use planning, establishment of conservation committees and afforestation program will also ensure the sustainability of the schemes. Wildlife conservation will also be promoted since several irrigation schemes are situated near wildlife migratory routes.

The rehabilitation and/or extension of the 9 existing small-scale irrigation schemes will, nevertheless, generate a number of negative social and environmental impacts within the recipient farmer communities and ecosystems. Specifically, during construction phase, negative impacts will emanate from the erection of new facilities for each irrigation scheme (construction/rehabilitation of earth dams, construction of diversion weirs and intake structures, associated canals and drains, farm based water harvesting structures, spot improvement of access roads, etc.), generating land clearing (including depletion of valuable indigenous trees and loss of greenery beauty of the site), disturbance to the wildlife due to noise and removal of vegetation, increased soil erosion from the site due to extensive land clearance and rubble disposal, increased suspended matter and sediment in water streams due to soil erosion, change in water flow impacting downstream aquatic life, water and soil pollution from construction campsites and construction machinery. During the operational phase of the irrigation scheme, negative impacts could include irrigation-induced erosion, salinisation due to sodic soils, loss of soil fertility, permanent change in hydrology for downstream ecosystems, flooding, loss of water through earth feeder canals, surface and groundwater contamination from use of pesticides and fertilizers, presence of invasive weeds and crop diseases, increased incidence of water-borne and water related diseases (e.g. malaria, bilharzias), human and wildlife conflict, and potential conflict over water and land rights. No resettlement is expected from the rehabilitation/extension of the irrigation schemes.

**c) Enhancement and mitigation program**

Enhancement and mitigation measures for the identified negative environmental impacts outlined above have been considered during the preliminary feasibility study. Since most of the negative impacts are anticipated during the construction phase and result directly from methods and practices adopted by construction contractors, Code of Good Practices for Construction will be included in the Work Contract to prevent, to the extent possible, negative environmental impacts.

As well, taking into account the overall positive contribution of the project's activities towards the promotion of environmentally sound agriculture development, especially as it relates to irrigation development, a number of specific enhancement and mitigation measures at the institutional and operational levels have been proposed in order to optimize the overall environmental performance of the project.

1) Site-specific environmental audits have been prepared during the feasibility study undertaken by CarlBro in 2005. During the preparation of the detailed feasibility study technical design at project inception, site-specific Environmental and Social Impacts Assessment (ESIA) Studies and related ESMP/Monitoring plans will be prepared by an EIA team in order to comply with the Kenya's Environmental Management and Coordination Act (EMCA, 1999) and its Environmental (Impact Assessment and Audit) Regulations (referred to as the EIA Regulations, 2003). This process will ensure the compliance of the sub-projects with the Bank's ESAPs requirements. Official issuance of the EIA Licenses with specific Terms and Conditions will be delivered by NEMA during the 1st, 2nd and 3rd year of the project's implementation. No physical works will start prior to the review and approval by NEMA and the Bank and the official issuance of the EIA License.

2) A national Environmental Assessment Consultant will be recruited for the preparation of the ESIA's Terms of Reference, the coordination of the ESIA Studies and ESMPs as well as the upper catchments protection plans, quality-control and follow-up with NEMA on their approval and delivery of the EIA License, payment of the EIA License fees, preparation of Annual Work Plan for the implementation of the ESMP and Monitoring Plan, preparation of quarterly and annual report, strengthening the institutional environmental management capacity of the District Project Coordination Committee (DPCC) and District/Division agriculture Officers to ensure regular monitoring and, finally, preparation of the Annual Self-Audit for the nine schemes;

3) The Farmer Support Program, 2nd Component of this project, is specifically designed to enhance the sustainability of the project by creating sufficient momentum and technical capacity among individuals' farmers, farmers' groups and Water Users Associations to carry on with their activities beyond project duration. Specifically, regular and tailor made training courses will be provided at all the irrigation schemes. These courses will address sustainable water and soil management, environmental management (water catchments protection, agro-forestry), crop management and related Integrated Pest Management (IPM), hygiene and sanitation (including water-borne diseases), waste management, etc.

