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REPUBLIC OF UGANDA

FISHERIES DEVELOPMENT PROJECT

APPRAISAL REPORT

NB: This document contains errata or corrigenda (see Annexes)

COUNTRY DEPARTMENT **OCDE**
EAST REGION **SEPTEMBER 2001**

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CURRENCY EQUIVALENTS (August 2001)

UA 1 = 2147.3 Ushs
UA 1 = 1.2793 USD
USD 1 = 1800 Ushs

FISCAL YEAR

July 1- June 30

WEIGHTS AND MEASURES

1 sq. kilometer	=	100 hectares
1 hectare	=	10,000 m^2
1 hectare	=	2.47 acre
1 kilogram	=	1000 gram
1 metric ton	=	1000 kg
1 centimeter	=	0.3937 inches
1 meter	=	3.3 feet
1 meter	=	100 centimeters

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ABBREVIATIONS

ADB/F	African Development Bank / Fund
BOU	Bank of Uganda
CBOs	Community Based Organizations
CFMC	Community Fisheries Management Committee
CPIA	Country Policy and Institutional Assessment
CRDB	Centenary Rural Development Bank
DFID (UK)	Department for International Development
DFR	Department of Fisheries Resources
FLCs	Fish Landing Centers
F/EIRR	Financial / Economic Internal rate of Return
FIRRI	Fisheries Resources and Research Institute
FTI	Fisheries Training Institute
GOU	Government of Uganda
HACCP	Hazard Analysis Critical Control Procedures
LCA	Local Currency Account
LVEMP	Lake Victoria Environment Management Project
LVFO	Lake Victoria Fisheries Organization
MAAIF	Ministry of Agriculture, Animal Industries and Fisheries
MGLSD	Ministry of Gender, Labor and Social Development
MCS	Monitoring Control and Surveillance
MUV	Manufactured Unit Value
NAADS	National Agricultural Advisory Services
NARO	National Agricultural Research Organization
NEMA	National Environmental Management Authority
NPAN	National Plan of Action on Nutrition
PEAP	Poverty Eradication Action Plan
PCU	Project Coordination Unit
PID	Project Implementation Document
PMA	Plan for Modernization of Agriculture
PPF	Project Preparatory Facility
PRSP	Poverty Reduction Strategy Paper
RMSP	Rural Micro finance Support Project
RCC	Reinforced Cement Concrete
UFFCA	Uganda Fisheries and Fish Conservation Association

UGANDA
FISHERIES DEVELOPMENT PROJECT
BASIC DATA SHEET

	Year	Uganda	Africa	Developing Countries	Developed Countries
Basic Indicators					
Area ('000 Km²)		236	30,061	80,976	54,658
Total Population (millions)	1999	21.1	765.6	4,793.2	1,185.2
Urban Population (% of Total)	1999	13.9	37.1	39.4	75.8
Population Density (per Km²)	1999	87.7	25.5	59.2	21.7
GNP per Capita (US $)	1999	320	684	1,250	25,890
Labor Force Participation - Total (%)	1999	48.5	43.3	…	…
Labor Force Participation - Female (%)	1999	45.9	35.0	…	…
Gender –Related Dev. Index Value	1998	0.4	0.483	0.634	0.916
Human Dev. Index (Rank among 174 countries)	1998	158	n.a.	n.a.	n.a.
% of Pop. Living below $ 1 a Day	1992	36.7	45.0	32.2	…
Demographic Indicators					
Population Growth Rate - Total (%)	1999	2.9	2.4	1.6	0.3
Population Growth Rate - Urban (%)	1999	4.3	4.5	2.8	0.6
Population < 15 years (%)	1999	50.1	42.7	32.8	18.5
Population >= 65 years (%)	1999	2.1	3.2	5.0	14.0
Dependency Ratio (%)	1999	107.7	86.1	61.0	48.6
Sex Ratio (per 100 female)	1999	99.0	99.4	103.3	94.8
Female Population 15-49 years (mill)	1999	4.5	181.1	151.8	297.2
Life Expectancy at Birth - Total (years)	1999	43.8	52.7	64.3	75.5
Life Expectancy at Birth – Female (yrs)	1999	44.7	53.5	66.0	79.2
Crude Birth Rate (per 1,000)	1999	50.0	36.3	23.4	10.9
Crude Death Rate (per 1,000)	1999	19.0	13.7	8.4	10.3
Infant Mortality Rate (per 1,000)	1999	96.7	76.4	57.6	8.9
Child Mortality Rate (per 1,000)	1999	147.6	116.6	79.8	10.2
Maternal Mortality Rate (per 100,000)	1990-96	550	698	491	13
Total Fertility Rate (per woman)	1999	6.8	4.8	2.8	1.6
Women Using Contraception (%)	1990-99	14.8	…	56.0	70.0
Health & Nutrition Indicators					
Physicians (per 100,000 people)	1992-97	4	35	78	287
Nurses (per 100,000 people)	1992-97	19	107	98	782
% Births attended by Trained Personnel	1992-98	38	38	58	99
Access to Safe Water (% of Pop)	1992-98	34	58	72	100
Access to Health Services (% of Pop)	1992-98	49	64	80	100
Access to Sanitation (% of Population)	1990-97	57	58	44	100
% Adults living with HIV/AIDS (15-49)	1997	9.5	5.7	…	…
Incidence of Tuberculosis (per 100,000)	1997	133	201	157	24
% Children Immunized Against Tuberculosis	1997	84	72	82	93
Child Immunization Against Measles (%)	1997	60	64	79	90
Underweight Children (% of children under 5 years)	1990-97	26	26	31	…
Daily Calorie Supply	1998	2,216	2,439	2,663	3,380
Public Expenditure on Health (% of GDP)	1993-98	1.6	2.0	1.8	6.3
Education Indicators					
Gross Enrolment Ratio (%)					
Primary School - Total	1996	76.0	80.0	100.7	102.3
Primary School - Female	1996	70.0	73.4	94.5	101.9
Secondary School - Total	1996	13.6	29.3	50.9	99.5
Secondary School - Female	1996	8.7	25.7	45.8	100.8
Primary School Female Teaching Staff (% of Total)	1990-97	32.0	40.9	51.0	82.0
Adult Illiteracy Rate - Total (%)	1999	33.9	38.8	27.2	1.3
Adult Illiteracy Rate - Male (%)	1999	23.1	30.7	19.5	0.9
Adult Illiteracy Rate - Female (%)	1999	44.4	48.2	35.0	1.7
Percentage of GDP Spent on Education	1990-97	2.6	3.5	3.9	5.9
Environmental Indicators					
Arable Land as % of Total Land Area)	1998	25.3	5.9	9.9	11.6
Annual Rate of Deforestation (%)	1990-95	0.9	0.7	0.4	-0.2
Annual Rate of Reforestation (%)	1981-90	...	4.0	…	…
Per Capita CO2 Emissions (metric tons)	1996	0.3	1.1	2.1	12.5

Source : Compiled by the Statistics Division from ADB databases; UNAIDS; World Bank Live Database and United Nations Population Division.

UGANDA
FISHERIES DEVELOPMENT PROJECT
PROJECT INFORMATION SHEET

1	Country	Uganda
2	Project Title	Fisheries Development Project
3	Location	The project area covers the Western, Central and Eastern Regions around Lakes Victoria, Kyoga, Albert, Edward and George.
4	The Borrower	The Republic of Uganda
5	Executing Agency	Ministry of Agriculture, Animal Industries and Fisheries P.O. Box 102, Entebbe, UGANDA Tel. (256-41) 32 00 04 Fax. (256-41) 32 12 55
6	Description	The project comprises five components: (1) Fish Quality Assurance – aimed at improving quality of fish landed and reducing post harvest losses; (2) Aquaculture Research and Development – which aims at building up research capabilities and evolving aquaculture production systems; (3) Fisheries Credit Fund aimed at providing credit for fish farmers and processors most of whom will be women; (4) Capacity Building aims at upgrading the skills of staff and project participants; (5) Project Coordination to administer the project in timely manner.
7	Total cost of the project Foreign cost Local cost	UA25.516 million UA14.474 million UA11.042 million
8	Bank Group Loan: ADF	 UA22.00 million
9	Other Sources Government of Uganda Beneficiaries	 UA3.365 million UA0.178 million
10	Estimated Starting date and duration	2 July 2002, for 5 years
11	Procurement of Goods and Works	Project goods, works and services will be procured according to Bank rules and procedures. International competitive bidding for the construction of fish landing centers and purchase of patrol boats; international shopping for procurement of laboratory equipment; national competitive bidding for civil works of new pond construction; national shopping for the purchase of computers and furniture.
12	Consultancy Services Required and Stage of selection.	Selection of consultants/ technical assistance will be through consulting services on the basis of a short list including consultancy for designing of FLCs and Fish Fry Centers. Long term consultant is the fish nutrition expert (12 months) and short-term consultants include fisheries regulation expert (3 months) and fish pathologist (3 months)
13	Environmental Category	II

EXECUTIVE SUMMARY

1. PROJECT BACK GROUND

Poverty eradication is a fundamental objective of Uganda's development strategy. The objectives of the Plan for Modernization of Agriculture (PMA) are to increase incomes and improve quality of life of poor subsistence farmers, improve household food security, provide gainful employment, and promote sustainable use and management of natural resources. A Fisheries Master Plan Study was carried out in 1997 and identified investments needs in improvement of infrastructure facilities for fish handling and fish quality assurance and aquaculture research and development. Consequently, the GOU requested Bank funding of the identified projects. The Bank then fielded a mission to Uganda during October-November, 2000 for the preparation of the project. The Bank further approved a Project Preparation Facility (PPF) in February 2000 for technical designs and studies. A Bank appraisal mission was fielded in July/August 2001. This report is based on the information collected during the appraisal mission. The mission visited a number of proposed sites for FLCs and had discussions with local fishermen associations at the proposed sites and GOU officers. This Appraisal Report is based on the findings of the mission and the design of the project has been firmly based on a process of stakeholder consultations and is consistent with GOUs, policies as enshrined in the PMA.

2. PURPOSE OF LOAN

The ADF loan will be mainly used to finance the foreign exchange and local costs of the project for fish quality assurance and to promote aquaculture in the country.

3. OBJECTIVE

The project objective is to increase incomes from fishing through availability of higher quality fish products and through strengthening of aquaculture research and development.

4. PROJECT DESCRIPTION

The project comprises five components. The Fish Quality Assurance component involves the development of 30 fish landing centers, upgrading of 21 fish markets, improved monitoring, control and surveillance and establishment of a fish quality laboratory. The Aquaculture Research and Development component covers research into fish feeds, breeding, production systems and hybridization. Aquaculture development is geared towards the establishment of regional fish fry production and demonstration centers as well as transfer of improved technology. The fisheries credit fund component will provide credit for fisheries production, trade and processing. The capacity building component covers technical assistance, staff and beneficiary training. The Project Coordination component aims at overall project coordination.

5. PROJECT COST

The total project cost of the project including contingencies is estimated at UA 25.516 million (Ushs 54.791 billion), of which UA 14.474 million (57 percent) of the project will be in foreign exchange and UA 11.042 million (43 percent) will be in local currency.

6. SOURCES OF FINANCE

The project will be co-financed by the ADF and the Government of Uganda and to a lesser extent by the beneficiaries of the fisheries credit fund. The ADF loan of UA 22.00 million will be utilized to finance 100 percent of the foreign cost of the project amounting to UA 14.474 million and 67.9 percent of the local costs amounting to UA 7.500 million. The GOU will finance 30.5 percent of the local costs amounting to UA3.365 million, while the beneficiaries will finance 1.6 percent of the local costs amounting to UA178, 000.

The ADF loan will be utilized to cover the civil works for the 30 landing sites and five ice plants, the purchase of four patrol boats, the construction and equipping of a laboratory for quality control, training and technical assistance programs. The beneficiaries for the fisheries credit fund especially the emergent fish farmers under aquaculture component would contribute about 25 per cent of pond construction, input costs and the cost of processing and marketing of fish. The GOU will meet all the recurrent costs of the project.

As the country's ADF VIII allocation has been fully committed, financing of this project will require additional resources. The present loan proposal of UA22.00 million, in addition to the past overrun of UA13.47 million amounts to a 42 percent increase over the initial country allocation of UA80.93 million.

However, the country deserves additional resources, as its track record has been commendable as evidenced by the recently concluded Country Performance Assessment (CPA) that rated the country's performance as satisfactory. The fisheries sub-sector is now the most important after coffee and tourism and the present project will lead to annual export earnings in excess of US$66 million thereby increasing the incomes of fish farmers, traders and processors.

7. PROJECT IMPLEMENTATION

The Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) will be the executing agency. A Project Coordination Unit will be established in the Department of Fisheries Resources for overall project coordination. However, Local Governments at the district and sub county levels will carry out actual implementation of the project components. The DFR will coordinate the implementation of project activities with other institutions like NARO, FTI, NEMA, NGOs / CBOs. The private sector will manage the fish landing centers, fish markets and regional fish fry centers.

8. CONCLUSION AND RECOMMENDATION

Conclusion

The project addresses the issues of poverty reduction and food security in Uganda. The Government of Uganda attaches high priority to the development of both capture fisheries and aquaculture. Problems associated with fish quality and the undeveloped potential for aquaculture are the most critical factors affecting the fisheries development.

The project will directly benefit about 20,000 artisanal fisherfolk in capture fisheries and some 2,200 subsistence and commercial fish farmers, fish traders and processors. The impact of the project will be realized through reduction in post harvest losses, an increase in GOU export revenues and revived aquaculture industry. The social benefits include creation of employment for local people. The women will benefit from retail marketing and traditional processing of fish as well as from aquaculture. The project is technically feasible, economically viable, socially acceptable and environmentally sound and is in line with the Bank Group strategy for poverty reduction. The economic rate of return of the project is 31 per cent.

Recommendation

It is recommended that an ADF loan not exceeding UA 22.00 million be made to the Government of Uganda for the purpose of implementing the fisheries development project as described in this report.

UGANDA
FISHERIES DEVELOPMENT PROJECT
LOGICAL FRAMEWORK

NARRATIVE SUMMARY	VERIFIABLE INDICATOR	MEANS OF VERIFICATION	ASSUMPTIONS
SECTOR GOAL: To foster economic growth and reduce poverty.	by 2017: GDP growth p.a. of 7 percent inflation less than 5 percent population under poverty is 10 percent	PRSP progress report	
PROJECT OBJECTIVES: To increase incomes from fishing through availability of higher quality fish products and through strengthening of aquaculture research and development.	By end of the project period: 20,000 artisanal fisherfolk and 2,200 fish farmers' processors' and traders' income increase by 20 percent	▪ Central Statistics dept. surveys ▪ Annual Yearbook of Fisheries	Export markets exist
PROJECT OUTPUTS: 1.0 Increased availability of high quality fish in local markets and exported; 2.0 Better managed fisheries resource 3.0 A revived aquaculture industry in Uganda 4.0 A well managed project	By the end of the project period: 1.1 70% reduction in post harvest loss. 1.2 18% increase in export values 2.1 A 50 percent reduction in illegal fishing practices 3.1 A 60 % adoption of new aquaculture technology 4.1 Project audits and progress reports submitted on time	▪ Fisheries Statistics Unit of DFR ▪ Yearbook of Fisheries in Uganda ▪ Annual work plans ▪ Bank supervision reports ▪ Quarterly progress reports	▪ The GOU implements its rural feeder roads development program ▪ Fish prices remain attractive ▪ The GOU implements its rural electrification program
PROJECT ACTIVITIES: 1.0 Fisheries infrastructure development and quality assurance 1.1 Develop 30 landing sites 1.2 Procure 5 ice plants and chill storage 1.3 Develop Katwe fish market 1.4 Construct 20 fish market stall 1.5 Construct quality control lab at Entebbe 1.6 Carry out EIA studies at landing sites	Source of Financing (in UA '000) ADF 21,973 GOU 3,365 Beneficiaries 178 **Total 25,516**	▪ Audit reports ▪ Procurement reviews	▪ Land for FLC secured ▪ FLC designs are satisfactory

2.0 Monitoring Control and Surveillance 2.1 Procure and deploy 4 patrol boats 2.2 Establish community based management system 3.0 Aquaculture research and development 3.1 Rehabilitate fish ponds 3.2 Establish Catfish hatchery 3.3 Establish 4 fish fry centers 3.4 Produce Tilapia seed 3.5 Develop fish feed production system 4.0 Project Management and Capacity Building 4.1 Establish micro-credit program 4.2 Establish information center 4.3 Carry out sensitization program for DFR staff and beneficiaries 4.4 Appoint PCU staff 4.5 Establish Project steering committee 4.6 Procure equipment	Project Categories of Expenditure (in UA '000) Civil works 13368 Equipment 1380 Aquaculture inputs 370 Fisheries Credit fund 1257 Patrol Boats 1537 Motorcycles 118 Technical Assistance 1276 Allowances 97 Training 764 Total Investment Costs **20167** Salaries 691 Equipment O&M 26 Motorcycle O&M 191 Total Recurrent **908** Physical Contingencies 1423 Price Contingencies 3019 **TOTAL** **25516**	▪ mid term review report	▪ Beneficiary participation is forthcoming

9/23/01

1. ORIGIN AND HISTORY OF THE PROJECT

1.1 Capture fisheries and aquaculture have been practiced over the past 30 years in Uganda, and have contributed significantly to the national economy. However, most of the infrastructure and training facilities have gone into disrepair, production levels have stagnated and technology adoption has lagged, especially in the aquaculture subsector. A high percentage of fish losses occur due mainly to poor infrastructure facilities such as inadequate fish processing facilities and landing sites, poor fish handling and lack of fish storage facilities. Recently, the Uganda Government was faced with a ban on fish exports to the European Union (EU) due to poor quality standards, resulting from the lack of adequate fish handling infrastructure and poor fishing practices. However, the potential for improving production and exports is high and aquaculture production can easily be doubled.

