

ANNEX I

Marine Fisheries

In all the coastal area, the marine coastal fishery has difficulties in procuring fishing material/ equipment and in marketing the catches. These difficulties have restricted effective production and marketing.

Along with the basic concept of the master plan, the marine coastal fishery is to be required to increase the production and raise fishers income through promoting and stimulating fishing and marketing by coping with the aforementioned difficulties and constraints.

With these purposes, I would like to suggest some development policies for promotion of the marine coastal fishery.

(1) Improvement of Fishing Ability and Extension of Fishing Grounds

The fishing grounds have been limited to mainly shallow reef areas near fishing villages and bases, mainly due to limited capacity of the fishing boats, many of which are small canoe and non-motorized boats, though there are some fishermen seasonally moving from one fishing area to other areas.

There would be a limit in increase of catch if only depending on the traditionally exploited fishing grounds, even though they intensify their fishing efforts with the same boats and gears as before. In contrary, it would cause over-fishing in particular in shallow reef areas. It is therefore necessary to expand the fishing grounds out of traditionally exploited areas to increase production by improvement of fishing gears/methods and motorization of fishing boats.

This does not mean that offshore areas always promise a larger catch. Sea areas with the most dense fishery resources are still reef waters. In this master plan, I would like to suggest that the sea areas to be exploited as new fishing grounds are therefore to be outer areas of the reefs currently exploited and new reef areas, where the density of fish is to be relatively high.

1) Support for fishermen in procurement of fishing equipment

Many fishermen are working with worn-out and insufficient fishing gears, due to difficulty for fishermen to procure fishing material/equipment and boats. Having fishing equipment is the minimum requirement for fishermen. It is essential to fulfil this minimum requirement for production.

Some financial support such as credit scheme shall be provided for the fishers to support procurement of fishing material/ equipment. Although many credit schemes have been implemented, majority of the fishers has not been benefited yet because of very high interest rate, requirement of collateral as well as difficult procedures.

More easily accessible financial system shall be necessary for fishers through their fishery cooperatives. For preparation the system and its management, the fishers should have practiced saving and contributions to the cooperatives. The cooperatives should improve its management capacity through educating the management staff, establishing follow up systems for the credit as well as enlightening the member fishers on cooperative and credit systems. It is also necessary for the cooperatives to strengthen its finance through its own income generating operations such as fishing operation.

2) Increase of capacity of fishing boats

About three-quarters of all the fishing boats in the marine coastal fishery are dugout canoes and outrigger canoes. Due to their small working space on board, these canoes are limited to expand their fishing capacity. Although the sailing performance of the outrigger canoes must be positively evaluated and this sailing canoes should be continuously utilized as means of low cost fishing, the number of *mashua* and boat-type fishing boats should be increased because they have a room to enhance fishing capacity.

- Regarding fishing boats for fishers, it is essential that fishing boats should be built locally, maintained and repaired locally. And the boat building cost should be within a reach of local fishermen if some financial assistance is available. Even though some new sophisticated boats were introduced, it would be meaningless, if the boats can not be widely used by fishermen because of their very high price and inability of repairing and reproduction of the boats.

Since there are boat carpenters, their boat building skill should be used, improving them with new techniques. It is proposed that any expansion of the fishing fleet should be achieved by the local building.

- Motorization of fishing boats: Motorization of fishing boat is an effective measure to increase capacity of fishing boats. Purse seine net, surrounding net and other active fishing are practicable or effective when they are operated by motorized boats. The *mashua* and boat-type fishing boats are structurally easy to equip outboard engines. The motorization shall be promoted with outboard engines.

- Improvement of fishing gears/methods: As mentioned before, due to the difficulty in procurement of fishing material, many fishermen are working with worn-out and insufficient fishing gears. If they can purchase enough quantity of materials and equipment, they can renew the fishing gears and work with larger quantity of the gears. For example, they can make longer and deeper gill net, surrounding net and purse seine net. They will be more effective than the currently used ones to catch fish. Fish-aggregating devices may be useful to improve the efficiency of finding fish as well as fishing. For the canoes, mainly engaging in hand-lining, introduction of long-lining or vertical long-lining methods together will prove effective to increase the catch.

In order to materialize these measures, some financial assistance for fishermen are necessary to enable them to procure production means such as fishing boats, engines and fishing materials. For this, as mentioned above, a financial assistance system shall be established through strengthening of cooperatives and educating/ enlightening the members.

Based on these concepts, the Project 2-1, Coastal Fisheries Development Project, is prepared as one of the model projects. This project is to aim to improve the fishing capacity, establish a revolving fund and build up capacity of the cooperatives, with initial input of fishing equipment.

I also suggest a project idea, that is, Project for reinforcement of purse seine fishing. This project is based on the same concept and concentrated on pelagic fishery development.

Sardines and mackerel contribute substantially to providing cheap fish for the population. In order to increase supply of cheap fish to the people, it is effective to reinforce the purse seine fishing fleet.

The project is to intend to reinforce the fishing fleet with measures such as introduction of prototype purse seining boats and fishing gears, their operation by a fishing cooperative and provision of credit through the cooperative for the members fishermen to go into the purse seine fishing.

(2) Support for and Promotion of Marketing

Promotion of marketing of flesh fish

As people prefer fresh fish, the marketing fish has been changing from processed fish to fresh fish

From Dar es Salaam, private fish buyers go down to main fishing areas, Mafia, Bagamoyo, Zanzibar and Kilwa by boats or tracks with ice boxes to purchase flesh fish for Dar es Salaam Market.

In Tanga Region, served by main roads linking with Dar es Salaam and inland cities by regular bus services, some fish-traders and fishmongers are distributing fish to inland cities such as Arusha and Morogoro. This is an important movement to be encouraged for expansion of marketing of fish. They utilize small freezers to keep their fish and public buses for their transportation. However, they are unable to expand their transactions, failing to meet the actual demand, because of insufficient funds to purchase more fish and invest for additional freezers. Financial measures should be introduced to support and encourage these private merchants. In Lindi and Mtwara, local people also prefer fresh fish. There have been some efforts to transport and sell fresh fish using ice made with small freezers, while fish are usually broiled or dried for transportation and sale in the inland areas. Since small freezers can be handled and managed by private fishmongers, benders or fishermen groups, it is a practical way to promote marketing of fresh fish in these southern areas, by utilizing these small freezers. In addition to

construction of roads, what required to the public sector for promoting marketing is to extend supports including financial assistance and follow-up to fishmongers, traders and fishermen.

(3) Development of Fishery Infrastructure

In many local landing sites, natural sand beaches are used for landing the catches and preparation for fishing.

It will be necessary to improve facilities and functions of the landing sites for motorization of fishing boats and their effective operations to increase the catches as well as to facilitate marketing of fish landed.

The fishing fleet of DSM is the largest one in all the coastal areas, as almost 60% of the large fishing boats are operated in DSM. About 50% of the marine fisheries catches are landed in Dar es Salaam, and the new fish-landing market is now under construction in Dar es Salaam to promote marketing of fish. *Supporting facilities for the fishing boats and fishermen have however been left undeveloped.* For supporting and activating the operation of the DSM fishing fleet, leading promotion of the coastal fisheries in Tanzania, it is essential to improve harbor facilities in Dar es Salaam for the fishing fleet. With this concept, the plan will be studied to construct a fishery harbor in DSM.

ANNEX II

Well, since our study team leader, Mr. Yamamoto fully explained the logical frame and overall goal of this Master Plan, I would like to start from the problem analysis and its counter measure for them. I explain about 3 fisheries targeting different species such as Nile perch, Dagaa and Tilapia. Because these 3 are most important fishing species in the Lake.

First of all, for Nile perch fishery, 6 problems are suggested. These are,

(Read out all of six) And recommended counter measure for each problems are mentioned on the right column.

For the problem of fish price, I recommend to organize a joint shipment of fish by fishermen themselves. Because in a current situation, marketing is controlled by agents not by fishermen. The idea is to gain control by fishermen. This marketing system is actually carried out in Kenya.

Long line bait is short. Because beach seine to fish haplochromis, which is major bait fish for long line is banned since 1994. So fishermen need alternative to fish bait in a large quantity in a short period of time.

Robbery of gears such as engine and gill net is a serious problem. Organizing and sending a patrol mission can be a solution to protect their valuable asset.

Unfair weighing scale is confessed in many landing sites. Now Mwanza regional fisheries office is planning to organize and send the scale inspection mission in collaboration with weight and measure bureau of Ministry of industry and trade and Marine police.

Lack of capital is, in some sense, a common problem among fishermen, processors and traders. A micro-scale soft loan is needed.

Processing place of factory remains is left unhygienic for the moment. This situation is not preferable for products as well as workers.

And for Nile perch fishery as a whole, it's time to talk about effective resource management to gain benefit from the Lake in a sustainable basis.

For Dagaa fishery, 3 problems are pointed out.

(Read out all of three)

Lack of capital is a problem of not only Nile perch but also Dagaa fishery.

Now, most of Dagaa fishermen use Mombassa-made, poor quality mosquito net that need replacement every 3 to 4 months. Since your local net manufacturing factory produces real Dagaa net, fishermen should use this although its price may be more than that.