**d) Monitoring program and complementary initiatives**

Environmental monitoring is a requirement of irrigation development projects in order to check that planned mitigation measures have been implemented, to measure their level of effectiveness and to provide early warning of environmental change. Environmental monitoring activities for this project are being proposed at different levels:

1) In accordance with the Environmental Management Act (EMA) and related Government Notice No.10 of August 2004, the MoA is required to pay the EIA processing fees to NEMA for undertaking the technical review of the EIA Studies and related site-specific ESMP, with the technical assistance of the District's Technical Advisory Committee on EIA composed of the ministries of agriculture, Water, Environment and Health. NEMA and the District's Technical Committee will also undertake annual and trimestrial monitoring/auditing of the implementation of site-specific ESMP during sub-project implementation. This monitoring will allow to validate the conformity of the project with the EIA Certificate and the site specific Environmental Management Certificate and any specific Terms and Conditions. NEMA will also play in active role in the mainstreaming of environmental considerations through its involvement in the review of ESMP's Annual Work Plan at the Project Steering Committee (PSC);
2) At the District level, the implementation of the sub-project activities will be carried out though the office of the District's Agriculture Officer. A District Project Coordination Committee (DPCC), under the chairmanship of the District Commissioner, will be established in order to endorse work plans, budget and progress reports, The DPCC will be responsible for the facilitation and coordination of all technical matters pertaining to the sub-project implementation, including implementation of the ESMPs;
3) At scheme level, the nine scheme organizations will be progressively made accountable for the management and implementation of the ESMPs and its monitoring plans, through the training provided under the Farmer Support Component. Specific environmental monitoring indicators will be suggested in each site-specific ESMP in accordance with its biophysical and social specificity.

**e) Institutional arrangements and capacity building requirements**

The Ministry of Agriculture, through the Horticulture Division of the Department of Land and Crop Management will be the executing agency of the project. A Project Coordination Unit (PCU) will be established in the Horticulture Division for the day-to-day coordination and monitoring of implementation of the project activities. At District, as mentioned above, a DPCC will be formed.

The PCU's Monitoring and Evaluation officer will have the overall responsibilities to coordinate all environmental and social issues. However, considering the modest environmental management structure, a national recruited environmental assessment consultant will be assigned to the PMU to assist all the stakeholders (NEMA, Districts and Scheme Organizations) in fulfilling their environmental management obligations. The Consultant will 1) coordinate the

EIA Studies and the implementation of the ESMP, including the preparation of the ToRs for the EIA Studies, review and quality-control of the studies, coordination with NEMA, Provincial, District and Division authorities, 2) preparation of an ESMP and Environmental monitoring plan for each scheme with specific assigned budget, 3) preparation of an Annual Work Plan for the implementation of the ESMP and watershed management activities for each irrigation sites, 4) preparation of the Project's quarterly and annual environmental monitoring report and of the annual self-audit; 5) preparation of a Watershed Management action and implementation plan to ensure that the upper catchments are protected and ensuring the sustainability of the downstream irrigation investments and, finally 6) the coordination of a three-level monitoring program by the GoK authorities to ensure compliance with legal, regulatory and standards requirements.

**f) Public consultation and disclosure requirements**

During the preparation of the preliminary feasibility studies of the nine (9) identified irrigation schemes, Participatory Rural Appraisal (PRA) approach have been used in order to identify and assess critical environmental and social issues with the farmers (e.g. land tenure, water sources, areas of bush/forest, cropped and grazing land). These views have been incorporated in the irrigation scheme preliminary design. As the final design of the 9 identified irrigation schemes will be finalized at project inception, the consultation process with the beneficiaries will be re-initiated in order to update the assessment and the mitigation measures and to ensure their mainstreaming into the final technical design.

