

ANNEX 1. MISSION TERMS OF REFERENCE

AfDB/FAO/FISHCODE Feasibility Study: Management of the Fisheries on Lake Tanganyika Terms of Reference

A) Mission Leader/Economist

Under the general supervision of the Director of the Investment Centre Division (TCI) and the Chief of the Development Planning Service (FIPP), FAO HQ, Rome, and in close co-operation with the African Development Bank and the other Mission members, the Mission Leader will:

1. Review and evaluate relevant reports of projects GCP/RAF/271/FIN (=LTR) and GCP/INT/648/NOR (=FISHCODE), in particular those relating to the Lake Tanganyika Regional Fisheries Framework Management Plan (FFMP) and proposals for its implementation.
2. Take part, together with other Mission members, in a reconnaissance Mission throughout the region, in order to establish the feasibility of and accordingly develop a framework for a Lake Tanganyika FFMP Implementation Programme.
3. Supervise the work and technical reporting of the other Mission members.
4. In the context of (2) above, evaluate LTR/FISHCODE proposals *in-situ* and assist in the finalisation of the Mission's framework plan. This will include the elaboration and feasibility analysis of:
 - a) one national project for each participating lacustrine State, noting
 - the critical needs that have been identified for viable alternative artisanal fishing technology and processing/marketing modalities in order to ameliorate effects of localised over-fishing and the use of destructive fishing techniques, and post-harvest losses associated with poor infrastructure and lack of marketing opportunities;
 - the importance of adhering to the participatory management approach and other principles of the Code of Conduct for Responsible Fisheries, and the need for complementary environmental education and community outreach activities; and
 - the particular circumstances, problems, and prospects that exist within each of the national fisheries.
 - b) one overall project that will handle management and co-ordination of all FFMP Implementation Programme activities on a regional level.
5. Work in close co-operation with the Mission's Development Planner/Socio-economist and Infrastructure/Marketing Specialist to develop fully each component project of the FFMP Implementation Programme, providing detailed requirements for relevant for institutional development, equipment, and infrastructure.
6. Conduct the required financial analyses, following AfDB procedures;
7. Prepare a draft report of the overall feasibility study, following AfDB procedures; present the draft report to African Development Bank, FI and TCI; and finalise the report.

Duty station: Bujumbura, Burundi with travel in the region (D.R.C., Tanzania and Zambia), and FAO/Rome.

Duration: a total of 3 months in two segments (AfDB).

B) Development Planner/Socio-economist

Under the general supervision of the Director of the Investment Centre Division (TCI) and the Chief of the Development Planning Service (FIPP), FAO HQ, Rome, and in close co-operation with the African Development Bank and the other Mission members, the Development Planner/Socio-economist will:

1. Review and evaluate relevant reports of projects GCP/RAF/271/FIN (=LTR) and GCP/INT/648/NOR (=FISHCODE), in particular those relating to community survey findings, community consultative meetings on management options, the Lake Tanganyika Regional Fisheries Framework Management Plan (FFMP), and proposals for FFMP implementation.
2. Take part, together with other Mission members, in a reconnaissance Mission throughout the region, in order to establish the feasibility of and accordingly develop a framework for a Lake Tanganyika FFMP Implementation Programme.
3. In the context of (2) above, evaluate LTR/FISHCODE proposals *in-situ* and assist in finalising the Mission's Implementation Programme framework. This will include:
 - a) at least one national project for each participating lacustrine State, noting
 - the critical needs that have been identified for viable alternative artisanal fishing technology and processing/marketing modalities in order to ameliorate effects of localised over-fishing and the use of destructive fishing techniques, and post-harvest losses associated with poor infrastructure and lack of marketing opportunities;
 - the importance of adhering to the participatory management approach and other principles of the Code of Conduct for Responsible Fisheries, and the need for complementary environmental education and community outreach activities; and
 - the particular circumstances, problems, and prospects that exist within each of the national fisheries.
 - b) one overall project that will handle management and co-ordination of all FFMP Implementation Programme activities on a regional level.
4. Work in close co-operation with the Mission's Infrastructure/Marketing and the Team Leader/Economist to develop fully each component project of the FFMP Implementation Programme, providing detailed requirements for institutional development, equipment, and infrastructure.
5. Contribute to specifying modalities for execution of national and regional co-ordination components. Specify participatory mechanisms for selected development and fisheries management activities.
6. Collaborate with the LTR Scientific Co-ordinator in preparing the required Environmental Impact Assessment Report.
7. Assist the Mission Leader/Economist in organising and running the Mission, and in completing the Mission's technical reporting, following AfDB procedures.

Duty station: Bujumbura, Burundi with travel in the region (D.R.C., Tanzania and Zambia), and FAO/Rome.

Duration: 4 months (FAO/Norway: GCP/INT/648/NOR)

C) Infrastructure/Marketing Specialist

Under the general supervision of the Director of the Investment Centre Division (TCI) and the Chief of the Development Planning Service (FIPP), FAO HQ, Rome and under the direct supervision of the Mission Leader, the consultant will:

1. Review and evaluate relevant reports of projects GCP/RAF/271/FIN (=LTR) and GCP/INT/648/NOR (=FISHCODE), in particular those relating to the Lake Tanganyika Regional Fisheries Framework Management Plan (FFMP) and proposals for its implementation.
2. Take part, together with other Mission members, in a reconnaissance mission throughout the region, in order to establish the feasibility of and accordingly develop a framework for a Lake Tanganyika FFMP Implementation Programme.
3. In the context of (2) above, evaluate LTR/FISHCODE proposals *in-situ* and assist in the finalisation of the Mission's framework plan. This will include:
 - a) one national project for each participating lacustrine State, noting
 - the critical needs that have been identified for viable alternative artisanal fishing technology and processing/marketing modalities in order to ameliorate effects of localised over-fishing and the use of destructive fishing techniques, and post-harvest losses associated with poor infrastructure and lack of marketing opportunities; and
 - the particular circumstances, problems, and prospects that exist within each of the national fisheries selected aspects.
 - b) one overall project that will handle management and co-ordination of all FFMP Implementation Programme activities on regional level.
4. Work in close co-operation with the Mission Leader and the Development Planner/Socio-Economist to develop fully each component project of the FFMP Implementation Programme, providing detailed requirements for relevant fisheries equipment, material and infrastructure.
5. Complete the technical reporting including the technical specifications and costing for each investment component of the four national project components (Burundi, Tanzania, DRC, Zambia).
6. Prepare any other contributions as requested by the Mission Leader.

Duty station: Bujumbura, Burundi with travel in the region (D.R.C., Tanzania and Zambia).

Duration: 3 months (AfDB)

ANNEX 2. MISSION ITINERARY

<u>Christophe Magnet (1)</u>	<u>Hervé Bru/Eric Reynolds</u>
Rome - 27 March 2000	Rome – 27 March 2000
Lusaka - 31 March to 5 April 2000	Lusaka – 31 March to 5 April 2000
Mpulungu - 5-10 April 2000	Mpulungu – 5-10 April 2000
Kigoma - 10-15 April 2000	Kigoma – 10-15 April 2000
Dar es Salaam - 15-19 April 2000	Dar es Salaam – 15-19 April 2000
Bujumbura - 19-26 April 2000	Bujumbura – 19 April to 6 May 2000
Paris - 26 April 2000	Kigoma – 6-14 May 2000
<u>Christophe Magnet (2)</u>	Mpulungu – 14-21 May 2000
Paris/Bujumbura – 25 May to 25 June 2000	Bujumbura – 21-24 May 2000
Lusaka – 26 to 29 June	Kinshasa – 24-27 May 2000 <u>Hervé Bru</u>
Rome – 30 June to 22 July 2000	Bujumbura – 27 May to 25 June 2000
Paris – 22 July 2000	Home - 25 June 2000 (Hervé Bru)
	<u>Eric Reynolds</u>
	Rome(*) – 25 June to 25 July 2000
	(*) including participation in Environmental Impact Study

ANNEX 3. MISSION MEETINGS/PERSONS MET**ZAMBIA**

Yakoob AHMEDJEE. Manager. Northern Fisheries. Mpulungu.
 Chris BRIGNOUT. Manager. Samaki Fisheries Company and Cape Kachese Fisheries Company.
 Ben CHANDA, Chief Fisheries Research Officer, DOF
 George CHIKWAMA. Operations Manager. Mpulungu Harbour Corporation Limited.
 Dominic CHILESHE. General Manager. Sopelac Fishing Enterprises Limited.
 Charles K. CHILEYA. National Programme Officer. FAO Lusaka.
 J. CHIMANGA. DOF. Mpulungu.
 Edwin CHIMBUKA. Head of Stratum Committee. Nsumbu.
 Mr DEMITRUS. Manager. St George Fisheries Company.
 Richard W. FULLER. FAO Representative in Zambia.
 Ms. KALUWE, Manager, Fish Centre
 Charles MAGUSWI, Dy Director, Fisheries Department.
 Ms.Dicky METHORST-de BIE, Director SNV Zambia
 Mr. MILINDI. Fisheries Department.
 Charles M.MBOMA, Senior Manager Distribution Development, ZESCO
 Mr. MOKOKA, Manager Chani Entreprise
 Catherine MULENGA. Fresh fish trader. Kasama.
 Elisabeth MULENSHI. Fresh fish trader . Kasama.
 Mr MUTEMA. Manager. Mpulungu Fisheries Company.
 Arnold MUZILIKA, Assistant Director, Dept of Physical Planning and Housing
 Alex MWANAKASALE, Agricultural Operations Officer, World Bank
 Mary MWANSA. Fresh fish trader. Kasama.
 Maryam NIAMIR-FULLER: Regional Co-ordinator for Biodiversity and International Waters. UNDP-GEF
 Mr NICKILIN. Manager. E. Tembo Fisheries Company.
 Thomas MITI. Ranger-in-Charge Wildlife. Nsumbu.
 Leonard MWAPE, Officer-in-Charge, DOF Mpulungu.
 Lubin MWIMANZI. Village Committee Chairman. Nsumbu.
 Martin PEARCE. Business Owner, Mpulungu.
 M.D. SYAPIILA. DOF. Mpulungu.
 Mr RADWMAZIMBA. Fisher, Mpulungu.
 Salim SARHAN. Director. Tanganyika Cold Store Limited.
 Ben SICHILIMA. Area Council. Nsumbu.
 P.G. SINYANGWE. Director, Research and Specialist Services. Ministry of Agriculture, Food and Fisheries.
 Robert SYNIENZA. Department of Fisheries. Mpulungu.
 Mr ZAWADI. Trader. Nsumbu.

TANZANIA

Mungwe ATHMAN, Managing Director, SCAN, Kigoma
D.R.B. CHITAMWEMBWA. Director, TAFIRI Kigoma.
Anders GARDSMARK. Manager. SKANSKA.
Mr HAULE. Assistant Director of Fisheries. Research, Training and Statistics. Dar-es-Salaam.
E.N.M. KASYUPA. Branch Manager. Marine Services Company Ltd. Kigoma.
Mr KATO. Town trade officer. Kigoma.
Robert KAYANDA. DOF. Kigoma.
Mr KWEKA. Director DOF. Kigoma.
C.R.S. LIGALLAMA. Customer Adviser. CRDB Bank Limited, Dar Es Salaam.
Robert LINDLEY. Coastal Fisheries Specialist, LTBP, Kigoma.
Mr LUGIKO. Ex Department of fisheries.
James LUKONA, Kibilizi Women Development Trust, Kigoma.
Ms E. LYIMO. Department of Fisheries. Dar Es Salaam.
Mr T. MAEMBE. Director, DOF. Dar-es-Salaam.
J.D. MALETA. Ag. Project Co-ordinator. DOF. Kigoma.
Mary MAVANZA. TACARE. Kigoma.
Mulima MBIJIMA. CCW. Gombe National Park.
Sulayman MBOB. FAO Resident Representative. Dar-es-Salaam.
Dr. Kate MEADOWS, LTBP Socio-economics Special Study Co-ordinator, Kigoma.
Baraka S.M. MUGULWI (MORENI). Department of Fisheries. Dar-es-Salaam.
Dr. Andrew MENZ. Project Co-ordinator. Lake Tanganyika Biodiversity Project.
Simeon MESAKI. University. Dar-es-Salaam.
Victor MGINE. Mahale National Park.
Dastun MOCKRAY. Department of Fisheries. Kigoma.
Emmanuel MTITI. TACARE. Kigoma.
Matata MUSHI. Gombe National Park.
Vallentine N’KABADI. Department of Fisheries. Kigoma.
John SNELL. FAO. Dar-es-Salaam.
Khalfani Burato SIMU. Assistant Fishery Officer I. Kigoma.
Oliver M.D. SOSELEJE. Executive Officer. Tanzania Chamber of Commerce Industries and Agriculture.
George STRUNDEN. Executive Director, TACARE. Kigoma.
Mr TAMBOE. Assistant Fisheries Officer. Muyobozi.
James YONAZI. National Programme Officer. FAO Representation in Tanzania.
Ndugumbi ZINGA. Branch Manager. AMI Port Operations Tanzania Limited.
Karen ZWICK. Socio-Economics Facilitator. LTBP, Kigoma.