I don't have a good idea to dry Dagaa effectively even in rainy season. However Kigoma case could be a good example for the solution.

And finally for tilapia fishery, the key to promote this fishery is marketing. Unfortunately tilapia fishing is poorly appreciated due to limited market range and extensive market system, in spite of high consumer preference to tilapia. So improvement of tilapia marketing system is recommended.

Based on these ideas, several projects to give shape of these ideas are proposed. Project number is referred to annex of this summary. From now I explain briefly the idea of the projects.

Project 3-1

As I explained before, long line bait for Nile perch is short every where since beach seine is banned. Here I would like to propose two alternatives to fish or produce bait fish. One is alternative fishing method for haplochromis, for example small scale lift net with fish attraction lump or fish trap. The other one is production of Clarias fingerlings by hormone injection. The technique of Clarias reproduction is established in Western part of Africa with technical manual prepared by FAO and other organizations.

These technical development or local adoption of said techniques should be done by Nyegezi Fisheries Institute and extended to fishermen. Detail is attached at the end of this summary.

Project 3-2

This is also technology development type of project. The techniques recommended are, for example *purse seine net as an advanced gear of hurry-up net to prevent dagaa from escaping from the bottom of net*. Another example is a fish finder for both Nile perch and Dagaa fishing. It is quite effective to locate fish school in a wide range of water column and lake surface. With this modern apparatus, effort can result in the effective fishing. This activity should also be carried out at Nyegezi Fisheries Institute. And verified technique will be extended to fishermen like aforementioned project.

Project 3-3

As I said, tilapia is the most familiar fish for human consumption whereas Nile perch is disliked by people in Lake zone. But due to poor access to tilapia landing sites, tilapia is marketed only in a limited villages and neighboring towns. So I would like to propose tilapia marketing promotion project, which is consisted of following 4 steps.

Disposition of insulated fish box at selected fish collection sites.

Construction of ice factory in Mwanza.

Establishment of cold chain with Lake-surface transportation.

Establishment of cold chain with on-land transportation.

Project 3-4

Now the remains of Nile perch produced at the factories are fully utilised for human consumption as well as animal food. But the problem is the working condition of those processors. There are typical processing place in and around the town of Mwanza. Left side photo shows Mkolani processing site located south of town. Unfortunately they have been forced to relocate 2 times till now by authority due to bad smell and fries. Right side photo shows dry-salted chips processing place next to Kirumba market which drains salt and fish oil directly into the Lake. It may have a negative impact on the Lake environment. So to improve such a circumstance, these facilities should be needed.

Project 3-5

This conceptual figure shows the system of joint shipment of fish by fishermen's cooperative. Here I put a carrier boat to carry and sell the products to the factories. And the money will be paid to the bank account and distributed to each member fishermen afterwards. With this system, fishermen can save money to some extent for future investment instead of drinking beers at the bar. In this concept, the important point is to organize the cooperative, which is truly functional for member fishermen. For this purpose, we may need long period of time for fishermen education in a grass-root basis.

Project 3-6

This is rather simple compared to previous one. With the surveillance system equipped with mobile radio for the boat and fixed radio powered by solar system at the base, fishermen will be able to protect their fishing gears to some extent. Deep involvement of authorities concerned such as marine police and district fisheries office is needed and key to succeed this system.

Project 3-7

Well final one is a resource management type of Nile perch fishing. This is not a easy work. The contents of this project is closely related to the result of LVFRP (Lake Victoria Fisheries Research Project) financed by EU that will be presented soon in a final workshop. And it will be influenced by the possibility of LVFRP phase 3 that will be the resource management. So for the time being, I would like to watch carefully the movement of EU.

But a part from that, I show you here my concept of resource management. TAC system (Total Allowable Catch) is introduced and implemented in Japan and EU countries to manage the resource of commercially important species in the common fishing ground. In case of Lake Victoria as well, all of

riparian countries should collaborate with the leadership of LVFO (Lake Victoria Fisheries Organization) to find the biologically allowable maximum catch and finally determine the TAC of each countries in consultation with administrators or politicians. TAC is not a purely biological figure. Then the point is a way of enforcement and management. I show you some possible way of management in the next slide.

This table shows three different ways of management with comparison among them, advantages and disadvantages. Simply saying, the left one is the management by number of fishing boat, middle one is the control of production at the factories and the left one is the management at the landing site. Easier ones are the left one and middle one. Because we need less control points. But these are not a direct management way of catch. On the other hand, the right one is an ideal measure to directly manage the catch. But the implementation is very difficult because there are around 600 landing sites in Tanzania water only. So in this manner, there are still many things to discuss with parties concerned.

Well that is all about my presentation. Thank you very much for your attention.

ANNEX III

A. About the Lake Tanganyika fisheries,

It is based on the national policy of "Arrangement of the production enhancement system corresponding to domestic demands (Fishery production)".

Improvement of income will be pursued through the implementation of efficient fishing methods and cost reduction, so that the existing fishery becomes more efficient one and further, enhancement of economic supports to fishermen will be promoted through the establishment of various financial systems.

Furthermore, for "Resource management: achievement of the fishery of resource management type,"

Arrangement of fishery statistics such as the survey of fishery resources and information of fishery production, which are used as the basis for setting the possible fishing resources (for example TAC; which Mr. Sato mentioned), will be performed so that measures to achieve sustaining utilization of limited fishery resources can be taken.

B. Achievement of efficient fishing and cost reduction

The current Daga fishing uses basically a completed fishing method and there is no large point to require large technical improvement. It enables to save fuel consumption by stopping the outboard engine on the fishing ground and drifting according to the wind and water current, so some fishermen say that they can obtain a larger catch by increasing the output of the outboard engine and reaching a more distant fishing ground.

Though a fishing ground may be formed at the center of the lake depending on the meteorological and wave conditions, easy going increasing of the output of the outboard engine may cause the increase in cost and may not always result in the increase in income.

Therefore, rather than the measures to enhance the fishing ability such as increasing the size of fishing boats or increasing the output of outboard engines, attention should be paid to such measures that will contribute to sustaining fishery such as brushing up the existing fishing method, study for efficient fishing, and examinations of methods for cost reduction.

C. Establishment of loan schemes for purchasing fishing implements

It is very significant to enhance the supports to those younger generations who will take a role fishery in the future. In the current fishing villages, a few boat owners (Tajiri: rich persons) possess fishing boats and fishing nets and they do not attend the fishing ground at all or only seldom.

Particularly for those young crew who are independent from boat owners and have the will to operate fishery by themselves, economic supports should be provided through the establishment of a loan scheme for purchasing fishing implements or capital increases of existing funds. And distribution ratios of the income from the catch shall be rearranged.

D. Improvement of fishing techniques

For the promotion of fishery in the Rukwa Region, (where development is behind that in the Kigoma Region), upgrading of fishing implements is required by such means as the replacement of dugout canoes with planked boats and diffusion of outboard engine.

Therefore, establishment of a loan scheme for purchasing fishing implements or capital increases of existing funds will be implemented for small-sized fishermen's households.

Further, to have them effectively utilize these economic supports, education and enlightenment for fishing people are also important, so it is necessary to promote the understanding of the concept and contents of loans as well as the method for accessing them.

E. Periodical implementation of basic statistical surveys of fishery production

It is desirable that the collection, arrangement, and analysis of fishery production data, which form the basis for setting the TAC, are implemented in the near future. Further, for the arrangement of the statistical information system, arrangement of the load infrastructure and telecommunications system is also essential.

F. In the fields of processing and physical distribution.

An increased supply of edible Dagua will be pursued through the improvement and development of techniques for processing Dagua according to the National Policy statement in "Fishery processing/physical distribution: reduction of physical distribution cost and nation-wide deployment of physical distribution facilities for fishery products," to perform a part of the role of supplying protein to the nation.

Existing processing methods involve a problem in quality, particularly during rainy seasons. While pursuing the improvement of product quality by placing importance on the improvement of this point, demands from consumers will be evoked through the development of more attractive products. Furthermore, by enhancing the interests in the quality of fish products not only among processors but also among consumers, we will contribute to the safe and stable supply of fish products.

G. Diffusion and enlightenment for the quality of fish products.

With regard to the currently implemented method of processing Dagua, it is the first step that processors themselves become aware of problems in quality, sanitation, and so on. In the beginning, it is necessary to promote diffusion of dry racks made of local materials, which will require only a small amount of initial investments.

For the improvement of quality of processed products, on the other hand, it is important that not only processors but also consumers have interests in not only the price but also the quality of fish products. For enlightenment of consumers, utilization of radio broadcast will be effective.

H & I Improvement of processing methods and development of processing technology

With regard to the drying method applicable to rainy seasons, which is the most serious problem in the present stage, it is necessary to study for

- ①Reduction of the drying period by means of the boil & dry method or soaking in salt water,
- ②Introducing hot air drying, and
- ③Applying a simple cover system to dry racks.

On the other hand, it is necessary to develop new products for increasing consumers and expanding markets, where smoked fish, canned fish, frozen fish can be cited as candidates.