**g) Estimated cost**

The costs for the enhancement/mitigation measures during construction/rehabilitation phase of the irrigation schemes as well as for the Farmer Support Program have been already costed and mainstreamed into project design and budget. An additional amount of U.S. $651,900 over the six-year project duration have also be budgeted for the following issues: 1) Preparation of the EIA Studies by an EIA team for the nine schemes (U.S.$86,400); 2) Recruitment of a national consultant for the coordination of the EIA Studies and the implementation of the scheme's ESMP (U.S.$100,000); 3) Payment of the EIA License Fees to NEMA (which cover the EIA review process, the environmental monitoring/auditing costs and allowances of NEMA and related ministries throughout project implementation) – (U.S.$25,000); 4) Implementation of enhancement and/or mitigation measures identified in the ESMP during the operational phase (U.S.$5,000 per irrigation scheme per annum for a total of U.S.$180,000); 5) Protection of the watershed catchments upstream of the irrigation schemes (U.S.$50,000 per annum for a total of U.S.$220,000); 6) Preparation of the annual Environmental audits for the 9 schemes (U.S.$40,500). The in-kind contribution from the District and Divisional Authorities for the implementation and monitoring of the Scheme's ESMP is estimated at U.S. $36,300 for the six-year project's duration.

**h) Implementation schedule and reporting**

The measures outlined in the ESMP will be implemented following the same project schedule as all activities were mainstreamed into the project design and implementation. Achievements or problems will be reported in the project quarterly/annual progress reports and should be timely addressed by the project management and the Bank.

**Kenya: Small-scale Horticulture Development Project**

Supervision Schedule during Implementation

| | |
|---|---|
| April 2008 | Launching of the project |
| August 2008 | Supervision |
| February 2009 | Supervision |
| August 2009 | Supervision |
| February 2010 | Supervision |
| August 2010 | Supervision |
| February 2011 | Mid-Term Review |
| August 2011 | Supervision |
| February 2012 | Supervision |
| August 2012 | Supervision |
| February 2013 | Supervision |
| August 2013 | Supervision |
| February 2014 | Supervision |
| August 2014 | Project Completion Report |

**Kenya: Small-scale Horticulture Development Project**

**Highlights on the Project Preparation and Review Process**

1. **Project Identification and Preparation**: The project was identified through a Concept Paper presented to the Bank by the GoK. Funds were obtained from Danida to undertake the feasibility of the project. In 2005, the Bank recruited the consultant CarlBro to study the feasibility of the project. The consultant's team, working with a counterpart team from the GoK, met stakeholders in both the public and private sectors including farmers, District personnel of line ministries, community based organizations (CBOs), NGOs and other private sector representatives. The preparation report of May 2005 proposed a bankable project whose specific objective is to increase household incomes of smallholder horticultural producers in the selected areas through increased horticultural products and enhanced marketing. The report proposed five components, namely, Irrigation and Infrastructure Development; Horticultural Production; Horticultural Marketing; Financial Service Support and Project Management. Appraisal of the project was delayed while a decision was reached on the utilisation of the balance of the Kenya's allocation of resources. This was done following a CSP Update mission to Kenya in February 2007 when resources were made available for the present project.

2. **Project Appraisal**: The project was appraised in May 2007 by a team comprising of an Agronomist, an Agricultural Economist, an Irrigation Engineer, an Environmental Specialist, a Rural Finance Specialist, and a Consultant Rural Infrastructure Engineer. The mission visited Kenya and continued its broad consultative and participatory process that was commenced at preparation. In this respect, the mission visited a number of irrigation scheme sites and held detailed discussions with district officials, farmers, and the local communities. The mission also met other donors involved in irrigation development in Kenya. A systematic review and verification of all aspects of the project was conducted by the mission. The preparation report dealt with the improvement of six existing irrigation schemes covering 1054 ha in six districts. During appraisal, the MoA requested the addition of more sites and provided a list of potential sites that could not be implemented under the IFAD Eastern Province Horticulture and Traditional Food Crops Project. The mission selected an additional three sites from this list, thereby increasing the number of irrigation schemes to nine covering 2,886 ha in eight districts. The mission also combined three components: Horticultural Production, Horticultural Marketing and Financial Services into one Farmers Support component in view of their complementarity.

3. **Internal Working Group**: The internal review meeting that considered the project appraisal report was held on 24th June 2007. The report was carefully revised based on all comments received, and processed further in accordance with the requirements of the Bank Group's Operations Manual.