BURUNDI

Macos ARIS. Gérant. Ilios Marine.

Mona CHAYA, Co-ordinator, Emergency Agricultural Interventions, FAO, Bujumbura

Mathurin GBETIBOUO, Représentant Résident World Bank, Bujumbura

Dr. George HANEK. Représentant a.i. de la FAO.

Roger KANYARU. Directeur des Pêches. Bujumbura.

Gardien NDORIMANA. Observateur de Pêche. Rumonge.

José NKUNI, Programme Coordinator, World Vision

Tharcisse NTIBARIRARANA. Projet DAPA. Bujumbura.

Stefania PICCINELLI, Représentante GVC au Burundi

Joseph SAKUBU, Consultant, Agronome senior, FAO Bujumbura

Isabelle SINAMENYE. Projet DAPA. Bujumbura.

Samba TOUNKARA, Senior Fisheries Expert, ADB, Abidjan

DEMOCRATIC REPUBLIC OF CONGO

Mr N'sibula MULIMWA. Directeur Scientifique. C.H.R. Uvira.

Dr Muderhwa NSHOMBO. Directeur Général . C.H.R. Uvira.

ANNEX 4. REFERENCES CITED/CONSULTED

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ANNEX 5. TERMS OF REFERENCE, CIFA SUB-COMMITTEE FOR LAKE TANGANYIKA

The functions of the CIFA Sub-Committee for Lake Tanganyika include the following:*

- a) Facilitate discussions for all related fisheries matters, including coastal zone management, environment and water quality;
- b) Promote the exchange and dissemination of fisheries information;
- c) Develop and recommend conservation and management measures;
- d) Facilitate periodic elaboration and implementation of a regional fisheries management plan and its components;
- e) Harmonise national measures for the sustainable utilisation of the living resources of the Lake;
- f) Advise on the direct or indirect effects of introduction of non-indigenous aquatic animals and plants into the waters of Lake Tanganyika and all the waters connected therewith consistent with the FAO Code of Conduct for Responsible Fisheries and the United Nations Convention on Biological Diversity and any other relevant international instruments;
- g) Facilitate periodic elaboration and implementation of a regional monitoring programme and its components;
- h) Facilitate the harmonisation of fisheries regulations for Lake Tanganyika;
- i) Establish *ad hoc* subsidiary committees to perform such of its functions and subject to such conditions, as the CIFA Sub-Committee for Lake Tanganyika may determine;
- j) Continue to explore ways and means of establishing an autonomous intergovernmental organization or arrangement;
- k) Seek international financial assistance to support fisheries development and management programmes;
- l) Facilitate, recommend and co-ordinate training and extension activities in all aspects of fisheries;
- m) Report to CIFA at each session on its activities during the preceding inter-sessional period.

* Revised TORs for CIFA Sub-Committee for Lake Tanganyika, as adopted at the Eighth Session of the Sub-Committee (Lusaka, Zambia, 18-21 May 1999)

ANNEX 6. MARKETING AND PRICES, LAKE TANGANYIKA FISHERIES

General

Fish are marketed in four different ways: sun dried, smoked, frozen, or fresh. The bulk of the capture is dried in the case of clupeids, or smoked in the case of *Lates stappersii*. Frozen fish (mainly clupeids and *L.stappersii*) are available only from the industrial companies in Mpulungu, which market their products in Lusaka and the Copperbelt.

The quantity of fresh fish sold in the markets represents a small percentage of the total catch. Fresh fish are available in Bujumbura Central Market, in different localities around Uvira, Kalémie and Goma (DRC), and in Mpulungu and Kasama (Zambia). Despite a high demand for fresh fish (a nearly universal consumer preference), the lack of facilities (ice plants, cold storage and refrigerated trucks) does not allow for widespread distribution in this format.

Marketing channels

Marketing channels for sun dried and smoked fish are versatile and quickly react to changes in local conditions (e.g., unrest in DRC and Burundi, piracy on the lake). In the DRC trucks and vans transport fish products towards the hinterland. Cured products are regularly landed at Mpulungu via the *MV Liemba* and smaller wooden cargo vessels and transhipped by road through Zambia to Lubumbashi and other parts of Shaba Province -- a pattern that has developed since the closure of the rail link from the DRC port of Kalémie to the hinterland owing to the ongoing civil war.

In Zambia, the only country where the industrial sector is active, the bulk of the capture from both the industrial fleet and the artisanal fishery, is frozen and transported by road (in trucks of 10-15 mt capacity) towards Lusaka and the Copperbelt. It is noteworthy that with the decline of the industrial catch, commercial companies have dramatically increased purchases of fresh fish from artisanal units. This allows full utilisation of freezing capacity and the continuation of profitable operations. For artisanal fishers, it offers the advantage of being able to dispose of catches in short order, without the need for drying or smoking to increase product shelf life. Artisanal fishers are nevertheless generally compelled to sell their catches at prices fixed by the industrial companies, without much room for negotiation.

The crew of Mpulungu industrial purse seine units receive from 10 – 20 kg of fish whenever the night's catch is over a fixed target (either 0.5 or 1 mt). Part of this bonus is kept for home consumption, whilst the rest is sold to local fishmongers. The fishmongers then transport the fresh fish inland to Mbala and Kasama, where demand is high.

In Tanzania almost all of the catch is dried or smoked, as most landing sites are remote and products cannot otherwise be sent to markets without spoilage. A great deal of fish is channelled to markets by ship (the *MV Liemba* southward towards Mpulungu, or northwards towards Kigoma) or via large 'water taxi' wooden dhows. The latter often work between Kigoma and other fish bulking points and Rumonge (Burundi) or Uvira (DRC). From Kigoma fish also goes by train to Dar-es-Salaam.

In Burundi, where road access along the shoreline is good, fresh fish marketing is relatively important. The landing at the town of Rumonge, about one hour to the south of Bujumbura,

provides several tonnes of clupeids to the capital on a daily basis. The remaining production is sun dried on the beach or on racks before being sold inside the country.

Prices

Prices vary across a tenfold range both between and within countries, depending on offer and demand (e.g., a box of clupeids sold at a given landing site can fetch 200 units of currency at one point in time, and 2000 units at another). The following ex-vessel prices were recorded during the Mission, and are mentioned in equivalent US\$/kg to allow for comparison:

Country	US\$/kg equivalent for:			
	Fresh clupeids	Dried clupeids	Fresh <i>L.stappersii</i>	Smoked <i>L.stappersii</i>
Burundi	0.3 – 0.8	2.2 – 3.1	0.6 – 1.3	1.3 – 2.3
Zambia	0.1 – 0.6	1.2 – 1.5	0.1 – 0.4	0.8 – 1.8
Tanzania	0.1 – 1.0	0.8 – 1.5	--	1.1 – 1.3

It can be seen that the price variation of smoked or dried fish is much less than for fresh product. Bags (25 to 40 kg) of dried clupeids and/or smoked *Lates* can be stored several weeks before being sold to retailers or to consumers at a more stabilised price.

In the main markets of the capitals, dried and/or smoked fish fetch two or three times the landing site price. In Bujumbura dried fish is sold in the range of 4-4.2 \$/kg; in Dar-es-Salaam, 2.9-3.2 \$/kg; and in Lusaka 4 – 5.2 \$/kg.

Frozen clupeids and *L.stappersii* are only available in Lusaka. They originate from the Luapula region, Kariba Reservoir, and Mpulungu. Small clupeids fetch 1.3 \$/kg whilst large ones sell for 2.5 \$/kg. Small *Lates* sell for 1.3 \$/kg, which is 3 to 13 times the price of the fresh product offered in Mpulungu.

TREFIP proposals

Drying racks exist on the shore line, mainly in Burundi and Tanzania, but still are not very common even though they produce a much higher quality product. TREFIP will promote the wider use of racks through micro-credit financing in pilot CFMZ villages.

The Programme will also promote the marketing of fresh fish in order to decrease the level of fish smoking, and hence the demand for fuelwood.

In Zambia the Mission estimates that 5-10 mt of fresh fish bought each week in Mpulungu and transported for sale in Mbala, Nakonde and other small inland towns. The bulk of this fish is sold in Kasama, the largest town and administrative centre for Northern Province. Ice blocks produced in Mpulungu, broken up and layered between fish in large plastic-lined bundles, allow the fishmongers (mainly women) to maintain a good quality product (mainly *L. stappersii*). Fishmongers report that they would have no difficulty selling even greater amounts of fish, if supplies were available.

In Mpulungu, planned rehabilitation of the central market by TREFIP as well as construction of a new landing site market will both include installation of cold storage facilities.

The rehabilitation of the jetty in Nsumbu planned under TREFIP will greatly facilitate transport of fisheries products. Furthermore, installation of an ice plant and a cold store will be possible after the electrical grid has been established. ZESCO has been informed of this possibility and has undertaken to provide an estimate for connection costs once the specifications for the ice plant and cold storage unit are known.

A marketing study will be carried out in Zambia during the first year of Programme implementation to determine the feasibility of strengthening distribution and sales channels for fresh fish between Mpulungu and Lusaka. Provision is made in the TREFIP budget to operate a demonstration exercise using a refrigerated truck. If trials are successful, credits would be offered to traders interested in investing in transportation facilities (on terms of a 25 percent personal contribution and annual interest charges of 15 percent).

In Tanzania, fresh fish marketing could be developed from Kigoma towards Tabora. The TREFIP budget makes provision for credit facilities to be used by private entrepreneurs for developing cold storage facilities and ice making machines.

In Burundi too demand for fresh product is also very high, but cannot be met for lack of facilities like ice plants and cold stores. The Programme will thus investigate possibilities for developing the market in interior towns like Gitega, Muyinga, Ngozi, Kayanza, and Cibitoke. The TREFIP budget provides an amount of \$250,000 for cold storage and ice plant development in five different markets.

The central market in Bujumbura, which suffers from inadequate maintenance and poor hygienic conditions, will also be rehabilitated. At present one company is selling fresh fish in Bujumbura and is ready to extend its activities whenever the political situation is back to normal. The Programme could help this or a similar company with credits to invest in transportation facilities.

Although the Mission was unable to mount field visits in the DRC due to the civil war, provision is nevertheless made in the proposed budget to improve/rehabilitate seven markets (2 in Uvira, 2 in Kalémie, 2 in Moba and one in Baraka). Construction of four jetties to facilitate loading and unloading of fish cargo consignments is also foreseen, pending site investigations to be carried out after Programme inception. Investigations are also planned to determine possibilities for developing fresh fish marketing channels through the above-mentioned markets and other points in the hinterland.

The rehabilitation of roads (a total of 70 km in the four countries) under TREFIP aims at facilitating transportation of goods including fisheries products between key landing centres and marketing points. The Mission has already identified road segments for improvement in Tanzania and Zambia. Further road requirement surveys will be carried out after IOP to prepare designs and cost estimates.

TREFIP will provide for training to fishmongers in fresh product handling. Main topics will be quality assurance, ice per kilo of product requirements according to temperature, and plant maintenance. To this end, short-term inputs of technical assistance advice are foreseen in the budget. Training sessions will start in Zambia, where the Mission has already assessed the needs.

ANNEX 7. CREDIT PROFILES, LAKE TANGANYIKA FISHERIES

TREFIP intends to implement credit schemes for both the artisanal and industrial/large-scale commercial sectors of the Lake Tanganyika fisheries. The profiles of these activities presented below are based on an assumed interest rate of 15 percent, noting that current commercial interests rates within the four lacustrine States, though subject to some variation, often run close to 20 percent.

Micro-credit scheme for the artisanal fishing sector

The Micro-Credit Scheme will be implemented at the village level, through the proposed Local Fisheries Council system. Once these councils have been established, group funds will be built up for them through a revenue sharing arrangement involving licensing and catch levy fees.

Local fishers presently are obliged by law to pay a yearly licence fee for boats and gear, though fees vary from country to country. Compliance with the licensing requirement is poor in each case: the number of boats and gear units far exceed the number of licenses issued.

Under TREFIP proposals, each liftnet or chiromilla unit would pay the equivalent of \$20 per year, and each gillnet or longline unit (canoes and dugouts) the equivalent of \$5 per year. Catch levies would be \$0.50 per 80 kg of fish (equivalent to two standard boxes of fresh sardines). Under a revenue sharing arrangement, each LFC would retain 50 percent of the license fee collections, with the other half going to the official fisheries administration agency. On the other hand, the LFCs would retain all levy collections in full.

The Programme would monitor the gradual accumulation of value within each LFC fund, and when any one fund accumulates \$5,000, it would be 'topped up' by a grant of \$10,000. The resulting \$15,000 would be sufficient to start a system of loan awards to individual fishers and processors/traders.

EXAMPLE OPERATION: LFC Fund Establishment	
1)	For a pilot village with 20 catamarans (or apollo/chiromilla) and 30 other boats, licence fees would annually generate the equivalent of $20 \times \$20 + 30 \times \$5 = \$550$, out of which \$275 (50%) would be kept for the LFC Micro-Credit Fund.
2)	Assuming an average catch of 2 boxes per day for catamarans and a fishing campaign of 20 days a month for 11 months a year, catch levies would generate $0.50 \times 2 \times 20 \times 11 = \220 per catamaran, or \$4 400 for 20 catamarans per year.
3)	For other boats, assuming an average of 10 kgs per day for a fishing year of 240 days, the levies would amount to $10 \times 240 \times 0.50 \div 80 = \15 per boat or \$450 for 30 boats per year.
4)	During its first full year of operation, the fund would receive a total of $\$275 + \$4,400 + \$450 = \$5,125$.
5)	At this point the Programme would double match the locally-generated amount and loan awards would commence.