1.2 In 1983, the GOU commissioned a Fisheries Blueprint to provide policy guidance and strategies for development of the fisheries sector. Unfortunately the recommendations of the Blueprint were never implemented and the fisheries sector continued to be neglected. In 1997, following continued decline in revenues from coffee exports contrasted with the growing realisation of the contribution of fishing to the national economy, the GOU embarked on a 10-year masterplan for fisheries development. The Bank provided a TAF grant to finance the fisheries development masterplan study. The masterplan was to provide a comprehensive analysis of the entire fisheries subsector in Uganda, define development strategies and specify coherent action programs adapted to the needs and priorities identified. The masterplan further identified specific projects and completed feasibility studies on the two identified projects. The masterplan was submitted in July 1999 and highlighted two priority projects in the areas of fisheries infrastructure development namely quality assurance and aquaculture research and development. Subsequently, the GOU made a formal request for Bank funding of the two projects in 1999. The initial Bank review of the request resulted in a consolidation of the two project proposals into a single fisheries development project.

1.3 The Bank undertook a preparation mission in October 2000 with a view to costing the project and working out its implementation arrangements. A stakeholder workshop brought together over 150 representatives in the fisheries subsector in Uganda. The Bank further approved a Project Preparatory Facility (PPF) for detailed designs and studies. The PPF is being used for the documentation on existing and potential fisherfolk associations. The project was appraised in August 2001 and this report is based on the findings and information collected from the said mission. During the masterplan preparation, environmental concerns were taken into account in the selection of the priority projects to be funded.

1.4 In December 1999, the Uganda country allocation for the period 1999-2001 amounted to UA 100.4 million including UA8.1 million of TAF resources. Following a bank wide adjustment of country allocations, this amount was reduced to UA86.91 million including UA5.98 million as TAF. By December 2001, the ADF Board had approved loans and grants totalling UA100.37 million generating an overrun of UA13.47 million. At its 11 July 2001 meeting, the ADF Board approved the allocation of additional UA13.47 million to cover the cost overrun. As the country's allocation under ADF VIII has been fully committed, financing of this project will require additional resources. The present loan proposal of UA22.00 million, in addition to the said overrun amounts to a 42 percent increase over the initial country allocation of UA80.93 million.

1.5 However, the country deserves additional resources, as its track record has been commendable as evidenced by the recently concluded Country Performance Assessment (CPA) that rated the country's performance as satisfactory. The fisheries sub-sector is now the most important after coffee and tourism and the present project will lead to annual export earnings in excess of US$66 million thereby increasing the incomes of fish farmers, traders and processors.

2. THE AGRICULTURE SECTOR

2.1 Structure, Performance and Constraints

2.1.1 Agriculture continues to be the most important sector of Uganda's economy contributing 43 percent of Gross Domestic product (GDP) and employing about 86 percent of the population. Soils are generally fertile and the country has a climate favorable to both crops and livestock production. Uganda has rich agricultural resources for both cash crops (coffee, cotton, tea, tobacco, and sugar) and a wide range of tropical and temperate food crops (wheat and rice, pulses, root crops, bananas, fruits and spices). With over 160 lakes covering over 20 percent of the surface area, Uganda is well endowed with aquatic resources for fish production.

2.1.2 In the 1960's Uganda agriculture enjoyed significant positive growth rates averaging 10 percent per annum. During the 1970 and 1980s, however, the sector registered a dramatic decline averaging a negative 2 percent per annum due to mismanagement and political turmoil. The GOUs Economic Recovery Program was aimed at achieving a stable and steady economy by rehabilitating traditional exports like coffee, cotton, tea and tobacco with a view to increasing export earning and thereby improving balance of payment, developing non-traditional export base, and removing the physical, technical and institutional constraints for sustainable agricultural development.

2.1.3 To achieve the above-cited objectives, the GOU designed and adopted a policy agenda for the agricultural sector in 1989, which focused on the following six critical areas of policy and institutional reforms: agricultural pricing and incentives, trade liberalization and promotion, restructuring of marketing boards, rationalizing crop- processing capacity, financial rehabilitation of Cooperative Unions, strengthening agricultural research and extension services.

2.1.4 The 1996 Uganda National Plan of Action for Nutrition (NPAN) stated that 45 percent of children below 3 years of age were stunted, 23 percent underweight and 2 percent wasted implying chronic food insecurity for this age group. The situation has improved slightly but a lot remains to be done. This is partly due to the uneven distribution of food regionally and within households' as well as inadequate nutrition knowledge. Low per capita land availability (landlessness) coupled with declining crop yields and lack of purchasing power (poverty), are the major causes in over populated areas. Post harvest losses in the agriculture sector average 30 percent of production. In case of crop failure the dependent communities are afflicted by severe food shortages.

2.1.5 The proportion of Ugandans living below the poverty line has declined from 56 percent in 1992 to 46 percent in 1996 and currently stands at 35 percent. The decline in poverty has been largely attributed to growth within the economy. A better distribution of

incomes was also noted in rural areas as compared to urban areas. The GOU Poverty Eradication Action Plan lays emphasis on public action across the different sectors in order to combat poverty. These include (i) universal primary education (ii) primary health care (iii) agricultural modernization, (iv) road maintenance, and (v) promotion of private sector.

2.1.6 In spite of the country's generally fertile soil, favorable weather, and growing economy, many Ugandans do not have enough to eat. The most recent comprehensive analysis of the country's food balance, by the Ministry of Finance (1994, using 1991 census information), found that slightly more than half of Uganda's population lives in Districts consuming less than the minimum caloric requirement. As a result of both low food consumption and high disease loads, child malnutrition rates are high, and an estimated 40 percent of children under 5 years old are malnourished.

2.2 Micro credit in the Agricultural Sector

2.2.1 In Uganda, access to financial services by the rural population in general, and farmers in particular are rather limited. Formal financial institutions in Uganda still consider the poor who do not have formal guarantees/collateral as risky and not being credit worthy. The majority of women and smallholder farmers fall under this category. Commercial banks' lending procedures such as eligibility criteria, collateral securities and repayment terms are considered inflexible by the poor. The interest rates are also very high ranging between 24 percent to as high as 48 percent per annum. There is also a bias by formal banks to lending to the agriculture sector. During 1996 - 1998, Uganda recorded a 33.4percent decline in agricultural financing and an increase of 19.6 percent in trade and commerce financing.

2.2.2 Acknowledging the lack of formal bank presence in rural areas, the Government of Uganda (GOU) has, in its recent policies and strategies, recognised the crucial role which the non-bank financial operators can play, particularly in the rural financial market. Portfolio growth has been extremely rapid, with various MFIs doubling their portfolios between 1999 and 2000. A particular feature in all larger MFIs is that some 70-90 percent of their clients are women, making them attractive development partners from the gender viewpoint. While operating mainly from larger, urban centres, most of the top MFIs have a large share of their clientele that is genuinely rural. In general, no financing products are specifically targeted at agricultural operations or the fisheries sub-sector. In 1998, the actual share of agriculture financed activities by the MFIs in Uganda was 21 percent. The limited capacity of most MFI's/NGOs/CBOs inhibit their ability to effectively provide micro-finance services to the poor.

2.2.3 Portfolio quality of the larger MFIs is generally very high, with annual recovery rates close to 100 percent, and very low shares of the portfolio at risk. On the average, a market based borrowing interest rate of 24 percent is charged as minimum. The standard product is a short-term loan of 3-6 months, and the standard interest rate is 3 percent flat per month, with some variation between MFIs. Loans are given to groups with joint-and-several guarantee, with the compulsory savings providing additional security. Loan sizes start from the low Ush 50,000 level, increasing to as much as Ush 4 million as the client progresses through the loan cycle. The Bank Funded Rural Micro- finance Support Project (RMSP) aims at strengthening the MFI's and intermediate entities and expanding their outreach through out the country. Contrary to widely held perceptions, RMSP has proved that lending to farming is not as risky as many in the industry believe. Loans to agricultural activities were 60 percent of the total resources on-lent to clients under RMSP. Out of the total, 34 percent invested in

crop production and 26 percent in animal husbandry. Compared to other sectors such as trade and services, the agriculture sector scored the highest repayment rate with 97 percent.

2.3 Agricultural Policy and Institutions

2.3.1 The analysis of the past performance of the agricultural sector clearly demonstrates the main lessons to be taken in to consideration while determining the future potential and pattern of agricultural growth. Future success will depend on (i) development and adoption of high-yielding technology through strengthened agricultural research, (ii) generation and adoption of appropriate labor-saving technology, (iii) increased diversification of agricultural exports through production of high value added commodities, (iv) creation of efficient and competitive system for processing and marketing agricultural commodities, (v) development of rural financial markets to provide easy access to finance for smallholder farmers, (vi) development of infrastructure such as rural roads, communication links and rural electrification to reduce transaction costs, develop marketing linkages, improve efficiency and provide capacity for agro processing.

2.3.2 The agricultural policy of Uganda is based on the PMA that is premised on six main public expenditure areas that are expected to lead to poverty eradication. These areas are research and technology development, agricultural advisory services, rural finance, agro processing and marketing, agricultural education, and sustainable natural resource management. The PMA is designed to be a holistic framework for poverty eradication that augments the poor farmer's capital assets by transforming subsistence agriculture to commercial agriculture, deepening decentralization, reducing public sector activities and promoting the role of the private sector. Success in achieving the PMA objectives will depend on profound technological change, improved agricultural productivity, maximum consultation and participation of farmers in planning and monitoring outcomes and substantial transfers of political, financial and planning responsibilities from the central government to local governments (districts and sub-counties).

2.3.3 Gender concerns are to be routinely and adequately addressed in the planning, implementation, monitoring and evaluation of all interventions and institutions. Participation of both men and women is to be promoted at all levels and all relevant institutions will be oriented to be gender responsive. Research and technology development will be more relevant and responsive to the needs of subsistence farmers. A National Agricultural Advisory Service (NAADS) has been created to co-ordinate extension services provision to subsistence farmers. The NAADS has a secretariat that works closely with the local governments, which have the mandate for delivery of agricultural advisory services.

2.3.4 The main institutions active in the agriculture sector are the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) that has an adequate cadre of professional and is well represented at the district level. The National Environment Management Agency (NEMA) has developed a body of regulations relating to management of the natural resources. NARO was recently reorganized to meet the challenges of the PMA for innovation and client-responsive agricultural research.

3. THE FISHERIES SUB-SECTOR

3.1 Overview

3.1.1 The Ugandan fisheries subsector comprises both capture fisheries and aquaculture with the former contributing most of the total national catch. The capture fisheries are basically artisanal while aquaculture is still at the smallholder subsistence level. The largest and most economically significant water body in Uganda is Lake Victoria with a surface area of 68,000 km² and is shared with Tanzania (49 percent) and Kenya (6 percent). Other large water bodies include, Lakes Albert (5,270 km²), Kyoga (2,700 km²), Edward (2,300 km²), and George (250 km²) along with the River Nile.

3.1.2 The fishery resource potential in Uganda has been estimated by the GOU at 330,000 mt. Artisanal fish production reached 229,400 mt in 2000 with Lakes Victoria and Kyoga accounting for 80 percent of the catches. The Nile perch (*Lates niloticus*) has dominated Ugandan fisheries over the past two decades accounting for 60 percent of the catches. Other major species harvested include; sardine or *mukene* (*Rastrineobola argentea*) at 20 percent; the Nile Tilapia (*Oreochromis niloticus*) at 10 percent; and other species of the genera *Bagrus, Clarias, Protopterus, Barbus, Synodontis, Momyrus, Alestes* and *Labeo* accounting for the remaining 10 percent.

3.1.3 Capture fishing is characterized by dugout canoes that have been largely replaced by plank canoes and to a lesser extent, by fiberglass boats. The plank canoes are generally 4 to 12 m in length and dugout canoes averaging 3.5 m. The canoe fleet is in the order of 17,000, about 20 percent of which is motorized. Artisanal fishermen utilize various gears including gillnets, seines and hook and line. In a number of localities, traditional methods including baskets, traps and mosquito nets continue to be used, largely for subsistence purposes.

3.1.4 Constraints in capture fisheries are largely management and quality related. Fisheries management related constraints include declining catches due to excessive fishing, use of destructive fishing gears and methods, degradation of fish habitats due to eutrophication of lakes and other forms of pollutants, infestation and rapid spread of water hyacinth, lack of regulatory frameworks, inadequate number of trained high and middle level manpower in the Department of Fisheries Resources (DFR) and inadequate funding for fisheries sector activities in general. While some of the management related constraints like water hyacinth infestation and eutrophication are being addressed under the on going Lake Victoria Environment Management Project (LVEMP), the other management and quality related constraints will be tackled to ensure the sustainability of Uganda's fisheries. The Fisheries Act and its subsequent Amendments do not make adequate provision for managing and regulating fisheries activities in the country's inland water bodies. The regulatory framework therefore will be strengthened and fisheries management measures effectively enforced. There are increasing reports of piracy on major lakes and the use of illegal mesh size nets continues to be of concern to the DFR.

3.1.5 Fish quality related problems have arisen due to the lack of or inadequate fish landing infrastructure and facilities. Fish handling practices have also been poor with the fish landed under unhygienic conditions either on wooden platforms, stone slabs or in the sand for sorting, weighing and packing. The use of ice or refrigeration has been minimal at the landing centers exposing fish to contamination and spoilage. Facilities for proper handling, displaying and storage of fish on the domestic market are also lacking exposing the fish to contamination. The

current fish quality laboratory is inadequate to meet the increasing stringent requirements of fish importing countries. With over 4,000 samples of fish to be tested annually, Uganda needs a modern laboratory facility.

3.1.6 Fish farming has been promoted in Uganda over the recent past with the aim of enhancing nutritional status and improving incomes of rural households. Subsistence fish farming reached its peak in the late 1960's, when some 11,000 ponds were reported to be in operation, covering a total area of 410 ha and yielding an annual harvest of 800 - 900 mt. By the late 1980's, prolonged economic crises, civil unrest and a general collapse of infrastructure and public services had combined to reverse the development of small-scale aquaculture almost to the point of insignificance with annual production in the order of 30 to 40 mt. Production started to recover in the 1990's. Today, there about 6,200 fish ponds distributed across the country producing 200 mt of fish. The average size of a fishpond is about 0.02 ha (200 m^2). The main culture species include *Oreochromis niloticus*, *Tilapia zilli* and *Cyprinus carpio.*

3.1.7 The major constraints faced in the aquaculture industry include poor quality fish seed, low productivity of fish ponds due to the acidic nature of the pond, lack of fish feed, low aquaculture technology, weak extension services, inadequate data on fish culture systems and lack of knowledge on fish diseases. Yields in the fishponds are generally low (about 30 kg per 0.02 ha pond) due to the low level of aquaculture technology. Integrated aquaculture production systems involving fish production with for example rice, poultry and pig production is still in its infancy despite the considerable potential that the country disposes of in this respect. Although Ugandan aquaculture is basically at the subsistence level, farmers desirous to venture into commercial fish farming are gradually emerging.

3.1.8 The overwhelming majority of fish landing sites in Uganda lack basic infrastructure and fisheries facilities. Of the 590 landing sites along Lake Victoria, only about ten have some upgraded facilities provided by the private sector, Government or through donor support. The current facilities range from rudimentary jetties, fish handling sheds, water treatment machines and ice plants. The private sector or district authorities manage most of the upgraded fish landing sites. Local capacity for boat building is good. The inland fishery depends largely on locally manufactured plank boats. The Fisheries Training Institute has a boatyard that can produce wooden as well as fiberglass boats. It further provides training in boat building and boat repairs. Other small-scale privately owned boat-building facilities are provided across the country. While the artisanal fishing boats are produced locally, the fishing gear and outboard motors are imported by the private sector.

3.1.9 At the industrial level, the most important activity that was developed in the late 1980's is the export of frozen Nile perch fillets. This trade grew from US$1.4 million in 1990 to US$46.9 million in 1998. Today, the fish subsector ranks third in the generation of export revenue, after coffee and tourism. There are currently 8 industrial fish processing plants with a combined processing capacity of 300 mt of fish per day. Fish quality has become a major concern to the industry. Quality requirements for fish and fishery products on the EU and other international markets are getting more and more stringent. EU imposed a ban on Ugandan fish exports in 1997 as a result of quality problems. This caused a major blow to the fish processing and export industry and the economy in general which suffered a major loss in export revenue.

