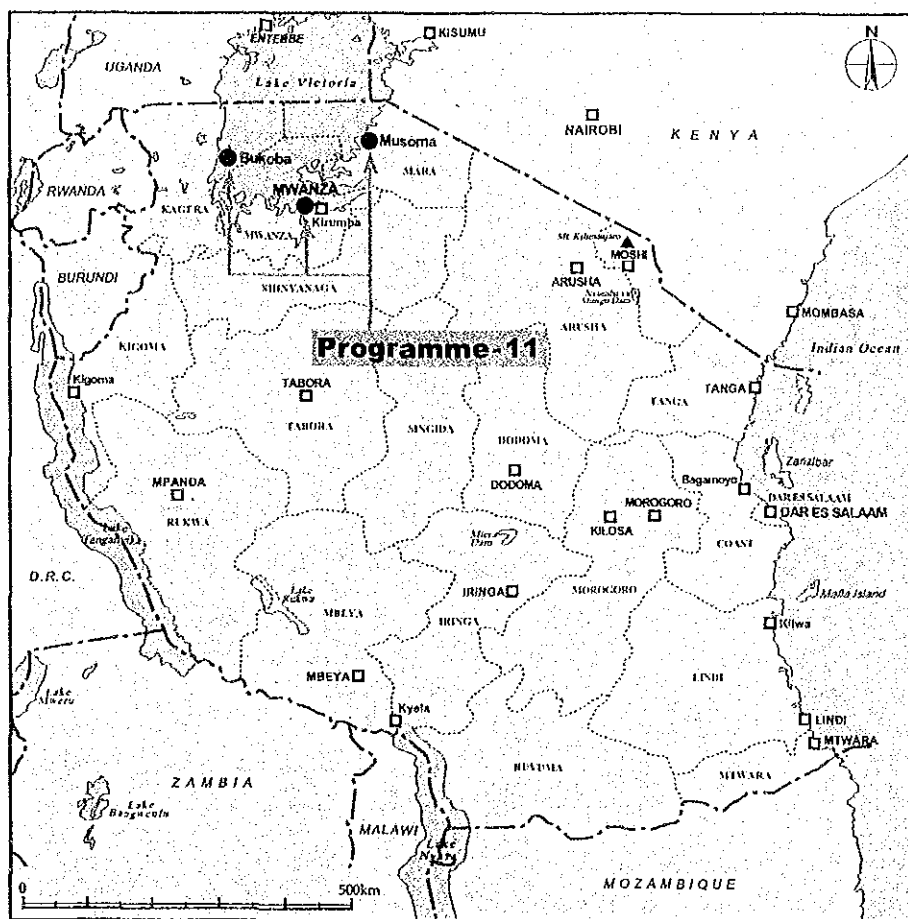


Programme-11

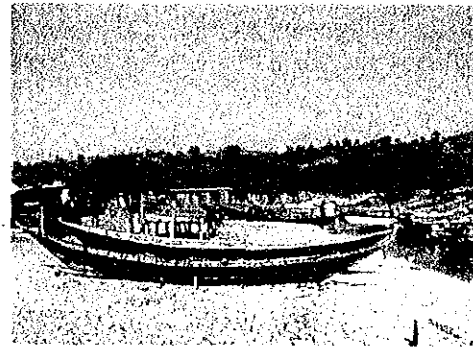
2.11 Lake Victoria Major landing Beach Improvement Programme



Planning site : Mwanza, Musoma, Bukoba



Igombe Nile perch landing site.



Bwiro landing site.



Landing site at Nyamkazi, Kagera Region.



Kayenze landing site with jetty and barge.



Landing barge at Nkome.



Loading fish into refrigerated truck from Nile perch processing factory.

2.11 Lake Victoria Major Landing Beach Improvement Programme

(1) Programme Description

A Description

Landing beaches along the Lake Victoria, since Nile perch has been landed for EU market, are rapidly improved hygienically through ad-hoc visit of EU inspector and technical advice of quality control section of Fisheries Division. There are some platforms for weighing and screening of fish built by fish agents themselves. Landing barges are also installed by the effort of Fisheries Division at the selected beaches. But there are more than 600 landing beaches along the lake and further hygienic handling of fish is requested in terms of mitigation of post-harvest loss. This project aims at introducing hygienically improved fish handling system by means of installation of a landing jetty or landing berg for the efficient landing work, and of construction of a fish handling facility which satisfy the HACCP standard so that fish can be landed, selected, weighed and loaded to the insulated van or insulated carrier boat as immediately as possible. In addition, the project tries to organize fishers who are attracted by the landing facility, support fishery cooperative and its operation, and contribute to the fishers.

B Location

Igombe TX area (Mwanza region), Mwigobero (Mara region) and Nyamkazi (Kagera region)

C Duration

36 months

(2) Objectives and Justification

According to the Frame Survey 2000 of the Fisheries Division, there are more than 600 landing sites observed only on the Tanzanian part of the Lake. Most of them are just a sandy beach (some are rocky beach). However some of the heavily landed beaches are visited by EU inspector and officially recognized by the Fisheries Division. Such landing beaches are being developed by putting the landing barge and public toilets. According to the National landing barge installation project, 52 barges are scheduled to be installed in Tanzanian water but 7 to 8 barges have been installed so far. And EU financed LVFRP (Lake Victoria Fisheries Research Project) phase III also plans to improve 18 landing site all over the Lake including Kenya and Uganda. In this manner, the improvement of fish landing site is a common subject for riparian countries in a hygienic point of view and its harmonized implementation will lead to the accreditation of EU consumer market. This project plans to improve one site at each region taking into account the regionally balanced development.

Under the current situation that price and marketing channel is decided unilaterally by the agents, in order to overcome this situation and establish the relationship that producer is superior to agents, producers should unite each other and act as a group. In that occasion, a public facility can give fishers who generally tend to be independent, incentive to unite. This programme, not only constructs the facility but also implement the training programme to enhance the capacity of fishers' group as a management body of said facility as well as a benefit pursuing body for producers.

The purpose of this programme is to support and upgrade fishers to the level that they are organized and they ship their fish as a fishery cooperative. With this achievement, the cooperative takes expense and commission for marketing that is owed by local middlemen or agents. Local middlemen intermediate between fishers and agents, and take commission of 10 percent of fish sales at landing beach. No additional service is added in this process. The agents are businessmen, who have insulated van or boat and ice, take the difference between beach price and purchase price of the factory as their

benefit. The joint shipment by the fishery cooperative takes the benefit of fishers and expects to bring 20 percent more of fish price. Because of the marketing restructure, local middlemen will be phased out. And with the participation of fishery cooperatives into Nile perch marketing business, the principle of price competition will be introduced in the price decision process.

(3) Components and Activities

This project aims at improving one of the strategically important landing site at each region and supporting fishers to cooperate each other and upgrade themselves. Concrete activities are as follows.

- a) Creation of preparatory committee for fishery cooperative, which will be the management body of new landing facility.
- b) Support of the preparation of cooperative constitution
- c) Support of the explanation of cooperative concept and its constitution, recruitment of members and approval of management board.
- d) Technical discussion on the fish landing facility in participation of management board members.
- e) Final agreement on facility plan and equipment specification with management board and Fisheries Division.
- f) Construction of fish landing facility,
- g) Support of business set up after inauguration

(4) Facility and Equipment Plan

A Basic Design Policy

The purpose of this programme is to improve the working environment at some of the regionally important landing sites and strengthen the landing function. Particularly, it is important to install ice plant at landing sites to gain control of ice supply and fish price making from agents.

B Site Condition

① Igombe TX

Within the reach of 30 minutes drive from Mwanza city centre, Igombe TX is a village having the population of approx. 13,000. The economy of village depends on Nile perch. The access road to the beach is filled with a number of small shops and bars at both sides. There are wooden platforms to wash, select and weight fish but nothing else.

② Mwigobero

This is the traditional landing site of Musoma, having the area of 40m by 120m. In spite of the absence of jetty, there are small vendors of maize, Dagaa and other products, storage, fuel station, public toilet, hostel for fishers. Taking into consideration of the future development potential, however, ice plant and landing shed is indispensable.

③ Nyamkazi

Nyamkazi is the biggest landing site in Bukoba and a representative landing site along the west coast of Lake Victoria.

C Content of Facility

Description of the Programme

- Landing facility at 3 sites is consisted of jetty, ice plant, management office, fish handling house.
- Steel made floating barge is used for jetty.
- Fish handling space is covered by big roof to avoid direct sunshine and rain, and improve workability. Ice plant and management office is arranged at both sides of handling area.
- Access road from the main road to the landing facility and lead of power cable into the site will be implemented.
- Water reservoir tank is built at the basement of ice plant so as to enlarge the sub-base and assure the structural stability

Content of Facility

Landing facility is consisted of following component at each landing site.

① Igombe TX

	Facility	Structure and specification	Surface	Remarks
1	Floating barge	Steel made with metal roof	68	22.7mx3.0m
2	Cause-way	Steel made, RC structure	30	
3	Fresh fish handling area	Concrete block made flat house with metal roof	56	
4	Ice plant	Concrete block made flat house with metal roof	22	
5	Office	Concrete block made flat house with metal roof	135	Office, meeting room, toilet
6	Truck parking	Asphalt pavement	100	
7	Fuel depot	Concrete block made flat house with metal roof	16	
8	Guard post	Concrete block made flat house with metal roof	5	
9	Smoking hut	Concrete block made flat house with metal roof	33	

② Mwigobero

	Facility	Structure and specification	Surface	Remarks
1	Floating barge	Steel made with metal roof	176	22.7mx3.0m
2	Cause-way	Steel made, RC structure	190	
3	Whole sale area and Product storage	Concrete block made flat house with metal roof	825	Ice machine, Office
4	Retail booth	Concrete block made flat house with metal roof	204	For Dagaa
5	Retail booth	Concrete block made flat house with metal roof	120	For other products
6	Truck parking	Asphalt pavement	650	

③ Nyamkazi

	Facility	Structure and specification	Surface	Remarks
1	Floating barge	Steel made with metal roof	84	28.1mx3.0m
2	Cause-way	Steel made, RC structure	175	
3	Fresh fish handling area	Concrete block made flat house with metal roof	141	
4	Ice plant	Concrete block made flat house with metal roof	29	
5	Office	Concrete block made flat house with metal roof	106	Office, meeting room, toilet
6	Truck parking	Asphalt pavement	600	
7	Fuel depot	Concrete block made flat house with metal roof	11	

D Content of Equipment

① Igombe TX

Equipment	Number	Specification/Reference
Ice machine	2 unit	3 tons per day, flake ice
Insulated truck	2 unit	Payload 4 tons
Patrol boat	1 boat	Wooden boat with 75Hp OBE
VHF radio (for base station)	1 unit	Output 25W
VHF radio (for portable use)	1 unit	Portable splash proof with charger
SSB radio (for base station)	1 unit	Output 150W
Weighing scale	3 pcs.	0-100kg
Insulated fish box	6 pcs.	1,000 litres with cover
Plastic fish box	30 pcs.	70 litres
Water pump, sand filter and CI injector	2 set	
Data treatment apparatus	1 set	IBM/PC convertible with printer and UPS

② Mwigobero

Equipment	Number	Specification/Reference
Ice machine	2 unit	2 tons per day, flake ice
Weighing scale	1 pc.	0-100kg
Insulated fish box	2 pcs.	1,000 litres with cover
Plastic fish box	10 pcs.	70 litres
Data treatment apparatus	1 set	IBM/PC convertible with printer and UPS

③ Naymkazi

Equipment	Number	Specification/Reference
Ice machine	2 unit	4 tons per day, flake ice
Insulated fish carrier boat	2 boat	Payload 4 tons
Patrol boat	1 boat	Wooden boat with 75Hp OBE
VHF radio (for base station)	1 unit	Output 25W
VHF radio (for portable use)	1 unit	Portable splash proof with charger
SSB radio (for base station)	1 unit	Output 150W
Weighing scale	3 pcs.	0-100kg
Insulated fish box	6 pcs.	1,000 litres with cover
Plastic fish box	30 pcs.	70 litres
Data treatment apparatus	1 set	IBM/PC convertible with printer and UPS

(5) Operation and Management Plan

A Organization and Management

District Fisheries Officer of each district in which project site locates is responsible for the implementation. And Fisheries Development Section of the Fisheries Division is also responsible for all, the project site comprehensively. Each District Fisheries Office takes an important role of communication with artisanal fishers, strengthening of fishery cooperatives, in a grass root point of view.