The number of loans to be awarded every year from year two would depend on the amounts disbursed to individual recipients, the percentage of the investment paid on credit, and the repayment schedule (duration of the loan and the interest).

EXAMPLE OPERATION: Number of Loans

- 1) In the case of a catamaran that costs around \$7,000, the fisher would contribute 25% or \$1750 and the loan would amount to \$5,250. Thus, for the first year, the fund would allow for the award of 3 loans for new catamarans. The calculation for the following years is shown in Table A, assuming an interest of 15 percent and a loan duration of 4 years.
- 2) In case of gear replacement requiring an amount of \$2,000, the loan would be for \$1,500. Table B shows the calculation of the number of loans that could be awarded based on the same interest assumption and a repayment period of two years.
- 3) With 20 pilot villages in Year 1, plus 35 in Year 2, plus 40 in Year 3, and plus 50 in Year 4, and assuming a 100% repayment rate, the number of loans awarded each year would gradually increase as detailed in Tables A and B. (LFC villages managed from Year 5 would begin loans from Year 6, after the end of the Programme, so they are not included in the totals.)
- 4) As some 200 pilot villages will eventually be covered by the Micro-Credit Scheme, around 20,000 individuals will be involved (assuming an average 100 participating fishers per pilot village).
- 5) Table A shows that the number of loans for new liftnet units (832) corresponds to 4% of the assumed total population of fishers within pilot villages. Table B shows that the number of loans for gear replacement (3395) corresponds to 17% of this population.
- 6) As both types of loans will be awarded, it can be estimated that around 10% of pilot LFC village fishers involved in the credit scheme will have access to loans over the life of the Programme.

Loan repayments would commence one month after the loan award date, with no grace period assumed.

EXAMPLE OPERATION: Reimbursement Schedule**For a new catamaran costing \$7,000:**

Personal capital contribution of 25%:	\$1,750
Credit amount:	\$5,250
Duration of loan:	4 years
Interest rate:	15%.
Loan repayments:	\$146.11 per month over 48 months.

For replacement of gear costing \$2,000:

Personal capital contribution of 25%:	\$500
Credit amount:	\$1,500
Duration of the loan:	2 years
Interest rate:	15%.
Loan repayments:	\$72.73 per month over 24 months.

Micro-credit scheme for the artisanal processing sector

Micro credit for installation of drying facilities (tables/racks) will be awarded mainly to women. Construction costs for drying racks is close to \$10/m².

EXAMPLE OPERATION: Loans for Construction of Fish Drying Racks			
For 100 m² of racks costing \$1,000			
Personal capital contribution of 25%:	\$250		
Credit amount:	\$750		
Duration of loan:		1, 1.5, or 2 years	
Interest rate:		15%.	
Loan repayments:		\$67.69 per month over 12 months.	
	or	\$46.79 per month during 18 months.	
	or	\$36.36 per month during 24 months.	
For 50 m² of racks costing \$500			
Personal capital contribution of 25%:	\$125		
Credit amount:	\$375		
Duration of loan:		1, or 1.5 years	
Interest rate:		15%.	
Loan repayments:		33,85\$ per month over 12 months.	
	or	23,39\$ per month over 18 months.	
For 30m² of racks costing \$300			
Personal capital contribution of 25%:	\$75		
Credit amount:	\$225		
Duration of loan:		1 year	
Interest rate:		15%.	
Loan repayments:		\$20.31 per month over 12 months	

Credit for the industrial/commercial sector

The industrial sector credit scheme would be used for developing fresh fish marketing (purchase of refrigerated trucks, flake ice plants and ice storage units) and/or to improve existing facilities. Grace periods could be negotiated on a case by case basis (one to three months according to the loan).

EXAMPLE OPERATION: Loans for Commercial Companies			
For facility development costing \$45,000:			
Company capital contribution of 25%:	\$11 250		
Credit amount:	\$33 750		
Duration of loan:		3, 4, or 5 years	
Interest rate:		15%.	
Loan repayments:		\$1,170\$ per month over 3 years.	
	or	\$939 per month during 4 years.	
	or	\$803 per month during 5 years	

TABLE A: SIMULATED LOAN PACKAGE FOR NEW CATAMARAN UNIT

Year	1	2	3	4	5	6
Disbursements	15000	5000	5000	5000	5000	5000
Number of loans		3				
Repayments		5260	5260	5260	5260	
Disbursements		10260				
Number of loans			2			
Repayments			3507	3507	3507	3507
Disbursements			13767			
Number of loans				2.5		
Repayments				4383	4383	4383
Disbursements				18150		
Number of loans					3.5	
Repayments					6137	6137
Disbursements					24287	
Number of loans						5

NUMBER OF LOANS PER LFC PILOT VILLAGE

Loans in comanaged villages in year 1	20 x 11 =	220
Loans in comanaged villages in year 2	35 x 7,5 =	262
Loans in comanaged villages in year 3	40 x 5 =	200
Loans in comanaged villages in year 4	50 x 3 =	150

Total number of loans **832**

NUMBER OF LOANS PER YEAR

Year 2:	60	3 x 20			
Year 3:	145	3 x 35 +	2 x 20		
Year 4:	240	3 x 40 +	2 x 35 +	2.5 x 20	
Year 5:	387	3 x 50 +	2 x 40 +	2.5 x 35 +	3.5 x 20

TOTAL **832**

TABLE B: SIMULATED LOAN PACKAGE FOR GEAR REPLACEMENT

Year	1	2	3	4	5	6
Disbursements	15000	5000	5000	5000	5000	5000
Number of loans		10				
Repayments		8728	8728			
Disbursements		13728				
Number of loans			9			
Repayments			7855	7855		
Disbursements			21583			
Number of loans				14		
Repayments				12219	12219	
Disbursements				25074		
Number of loans					16	
Repayments					13 964	13964
Disbursements					31183	
Number of loans						21

NUMBER OF LOANS PER LFC PILOT VILLAGE

Loans in comanaged villages in year 1:	20 x 49 =	980
Loans in comanaged villages in year 2:	35 x 33 =	1155
Loans in comanaged villages in year 3:	40 x 19 =	760
Loans in comanaged villages in year 4:	50 x 10 =	500

TOTAL LOANS **3395**

NUMBER OF LOANS PER YEAR

Year 2:	200	10 x 20				
Year 3:	530	10 x 35 +	9 x 20			
Year 4:	995	10 x 40 +	9 x 35 +	14 x 20		
Year 5:	1670	10 x 50 +	9 x 40 +	14 x 35 +	16 x 20	
Total	3395					

ANNEX 8. TREFIP COMPONENT PROJECT PROFILES

ANNEX 8.1 REGIONAL PROGRAMME IMPLEMENTATION UNIT/ HEADQUARTERS

TREFIP is proposed with an IOP date of early 2002, following a six-month Preparatory Phase to be executed in the latter half of 2001 (see ANNEX 10).

Programme headquarters (PIU) will be established in the buildings formerly used by the LTR Project, on the compound of the DEPP in Bujumbura, the main and only capital city on the lake and the most appropriate location in terms of Programme logistical requirements.

TREFIP regional headquarters would eventually serve as the offices of the Lake Tanganyika Fisheries Centre, which would also function as the secretariat/executive of the proposed Tanganyika Regional Fisheries Council.

ORGANISATION AND MANAGEMENT

The PIU will have the following staff establishment.

1. Regional Staff

a) One Regional Deputy

With the Programme Co-ordinator the Regional Deputy will prepare the work plans and budgets, and supervise the national project components in each of the four lacustrine States. The Regional Deputy should be a fisheries generalist/fisheries economist with 7-10 years experience in project management, and fluent in English and French.

b) One M&E Officer

The M&E Officer will work with the TREFIP Socio-economist to establish and operate the M&E programme. S/he should have wide experience in monitoring fisheries related activities, including the use of data base software.

c) One Civil Engineer Officer

The Civil Engineer Officer will work along with the TREFIP Civil Engineer in charge of the design of village infrastructure.

d) One Fishing Technology Officer

The Fishing Technology Officer will work along with the TREFIP Fishing Technologist in studying and improving artisanal fishing gear and equipment.

e) One Post-Harvest/Marketing Officer

The Marketing Officer will work along with the TREFIP Post Harvest Technologist in studying and improving marketing channels.

f) One Secretary.

g) Four Drivers.

2. International Staff

a) Programme Co-ordinator

The PC will be a fisheries generalist with extensive experience in project management. Duties will include:

- Responsibility for overall implementation of TREFIP components;
- Preparation of annual work plans and budgets;
- preparation of construction and service contracts with engineering firms and NGOs;
- organisation of meetings and workshops for the Regional Fisheries Council, and as otherwise required by the Programme work plans;
- Preparation of terms of reference for TREFIP consultants; and
- Supervision of M&E activities.

b) Socio-economist.

The Socio-economist will be in charge of developing the methodology for the Local Fisheries Council programme, and will supervise TREFIP activities within the CFMZ pilot villages. S/he will work closely with the TCDC/UNV/APOs posted to the TREFIP sub-offices in the four countries to oversee activities of the NGOs and the LFC Micro-Credit Scheme. S/he will also be responsible for the M&E component.

c) Post Harvest Technologist

The Post Harvest Technologist will be in charge of developing new marketing channels and improving fish quality S/he will also analyse the production data obtained on the landing sites.

d) Civil Engineer.

The Civil Engineer will be in charge of construction work to be carried out under the Programme (roads, markets, jetties and village facilities). S/he will supervise the work of the civil engineer (TCDC/UNV/APO) posted in Tanzania.

e) Fishing Technologist

The Fishing Technologist will be in charge of developing and testing appropriate fishing gear and conducting training activities as required within CFMZ pilot villages. S/he will supervise the work of Fishing Technology specialists (TCDC/UNV/APO) in the sub-offices.

f) Legal Advisor/Consultant

The Legal Advisor will assist the PC in facilitating an appropriate legal framework for the establishment of a regional fisheries management entity and the operation of CFMZs and LFCs. A provision of six months is foreseen in the Programme budget.

g) Short-term Advisors/Consultants

Other short term specialists will be recruited as required to supervise work related to facility installations (ice plants, cold stores, water treatment plants, etc.) and environmental education and community services (community conservation; ecotourism; coastal zone management; biodiversity; video production; family and reproductive health; etc.). A total of 64 person months is provided for consultant services in the Programme budget.

3. Monitoring and Evaluation

At IOP the Programme Co-ordinator, Programme Assistant, Socio-economist, and the national M&E specialist will establish a programme of Monitoring and Evaluation for the all TREFIP components.

M&E reports will be issued on a quarterly basis, detailing progress in terms of percentage of physical and financial realisation compared to the objectives of the annual work plan. Main issues and bottlenecks will be identified and Programme operations will be adjusted accordingly.

At village level, the monitoring programme will consider the following indicators for each LFC site: number of fishers in the group, number of paid licences, daily catch (recorded by the enumerators and the fishermen), implementation of village facilities (work progress and expenditures), credit scheme activity (level of fund, loans awarded and repayments). NGO staff will keep precise records for the monitoring programme and will meet twice a month with TREFIP staff to evaluate progress.

M&E indicators for infrastructure development (roads, jetties, markets, cold storage, electrical connection, lacustrine parks) will be the progress of implementation (site selection, engineering designs, tender documents, contractor selection, award of contract, construction, running bills). The civil engineering staff (4 in total) will present an M&E report every three months.

The different M&E reports will be combined into quarterly progress reports by the PC for transmission to the AfDB, national Directors of Fisheries, and members of the Regional Council. The Regional Council will meet at least once a year to analyse the outputs of the Programme and propose appropriate modifications for its implementation.

4. Communication between Regional and National Offices.

In order to follow the activities of the national offices, communication will be established by electronic mail and by regular visits paid by PIU staff to TREFIP offices in DRC, Tanzania

and Zambia. A contract will be made with a private air charter service to transport Programme staff between Programme Headquarters and field offices.

5. Programme Costs.

a) Investments.

The total investment for basic equipment costs is estimated at \$62,600, including contingencies and an inflation factor. Workshops (meetings of the Regional Council, etc.) will require an estimated \$604,200, and audit services \$124,600.

b) Running costs.

Running costs consist of expenditures for salaries (\$3,418,800 over five years), office requirements (\$73,400), vehicle maintenance (\$58,000), fuel (\$43,500), air transport (\$471,300), and DSAs (\$132,100).

Total running costs are estimated at \$4,638,200.

c) Total costs.

Total costs are projected at \$6,136,600, including 10 percent contingencies and an annual inflation allowance of 2.5 percent on foreign currency and 5 percent on local currency.