Though smoking can be implemented with simple technology and small investments, it uses firewood and charcoal as smoking fuels, so attention must be paid to the problem of deforestation. Collaboration with afforestation projects should be promoted.

With regard to canned fish, Dagua has a form that makes people recall oil sardine, if "Dagua mafta" is produced, it is expected that it will contribute to the acquisition of foreign currencies as export-oriented products while being consumed domestically. However, besides that cans as materials must be imported, feasibility study must be conducted carefully on the manufacturing and quality controlling abilities for products, plant management ability, and so on.

With regard to frozen Dagua, shipping them mainly to Dar es Salaam using household chest freezers and adiabatic transport boxes is expected to evoke new domestic demand. From the development and sales of new processed products, creation of chances of employment and provision of chances for obtaining cash incomes, particularly for women, can be expected.

J. Improvement of physical distribution infrastructure

Smoked Migebuga is mainly exported to Burundi. Smoked Migebuga products collected from each landing beach using small boats are reloaded on M/V "Liemba," which makes a round trip between Kigoma and Mprung once a week, transported to an area near Kigoma, and then transported to Burundi after being reloaded on a further larger boat. Reloading on the water not only takes a long time but also is dangerous work due to shaking of boats. Further, "Liemba" also carries passengers and they get on and off the ship on the lake using a small boat as is the case loading and unloading of cargoes. At principal cargo collecting points, arrangement of jetties for "Liemba" and other fish product transport ships as well as warehouse facilities for storage of products is desirable.

K. Lake Nyasa Fisheries

When considering the development of fishery on the Nyasa Lake, the first thing to be kept in mind is harmony with environments and conservation of the biological diversity. When planning the development of fishery, a wide range of relationships and cooperation with its peripheral related areas must be taken in consideration.

On the other hand, we consider that the endeavor to convert the fishery of hunting type into the culture type, i.e. a trial based on the concept of aquaculture, will contribute to the implementation of responsible fishery as a means for "implementing resource management type fishery of."

In promoting fishery on the Nyasa Lake, well balanced development particularly paying attention to the harmony with environments and compromising with conservation of the biological diversity will be pursued, use, development, and management of fishery resources will be promoted in cooperation with Malawi and Mozambique, which commonly possess the lake, such a development plan that covers not only the fishery of hunting type but also the possibility of the fishery of culture type is necessary and, for the development of fishery and its peripheral related industries, arrangement of infrastructure, the basic condition for development, is also important.

L. Diffusion of planked boats

All fishermen on the Lake Nyasa are performing using dugout canoes and the number of such canoes is reported as 2,324 in the frame survey of 1998. Wood as materials of these canoes is taken from trees of 40 to 80 years in age and it is calculated 1,080 large trees are cut every year for constructing canoes. Therefore, also from the viewpoint of preservation of forest resources, it is necessary to promote the replacement of dugout canoes with planked boats.

M. Trial of the aquaculture

It is also important to pursue such fishery development that minimizes the impacts resources and environments. Particularly, introduction of tests and researches on the development of propagation and release technology, which contributes to proper utilization of fishery resources while paying attention to their preservation, will be considered.

Since the Lake Nyasa is an international lake possessed by three countries as is the case of the Tanganyika Lake, also on these plans, it is a matter of course that cooperation and consensus among the three countries are essential.

N. Importance of the arrangement of basic infrastructure

With regard to processing and physical distribution, the arrangement of infrastructure for transport is a prerequisite and through the activation of physical distribution and expansion of markets based on such infrastructure, stable supply of fish products to citizens and increase in income of fisherman's households can be promoted.

For the advancement into off-shore fishing as implemented in Malawi, a neighboring country, while it is a matter of course that the grasp of the existing volume of resources and the volume of resources that can be developed is essential, cost for industrial development including the problem of human resources necessary for arrangement and maintenance management of infrastructure must also be studied deliberately.

It requires a large amount of investments for the construction of fishing boats and purchase of outboard engines. At the same time, arrangement of a modern fishery port equipped with ice making facilities, refrigerators, fishing boat repairing facilities, and replenishment facilities is required for each landing beach together with the management ability to operate such facilities.

Further, the arrangement basic living infrastructure including electric power and water supply to operate them and infrastructure including the roads for carrying fishery products to the place of consumption is also required.

ANNEX IV

NATIONAL WORKSHOP FOR FISHERIES MASTER PLAN

Host Organization : Fisheries Division, Ministry of Natural Resources and Tourism
Sponsored by Japan International Cooperation Agency (JICA)

1. Date : 30, 31 October and 01 November 2001 (3 days)
2. Place : TANESCO INSTITUTE, Morogoro
3. Agenda

[Day 0]

Travel to the place for the workshop

[Day 1] 30 October 2001 (Tuesday)

Time	Subject	Person in charge
08:00-08:30	Courtesy call to RNRO + RAS	Mr. T.W. Maembe
08:30-09:00	Registration	Secretariats
09:00-09:15	Introduction/selection of chairperson	Mr. N.J. Jihulya
09:15-09:30	Speech	Mr. R. Mapunda
09:30-09:45	Speech	Mr. Nishizaki - JICA
10:00-10:15	Speech	Mr. T.W. Maembe
10:15-10:25	Break/preparation of presentation	All
10:25-11:25	Presentation 1 Explanation of Fisheries Master Plan	Mr. S. Yamamoto
11:25-11:55	Coffee break	All
11:55-12:25	Presentation 2 Development of Marine coastal fishery (including Question & Answer for 10 minutes)	Mr. Iida
12:25-13:00	Presentation 3 Development of L.Victoria fishery (including Question & Answer for 10 minutes)	Mr. M. Sato
13:00-14:00	Lunch	All
14:00-14:30	Presentation 4 Development of L.Tanganyika & L.Nyasa fishery (including Question & Answer for 10 minutes)	Mr. T. Fujiki
14:30-15:30	Panel Discussion	1.Mr. Mapunda (chairperson) 2.Fishermen (Marine) 3.Fishermen (Inland) 4.Fisheries Division 5.District fisheries officer
15:30-16:00	Coffee break	All
16:00-17:20	Grouping of the participant for Day 2 group session	Ms. Kyanya Dr. Kulindwa
17:20	Closing of day 1	Mr. R. Mapunda

[Day 2] 31 October 2001 (Wednesday)

Time	Subject	Person in charge
08:00-08:30	Announcement/recapitulation	Ms. B. Kyanya
08:30-09:30	Explanation of group session/Grouping/Selection of group leader.	Ms. B. Kyanya
09:30-11:00	Group session	Group leader
11:00-11:30	Coffee break	All
11:30-13:00	Group session (compiling)	Group leader
13:00-14:00	Lunch	All
14:00-15:30	Presentation by each group	Group leader
15:30-16:00	Coffee break	All
16:00-17:30	Presentation by each group	Group leader
17:30	Closing of day 2	Chairperson
19:00-21:00	Reception	Japanese Study Team

[Day 3] 01 November 2001 (Thursday)

Time	Subject	Person in charge
08:00-08:30	Announcement/recapitulation	Ms. B. Kyanya
08:30-10:00	Discussion	Ms. B. Kyanya, Mr. G. Namwonja Dr. Kulindwa Dr. Natu
10:00-10:30	Coffee Break	All
10:30-12:00	Discussion	Ms. B. Kyanya, Mr. G. Namwonja Dr. Kulindwa Dr. Natu
12:00-12:45	Conclusion	All
12:45-13:00	Closing of workshop	
13:00-14:00	Lunch Payment of transport fee	All Japanese Study Team