B Personnel Plan

Following personnel would be required for the project implementation.

Job description	Number	Source of recruit	Period
Comprehensive project coordinator	1	Fisheries Division	36 months
District level project coordinator	3	District fisheries office	36 months
Capacity building expert for fishers	3		24 months
Judicial expert to support preparation of constitution	1		9 months
Instructor for ice machine operation and maintenance	1		3 months
Business skill instructor	3		3 months
Quality Control advisor	3		3 months

C Role of NGO

Active involvement of local consultant (NGO) would be expected for the capacity building of fishers.

D Staff Training

Short-term training would be conducted in the field of "operation and maintenance of fish landing facility" and "strengthening of fishery cooperative".

(6) Work Plan

Major activities	Responsibilities	Schedule	Output
Creation of preparatory committee for fishery cooperative	District Fisheries office	_____	Conceptual paper
Preparation of cooperative constitution	Preparatory committee	_____	Constitution
Explanation to fishermen, recruitment promotion, approval of management board	Preparatory committee	_____	Minutes of meeting of general assembly
Design of landing facility	District Fisheries office Preparatory committee	_____	Design document and specification
Final agreement on the project design	District Fisheries office Preparatory committee	_____	Tender document
Construction of landing facility	District Fisheries office	_____	Fish landing facility
Fishermen Capacity Building - Cooperative - Business skill - Q/C of fishery products - Operation and maintenance	District Fisheries office	_____	Board members are trained at each site.

(7) Cost Estimate

① Igombe TX

Designation		Cost (Tsh)	Cost (US\$)	Remarks
Construction cost	1	13,488,000	15,386	Floating barge
	2	2,724,000	3,107	Cause-way
	3	8,208,000	9,364	Fresh fish handling area
	4	3,168,000	3,614	Ice plant
	5	24,300,000	27,720	Office
	6	1,200,000	1,369	Truck parking
	7	2,304,000	2,628	Fuel depot
	8	720,000	821	Guard post
	9	4,752,000	5,420	Smoking hut
	Subtotal	60,864,000	69,431	
1) Electricity cable lead-in		22,200,000	25,325	L=300m, 3 phase
2) New access road		42,600,000	48,595	L=350m, W=5m
Equipment cost		314,721,000	360,270	Annex 2.11-1
Total project cost		440,385,000	503,619	

② Mwigobero

Designation		Cost (Tsh)	Cost (US\$)	Remarks
Construction cost	1	13,488,000	15,386	Floating barge
	2	17,268,000	19,698	Cause-way
	3	118,800,000	135,521	Whole sale, storage
	4	29,376,000	33,511	Retail booth
	5	17,280,000	19,712	Retail booth
	6	3,600,000	4,107	Truck parking
	Subtotal	199,812,000	227,935	
Equipment cost		150,507,000	171,812	Annex 2.11-1
Total project cost		350,319,000	399,747	

③ Nyamkazi

Designation		Cost (Tsh)	Cost (US\$)	Remarks
Construction cost	1	16,668,000	19,014	Floating barge
	2	15,888,000	18,124	Cause-way
	3	20,304,000	23,161	Fresh fish handling area
	4	4,176,000	4,764	Ice plant
	5	19,080,000	21,766	Office
	6	3,600,000	4,106	Truck parking
	7	1,584,000	1,807	Fuel depot
	Subtotal	81,300,000	92,742	
Electricity cable lead-in		5,280,000	6,023	L=70m, 3 phase
Equipment cost		325,521,000	371,598	Annex 2.11-1
Total project cost		412,101,000	470,363	

Project Management Cost

Component	Number	Unit cost	Cost (Tsh)	Cost (US\$)
Motor bicycle for extension	3unit	1,500,000Tsh	4,500,000	5,000
Misc. cost	1set	50,000Tsh/month	1,800,000	2,000
Sub-total			6,300,000	7,000

Personnel cost

Component	Number	Unit cost	Cost (Tsh)	Cost (US\$)
Capacity building expert	72M/M	4,467,600 Tsh/month	321,667,200	367,200
Judicial expert	9M/M	4,467,600 Tsh/month	40,208,400	45,900
Ice machine O&M instructor	3M/M	4,467,600 Tsh/month	13,402,800	15,300
Business skill instructor	9M/M	4,467,600 Tsh/month	40,208,400	45,900
Q/C advisor	9M/M	150,000Tsh/month	1,350,000	1,500
Sub-total			416,836,800	475,800

Summary of project cost

Component	Cost (Tsh)	Cost (US\$)
Igombe TX fish landing facility	440,385,000	503,619
Nyamkazi fish landing facility	350,319,000	399,747
Mwigobero fish landing facility	412,101,000	470,363
Project management cost	6,300,000	7,192
Personnel cost	416,836,800	475,800
Total	1,625,941,800	1,856,721

(8) Cost Analysis

Sale of ice occupies high percentage of total income in most of the landing facilities. Ice production and its sale is usually a highly beneficial business. So the operation of fish landing facility could be profitable. However, if the income structure is simple, when the main segment (ice business) is not going well, the operation of facility as a whole will be at stake. The highest attention should be paid to the maintenance of ice machine who generate biggest income.

(9) Monitoring

District Fisheries Officer is responsible for the monitoring of project progress every quarter of a year. And comprehensive project coordinator is, in collaboration with LVEMP task leader, in charge of overall monitoring once a year.

At the same time, a consideration should be made to assessment and monitoring of the fisheries resources and aquatic environment on the project activities. This will provide research to generate scientific information which will be the basis for management decision. For that purpose, fisheries groups are utilised for the data collection under the supervision of TAFIRI and district fisheries officers. The fishery officers follow up the fishing activities of each groups and give them necessary guidance and instructions. Fishing log books are prepared and the groups are ordered to keep the log books recording every fishing operation including the following items. These data will be summed up periodically to observe their transition in long term.

- fishing ground
- fishing method, size of fishing gears
- times of fishing operations
- quantity of catch
- main species

(10) Environmental Impact

This programme could be classified as “fish landing station” listed in NEMC’s Tanzania Environmental Impact Assessment Procedure, Appendix 2, which may or may not require EIA. The impact of the facilities on the physical environment at the project sites will be negligible therefore a full EIA would not be necessary. The positive impacts will be on the improved handling facilities that will ensure better quality and hygiene of the landed fishes. With these facilities, the incentives for the management body will be considerable as it will provide a source of income and base of operation. With financial security, the fisheries extension service should encourage the management body to undertake co-management activities and other environment conservation activities to not only enhance the environment in the lake but also the surrounding lakeside areas in terms of vegetation/forest cover to reduce the sedimentation pollution load into the lake.

(11) Linkage

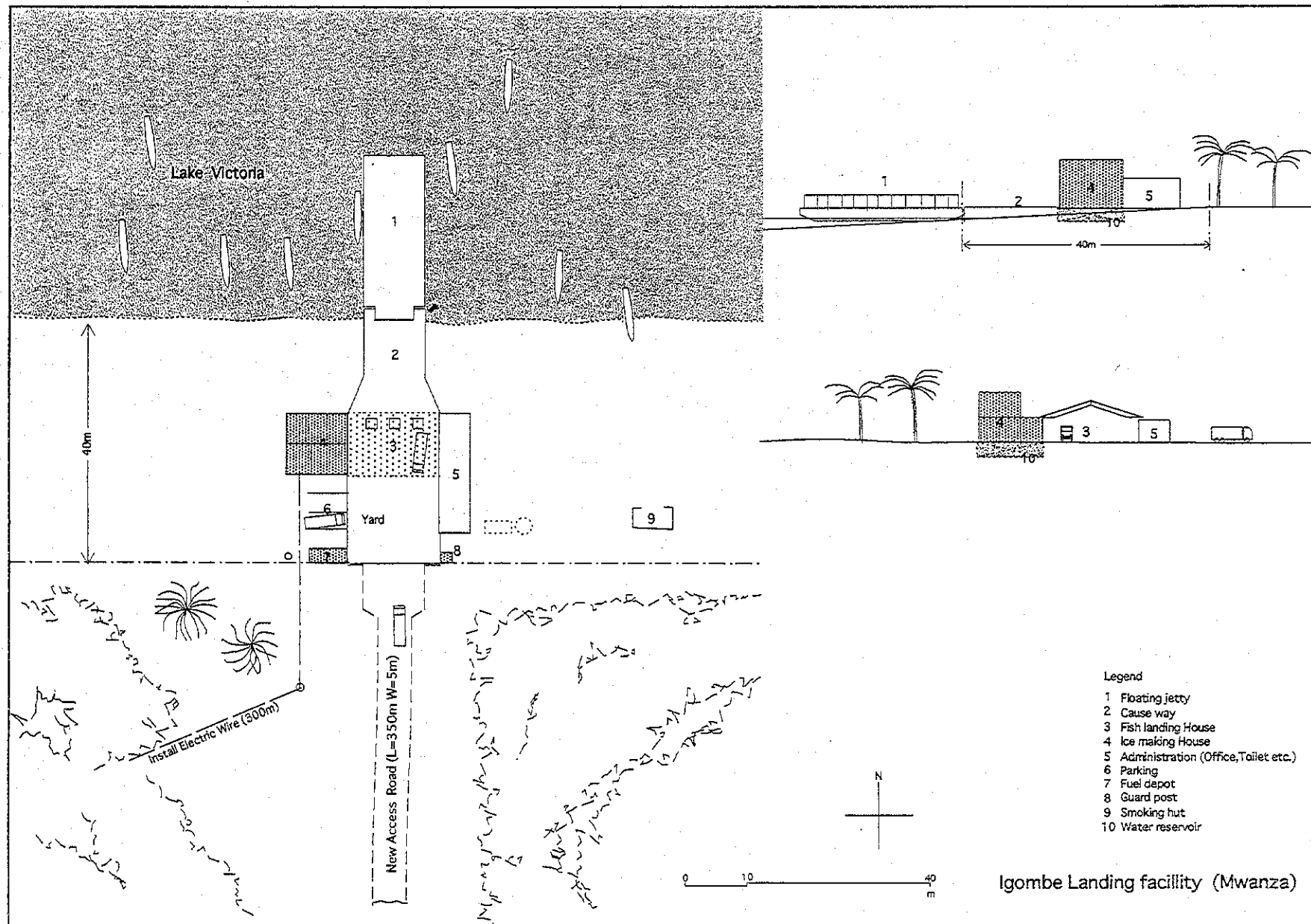
A Inter-sectorial Linkage

Capacity building for fishers toward the creation and strengthening of fishery cooperative should be conducted in a close collaboration with Ministry of Cooperative.

Since electrification of Igombe TX fishing village is a prerequisite for the project, the close linkage with TANESCO and relevant authorities would be necessary.

B Project Linkage

LVFO (Lake Victoria Fisheries Organization) plans to improve 18 landing sites on the coast of three riparian countries as a part of LVFRP phase III. This project should, not only avoid the overlapping of the site but also share the development idea or concept with said project.