3.2 The National Fisheries Policy

3.2.1 The fisheries policy seeks to promote capture fisheries management in a sustainable manner involving participation of major stakeholders at all levels for national food security, poverty alleviation and generation of export earnings. The policy also aims to ensure safety, quality and wholesomeness of fish and fishery products before placement in both domestic and export markets. It also intends to develop adequate and skilled manpower in the technical and managerial disciplines and stakeholder resources to spur effective fisheries development in both public and private sectors.

3.2.2 The substantive law that provides for the regulation of Uganda's fisheries is the Fish Act of 1964 and subsequent Amendments. The Act seeks to regulate fishing operations or activities relating to the fishery industry. This Act has been revised and sent to parliament for enactment. The Bank will seek an undertaking from the GOU for the enactment of this bill. The DFR is responsible for formulating and enforcing management measures contained in the Act. The enforcement role has been decentralized to the District level and is being directly assumed by the District Fisheries Officers.

3.2.3 The Fish Quality Assurance Rules of 1998 set out the modalities for the national fish inspection system. It further defines conditions for fish processing establishments, fish storage and transport, packaging of fish and fishery products, and for distribution and monitoring of water. The Commissioner of Fisheries designates authorized officers under the Fish Act as Fish Inspectors.

3.3 Institutional Framework

3.3.1 The Department of Fisheries Resources (DFR) is responsible for ensuring the effective conservation, development and management of fisheries resources in the country. The Department is further responsible for enforcing fisheries regulations, licensing fishing boats and maintaining a national fish inspection and quality control programme. The DFR is headed by a Commissioner of Fisheries and assisted by two Assistant Commissioners – one in charge of Fish Production and the other responsible for Fisheries Regulation and Control. At the District level, District Fisheries Officers work with Local Governments in monitoring fishing operations at the landing sites.

3.3.2 The National Agricultural Research Organization (NARO) was established in 1994 as an autonomous research organization. It is the main national research institute for crops, livestock, fisheries and forestry. Two fisheries research institutes, namely the Fisheries Resource Research Institute (FIRRI) and the Kajjansi Aquaculture Research Station fall under the umbrella of NARO. FIRRI is responsible for fisheries research. Much of its research activities have focused on issues concerning Lakes Victoria and Kyoga, the two most important fisheries in the country.

3.3.3 The Kajjansi Aquaculture Research Station was established in 1953. The activities pursued at the Station include fish breeding and seed production, fish nutrition and feed technology, pond construction and management, semi-intensive aquaculture systems, fish health management and fish genetics. The main infrastructure at the station include three big demonstration ponds, 14 medium-sized and three small experimental ponds, nursery ponds, water intake system, drainage system and three laboratories (for fishery biology, chemistry and feed formulation studies). It supports activities in regional fry production centers.

3.3.4 The Zoology Department of the University of Makerere has recently introduced a postgraduate course in Fisheries Management Science. The Department lacks qualified staff and depends on FIRRI to provide most of the teaching staff. Some of the practical courses are undertaken at The Kajjansi Aquaculture Research Station. The Department enrolls on the average, six students per year.

3.3.5 The Fisheries Training Institute (FTI) was established in 1968 to provide training in fisheries and boat building. The Institute operates four Departments, namely; boat building, fishing methods and gear technology, fish handling and processing technology, and aquaculture. FTI has professional staff strength of 30, most of them in boat building. It offers Diploma and Certificate courses. Some 56 Diploma and 12 Certificate students graduated from the Institute in 2000. A total of 197 students were enrolled in the 2000/01 academic year, 14 percent of whom were women. The Institute has adequate manpower but most of the equipment in the laboratories is either obsolete or not operational and needs to be replaced. In order to generate income to supplement Government subventions, the FTI offers consultancy services and builds boats for the private sector.

3.3.6 National Environment Management Authority (NEMA)'s mission is to promote and ensure integrated and sustainable environment management in Uganda. While NEMA is responsible for monitoring, planning, and coordination of environmental matters, implementation is the responsibility of relevant line ministries. Environment liaison units within each line ministry are responsible for integrating environmental concerns into their sector plans, and implementing environmental activities within the mandate of the Ministry. The activities of NEMA are environmental Impact Assessments (EIA), environmental inspections and audits, definition of environment standards, provision of environmental information, organization and delivery of public participation, environmental education, and environmental planning.

3.4 Donor Interventions in the Fisheries Sub-Sector

3.4.1 The Lake Victoria Environmental Management Project (LVEMP) is funded by the Global Environment Facility (GEF) and the International Development Association (IDA) to the tune of US$77 million. It involves the three littoral States of Lake Victoria, namely Kenya, Uganda and Tanzania. The project objectives include maximizing the sustainable use of basin benefits (food, employment, income), conservation of biodiversity and genetic resources, and harmonization of national management programs in order to control and reverse environmental degradation.

3.4.2 The Lake Victoria Research Project commenced in 1989 with the long-term objective of encouraging co-operation on fisheries matters amongst the lacustrine countries as a contribution to fisheries management. The second phase started in 1995 and it is aimed at assisting in the development of a management framework for Lake Victoria fisheries, including stock assessment and mechanical control of water hyacinth. The project is being funded by the EU to the tune of US$12.38 million.

3.4.3 The Integrated Lake Management Program is funded by the Department of International Development (DFID) at US$10.35 million. The program aims at mobilizing the communities of Lakes Kyoga and George and sensitizing them on the importance of the sustainable management of the fisheries and natural resources and for the efficient

management of the lakes. In addition, DFID is also providing institutional support to Kajjansi Aquaculture Research Station and smallholder ponds in rural areas.

3.4.4 Other donor agencies that have been contributing towards the development and management of lake fisheries are the US National Science Foundation (US$0.7 million), International Development Research Center (US$0.075 million), United States Agency for International Development (US$1.0 million), Food and Agriculture Organization (US$0.28 million), Japanese Government (US$2.0 million) and the United Nations Development Program (US$0.50 million).

4. THE PROJECT

4.1 Project Concept and Rationale

4.1.1 The project as currently designed is in line with the GOU plan for the modernization of agriculture, through its reliance on private sector involvement in the management of ice plants cum cold stores, the operation and maintenance of landing sites, fish farming and the management of regional fry production centers. The project also follows the National Agricultural Advisory Services (NAADS) approach, which calls for adequate participation of districts and sub counties and stresses coordination/linkages amongst farmers, stakeholders, stockists and NGOs/CBOs for the implementation of various extension and research activities. Accordingly, a participatory approach was used during project identification, preparation and appraisal and provisions made for the active participation of all stakeholders during project implementation.

4.1.2 The need for a renewed focus on the development of the fisheries sector in Uganda has come primarily from two sources. First is the realization that the sector has a huge potential and is actually already contributing to the national economy in the wake of declining government revenues from an ailing coffee sector which formerly represented the primary foreign exchange earner for the country. Secondly, the devastating effect of the recent EU ban on fish exports from Uganda due to quality problems has highlighted the potential consequences of unplanned expansion in fisheries. With the growing interest and active participation of both small and large-scale operators in fisheries, serious environmental and resource management problems have arisen. This points to the urgent need for better and more stringently planned development interventions. Care has been taken in the choice of technology that is most appropriate and sustainable. Given the varying development stages of actual and proposed landing sites, it is imperative that proposed interventions have only limited and manageable environmental impacts such as increased waste, higher incidence of diseases, and increased pressure on natural resources, such as wood and water. The aquaculture component would complement the capture fisheries in supplementing stagnating /declining fish catches observed in the lake fishery sector. The project design addresses these key areas by incorporating various types of research and on farm trials, improved fish farming systems and semi intensive fish culture.

4.1.3 The project design also benefits from the lessons learned from prior Bank funded projects in Uganda, In particular, following the successful completion of the ADF (UA 9.21 million), poverty alleviation project, the current Bank financed RMSP aims at deepening the scope of micro-finance in Uganda and has financed over 30,507 micro-projects, out of which 60 percent are agricultural-based projects. One of the key lessons learned from PAP was the need to emphasize on capacity building. Other investments in the agricultural sector in

Uganda have pointed to the need for extensive stakeholder participation in project design and implementation.

4.2 Project Area and Beneficiaries

4.2.1 The project, in general, covers the western, central and eastern regions of Uganda covering Lakes Victoria, George, Albert, Kyoga and Edward representing some 39,000 km² of fishing grounds. The fishing communities in the project area are mostly poor and total some 140,000 of which 20,000 will be directly targeted by the project. In addition, some 2,000 ponds equivalent to 40 ha owned by small-scale fish farmers will be targeted under the aquaculture development component of the project. Through the credit program, 2,000 small-scale fish farmers, traders and processors as well as 200 commercial semi-intensive fish farmers will be supported. The project beneficiaries also prominently include women involved in retail marketing of fish and in fish smoking.

4.2.2 The communities on the islands off Lake Victoria are perhaps the most disadvantaged in terms of access to social services, such as schools, clinics and sanitation. AIDS/HIV infection rates, while high for Uganda as a whole, is particularly high in fishing communities, due to the migratory lifestyle of the population. The employment patterns in fisheries are distinctly gendered. The actual fishing is carried out entirely by men as strong cultural prohibitions keep women out. However, women have made inroads into the fishing sector as boat owners (10-12 percent) that hire male fishing crews to fish for them. Even fewer women own outboard motors.

4.3 Strategic Context

4.3.1 The 1997 Poverty Eradication Action Plan (PEAP) of the Government of Uganda (GOU) follows a multi-sectoral approach to increasing incomes of the poor by supporting the Plan for the Modernization of Agriculture (PMA). The PMA aims at improving food security and productivity; improving land laws; improving rural market infrastructure; strengthening rural financial services; enhancing productivity of the labor force among others. In the context of PMA, the fisheries sub-sector is of strategic importance not only as a means on increasing household incomes but also in fulfilling the nutritional needs of the family.

4.3.2 The recent export ban of fish into EU countries due to quality problems and declining fish catches in the lakes of Uganda have brought into focus the need for a more stringent regulation of the fisheries sector and a more urgent focus on alternate fisheries resources like aquaculture. In designing the project the current status of aquaculture, fisheries regulations, institutional capabilities and the situation of beneficiaries and implementation staff has been taken into consideration.

4.4 Project Objective

The sector goal is to foster economic growth and reduce poverty. The project objective is to increase incomes from fishing through availability of higher quality fish products and through strengthening of aquaculture research and development.

4.5 Project Description

4.5.1 The project activities will be implemented under the following 5 major components:

(A) Fish Quality Improvement;
(B) Aquaculture Research and Development;
(C) Fisheries Credit Fund;
(D) Capacity Building; and,
(E) Project Coordination.

4.5.2 The detailed project description is as follows:

(A) Fish Quality Assurance
A1 Fish Landing Center Development

4.5.3 In order to improve the quality of fish for both the export and domestic markets, the project would establish 30 fish landing centers (FLCs) along lakes Victoria, Kyoga, Albert, Edward and George. The FLCs are classified into 3 classes. The criteria for site selection and classification included: quantity of fish landed; number of boats operating at the site; accessibility of the site by road; number of residents in the community benefiting from activities of the site; availability of market facilities; land ownership status; whether site has been gazetted or not; and suitability of the topographic, hydrographic and sub-soil conditions for the proposed infrastructure. The project will develop eight Class I FLCs, twelve Class II and ten Class III. The location of the proposed FLCs and associated facilities are shown in Annex I. The GOU will provide evidence of having secured the land on which the fish landing centers are to be developed. This is necessary to avoid any subsequent litigation and consequent delays in project implementation.

4.5.4 The full range of facilities to be provided include: jetty, fish handling shed, loading area, fuel supply station, gear-mending shed, boatyard, outboard motor repair workshop, office building, power supply, potable water, sanitary facilities, waste disposal facilities, rehabilitation of access road and vehicle parking area. In addition, the project will support the development of improved artisanal fish processing facilities, namely; fish drying racks and fish smoking ovens. In order to ensure minimum fish loss and enhance quality assurance, ice plants and cold stores will be provided in Class I sites and Class II sites will only have ice makers. Woodlots will be established in 20 FLCs as well as in three islands where fish is landed prior to transportation to the mainland. A hectare divided into three rotating lots will be enough. The particular tree species will be selected by the Forestry Department according to their growth rate and suitability for fish smoking.

4.5.5 The fish landing facilities will range from jetties, quays, wharf walls or piers depending on the hydrographic conditions for landing, berthing and outfitting at each site. Fish handling shed of dimension 15m wide and 30m long is proposed for the purpose of cleaning, washing, sorting, weighing, selling and loading of fish. Potable water supply arrangement at the different sites will depend on individual site conditions to be determined from detailed design studies. It would involve borehole or simple water treatment techniques. Each ice plant will have a production capacity of 5 mt per day and an ice storage capacity of 5 mt. Each chill room will have a 5mt. cold storage capacity. The facilities at the FLCs will be leased out to private sector service provider for its operation, management and maintenance. A Board comprising representatives of the DFR, District Authorities, Fisheries Association will govern the overall FLC development activities. Revenue will be generated through the imposition of fees to cover entry, fish landing, vehicle parking, cold storage, ice supply and boatyard use among others.

A2 Fish Market Improvement

4.5.6 Activities under the fish market development program include: i) upgrading the Katwe market in Kampala and providing an ice plant and cold store, and ii) upgrading and/or establishing model fish markets in 10 rural towns and 10 urban areas. The Katwe market shed will be developed in an area covering 270 m². It will comprise ten stalls, each with a floor dimension of 4m by 3m. It will have a 4m central passage between two rows of stalls. The market will also have an ice plant with a production capacity of 5 mt per day and a chill room with a storage capacity of 5 mt. The upgrading of existing markets would involve providing pavements, re-roofing stalls, improving sanitary facilities and providing potable water. The management of the fish markets will also be leased out to private entrepreneurs.

A3 Fish Quality Control Laboratory

4.5.7 A fish quality laboratory will be established in Entebbe to control the quality of fish for both the export and domestic markets. It will be equipped to undertake the necessary microbiological and chemical tests. The quality assurance program would also seek to strengthen the National Fish Inspection system and assist the processing plants to implement the HACCP procedures. The quality control laboratory will cover an area of 150 m². The laboratory will be provided with atomic absorption spectrometer for detection of heavy metals, high performance liquid chromatography and gas liquid chromatography for estimation of pesticide residues and hydrocarbons. In addition, microbiological equipment will be provided to detect bacterial contamination. The laboratory will be autonomous from the DFR, as the later is the competent authority responsible for certification. Fees will be charged for the various tests to be conducted for fish exporters. Currently, there is a small private facility where some basic tests are conducted. However, the facility is not able to perform all the required tests such as pesticide and chromatography analyses and some samples have to be sent outside for further tests.

A4 Monitoring, Control and Surveillance (MCS)

4.5.8 In order to effectively enforce fisheries regulations and ensure sustainable catches the MCS unit within the Fisheries Department will have to be strengthened. MCS activities envisaged under the project would include: provision of four patrol boats to monitor and control illegal fishing operations; creating two MCS control centers along Lakes Victoria and Kyoga; installing radio communication on existing GOU surveillance boats; and creating and/or strengthening existing community-based fisheries management committees (CFMCs) to enable them effectively monitor near shore fishing activities. Of the four patrol boats, one would be 14m long while the remaining three will be 10m long. All the 4 boats will be built of fiberglass reinforced plastic and fitted with 200 Hp engines. The 14m boat will have a speed of 20 knots and the 10m boats with 26 knots each. The MCS operations will focus on: undertaking lake patrols to ensure security of the fishermen and combat piracy; inspecting fishing gear and mesh sizes; and monitoring fish catches and fishing effort. The MCS activities will be undertaken by DFR in close collaboration with the Marine and Police. The community-based fisheries committees are made up of fishermen representatives as well as village elders. Their role is to formulate and enforce bylaws to ensure rationale exploitation of the near shore fisheries. The MCS activities will also be coordinated with the regional MCS activities undertaken in the context of the LVFO. In a bid to secure sustainable management of the fisheries resources, the currently revised legislation will be enacted during the course of the project. This enactment will be a condition of the project loan.

(B) Aquaculture Research and Development

B1 Aquaculture Research

4.5.9 The aquaculture research program focuses on: fish feed formulation (live feed and dry feed); fish health monitoring through establishment of a pathology laboratory; hybridisation of Tilapia and monosex culture; induced breeding of catfish and Tilapia seed production; integrated aquaculture production systems involving fish farming, rice production, poultry farming and pig farming; socio-economic studies in aquaculture; and research on new species and polyculture. The project will rehabilitate infrastructure at the Kajjansi Aquaculture Research Station. A fish pathology and biochemistry laboratory will be established at the Station. A model hatchery will also be constructed for induced breeding of giant African catfish. A new pond complex adopting modern aquaculture design will be constructed. A layout plan of the proposed new pond complex is provided in the Project Implementation Document (PID). The research station will also carry out on-farm demonstrations of improved aquaculture practices such as pond construction, seed selection, stocking, pond management, harvesting and pond preparation. The project will further support the Kajjansi documentation center and library and internet connectivity will be provided. In order to undertake the challenging research agenda, NARO will appoint two additional fisheries research Officers to join the Kajjansi team. The appointment of the two Research Officers to Kajjansi research Station will be a condition of the loan.