ANNEX V. List of Participants

	Area	Title/Organization	Name
1	Dar es Salaam	Fisheries Division, Director, FD, MNRT	Mr. T. Maembe
2		ADFs, FD, Research, training & statistics	Mr. Haule
3		ADFs, FD, Surveillance	Mr. S.P.N. Kimaro
4		ADFs, FD, Master plan C/P	Mr. R. Mapunda
5		Fisheries Officer, FD	Ms. F. Sobo
6		-Ditto- (Mwanza)	Mr. D. Pande
7		-Ditto-	Mr. R. Makenya
8		-Ditto-	Ms. R. Kullaya
9		-Ditto-	Ms. V. Mushi
10		-Ditto-	Mr. I. Matemba
11		-Ditto-	Ms. R. Mally
12		-Ditto-	Mr. N. Jihulya
13		-Ditto-	Mr. K.M. Sindika
14		-Ditto- (Mwanza)	Mr. R. Mhekela
15		Forestry & B. Division, MNRT	Mr. E.F. Haule
16		Senior Economist, Police & Planning, MNRT	B.V. Nyange
17		SBBJ (Boat Building) in Mwanza	Ernest J. Nkaka
18		Conservator of Antiquities	Eliwasa E. Maro
19		Principal Game Officer, MNRT	Peter A. Ottaru
20		Researcher, TAFIRI	Dr. A. Chande
21		Kunduch Fisheries Training Center, Civil servant	Gershon B. Myaka
22		Dar es Salaam city, Fisheries officer	Mr. F. Ntima
23	(Private)	UWAWADA	Mr. Addy Haider
24	-ditto-	Sewerage Manager, DAWASA	Mr. Jasper M. Kirango
25	-ditto-	WASWI	Mr. A.S. Kibwana
26	-ditto-	BUSHA	Saidi S. Bofu
27	-ditto-	Fish processors Association (Industrial fisheries)	Mr. H. Bhagat
28	-ditto-	Poverty of Africa	Joe Mpangala
29	(Donor)	SADC MCS Specialist	Mr. J. Shea
30	Marine Coastal	Mheza, Tanga region, District Fisheries Officer	Mr. Kessy Mvugaro
31		Coastal Management Fisheries, CMF, Tanga	Mr. Solomon Makolola
32		Lindi Region, Senior Assistant Fisheries Officer II	Mr. O. Mchalaganya
33		Mafia Island, DFO	Mr. Mtani I
34		Mbegani Fisheries Development Center Principal	Mr. Mndewe YES
35		District Fisheries Officer, Bagamoyo	Mr. J.A. Lilungulu
36	(Private)	Fishermen or fish trader from Mheza, Tanga	Masudi Yunusi
37	-ditto-	Fisherman from Bagamoyo	S. Pazi
38	-ditto-	Fishermen or fish trader from Lindi	Mr. Twende
39	-ditto-	Fishermen from Mafia	Salum
40	(Donor)	Tanga Coastal Zone Conservation Develop. Project	Eric Verhey
41	L. Victoria	Musoma, DFO	Mr. A.J.M. Makaja
42		Sengerema, Mwanza, DFO	C.M. Mahande
43		Bukoba, DFO	J.M. Kayungi
44		Neyegezi Fisheries Development Center, Principal	Mr. John Makene
45	(Private)	Fishermen from Msoma	Kabate N. Nyamakanga
47	-ditto-	Fishermen from Sengerema, Mwanza	Juwenary Buzinza

46		MWADESO (Mwanza Development Society)	Novath Manoko
48		Business person in Mwaza	Ms. Beletha Emanuel
49	(Donor)	Executive secretary LVFPA, Mwanza	L.B. Nhwani
50	L. Tanganyika	Sumbawanga, Rukuwa, Assistant Fisheries Officer	Mr. M. Kilala
51		Sumbawanga, Rukuwa, Business	Mr. J. Kipele
52	L. Nyasa	Kyela, DFO	Arom M. Mwasota
53		Ritohi, Mbinga, Fisheries Officer	A.F.H. Kapinga
54	(private)	Fish trader from Ritohi, Mbinga	S. Nchimbi
55	-ditto-	Fish trader from Kyela	Seif A. Waziri
57	Morogoro	National Aquaculture development Centre, SfsO II	Japhet Mvvanpulo
58		SFO II	Kajitanus Osewe
59	Japanese team	JICA, Tokyo	Mr. Nishizaki
60		JICA Study team	Mr. S. Yamamoto
61		JICA Study team	Mr. K. Iida
62		JICA Study team	Mr. M. Sato
63		JICA Study team	Mr. T. Fujiki
64		JICA Study team	Ms. B. Kyanya
65		JICA Study team	Mr. G. Namwonja
66		JICA Study team	Mr. K. Tani
67		JICA Study team	Ms. Y. Niimura
68		Assistant 1	Mr. Mapunda
69		Assistant 2	Mr. Stanley Lameck
70		Assistant 3	Ms. Christina
71	Facilitator	DSM Univ.	Dr. K. Kulindwa
72		DSM Univ.	Dr. Natu Mwamba

ANNEX VI Proceedings:

30th October 2001

09:00-09:05 Introduction/selection of chairperson Mr. N.J. Jihulya

Participants Self-introduction

09:05-09:15 Speech

Mr. R. Mapunda

It is my great pleasure for me and a great honour for the Ministry of Natural Resources and Tourism to have this opportunity to make an opening statement to this Workshop.

To start with, I would like to extend a warm welcome to all participants and invited guests. As you might be aware this workshop has the scope of becoming a national event setting the guidelines for the sustainable development of the fisheries sector in the country.

Tanzania commends the Japan International Cooperation Agency (JICA) for their financial support which has made this workshop possible.

As you might be aware Tanzania is well endowed with water resources both marine and freshwater. She shares the three major African lakes of Victoria, Nyasa and Tanganyika and a coastline of 800 kilometres long. The country has other minor water bodies which include lakes Rukwa, Eyasi, Manyara and dams namely Mtera, Nyumba ya Mungu, Mindu and others. Other water resources include a diversified river system. Fisheries potential from all territorial waters is estimated at 730,000 metric tones. Today, only an average of 350,000 metric tones are landed annually. This indicates that there is still room for more production.

With all this diversified water resource, one cannot draw up sound management strategies without having in place sufficient and reliable baselines information.

It is only by having proper management strategies that our mission on sustainable development of the fisheries resources become a reality.

Our vision boldly phrased "Sustainable fisheries utilisation" requires careful planning. The fisheries industry of Tanzania has been expanding in the past eleven years due to the demand for increased supply of protein food, growing population and the advancements in technology. All these increase the pressure on the living aquatic resource both marine and freshwater.

The execution of a fisheries Master Plan study has come in at the time of great need. Sufficient and reliable baseline information over the fisheries resources nationwide is a pre-request in planning. Such information is a tool for a successful and implementable strategies towards a sustainable management of the resource in question.

This workshop is an opportunity to share the findings of the fisheries Master Plan Study among the Study Team and the stakeholders. It is our wish that the outcome of this workshop will be

- Consolidation of the Master Plan Study findings from various fields,*
- A common understanding of the present status of the fisheries sector,*
- A common understanding of what are the main constraints and opportunities in the development of the fisheries sector nationwide,*
- A common understanding of which steps should be taken at national, regional, district and village levels to promote sustainable management of the resources,*
- A common understanding of what should be the role of each level to develop the institutional framework for applying sustainable management strategies, and*
- A common understanding of the need of donor community to assist in capacity building in the field of fisheries.*

It will be a challenge to this workshop to use the fieldwork findings and to discuss and set a stage for the future development of the fisheries sector.

I look forward to the days ahead of us.

Thank you for your attention.

ANNEX VI SPEECHES

09:15-09:25

Speech

Mr. Nishizaki – JICA

Good morning. On behalf of the Japan International Cooperation Agency, I would like to express my sincere thanks to the participants for attending this Workshop and to the Tanzania government for arranging a fruitful Workshop on the Master Plan Study on Fishery Development.

All of us understand that the Tanzanian government has made a lot of efforts to reduce poverty in Tanzania. In this context, the government of Japan through JICA, has a closed cooperation with the Tanzanian government.

One of the good examples is to support the PRSP (Poverty Reduction Strategy Paper) procedure such as monitoring. Also JICA has been deeply involved in the formulation of ASDS (Agricultural Sector Development Strategy) and RDS (Rural Development Strategy) with other development partners.

Fighting against the AIDS/HIV is also our target area,

In this Morogoro Region, JICA has collaboration with Sokoine University of Agriculture for the development of participatory and sustainable agriculture. Recently Morogoro Health Project which is aiming at strengthen the capacity building in health sector has initiated with the local authorities in the field of fishery development, apart from the conducting this master plan, as you may know, by the grant aid of the government of Japan, Tanzanian government has been constructing the fish market at the Banda Beach. These all activities are aiming at reducing the poverty in Tanzania.

The Japanese people who paid tax in Japan support our JICA activities in Tanzania.

This Study was launched in January 2001. Half of the period of this Study has passed. During this time, in coastal area, Lake Victoria, Lake Tanganyika and Lake Nyasa, the field survey was conducted and Master Plan on Fishery Development of interim version was prepared by collaboration with Tanzania and Japan.

This Master Plan plays an important part in fisheries development in Tanzania, therefore it is necessary to accept many opinions of all people of fisheries.

So, today, we think that it is very significant that Workshop was implemented, with many participants of fisheries.

We hope that we have the many discussion on Master Plan for three days and revise more appropriate.

In conclusion, I would like to express the hope that this Study will help further cement the mutual goodwill and friendly relations existing between Tanzania and Japan. Thank you.

09:25-09:40

Speech

Mr. T.W. Maembe

It is my great pleasure for me and a great honour for my Ministry in collaboration with the Japan International Cooperation Agency (JICA) to organise this important National Workshop to share the information collected and contained in the Interim Report of the Fisheries Master Plan.

I wish to express my sincere appreciation that you valued this invitation and that is why you have decided to use your valuable time to attend this workshop. This indicates your strong commitment to contribute towards the development of the Fisheries Sector.

May I also take this opportunity on behalf of the Government and people of Japan through the Japan International Cooperation Agency (JICA) which has financially enabled us to assemble here today to review the work done so far in developing the Fisheries Master Plan.

Mr. Chairman,

Tanzania, realised the need, to have a comprehensive Fisheries Master Plan a long time ago but it was not possible to develop it due to lack of capacity in terms of financial and human resources. In 1998, the Government of Tanzania submitted a request to the government of Japan for assistance to carry out a Fisheries Master Plan Study. It was with pleasure that early January, 2001 the request bore fruits and the execution of the Fisheries Master Plan Study started.