The yearly breakdown of projected costs is as follows:

Y1: \$1,337,600
Y2: \$1,366,800
Y3: \$1,409,800
Y4: \$1,171,200
Y5: \$851,300

6. Programme Financial Agreement

The total budget of the Regional Project would be provided under a grant from the donor agencies.

ANNEX 8.2 BURUNDI NATIONAL PROJECT COMPONENT**1. Infrastructure*****Village facilities***

TREFIP will work with fifteen villages in Burundi. Five village partnerships will be started in 2002 and five each in the two successive years. An average of \$20,000 per village is provided in the budget, amounting to \$300,000 as basic cost and \$351,600 including physical and price contingencies.

Roads

The Programme will improve 10 kms of roads in order to facilitate distribution of fresh fish. A budget provision of \$1,348,100 is made for this purpose.

Jetties

Construction of two small jetties is foreseen. The provisional cost is \$229,500.

Markets

The Bujumbura central market is in poor sanitary condition and the fish stalls need to be reconstructed, with proper allowance for aeration and light. Rehabilitation will consist of dismantling the present stalls and construction of drainage facilities, water taps, and electrical fittings. A provision of \$224,700 is budgeted for this purpose.

Cold storage

In order to develop marketing of fresh fish outside Bujumbura a provision of \$286,500 is made for the erection of five cold storage facilities, including water network, ice plant (300 kgs/day), drainage, and stalls. Facility site selection will be carried out after IOP, following a complete marketing survey.

Lacustrine Protected Areas

Provision is made for the establishment of one PA in 2003 and one in 2004, at a total estimated investment cost of \$116,200.

TREFIP offices

The existing office built by LTR in Bujumbura needs to be extended to accommodate the personnel required to implement the Programme. (The expanded office would eventually become the Lake Tanganyika Regional Fisheries Centre, the secretariat/executive arm of the Tanganyika Regional Fisheries Council.) Some provision is also made for carrying out necessary upgrades to DEPP offices located within the same compound.)

Total infrastructure development costs

The total infrastructure development budget amounts to \$2,669,200 for the duration of the Programme.

2. Equipment***Vehicles***

Three cars are needed, at total investment cost of \$97 100.

Office Equipment

A provision of \$45,800 is made for computers and printers (5 each), air conditioners (4), a photocopy machine, a telephone system, and miscellaneous furniture.

Training equipment

Material for environmental education will consist of two sets of television screens and video players, batteries and video cassettes. A provision of \$15,800 is made for this equipment.

Total equipment costs

The total cost of equipment reaches 159,000 \$.

3. Credit***Micro-credit Scheme***

An amount of \$171,600 has been allotted for the operation of the TREFIP Micro-credit scheme in 15 LFC pilot villages.

Credit to commercial firms

Provision is made for a credit facility to encourage marketing of fresh fish, in the amount of \$312,600.

Total credit costs

The total amount for credit provisions is \$495,700.

4. Running costs

Provisions for running costs expenditures for office requirements (\$73,400), car maintenance (\$58,000), fuel (\$43,500\$), boat transport (\$7,300), and DSAs (\$36,700), amounting to a total of \$218,900.

5. Staff

National staff

- Deputy Programme Director (in charge of local implementation, preparation of annual work plans and budgets, supervision of staff activities Monitoring and Evaluation, and reporting.
- One socio-economist (in charge of group formation, to work along with the international TCDC/UNV/APO and the contracting NGO).
- One accountant
- One secretary
- Two drivers
- One boat pilot
- One night guard
- One office messenger
- Ten enumerators who are in charge of collecting data in pilot villages.

The amount of national staff salaries is \$248,000.

International staff

- One TCDC/UNV/APO socio-economist in charge of the micro credit scheme.

The amount of expatriate staff salaries is \$353,500.

NGO

NGO will be selected during the Preparatory Phase, on the basis of the organisation's experience with community development outreach activities within the country, to work under contract with the Programme. The contracting NGO will assume primary responsibility for LFC formation, micro-credit operations, construction/rehabilitation of village facilities/services, and environmental education. A provision of \$10,000 for mobilisation is foreseen for the NGO at the signature of the contract and \$4,000 per year per pilot village. For the duration of the project this will involve costs amounting to an estimated \$316,300.

Total staff costs

The total for staff salaries and NGO services is estimated at \$909,800.

6) Total costs

The total amount that will be required for five years of Programme operations in Tanzania is estimated at \$4,452,500. Assuming an IOP in early 2002, the yearly breakdown of costs would be as follows.

2002: \$2,561,800
 2003: \$ 844,100
 2004: \$ 540,200
 2005 \$ 248,100
 2006: \$ 258,400

ANNEX 8.3 D.R. CONGO NATIONAL PROJECT COMPONENT

The Mission had no possibility to visit the DRC because of the ongoing civil war. Drafting of the DRC national project component was therefore carried out on the basis of information provided during meetings with LTR counterpart staff visiting Bujumbura from Uvira and from LTR and LTBP reports. In common with the other TREFIP national components, the Mission has set an IOP date of early 2002 for the DRC national project, but recognises that this may have to be delayed if the current state of civil unrest continues.

1. Infrastructure

Village facilities

TREFIP will work with a total of 95 pilot villages (5 in 2002, plus 10 in 2003, plus 15 in 2004, plus 30 in 2005, and plus 35 in 2006). An average of \$20 000 per village is provided in the budget for activities in these villages, representing a basic cost of \$1,900,000 and of \$2,406,700 including contingencies.

Roads

TREFIP will improve 20 kms of road in order to facilitate distribution of fish products. The budget includes a provision of \$2,870,900 for this purpose. Road site selection and detailed design and cost estimates work will be carried out after IOP, following completion of in-depth field surveys .

Jetties

Given the impossibility of determining exact needs along the DRC shoreline during the time of Mission fieldwork, a provision of \$2,469,700 for jetty construction/rehabilitation is provided in the budget on a provisional basis. This figure will have to reassessed when the political situation stabilises and further field investigations can be carried out.

Markets

A provision of \$839,800 is budgeted to rehabilitate existing markets in Uvira (2), Kalémie (2), Moba (2) and Baraka (1).

Lacustrine Protected Areas

Provision is made for the establishment of one PA in 2003, one in 2004, and one in 2005 at a total estimated investment cost of \$176,700.

TREFIP offices

The TREFIP sub-office for the DRC will be located at the CRH establishment in Uvira (former sub-station for both LTR and the LTBP) in Uvira during the first year of operations. Another office will be constructed in Kalémie during the second year, in

order to have a more central base for the conduct of monitoring activities. The budget for construction is estimated at \$73,300.

Total infrastructure cost

The total budget for infrastructure development is estimated at \$8,837,000 over the duration of TREFIP.

2. Equipment

Vehicles

Three cars and one boat are needed to carry out the DRC program component. This will involve an estimated \$108,300 in costs.

Office Equipment

Provision is made for computers and printers (5 each), air conditioners (4), a photocopy machine, two telephone systems, and miscellaneous furniture, for a total estimated cost of \$47,300.

Training equipment

Material for environmental education will consist of two sets of television screens and video players, batteries and video cassettes. A provision of \$15,800 is made for this equipment.

Total equipment costs

The total cost of equipment is an estimated \$172,600.

3. Credit

Micro-credit Scheme

An amount of \$1,120,400 has been allotted for the operation of the TREFIP Micro-credit Scheme to assist in gear and equipment replacement in 95 CFMZ pilot villages. In four years the number of loans to individual fishers is expected to reach 295 for new catamaran units or 1,160 for gear replacement.

Micro credit for artisanal processing assistance is provided for in the amount of \$57,700.

Credit to commercial firms

Provision is made for a credit facility to encourage marketing of fresh fish, in the amount of \$323,100.

Total credit costs

The total amount for credit provisions is \$1,501,300.

4. Running costs

Provisions for running costs expenditures for office requirements (\$73,400), car maintenance (\$58,000), fuel (\$43,500\$), boat transport (\$7,300), and DSAs (\$66,100), amounting to a total of \$248,200.

5. Staff

National staff

- Deputy Programme Director (in charge of local implementation, preparation of annual work plans and budgets, supervision of staff activities Monitoring and Evaluation, and reporting.
- One socio-economist (in charge of group formation, to work along with the international TCDC/UNV/APO and the contracting NGO).
- One accountant
- One secretary.
- Two drivers.
- One boat pilot.
- One night guard.
- One office messenger.
- Forty-five enumerators who are in charge of collecting data in pilot villages. (The number of enumerators will increase each year according to the number of pilot co-managed villages in which activity is being undertaken. There will be 5 in Programme Year 1, 15 in Year 2, 30 in Year 3, and 45 in Years 4 and 5. The enumerators engaged in Years 1 and 2 will be switched to the villages integrated into Programme activities during Years 4 and 5,.

The amount of national staff salaries is estimated at \$441,600.

International staff

- One TCDC/UNV/APO socio-economist will work with the national socio-economist and the NGOs, and will be responsible for LFC formation and monitoring of the pilot village activities.
- -One TCDC/UNV/APO processing/marketing specialist will work with the national marketing specialist, and will be responsible for improving fish handling and processing techniques within pilot villages.

The amount of international staff salaries is estimated at \$707,000.

NGOs

NGOs will be selected during the Preparatory Phase, on the basis of their experience with community development outreach activities within the country, to work under contract with the Programme. Two NGOs will be necessary -- one from the beginning of LFC activities in Year 1 and the second from Year 3. The contracting NGOs will assume primary responsibility for LFC formation, micro-credit operations, construction/rehabilitation of village facilities/services, and environmental education. One NGO will be enough for fifteen villages. A provision of \$10,000 for mobilisation is foreseen for the NGO at the signature of the contract and \$4,000 per year per pilot

village. For a total of 95 villages, this will involve costs amounting to an estimated \$1,113,000 over the duration of the Programme.

Total staff costs

The total for staff salaries and NGO services is estimated at \$2,261,600.

6) Total costs

The total amount that will be required for five years of Programme operations in the DRC is estimated at \$13,020,900. Assuming an IOP in early 2002, the yearly breakdown of costs would be as follows.

2002: \$ 765,200
2003: \$3,192,700
2004 \$3,725,000
2005: \$3,106,400
2006: \$2,231,500

ANNEX 8.4 TANZANIA NATIONAL PROJECT COMPONENT**1. Infrastructure*****Village facilities***

TREFIP will work with a total of 60 pilot villages (5 in 2002, plus 10 in 2003, plus 10 in 2004, plus 15 in 2005, and plus 20 in 2006). An average of \$20 000 per village is provided in the budget for activities in these villages, representing a basic cost of \$1,200,000 and of \$1,504,100 including contingencies.

Roads

TREFIP will improve 20 kms of road in order to facilitate distribution of fresh fish. In Kigoma, 4 kms between Kigoma Centre and Katunga, the main landing site, will be improved. In Rukwa Region 6.5 kms between Kipili and the junction with the Kirando - Sumbawanga road will be upgraded. Other road improvement sites will be determined after Programme IOP. A provision of \$2,753,500 is made for this activity.

Jetties

A provision of \$2,318,500 is budgeted for three jetties -- one each at Kipili, Buhingu (Lagosa), and Kibwesa. In these villages as in other villages located south of Kigoma, goods transportation is mainly carried out by *MV Liemba* or *MV Mwongozo* through the weekly service operated the Marine Services Company, or via large (15-20m LOA) wooden dhow-hulled 'water taxis' powered by outboard engine. The rationale for jetty installation is that the facilities would considerably ease fish on-loading/off-loading operations and would also make them much safer. Detailed cost estimates will be prepared after the IOP date.

Markets

In Kigoma the Central Market and Mwanga need major improvement. It is proposed to demolish the former before building a new one, and to rehabilitate the latter. These works will require an estimated \$458,900.

Lacustrine Protected Areas

Provision is made for the establishment of one PA in 2003 and two in 2004, at a total estimated investment cost of \$175,000.

TREFIP offices

The TREFIP sub-office for Tanzania will be located at the TAFIRI station in Kigoma. Rehabilitation of these premises will require an estimated \$28,200.

Total infrastructure cost

The total budget for infrastructure development is estimated at \$7,238,200 over the duration of TREFIP.

2. Equipment***Vehicles***

Three cars and one boat are needed to carry out the DRC program component. This will involve an estimated \$108,300 in costs.

Office Equipment

Provision is made for computers and printers (5 each), air conditioners (4), a photocopy machine, two telephone systems, and miscellaneous furniture, for a total estimated cost of \$45,800.

Training equipment

Material for environmental education will consist of two sets of television screens and video players, batteries and video cassettes. A provision of \$15,800 is made for this equipment.

Total equipment costs

The total cost of equipment, including miscellaneous items is an estimated \$170,800.

3. Credit***Micro-credit Scheme***

An amount of \$699,000 has been allotted for the operation of the TREFIP Micro-credit Scheme to assist in gear and equipment replacement in 60 CFMZ pilot villages. In four years the number of loans to individual fishers is expected to reach 225 for new catamaran units or 915 for gear replacement.

Micro credit for artisanal processing assistance is provided for in the amount of \$57,700.

Credit to commercial firms

Provision is made for a credit facility to encourage marketing of fresh fish, in the amount of \$312,600.

Total credit costs

The total amount for credit provisions is \$1,069,400.