B2 Aquaculture Development

4.5.10 Under the aquaculture development component, the project will: i) provide technical advice to subsistence fish farmers on site selection for ponds, pond construction, seed selection and stocking density, pond fertilization, fish health monitoring; ii) promote emerging or commercial fish farmers through training and credit; iii) support private fish fry and fish feed producers through credit; and iv) rehabilitate four regional fry production and demonstration centers. The Mbale regional fry center will be supported to produce fish fry and brood stock for re-stocking of Lake Kyoga.

(C) Fisheries Credit Fund

4.5.11 A credit revolving fund will be established under the project for: i) aquaculture operators such as fish farmers, fry producers, small-scale fish feed producers; ii) fish processors such as women involved in fish smoking and drying; and iii) small scale fish traders etc. In aquaculture, the credit will support: i) the construction of new ponds, ii) expansion and/or rehabilitation of existing ponds, iii) setting up individual private fry production units and iv) manufacturing of fish feed. It will also provide working capital to fish farmers to acquire fingerlings and fish feed. Statistics of the membership of MFI's operating in Uganda show that over 60 percent of their membership is women It is therefore expected that over 60 percent of the credit beneficiaries will in turn be women either individually or in groups engaged in fisheries. Some 2,000 subsistence fish farmers, fish traders, small scale fish processors and 100 emergent fish farmers will benefit from the credit fund.

(D) Capacity Building

4.5.12 The project will support capacity building initiatives which would include: i) in-country training of 400 staff in the DFR, Kajjansi Aquaculture Research Station, Fish Quality Control Laboratory; 320 subsistence fish farmers; 180 emerging farmers; 400 artisanal

fisheries operators; 180 boat builders; and 25 community-based fisheries management committees; ii) overseas study tours for fish farmers, technical staff of Kajjansi and DFR; and iii) support to FTI. The training would include the organization of beneficiary participation workshops involving NGOs and CBOs. Two of the workshops will target women groups. There will also be annual review workshops, one at the national level and one at the regional level.

4.5.13 The project will support 15 man-months of international TA in the areas of Fish Feed Formulation and Fish Pathology. National experts will be recruited to conduct a study on alternative income generation activities in fishing communities and fish catch assessment. The alternative incomes study is aimed at providing avenues for income generation outside of the fisheries sector as a possible solution to a cap on the present fishing policy of open access. The lake restocking study will provide for future increased stocks of fish species common to the particular area and without possible negative effect on the biodiversity.

4.5.14 The project will establish an Information and Documentation Center for capture fisheries. The Center will publish an Annual Yearbook of Fisheries in Uganda. The Center will be based in the DFR and will receive information from FIRRI, FTI and Kajjansi.

(E) Project Coordination

4.5.15 A Project Co-ordination Unit (PCU) will be established within the DFR to co-ordinate project activities. The PCU will comprise a Project Coordinator, 2 Project Officers (Fisheries and Aquaculture), a Financial Controller, a Procurement Officer, an M&E Expert and the requisite support staff. In order to streamline project co-ordination, the PCU will organize regular meetings involving District Fisheries Officers, Managers of FLCs, Administrators of fish markets (Katwe and the 20 rural and urban markets).

4.6 Production, Markets and Prices

4.6.1 Over the past decade, Uganda's fish production has fluctuated between a high of 276,000 mt in 1993 and a low of 217,000 mt in 1998 against an estimated catch potential of 330,000 mt. The main species from capture fisheries include Nile perch, Tilapia, *Bagrus, Clarias, Protopterus* and *mukene*. The main aquaculture species are *Oreochromis niloticus, Tilapia zilli* and *Cyprinus carpio*.

4.6.2 There exists well functioning fish marketing channels. Currently, fresh fish catches are sold in part to exporters, at the landing site and to women processors for smoking. Cured fish dominates fish products traded in the domestic market notably: smoked tilapia, Nile perch and lungfish; dried *mukene* and *Bagrus* as well as salted fish. Women dominate the cured fish trade. Dried *mukene* constitutes a major source of food for low-income households since it can be sold in small portions making it affordable. Significant quantities are exported to Sudan and the DRC. Lake Kyoga provides the bulk of the *mukene* from the Bukungu landing centers in Kamuli District. In the case of cured fish products, smoked tilapia fetches around 1,300 Ush per kg; smoked lungfish (1,200 Ush per kg); smoked Nile perch (1,000 Ush per kg); sun-dried *Bagrus* (2,800 Ush per kg). Dried *mukene* is offered in small lots of about 100 to 200 Ush each.

4.6.3 Fresh fish is traded mainly in Kampala, Entebbe and Jinja as well as in areas close to inland water bodies. With the exception of the Nile perch export trade, ice is seldom used in

the fresh fish trade on the domestic market and this have raised a lot of quality concerns. *Bagrus spp* is the most expensive fresh fish in the domestic market currently fetching about 2,000 to 2,500 Ush per kg, followed by *Clarias spp* (1,750 to 2,000 Ush per kg), *Oreochromis niloticus* (1,000 to 1,250 Ush per kg) and *Lates niloticus* (700 to 800 Ush per kg). The export of Nile perch fillet has today become an important economic activity for the country. Some 8 companies are currently exporting 11,000 mt of Nile perch fillets per annum to the EU, USA, Asia and the Middle East. Frozen Nile perch fillets is currently fetching US$3.50 per kg FOB.

4.6.4 Fresh fish is available on a regular basis mainly to those living close to major water bodies or along major roads. The most common fish processing methods are smoking, sun-drying and salting (to a lesser extent). Smoked and sun dried fish products are to be found in most rural areas of Uganda. Women dominate fish processing activities. The most popular cured fish commodity is dried *mukene*. The process involves spreading the fish directly on the ground or on mats to be sun-dried. This method is unhygienic and exposes the fish to contamination. Fish smoking is mainly of the Tilapia species. The major constraint to current fish smoking is the sustainable supply of firewood. The islands off the coast on Lake Victoria have recorded deforestation in the recent past with the increased importance of Nile perch and Tilapia. Another major obstacle facing the women fish processors is the lack of capital to expand their operations.

4.6.5 Average annual per capita fish consumption in Uganda is estimated at 10 kg. With an estimated population of 22 million people growing at an average rate 2.5 percent per annum, domestic demand for fish is projected at 225,500 mt for 2002. Fish production is estimated at 220,000 mt of which fish exports are expected to be in the in the order of 16,000 mt per annum. The country's fish supply is expected to fall short of demand. The deficit of 21,500 mt is expected to be met through aquaculture and also through improving fish landing facilities and hygiene to reduce post harvest loss. The proposed aquaculture development activities relate to both subsistence and commercial farming. By adopting improved aquaculture techniques in smallholder ponds, aquaculture production is expected to increase from a baseline figure of 30 kg per 200 m² to 96 kg. Similarly, commercial fish farmers are expected to increase their yield to 3,500 kg per ha. In effect, for smallholder farms, fish production from 2000 small ponds covering 40 ha is expected to increase by 132 mt. For commercial farms, production from a total of 200 ha farms is expected to increase by 700 mt.

4.7 Environmental Impact

4.7.1 The project is classified as Category 2. It has limited environmental impacts that will be mitigated by undertaking specific activities described below. The environmental problems relating to development of the landing sites include waste disposal problems, pollution and public hygiene. Environmental concerns related to fish processing include waste disposal and sustainable supplies of wood. Improperly designed fishponds may result in an increase in waterborne diseases such as Malaria from multiplication of vectors.

4.7.2 The mitigation/enhancement measures are mostly through incorporation of waste disposal systems in fish landing and processing centres; improve fishpond designs among others. The sustainability of the EMSP is assured by regular monitoring, increased consultation with the respective stakeholders, firm institutional measures to improve regulation. Accordingly, the project implementation schedule, the cost estimates and reporting procedures have been designed to accommodate the above-cited environmental concerns. The involvement of NEMA in the Project Steering Committee will assure the

mainstreaming of environmental concerns on all aspect of project implementation. A summary of the project environmental and social management plan is appended as Annex VI. The cost of implementation of the mitigation and enhancement measures described above have been fully costed at UA127,300 and detailed in the Project Implementation Document

4.8 Social Impact

4.8.1 Unbridled commercialisation of the fisheries sector while leading to potentially higher export earnings can threaten national food security and the sustainability of the fishing industry as a whole. The focus on Nile Perch fisheries for export has led to a neglect of other species that are no longer widely available to local consumers. Moreover, Nile Perch itself has already been priced out of the reach of local consumers and local fish processors alike. About 80 percent of the people currently involved in fish drying, smoking and retailing are women, many of whom are female heads of household. Increased exports and consequent higher prices have already restricted their access to the popular Nile Perch for smoking. Instead they process the less profitable *mukene*, which is sold dried. The fish factories employ only a limited number of local staff and only an estimated 25 percent of these are women, employed mainly for packing and weighing. It would thus appear that the livelihood of many women employed in the fisheries sector is under threat.

4.8.2 In order to mitigate these potentially negative social effects, the project proposes a number of interventions aimed at maintaining food security and incomes. The empowerment of women currently gaining a livelihood in fish is envisaged through capacity building and credit for non perch fishing activities and by broadening, *inter alia*, both the resource base of fish and the employment base it offers to women. In addition, selected women's groups will be supported by literacy classes and demand driven general and specific training in business skills at the community level as well at FTI. This will enhance women's ability to sustain their livelihoods in the fisheries sector and will also enable them to move out of the fisheries sector and / or to diversify. There is need to mitigate the risk of HIV/AIDS infection in project areas and around modernised landing sites, which might attract larger populations of fishermen and women traders. Accordingly, the project will link up with the national HIV/AIDS effort to engage in rigorous sensitisation. The promotion of alternative income generating activities for fisherfolk will reduce the risk of HIV/AIDS infection. Community involvement in the overall project management should also reduce the incidence of social disturbances and violence against women.

4.9 Project Costs

4.9.1 The total cost of the project including contingencies is estimated at UA 25.516 million (Ush 54,791,058 million), of which UA 14.474 million (57 percent) of the project will be in foreign exchange and UA 11.042 million (43 percent) will be in local currency. All costs were estimated on the basis of the prevailing market prices in Uganda shillings and converted to Units of Accounts at the August 2001 exchange rates.

4.9.2 The physical contingency on civil works has been included at 10 percent and at 5 percent for other categories of investment costs. The foreign inflation contingency at the rate of 3 percent for each year has been added, based on the MUV index of manufactured exports from the G-5 industrial countries. Inflation on local prices has been costed at the rate of 5 percent for the five-year period. The summaries of cost estimates by component and by categories of the project are given in Table 4.1 and 4.2 respectively.

Table 4.1
Summary Cost Estimates by Component

COMPONENT	(Ushs '000)			(UA '000)			% F.E.
	Local	Foreign	Total	Local	Foreign	Total	
Infrastructure Dev. & Quality Assurance	13,455,567	20,288,931	33,744,498	6,266	9,449	15,715	60
Aquaculture Research and Development	2,621,826	662,220	3,284,046	1,221	308	1,529	20
Fisheries Credit Fund	-	2,700,000	2,700,000	-	1,257	1,257	100
Capacity Building	1,230,088	3,205,490	4,435,578	573	1,493	2,066	72
Project Coordination	1,031,160	57,240	1,088,400	480	27	507	5
Total Base Costs	**18,338,641**	**26,913,881**	**45,252,522**	**8,540**	**12,534**	**21,074**	**59**
Physical Contingencies	1,455,321	1,600,840	3,056,161	678	746	1,423	52
Price Contingencies	3,917,313	2,565,063	6,482,375	1,824	1,195	3,019	40
Total Cost	**23,711,275**	**31,079,784**	**54,791,058**	**11,042**	**14,474**	**25,516**	**57**

Table 4.2
Summary of Project Cost by Category of Expenditure

Categories of Expenditure	(Ushs '000)			(UA '000)			% F.E.
	Local	Foreign	Total	Local	Foreign	Total	
Investment Costs							
Civil works	14,132,069	14,572,271	28,704,340	6,581	6,786	13,368	51
Equipment	9,720	2,953,550	2,963,270	5	1,375	1,380	100
Aquaculture Inputs	785,482	9,000	794,482	366	4	370	1
Fisheries Credit Fund	-	2,700,000	2,700,000	-	1,257	1,257	100
Patrol Boats	-	3,300,000	3,300,000	-	1,537	1,537	100
Motorcycles	-	253,600	253,600	-	118	118	100
Technical Assistance	308,340	2,430,660	2,739,000	144	1,132	1,276	89
Allowances	208,200	-	208,200	97	-	97	-
Training	946,080	694,800	1,640,880	441	324	764	42
Total Investment Costs	**16,389,891**	**26,913,881**	**43,303,772**	**7,633**	**12,534**	**20,167**	**62**
Recurrent Costs							
Salaries	1,483,700	-	1,483,700	691	-	691	-
Equipment O&M	54,840	-	54,840	26	-	26	-
Patrol Boat O&M	377,393	-	377,393	176	-	176	-
Motorcycles O&M	32,817	-	32,817	15	-	15	-
Total Recurrent Costs	**1,948,750**	**-**	**1,948,750**	**908**	**-**	**908**	**-**
Total Base Costs	18,338,641	26,913,881	45,252,522	8,540	12,534	21,074	59
Physical Contingencies	1,455,321	1,600,840	3,056,161	678	746	1,423	52
Price Contingencies	3,917,313	2,565,063	6,482,375	1,824	1,195	3,019	40
Total Costs	**23,711,275**	**31,079,784**	**54,791,058**	**11,042**	**14,474**	**25,516**	**57**

4.10 Sources of Financing and Expenditure Schedule

4.10.1 The project will be co-financed by the ADF, the Government of Uganda and by the beneficiaries under the Fisheries Credit Fund. The ADF loan of UA22.00 million will be

utilized to finance 100 percent of the foreign cost of the project amounting to UA14.474 million and 67.9 percent of the local costs amounting to UA7.500 million. The GOU will finance 30.5 percent of the local costs amounting to UA3.365 million, while the beneficiaries will fund 1.6 percent of the local costs amounting to UA178, 000 to meet their contribution to acquisition of inputs from the credit funds.

4.10.2 As Uganda's country allocation has been fully committed, financing of this project will require additional resource. The present loan proposal of UA22.00 million, in addition to the past overrun of UA13.47 million amounts to a 42 percent increase over the initial country allocation of UA80.93 million. However, the country deserves additional resources, as its track record has been commendable as evidenced by the recently concluded Country and Performance Assessment (CPA) that rated the country's performance as satisfactory. The fisheries sub-sector is now the most important after coffee and tourism and the present project will lead to export earning in excess of US$66 million thereby increasing the incomes of fish farmers, traders and processors.

4.10.3 The ADF loan will be utilized to cover the civil works for the landing sites, ice plants, the purchase of the patrol boats, the construction and equipping of the laboratories for quality control, training and technical assistance programs, and the fisheries credit fund. The beneficiaries for the fisheries fund especially the emergent fish farmers under aquaculture component would contribute about 25 per cent of pond construction, input costs and the cost of processing and marketing of fish. The GOU contribution will be approximately 13.2 per cent of the project costs, excluding duties and taxes and will cover the costs of staff salaries and operation and maintenance costs of the project. The costs of the project environmental activities amounts to UA127,750 and will include environmental monitoring; solid waste composting and woodlot establishment. The summary of the projects financing plan by source of funds is provided in Table 4.3 below:

4.10.4 Tables 4.4 and 4.5 below present the expenditure schedule by component and by financier respectively.

Table 4.3
Sources of Finance
(in UA'000)

Source	Foreign Exchange	Local Cost	Total Cost	% of Total
ADF	14,474	7,500	21,974	86.11
Government	0	3,365	3,365	13.19
Beneficiaries	0	178	178	0.70
Total	**14,474**	**11,042**	**25,516**	**100**

4.11 Justification for Local Cost Financing

4.10.4 Except for laboratory equipment, vehicles and technical assistance programs, by its nature, the project focuses on activities that are largely local. For example, the infrastructure development and quality assurance component of the project will take up 76 percent of total cost of the project. Civil works are the more than half (52 percent) of the total project costs. Further, the project funds would be mainly utilised towards the investment costs. The GOU does not have the capacity to finance the entire local cost of the project. Much of the external

assistance received by Uganda is used predominantly to meet the foreign exchange costs of its projects and programs. Besides, the prevailing high interest rate on resources mobilised from the domestic banking system cannot support a project of this nature, which are oriented primarily towards poverty reduction. The financing of local costs by the fund is justified.