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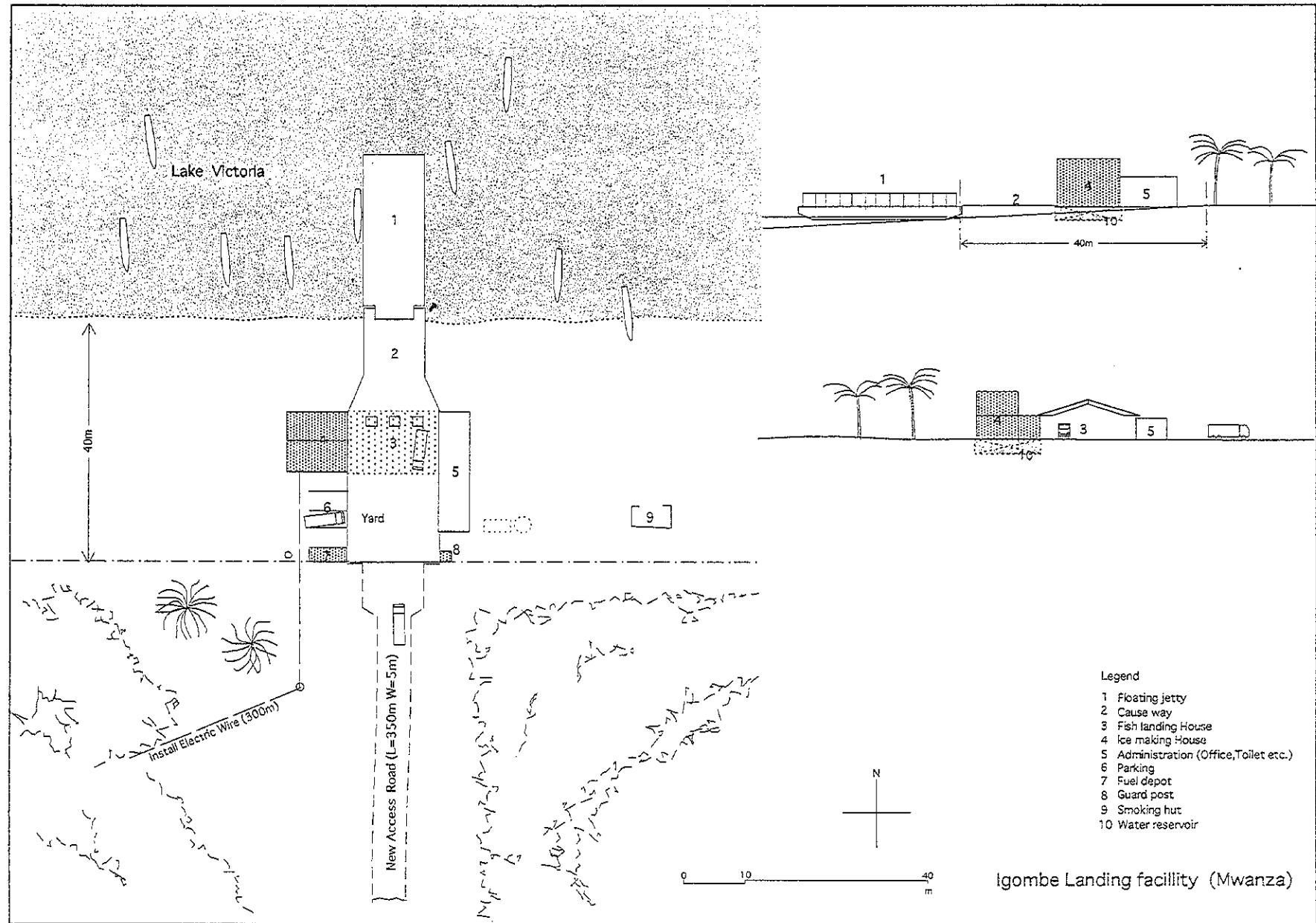
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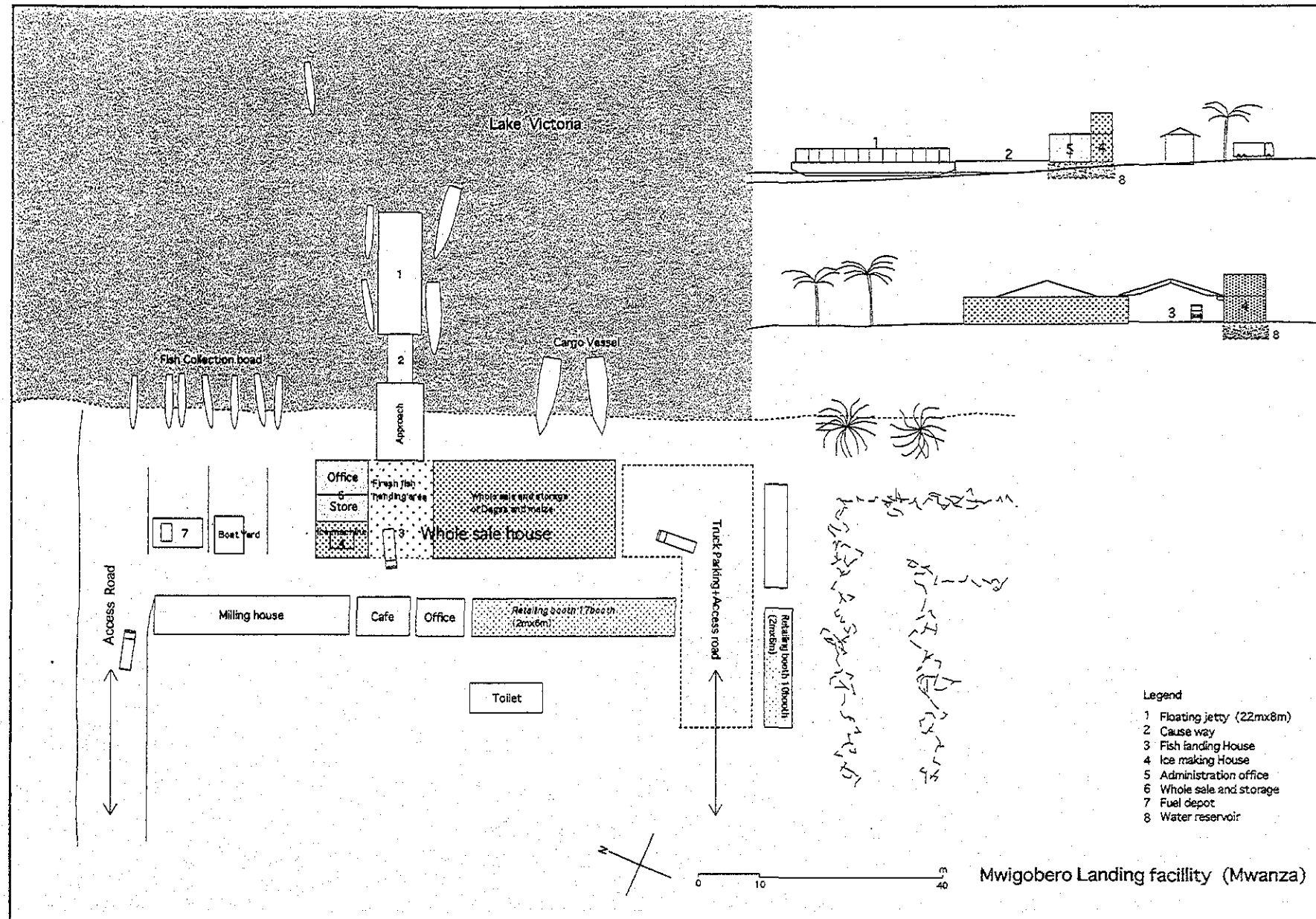
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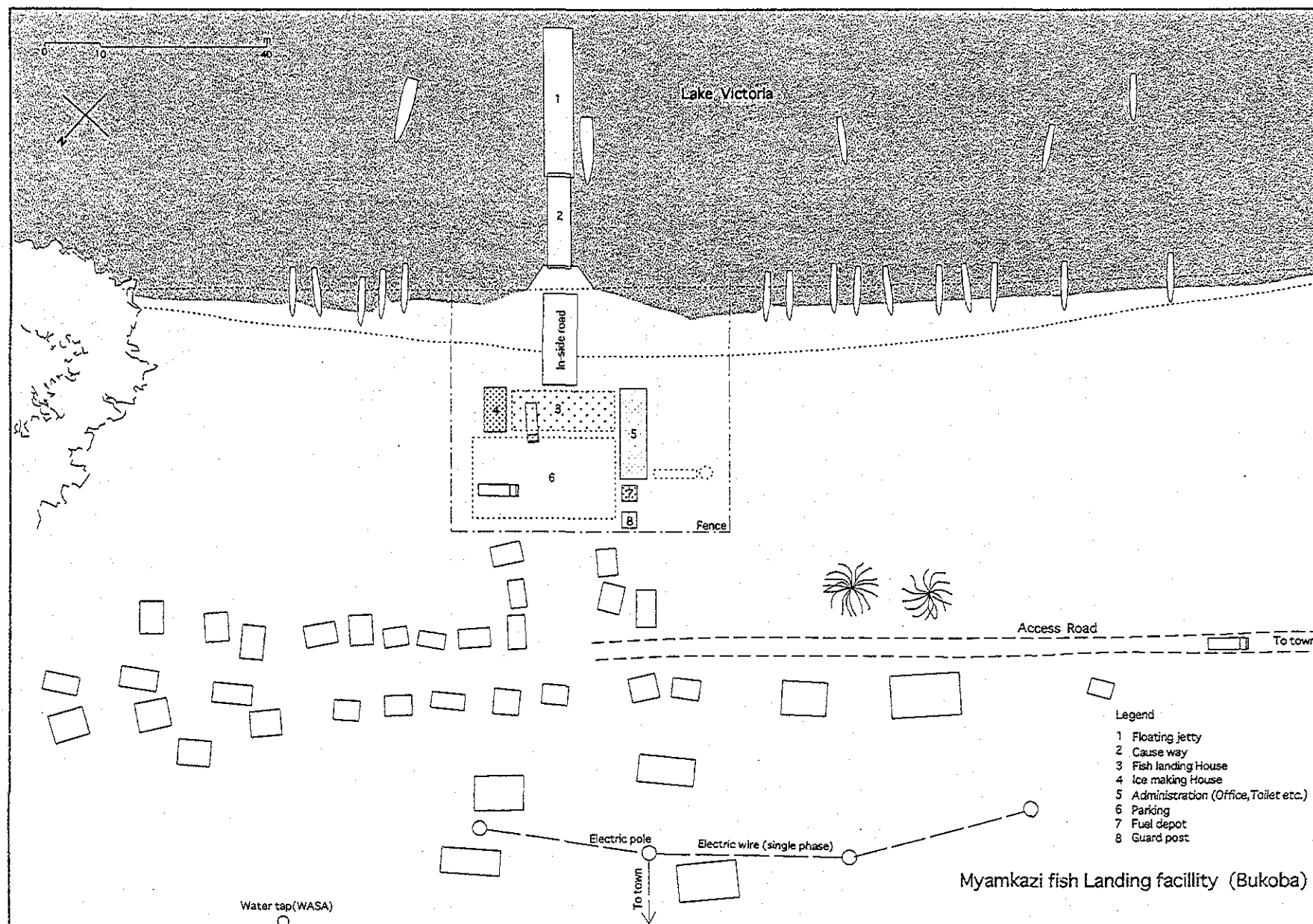
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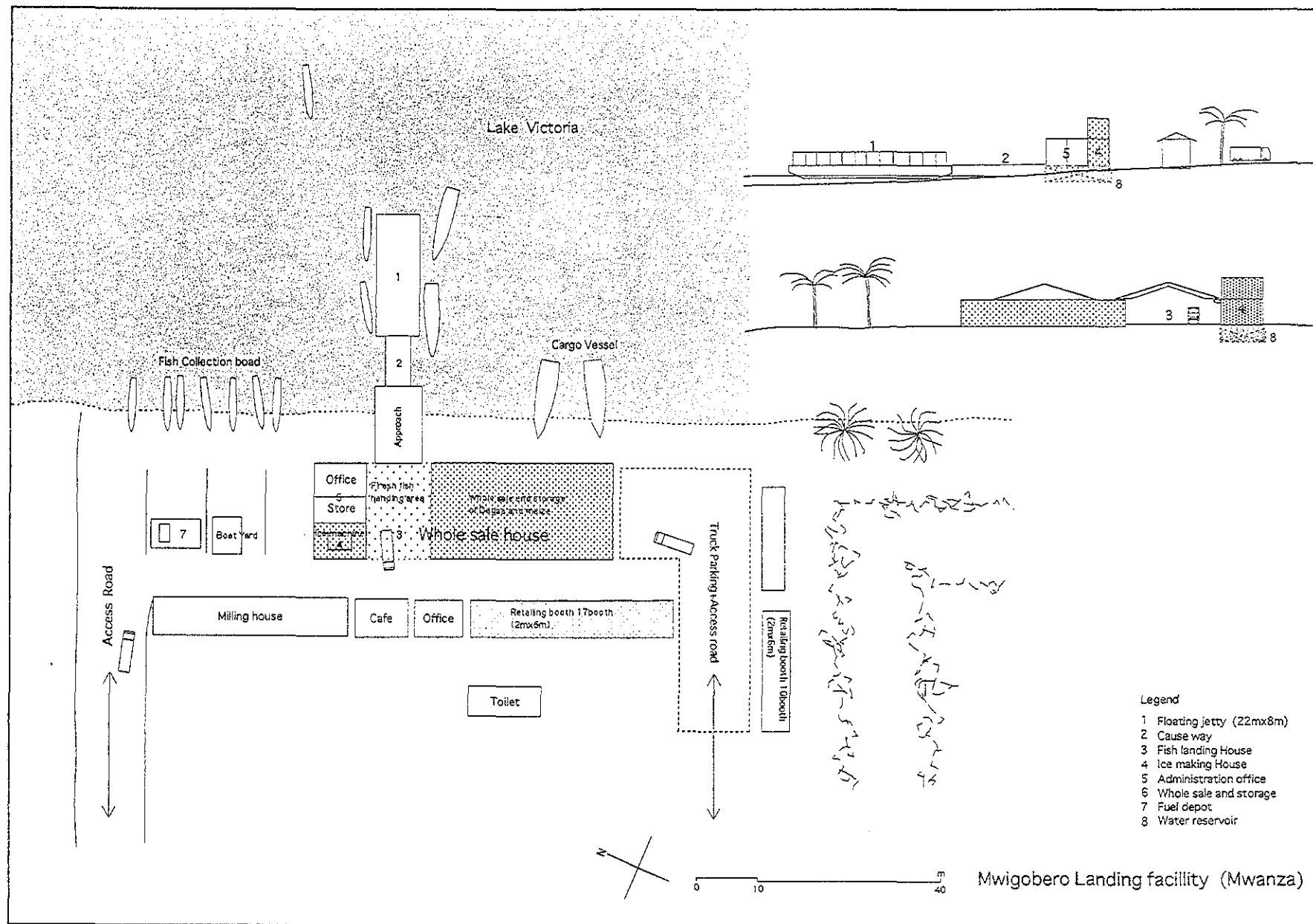
B Project Linkage