Mr. Chairman,

Past or on going Fisheries Projects and activities have been implemented based on the urgent demand but were not coordinated or integrated. It was necessary to have a fisheries Master Plan in order to determine what projects would be implemented to meet the objectives of the fisheries national policy and development strategy. The Fisheries Master Plan is expected to propose management strategies and a development plan with priority projects to meet the needs of each water body because each water body has different ecological and social conditions.

The Master Plan will set the stage for sustainable fisheries development taking into account integration of different sectors, the decentralisation policy and community participation scheme which embraces the fishing, processing, trading and other related activities. Priority projects will be identified in each water body as per the study findings. The output should encourage investment of the private sector, technology expansion, women participation and sustainable use application.

Mr. Chairman,

The overall objective of the Fisheries Master Plan is to develop a feasible integrated fisheries development strategy that will stimulate sustainable economic growth of the sector. The expected short terms objectives are:

- To establish the exact needs priorities of the country by major water bodies;
- To strengthen the capacity of Fisheries Division for project formulation, planning, monitoring and evaluation;
- To establish a clear understanding of the Fisheries Resources Base;
- To promote alternative income generating activities among fisher communities;
- To devolve of the government performed activities to fisher communities and private sector by building elements of their strong participation;
- To ensure fish plays its role in contributing to protein food supply, nutrition, food security, employment and increase in foreign exchange earnings;

Mr. Chairman,

The deliberations of the workshop will contribute to the preparation of an interim report for presentation to the advisory committee in Japan. I invite you to guide the preparation of this report by agreeing on the priority areas and projects that will form the basis for further discussion with JICA and completion of phase II of the Fisheries Master Plan.

Mr. Chairman,

I am counting on the workshop to act as catalyst toward ensuring that the fisheries sector plays a greater role in providing protein food, food security, employment and foreign exchange through sustainable fisheries exploitation and aquaculture development having in mind that we have limited financial resources. I trust your deliberations will meet the expectations of the many stakeholders depending on the fishing industry.

Once again I would like to thank JICA and all the organisations which in one way or another have enabled each of you to participate in this workshop.

Mr. Chairman,

I wish you successful deliberations and look forward to you deliberations and guidance on how best together we can develop the fisheries sector in this country.

Mr. Chairman,

With these few remarks I declare this workshop officially opened.

09:40-09:50

Photographs

09:50-10:00 Ms. Kyanya

She insisted that the Master Plan Project is not for JICA but for the Tanzanians. Urged participants to contribute their ideas freely and actively. Project will be proposed in line with the existing conditions of the water bodies and the real situation of the people. She explained the objectives and purposes of the workshop.

10:00-11:00 Presentation 1 Explanation of Fisheries Master Plan Mr. S. Yamamoto
Explanation of the Master Plan (see Summary of Interim Report for the National Workshop).

11:55-13:00 Presentation 2 Development of Marine coastal fishery (including Question & Answer for 10 minutes)

Mr. Iida

Explanation on marine coastal fisheries (see annex I).

Dr. Chande

The best method of processing should be sought in order to ease marketing. As for sardines (*dagaa*) insect infection could be reduced by using salt and drying the products on racks in the sun (brining). Emphases should not be on increasing production only but also on processing and marketing of *dagaa* and *vibua*. Smoking method could also be applied in order for maintaining the products in good condition.

Mr. Baghat

He commented on the outward sea.

The landing sites along the coast must be improved to reduce the transportation cost. Some places are cut off for 4 months in a year like Rufiji, Kisiju and Nyamisati that stops transaction in these areas. Some areas are not easily reached by trawlers (vessels). Coastal people have the behaviour of disappearing after receiving credits or setting loans. Training programme for coastal fishermen to visit fishermen at Lake Victoria to see how they effectively operate in Lake Victoria might be an idea.

Ms. Kullaya

She commented that in addition to brining of *dagaa*, we should also consider canning and using hot ovens.

Mr. Jumbe Mzinza – Sengerema (Fisherman)

We have to be aware of ignorance and the necessity of education to fishermen. Fishermen that those who runaway from loans are ignorant. Hence, the Master Plan should emphasize first on education of fishers before the loans are issued. Sharing knowledge on credit system is priority to the implementation of the credit system.

Mr. Iida

About processing of *dagaa*, cost of processing should be thought. Because it is cheap, people are able to buy. Processing cost should remain minimum. Prices for dry *dagaa* from Tanga and Mwanza are the same. If *dagaa* from Tanga increases in price, it will be difficult for consumers from Tanga to buy locally produced *dagaa*. There seems to be no use for canning *dagaa*.

14:00-15:00 Presentation 3 Development of Lake Victoria fishery (including Question & Answer for 10 minutes)

Mr. M. Sato

Explanation on Lake Victoria fisheries (see annex II).

Mrs. Mallya

That *clarias* is not a good species for bait. Other species should be sought.

Mr. Abbas Nyanakama

That it is difficult to tell all fishermen to use *clarias* as bait. Some other species should be sought.

Mrs. Sobo

That there is a project on Lake Victoria Stock Assessment under the Lake Victoria Environmental Management Project. There is a need to design a project for statistical collection for all the water bodies in order to help us in management of the resources.

Mr. Buzinza

He has agreed with recommendation of Mr. Sato, the problem of big fishers is that they fish both in open and shallow waters. This should be supervised by the Government. Also any factory owner should assist in culturing fish through investment. The big fishers destroy juveniles by fishing in shallow waters that fishers should be guided by the Government through their assistance on controlling the prices. Factory owners should also invest in fish propagation.

Mr. Sato

That production of its fingerings in rural areas could also meet food supply and provide bait for Nile perch longlines. He has also agreed that the information system for the whole nation is very important and that the Master Plan will examine it.

The Government should not control the price, but the market mechanism should set the price.

**15:00-16:00 Presentation 3 Development of Lake Tanganyika and Lake Nyasa fisheries
(including Question & Answer for 10 minutes)**

Mr. T. Fujiki

Explanation on Lake Tanganyika and Lake Nyasa fisheries (see annex III).

Mr. Nkwani

Consumers do not see the difference between *dagaa* dried on sand and on racks. Businessmen see no point why they should cost expenses for racks.

Mr. Haider (UWAWADA)

Fishers can benefit from the Master Plan if the fishers are guided into cooperatives. And he believes that one of the incentives for joining the cooperative could be a new fishing method offered from the cooperatives.

16:00-16:40 Panel Discussion

Mr. Anakaleti Kapinga (Mbinga)

- The biodiversity of Lake Nyasa has been destabilised due to heavy deforestation. That the trees for dug-out canoes are diminishing year after year.
- We should not only concentrate on fish quality as it is very much emphasised in the Master Plan. Rather, improving the incomes of the small scale fishermen by issuing them loans should also be sought.
- Preservation of *dagaa* should be improved through provision of drying equipments especially for the rainy season.

Mr. Kayungi

- Doubt the use of *clarias* for bait, that in Kagera region, thousands of fingerings are being imported from neighbouring country, Uganda. It is different to keep such bait for long hours.
- That expanding the international market of *Tilapia* like *Nile perch* will create malnutrition within the country as the population depends on them. Also, if the *Tilapia* is exported, it may lead to another European ban due to quality because of the way of catching.
- All the pilot projects are concentrated on Mwanza. They should be spread throughout the country.
- In Mwanza, small *Nile perch* gives higher prices than big individuals. This shows that the investors' plan is to destroy the *Nile perch* species.
- There is fish smuggling in Kagera by Ugandan traders because of the difference in price.
- There should be a youth fish project in Lake Victoria like in Kigoma.
- Especially for security reasons including patrol such as for smuggling, strengthening of the BMUs is emphasised.

Mr. Kelala

- Liftnets are used in Lake Tanganyika and are expensive. Any new method introduced by the Master Plan should be less costly.
- Fishermen should be educated the importance of repaying loans.
- Surveillance on boats carrying *dagaa* to Zambia should be strengthened and the payment of revenues to the Government should be increased. Currently it is the Zambians who benefit because of the smuggled *dagaa*.
- Data collection is a problem. In Nkagi district of Rukwa region, there is only one fisheries officer for all sites.
- Improvement of loading and unloading sites is necessary.

Mr. Masud Yunusi

- Proposal to give loans to fishermen in the coastal area should be promoted.
- Regarding data, statistics are being collected by the fishermen themselves and are presented to fisheries officials in Tanga.
- In Tanga, fishers use mango trees to build boats (plank boats). Using mango trees is environmentally good since they do not have much other use compared to other timbers.

Mr. Nhwani

- Master Plan must start at the village level rather than national level.
- Involvement of villagers will make them understand better their local conditions.
- The Master Plan Projects should be directed with full participation of stakeholders.

Mr. Baghat

- The stock of fish is unknown, more than \$50 million has been collected and spent on royalties per year and yet no system of knowing the stock has not been enforced on Lake Victoria and the coast.
- Longlining on the lake should be banned. Longlining removes the parent stock of the lake. 1.2 million pieces of *haprocromis* per year is used as bait for longlining. Hence we should reinforce the size of hook from 4 to 7 - 8.
- There are conflicts between fishers and processors who both seek for their own profits and do not consider their environment.
- Any net with less than 5 inch mesh size should be banned. We want to preserve the stock for our factories.
- The quotas cannot be applied if the stock are not known.
- The pressure on Nile perch is due to the fact that fishers make money.
- Ugandans pay more on Nile perch because of their economies of scale in terms of reduced costs. Ugandans do not pay service levies and other high taxes Transport costs of Ugandans are lower than in those of Tanzania.