4. Running costs

Provisions for running cost expenditures for office requirements (\$73,400), car maintenance (\$58,000), fuel (\$43,500\$), boat transport (\$29,000), and DSAs (\$66,100) amount to a total of \$270,000.

5. Staff

National staff

- Deputy Programme Director (in charge of local implementation, preparation of annual work plans and budgets, supervision of staff activities Monitoring and Evaluation, and reporting.
- One socio-economist (in charge of group formation, to work along with the international TCDC/UNV/APO and the contracting NGO).
- -One civil engineer will have responsibility for design of village infrastructure works, working in close collaboration with the international TCDC/UNV/APO.
- One accountant
- One secretary.
- Two drivers.
- One boat pilot.
- One night guard.
- One office messenger.
- Forty enumerators who are in charge of collecting data in pilot villages. (The number of enumerators will increase each year according to the number of pilot co-managed villages in which activity is being undertaken. There will be 5 in Year 1, 15 in Year 2, 25 in Year 3, and 40 in Years 4 and 5. In Year 5 enumerators engaged in Years 1 and 2 will be switched to work in the new villages.

The amount of national staff salaries is estimated at \$418,100.

International staff

- One TCDC/UNV/APO socio-economist will work with the national socio-economist and the NGOs, and will be responsible for LFC formation and monitoring of the pilot village activities.
- -One TCDC/UNV/APO civil engineer specialist will work in close collaboration with the national civil engineer, and oversee construction of pilot village facilities and assist the TREFIP Civil Engineer with work on markets, roads and jetties.

The amount of expatriate staff salaries is estimated at \$707,000.

NGOs

NGOs will be selected during the Preparatory Phase, on the basis of their experience with community development outreach activities within the country, to work under contract with the Programme. Two NGOs will be necessary -- one from the beginning of LFC activities in Year 1 and the second from Year 3. The contracting NGOs will assume primary responsibility for LFC formation, micro-credit operations,

construction/rehabilitation of village facilities/services, and environmental education. One NGO will be enough for fifteen villages. A provision of \$10,000 for mobilisation is foreseen for the NGO at the signature of the contract and \$4,000 per year per pilot village. For a total of 60 villages, this will involve costs amounting to an estimated \$779,300 over the duration of the Programme.

Total staff costs

The total for staff salaries and NGO services costs is estimated at \$1,904,400.

6) Total costs

The total amount that will be required for five years of Programme operations in Tanzania is estimated at \$10,652,800. Assuming an IOP in early 2002, the yearly breakdown of costs would be as follows.

2002:	\$2,968,400
2003:	\$4,241,700
2004:	\$ 900,300
2005:	\$1,091,600
2006:	\$1,450,700

ANNEX 8.5 ZAMBIA NATIONAL PROJECT COMPONENT**1. Infrastructure*****Village facilities***

TREFIP will work with a total of 30 pilot villages (5 in 2002, plus 10 in 2003, plus 10 in 2004, plus 5 in 2005, and plus 20 in 2006). An average of \$20 000 per village is provided in the budget for activities in these villages, representing a basic cost of \$600,000 and of \$718,200 including contingencies.

Roads

TREFIP will improve 20 kms of road in order to facilitate distribution of fresh fish. In Mpulungu, 1 km between the main landing site at Ngwenya and the Central Market will be improved. Other road improvement sites will be determined after Programme IOP. A provision of \$2,753,500 is made for this activity.

Jetties

A provision of \$585,600 is budgeted for rehabilitation of the jetty at Nsumbu. At present the bulk of fisheries products moves by road from Nsumbu to the Copperbelt, a trip that can take more than twenty hours because of the exceedingly poor road conditions. The rehabilitation of the jetty will facilitate waterborne transport to Mpulungu, where good road connections exist, and will encourage better post-harvest practices in and around Nsumbu, including possibilities for marketing fresh product. It will also encourage trade in agricultural produce, as well as tourist traffic bound for Nsumbu National Park. Detailed cost estimates will be prepared after the IOP date.

Markets

For Mpulungu a provision of \$224,700 is made for building a covered facility of 55x22m at Ngwenya, the main wholesale fish market. The new facility will allow space for 175 retailers, principally fishmongers and vegetable sellers, who are now occupying what is essentially a shanty town of kiosks and sheds situated on ground that is poorly drained and contaminated with sewage runoff and solid waste.

A further amount of \$175,000 is earmarked for rehabilitation of the Mpulungu Central Market, which will include erection of cold storage facilities for fresh fish.

Kasama, the administrative centre and largest town of Northern Province, is an important market for fresh fish coming from Mpulungu. A 10 mt capacity cold storage facility will be installed in the central market there, at an estimated cost of \$55,800.

Electricity

TREFIP will fund the transfer of one surplus generator set from Kaputa to Nsumbu. This will allow private investors to develop more cold storage facilities in the area, which hosts a far more productive fishery than that of Mpulungu. It will also allow the lodges at Kasaba Bay, Nkole Bay, and Ndole to obtain a regular supply of electricity,

which will boost their ability to serve the tourism industry. A provision of \$557,600 is made in the proposed budget for the Nsumbu electrical grid, but negotiations with the Zambian Electricity Supply Corporation (ZESCO) will be necessary to prepare more detailed cost estimates.

Lacustrine Protected Areas

Provision is made for the establishment of one PA in 2003 and two in 2004, at a total estimated investment cost of \$116,200.

TREFIP offices

The TREFIP sub-office for Tanzania will be located at the DOF station in Mpulungu. Rehabilitation of these premises, including repairs on the existing jetty, will require an estimated \$28,200.

Total infrastructure cost

The total budget for infrastructure development is estimated at \$5,215,300 over the duration of TREFIP.

2. Equipment

Vehicles

Three cars and one boat are needed to carry out the DRC program component. This will involve an estimated \$108,300 in costs.

Office Equipment

Provision is made for computers and printers (5 each), air conditioners (4), a photocopy machine, one telephone system, and miscellaneous furniture, for a total estimated cost of \$45,900.

Training equipment

Material for environmental education will consist of two sets of television screens and video players, batteries and video cassettes. A provision of \$15,800 is made for this equipment.

Total equipment costs

The total cost of equipment, including miscellaneous items is an estimated \$170,400.

3. Credit

Micro-credit Scheme

An amount of \$331,200 has been allotted for the operation of the TREFIP Micro-credit Scheme to assist in gear and equipment replacement in 30 CFMZ pilot villages. In four years the number of loans to individual fishers is expected to reach 195 for new catamaran units or 815 for gear replacement.

Micro credit for artisanal processing assistance is provided for in the amount of \$22,100.

Credit to commercial firms

Provision is made for a credit facility to encourage marketing of fresh fish, in the amount of \$307,500.

Total credit costs

The total amount for credit provisions is \$660,800.

4. Running costs

Provisions for running cost expenditures for office requirements (\$73,400), car maintenance (\$58,000), fuel (\$43,500\$), boat transport (\$29,000), and DSAs (\$66,100) amount to a total of \$270,000.

5. Staff

National staff

- Deputy Programme Director (in charge of local implementation, preparation of annual work plans and budgets, supervision of staff activities Monitoring and Evaluation, and reporting.
- One socio-economist (in charge of group formation, to work along with the international TCDC/UNV/APO and the contracting NGO).
- One fishing technology assistant who will work with the TCDC/UNV/APO fishing technologist towards the introduction of appropriate gear, replacement of beach seines and small-meshed gillnets, and abandonment of destructive practices.
- One accountant
- One secretary.
- Two drivers.
- One boat pilot.
- One night guard.
- One office messenger.
- Twenty enumerators who are in charge of collecting data in pilot villages. (The number of enumerators will increase each year according to the number of pilot co-managed villages in which activity is being undertaken. There will be 5 in Year 1, 15 in Year 2, and 25 in Years 3, 4, and 5. In Years 4 and 5 enumerators engaged in Years 1 and 2 will be switched to work in the new villages.

The amount of national staff salaries is estimated at \$322,900.

International staff

- One TCDC/UNV/APO socio-economist will work with the national socio-economist and the NGOs, and will be responsible for LFC formation and monitoring of the pilot village activities.
- -One TCDC/UNV/APO fishing technology specialist will work with the national fishing technologist, and will be responsible for encouraging the use of appropriate fishing techniques within pilot villages.

The amount of international staff salaries is estimated at \$707,000.

NGOs

NGOs will be selected during the Preparatory Phase, on the basis of their experience with community development outreach activities within the country, to work under contract with the Programme. Two NGOs will be necessary -- one from the beginning of LFC activities in Year 1 and the second from Year 3. The contracting NGOs will assume primary responsibility for LFC formation, micro-credit operations, construction/rehabilitation of village facilities/services, and environmental education. A provision of \$10,000 for mobilisation is foreseen for the NGO at the signature of the contract and \$4,000 per year per pilot village. For a total of 30 villages, this will involve costs amounting to an estimated \$550,200 over the duration of the Programme.

Total staff costs

The total for staff salaries and NGO services costs is estimated at \$1,580,100.

6) Total costs

The total amount that will be required for five years of Programme operations in Zambia is estimated at \$7,896,600. Assuming an IOP in early 2002, the yearly breakdown of costs would be as follows.

2002: \$3,122,100
 2003: \$ 2,899,000
 2004: \$ 808,400
 2005: \$ 621,000
 2006: \$ 446,000

ANNEX 9. PROGRAMME COSTS

TABLE 1. TREFIP REGIONAL OFFICE, DETAILED COSTS (US\$ '000)

		Quantities						Unit	Totals Including Contingencies							
		Unit	2002	2003	2004	2005	2006	Total	Cost	2002	2003	2004	2005	2006	Total	
I. Investment Costs																
A. Equipment																
	Refrigerated truck	No`.	1	-	-	-	-	1	45	50.2	-	-	-	-	50.2	
	Photocopy machine	no.	1	-	-	-	-	1	2	2.2	-	-	-	-	2.2	
	Air conditioners	no.	2	-	-	-	-	2	2	4.5	-	-	-	-	4.5	
	Furniture	set	1	-	-	-	-	1	5	5.6	-	-	-	-	5.6	
Subtotal Equipment										62.6	-	-	-	-	62.6	
	B. Workshops	no.	2	2	2	2	2	10	50	112.1	116.3	120.7	125.2	130.0	604.2	
C. Monitoring & Evaluation																
	Audit	ls	1	1	1	1	1	5	20	22.6	23.7	24.9	26.1	27.4	124.6	
Total Investment Costs											197.2	140.0	145.5	151.3	157.4	791.4
II. Recurrent Costs																
A. Local staff																
	Program Asst.	pmth	12	12	12	12	12	60	2	27.1	28.4	29.8	31.3	32.9	149.5	
	M&E Specialist	pmth	12	12	12	12	12	60	1.5	20.3	21.3	22.4	23.5	24.7	112.1	
	Civil Engineer	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9	
	Fisheries Technologist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9	
	Marketing specialist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9	
	Secretary	pmth	12	12	12	12	12	60	0.2	2.7	2.8	3.0	3.1	3.3	15.0	
	Drivers	pmth	48	48	48	48	48	240	0.1	5.4	5.7	6.0	6.3	6.6	29.9	
Subtotal Local staff										79.8	83.8	88.0	92.4	97.0	441.1	
B. Expatriate staff																
	CTA	pmth	12	12	12	12	12	60	15	200.7	206.2	211.9	217.8	223.8	1,060.5	
	Civil engineer	pmth	6	6	6	6	-	24	12	80.3	82.5	84.8	87.1	-	334.7	
	Fisheries Technologist	pmth	12	12	12	-	-	36	12	160.6	165.0	169.5	-	-	495.1	
	Socio economist	pmth	12	12	12	12	-	48	12	160.6	165.0	169.5	174.2	-	669.4	
	Marketing specialist	pmth	6	6	6	6	-	24	12	80.3	82.5	84.8	87.1	-	334.7	
	Short term	pmth	14	17	17	11	11	70	15	234.2	292.2	300.2	199.6	205.2	1,231.4	
Subtotal Expatriate staff										916.6	993.4	1,020.8	765.9	429.0	4,125.8	
C. Operations & Maintenance																
	Office expenditure	ls								13.5	14.1	14.7	15.3	15.9	73.4	
	Car maintenance	ls								10.8	11.2	11.6	12.0	12.5	58.0	
	Fuel expenditures	ls								8.1	8.4	8.7	9.0	9.4	43.5	
	Air transportation	ls								87.4	90.7	94.1	97.7	101.4	471.3	
	DSA	ls								24.3	25.3	26.4	27.5	28.7	132.1	
Subtotal Operations & Maintenance										144.0	149.6	155.4	161.5	167.9	778.3	
Total Recurrent Costs											1,140.4	1,226.8	1,264.3	1,019.8	693.9	5,345.2
Total										1,337.6	1,366.8	1,409.8	1,171.2	851.3	6,136.6	

TABLE 2. TREFIP BURUNDI NATIONAL PROJECT, DETAILED COSTS (US\$ '000)