Table 4.4
Expenditure Schedule by Component
(in UA '000)

Component / Year	**01/02**	**02/03**	**03/04**	**04/05**	**05/06**	**Total**
Infrastructure Dev. & Quality Assurance	1,800	3,661	4,390	5,782	3,775	19,407
Aquaculture Res. & Dev.	398	708	313	222	233	1,874
Fisheries Credit Fund	261	357	366	375	-	1,358
Capacity Building	1,012	729	185	162	169	2,257
Project Coordination	69	106	151	143	150	620
Total Costs	**3,540**	**5,561**	**5,405**	**6,684**	**4,327**	**25,516**

Table 4.5
Expenditure Schedule by Source of Finance
(in UA '000)

Source of Finance	**01/02**	**02/03**	**¾**	**04/05**	**05/06**	**Total**
ADF	3,227	4,996	4,584	5,639	3,528	**21,973**
GOU	280	531	786	1,007	760	**3,365**
Beneficiaries	32	34	35	37	39	**178**
TOTAL	**3,540**	**5,561**	**5,405**	**6,684**	**4,327**	**25,516**

5. **PROJECT IMPLEMENTATION**

5.1 Executing Agency

5.1.1 The MAAIF will be the Executing Agency of the Project. Implementation of the aquaculture research sub-component will be the responsibility of the Kajjansi Aquaculture Research Institute while the aquaculture division of the DFR will implement the aquaculture development activities. In order to effectively monitor and provide guidance to various participating agencies (including overall planning and budgeting, central procurement and financial reporting), the project will support a small central Project Coordination Unit (PCU) within DFR.

5.1.2 The PCU will comprise of a National Project Coordinator supported by 2 (two) Program Officers (Engineering and Aquaculture), a Procurement Officer, Financial Controller and a Monitoring & Evaluation Officer together with requisite support staff. The PCU will implement the capacity building activities of the project (technical assistance, overseas training, studies and the fisheries information center). It will arrange for annual audits of the project accounts as well as the mid term review of project implementation. Establishment of the PCU will be a condition of the project loan. The GOU will appoint the

PCU staff with No Objection of the Fund. The GOU will pay the salaries of the PCU while the ADF will fund the allowances of the PCU.

5.2 Institutional Arrangements

5.2.1 A Project Steering Committee (PSC) will be constituted, chaired by Permanent Secretary, MAAIF, to provide policy guidance to the project, approve annual workplan and budget and be responsible for resolving inter-agency issues. Other members of the PSC will include Commissioner for Aid Liaison, MFPED; Commissioner for Fisheries, MAAIF; Commissioner for Planning, MAAIF; Commissioner for Gender, MGLSD; National Environment Management Authority (NEMA); Uganda Fish Processors and Exporters Association (UFPEA); Uganda Fisheries and Fish Conservation Association (UFFCA); Fisheries Resources Research Institute (FIRRI); and, the Project Coordinator as Secretary. The PSC will meet at least quarterly and will co-opt other agencies as and when required. The establishment of the PSC will be a condition of the ADF loan.

5.2.2 At the district level, the District Fisheries Officer (DFO) will be responsible for day to day coordination of the project. The DFO will, in addition to reporting to the PCU, also make regular reports on progress in the implementation of the project to the District Chief Administrative Officer (CAO). The DFO will also coordinate the work of the sub-county fisheries officers in the district. Aquaculture research activities will be implemented by the FIRRI research station at Kajjansi under the day-to-day coordination of the Program Officer (Aquaculture) in the PCU.

5.2.3 The management of the FLC will be tendered out to private sector service providers. The contracted entity will be responsible for the management of the facility as well as maintenance of the infrastructure. For the management services rendered, the contractor will charge users of the facility fees to be agreed to with the district authorities. These fees will cover landing fees, fish inspection charges, rental of ice plants, fuel stations, vehicle park, storage, boatyard use fee among others. The existing Beach Management Committees (BMC) are chaired by the Local Councilor and include the DFO, a representative of UFPEA and a representative of the local Fishermen Association. The sub-county Fisheries Officer will be the secretary of the Management Committee. The BMCs will be responsible for supervision of management contracts with private service providers. The MOUs to be signed with the private sector entities will not exclude the possibility of outright purchase of assets such as fuel station, boat building yard, engine repair shops and ice plants on unsubsidized basis.

5.2.4 The credit funds destined for fish farmers, fish processors and women's groups engaged in fishing will be administered by the Bank funded Rural Microfinance Support Project (RMSP). The RMSP will wholesale the credit funds to qualifying micro-finance institutions. The operational procedures laid down in the Operations Manual of the RMSP and the Standard Lending Agreement will govern the delivery of credit.

5.2.5 The RMSP will wholesale credit through the MFI's at an average of the Prime Rate plus inter bank rate plus a margin of 3 percent. The specific terms and conditions for administering the Fisheries Fund will be laid down in Memorandum of Understanding (MOU) that will be signed between the GOU and the Management of the RMSP. To administer the credit, RMSP will be paid a management fee equivalent to 5 percent of all disbursed loan amounts. The fee will be used to cover their expenses related to the supervision, coordination, monitoring and reporting on the credit activities. The contracted

MFI's will in turn on-lend the credit to the target clients in the fisheries sub-sector based on a criteria to be stipulated in the MOU to be signed with the RMSP include the requirement that the beneficiary clients must be engaged in either aquaculture and require loans for pond improvement and inputs such as seed, feed and fertilisers; and/or engaged in the processing and marketing of fish products and require additional working capital and equipment such as ice boxes and smoking kilns.

5.2.6 The Fisheries Training Institute (FTI) in Entebbe will be responsible for training. The project will coordinate with the Makerere University in exchanging information on fisheries management and fishery science for mutual benefit. Cooperation for training will be sought from the university teaching staff for up-grading the skills of fisherman.

5.2.7 The Quality Control laboratory to be established at Entebbe will be managed as an autonomous unit within the MAAIF. The granting of autonomy in the management of the laboratory management will be a condition of the loan. In the light of NAADS policy to privatize rural advisory services, the role of NGO's and CBOs will attain special significance. They may secure contracts for such services from the government. The project will provide technical support to such private venture with the objective to upgrade skills and capacity of the workers towards serving the farmer in a better way.

5.2.8 The MCS unit of the DFR will manage the patrol boats. However, the DRR will continue its existing collaboration with the national police force for enforcement of existing regulations and to effect arrests of errant and illegal poachers on the Lake Victoria. The district authorities assisted by NEMA and the Forestry Department will be responsible for woodlot establishment.

5.3 Supervision and Implementation Schedule

The project will be implemented over a period of five years. During the project period, the Bank will undertake two supervisions annually. A mid term review will be undertaken in the third year and a project completion report will be prepared by both the GOU and the Bank in the final year of the project. The detailed project implementation schedule is given in Annex III. Table 5.1 below describes the project implementation schedule.

Table 5.1
Tentative Implementation Schedule

ACTIVITY	Beginning	Ending	Responsible Agency
1. **Board Approval**		Nov/01	ADF
2. **Effectiveness of Loan Agreement**	Nov/01	Jan/02	ADF
3. **Launching Mission**	Feb/02	Feb/02	ADB
4. **Loan Implementation**	Feb/02	Jan/07	ADF/GOU
5. **Designing**: Procurement for consultants and surveys/planning and designing for 30 FLCs and 4 Regional Fry Centers	Apr/02	Aug/02	GOU
6. **Fish Landing Centres**: Tendering and award of contract and construction in stages for 5 yrs	Sep/02	Jan/07	GOU/LG
7. **Ice-plants and Chill storage**: Tendering and procurement in stages for 4yrs	Sep/03	Jan/07	GOU/LG
8. **Fish Markets**: Tendering, award of contracts and completion of construction works	Feb/02	Feb/03	GOU/LG
9. **Patrol Boats**: Tendering - award of works and procurement.	Feb/03	Jan/06	GOU/DFR
10. **Quality Control Laboratory**: Tendering, award of work and completion of construction	Feb/03	Jan/04	GOU/DFR
11. **Aquaculture Res. & Development**			
- Tendering, award of contracts and completion of pond/hatcheries at 4 Fry Centres	Feb/02	Jan/05	GOU/FIRRI
- Improved subsistence fish farming and semi-intensive fish farming	Feb/03	Jan/07	GOU/FTI
- Regional fry production and demonstration	Feb/03	Jan/07	GOU/FIRRI
12. **Capacity Building**: Training and overseas study tours	Feb/02	Jan/07	GOU/FTI
13. **International Consultancy:**			
- Fish Nutrition Expert	Feb/03	Jan/04	GOU/FIRRI
- Fisheries Regulation Expert	Feb/02	Jan/03	GOU/DFR
- Supervision of construction	Feb/03	Feb/04	ADF/GOU
14. **National Consultancy Studies**	Feb/02	Jan/03	GOU/DFR
15. **Project Coordination**	Feb/02	Jan/07	GOU/LG
16. **Mid-Term Review**	Feb/04	Jan/05	GOU/LG
17. **External Audit**	Feb/03	Jan/07	GOU/LG
18. **Completion Report**	Nov/06	Jan/07	GOU/ADF

5.4 Procurement Arrangements

5.4.1 All procurement of works, goods and services financed by the Bank will be in accordance with the Fund's Rules of Procedure for Procurement of Goods and Works and, in the case of consulting services, in accordance with the Rules of Procedure for the Use of Consultants. Procurement through IAPSO will be allowed. To the extent possible, the goods, civil works and services shall be bulked into sizeable bid packages in such a manner as to permit the optimal use of competitive bidding. The procurement arrangements are described in Table 5.3.

Table 5.2
Procurement Arrangements
(in million UA)

Category	Project				Non-Bank Funded	Total
	ICB	NCB	Others	Shortlist		
Civil Works	15,571 [13,886]	822 [706]	494			**16,887 [14,592]**
Equipment			1,583 [1,583]			**1,583 [1,583]**
Motorcycles	128 [128]					**128 [128]**
Patrol Boats	1,662 [1,662]					**1,662 [1,662]**
Aquac. Inputs			364 [364]		93	**457 [364]**
Credit Fund			1,358 [1,358]			**1,358 [1,358]**
Tech. Asst.*				1,340 [1,340]		**1,340 [1,340]**
Training			821 [821]		53	**874 [821]**
Salary					837	**837**
Allowances			126[126]			**126 [126]**
Equipment O&M					31	**31**
Patrol Boats O&M					214	**214**
Motorcycles O&M					19	**19**
Total	**17,361 [15,676]**	**822 [707]**	**4,746 [4,252]**	**1,340 [1,340]**	**1,247 [0.00]**	**25.516 [21,973]**

- *Others will include: LIC, International or National Shopping, Direct Purchase, or Force Account*

*** Technical Assistance will include allowances for staff of the PCU, Technical Assistance and the cost of various studies to be undertaken under the project.*

- *The figures in parenthesis refers to the respective amounts financed by ADF*

5.4.2 Civil Works: Procurement of civil works valued at more than UA15.571 million will be carried out under International Competitive Bidding (ICB) procedures. The construction of landing centres will be in lots per lake / geographic area. The urban and rural market stall development will be tendered in lots as per geographical area. The quality control laboratory and the Katwe fish market construction will be tendered as a single lot. Procurement of civil works for the rehabilitation of ponds (Kajjansi Research Station) and works in Regional Fish Fry Production Centres, amounting to UA0.822 million, will be carried out under National Competitive Bidding as there exists a large number of qualified local contractors to undertake this activity. Civil works for fishpond construction will be by direct purchase as the amounts are small and mostly using local labour.

5.4.3 Goods. Contracts for the 4 patrol boats (UA1.662 million) and 31 motorcycles worth UA0.128 million will be awarded under ICB procedures in two lots (boats and motorcycles). Equipment (laboratory, hatcheries, ice plants, flake ice makers) is valued at about UA1.583 million will be procured in 4 lots (Quality Control Lab, FTI and Kajjansi Aquaculture research station and Fish Fry Centres) under international shopping procedures as the suppliers are limited. Computers and other office equipment will be procured under national shopping procedures as the local market is amply supplied with these products.

5.4.4 Training and Technical Assistance Services. Training component under capacity building of the project valued at about UA0.874 million will be procured through direct purchase with the Fisheries Training Institute. Procurement of technical assistance and studies valued at UA1.340 million will be undertaken in accordance with the Bank's Rules of Procedure for the Use of Consultants, on the basis of shortlist with price as a factor.

Allowances for PCU staff amounting to UA0.126 million have been provided for under the project and will be financed by the Bank for the PCU staff.

5.4.5 Credit: Credit funds amounting to UA1.358 have been provided for in the project. The procurement of items under the credit funds will be by direct purchase in line with the MOU signed by the PCU and the RMSP and cleared by the Fund.

5.4.6 Review Procedures: The text of a General procurement Notice will be agreed with the Department of fisheries resources and it will be issued for publication in Development Business News upon approval by the Board of Directors of the loan proposal. Then following documents are subject to review by the Fund before promulgation: Specific Procurement notice; Tender Documents or requests for proposals for consultants; tender evaluation reports or reports of evaluation of consultants, including recommendations for the award of contracts; draft contracts if these have been amended from the drafts included in the tender documents.

5.5 Disbursement Arrangements

The project funds will be disbursed in accordance with the expenditure schedule by component and by source of finance shown in Tables 4.4 and 4.5. All disbursements from the loan proceeds will follow the Bank Group disbursement rules and procedures. The GOU will open a Special Account (SA) and a Local Currency Account (LCA) in the name of the project at banks acceptable to the Bank. The ADF funds will be disbursed according to an annual work programme, which will be agreed upon beforehand between the Bank and the government. The PCU will maintain records at all times of all disbursements made by the Fund. The PCU will operate a separate credit account into which the proceeds of the Fisheries Credit Fund will be deposited. To avoid delays in the administration of the credit, the Bank will disburse the credit funds directly into such account. The tentative list of goods and services (categories of expenditure) is given in Annex IV.

5.6 Monitoring and Evaluation

5.6.1 Monitoring of project performance is critical for project success and sustainability of project outputs. This is all the more so given the principle of cost recovery (in the management of the fish landing centers and fish markets) and beneficiary participation (in the community-based management of the fisheries resources). An M&E Unit to be established in the PCU will carry out the monitoring of project implementation and performance. An M&E Officer will be recruited directly by the project to assume direct responsibility for the implementation of the M&E activities.

5.6.2 The M&E Unit will undertake a baseline survey upon project inception to monitor the situation of project beneficiaries in order to establish the base line information to measure project impacts at mid term and at the end of the project using pre determined key performance indicators. The baseline survey will pay particular attention to the role and situation of women in the fisheries sector and in fishing communities in Uganda – an area for which little information is available at present. The M&E Unit will also monitor the implementation of annual workplan, levels of beneficiary participation and physical delivery of intended project outputs. In order to arrive at the above, the M&E Unit will arrange to receive regular reports from the fish inspection service, quality laboratory, fish markets, fish landing centers, aquaculture ponds, MFIs and NEMA.

5.6.3 A tentative list of indicators for monitoring project performance include (i) amount of fish catches / site / months (ii) fish prices at different markets (iii) number of fishermen and boats landed /site/months (iv) fish sales / markets (v) No. boats built / site / month (vi) No. and type of people caught in illegal fishing (vii) No. of patrol missions mounted per month (viii) revenue collected at each site/market (ix) aquaculture pond yields (x) fish inspection reports/rejects (xi) monthly sales from fish fry centers (xii) No. of women and men trained (xiii) No of fish farmers, traders and processors receiving credit. Information from the M&E activities will be reported in the quarterly progress reports to be reviewed by the PSC and also sent to the Bank.

5.6.4 An information center to be established at DFR will publish an annual Yearbook of Fisheries in Uganda. The yearbook will be largely based on the information from the M&E Unit but will also carry policy changes and any legislative actions pertaining to the fisheries, wetlands, environmental and water sub-sectors.

5.7 Financial Reporting and Auditing

The DFR will operate and maintain separate accounts for the project in accordance with sound and acceptable accounting principles. The PCU will maintain necessary books of accounts. All expenditures disbursed will be audited annually by independent auditors (external audit) acceptable to the Bank in accordance with provisions of the Financing Agreement. The project will finance the audit costs. The audited accounts together with the auditor's report will be submitted to the Fund not more than six months after the end of the financial year. The DFR will also submit to the Fund regular quarterly progress reports, prepared as per the official Bank Group report guidelines.

5.8 Aid Coordination

5.8.1 The annual consultative group (CG) meeting is the main forum for consultations between the GOU and its development partners. The last meeting was held in May 2001 and it reviewed and endorsed the Government's medium term development priorities that included fisheries development. Donor engagement at the district level however is still weak but collaboration through a host of active NGO is on going.

5.8.2 The project coordination will establish close tiers with the ongoing DFID project on community management as well as the management support to Kajjansi aquaculture research station. The LVFO will also be in close collaboration with the project in the area of monitoring control and surveillance of fishing activities on Lake Victoria.

6. PROJECT SUSTAINABILITY AND RISKS

6.1 Recurrent Costs

The Government of Uganda will finance all recurrent costs under the project. This amounts to 3.85 percent of total costs, estimated at UA 0.908 million or Ushs 1,948 million. These costs include operation and maintenance costs of vehicles, equipment and salaries and allowances for the staff attached to the project. Salaries to be borne by the GOU will form 2.7 percent of total costs amounting to UA 0.691 million. As most of the staff proposed are

already put in place and only reallocation of responsibilities are required, the Government budget would be adequate to sustain this level of recurrent costs. Assurances will be obtained from the GOU that it will provide adequate budget to meet its recurrent costs contribution. Given the commitment and priority attached to the project, the GOU will bear all the recurrent costs. The private sector service provider will be required to meet the cost of the maintenance of the facilities. A recent study to examine the possibility of introducing a fisheries development levy trust fund has estimated that a 1 percent levy on all fish exports will yield about UA251, 944 annually which is more than the average annual recurrent cost of UA181, 600. A similar levy trust on fish exports already exists in neighboring Tanzania.