Mr. Maembe

- The solution to the small-scale fishermen is to form cooperatives (SACCOS). Through contributions to the cooperatives will improve small fishers' lives.
- Fishers should participate through abiding by law and ensuring that culprits are arrested.
- The law is underway to empower fisher groups to control culprits. By doing so, thefts cases will be minimised.
- Aquaculture can contribute to increase fish protein and poverty alleviation.
- In the long run, we should create the culture of loving good standards, i.e. dagaa with good quality.
- We sell Nile perch outside the country because internal consumers' preference for Nile perch was low. Hence it had to be exported. On price stability, it is emphasised that fishers to get organised in cooperatives to have strong bargaining power for prices.
- Education is important at all levels not only youths but also all fishers.
- Lakes with huge quantity of fish, its stock assessment is difficult. It is wise to note that when catch declines, fishers should take measures immediately.
- What we all agree here during the workshop should be started its implementation by all participants and information shared should be passed onto other fishers.

Mr. Yamamoto

Thanked participants for their active discussions. Their opinions were good and coming from various types of people. It helped us all to share and exchange ideas. This was the purpose of the workshop. The Mater Plan involves the village level up to the national level, through discussions, some major issues have been raised;

- (1) Technology and
- (2) Information has to be shared for example, technology from Lake Victoria could be introduced into Lake Nyasa,

- (3) Financing; for harvesting, one has to raise the capital, the responsibility lies on the fishers themselves,
- (4) Resource Management, also depends on availability of information, and
- (5) prices also depend on information availability.

16:40-17:10 Grouping of the participants for Day 2 group session

E. REPORT

TECHNOLOGY TRANSFER SEMINAR

**REPORT OF
THE TECHNOLOGY TRANSFER SEMINAR
FOR FISHERIES MASTER PLAN**

Host Organization: Fisheries Division, Ministry of Natural Resources and Tourism

Sponsored by: Japan International Cooperation Agency (JICA)

Date 18th and 19th April 2002

Venue: TEC Training Centre, Kurasini Dar es Salaam

**System Science Consultants Inc.
Overseas Agro-Fisheries Consultants Co., Ltd.**

**REPORT OF THE TECHNOLOGY TRANSFER SEMINAR
FOR FISHERIES MASTER PLAN -SUMMARY-
18th and 19th April 2002, TEC Training Center, Kurasini Dar Es Salaam**

1. Background

The Technology Transfer Seminar for the Fisheries Master Plan which was hosted by the Ministry of Tourism and Natural Resources-Fisheries Division and sponsored by JICA Tanzania, took place on the 18th and 19 April 2002 in Dar-Es -Salaam. The seminar was part of the planned activities to complete the processes leading to the completion of the Master Plan.

The seminar was opened by Mr. T.F.Killenga who represented The Permanent Secretary in the Ministry of Natural Resources and Tourism Mr Luhanjo after invitation by Mr Nanyaro who represented The Director of Fisheries Mr Maembe. Mr Nanyaro then read the speech of Mr Maembe and invited Mr Kinomoto, who represented the JICA resident representative to give his speech (see annexes 1, 2, 3, for speeches). The seminar was also graced by the attendance of Mr Nishizaki, JICA Tokyo representative.

In attendance were 80 participants from Fisheries Division, donor organizations and programmes, fisher group representatives and fisher cooperatives (see annex 9).

2. Objectives of the Seminar

The objectives of the seminar were:-

1. to reconfirm the outcome of the technology transfer through the Master Plan project to counterparts and at the same time,
2. to share the idea of the Master Plan among stakeholders involved in the fisheries sector as well as the priority programmes and projects therein.

The objective no. 1 was achieved through presentations by different persons while objective no.2 was achieved through group discussions and presentations in the plenary.

After the seminar was opened Mr. Raphael Mapunda, shared on the skills and technology transferred to the counterparts during the fieldwork. Key among this was the deep knowledge on information gathering techniques, how to develop a Master Plan as well as the use of different methods to gather both technical and participatory fish community related data. The counterparts too appreciated the exposure to all the corners of the country where fisheries are located and through sharing, identifying a new way of looking at issues in fisheries (see speech in annex 6).

Mr. Yamamoto, the JICA study Team leader then shared the process of the Master Plan design which included the identification of the national policy and the contribution of the fisheries sector to the national development, issues arising in the fisheries sector and the five basic concepts that have been developed from the issues. He then shared the development strategies accruing from the concepts and the priority programmes that have been developed to respond to the issues. This presentation based on the summary document of the Master Plan formed the basis for group discussions on day two.

A participant from UWAWADA, one of the fisher cooperatives in Dar es Salaam was invited to give a presentation on their strategic management plan (annex 11). He appreciated the willingness of JICA to support the fisheries sector and especially the artisanal fisher folk. He hoped that all will work out for the benefit of the fishers but requested the division to assist them to deal with issues in the sector.

The seminar process and programme (see annex 10) was then explained by the facilitator Mrs Bernadette Kyanya, who then handed over to the seminar chairman Mr R. Mapunda to invite the presenters. These were Mr W.J. Scheffers and Mr M. Sato. Mr Scheffers talked about the institutional building and capacity of the fisheries sector and gave some pointers to how it can improve (see annex 5), while Mr. Sato talked about the fisheries sector in Lake Victoria (see annex 4). He highlighted the positive efforts of the government of Tanzania in giving guidance to the use the fisheries resources in a sustainable way and hoped that with the Master Plan in place, these efforts will be stepped ensuring the resources are used properly.

3. Participants reactions and comments of the Master Plan

After the presentations, participants got a chance to respond and give their reactions to the presentations as well ask any questions they had. These comments and questions are presented in annex 7.

Day two of the seminar was concerned with the reading of the Master Plan document and making comments and recommendations as well as approve the various programmes. The group tasks were given as follows;

1. Read the section of the programme you have been assigned both in the summary and the main report.
2. Affirm and approve the programmes proposed.
3. Give any additional recommendations and any items/ needs that may need special attention.
4. Identify the roles of the different stakeholders who will be involved in the implementation of the particular programme; namely local government, central government (Fisheries Division), private sector, artisanal fishers, fish traders and processors, cooperatives and groups, NGOs and other donors. On presentation, all programmes were approved with suggestions and recommendations from participants. Details of these are in annex 8.

4. Conclusions and recommendations

The Master Plan priority programmes were approved by the participants and agreed upon by all present. It is recommended that a thorough check on the document be done to ensure a consistent flow of information and language. This was accepted by the team members.

5. Seminar closure

The seminar was closed at 18:00 p.m. by Mr D.M.K Kamamba, Director of Archives as well as Mr Nishizaki who thanked the participants for attending the seminar and wished them well.

OPENING STATEMENT BY THE DIRECTOR OF FISHERIES

Permanent Secretary,
Workshop Participants,
Invited Guests,
Ladies and Gentlemen

It is my great pleasure for me and a great honor for the Ministry of Natural Resources and Tourism to have this opportunity to give this opening statement. *On Finalization of FSMP*

This workshop is a major event for setting guidelines for the sustainable development of the fisheries sector in the country. Tanzania welcomes this important National workshop on Fisheries Master plan and we commend Japan International Cooperation Agency (JICA) for their financial and technical support which have made this workshop possible.

Tanzania is well endowed with water resources both marine and freshwater. She shares the three major lakes of Africa namely Victoria, Tanganyika and Nyasa and a coastline of 800km long. Other minor water bodies in the country are Rukwa, Eyasi, Manyara. There are dams namely, Mtera, Nyumba ya Mungu, Mindu and others.

→ Others/ water resources include a diversified river systems. Fisheries potential from all territorial waters is estimated to be more than 730,000 metric tons. Average annual landed catch is 350,000 metric tons. This shows that there are possibilities of increasing the annual landed catch.

it is not possible

With all these diversified water resources, one can not draw up sound management strategies without having in place sufficient and reliable baseline information which has been obtained through the Fisheries master plan study. It is only through having proper management strategies that our mission for sustainable development of the fisheries resources become a reality.

Our vision aims at "Sustainable fisheries utilization" requires carefully and well guided planning. The fisheries industry of Tanzania has been expanding in the past twelve years due to the demand for increased supply of protein food, growing population and advances in technology. All these increase the pressure on living aquatic resource both marine and fresh water.

The implementation of fisheries Master plan study has come in at the time of great need. Sufficient and reliable baseline information of the fisheries resources nationwide has been collected by the Fisheries master plan study. Such information is a tool for a

successful implementable strategies towards sustainable management of the fisheries resource in Tanzania.