TABLE 2. TREPFI BURUNDI NATIONAL PROJECT, DETAILED COSTS (US\$ '000)														
	Unit	2002	2003	2004	Quantities			Unit Cost	2002	2003	2004	Totals Including Contingencies		
					2005	2006	Total					2005	2006	Total
I. Investment Costs														
A. Infrastructure														
Village infrastructure	no.	5	5	5	-	-	15	20	112.3	117.1	122.1	-	-	351.6
Roads	km	10	-	-	-	-	10	120	1,348.1	-	-	-	-	1,348.1
Jetties	no	1	1	-	-	-	2	100	112.3	117.1	-	-	-	229.5
Market	no.	1	-	-	-	-	1	200	224.7	-	-	-	-	224.7
Cold storage	no.	1	3	1	-	-	5	50	55.8	171.9	58.9	-	-	286.5
DOF Offices	set	1	-	-	-	-	1	100	112.8	-	-	-	-	112.8
Lacustrine parks	no.	-	1	1	-	-	2	50	-	57.3	58.9	-	-	116.2
Subtotal Infrastructure									1,965.9	463.4	239.9	-	-	2,669.2
B. Equipment														
Cars	no.	3	-	-	-	-	3	29	97.1	-	-	-	-	97.1
Computers	no.	5	-	-	-	-	5	5	27.9	-	-	-	-	27.9
Photocopy machine	no.	1	-	-	-	-	1	2	2.2	-	-	-	-	2.2
Air conditioners	no.	4	-	-	-	-	4	2	9.0	-	-	-	-	9.0
Furniture	set	1	-	-	-	-	1	5	5.6	-	-	-	-	5.6
Telephone set	no.	1	-	-	-	-	1	1	1.1	-	-	-	-	1.1
Video	no.	2	-	-	-	-	2	4	9.0	-	-	-	-	9.0
Movies	no.	3	3	-	-	-	6	1	3.4	3.5	-	-	-	6.8
Balances	no.	15	-	-	-	-	15	0.012	0.2	-	-	-	-	0.2
Subtotal Equipment									155.5	3.5	-	-	-	159.0
C. Credit														
Micro credit fisheries gear	no.	5	5	5	-	-	15	10	51.3	53.8	56.5	-	-	161.6
Micro credit artis. process.	no.	1	2	1	-	-	4	5	5.1	10.8	5.7	-	-	21.5
Industrial fisheries	no.	2	1	-	-	-	3	100	205.0	107.6	-	-	-	312.6
Subtotal Credit									261.4	172.2	62.2	-	-	495.7
Total Investment Costs									2,382.8	639.1	302.0	-	-	3,323.9
II. Recurrent Costs														
A. Local staff														
Deputy Director	pmth	12	12	12	12	12	60	0.8	10.8	11.4	11.9	12.5	13.2	59.8
Socio economist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
Enumerators	pmth	60	120	120	120	120	540	0.1	6.8	14.2	14.9	15.7	16.4	68.0
Accountant	pmth	12	12	12	12	12	60	0.3	4.1	4.3	4.5	4.7	4.9	22.4
Secretary	pmth	12	12	12	12	12	60	0.2	2.7	2.8	3.0	3.1	3.3	15.0
Messenger	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Guard	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Drivers	pmth	24	24	24	24	24	120	0.1	2.7	2.8	3.0	3.1	3.3	15.0
Contract NGO's	ls								33.8	47.4	74.6	78.3	82.2	316.3
Subtotal Local staff									71.7	94.2	123.8	130.0	136.5	556.3
B. Expatriate staff														
TCDC-UNV-APO Socio economist	pmth	12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
C. Operations & Maintenance														
Office expenditure	ls								13.5	14.1	14.7	15.3	15.9	73.4
Car maintenance	ls								10.8	11.2	11.6	12.0	12.5	58.0
Fuel expenditures	ls								8.1	8.4	8.7	9.0	9.4	43.5
Boat transportation	ls								1.3	1.4	1.4	1.5	1.6	7.3
DSA	ls								6.7	7.0	7.3	7.6	8.0	36.7
Subtotal Operations & Maintenance									40.4	42.0	43.7	45.5	47.3	218.9
Total Recurrent Costs									179.0	205.0	238.2	248.1	258.4	1,128.6
Total									2,561.8	844.1	540.2	248.1	258.4	4,452.2

TABLE 3. TREFIP DRC NATIONAL PROJECT, DETAILED COSTS (US\$ '000)

TABLE 3. TREFIP DRUG NATIONAL PROJECT, DETAILED COSTS (US\$ '000)															
		Unit	Quantities						Unit	Totals Including Contingencies					
			2002	2003	2004	2005	2006	Total	Cost	2002	2003	2004	2005	2006	Total
I. Investment Costs															
A. Infrastructure															
	Village infrastructure	no.	5	10	15	30	35	95	20	112.3	234.2	366.4	764.1	929.7	2,406.7
	Roads	km	-	10	10	-	-	20	120	-	1,405.4	1,465.4	-	-	2,870.9
	Jetties	no	-	1	1	2	-	4	500	-	585.6	610.6	1,273.5	-	2,469.7
	Market	no.	-	3	4	-	-	7	100	-	351.4	488.5	-	-	839.8
	DOF Offices	set	1	-	-	-	-	1	65	73.3	-	-	-	-	73.3
	Lacustrine parks	no.	-	1	1	1	-	3	50	-	57.3	58.9	60.5	-	176.7
Subtotal Infrastructure										185.6	2,633.9	2,989.7	2,098.1	929.7	8,837.0
B. Equipment															
	Cars	no.	3	-	-	-	-	3	29	97.1	-	-	-	-	97.1
	Boats	no.	1	-	-	-	-	1	10	11.2	-	-	-	-	11.2
	Computers	no.	4	1	-	-	-	5	5	22.3	5.8	-	-	-	28.1
	Photocopy machine	no.	1	-	-	-	-	1	2	2.2	-	-	-	-	2.2
	Air conditioners	no.	3	1	-	-	-	4	2	6.7	2.3	-	-	-	9.1
	Furniture	set	1	-	-	-	-	1	5	5.6	-	-	-	-	5.6
	Telephone set	no.	1	1	-	-	-	2	1	1.1	1.2	-	-	-	2.3
	Video	no.	2	-	-	-	-	2	4	9.0	-	-	-	-	9.0
	Movies	no.	3	3	-	-	-	6	1	3.4	3.5	-	-	-	6.8
	Balances	no.	95	-	-	-	-	95	0.012	1.3	-	-	-	-	1.3
Subtotal Equipment										159.9	12.7	-	-	-	172.6
C. Credit															
	Micro credit fisheries gear	no.	5	10	15	30	35	95	10	51.3	107.6	169.5	356.0	436.1	1,120.4
	Micro credit artis. process.	no.	1	2	2	2	3	10	5	5.1	10.8	11.3	11.9	18.7	57.7
	Industrial fisheries	no.	1	1	1	-	-	3	100	102.5	107.6	113.0	-	-	323.1
Subtotal Credit										158.9	226.0	293.8	367.8	454.8	1,501.3
Total Investment Costs										504.4	2,872.6	3,283.5	2,465.9	1,384.5	10,511.0
II. Recurrent Costs															
A. Local staff															
	Deputy Director	pmth	12	12	12	12	12	60	0.8	10.8	11.4	11.9	12.5	13.2	59.8
	Socio economist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
	Marketing specialist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
	Enumerators	pmth	60	180	360	540	540	1,680	0.1	6.8	21.3	44.8	70.5	74.0	217.3
	Accountant	pmth	12	12	12	12	12	60	0.3	4.1	4.3	4.5	4.7	4.9	22.4
	Secretary	pmth	12	12	12	12	12	60	0.2	2.7	2.8	3.0	3.1	3.3	15.0
	Messenger	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
	Guard	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
	Drivers	pmth	24	24	24	24	24	120	0.1	2.7	2.8	3.0	3.1	3.3	15.0
	Boat pilot	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
	Contract NGO's	ls								33.8	71.0	161.1	326.3	520.8	1,113.0
Subtotal Local staff										81.2	135.0	250.6	443.8	644.1	1,554.6
B. Expatriate staff															
	TCDC-UNV-APO Marketing specialist	pmth	12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
	TCDC/UNV/APO Socio economist	pmth	12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
Subtotal Expatriate staff										133.8	137.5	141.3	145.2	149.2	707.0

TABLE 3 (Cont.)

			Quantities						Unit	Totals Including Contingencies					
	Unit		2002	2003	2004	2005	2006	Total	Cost	2002	2003	2004	2005	2006	Total
C. Operation and Maintenance															
Office expenditure	Is									13.5	14.1	14.7	15.3	15.9	73.4
Car maintenance	Is									10.8	11.2	11.6	12.0	12.5	58.0
Fuel expenditures	Is									8.1	8.4	8.7	9.0	9.4	43.5
Boat transportation	Is									1.3	1.4	1.4	1.5	1.6	7.3
DSA	Is									12.1	12.6	13.2	13.8	14.3	66.1
Subtotal	Operation	and								45.8	47.6	49.6	51.6	53.7	248.2
Maintenance															
Total Recurrent Costs										260.8	320.1	441.5	640.5	847.0	2,509.9
Total										765.2	3,192.7	3,725.0	3,106.4	2,231.5	13,020.9

TABLE 4. TREFIP TANZANIA NATIONAL PROJECT, DETAILED COSTS (US\$ '000)

TABLE 4. TREPIT TANZANIA NATIONAL PROJECT, DETAILED COSTS (US\$ '000)															
		Unit	Quantities					Unit Cost	Totals Including Contingencies						
			2002	2003	2004	2005	2006	Total		2002	2003	2004	2005	2006	Total
I. Investment Costs															
A. Infrastructure															
Village infrastructure	no.		5	10	10	15	20	60	20	112.3	234.2	244.2	382.0	531.3	1,504.1
Roads	km		10	10	-	-	-	20	120	1,348.1	1,405.4	-	-	-	2,753.5
Jetties	no		-	1	-	-	-	1	1,500	-	1,756.8	-	-	-	1,756.8
Jetties	no		1	-	-	-	-	1	500	561.7	-	-	-	-	561.7
Market	no.		1	1	-	-	-	2	200	224.7	234.2	-	-	-	458.9
DOF Tafiri Offices	set		1	-	-	-	-	1	25	28.2	-	-	-	-	28.2
Lacustrine parks	no.		-	1	2	-	-	3	50	-	57.3	117.7	-	-	175.0
Subtotal Infrastructure										2,274.9	3,688.0	362.0	382.0	531.3	7,238.2
B. Equipment															
Cars	no.		3	-	-	-	-	3	29	97.1	-	-	-	-	97.1
Boats	no.		1	-	-	-	-	1	10	11.2	-	-	-	-	11.2
Computers	no.		5	-	-	-	-	5	5	27.9	-	-	-	-	27.9
Photocopy machine	no.		1	-	-	-	-	1	2	2.2	-	-	-	-	2.2
Air conditioners	no.		4	-	-	-	-	4	2	9.0	-	-	-	-	9.0
Furniture	set		1	-	-	-	-	1	5	5.6	-	-	-	-	5.6
Telephone set	no.		1	-	-	-	-	1	1	1.1	-	-	-	-	1.1
Video	no.		2	-	-	-	-	2	4	9.0	-	-	-	-	9.0
Movies	no.		3	3	-	-	-	6	1	3.4	3.5	-	-	-	6.8
Balances	no.		60	-	-	-	-	60	0.012	0.8	-	-	-	-	0.8
Subtotal Equipment										167.3	3.5	-	-	-	170.8
C. Credit															
Micro credit fisheries gear	no.		5	10	10	15	20	60	10	51.3	107.6	113.0	178.0	249.2	699.0
Micro credit artis. process.	no.		1	2	2	2	3	10	5	5.1	10.8	11.3	11.9	18.7	57.7
Industrial fisheries	no.		2	1	-	-	-	3	100	205.0	107.6	-	-	-	312.6
Subtotal Credit										261.4	226.0	124.3	189.9	267.9	1,069.4
Total Investment Costs										2,703.6	3,917.5	486.3	571.9	799.1	8,478.4
II. Recurrent Costs															
A. Local staff															
Deputy Director	pmth		12	12	12	12	12	60	0.8	10.8	11.4	11.9	12.5	13.2	59.8
Socio economist	pmth		12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
Civil Engineer	pmth		12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
Enumerators	pmth		60	180	300	480	480	1,500	0.1	6.8	21.3	37.3	62.7	65.8	193.8
Accountant	pmth		12	12	12	12	12	60	0.3	4.1	4.3	4.5	4.7	4.9	22.4
Secretary	pmth		12	12	12	12	12	60	0.2	2.7	2.8	3.0	3.1	3.3	15.0
Messenger	pmth		12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Guard	pmth		12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Drivers	pmth		24	24	24	24	24	120	0.1	2.7	2.8	3.0	3.1	3.3	15.0
Boat pilot	pmth		12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Contract NGO's	ls									33.8	71.0	136.7	208.8	328.9	779.3
Subtotal Local staff										81.2	135.0	218.8	318.5	444.0	1,197.4
B. Expatriate staff															
TCDC-UNV-APO Socio economist	pmth		12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
TCDC/UNV/APO Civil Engineer	pmth		12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
Subtotal Expatriate staff										133.8	137.5	141.3	145.2	149.2	707.0

TABLE 4 (CONT.)