6.2 Project Sustainability

6.2.1 The project sustainability is assured through reliance on the private sector for operation and maintenance of fish landing centers. These actors are already active in revenue collection among other activities at landing sites. The decentralized administration of the project through the local government authorities and an improved fisheries regulatory framework augurs well for project sustainability. The project will also put in place a revolving fund mechanism that will assure financing for future expansion of fish farming.

6.2.2 The project will mitigate the negative effects that increased fish exports might have on the sustainability of local fish processing by investments in aquaculture and enabling groups of women fish processors to access credit for joint fishing ventures. Furthermore, the capacity building activities, such as training and information provision for women, will enable them to take on new roles in the fishing communities. The project support to increased security and fisheries management will contribute towards a gradual decrease in illegal fishing practices and fishing in illegal sites. The empowerment of communities to manage their own resource might help reduce theft of fishing gear, smuggling and might enforce sustainable fishing practices in more coherent way, thus contributing to sustainability of the fisheries sector.

6.2.3 The fish landing centers developed will be leased out on long-term contract basis to interested private parties for operation and maintenance. Similarly, the ice plants and cold storage units will be sustained by the private sector. The quality control laboratory and patrol boats will be maintained in part by the GOU for public health concerns as well as from fees and fines charged to fish exporters and poachers respectively. As a result of the project, the aquaculture development is likely to gain momentum and result in increased demand for fish seed and feed. The project will have a greater impact in areas where low lying areas adjoining lakes and wetlands are available for converting into fishponds. The management and operation of the regional fish fry production centers will be privatized.

6.3 Critical Risks and Mitigating Measures

6.3.1 The acquisition of land required for landing centers development in some cases may become a protracted lengthy exercise, which would lead to time over-run and consequently cost over-run in addition to loss of benefits for the delayed period. A condition of the Bank loan is that evidence of permits or titles will be required prior to tenders for the civil works at any landing site or fish market.

6.3.2 Imperfect designs, if not carefully investigated and carried out, will lead to low life of structures and eventual failure of the structures. The GOU is using the PPF facility provided

by the Bank for field investigations and preparation of engineering designs. Road maintenance programs envisaged under the recently drafted (1996) Poverty Eradication Action Plan of GOU, if not implemented, would affect the transportation and communication facilities and consequently the quality/standard of fish preservation, and realization of benefits. Assurances have been obtained from the GOU that road construction and maintenance works will be undertaken for connecting the selected landing sites, on priority basis.

6.3.3 Beneficiary participation may not be forthcoming to the desired levels. Adequate training programs for skills upgrading and sensitization and beneficiary mobilization involving local NGOs/CBOs under capacity building component are built into the project.

6.3.4 The GOU will need to implement its rural electrification program in order that electricity provision at the fish landing centers be available on a less expensive basis. The project will commence implementation of the Class I fish landing centers in those areas where electricity is readily available. The implementation plan of the project has been developed taking this factor into account.

6.3.5 Benefits under the project are influenced by demand for fish and prices in international markets, besides being affected by fluctuations in exchange rates. With good governance of quality and adherence of international quality standards, new market destinations for diversified products could be found. The project facilitates conduct of short courses to fishery inspecting staff for updating knowledge and procedures to be adopted for maintaining quality standards.

7. **PROJECT BENEFITS**

7.1 Financial Analysis

7.1.1 The financial analyses have been carried out from the point of view of the beneficiaries, the objective being to assess whether the magnitude of the incremental net benefit would be adequate to encourage them to participate in the project. The financial prices of inputs and outputs of the project are derived from information obtained during field visits and discussions with the fishermen, farmers, officials and others. All prices are assumed to remain constant in real terms throughout the life of the project.

7.1.2 Under the aquaculture research and development component of the project, the subsistence fish farmers will benefit from upgraded technology through the use of quality fish seed and inputs like use of lime, manure and feeds. The analysis shows that fish production will rise from 30kg to 96kg and income levels from the current Ush32,500 levels to Ush109,100 giving a FIRR return of 24 percent. In the case of improved farming in new ponds with bi-culture for the emergent and commercial fish farmers, the financial analyses of these models show good returns to beneficiaries' income of Ush 2,741,000 and an FIRR of 48 percent. The project interventions would therefore attract strong beneficiaries' participation. Indicative financial models for various types of interventions under the Aquaculture Research and Development component are summarized in the attached Annex V.

7.1.3 In case of fish landing site development, it is difficult to quantify benefits to individual beneficiaries. This component will however generate benefits through improvements in quality of fish landed, better hygiene and post handling of fish and thereby

reducing post harvest losses of fish. Through proper monitoring and surveillance measures proposed, the project will reduce over exploitation and conserve lake fisheries resources.

7.2 Economic Analysis

7.2.1 Financial prices have been converted into economic values by excluding taxes and price contingencies on input and investment costs as well as transfers. Local cost components have been shadow priced using a Standard Conversion Factor (SCF) of 0.9.

7.2.2 The major benefit considered for calculation of economic analysis is reduction in post harvest loss of fish by about 70 percent of the current situation. Due to improvement in quality of fish, the export earnings are expected to rise during the project period. The full impact would be felt after completion of the project, particularly after completion of landing centers with provision of adequate post handling facilities. The fish export earnings (fob values) have varied between USD 53.5 million in 1994 to USD 47.5 million in 1999, with a six yearly average value of USD 38.27 million. The project is likely to result in realization of about USD66.97 million due to reduction in post harvest loss. During first 3 years of the project period, no benefits are presumed to accrue as civil works are underway. About 50 percent of the expected benefit will arise during next 6 years, while full impact would be realized thereafter for 6 years.

7.2.3 The fish monitoring and surveillance component of the project would result in stabilization of fish catch from the lakes. Furthermore, the project will lead to a restocking of Lake Kyoga, thereby increasing fish catches over time. The project will bring about new fishery regulations and enforcement practices resulting in the conservation of lake fisheries resources. The economic cash flow of the project evaluated over a 15-year period is shown in Annex V. The economic internal rate of return of the project is 31 percent.

7.3 Social Impact Analysis

7.3.1 The project boasts an integrated, holistic approach towards the management of fish resource development. The project targets the various points of fish handling from catch (use of ice) to the landing-sites (improved inspection services) and ultimately the fish markets (provision of ice and better sanitation). These interventions together with investments in aquaculture research and development will benefit the Ugandan economy through higher export earnings and incomes of fisherfolk. Moreover, the emphasis on monitoring, control and surveillance will assure future generations of fishing communities access to the resource.

7.3.2 In a larger perspective, the improved landing sites and market facilities will have other spin-off effects on the selected fishing communities. Improved landing sites will increase the influx of people into the area, and bring amenities such as better access roads and electricity even in cases where they are not directly included in the design of the project. Popular landing sites bring a number of business opportunities, such as marketing of fishing gear, shops, the preparation of food, small hotel businesses and the like, which are likely to create additional incomes for the resident population. Women, who might be disadvantaged by increased sales to factories, are most likely to turn to such opportunities.

7.3.3 Fish farmers, be they individuals or groups, will benefit from credit facilities and extension, as well as the establishment of fish fry centers for reliable quality supplies. Research into quicker maturing fish species will also enhance business opportunities for the

fish farming business, while consumers will benefit from better and improved fish supplies also from fish farming. The credit and training facility for women's groups involved in both fish farming or capture fisheries will absorb possible redundancies amongst women fish processors due to increased sales directly to the factories and it will, furthermore, enhance their ability to sustain a living. Special consideration given to women also at higher level training will further enhance the role they will play in the management of landing sites.

7.4 Sensitivity Analyses:

The results of sensitivity analysis indicate that a 10 percent increase in costs would reduce the rate of return to 27 percent. A delay in the benefit stream by 1 year would reduce the IRR to 22 percent. With 20 percent increase in costs and a 20 percent decrease in benefits would reduce the EIRR to 24 percent and 22 percent, respectively. A simultaneous increase of cost and reduction in benefit by 20 percent would drive down the rate of return to 15 percent. The project management will therefore, ensure that implementation of the project is undertaken on schedule and cost overrun avoided.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

8.1.1 The GOU has developed a poverty reduction strategy that attaches high priority to development of fisheries as a means of assuring food security. The most pressing problems in the fisheries subsector in Uganda are poor infrastructure for quality assurance and the reversing the decline in aquaculture. The project design addresses these key areas by alleviating the constraints hampering the development of fisheries. The project will directly benefit about 20,000 artisanal fisher folk in capture fisheries and some 2,200 subsistence and emergent fish farmers in aquaculture. The impact of the project will be reflected through reduction in post harvest losses due to improvement in quality of fish landed, increase in export value realisation and through improved fish yields and increased incomes to fish farmers. The social benefits include creation of employment to local people. The women will benefit from retail marketing and traditional processing of fish as also as owners of fishponds benefiting from aquaculture. The project is environmentally friendly with limited and manageable adverse impacts on the environment.

8.1.2 The project lays strong emphasis on stakeholders' consultation and participation. The reliance on the private sector to provide management services of the facilities to be developed is in consistent with the government policies on decentralisation and PMA. The project is technically feasible, economically viable, socially acceptable, environmentally sound and is in line with the Bank Group strategy for poverty alleviation.

8.2 Recommendations

It is recommended that an ADF loan not exceeding UA 22.00 million be made to the Government of Uganda for the purpose of implementing the fisheries development project as described in this report and subject to the following conditions:

(A) **Condition Precedent to Entry into Force**

The entry into force of the Loan Agreement shall be subject to the fulfillment by the Borrower of the provisions of Section 5.01 of the General Conditions of the Fund.

(B) **Conditions Precedent to First Disbursement**

The obligations of the Fund to make the first disbursement shall be conditional upon the entry into force of the Loan Agreement as provided in (A) above and the fulfillment by the Borrower of the following conditions:

The Borrower shall have, to the satisfaction of the Fund:

(i) opened and thereafter undertake to maintain, on terms and conditions acceptable to the Fund, a special Foreign Exchange Account into which the proceeds of the Loan shall be deposited (paragraph 5.5.1);

(ii) opened and thereafter undertake to maintain, on terms and conditions acceptable to the Fund, a special Fisheries Credit Fund Account into which the proceeds of the credit funds shall be deposited (paragraph 5.5.1);

(iii) established a Project Coordinating Unit (PCU) at Entebbe and appointed a National Project Coordinator, Project Finance Controller, Project Officer (Engineering), Project Officer (Aquaculture), Project Procurement Officer, Monitoring & Evaluation Officer whose qualifications and experience are acceptable to the Fund (paragraph 5.1.2);

(iv) established a Project Steering Committee (PSC) comprising:

- Permanent Secretary, MAAIF (Chairman);
- Commissioner for Aid Liaison, MFPED;
- Commissioner for Fisheries, MAAIF;
- Commissioner for Planning, MAAIF;
- Commissioner for Gender, MGCD;
- National Environment Management Authority (NEMA;
- 2 (two) representatives of the Uganda Fish Processors and Exporters Association (UFPEA);
- 2 (two) representatives of the Uganda Fisheries and Fish Conservation Association (UFFCA);
- Fisheries Resources Research Institute (FIRRI); and,
- Project Coordinator as Secretary. (paragraph 5.2.1);

(C) **Other Conditions**

The Borrower shall:

(i) within 6 (six) months of loan effectiveness, provide evidence that land required for the construction of fish landing centers and fish markets has been officially allocated and NEMA clearance obtained (paragraph 4.5.3);

(ii) submit by 30 July of each year, its annual work program, including training plan, and relevant budget for the approval of the Fund (paragraph 5.5.1);

(iii) within 6 (six) months of loan effectiveness, appoint 2 (two) Fisheries Research Officers to the Kajjansi Aquaculture Research Institute, whose qualifications and experience are satisfactory to the Fund (paragraph 4.5.9);

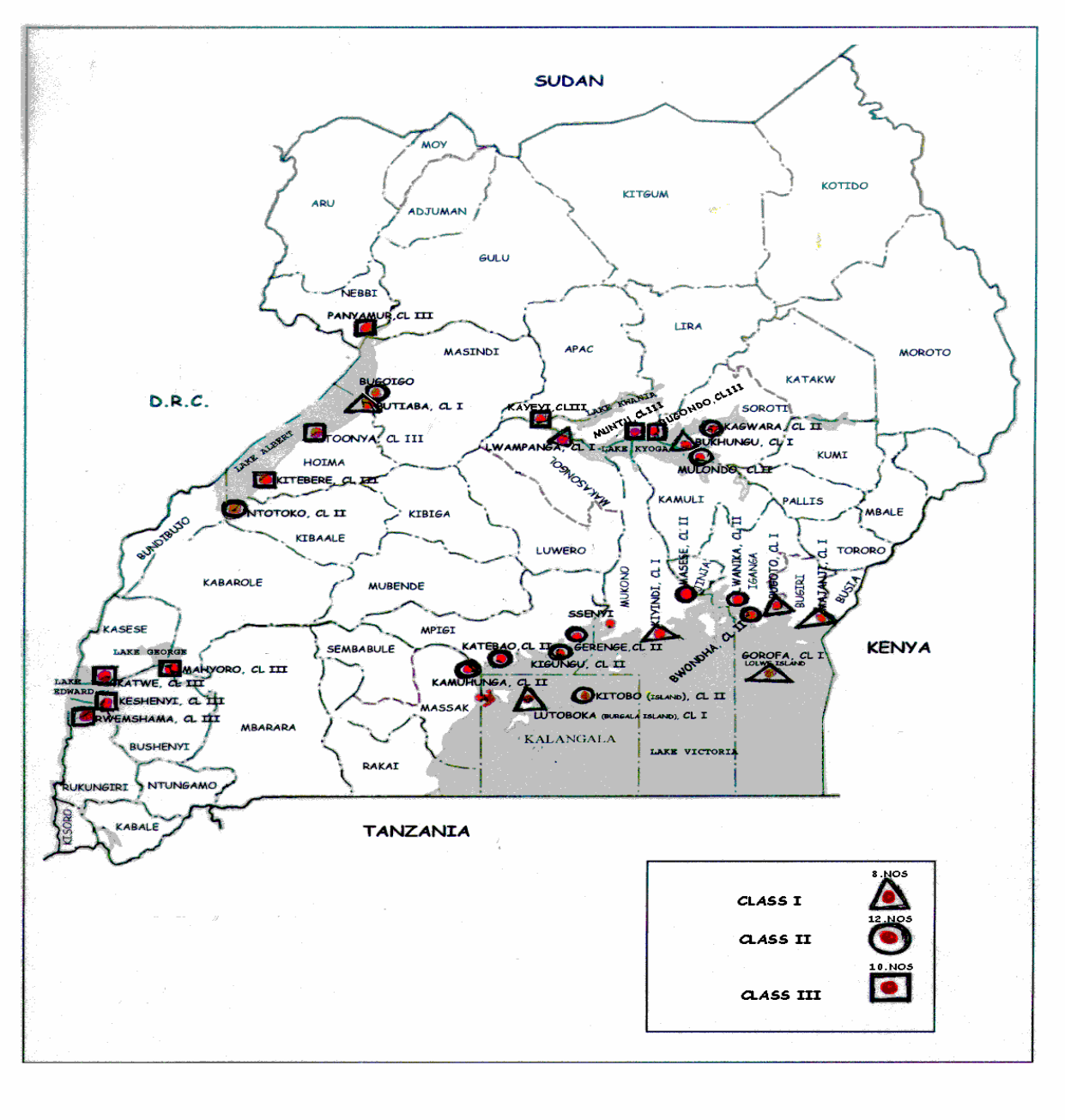
(iv) within 6 (six) months of loan effectiveness, sign a Memorandum of Understanding (MOU) with the RMSP regarding the administration of the credit revolving fund, and open a separate special account into which the proceeds of the credit funds will be deposited; (paragraph 4.5.11)

The Borrower shall undertake to:

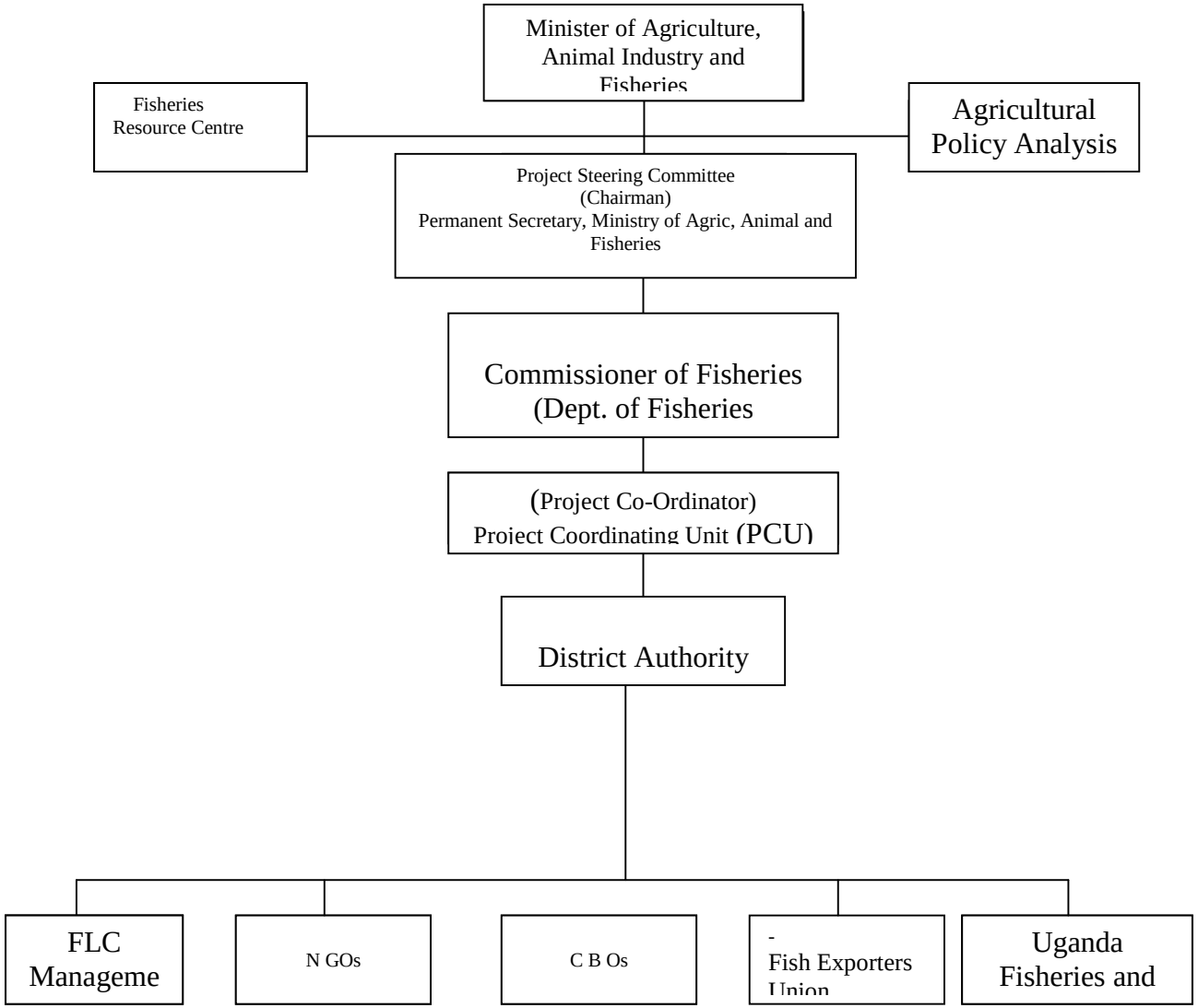
(v) enact the revised Fisheries Bill at most two years after project effectiveness (paragraph 4.5.8);

(vi) implement the recommendations of the study on alternative income generation activities as well as the findings of the fish catch assessment survey on Lake Kyoga (paragraph 4.5.13).

MAP OF UGANDA
SHOWING VARIOUS WATER BODIES, DISTRICTS AND PROJECT SITES



PROJECT ORGANISATIONAL STRUCTURE
UGANDA FISHIERIES DEVELOPMENT PROJECT



Uganda
Fisheries Development Project
Project Implementation Schedule

Components	PY1	PY2	PY3	PY4	PY5
Fish landing centers development					
Fish landing centers (30)					
Ice Plant and Chill Storage					
Fish Market yard improvement					
Urban and rural fish stalls					
Patrol boats					
Quality control Laboratory					
EIA Studies					
Aquaculture research					
New pond construction					
Hatchery and tilapia seed production					
Fish nutrition/pathology lab					
Biculture demonstrattion					
Poultry cum fish farming, pig cum fish					
& Hybridization experiments					
Aquaculture development					
Improved subsistence fish farming					
Semi intensive commercial fish farming					
Regional fry production & demonstration center					
Fisheries Credit Fund					
Capacity Building					
Training					
In service personnel					
Subsistence farmers					
Commercial/emergent farmers					
Artisan fisherfolk					
Artisan boat builders					
Support to FTI					
Sensitization Beneficiaries					
Technical Assistance					
International Training					
International Course works					
International Consultancy					
Fish Nutrition Expert					
Fisheries Regulation Expert					
Training in quality Control					
Overseas study tours					
National Consultancy: Studies					
Project Coordination					
Project Coordinator / Finance controller - Procurement Expert / Program Officers					
Monitoring and Evaluation Expert					
M&E Cell					
Mid term review					
Quarterly Reports					
Audit					
Project Completion Report					

Uganda
Fisheries Development Project
Categories of Expenditure by Source of Finance
(UA '000)

Category of Expenditure	GOU		ADF		Beneficiary		Total	
	Amount	%	Amount	%	Amount	%	Amount	%
1. Civil Works	2,211	13.1	14,592	86.4	84	0.5	16,887	66.2
2. Equipment	0	-	1,583	100.0	-	-	1,583	6.2
3. Motorcycles	-	-	128	100.0	-	-	128	0.5
4. Patrol Boats	-	-	1,662	100.0	-	-	1,662	6.5
5. Aquaculture Inputs	-	-	364	79.5	94	20.5	457	1.8
6. Fisheries Credit Fund	-	-	1,358	100.0	-	-	1,358	5.3
7. Technical Assistance	-	-	1,340	100.0	-	-	1,340	5.2
8. Training	52	6.0	821	94.0	-	-	874	3.4
9. Salaries	837	100.0	-	-	-	-	837	3.3
10. Allowances	-	-	126	100.0	-	-	126	0.5
11. Equipment Maintenance	31	100.0	-	-	-	-	31	0.1
12. Patrol Boat O&M	0.214	100.0	-	-	-	-	0.214	-
12. Motorcycles O&M	0.019	100.0	-	-	-	-	0.019	-
TOTAL	**3,365**	**13.2**	**21,973**	**86.1**	**178**	**0.7**	**25,516**	**100.0**

Uganda: Fisheries Development Project
Economic Analysis

	Yr 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Incremental Benefits															
Aquaculture															
Aquaculture: Farmers Ponds	32264	64528	96792	129056	161320	161320	161320	161320	161320	161320	161320	161320	161320	161320	161320
Commercial Fish Farming	204000	408000	612000	816000	1020000	1020000	1020000	1020000	1020000	1020000	1020000	1020000	1020000	1020000	1020000
Regional Catfish Hatchery	16667	50001	66668	66668	66668	66668	66668	66668	66668	66668	66668	66668	66668	66668	66668
Regional Fry Production	166670	500010	666680	666680	666680	666680	666680	666680	666680	666680	666680	666680	666680	666680	666680
Regional Integrated Farming	4700	14100	18800	18800	18800	18800	18800	18800	18800	18800	18800	18800	18800	18800	18800
Kajjansi Research Center															
Bi-culture	19178	19178	19178	19178	19178	19178	19178	19178	19178	19178	19178	19178	19178	19178	19178
Catfish Hatchery	11110	11110	11110	11110	11110	11110	11110	11110	11110	11110	11110	11110	11110	11110	11110
Tilapia Seed production	153000	153000	153000	153000	153000	153000	153000	153000	153000	153000	153000	153000	153000	153000	153000
Pig cum Fish farming	0	0	14000	14000	14000	14000	14000	14000	14000	14000	14000	14000	14000	14000	14000
Poultry cum Fish Farming	0	0	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
Hybridization	0	0	6010	6010	6010	6010	6010	6010	6010	6010	6010	6010	6010	6010	6010
Incremental Export Value	0	0	0	3348625	5022940	6697250	6697250	6697250	6697250	6697250	6697250	6697250	6697250	6697250	6697250
Total Incremental Benefits	640922	1286593	1766877	5351766	7262345	8936655	8936655	8936655	8936655	8936655	8936655	8936655	8936655	8936655	8,936,655
Incremental Costs															
Aquaculture															
Aquaculture: Farmers Ponds	8700	17400	26100	34800	43500	43500	43500	43500	43500	43500	43500	43500	43500	43500	43500
Commercial Fish Farming	143080	286160	429240	572320	715400	715400	715400	715400	715400	715400	715400	715400	715400	715400	715400
Regional Catfish Hatchery	2735	8205	10940	10940	10940	10940	10940	10940	10940	10940	10940	10940	10940	10940	10940
Regional Fry Production	8213	24639	32852	32852	32852	32852	32852	32852	32852	32852	32852	32852	32852	32852	32852
Regional Int. Farming	1645	4935	6580	6580	6580	6580	6580	6580	6580	6580	6580	6580	6580	6580	6580
Kajjansi Research Center															
Bi-culture	5516	5516	5516	5516	5516	5516	5516	5516	5516	5516	5516	5516	5516	5516	5516
Catfish Hatchery	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672	2672
Tilapia Seed production	3115	3115	3115	3115	3115	3115	3115	3115	3115	3115	3115	3115	3115	3115	3115
Pig cum Fish farming	0	0	6219	6219	6219	6219	6219	6219	6219	6219	6219	6219	6219	6219	6219
Poultry cum Fish Farming	0	0	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Hybridisation	0	0	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342	1342
Project Support Costs	2,843,100	5,599,800	5,455,800	4,495,500	2,426,400	1,238,400	1,238,400	1,238,400	1,238,400	1,238,400	1,238,400	1,238,400	1,238,400	1,238,400	1,238,400
Total Incremental Costs	3020716	5956322	5987996	5179476	3262156	2074156	2074156	2074156	2074156	2074156	2074156	2074156	2074156	2074156	2,074,156
Net cash flow	-2379794	-4669729	-4221119	172290	4000189	6862499	6862499	6862499	6862499	6862499	6862499	6862499	6862499	6862499	6862499
EIRR	31%														
Sensitivity analysis															
Benefits - 10%	27%														
Costs + 10%	24%														
Benefits lagged one year	22%														

UGANDA

FISHERIES DEVELOPMENT PROJECT

RESEARCH / DEMONSTRATION MODELS

In order to determine the impact of the interventions proposed under aquaculture research, detailed financial analysis of various demonstration models are attempted. The results of the models are summarised below:

Per ha yields and rates of return:

Research Activity /Demonstration Model	**Per ha Yields (kg)**	**FIRR %**
1. Kajjansi Research Center(rehabilitation)		
2. Integrated Poultry and Fish Farming	6000	52
3. Integrated Pig and Fish Farming	6000	51
4. Bi-culture(tilapia and catfish)	6000	38
5. Tilapia Seed Production	10,000,000 fry	Over100
6. Catfish Hatchery	100,000 fry	55
7. Regional Fry Production and Demo. Center (new establishment)		
8. Catfish Hatchery Unit	100,000 fry	29
9. Tilapia Seed Production	10,000,000 fry	0ver100
10. Poultry cum Fish Farming	6000	96

With good management practices, it is possible to obtain yield levels as anticipated in the above models. The rates of returns are high, as is the case with many aquacultural activities. The activities proposed are likely to demonstrate aquaculture as technically feasible and financially viable ventures.

ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN SUMMARY

PROJECT TITLE : FISHERIES DEVELOPMENT PROJECT
PROJECT NUMBER : P-UG-AAF-004
COUNTRY : UGANDA
DEPARTMENT : OCDE
DIVISION : OCDE.2

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

The project comprises five components as follows: The Fish Quality Assurance component involves the development of 30 fish landing centres, upgrading of 21 fish markets, improved monitoring, control and surveillance and establishment of a fish quality laboratory. The Aquaculture Research and Development component deals with research into fish feeds, breeding, production systems and hybridisation. Aquaculture development provides for the establishment of regional fish fry production and demonstration Centres as well as transfer of improved technology. The fisheries credit fund component is geared towards providing credit for fisheries production, trade and processing. The Capacity Building component includes technical assistance, train staff and beneficiaries. The Project Coordination component covers overall project coordination.

b) Major environmental and social impacts

Environmental Impacts

Positive Impact: These include increasing fish stocks in Lake Kyoga, reduction of illegal fishing methods (poisoning, dynamiting and harpooning) and fishing gears, increased community management of the fisheries resources, better public hygiene at fish landing sites and overall reduction in piracy

Negative Impact: Potential negative impacts from aquaculture development include the increased risk of malaria from poorly aerated fishponds. Development of landing sites problems of waste disposal and if poorly designed may damage the fragile habitat. If the current fish smoking methods persist, it will lead to increased use of fuelwood. Most of the existing fish markets pose potential health hazards through improper waste disposal.

Social impacts: Misplaced emphasis on fish exports may displace women currently involved in local fish smoking and fish prices may no longer be affordable in local communities leading to possible malnutrition. The development of fish landing sites increases commercial activity. The involvement of the communities in the management of the fish resources at the local level will positively impact sustainability of the project investments. The fisheries credit fund will avail small-scale fish traders, processors and farmers the opportunity to expand their businesses. Overall the project will increase incomes and welfare in the project area.

c) Enhancement and mitigation program

The following enhancement and mitigation measures will be taken:

Mitigation of Negative Environmental Impacts of the Project:

- A waste disposal facility will be included in the design of each fish landing centre, fish market and the quality control laboratory art Entebbe;
- Improved fish smoking methods will be introduced in the project area and a woodlot established at each landing site;
- Increased monitoring, control and surveillance on the lakes (patrol boats) as well as increased community participation in fish resource management will lead to reduced illegal fishing methods and decline in the use of illegal fishing gears;
- Improved aquaculture technology transfer in general and pond siting and design in particular will mitigate the risk of disease vectors in the fish ponds;
- The fish quality control lab will assure public food quality assurance.

d) Monitoring program and complementary initiatives

The project M&E section will arrange to receive regular reports from the fish inspection service, fish markets, quality control laboratory and fish fry centres. Environmental indictors include water quality at fishponds as well as at the fish landing sites. The quality control laboratory will monitor presence of heavy metals. As part of its mandate NEMA will monitor compliance with existing legislation on the environment. The Bank supervision missions will follow-up on the implementation of the project environmental management plan.

e) Institutional arrangements and capacity building requirements

The overall responsibility for implementation of the project environmental management plan rests with the Department for Fisheries Resources. The NEMA will be represented in the Project Steering Committee to ensure compliance with prevailing regulations. Furthermore it will clear all the EIA studied so be carried out at each fish landing site. The capacity building component of the project provides for training of district fisheries Officers as well as project beneficiaries in sustainable management of the fisheries resources.

f) Public consultations and disclosure requirements

Public consultations were carried out at each stage of project development. The project was identified out of the masterplan study that was carried out with community participation. At preparation, extensive field visits to actual project sites were undertaken and a stakeholder workshop validated the project formulation. At appraisal, the project benefited from a consultative workshop in Mukono district. During implementation, funds have been set aside for extensive beneficiary sensitisation.

g) Estimated costs: Project environmental components

The total costs of the environmental mitigation measures are estimated at UA 127,300 and have been fully incorporated in the project costs as described in the Project Implementation Document.

h) Implementation schedule and reporting

Implementation schedule and reporting are integrated with that of the project implementation and performed by Fisheries Department. The project quarterly progress reports will inform both the Bank and GOU of problems and achievements in the implementation of the project environment management plan.

Uganda
Fisheries Development Project
List of Annexes in the Project Implementation Document

I. Project Detailed Cost Tables

II. Financial and Economic Analysis

III. Terms of Reference for Project Coordination Staff and Technical Assistance

IV. Aquaculture Research and Development in Uganda

V. The Fisheries Sector in Uganda

VI. Bank Group Operations in Uganda

VII. Important Considerations in the Design and Supervision of Fisheries Infrastructure and Equipment

- 7.1 Fish Landing Centres
- 7.2 Fish Markets
- 7.3 Patrol Boats
- 7.4 Ice Plant and Cold Stores
- 7.5 Quality Control Laboratory
- 7.6 Kajjansi Aquaculture Research Complex
- 7.7 Regional Fish Fry Production Centre
- 7.8 Eco fish Hatcheries

Annexe

CONFIDENTIAL

AFRICAN DEVELOPMENT FUND

ADF/BD/WP/2001/131/Add.1
29 May 2002
Prepared by: ONAR
Original: English

Probable Date of Board Presentation:
TO BE DETERMINED

FOR CONSIDERATION

M E M O R A N D U M

TO : THE BOARD OF DIRECTORS

FROM : Philibert AFRIKA
Secretary General

SUBJECT : UGANDA : PROPOSAL FOR AN ADF LOAN OF UA 22.00 MILLION TO FINANCE THE FISHERIES DEVELOPMENT PROJECT

INFORMATION UPDATE - ADDENDUM*

Please find attached hereto for consideration, **as addendum**, an information update relating to the above-mentioned appraisal report.

Attch.

c.c.: The President

*** Questions on this document should be referred to:**

Mr. E.G. TAYLOR-LEWIS	**Director**	**ONAR**	**Ext. 4041**
Mr. L.I. UMEH	**Division Chief**	**ONAR.1**	**Ext. 4133**
Mr. K B. JOHM	**Agricultural Economist**	**ONAR.1**	**Ext. 4592**

SCCD:C.H.