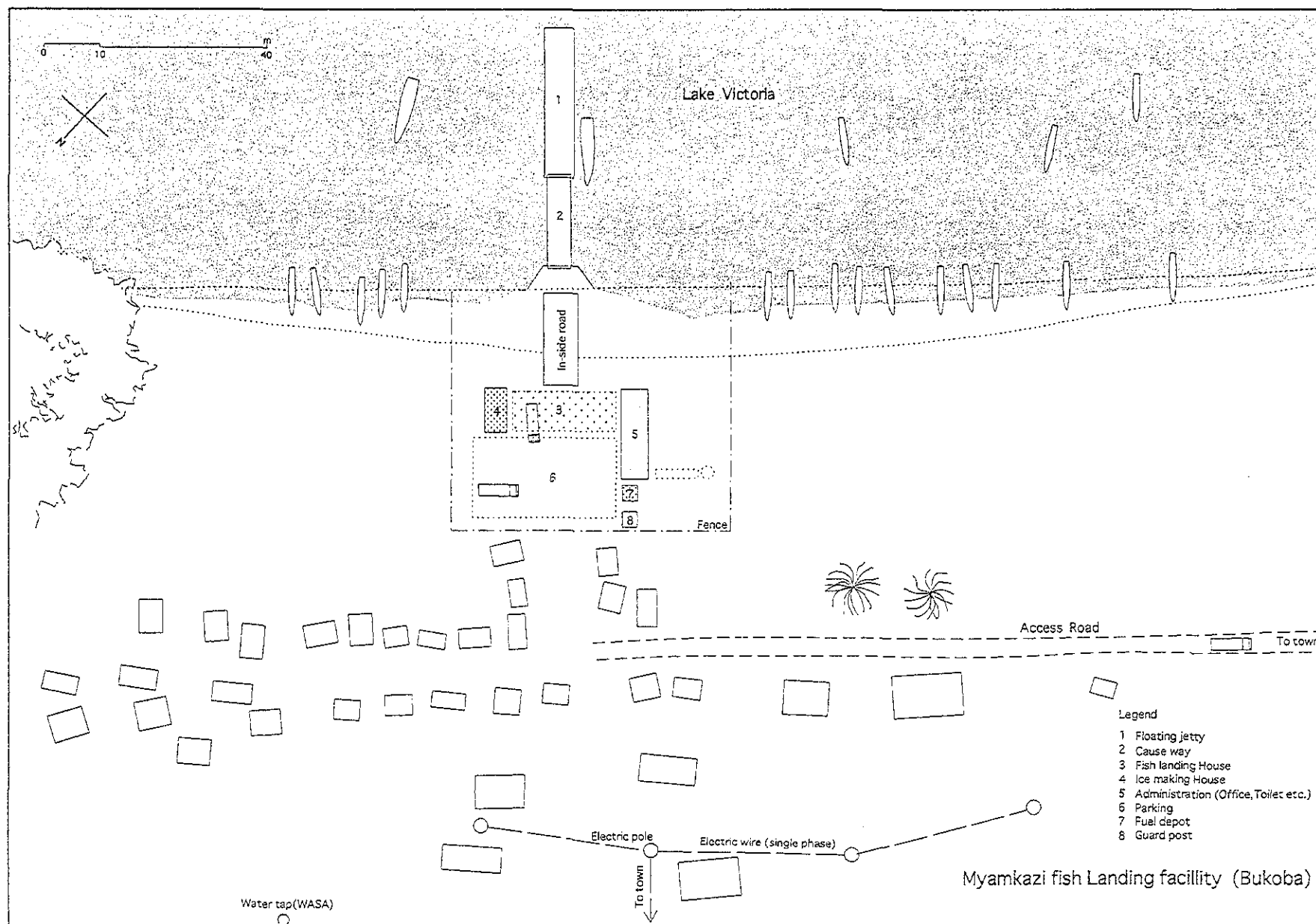
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Annex 2.11-1

① Igombe TX

Component	Number	Unit cost	Cost (Tsh)	Cost (US\$)
Ice machine	2unit	112,500,000	225,000,000	257,849
Insulated truck	2unit	36,000,000	72,000,000	82,192
Patrol boat	1boat	2,700,000	2,700,000	3,082
VHIF radio (for base station)	1unit	1,800,000	1,800,000	2,055
VHF radio (for portable use)	1unit	900,000	900,000	1,027
SSB radio (for base station)	1unit	5,400,000	5,400,000	6,164
Weighing scale	3pcs.	27,000	81,000	92
Insulated fish box	6pcs.	180,000	1,080,000	1,233
Plastic fish box	30pcs.	27,000	810,000	925
Water pump, sand filter and CI injector	2set	1,800,000	3,600,000	4,110
Data treatment apparatus	1set	1,350,000	1,350,000	1,541
Sub-total			314,721,000	360,270

② Mwigobero

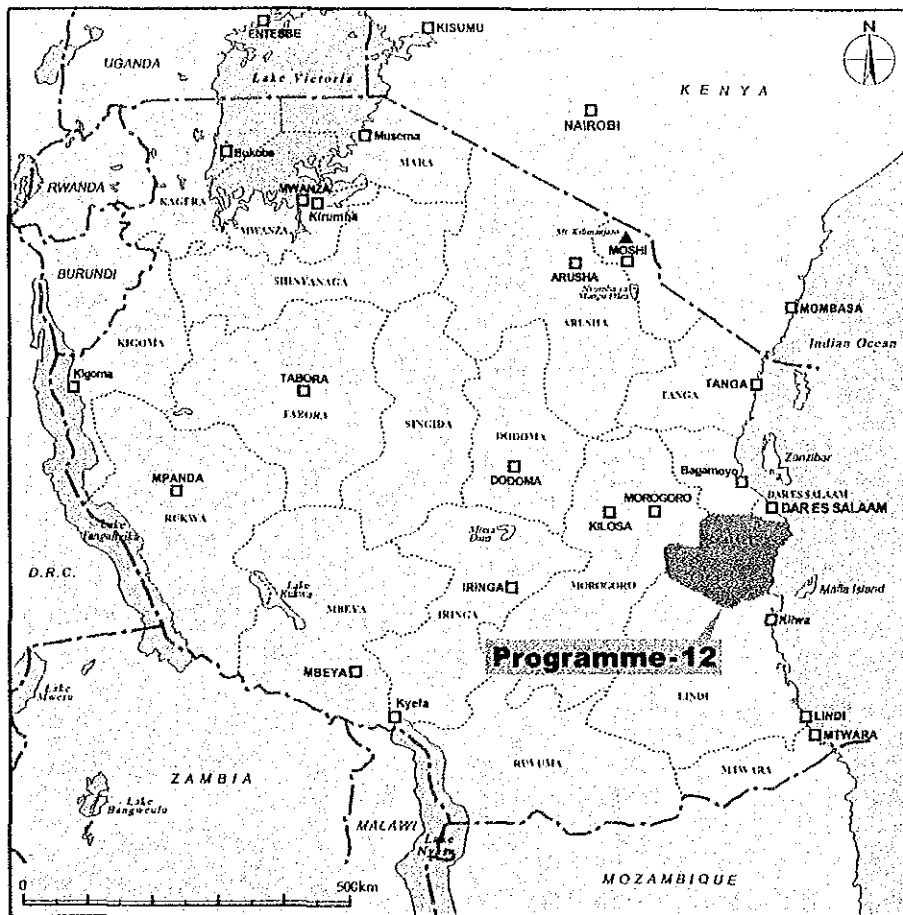
Component	Number	Unit cost	Cost (Tsh)	Cost (US\$)
Ice machine	2unit	74,250,000	148,500,000	169,521
Weighing scale	1pc.	27,000	27,000	31
Insulated fish box	2pcs.	180,000	360,000	411
Plastic fish box	10pcs.	27,000	270,000	308
Data treatment apparatus	1set	1,350,000	1,350,000	1,541
Sub-total			150,507,000	171,812

③ Nyamkazi

Component	Number	Unit cost	Cost (Tsh)	Cost (US\$)
Ice machine	2unit	148,500,000	297,000,000	339,041
Insulated fish carrier boat	2boat	7,200,000	14,400,000	16,438
Patrol boat	1boat	2,700,000	2,700,000	3,082
VHF radio (for base station)	1unit	1,800,000	1,800,000	2,055
VHF radio (for portable use)	1unit	900,000	900,000	1,027
SSB radio (for base station)	1unit	5,400,000	5,400,000	6,164
Weighing scale	3pcs.	27,000	81,000	92
Insulated fish box	6pcs.	180,000	1,080,000	1,233
Plastic fish box	30pcs.	27,000	810,000	925
Data treatment apparatus	1set	1,350,000	1,350,000	1,541
Sub-total			325,521,000	371,598

Programme-12

2.12 Fisheries Communities Development Programme



Planning area : Southern part of Coast Region



Fishing village in Ukara Island, Lake Victoria.



Typical coastal fishers' houses, Lindi.



Fishing village in Kijiweni, Lake Victoria.



Typical fisher's house in Kipunbwi, Tanga.



Women group on Jibondo Island, Mafia Island Marine Park, that collect octopus for sale.



Fish retailers waiting for fishing boats to land, Mtwara.

2.12 Fisheries Community Development Programme

(1) Programme Description

A. Summary

The fisheries community development programme is concerned with eradicating poverty in fishing communities through an approach based on community resident participation and organized community leadership, in contrast to the traditionally pursued comprehensive approach to farming and fisheries community development by government leadership. The new approach will be combined with a series of micro projects that will be planned, implemented, and monitored to expedite the creation of cooperatives and to improve the institutional capabilities of the community.