	Unit	Quantities					Unit Cost	Totals Including Contingencies					
		2002	2003	2004	2005	2006	Total	2002	2003	2004	2005	2006	Total
C. Operation and Maintenance													
Office expenditure	ls							13.5	14.1	14.7	15.3	15.9	73.4
Car maintenance	ls							10.8	11.2	11.6	12.0	12.5	58.0
Fuel expenditures	ls							8.1	8.4	8.7	9.0	9.4	43.5
Boat transportation	ls							5.4	5.6	5.8	6.0	6.2	29.0
DSA	ls							12.1	12.6	13.2	13.8	14.3	66.1
Subtotal Operation and Maintenance								49.8	51.8	53.9	56.1	58.4	270.0
Total Recurrent Costs								264.8	324.3	414.0	519.8	651.6	2,174.4
Total								2,968.4	4,241.7	900.3	1,091.6	1,450.7	10,652.8

TABLE 5. TREFIP ZAMBIA NATIONAL PROJECT, DETAILED COSTS (US\$ '000)

TABLE 5: TREPIL ZAMBIA NATIONAL PROJECT, DETAILED COSTS (US\$ '000)														
	Unit	Quantities						Unit Cost	Totals Including Contingencies					
		2002	2003	2004	2005	2006	Total		2002	2003	2004	2005	2006	Total
I. Investment Costs														
A. Infrastructure														
Village infrastructure	no.	5	10	10	5	-	30	20	112.3	234.2	244.2	127.3	-	718.2
Roads	km	10	10	-	-	-	20	120	1,348.1	1,405.4	-	-	-	2,753.5
Jetties	no	-	1	-	-	-	1	500	-	585.6	-	-	-	585.6
Market	no.	1	-	-	-	-	1	200	224.7	-	-	-	-	224.7
Market	no.	-	1	-	-	-	1	150	-	175.7	-	-	-	175.7
Cold storage	no.	1	-	-	-	-	1	50	55.8	-	-	-	-	55.8
Elect. connections	no.	1	-	-	-	-	1	500	557.6	-	-	-	-	557.6
DOF Offices	set	1	-	-	-	-	1	25	28.2	-	-	-	-	28.2
Lacustrine parks	no.	-	1	1	-	-	2	50	-	57.3	58.9	-	-	116.2
Subtotal Infrastructure									2,326.6	2,458.2	303.1	127.3	-	5,215.3
B. Equipment														
Cars	no.	3	-	-	-	-	3	29	97.1	-	-	-	-	97.1
Boats	no.	1	-	-	-	-	1	10	11.2	-	-	-	-	11.2
Computers	no.	5	-	-	-	-	5	5	27.9	-	-	-	-	27.9
Photocopy machine	no.	1	-	-	-	-	1	2	2.2	-	-	-	-	2.2
Air conditioners	no.	4	-	-	-	-	4	2	9.0	-	-	-	-	9.0
Furniture	set	1	-	-	-	-	1	5	5.6	-	-	-	-	5.6
Telephone set	no.	1	-	-	-	-	1	1	1.1	-	-	-	-	1.1
Video	no.	2	-	-	-	-	2	4	9.0	-	-	-	-	9.0
Movies	no.	3	3	-	-	-	6	1	3.4	3.5	-	-	-	6.8
Balances	no.	30	-	-	-	-	30	0.012	0.4	-	-	-	-	0.4
Subtotal Equipment									166.9	3.5	-	-	-	170.4
C. Credit														
Micro credit fisheries gear	no.	5	10	10	5	-	30	10	51.3	107.6	113.0	59.3	-	331.2
Micro credit artis. process.	no.	1	1	1	1	-	4	5	5.1	5.4	5.7	5.9	-	22.1
Industrial fisheries	no.	3	-	-	-	-	3	100	307.5	-	-	-	-	307.5
Subtotal Credit									363.9	113.0	118.7	65.3	-	660.8
Total Investment Costs									2,857.3	2,574.7	421.8	192.6	-	6,046.4
II. Recurrent Costs														
A. Local staff														
Deputy Director	pmth	12	12	12	12	12	60	0.8	10.8	11.4	11.9	12.5	13.2	59.8
Socio economist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
Fisheries Technologist	pmth	12	12	12	12	12	60	0.6	8.1	8.5	9.0	9.4	9.9	44.9
Enumerators	pmth	60	180	180	180	180	780	0.1	6.8	21.3	22.4	23.5	24.7	98.6
Accountant	pmth	12	12	12	12	12	60	0.3	4.1	4.3	4.5	4.7	4.9	22.4
Secretary	pmth	12	12	12	12	12	60	0.2	2.7	2.8	3.0	3.1	3.3	15.0
Messenger	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Guard	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Drivers	pmth	24	24	24	24	24	120	0.1	2.7	2.8	3.0	3.1	3.3	15.0
Boat pilot	pmth	12	12	12	12	12	60	0.1	1.4	1.4	1.5	1.6	1.6	7.5
Contract NGO's	ls								33.8	71.0	124.3	156.6	164.5	550.2
Subtotal Local staff									81.2	135.0	191.4	227.1	238.5	873.1
B. Expatriate staff														
TCDC-UNV-APO Socio economist	pmth	12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
TCDC-UNV-APO Fish technologist	pmth	12	12	12	12	12	60	5	66.9	68.7	70.6	72.6	74.6	353.5
Subtotal Expatriate staff									133.8	137.5	141.3	145.2	149.2	707.0

TABLE 5 (CONT.)

TABLE 3 (CONT.)

	Unit	Quantities					Unit Cost	Totals Including Contingencies					
		2002	2003	2004	2005	2006		Total	2002	2003	2004	2005	2006
C. Operation and Maintenance													
Office expenditure	ls							13.5	14.1	14.7	15.3	15.9	73.4
Car maintenance	ls							10.8	11.2	11.6	12.0	12.5	58.0
Fuel expenditures	ls							8.1	8.4	8.7	9.0	9.4	43.5
Boat transportation	ls							5.4	5.6	5.8	6.0	6.2	29.0
DSA	ls							12.1	12.6	13.2	13.8	14.3	66.1
Subtotal Operation and Maintenance								<u>49.8</u>	<u>51.8</u>	<u>53.9</u>	<u>56.1</u>	<u>58.4</u>	<u>270.0</u>
Total Recurrent Costs								<u>264.8</u>	<u>324.3</u>	<u>386.6</u>	<u>428.4</u>	<u>446.0</u>	<u>1,850.2</u>
Total								3,122.1	2,899.0	808.4	621.0	446.0	7,896.6

TABLE 6. TREFIP EXPENDITURE ACCOUNTS, COST SUMMARY

	(Local '000)			(US\$ '000)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
I. Investment Costs								
A. Civil Works	13,420.0	6,345.0	19,765.0	13,420.0	6,345.0	19,765.0	32	56
B. Equipment								
Vehicles	84.6	338.4	423.0	84.6	338.4	423.0	80	1
Office equipment	95.6	480.4	576.0	95.6	480.4	576.0	83	2
Computing equipment	20.0	80.0	100.0	20.0	80.0	100.0	80	-
Training equipment	22.4	33.6	56.0	22.4	33.6	56.0	60	-
Statistical equipment	0.5	1.9	2.4	0.5	1.9	2.4	80	-
Subtotal Equipment	223.1	934.3	1,157.4	223.1	934.3	1,157.4	81	3
C. Credit	3,340.0	-	3,340.0	3,340.0	-	3,340.0	-	9
D. Workshops	250.0	250.0	500.0	250.0	250.0	500.0	50	1
E. monitoring and Evaluation	100.0	-	100.0	100.0	-	100.0	-	-
Total Investment Costs	17,333.1	7,529.3	24,862.4	17,333.1	7,529.3	24,862.4	30	70
II. Recurrent Costs								
A. Salaries								
Local staff	3,611.6	-	3,611.6	3,611.6	-	3,611.6	-	10
Expatriate staff	563.4	5,070.6	5,634.0	563.4	5,070.6	5,634.0	90	16
Subtotal Salaries	4,175.0	5,070.6	9,245.6	4,175.0	5,070.6	9,245.6	55	26
B. Operation and Maintenance								
O&M Vehicles	435.0	435.0	870.0	435.0	435.0	870.0	50	2
Office expenditure	420.0	180.0	600.0	420.0	180.0	600.0	30	2
Subtotal Operation and Maintenance	855.0	615.0	1,470.0	855.0	615.0	1,470.0	42	4
Total Recurrent Costs	5,030.0	5,685.6	10,715.6	5,030.0	5,685.6	10,715.6	53	30
Total BASELINE COSTS	22,363.1	13,214.9	35,578.0	22,363.1	13,214.9	35,578.0	37	100
Physical Contingencies	1,902.3	1,321.5	3,223.8	1,902.3	1,321.5	3,223.8	41	9
Price Contingencies	2,638.3	719.3	3,357.6	2,638.3	719.3	3,357.6	21	9
Total PROGRAMME COSTS	26,903.7	15,255.7	42,159.4	26,903.7	15,255.7	42,159.4	36	118

TABLE 7. TREFIP EXPENDITURE ACCOUNTS BY YEARS -- BASE COSTS (US\$ '000)

	Base Cost					Foreign Exchange	
	2002	2003	2004	2005	2006	Total	% Amount
I. Investment Costs							
A. Civil Works	5,515.0	7,900.0	3,200.0	2,050.0	1,100.0	19,765.0	32.1 6,345.0
B. Equipment							
Vehicles	423.0	-	-	-	-	423.0	80.0 338.4
Office equipment	573.0	3.0	-	-	-	576.0	83.4 480.4
Computing equipment	95.0	5.0	-	-	-	100.0	80.0 80.0
Training equipment	44.0	12.0	-	-	-	56.0	60.0 33.6
Statistical equipment	2.4	-	-	-	-	2.4	80.0 1.9
Subtotal Equipment	1,137.4	20.0	-	-	-	1,157.4	80.7 934.3
C. Credit	1,020.0	685.0	530.0	525.0	580.0	3,340.0	- -
D. Workshops	100.0	100.0	100.0	100.0	100.0	500.0	50.0 250.0
E. monitoring and Evaluation	20.0	20.0	20.0	20.0	20.0	100.0	- -
Total Investment Costs	7,792.4	8,725.0	3,850.0	2,695.0	1,800.0	24,862.4	30.3 7,529.3
II. Recurrent Costs							
A. Salaries							
Local staff	350.4	492.4	702.0	928.4	1,138.4	3,611.6	- -
Expatriate staff	1,242.0	1,287.0	1,287.0	1,053.0	765.0	5,634.0	90.0 5,070.6
Subtotal Salaries	1,592.4	1,779.4	1,989.0	1,981.4	1,903.4	9,245.6	54.8 5,070.6
B. Operation and Maintenance							
O&M Vehicles	174.0	174.0	174.0	174.0	174.0	870.0	50.0 435.0
Office expenditure	120.0	120.0	120.0	120.0	120.0	600.0	30.0 180.0
Subtotal Operation and Maintenance	294.0	294.0	294.0	294.0	294.0	1,470.0	41.8 615.0
Total Recurrent Costs	1,886.4	2,073.4	2,283.0	2,275.4	2,197.4	10,715.6	53.1 5,685.6
Total BASELINE COSTS	9,678.8	10,798.4	6,133.0	4,970.4	3,997.4	35,578.0	37.1 13,214.9
Physical Contingencies	865.9	1,011.3	560.3	444.5	341.7	3,223.8	41.0 1,321.5
Price Contingencies	210.5	734.6	690.3	823.4	898.8	3,357.6	21.4 719.3
Total PROGRAMME COSTS	10,755.2	12,544.3	7,383.6	6,238.3	5,238.0	42,159.4	36.2 15,255.7
Taxes	-	-	-	-	-	-	- -
Foreign Exchange	4,302.1	4,479.3	2,891.8	2,117.8	1,464.8	15,255.7	- -

TABLE 8. TREFIP COMPONENTS BY YEAR – BASE COSTS (US\$ '000)

	Base Cost					Total
	2002	2003	2004	2005	2006	
1. Regional Office	1,197.2	1,186.2	1,186.2	952.2	664.2	5,186.0
2. Burundi	2,303.8	738.6	450.6	195.6	195.6	3,884.2
3. DRC	695.9	2,745.8	3,072.4	2,460.8	1,695.8	10,670.7
4. Tanzania	2,666.1	3,641.4	750.4	868.4	1,103.4	9,029.7
5. Zambia	2,815.8	2,486.4	673.4	493.4	338.4	6,807.4
Total BASELINE COSTS	9,678.8	10,798.4	6,133.0	4,970.4	3,997.4	35,578.0
Physical Contingencies	865.9	1,011.3	560.3	444.5	341.7	3,223.8
Price Contingencies	210.5	734.6	690.3	823.4	898.8	3,357.6
Total PROJECT COSTS	10,755.2	12,544.3	7,383.6	6,238.3	5,238.0	42,159.4
Taxes	-	-	-	-	-	-
Foreign Exchange	4,302.1	4,479.3	2,891.8	2,117.8	1,464.8	15,255.7

TABLE 9. TREFIP COMPONENTS BY YEAR – TOTALS INCLUDING CONTINGENCIES (US\$ '000)