REPUBLIC OF UGANDA

FISHERIES DEVELOPMENT PROJECT (UFDP)
UPDATING OF THE APPRAISAL REPORT
ADF/BD/WP/2001/131 dated 27 September 2001

1. INTRODUCTION

1.1 The Appraisal Report for the above-cited project was initially prepared in August 2001, translated and distributed to the Board on 27 September 2001. However due to the fact that the country allocation of African Development Fund (ADF) resources for Uganda had been exceeded by over 50 % and in line with prevailing ADF polices, the project could not be tabled for Board discussion and approval in 2001.

1.2 The updating of the project appraisal report has been undertaken based on a desk review of reports and recent field missions to Uganda (CSP, supervision). The update also takes into account recent Bank Management directives regarding allowances to project staff as well as arrangements for micro finance.

1.3 This update also takes into account the recent questions received from Directors (Messrs. Perrault and Zirimwabagabo) relating to the Project Objective, Aid Coordination and Illegal fishing in Lake Victoria, among other things. These questions were answered in a Bank IOM dated 16 November 2001.

1.4 The Update has been prepared following clarification received from the GOU regarding the compliance of the project to the Governments Plan for the Modernization of Agriculture (PMA). The GOU has since clarified that indeed the project is both PMA complaint and in line with the overall objectives of the PRSP. The project is also in line with the recently prepared CSP for Uganda for the period 2002-2005.

2. RECENT DEVELOPMENTS AFFECTING THE PROJECT

2.1 Government Commitment: In March 2002 the Bank undertook a review follow-up of all agricultural sector investments in Uganda. This exercise was carried out in conjunction with the Bank mission for preparation of the country strategy paper (CSP). At the said meeting The Government of Uganda (GOU) reiterated that the proposed project fits well with the Plan for Modernization of Agriculture (PMA). The project places priority of construction of improved fish landing sites to be managed by the private sector. Improvements in fish handling and overall hygiene and the operation of the quality control laboratory will result in higher fish exports and incomes for fisherfolk.

2.2 The GOU is concerned that this project, which was negotiated since November 2001, is yet to be approved by the Bank. The said CSP mission informed the GOU that the project would be presented to the Board for approval in due course. The Bank has meanwhile noted the erstwhile efforts being made by the GOU to accelerate the project approval. Already, the Ugandan Cabinet has reviewed and subsequently approved the project. On the 15 May 2002, the Ugandan Parliament passed a motion authorizing the Government of Uganda to borrow

US$25m from the African Development Bank for financing the fisheries Development Project pending ADF Board approval.

2.3 Microfinance: This update acknowledges the recent Management directives on the need for additional justifications for selection of microfinance institutes (MFIs). In November 1999, the ADF Board approved a UA 13.10 million loan and TAF grant of UA1.84 million to finance the Uganda Rural Micro finance Support Project (RMSP). This project was a follow-up to the Poverty Alleviation Project (PAP). The project has by December 2001, provided financing to a total of 54 partner organizations with loans worth USD1, 033,353. These MFIs on-lend project resources to micro-entrepreneurs to finance productive and income-generating activities in 9 Districts. A total of 7,375 borrowers have benefited from the project, of which 50% are women clients. Average loan size of partner organizations is approximately UShs200, 000 and RMSP's repayment rate stands at 100%. . At its early stage of implementation, the project concentrated on training of project and Partner Organizations staff. A total of 124 staff trainees attended courses in micro loan management, basic accounting, communication skills and training of trainer (TOT) courses.

2.4 The Uganda Fisheries Development Project has selected the Rural Microfinance Support Project (RMSP) as the intermediary for the wholesaling of the credit funds to deserving clients. The criteria for the selection of partner MFIs has been determined based on an operational manual prepared with the Bank. The RMSP resources are grossly inadequate to meet the demands of all its clients. Indeed, another Bank financed project – The Northwest Agricultural Development Project is also poised to use the RMSP to deliver micro credit to its target clients. The level of micro financing in the UFDP is premised on the appraised needs of the beneficiaries who are primarily fish farmers, women involved in fish processing and marketing, and fishermen. The capital needs, for instance of establishment of a fishpond, does not exceed USD500. Similarly, women engaged in fish trading are not desirous of huge loans to make improvements in their business activities.

2.5 Allowances for Project Staff: The project costs includes allowances for project staff amounting to UA126, 000 to be funded by ADF. These allowances are daily subsistence allowances (DSA) to project staffs that undertake missions to the various project sites. The allowances cover the following categories of project staff: Project Management staff, project steering committee members, beach management committees that oversee the administration of the fish landing centers. Current DSA rates for similar projects in Uganda are UA22 for professional staff and UA 11.64 for support staff. The current provisions cover 3,722 person nights for project management and 3,788 person-nights for local administration authorities.

2.6 As is the practice with all Bank funded projects, all duty travel will be stipulated in the annual workplan to cleared by the Bank and will be paid for through the project revolving fund (special account) to be replenished upon verification of expenditures incurred. The project area covers the principal lakes Victoria, Kyoga, Albert, Edward and George. For effective overall project coordination, the Project Coordination Unit (PCU) will have to make frequent visits to the various project sites. At the local level, the management oversight committee for each landing center will have to convene its membership from the various districts and facilitate their participation in the various management meetings and field visits.

2.7 The Bank approved a Project Preparatory Facility (PPF) of UA190, 000 for the GOU in December 2000 in order to carry out preliminary technical design studies, documentation on existing fishing communities as well as to undertake a preliminary review of current

fisheries legislation. However, the disbursement request was not received prior to the appraisal of the project and was consequently **not** utilised in the preparation of the project.

3. THE PROJECT

3.1 Project Objective: The project objective remains valid and aims primarily to increase incomes from fishing through availability of higher quality fish products and through strengthening of aquaculture research and development.

3.2 Post-harvest Fish Losses, Illegal Fishing and Project Rationale: The current estimates of post harvest losses are conservatively put at 25 % of all fish catches. Given an annual catch of 220,000 mt this loss represents some 55,000 mt of fish, which is valued at USh 55.00 billion equivalent to USD30.5 million. Currently, Uganda exports about 13 % of annual production (11,000 mt of fillets from 27,000mt of raw material over 220,000mt fish produced). Consequently, at the current, without project situation, some USD7.5 million per annum of export revenues are lost. The project intends to reduce these losses by 70 % to an annual level of some 38,500mt of whole fish per annum, equivalent to USD2.25 million of revenue losses per annum.

3.3 There is no systematic monitoring of illegal fishing in Uganda. However, the GOU estimates (2001) that in Lake Victoria alone, illegal, unregulated and unrecorded (IUU) fishing amounts to 60,000 mt per annum while in Lakes Albert and Edward, the annual level of IUU fishing amounts to 8,000 mt and 1,500 mt respectively. The GOU is also currently implementing the 2001 FAO Fisheries Committee on Fisheries (COFI) resolution in the International Plan of Action to Prevent, Deter and Eliminate IUU fishing practices.

3.4 The GOU reports that on 15 October 2000, the EU issued a directive removing restrictions on fish exports from Uganda to European countries. The GOU is however obliged to inform the EU of any changes in its processing facilities and procedures that may jeopardise the quality of exports. This project, through its investments in a fish quality laboratory, Monitoring, Control and Surveillance (MCS) activities will assist the GOU in meeting its policy objectives in the fisheries sector.

3.5 The GOU reporting covers (i) progress in the implementation of the pesticide-monitoring program on Lakes Victoria and Kyoga as well as, (ii) reports on the fish quality laboratory test results. In addition, regular inspection visits of both the laboratory and fish processing facilities are now undertaken every six months by the EU, rather than on a quarterly basis, as was the case during the crisis period.

3.6 Project Area and Beneficiaries: The project area and ***benefits remain the same as at appraisal.*** These benefits will accrue mainly to fish farmers, artisanal fishermen, small-scale fish processors and traders through reduction of post harvest losses and aquaculture development. However, fish exporters will also benefit from the project through increased availability of high quality fish. The project, in general, covers the western, central and eastern regions of Uganda covering Lakes Victoria, George, Albert, Kyoga and Edward representing some 39,000 Km^2 of fishing grounds.

3.7 The fishing communities in the project area are mostly poor and total some 140,000 of which 20,000 will be directly targeted by the project on the basis of: (i) their interest and participation in the fisheries management committees; (ii) participation in the woodlot

establishment activity; (iii) capacity of the DFR to reach all the fishing communities; (iv) avoidance of duplication with the ongoing DFID support to fishing communities on Lake Kyoga; and, (v) involvement in current DFR extension program. In addition, some 2,000 ponds equivalent to 40 ha owned by small-scale fish farmers will be targeted under the aquaculture development component of the project. Through the credit program, 2,000 small-scale fish farmers, traders and processors as well as 200 commercial semi-intensive fish farmers will be supported through criteria established by the MFI. The project beneficiaries also prominently include women involved in retail marketing of fish and in fish smoking.

3.8 Project Description: The project description ***remains the same as at appraisal*** and comprises five components. The Fish Quality Assurance component involves the development of 30 fish landing centers, upgrading of 21 fish markets, improved monitoring, control and surveillance and establishment of a fish quality laboratory. The Aquaculture Research and Development component covers research into fish feeds, breeding, production systems and hybridization. Aquaculture development is geared towards the establishment of regional fish fry production and demonstration centers as well as transfer of improved technology. The fisheries credit fund component will provide credit for fisheries production, trade and processing. The capacity building component covers technical assistance, staff and beneficiary training. The Project Coordination component aims at overall project coordination.

3.9 Project Costs: The total project cost of the project including contingencies is estimated at UA 25.516 million (USh 54.791 billion), of which UA 14.474 million (57 %) of the project will be in foreign exchange and UA 11.042 million (43 %) will be in local currency. The Ugandan Shilling has remained relatively stable with only a 0.003 % change in the exchange rate relative to the Unit of Account. This change is taken care of by the price contingency provisions in the project costing.

3.10 ***The project financing arrangements remain the same*** with the ADF loan of UA 22.00 million to be utilized to finance 100 % of the foreign cost of the project amounting to UA 14.474 million and 67.9 % of the local costs amounting to UA 7.500 million. The GOU will finance 30.5 % of the local costs amounting to UA3.365 million, while the beneficiaries will finance 1.6 % of the local costs amounting to UA178, 000.

3.11 Implementation Arrangements: The MAAIF will continue to be the implementing agency. At the local level the district councils will play an even larger role as Uganda is progressing with its decentralisation program. The management of the fish landing centres will be by the private sector through tenders launched by the district councils under the supervision of the beach management committees. This arrangement is in line with the country's Plan for the modernisation of Agriculture (PMA).

3.12 Beyond its participation in the Project Steering Committee, the Uganda Fish Processors and Exporters Association (UFPEA) is expected to be among the potential bidders to manage the fish landing centres, thereby creating vertical integration in the industry and forward linkages in the economy. The revised project implementation schedule assuming Board approval in June 2002 is presented below:

Table No. 1. Revised Implementation Schedule

ACTIVITY	**Beginning**	**Ending**	**Responsible Agency**
1. Board Approval		June 2002	ADF
2. Effectiveness of Loan Agreement	June 2002	Dec. 2002	ADF / GOU
3. Launching Mission	Dec. 2002	Dec. 2002	ADF
4. Loan Implementation	Jan 2003	Dec. 2008	ADF/GOU
5. Procurement for consultants and surveys/planning and designing for 30 FLCs and 4 Regional Fry Centers	March 2003	June 2003	GOU
6. Fish Landing Centers: Tendering and award of contract and construction	July 2003	July 2008	GOU/LG
7. Ice-plants and Chill storage: Tendering and procurement over 4 years	July 2003	July 2007	GOU/LG
8. Fish Markets: Tendering, award of contracts and completion of construction works over a year	March 2004	March 2005	GOU/LG
9. Patrol Boats: Tendering and award of contract and deployment over a year	March 2004	March 2005	GOU/DFR
10. Quality Control Laboratory: Tendering, award of work and completion of construction	April 2003	March 2004	GOU/DFR
11. Aquaculture Res. & Development			
- Tender and award of contracts for pond/hatcheries at 4 Fry Centres	Feb 2004	Jan 2006	GOU/FIRRI
- Improved subsistence fish farming and semi-intensive fish farming	Feb 2004	Jan 2008	GOU/FTI
- Regional fry production and demonstration	Feb 2004	Jan 2008	GOU/FIRRI
12. Capacity Building: Training and overseas study tours	Feb 2004	Jan 2006	GOU/FTI
13. International Consultancy:			
- Fish Nutrition Expert	Feb 2004	Jan 2005	GOU/FIRRI
- Fisheries Regulation Expert	Feb 2004	Jan 2005	GOU/DFR
- Supervision of construction	Feb 2004	Feb 2005	ADF/GOU
14. National Consultancy Studies	June 2004	June 2005	GOU/DFR
15. Project Coordination	Jan 2003	Dec 2008	GOU/LG
16. Mid-Term Review	June 2005	Sept. 2005	GOU/LG/ADF
17. External Audit	Feb 2004	Feb 2008	GOU/LG/ADF
18. Completion Report	Jan 2009	March 2009	GOU/ADF

3.13 Procurement and Disbursement Arrangements: The modes of procurement and the disbursement arrangements will remain unchanged. All procurement of works, goods and services financed by the Bank will be in accordance with the Fund's Rules of Procedure for Procurement of Goods and Works and, in the case of consulting services, in accordance with

the Rules of Procedure for the Use of Consultants. Procurement arrangements are provided in the cost tables. To the extent possible, the goods, civil works and services shall be bulked into sizeable bid packages in such a manner as to permit the optimal use of competitive bidding. Before the commencement of procurement, the Borrower shall furnish to the Bank, for approval a list or lists of goods and services to be procured, the proposed grouping of these goods and services, and the proposed number and scope of civil works contracts to be awarded.

3.13.1 Civil Works: Procurement of civil works valued at more than UA15.571 million will be carried out under International Competitive Bidding (ICB) procedures. The construction of landing centers will be in lots per lake / geographic area. The urban and rural market stall development will be tendered in lots as per geographical area. The quality control laboratory and the Katwe fish market construction will be tendered as a single lot. Procurement of civil works for the rehabilitation of ponds (Kajjansi Research Station) and works in Regional Fish Fry Production Centers, amounting to UA0.822 million, will be carried out under National Competitive Bidding as there exists a large number of qualified local contractors to undertake this activity. Civil works for fishpond construction will be by direct purchase as the amounts are small and mostly using local labor.

3.13.2 Goods. Contracts for the 4 patrol boats (UA1.662 million) and 31 motorcycles worth UA0.128 million will be awarded under ICB procedures in two lots (boats and motorcycles). Equipment (laboratory, hatcheries, ice plants, flake ice makers) is valued at about UA1.583 million will be procured in 4 lots (Quality Control Lab, FTI and Kajjansi Aquaculture research station and Fish Fry Centers) under international shopping procedures as the suppliers are limited. Computers and other office equipment will be procured under national shopping procedures as the local market is amply supplied with these products.

3.13.3 Training and Technical Assistance Services. Training component under capacity building of the project valued at about UA0.874 million will be procured through direct purchase with the Fisheries Training Institute. Procurement of technical assistance and studies valued at UA1.340 million will be undertaken in accordance with the Bank's Rules of Procedure for the Use of Consultants, on the basis of shortlist with price as a factor. Travel related allowances for PCU staff and PSC members amounting to UA0.126 million have been provided for.

3.13.4 Credit: Credit funds amounting to UA1.358 have been provided for in the project. The procurement of items under the credit funds will be by direct purchase in line with the MOU signed by the PCU and the RMSP and cleared by the Fund.

3.14 Aid Coordination: The major donors active in the fisheries sector in Uganda are JICA, EU, World Bank and DFID. There exists a strong in-country donor coordination mechanism in Uganda with monthly heads of agency meetings as well as regular meetings of donors in the agriculture sector (currently chaired by Danida). Furthermore, the PMA steering committee, which provides policy guidance in the implementation of the PMA, is open to donor representatives. Donor cooperation at the district and sub-county levels is however relatively weak. This project has been designed to benefit from the existing coordination mechanism. The project does not duplicate any donor supported project activities or planned intervention in Uganda. Recent concerns by DFID about the thrust of this project vis-à-vis

the PMA have been satisfactorily addressed by both the Bank and the GOU, to the satisfaction of all concerned.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

4.1.1 The project objectives remain valid and the importance of the fisheries sector continues to be crucial to Uganda's foreign earnings with the continued decline of the coffee sector. Aquaculture has great promise and the project will build on the past successes in this area. Moreover, the project is in line with both the GOUs Plan for Modernisation of Agriculture as well as the Bank's Country Strategy paper for Uganda.

4.1.2 The GOU is still committed to this project as evidenced by the steps taken towards ratification of the loan agreement (approval by cabinet and the Parliament on 15 May 2002).

4.1.3 The price regime in Uganda has not changed vis-à-vis the Unit of Account and the price and physical contingencies should largely suffice to meet any normal cost overruns in the project period.

4.2 Recommendations

4.2.1 It is recommended that an ADF loan not exceeding UA 22.00 million be made to the Government of Uganda for the purpose of implementing the fisheries development project ***as appraised and negotiated in July and October 2001 respectively.***