4. **Inter-Departmental Working Group**: The inter-departmental working group meeting that considered the project appraisal report was held on 2nd July 2007. The report was revised based on all comments received, and processed further in accordance with the requirements of the Bank Group's Operations Manual.

5. **Senior Management Commitee**: The senior management committee meeting was held on 12th July 2007. Comments received were duly incorporated in the report, and on advice of the SMC, the report has been submitted to SEGL for translation and distribution to the Board.

# Kenya: Small-scale Horticulture Development Project

## Kenya: Issue of Corruption, Governance and Government Action

1. The issue of corruption in Kenya is open and under public debate and action among Kenyans and development partners (DPs). The Government presented an Anti-Corruption Action Plan to the Consultative Group meeting in April 2005, covering the period of April 2005-June 2006, aimed at accelerating and consolidating reforms. The Plan had five components:

- Enactment of the necessary legislation to establish a legislative platform on which to anchor the war on corruption;
- Vigorous enforcement of anti-corruption laws through investigation of offences of corruption and economic crimes as well as recovery o f corruptly acquired property;
- Identification and sealing of loopholes through institution of effective public sector management controls;
- National public education aimed at stigmatizing corruption and inducing behavioral change; and
- Implementing macroeconomic and structural reforms to reduce the incidence and demand for corruption by scaling down the role of the public sector and bureaucracy.

2. Beyond this action plan, there were other initiatives aimed at sanitizing specific public institutions, including education, health, immigration and water departments. Other `administrative actions' were taken against senior civil servants, including the police and military personnel. In addition, the Kenya Anti-Corruption Commission (KACC) launched investigations in the Immigration Department and the Nairobi and Mombassa City Councils. A landmark Procurement Bill was also enacted in August 2005, establishing an autonomous Public Procurement, Oversight Authority that will be responsible for the regulation of procurement in the public sector.

3. Public mobilization to fight corruption is also increasing, partly because of the strengthening of the KACC and the launch of its public education campaign. Also measures are being taken to improve governance of public finances. These include enhancing the capacity of the National Audit Office which was then able to clear the long-standing backlog of public accounts audits. In October 2005, the Government established independent audit committees in all ministries, departments, state corporations and local authorities. This step is part of a new risk-based internal audit approach, supported by several donors, that involves identifying the potential for fraud in advance and building the necessary risk mitigation processes into the design of government systems and processes.

4. Government actions for reducing rent-seeking were further enhanced in November 2005 through additional measures such as the liberalization of coffee marketing, and a request to Parliament to eliminate 35 licenses previously required for setting up a business. In addition, all Ministers and Assistant Ministers would have to sign and adhere strictly to a new Code of Conduct and a Management Accountability Framework intended to enhance collective responsibility, ethics, accountability and results in government.

5. The Governance, Justice, Law and Order Sector Reform Programme (GJLOS-RP), which is supported by at least 15 Development Partners (DPs) is a Government-led initiative which lays out a five-year plan on a sector-wide, coordinated and coherent approach to reform public sector institutions in the legal sector to be able to execute their mandate effectively. The key outcomes of the programme include a safe and secure environment, a fair, humane and expeditious justice delivery system, and a more democratic state that respects human rights and the rule of law. The Government has also entered into partnership with DPs to plan and implement the Public Financial Management Reform Programme with the aim of enhancing financial governance in the public sector for effective and efficient resource utilization for economic growth and poverty reduction.

6. **Anti-Corruption Measures during Project Implementation**: The Bank undertakes to jointly screen and verify the integrity of staff being recruited for the PCU; ensure that all procurements made under Bank-financed project are publicly disclosed; appointment of capable project accountant to ensure the PCU's capacity to handle project financial accounting and auditing requirements; the Bank will organize a project launching workshop during which PCU staff will be trained on Bank rules and procedures regarding financial management, audit, procurement and general project management; ensure the project is supervised twice a year, and the opening of the Kenya Field Office will also help in monitoring progress and performance of the project.