The fishing communities, which can not depend on subsidies and other forms of financial assistance from the government, must efficiently implement improvements using the limited taxes collected at the fish landing sites. Therefore, community issues will be confirmed by the village council or the village decision-making body, fishery groups, and the residents. A model project with a small budget of US\$ 10,000 to US\$ 50,000 will be implemented aimed at strengthening the activity planning capabilities, negotiating skills with the government, and activity operations and management skills of the village council and fishers will be implemented in the form of OJT. The micro project will be managed and supervised by a team of district fishery officers, cooperative members, rural community development officers, and others who are familiar with the local environment. The programme will provide training in project design, securing financial resources, management and operations for district officers. Simultaneously, a network of NGOs and other development institutions will be created to ensure that the project is efficiently managed; and a fisheries community development fund will be created to help the sustainability of the programme's activities after the programme itself is completed.

B. Project Site: Three districts in Southern part of Coast region

Although the programme targets fishing communities throughout the country, model regions will be created in areas that are particularly lagging in development assistance or where poverty levels are especially high to ensure impartial regional development. Technical assistance from the central government must be efficiently implemented; and during the initial stages, the programme will be implemented in the southern part of Coast region since it meets the criteria described above.

C. Term: 36 months

(2) Objectives and Justification

A Objectives

- a) Introduce resident participation approach in community development, remedy fisher and village council dependency on the government, and raise self-reliance.
- b) Organize poverty-level fishers and their community.
- c) Strengthen administrative functions of organizations to improve welfare in fishing communities.
- d) Foster the technology needed to develop the economy of the fisheries community.
- e) Increase the income of poverty-level fishers.

B Justification

The central government's direct role in fisheries community assistance has been reduced, due to the structural adjustment policies that have been implemented in recent years. Subsequently, many fishers have been left without access to financial services and fish production and marketing technology. Therefore, to successfully develop fisheries communities, an alternative to central government services is to rebuild regional and private organizations that will efficiently support the economic activities of artisanal fishers, i.e., village associations, fishery cooperatives, SACCOS, and organizations that will improve the social foundation of the villages. The villages are the smallest administrative unit in Tanzania, and in many cases, the village leaders tend to adopt a top-down approach in the decision-making process. Resident participation is limited and their will is ignored. Therefore, it is important that the village and fisher leaders learn participation planning skills and methods. Applying these skills are important to fostering a sense of responsibility and self-reliance among the residents.

The poverty environment of each fishing village differs greatly. Therefore, poverty countermeasures will differ according to the fishing village and resident group, and a diverse agenda of countermeasures must be provided based on the needs of the poverty group, rather than one common countermeasure for a myriad of fishing communities. This signifies that appropriate measures to resolve the problems must be formulated by the fishers themselves, and the role of the programme will be to provide the appropriate systematic and technical assistance and support that will be needed. The micro project approach has been introduced by the LVEMP and several other NGOs at Lake Victoria, and activities ranging from participation in project planning to monitoring have been carried out. It is an effective means of improving the problem-solving capabilities of the community residents. The experience of these case examples will be evaluated and a careful review of the success factors will be carried out before the projects are implemented.

In addition, establishing a local network of NGOs and strengthening the organizational link between development institutions will help the project's operations to be efficiently conducted based on an exchange of information. It is also important in terms of securing local support and helping the sustainability of the fisheries community's activities. The creation of a fisheries community development fund will serve as a vital financial source for the activities after the project has been completed. The fund will also serve to help educate the fishers on the importance of saving their income.

According to the PRSP, the Coast region, the target area of the programme, is categorised as one of the poorest regions besides Dodoma, Kagera, Lindi and Kigoma regions when the poverty indicators on food security, education, income and health are concerned. Therefore, implementation of this programme in the Coast region will contribute to the National Policy for the poverty reduction through the improvement of the fishers' livelihood. Within the target area of three districts, there are 3,662 fishers engaged in fishing activities (see Annex 2.12-2). Including their families, direct and indirect beneficiaries are estimated to be over 20,000.

(3) Components and Activities

The programme participants will be the fishing villages that will be implementing the micro projects. Measures to organize the villages, establish a local network, create a fisheries community development fund, will be the sub-components of the series of micro projects that will be implemented. The project will be divided into four major phases. In phase 1, a) a basic survey study and b) a motivation workshop will be conducted at all the fishing villages in the targeted area. The fishing villages that will implement the micro projects will be selected at this time. In phase 2, c) community development training will be conducted and d) a micro project plans will be drafted. Based on these plans, e) the fishing village will be organized. In phase 3, f) fishing villages that were given priority in the mini project assessment study will be given g) access to loans and h) will implement the project. In phase 4, i) the project will be monitored, and j) based on the findings, a

model project will be formulated and a system will be created to enable it to be implemented in other areas (see fig. of Annex 2.12-1).

The programme will be managed and supervised by the Programme Office which will act as the programme coordinator of the central government ministries and agencies. Two teams will be created to implement the project. The first team will be comprised of the Nyegezi Freshwater Fisheries Training Institute, the Mbegani Fisheries Development Centre, and experts from TAFIRI. The second team will be comprised of the officers from the district Fisheries Office, Cooperatives Section, and Rural Development Section and will be known as the District Community Mobilization Team. These two teams will hold regular discussions and will be responsible for making adjustments in the programme as required. As mentioned earlier, the objective of the programme is to achieve voluntary development by the fishing communities, and it is important that both teams respect the independence of the residents.

1) Stage 1

a) Basic Survey Study

The basic survey will be conducted at all the fishing villages in the targeted region by the team of experts. A resident participation approach such as the PRA is recommended. The survey will cover the following items.

- Analysis of fisheries community problems
- Basic fishing data
- Micro project finding
- Evaluation of village capabilities and potential

b) Motivation Workshop

A motivation workshop will be conducted at the fishing villages that will be targeted in the basic survey, before and after the survey is completed. It will be conducted by the District Community Mobilization Team that is the most familiar with the region, and it will be held for two days at the meeting hall of each fishing village. The aim of the workshop is to acknowledge the problems of the village, while educating the residents on the need for independent and self-reliant community development. The specific goals of the workshop are outlined below.

- Stimulate awareness of the community's problems.
- Mobilize awareness about the existing network in the community.
- Understand the disparities among the residents and develop a training programme that will rectify these disparities.
- Mobilize the residents to enable shared participation, learning, and problem-solving activities.

Fifteen villages that have shown the greatest interest in community development will be selected with the agreement of the respective fishing village, in addition to the basic survey study findings and workshop participation. There are 59 fishing villages in the three districts of Coast region, but priority will be given to fishing villages with more than 10 fisher residents in the selection process (see Annex 2.12-2).

2) Stage 2

c) Community Development Training Course

A community development training course will be carried out under the supervision of the team of experts in the 15 selected fishing villages that showed active interest in community development. The training period will be for two weeks and 20 residents who will be implementing the micro projects at each village will be selected to participate in the training course. In addition to the items covered in the motivation workshop, the training course will also include activities to improve the technical skills required to resolve the problems of the fishing village. In addition, a NGO staff member or expert will be invited as instructors to address issues in specific areas that surfaced during the motivation workshop or issues related to priority micro projects. The training course will cover the following areas.

- Fishery development/fish product marketing and processing
- Fisheries resource management
- *Community development education*
- Development planning
- Environmental education
- Agro forestry/ reforestation
- WID (Women in Development)

WID was included to help supplement the micro project in artisanal fish processing, where the majority of the processors are women. The aim of the micro project is to enable organized groups of processors to establish joint capital, market value added processed products, and increase income and assets (see Annex 2.12-1).

d) Drafting Micro Project Plans

Following the completion of the training activity, the participants of the course will become the focal group of people responsible for drafting micro project plans with the assistance of the District Community Mobilization Team. The draft will be based on the following criteria for micro projects.

- The project will improve productivity and contribute to the economic activities of the fishing village.
- The project will promote the use of new resources that will contribute to environmental conservation.
- The project will expedite active community participation.

The micro project plans drafted by the residents will be submitted to the District Community Mobilization Team and the Programme Office.

e) Organizing the Fishing Communities

A Micro Project Committee will be created to manage the operations of the micro projects that are implemented. The Committee members will be comprised of representatives from the Village Council and residents who have participated in the training course, and unilateral responsibility will be established with the assistance of the District Community Mobilization Team. Coordination between fishing communities will also be carried out.

3) Stage 3

f) Assessment Study on the Viability of Mini Projects

Based on the project plans that were submitted, the Programme Office will conduct an assessment study of the mini project plans. One of the points that will be assessed is the existence of a key person in the Micro Project Committee. The existence of a trusted leader or group member with crisis management capabilities will determine the success or failure of a project, as case research studies on associations and cooperatives in Tanzania have shown. Loans will be provided for priority micro projects, and ten fishing villages will be selected to implement the micro projects.

g) Micro Project Loans

The Micro Project Committee will be given low-interest unsecured loans to implement the micro projects. Irredeemable loans will be provided for new projects (where profitability is uncertain). The Programme Office will be responsible for implementing the loans. The Fisheries Development Fund, which will be explained in a later chapter, will be used to repay the interest loans.

h) Project Implementation

The Programme Office will dispatch a team of experts to provide technical support for the micro projects as needed.

4) Stage 4

i) Monitoring

The micro projects that will be implemented by the fishing villages will be monitored. Although the projects that will be implemented by each village will differ, the villages will be required to prepare an *evaluation plan for each micro project when it is started (the plan will include evaluation content, evaluator, cost, implementation period, type of report, subject of the report, and other items).*

j) Model Plan Formulation, Implementation in Other Regions

Utilizing case examples of micro projects that have been implemented at ten sites over a three-year period, a model project will be formulated and a system will be created to enable the project to be implemented in other regions.

	Activity	Content	Implementing Party
Stage 1			
a)	Basic survey study	<ul style="list-style-type: none"> - Analysis of fisheries community problems - Basic fishing data - Micro project finding - Evaluation of village capabilities and potential 	Team of experts (Nyegezi Freshwater Fisheries Training Institute, the Mbegani Fisheries Development Center, TAFIRI) *Resident participation criteria
b)	Motivation workshop	Educational need for independent, self-reliant community development, awareness of community problems	District Community Mobilization Team
Stage 2			
c)	Community development training course	<ul style="list-style-type: none"> - Training course content - Fishery development/fish product marketing and processing - Fisheries resource management - Community development education - Development planning - Environmental education 	Team of experts

	Activity	Content	Implementing Party
		- Agroforestry/ reforestation - WID (Women in Development)	
d)	Drafting micro project plans	Criteria for micro projects - The project will improve productivity and contribute to the economic activities of the fishing village. - The project will promote the use of new resources that will contribute to environmental conservation. - The project will expedite active community participation.	Residents District Community Mobilization Team
e)	Organizing the fishing communities	Establish unilateral responsibility between village organizations.	Residents District Community Mobilization Team
Stage 3			
f)	Mini project assessment study	Existence of a cooperative leader	Programme Office
g)	Project loans	Mini project committee will be given low interest, unsecured loans . Irredeemable loans will be provided for new projects (where profitability is uncertain), economic activities and, environmental conservation	Programme Office
h)	Project implementation	Technical assistance	Programme Office will dispatch team of experts as needed.
Stage 4			
i)	Monitoring		Programme Office
j)	Prepare monitor plan, project implementation in other areas	Formulate model project, create system	Programme Office

(4) Establish a Local Network

The Programme Office will coordinate all of the organizations that will be implementing the micro projects and will centralize the data and resources on farming community development. To accomplish this task, it will establish a network of communications with the following institutions.

- NGO
- FAO
- UNDP
- WWF
- Sokoine Agriculture University
- Moshi Cooperative College

Establishing a network of communications is also desirable for the team of experts and the District Community Mobilization Team.