→ This workshop has an opportunity to share findings of the fisheries Master plan study among the study team members ~~and~~ their counterparts, and the stakeholders. It is our wish that the outcome of this workshop will be:

- Consolidation of the master plan study findings from various fields (interim report).
- A common understanding of the present and future status of the fisheries sector
- A common understanding of what are the main constraints and opportunities in the development in the fisheries sector nation wide.
- A common understanding of priority projects to be undertaken at national, regional district and village levels to promote sustainable management of fisheries resources.
- A common understanding of what should be the role of each level in applying sustainable management strategies

- A common understanding of the need of involving stakeholders in the development of the fisheries sector in Tanzania

The challenge to this workshop is to use the findings in the interim report to discuss and agree on the future development of the fisheries sector.

I look forward to the outcome of this workshop to be a corner stone of sustainable management and development of the fisheries sector in Tanzania.

Thank you for your attention.

**OPENING SPEECH BY MR. PHILEMON L. LUHANJO THE
PERMANENT SECRETARY OF THE MINISTRY OF NATURAL
RESOURCES AND TOURISM, AT THE NATIONAL WORKSHOP
OF FISHERIES MASTER PLAN KURASINI EPISCOPAL
CONFERENCE CENTRE 18 – 19/4/2002**

Mr. Chairman,
Mr. Nishizaki, The JICA Representative from Japan,
Deputy Resident Representative of JICA,
The Master Plan Study Experts,
Distinguished Workshop Participants,
Ladies and Gentleman.

Allow me to express my sincere thanks to the organizers of this important workshop for inviting me to officiate its opening.

I wish to convey my special thanks to the Japan International Cooperation Agency (JICA) for cooperating and collaborating with my Ministry to facilitate this important event. On behalf of the Government and the people of Tanzania and indeed on my own behalf, I wish to welcome all participants to Dar es Salaam and in particular to Kurasini, the venue of this workshop.

Mr. Chairman,
I am informed that the workshop will review the draft proposals of the Master Plan Study on Fisheries Development in the country which

was undertaken by experts starting from January, 2001. The plan is a strategy of implementing the National Fisheries Sector Policy which was adopted by the Government in 1997. The fisheries policy focuses on the promotion of sustainable exploitation, utilization and marketing of the fish resources to provide food, income, employment, foreign exchange earnings and effective protection of the aquatic environment to sustain development. In my view, the plan once completed will put in place a feasible integrated fisheries development programmes that will stimulate sustainable economic growth of the sector in terms of food security, fishery environment protection and economic/social welfare of the fisheries communities. It is therefore appropriate you are all gathered here to deliberate on the main priority areas that should receive attention in implementing the plan. I trust that the deliberations of this workshop will significantly contribute to the development of a common approach to the management of the fisheries sector and the well being of the fisher folk.

I am convinced the Master plan will solve the past problem of the fisheries sector in which projects and activities were implemented on the basis of urgent demand and were not coordinated or integrated. The many constraints facing the fisheries sector have now been identified and through this workshop strategic interventions agreeable to all of you will be adopted.

I am informed that the Master plan team has identified 15 projects covering all the important fisheries bodies in the country and according to the needs of the many stakeholders who were consulted. Aquaculture has also been incorporated as it can be integrated with Agriculture and Animal husbandry in rural areas to increase fish production. I invite the workshop participants to carefully prioritise the project proposals in accordance to the needs.

Mr. Chairman,

Conferences, consultative meetings, seminars and workshop like this are often organized to discuss important and very sensitive relevant matters for the betterment of communities. However the challenge before us is to meet expectations and aspirations of the fisher communities, other stakeholders and the whole nation. We therefore have to put in place an implementable action plan of what is agreed by this workshop.

I strongly urge each one of you to participate actively in the discussions and exchange of experiences during the session, so that you may go back to your respective places of work having benefited greatly from the workshop. I have gone through the Master plan study summary report and I am happy it has focused on the national fishery policy of the fisheries sector contributing to food security and nutrition, protection of the environment; fisheries trade and reduction of poverty through fishing community development.

Mr. Chairman,

Let me take this opportunity to extend the government of Tanzania's gratitude and appreciation to JICA and other donor agencies for supporting our efforts to support the fishery industry in the country. I believe that the support will be maintained and sustained as we plan to implement the Fisheries Master Plan as a way of achieving sustainable development and economic, social and cultural well being of our people.

Finally, I would like to assure you that the Government of Tanzania is committed to implement the proposed projects as way of achieving sustainable social economic development and prosperity to the people. I would like to invite those coming from outside besides business, to use this opportunity to visit places of attractions such as Marine parks and reserves, the new integrated fish market and many other striking features in the city. Please feel at home away from home.

With these few words it is my honour and privilege to formally declare that the National Fisheries Master plan workshop is officially opened.

I thank you for your attention and wish you every success in your deliberations.

ANNEX 3

SPEECH BY MR. HIROYUKI KINOMOTO DURING THE NATIONAL
WORKSHOP ON FISHERIES MASTER PLAN -
APRIL 18 - 19, 2002

^{Acting}
Honorable Permanent Secretary
Ministry of Natural resources and tourism
Workshop Participants
Ladies and Gentlemen: ^{Experts of the Study Team}

First of all I would like to begin my remarks by expressing to you, dear Workshop Participants, my most sincere thanks and gratitude for inviting me to this important Workshop to represent the Japan International Cooperation Agency (JICA). We, in JICA Tanzania Office feel very much honored and in deed very privileged to be associated with this important two - day Workshop.

This is an important Workshop because it is going to confirm the guidance on priority areas for the development of the Fishery industry in Tanzania. For as we all know Tanzania is well endowed with water resources and coastal line potential for fishery activities. This means that the fishery industry has a very high potential role to play in the development of the country's economy.

According to the available statistics, about 80,000 people were directly employed in this sector in 1999. It is further estimated that, about 400,000 people were employed in fish processing and marketing in the same year. Fish has become an important export product. In the year 2000, for example, the total export value of fish products was UD Dollar 75.5million.

Moreover, surveys have shown that nutritionally fish products are among the main sources of animal protein which could be reasonably afforded by Tanzanians at all levels. It is precisely because of these facts that for any meaningful development to take place, ^{in addition,} the development of Fishery is indispensable.

Indeed it was through the realization of this fact the Government of Tanzania, has established National Fisheries Sector Policy and Strategy Statement in 1997, as a basic policy towards the revamping of this sector. On enforcement of HIPC initiatives in Tanzania since the year 2000 the national target has been focused on poverty alleviation. And it is quite clear that considering that a large part of the population is involved in fisheries, if the sector is developed it

will contribute substantially in the efforts of the government to reduce poverty.

However, in order to revamp the sector, it was felt necessary to have a National Fisheries Master Plan to begin with. The Government of Tanzania did not unfortunately have capacity to prepare the same. In view of this situation the Government of Japan responded positively to the request from the Government of Tanzania to provide Technical support for the Master Plan Study on Fisheries Development. It is not my intention to repeat all contents of the study because as experts (you were involved in the process) and you know it well.

However, permit me to mention one factor which has adversely affected the development of Fisheries. This is the continued use of unsustainable fishing practices. We believe that the use of unsustainable fishing practices in some parts of the country has resulted in the depletion of natural resources and general degradation of the environment. These have ultimately resulted to the decline of fish production. This state of affairs cannot and should not be allowed to continue unchecked. I believe the master plan has addressed this promptly.

We in JICA Tanzania Office were delighted to learn that the Fishery Development Master Plan has analyzed the fishery sector in Tanzania and identified priority areas for the sector development.

More importantly however, we were delighted to hear that this Workshop intends to share with other stakeholders, the findings of the Master plan study which will nearly be completed.

We strongly believe that through sharing information the final report will be enriched with various practical experiences which will concretize the plan towards spearheading fight against poverty through the development of the fishery industry in Tanzania.

We JICA in Tanzania Office are therefore eagerly looking forward to hearing the outcome of the deliberations of this workshop.

I thank you very much for your attention.

ASANTE SANA

ANNEX 4

ACTIVITIES OF FISHERY COOPERATIVE AND RESOURCE MANAGEMENT AS ITS IMPORTANT ROLE

Presentation by team member, Masashi Sato

Current situation in lake Victoria

Since introduction of Nile perch from Lake Albert in 1950's and following development of its filleting industry along the lake, numerous job opportunities have been created. A few professional fishermen changed their fishing and a lot of farmers turned to Nile perch fishermen for seeking instant cash. Some clever businessmen and fishing boat owners found their chance to expand their business. They got a fund for boat, engine and gears, and employed a number of non-skilled young men. In return for fund, they supply Nile perch to the factory. In this manner, Nile perch industry has developed. Number of fishing boats, fishermen and gears has increased in a very rapid pace. People say that status of Nile perch fishing is over-exploited. Because size of individual and catch volume is decreasing in last several years.

People of Tanzania and government in charge is smart. They legislate some important fishing regulations such as ban of trawl fishing, minimum mesh size and protection of breeding zone. And fishermen honestly and frankly respect these regulations. In my experience in Africa, I hardly know the case that fishery officer advice to fishermen or traders to correct bad manners whenever or wherever they found it. I think this is the sign of Tanzanian seriousness toward the job. What I know in most case is that, when I find illegal fishing and point it out to officers, they just laughing and do nothing. In this sense, I believe that you can do something that you have to do to improve your fishing industry of Tanzania and improve your life.