	Totals Including Contingencies					
	2002	2003	2004	2005	2006	Total
1. Regional Office	1,337.6	1,366.8	1,409.8	1,171.2	851.3	6,136.6
2. Burundi	2,561.8	844.1	540.2	248.1	258.4	4,452.5
3. DRC	765.2	3,192.7	3,725.0	3,106.4	2,231.5	13,020.9
4. Tanzania	2,968.4	4,241.7	900.3	1,091.6	1,450.7	10,652.8
5. Zambia	3,122.1	2,899.0	808.4	621.0	446.0	7,896.6
Total PROGRAMME COSTS	10,755.2	12,544.3	7,383.6	6,238.3	5,238.0	42,159.4

TABLE 10. TREFIP COMPONENT COST SUMMARY

	(Local '000)			(US\$ '000)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
1. Regional Office	1,427.6	3,758.4	5,186.0	1,427.6	3,758.4	5,186.0	72	15
2. Burundi	2,552.6	1,331.5	3,884.2	2,552.6	1,331.5	3,884.2	34	11
3. DRC	7,702.8	2,967.9	10,670.7	7,702.8	2,967.9	10,670.7	28	30
4. Tanzania	6,353.5	2,676.2	9,029.7	6,353.5	2,676.2	9,029.7	30	25
5. Zambia	4,326.5	2,480.9	6,807.4	4,326.5	2,480.9	6,807.4	36	19
Total BASELINE COSTS	22,363.1	13,214.9	35,578.0	22,363.1	13,214.9	35,578.0	37	100
Physical Contingencies	1,902.3	1,321.5	3,223.8	1,902.3	1,321.5	3,223.8	41	9
Price Contingencies	2,638.3	719.3	3,357.6	2,638.3	719.3	3,357.6	21	9
Total PROGRAMME COSTS	26,903.7	15,255.7	42,159.4	26,903.7	15,255.7	42,159.4	36	118

TABLE 11. TREFIP EXPENDITURE ACCOUNTS BY YEARS – TOTALS INCLUDING CONTINGENCIES (US\$ '000)

	Totals Including Contingencies					Total
	2002	2003	2004	2005	2006	
I. Investment Costs						
A. Civil Works	6,195.5	9,243.5	3,894.7	2,607.4	1,461.0	23,402.1
B. Equipment						
Vehicles	472.3	-	-	-	-	472.3
Office equipment	639.5	3.5	-	-	-	643.0
Computing equipment	106.1	5.8	-	-	-	111.8
Training equipment	49.2	13.9	-	-	-	63.1
Statistical equipment	2.7	-	-	-	-	2.7
Subtotal Equipment	1,269.7	23.2	-	-	-	1,292.9
C. Credit	1,045.5	737.2	598.9	622.9	722.6	3,727.2
D. Workshops	112.1	116.3	120.7	125.2	130.0	604.2
E. monitoring and Evaluation	22.6	23.7	24.9	26.1	27.4	124.6
Total Investment Costs	8,645.3	10,143.9	4,639.1	3,381.7	2,341.0	29,151.0
II. Recurrent Costs						
A. Salaries						
Local staff	395.1	582.9	872.6	1,211.8	1,560.2	4,622.6
Expatriate staff	1,385.0	1,474.7	1,515.3	1,274.1	951.3	6,600.4
Subtotal Salaries	1,780.1	2,057.6	2,388.0	2,485.9	2,511.4	11,222.9
B. Operation and Maintenance						
O&M Vehicles	195.0	202.3	209.9	217.9	226.2	1,051.3
Office expenditure	134.8	140.5	146.5	152.8	159.4	734.1
Subtotal Operation and Maintenance	329.8	342.9	356.5	370.7	385.6	1,785.4
Total Recurrent Costs	2,109.9	2,400.5	2,744.5	2,856.6	2,897.0	13,008.4
Total PROGRAMME COSTS	10,755.2	12,544.3	7,383.6	6,238.3	5,238.0	42,159.4

ANNEX 10. PREPARATORY PHASE

A six-month TREFIP Preparatory Phase is proposed in order to secure a proper foundation for the five-year Programme. This phase would aim at four major outputs and would cost an estimated \$342,100, under a technical assistance grant from the AfDB.

1. Preparatory Outputs

1.1 Preparatory Output 1: Agreed approach for building fisheries legal frameworks.

Work needs to commence as soon as possible on improving legal frameworks at the respective national levels to support harmonised fisheries management at the regional level. This is crucial to the TREFIP workplan because it would otherwise be impossible to establish meaningful co-management arrangements (Community Fishery Management Zones and Local Fisheries Councils), including the new license and fish levy revenue sharing procedures, resource property right definitions, and MCS measures necessary for their operation. Programme ambitions for regional integration in terms of common fisheries policy and policy instruments and establishment of a permanent Lake Tanganyika fisheries management entity would equally be impossible to realise without revision of existing national legislative and regulatory provisions.

License/fish levy revenue sharing arrangements needed for TREFIP operations

Although the four countries have different licensing/catch levy requirements, compliance rates are generally very poor and none of them are very efficient in terms of raising revenue. The central government departments or local councils of the respective countries now retain license and levy collections.

In order to establish a pilot co-management system around Lake Tanganyika and to initiate the TREFIP Micro-Credit Scheme, appropriate legal and institutional arrangements will have to be put in place within each of the lacustrine States. Specifically, pilot Community Fisheries Management Zones (CFMZs) would need to be legally designated, and a Local Fisheries Council entity recognised.

It will also be necessary to obtain authority and accordingly set up the legal and institutional arrangements for Local Fisheries Councils to manage 50 percent of the value of the licenses and the proposed \$0.50 per 80 kg (= 2 boxes fresh clupeids) of fresh fish.

Revision of existing national legislative and regulatory provisions

During the Preparatory Phase the TREFIP PC, Legal Advisor, and Socio-economist will collaborate with the competent national authorities to facilitate revision of relevant national legislative and regulatory provisions. Country task forces will be formed and in each case an overall programme of work drawn up, under which specific requirements would first be identified and a series of activities designed to satisfy them implemented. Although the requirements for fisheries legislation overhaul differ between the four lacustrine States, the following broad provisions should be put in place:

- umbrella-type legislation covering all the fisheries within particular national jurisdictions should be supplemented with specific regulations to fit the particular circumstances of Lake Tanganyika, and these latter should be harmonised between the four littoral States.
- legislation within each State should allow for participation in regional efforts to guide resource use and conservation on an internationally shared basis.
- co-management arrangements should be authorised under a framework of Community Fishery Management Zones and Local Fisheries Councils, enabling fuller participation of stakeholders in management decision-making functions through the assumption of resource property and access rights, and shared responsibility for operation of enforcement and compliance assurance mechanisms.

As comprehensive revision of national fisheries legislation may involve quite a lengthy process, at least in some cases, interim measures can be put in place to allow TREFIP activities to proceed without undue delay. Thus, where necessary, national waters of Lake Tanganyika could be declared a 'Special Fisheries Management Area' by the competent legislative or executive authority, for a trial period of ten years. The competent ministry or authority in charge of fisheries matters within the State would in turn be assigned appropriate authority for ensuring that relevant legal measures are put in force allowing operation of CFMZs and LFCs and attendant micro-credit and other activities according to the TREFIP work plan.

Conditions for loan and technical assistance provision

Such interim measures, along with a formal commitment by competent authorities to undertake comprehensive overhaul of national fisheries legislation, could be regarded as a requirement to be met before loan and technical assistance agreements are signed and full Programme operations commenced in any one country.

1.2 Preparatory Output 2: Selection of NGOs

Different NGOs have been contacted during the feasibility mission and some have shown great interest in participating in the implementation of the Programme. During the Preparatory Phase, these and other NGOs which meet TREFIP requirements (experience with community development outreach activities within the country and especially the lake basin region, with particular experience in group mobilisation, fisheries-related activities, micro-credit, and construction of facilities at village level) will be considered for service contracts to execute the pilot LFC programme.

A provision of \$20,000 has been made for each NGO contract (\$10,000 for NGO mobilisation and of \$4,000 for operations in each pilot village) to cover the first year of the LFC programme. NGO contracts need to be negotiated and signed during the Preparatory Phase in order to start the Pilot One village partnerships according to schedule. Training of NGO staff in fisheries related activities will be co-ordinated by the PC and the Socio-economist in each of the four countries.

1.3 Preparatory Output 3: Establish Regional (PIU) office

The preparatory phase will also be utilised to set up the PIU office in Bujumbura. The old LTR offices are already available and TREFIP staff assigned to the preparatory phase will thus be able to have an immediate base of operations.

In addition to undertaking the tasks outlined above, relating to securing a legal framework for TREFIP co-management initiatives and negotiations for NGO services, the PC with the assistance of the Socio-economist would use the Preparatory Phase period to float tenders for the acquisition of vehicles, boats, and other essential Programme equipment, so that these items will be available in a timely fashion. They would further undertake recruitment of local staff and of international personnel scheduled to join TREFIP after the IOP date, and prepare the Monitoring and Evaluation Programme. In addition, they would contact relevant government and local council authorities and private/NGO construction contractors to discuss plans for civil works activities (mainly roads, jetties and markets) and the expansion of PIU offices to accommodate the full complement of TREFIP after IOP in early 2002.

2. Costs

The estimated cost of the preparatory phase is US\$ 342,100, as detailed in the following table.

COST ESTIMATE FOR TREFIP PREPARATORY PHASE (US\$ '000)

Year	2001						
	Unit	Unit cost	Qty	Cost	%FC	Total FC	LC
1.Investments							
Vehicles	2	29	2	58	100	58	
Computers	2	5	2	10	100	10	
Sub total (1)				68		68	
2.Running costs							
Salaries							
CTA	1	15	6	90	100	90	
Socio economist	1	12	6	72	100	72	
Legislation specialist	1	20	3	60	100	60	
Secretary	1	0.2	6	1.2	0	0	1.2
Drivers	2	0.1	12	1.2	0	0	1.2
Office messenger	1	0.1	6	0.6	0	0	0.6
Guard	1	0.1	6	0.6	0	0	0.6
				0	0	0	
Air tickets	1	0.6	15	9	100	9	
DSA	1	0.07	84	5.88	100	5.88	
Office expenditures	1	0.2	6	1.2	0	0	1.2
Fuel	6	0.1	6	0.6	0	0	0.6
Sub total (2)				242.3		236.9	5.4
Total (1) + (2)				310.3		304.9	5.4
Unforeseen	5%			15.5		15.2	0.3
Total before inflation				325.8		320.1	5.7
Inflation	5%			16.3		16.0	0.3
Grand total				342.1		336.1	6.0

ANNEX 11. PROGRAMME ECONOMIC ANALYSIS

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Programme costs ('000\$)	10725	12544	7384	6238	5338	0	0	0	0	0
Maintain/increase of production (mt)	0	0	2000	4000	5000	6000	10000	10000	10000	10000
Value of production ('000\$)	0	0	1000	2000	2500	3000	5000	5000	5000	5000
Added value*	0	0	50	100	125	150	250	250	250	250
Number of co-managed villages	20	55	95	145	200	200	200	200	200	200
Benefit to inhabitants **	0	700	1925	3325	5075	7000	7000	7000	7000	7000
Benefit due to the programme	0	700	2975	5425	7700	10150	12250	12250	12250	12250
Programme cash flow	-10725	-11844	-4409	-813	2362	10150	12250	12250	12250	12250
ERR	14%									

* Hypothesis: the added value on sales is 20% per kg of fish. Added value is considered from year 3 on 1000 mt, year 4 on 2000 mt, etc., up to year 10.

** Hypothesis: 700 inhabitants per co managed village. Each inhabitant has a benefit of 50 \$ per year from education/health beginning one year after IOP.

Sensitivity analysis

1) Value of production decreases 10% and added value on sales is 10%:
ERR= **13%**

2) Value of production decreases in 10% and Maintain/increase of production decreases 30%:
ERR= **10%**

3) Value of production increases 10%:
ERR= **15%**

4) Benefit for inhabitants is 100 \$/yr:
ERR= **29%**

5) Price per kg is 1.5 \$
ERR= **31%**

ANNEX 12. PROGRAMME FUNDING PROPOSAL
(Figures in US\$ millions)

	AfDB	GEF/UNDP	Total
1. Preparatory Phase	0.34	0	0.34
2. Investments			
Infrastructure improvement/development	19.75	3.59	23.34
Equipment	0	1.3	1.3
Credit	0	3.79	3.79
Workshops	0	0.6	0.6
M&E	0	0.12	0.12
Sub total investment	19.75	9.40	29.15
Sub total 1+2	20.09	9.40	29.49
3. Recurrent costs			
Salaries			
Local	0	4.62	4.62
International	0	6.6	6.6
O&M	0	1.79	1.79
Sub total	0	13.01	13.01
TOTAL	20.09	22.41	42.50
Percentage	0.47	0.53	1.00
Grants	5.28	22.41	
Loans			
.Burundi	1.45		
.DRC	5.81		
.Tanzania	4.51		
.Zambia	3.04		
Sub-total loans	14.81		14.81
Sub-total grants			27.69
Total TREFIP			42.50