An NGO with superior technical expertise as well as capital will take the reins of leadership of the District Community Mobilization Team which will enable the assignment of officers from differing fields to be coordinated efficiently. Although the initial cost may be high at the start of the projects, the participation of third parties such as local NGOs will be promoted.

The joint participation of university research institutions in Dar es Salaam that are engaged in technical development with the team of experts or the joint participation with private companies in the area of product promotion in markets, cooperatives, and NGOs will deepen the insights on both

sides and enable the project implementing body to pursue its work swiftly and efficiently through multiple sectors.

(5) Establish a Fishery Development Fund

In the field of rural development, assistance for a ten-year period is needed for residents to become adequately independent technically. Therefore, during the three-year mini project programme, a community development fund will be created and a financial system will be established to enable the financial functions of the mini project programme to be transferred to a local NGO or other institution after the programme has been completed.

(6) Model Fisheries community Development Menu

Fishing communities and their organizations are greatly affected by social, economic, political, cultural, and environmental factors. Hence, community development is not uniform. Therefore, diverse fisheries community development methods must be applied according to the fisheries community or organization. The southern part of Coast region was selected as a model region for this programme, and a model project that can be implemented in other regions will be formulated. Therefore, the respective characteristics of other fishing communities and organizations must be included in the drafting of the project.

(6) Operation and Management plan

A Management System

To strengthen new and specialized knowledge that is needed to implement fisheries community development, but is lacking in the regional governments and organizations, an input of human resources by the central government is required. Therefore, a programme coordinator will be designated in the central government and experts will be assigned to support and assist this coordinator. As mentioned above, a diverse range of development approaches will be applied to fishing communities and organizations, and each phase of the projects will be monitored to determine their success or failure. Hence it is important to review the lessons that are learned at each phase, prior to designing and implementing the next phase of the projects. Therefore, the project implementing body at the central or district levels will serve to act as a bridge of information exchange between the village level project implementing bodies (see figure in Annex 2.12-1).

B Staff Members

	Staff	Period	Source
Programme Coordinator	1	36 months	Fisheries Division, Ministry of Natural Resources and Tourism
Programme Officer	3	36 months	Fisheries Division, Ministry of Natural Resources and Tourism
Promotion team of Organizing Fisheries Community	4	36 months	One person from District Fisheries Division/Society Division/Village Development and Local NGO
The Committee of Micro-project	10 people from each fishing communities	30 months	Village Council Representatives and Villagers
The team of specialist	10 people in total	36 months	People from Nyegezi Freshwater Fisheries Training Institute and Mbegani Fisheries Development Center, Researcher at TAFIRI

(7) Work Plan

A. Selection of Project Area

As mentioned above, this programme targets fishing villages throughout the country, and during the initial phase, the southern area of Coast region was selected as the most optimum site in terms of such criteria as high poverty level, geographical conditions that allows assistance from the central government to be efficiently provided, and coordination with other regional priority programmes. Thus this area was selected as the model programme region and a system will be created. In future this programme will be implemented in other regions. For example, if priority was given to fishing communities at Lakes Nyasa and Tanganyika, where the development base is relatively lagging, it would also be greatly meaningful in terms of impartial regional development.

B Implementation Schedule

Activity	Implementing Team	Process	Out-put
A. Step 1			
a) Basic survey Study	The team of specialist	—	Basic survey study report
b) Workshop	Promotion team of Organizing Community	▲	Choose preference fishing village
B. Step 2			
c) Community Development Training Course	The team of specialist	—	Implementation of training/community organizing
d) Drafting of Micro-Project Plans	Community Promotion team of Organizing Community	—	Presentation of Planning scheme
e) Organizing the Fishing communities	Promotion team of Organizing Community	—	Formation The Committee of Micro-
C. Step 3			
f) Assessment study on the Viability of Mini projects	Project office	—	
g) Micro Project Loans	Project office	—	
h) Project Implementation	The Micro-project committee	—————	Choose beneficiary Fishing village
D. Step 4			
i) Monitoring	Project office	—	
j) Model Plan Formation, Implementation in Other regions	Project office and team of experts	→	Implementation of program at other area
E. Establish Local Network	Project office	—————→	
F. Establish a Fishery development Fund	Project office and The Micro-project committee	→	

(8) Cost Estimate

Item	Quantity	Unit cost(\$)	price(\$)	Note
All programmes				
Experts	12 man/month	20,000	240,000	Work as a PC adviser for 12months out of three years
Local consultants	52 man/week	850	44,200	People who specialize in NGO activities; Activities will be having workshop, training guidance, Implementation guidance, monitoring.

Item	Quantity	Unit cost(\$)	price(\$)	Note
Car 4WD	1	25,000	25,000	One per each programme
Motorcycle	1	1,600	1,600	One per each programme
Bicycle	1	240	240	One per each programme
Computer for putting data	1	2,214	2,214	For Preparing materials
Copy machine	1	1,950	1,950	For Preparing materials
Facsimile	1	564	564	Communication
Driver	36 man/month	110	3,960	For three years, Tsh.90,000/month
sub-total			319,728	
A. Stage 1				
Patrol cost-gasoline	354	25	8,850	59 Fishing Village, Each fishing Village 6 times
patrol cost-Personnel	1,416	25	35,400	59 Fishing Village, Each fishing Village 6 times, Tsh.20,000 per a day, Four people
Workshop Implementation Cost-lunch and hand out materials cost	5,900	5	29,500	59 village, 2 days, Beneficiary people:50 people at each village
Working on Survey Report cost				70 copies, 50 pages constitution, copy:Tsh.40/page
sub-total			73,910	
B. Stage 2				
Training by experts-Gasoline	150	25	3,750	15Fishing village, Each Fishing Village 2weeks (10days)
Training by experts-Personnel	600	25	15,000	15 Fishing Village, Each Fishing Village 2weeks (10days), 4 people
Training Implementation cost-lunch and hand out materials cost	3,000	5	15,000	15Fishing Village, Each Fishing Village 2weeks (10days), Beneficiary people: 20 people at each village
Organizing Fisheries community activities by Promotion team of Organizing Fisheries Community -Gasoline	105	25	2,625	15 Fishing Village, Each Fishing Village 7 days
Organizing Fisheries community activities by Promotion team of Organizing Fisheries Community-personnel	420	25	10,500	15 Fishing Village, Each Fishing Village 7 days, 4 people
sub-total			46,875	
C. Stage 3				
Assessment Study-Transportation cost	30	40	1,200	10 Fishing Village, Each fishing Village 3 times, DSM-Coast Region
Assessment study-personnel	60	25	1,500	10 Fishing Village, Each Fishing Village 3 times, 2 people
Micro-project committee activity cost	300	100	30,000	Cost of materials/meeting/transportation/ 10 Fishing village/2.5 years, 1 times per month (total 30times)
Micro Project Loans	10	10,000	100,000	10 Fishing village, use money which has brought will be utilize as a development fund.
sub-total			132,700	
D. Stage 4				
Monitoring-transportation cost	30	40	1,200	10 Fishing village, Each Fishing village 3 times, DSM-Coast Region
Monitoring-Personnel	60	25	1,500	10 Fishing village, Each Fishing village 3times, 2people
Working on Survey Report cost			160	35 copies, 100 pages construction, copy:Tsh.40/page

Item	Quantity	Unit cost(\$)	price(\$)	Note
sub-total			2,860	
E. Cost of establishing network	50	100	5,000	Cost of materials/meeting/transportation/ 10 Fishing, 5 times
F. Cost of establishing Development fund			-	Use profit from Micro Project Loans
sub-total			5,000	
Total			581,073	

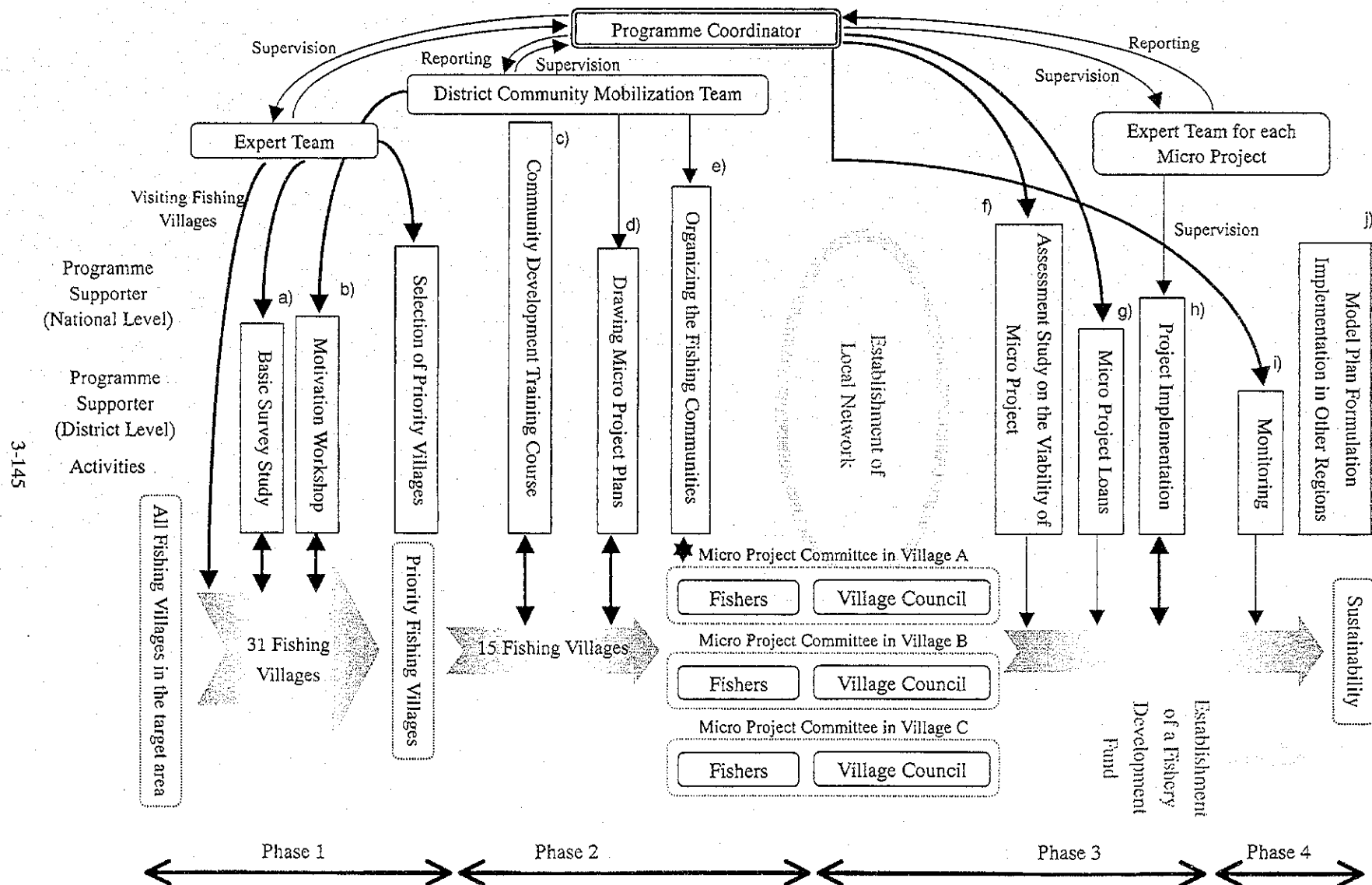
(9) Monitoring

Monitoring activities will be included in the programme. Following the implementation of the programme in Coast region, a model project will be submitted that will be used to create a system that can be implemented in other regions.

(10) Environmental Impact Assessment

This programme is not in the NEMC's Tanzania Environmental Impact Assessment Procedure mandatory list, not located in Environmentally Sensitive Areas, and not expected to impact significantly on the natural environment, therefore EIA would not to be required.

The availability of micro credit schemes to assist the fisher community to better their welfare will indirectly impact positively on the environment by reducing the unsustainable exploitation of the natural resources to meet their basic needs.



Annex 2.12-2

Outline of Three Districts in the Coast Region; Mafia, Mkuranga and Rufiji

	No. of Landing sites	Names of Landing Sites
Mafia District	34	Banja, Bwejuu, Bweni, Changarama, Chemchem, Chole, Dindimwigo, Dongo/Mfuluni, Jibondo, Jojo, Juani, Kanga, Kiega, Kiegani, Kifingi, Kilindoni, Kipandeni, Kirongwe, Kisimani, Kitoni, Marimbani, Mbarakuni Islet, Miburani, Miewe, Mwera, Mzambarauni, Nyororo Islet, Ras Mrundo, Saliboko, Shamba/Usewe, Shungu Mbili Islet, Tongani, Tumbuju and Utende
Mkuranga District	10	Boza, Kisiju Dindini, Kisiju Pwani, Kisiju-Midimuni, Kisijupwani-Dodi, Koma Island, Kuruti, Kwale coast, Nganje and Palacha
Rufiji District	15	Bunduki, Jaja, Kiasi, Kibanjo, Kiomboni, Kitintili, Mbwera, Mchinga, Mfisini, Nyamisati, Pombwe, Salale, Saininga, Simbaulanga and Vikacha

Fish Landing Site	Number of Boats							Number of Fishers			
	Ngalawa	Mashua	Canoe	Dau	Boat	NS	Total	Owners	Labours	Foot Fishermen	Total
Mafia District	266	43	280	32	59	48	728	626	1,707	264	2,597
Mkuranga District	97	58	70	11	3	-	239	209	415	0	624
Rufiji District	9	0	589	0	12	-	610	77	364	0	441
Total	372	101	939	43	74	48	1,577	912	2,486	264	3,662

Source: Frame Survey Results for Marine Waters, May 2001, FD MNRT

Annex 2.12-3

WID Micro Project Plan—Production of Value Added Product by Artisanal Women Processors and Expanded Marketing Activities

Objective and Project Appropriateness






The poverty eradication plan for fishing communities must focus on the mechanism to expedite increased income and assets for the poor. The scope of the operations of fishing boat owners, fishers and fish processors is small; and for fishers who are unable to become self-reliant, achieving stable production and income is an extremely vital issue. Therefore, it is essential that artisanal fishers and processors pool their limited joint capital and organize themselves toward achieving surplus reserves.

The key to successful fisheries community development is stable fish production, but in view of the increased village population, the deterioration of the environment, and the problem of over fishing, it is important to pursue measures to increase non fishery income in future. Presently small-scale processing is carried out as a means of fish preservation, and it has yet to develop into an industry that produces increased value added products. There is a diverse demand for fishery products and developing value added processed fishery products locally is one means of generating non fishery income. Although seasoned processed Dagaa and other products have been developed, they have not been marketed. In addition, when Kigoma Dagaa are packaged and sold, the value added was increased due to the improved sanitation. Fostering this type of labor intensive industry in the processing sector will contribute to a higher income in the fisheries community. In addition, since much of the fish processing and marketing tasks are carried out by women, promoting the processing industry will enhance the economic activities of women.

Implementation Plan

As in the micro project plan that will be implemented, the project implementing team will visit the fishing village and conduct a technical survey on developing value added processed fish products. Technical extension activities will be carried out on the technology that is developed. The field instructor team will also introduce the new product developed by the village to the markets. Antenna shops will be established in the large Dar es Salaam and Kariakoo fish markets, and a marketing survey on the sale of the product and its findings will be fed back to the fishing village, and further measures to expand sales will be pursued. The field instructor team will submit regular survey reports to the programme coordinator, and the project will be monitored.

Implementation Schedule

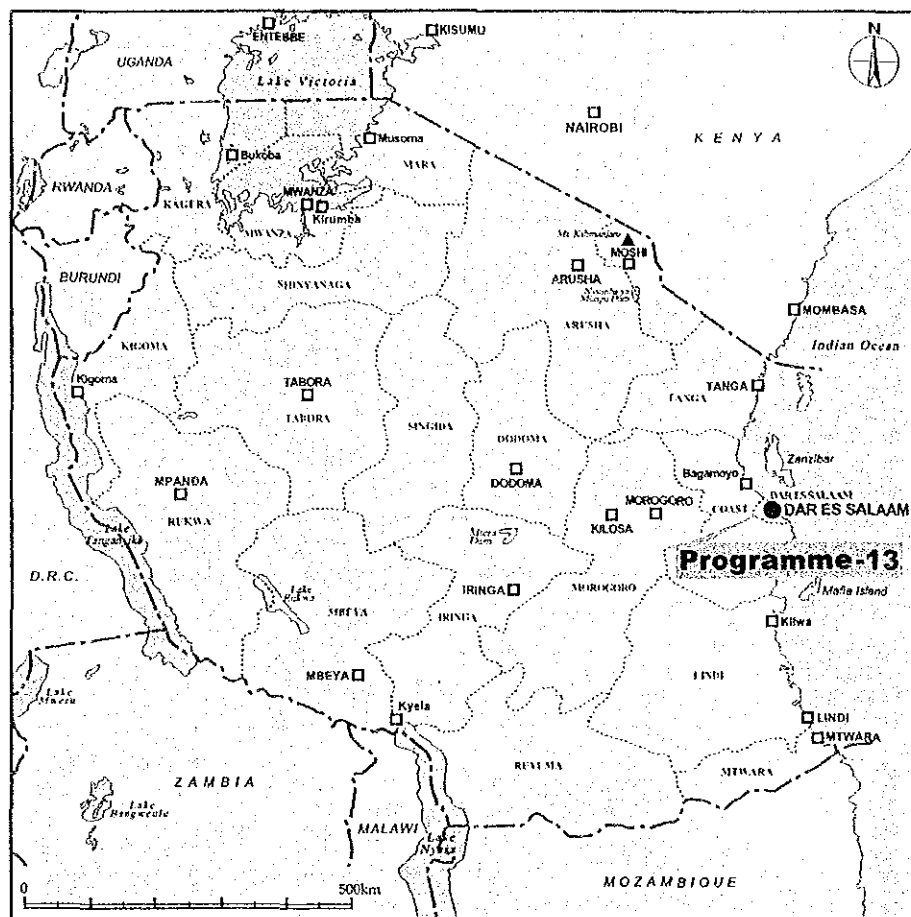
Technical Survey	The team of Field Instructor		Survey report
Technical Diffusion	The team of Field Instructor		Making product
Selling Diffusion	The team of Field Instructor		Establishing antenna
Making System	The team of Field Instructor		Working on Model scheme
Implementation in other place	The team of Field Instructor		

Summary of Projects Cost

Patrol cost-Gasoline	300	25	7,500	10 Fishing village/ 2.5 years, 30 times at each Fishing village
Patrol cost-Personnel	300	25	7,500	10 Fishing village/ 2.5 year, 30 times at each Fishing village
Working on survey report	10	200	2,000	
Selling Diffusion-Gasoline	50	50	2,500	10 Fishing village/ 2.5 years, 5 times at each Fishing village
Establishing antenna shop-Cost of place rent	60	11.25	675	Cost of place at Kariakoo market Tsh.300/day, 10 Fishing village/ 2.5 years, 6 months
Establishing antenna shop-facility cost	10	100	1,000	Cost of facility, 10Fishing village/2.5 years, 6 months
sub-total			21,175	

Programme-13

2.13 Fisheries information System Improvement Programme



Planning site : Dar es Salaam

2.13 Fisheries Information System Improvement Programme

(1) Programme Description

A. Outline

Fisheries statistics system stopped functioning due to the lack of data in some areas and the latest publication of fishery statistics by Fisheries Division was the one at 1996. In "Project for Improvement of Fisheries Information and Project Coordination Capacity", Statistics Section of Fisheries Division and major District offices will be equipped with computer instrument, and the fisheries statistics system 'TANFISH' will be improved, and then fisheries statistics between 1997 to 2001 will be published. Moreover, the present fisheries statistics, which can give only the information of fish landing, will be strengthened to be an overall fishery statistics by adding fisheries marketing information such as number of fish traders, fish prices, fish inflows by production area, etc. For this purpose, the information collection capacity will be well arranged in major markets such as Dar es Salaam fish market, Kariakoo market and Kirumba market, etc.

The fishery information and data which has gotten in the fishery projects in Tanzania is extremely useful for the information source on the fishery administration. Therefore the Project Information Coordination Office will be settled in the Fisheries statistics Section, in which major publications of implemented fishery projects will be kept in digital figure by computer system, and the office to/from the major district fishery offices and training institutions will be connected by internet to send / receive the information.

B. Target Area: Statistic Section, Fisheries Division

- C. Period:** One (1) year (It is necessary to update the fisheries information system according to the fishing condition. In order to improve the information quality, the increase in information sources should be reconsidered together with capacity building. Thus, the 1 year period for the programme is utilised for the equipping the facility and establishing the system, and the system will be continuously operated during the Master Plan as a normal service provided by the Fisheries Division.)

(2) Objectives and Justification

A Purpose

- a) To establish a new data processing system in order to achieve quick data processing and analysis of landing information
- b) To grade up the capacity for data collection, data processing and report generation
- c) To publish fisheries statistics between 1997 and 2001 by using a new data processing system
- d) To arrange fisheries marketing information by market such as number of fish traders, fish prices, fish inflows by production area, etc.
- e) To establish the project information coordination office, to keep major publications of implemented fishery projects in digital figure by computer system, and to connect the office to/from the major district fishery offices and training institutions by internet to send / receive the information

B Justification

The collection method and the estimation procedure of the present fisheries statistics should be reviewed and the more correct statistics should be established. The yearly fisheries statistics could not have been published from 1977 until present. This problem should be solved and the yearly fisheries

statistics should be published in each year. Next, to provide stable fishery products to consumers, it is required to arrange fisheries marketing information by market such as the number of fish traders, fish prices, fish trading volume and fish inflows by production area, etc. Besides, the fisheries information and data which are gained in the fisheries projects carried out in Tanzania are extremely useful for the latest source of information for the fishery administration. However, these information were not managed collectively. The project information coordination office should be settled in the statistics section of fishery division and the information should be managed collectively and be distributed.

(3) Components and Activities

A Arrangement of Fisheries Production Information

- a) The improvement, development and officers training of data processing system for fisheries production information

At present, the yearly fisheries statistics data is processed by dBASE and the fisheries frame survey data is processed by ACCESS. The both data should be processed in the unique system by ACCESS. At first, to establish quick data input, the new data input sub-system will be developed. Next, to take in the fisheries frame survey data, the data import sub-system will be generated. Finally, the TANFISH system will be reviewed in total, and the overall data processing system by ACCESS will be reconstructed after the adequate revision of the system specification.

As for the usage of the new system, officers in charge at fisheries division will have trainings.

- b) The estimation and selection of sample landing sites

To improve the accuracy of fisheries statistics, it need scarcely be said to review the sampling method of landing sites, which implies the necessity of the identification of landing sites and the grasp of the actual conditions of fisheries activities. For these purposes, there are 3 methods; 1) the implementation of country-wide fishery census, 2) the implementation of the extended fisheries frame survey (the survey which include the inquiry of production volume in major sites), and 3) the application of the results of the surveys carried out previously and this master plan survey. The accuracy level of the estimation will be lowered from 1) to 3). Judging from the economic condition of Tanzania and the budget allotment to the fishery sector, it can be concluded to adopt 3) the application of the results of the surveys carried out previously and this master plan survey.

As for the sampling of landing sites, the fisheries activities at each landing site should be analysed and categorized at the first step, and the landing sites will be categorized by the following items;

- Fishing ground, species to catch
- Type of fishing boats, fishing gear and fishing method
- Fish catch per operation, number of fishing operation

Typical sample landing sites will be selected in each categorized group. If necessary, sub-group will be settled and among these landing sites the representative sites will be selected. The estimation of fish catch at landing sites in the same sub-group will be done in the same procedure (in the assumption that the average landing volume is constant or else).

- c) The establishment of landing data collection system

The collection system of original data sheets should be arranged to enable to transfer them from the districts to the headquarter. It is considered to be appropriate that these sheet are carried to Dar es Salaam by the district officers or their agents. However, the measure in case of delay should be taken into consideration (the dispatch of the officer in headquarter).

- d) The training of officers for the acquirement of fisheries production information

In fisheries frame survey it might happened that the fishing gear and fishing method were not correctly described due to the insufficiency on fisheries of surveyors. Sometimes only fishing gears on boat at the survey time were described, whereas other fishing gears were held. To avoid these affaires, it is necessary for fisheries officers to learn the fundamental matters about fishery production. Moreover, to avoid the double count of fishing boat which lands at several sites, the adequate training (the description of registration number, etc.) will be given. Next, as for the acquirement of landing information, the training to recognize fish species correctly and to get landing volume by weighing should be carried out.

- e) Publication of fisheries production statistics between 1997 and 2001

As the staffs, equipments and facilities are not currently sufficient for data processing, data input will be contracted out. The contract will be done when the new data input sub-system is accomplished and the officers training for the sub-system is finished.

Officers in headquarter will be sent to districts to gather the original statistics sheets between 1997 and 2001, bring them back to headquarter within one or two months and all of sheets will be checked and arranged for data input.

Next, taking account of a large quantity of data input, the data will be divided and the input will be contracted out to several organizations to aim the rapid achievement of data input as possible. When the each yearly data is divided into 5 parts; i.e. 1) Marine, 2) Lake Victoria, 3) Lake Tanganyika, 4) Lake Nyasa and 5) Others and data input is contracted out to 5 organizations which has more than 7 personal computers, data input for five years i.e. between 1997 and 2001 will be accomplished around half year.

The tables and figures will be generated by the data processing system for the year that the data input is finished, and the fisheries production statistics will be published.

B The Establishment of Fisheries Marketing Information

To conduct the distribution and sale of fishery products adequately and rationally, it is required to grasp rapidly the fish prices and the trading volume at major markets in whole country and open these information to fish traders and fishers. However, at present the marketing information about fishery products has not yet been collected. Therefore, at the stage that the arrangement of fisheries production information proceeds in some degree, the fisheries marketing information should be collected and arranged as follows;

- a) To grasp the fisheries markets and to estimate the available data

The analysis of information by market such as the number of fish trader, fish prices, fish trading volume and inflow by production area, etc.

- b) To take the fisheries marketing information into the fisheries statistics

The modification of data processing system and the addition of sub-systems to take the above mentioned data into the fisheries statistics

- c) To draw up a plan to open the fisheries marketing information

As for the method to open the fisheries marketing information to fish traders, fishers, etc., the usage of telephone, fax or Internet will be considered and the most adequate method will be planned by taking account of the cost/performance analysis.

- d) The development of data processing system for fisheries marketing information and the officers training about it

- e) The acquisition and training of officers for the acquirement and distribution of fisheries marketing information

C The Settlement of Project Information Coordination Office and the Unique Management of Fisheries Information and Data which Gained in Fisheries Projects

The fishery information and data which has gotten in the fishery projects in Tanzania is extremely useful for the information source on the fishery administration. However, the unique management of the information has not yet be done. Therefore, in addition to 'B. The Establishment of Fisheries Marketing Information', the information should be managed uniquely as follows;

Therefore the Project Information Coordination Office will be settled in the Fisheries statistics Section, in which major publications of implemented fishery projects will be kept in digital figure by computer system, and the office to/from the major district fishery offices and training institutions will be connected by internet to send / receive the information.

- a) To settle the Project Information Coordination Office in the Fisheries statistics Section (the location of the Project Information Coordination Office within the Priority Programme Implementing Bodies is shown in Fig. 5-1, Chapter 5)
- b) To keep the major publications of implemented fishery projects in digital figure by computer system (at the Project Information Coordination Office)
- c) To establish the information access and sending/receiving system by Internet between the Project Information Coordination Office and major district fisheries offices such as Mwanza, Kigoma, Tanga, Dar es Salaam, Mtwara and Lindi.

(4) Facility and Equipment Plan

The preparation of computer rooms and the equipment of personal computer sets and printers are main in the planning of facilities and equipments, which are shown below.

	Description	Q'ty	Specification
A.	Arrangement of fisheries production information (in the statistics section)		
1)	Computer room	30m ²	
2)	Personal computer	4 pcs	CPU: Intel Pentium III 40GB HDD, FDD, CD-RW, CRT
3)	Razer printer	1 pc	
B.	The establishment of fisheries marketing information		
I)	In the statistics section		
1)	Extension of computer room	15m ²	
2)	Personal computer	2 pcs	CPU: Intel Pentium III 40GB HDD, FDD, CD-RW, Modem, CRT
3)	Razer printer	1 pc	
II)	Per district fishery office which has major fishery market (5 offices)		
1)	Computer room	10m ²	
2)	Personal computer	1 pc	CPU: Intel Pentium III 40GB HDD, FDD, CD-RW, Modem, CRT
3)	Razer printer	1 pc	
C.	The settlement of project information coordination office and the unique management of fisheries information and data which gained in fisheries projects		
I)	In the statistics section		
1)	Project information coordination office	30m ²	
2)	Personal computer	2 pcs	CPU: Intel Pentium III 40GB HDD, FDD, CD-RW, Modem, CRT
3)	Great Volume HDD	1 pc	100GB
4)	Scanner	1 pc	
5)	Razer printer	1 pc	
II)	Per office of major fishery district offices and the training organization (8 offices)		
1)	Computer room	10m ²	
	Personal computer	1 pc	CPU: Intel Pentium III 40GB HDD, FDD, CD-RW, Modem, CRT
2)			
3)	Razer printer	1 pc	

(5) Operation and Management Plan

A Organization and Management

The personal computers and printers in the programme will be superintended by the statistics section of fishery division. However, those settled outside Dar es Salaam will be managed in the district office. The statistics section will have reports on the usage of equipment, and may have an inspection in necessary cases.

The experts and funds to implement the programme will be arranged by the chief of the statistics section in consultation with the chief of planning division and the director of fishing division.

B Personnel Plan

This programme requires technical cooperation by foreign expert in the three fields of data processing, fish production and fish, marketing. An officer should be in charge of this programme (from Regional or District Fisheries officers) at each water body, 1) Coast of Indian ocean, 2) Lake Victoria, 3) Lake Tanganyika, 4) Lake Nyasa, and 5) others. The leader from project information adjustment at Fisheries division, Statistic Department is to have cooperation with each person in charge as a programme coordinator.

Title	People	Period	Resources of person
Data processing expert	1 person	12 months	Foreign expert
Fishing production expert	1 person	4 months	Foreign expert
Fish marketing expert	1 person	5 months	Foreign expert
Programme coordinator	1 person	12 months	Statistic of Fisheries Division
A person in charge of each fishing programme	5 person	12 months	Region or District Fisheries division
Operation officer in charge	15 person	12 months	Region or District Fisheries division

C Personnel Training Plan

Also, training for experts, fisheries division officers, officers at organization department are needed before implementing programme. The target people for training is showed as below.

Title	People	Period	Main subject	
A person in charge of each fishing programme	5 people	1 month	Fishing Information	Nyegezi
Operation officer of fishing programme	5 people	3 months	Data management system	each water area
	5 people	1 month	Fisheries Product Information acquisition	each water area
	5 people	2 months	Data management system of Fisheries product circulation	each water area

The continuous training of personnel is necessary every time the information system is updated. Thus, the Fisheries Division is required to implement the training in adequate timing.

(6) Work Plan

According to the items in '(3) Components and Activities', the programme will be implemented by item as follows.

Description	Expert	Procedure by month											
		1	2	3	4	5	6	7	8	9	10	11	12
A. Arrangement of fisheries production information													
a) The improvement, development and officers training of data processing	Data Processing												
• To grasp the actual figure of fisheries statistics (especially TANFISH)													
• The development of data input sub-system and officers training													
• The improvement and development of data processing system													
• Officers training for data processing system													
b) The estimation and selection of sample landing sites	Fish Production												
c) The establishment of landing data collection system	Fish Production												
d) The training of officers for the acquirement of fisheries production information	Data Processing & Fish Production												
e) Publication of fisheries production statistics between 1997 and 2001	Data Processing												
B. The establishment of fisheries marketing information													
a) To grasp the fisheries markets and to estimate the available data	Fish Marketing												
b) To take the fisheries marketing information into the fisheries statistics	Data Processing & Fish Marketing												
c) To draw up a plan to open the fisheries marketing information	Data Processing & Fish Marketing												
d) The development of data processing system for fisheries marketing information and the officers training	Data Processing												
e) The acquisition and training of officers for the acquirement and distribution of fisheries marketing information	Fish Marketing												
C. The settlement of project information coordination office and the unique													
a) To settle the Project Information Coordination Office in the Fishery statistics Section													
b) To keep the major publications of implemented fishery projects in digital	Data Processing												
c) To establish the information access and sending/receiving system by INTERNET between the Project Information Coordination Office and major district fisheries offices	Data Processing												
D. Reporting for the result of project													
	Data Processing Fish Production												
	Fish Marketing												

(7) Cost Estimate

I. Cost of Facilities and Equipments

	Unit Price (Tsh)	Q'ty	Total (1,000 Tsh)
A. Arrangement of fisheries production information (in the statistics section)			
1) Computer room	n.a.	30 m2	
2) Personal computer	1,112,000	4 pcs	4,448
3) Laser printer	371,000	1 pc	371
B. The establishment of fisheries marketing information			
i) In the statistics section			
1) Extention of computer room	n.a.	15 m2	
2) Personal computer	1,112,000	2 pcs	2,224
3) Laser printer	371,000	1 pc	371
ii) Per district fishery office which has major fishery market (5 offices)			
1) Computer room	n.a.	50 m2	
2) Personal computer	1,112,000	5 pcs	5,560
3) Laser printer	371,000	5 pcs	1,855
C. The settlement of project information coordination office and the unique management of fisheries information and data gained from fisheries projects			
i) In the statistics section			
1) Project information coordination office	n.a.	30 m2	
2) Personal computer	1,260,000	2 pcs	2,520
3) Great Volume HDD	741,000	1 pc	741
4) Scanner	519,000	1 pc	519
5) Laser printer	371,000	1 pc	371
ii) Per office of major fishery district offices and the training organization (8 offices)			
1) Computer room	n.a.	80 m2	
2) Personal computer	1,260,000	8 pcs	10,080
3) Laser printer	371,000	8 pcs	2,968
Total			32,028

II. Expert Employment Fee

	Unit Price (Tsh)	Q'ty	Total (1,000 Tsh)
1) Data Processing	18,525,000	12 M	222,300
2) Fish Production	18,525,000	4 M	74,100
3) Fish Marketting	18,525,000	5 M	92,625
Total			389,025

III. Cost for Order of Data Input of Fisheries Production Information

Per Organization

	Unit Price (Tsh)	Q'ty	Total (1,000 Tsh)
1) Supervise and Operation Cost (1)	202,000	6 D	1,212
2) Data Input Worker (6)	444,600	6 M	2,668
3) Usage of Facilities/Equipments(6)	278,000	6 M	1,668
Total			5,548
For overall organization (5)			27,740
Grand Total			448,793

(8) Monitoring

The statistics section will supervise the progress of the overall project. At the interim stage and the final stage, the section will grasp the implementation content and estimate the extent of accomplishment in comparison of the expected result.

(9) Environmental Impact

This programme consists of the data processing projects, and has no impact or affect the exterior environment. Therefore, EIA is not necessary. This programme will however impact indirectly on the management of natural resources by providing the necessary information for the fisheries Division to make informed decisions and for implementing policies regarding the level of sustainable exploitation.

(10) Linkage

'Regional Fisheries Information Systems Project' supported by SADC has dispatched an expert in information system since 2001 to the Department of Research, Training & Statistics, the Fisheries Division who has been engaged in fisheries statistics and information system especially along the coast. At the same time, LVEMP implements the data collection including landing volumes of Nile perch, Tilapia and Dagaa using the individual formats at lake Victoria. For the prawn fisheries, FAO is currently engaged in the establishment of the information system aiming at fisheries management. The programme should coordinate with these projects for the further improvement of the information system in the Fisheries Division.