Resource management

As everyone knows, Nile perch fishing is one of the important industries of Tanzania. And therefore you have to do something more that you can do to maintain the industry, maintain the fishing. Needless to say, resource management is not an easy job. You definitely need the precise biological and ecological information on Nile perch, which is under way by TAFIRI, to legislate further regulations. They may be;

- 1 Closing period of fishing
- 2 TAC (Total Allowable Catch)
- 3 Regulation of fishing effort such as fishing boat

But this is also true that fishing regulations are not simply determined by scientific observation. They may need political consideration in most cases. Here I give you some examples of closing period in particular African countries. The 1st example is Madagascar. Their biggest interest among fishery resources is shrimp because it brings huge export earnings. Now there are two fishing companies, one is French the other is Japanese. And government of Madagascar gets huge amount of money from their fishing like Tanzania. But because of concern that the resource is diminishing nowadays, the government enforced the total closing period of 2 to 3 months. Closing date and opening date of fishing is determined by the special committee, which is consisted of scientist, fishing company and government authority. And so far I heard that this system is working well. The amount of shrimp export is

maintained. The 2nd example is Morocco. Their biggest export commodity is octopus. According to the national statistics of Japan, about 60% of octopus consumed in Japan is from Morocco. But recently, they enforced the closing period of 2 to 3 months. These are just some examples of your neighbours. I don't think that this measure can be simply applied to Nile perch. Because biological characteristic is totally different from said two species. It is said that life span of these two is only one year and breeding season is clearly identified. So we can easily imagine that resource level can be maintained to some extent if breeding period is protected. Looking at Nile perch, its life span is more than 1 year and they don't have a clear peak of breeding. But we know at least that they breed in a shallow enclosed area where there are a lot of obstacles like rocks and weeds. In that sense, protection of breeding zone is right thing. But is it sufficient? It seems not. You have to enact further measures. To me, the most possible next measure is the control of number of fishing boat. Since you have already the fishing boat registration system, you can do it very easily. Morocco does have the same system. But regionally recognized fishing country "Senegal" does not. Their fishing fleet increases recklessly and brings decrease of catch. And fishermen of Senegal migrate to neighbouring countries where there is still fertile resource.

Well, now let's scope up on TAC system. This system is scientific and sophisticated one enforced in Japan since several years ago. EU countries also have this system. It needs accumulated precise scientific data on target species, political arrangement and decision, and catch data collection system. In the bottom stage, such as catch data collection, in Japan, fishery cooperatives play a very important role. But our fishery cooperatives have not been established in a day. They have more than a hundred years of history. The base of Japanese fishery cooperative is a fishing right. In a last century, people believe that coastal zone up to certain miles from the shore in front of fishing village belongs to this village. It means that fishermen of this village are allowed to go this zone for fishing but not for fishermen of other villages. Later years this concept was legalized and stipulated in the Fishery law, our truly legal base of fishing industry. And based on the fishing right, fishery cooperative is established to use and manage the resource. Fishery cooperative is nominated as a responsible body for resource management by law. Resource management is not only to limit fishing activity but also to enhance their resource. I will speak about resource enhancement later.

Fishery cooperative

"All for one, one for all". This is an ideology of mutual cooperation. It can be say in another way, "Fishermen for cooperative, cooperative for fishermen". It is said that people of Tanzania was betrayed and disappointed by this concept in 1970's. But still I believe that you need certain organization for fishermen in the village either in the form of BMU or fishery cooperative. In Japan we have fishery cooperative law. It says all aspects of fishery cooperative such as legal status, activities and business, process of establishment etc. Among those, here I explain a variety of business they do such as,

- 1 Marketing
- 2 Facility management
- 3 Sales of goods
- 4 Banking and credit
- 5 (Resource enhancement)

1 Marketing

There are two marketing styles, one is cooperative as an agent or an organizer of bidding. Cooperative itself does not buy or sell products but just intermediate transaction between fishermen and buyers. It takes in return for this service, a commission of usually 5.5% of price. The other style is to buy and sell products actually. The marketing is not only a style of business but also providing a sort of confidence to member fishermen that those who buy their catch are guaranteed. This is very important thing.

2 Facility management

Fishing cannot be done not only with fishing boat and gears. It needs certain back-up facilities such as fishing port, market, ice machine, cold storage, repair workshop etc. But individual fisherman cannot afford to have some of them. So fishery cooperative provide those facilities for common and maximum use. In most cases, these facilities are so expensive that even the cooperative cannot afford to construct them and regional government or central government provides subsidy. Member fishermen are allowed to use these facilities with some minimum charges.

3 Sales of goods

In most of the case, fishing villages are located very isolated and remote areas where there is no supermarket. Villagers are forced to go time to time to town to buy commodities for everyday life as well as fishing gears. Besides, in an economical logic, if you buy a certain lot of commodities, you can negotiate to reduce a unit price. This business is rather simple and easy to start at any time even at Tanzania. I know that Jamaican fishery cooperative sell any kinds of goods such as cement, wood, metal roof, soap, detergent, pesticide, etc. etc. Needless to say, fishing gear is also important goods to be handled at coop. store. At this point, important thing is to differentiate the price for cooperative members and non-members.

4 Banking and credit

As I mentioned before, most of the fishing villages are located in a remote area where no bank exists. Therefore, through the depositing of marketing commission and facility use fees, fishery cooperative should have a function of money deposit and credit. As everybody understands the purchase of fishing boat or engine is not an easy job. However, an ordinary bank hesitates to borrow money to artisanal fishermen. In that case, fishery cooperative could be a helpful financial source for members.

In case of financial institutions, certain scale merit could be required for the sense of stability and confidence. In Japan we have regional federation of credit function above the individual coops, and further national federation above regional ones.

5 Resource enhancement

As I mentioned before, fishery resource management is not only the limit of fishing effort. You may take a measure of resource enhancement in future. That is for example, seed production and release to the lake, and fishing ground improvement. Seed production is basically the task of public service, local or central government. Because its service does not connect directly to the benefit of private fishermen. In Japan, fishery cooperative buys seed from public seed production center and release to their fishing ground for members' benefit. Of course they buy and release economically viable bottom fish that stays relatively long time

in their fishing ground like snappers. Resource management of their fishing ground is their responsibility.

On the occasion of national workshop held at Morogoro last October, an opinion of Nile perch aquaculture was presented. Although I don't know how deeply the biology of Nile perch is studied and clarified, seed production of said species and its release to the Lake might be possible solution for resource enhancement. But for the implementation of this program, level up of aquaculture technique is essential. Finance could be provided largely from factories and government, and some from fishery cooperatives. It may take long time though.

Another measure of resource enhancement is to create fishing ground in your territory. Although this is too costly but its results is guaranteed. That is artificial reef. There are roughly saying, two different artificial reefs, one is floating objects and the other is sunken objects on the bottom. I don't know the case that these types of artificial reefs are set in lake or river. But there are many examples of those at coastal zones. Floating reef is often called "Payao", word of Philippine. Payao use the characteristics of pelagic fish that prefer to stay below floating object. Payao can be made of used material like wooden power pole or drum cans. So we can say that this is for artisanal level in terms of finance. But there is always the risk that Payao is washed away when sea is rough.

On the other hand, sunken reef is to use characteristics of bottom fish to prefer staying in and around objects. This object can be used for breeding place, eating place or hiding place from predator. In the most case in Japan, this object is made of concrete, stone or steel. In certain country like Senegal, they sink used discarded cars or boats. Although you may need an environmental consideration in such a case, it could be a cheaper way. But again, the cost of this measure is so huge compared with the financial capability of fishery cooperative. In Japan, about 80 or 90% of total cost is subsidized by the regional or central government.

Well, what I spoke right now may be the image of future fishery cooperative and its important role in the resource management. And I believe that this is a right direction toward the development of fishery in Tanzania. Thank you.

ANNEX 5

SEMINAR ON FISHERIES MASTERPLAN

Presentation by team member, W. J. Scheffers, Institutional building

Having spent over twenty five years in Africa working for FAO as a Fisheries Officer please permit me to mention today some private opinions on observations made during my stay in Tanzania with the Master Plan Study on Fisheries Development.

1)

Extension services programme for district officials and district fisheries officers conducted by a team composed of fisheries HQ staff and lecturers from the various training institutes. In each region several such teams should elaborate a, quarterly, visiting schedule to the districts in order to explain and to create awareness under the fisheries staff and district officials on data collection and implementation of the fisheries policy.

District fisheries officers and extension officers are, by far, the largest group in the fisheries sector in the country and most are diploma holders from Kunduchi and a few certificate holders from Nyegezi Freshwater Fisheries Training Institute, most of them lack planning and project appraisal skills. There are only four district fisheries officers with an university degree. Some districts are left with no fisheries personnel in spite of the fact that fisheries officers are essential to cover the fisheries activities.

The local Government Authorities lack priorities to service natural resources conservation and management activities in such a way that there are no funds for buying stationary etc. and in the extreme cases no salaries for some month. The situation is so pathetic that many staff are demoralized just to sit around without doing anything useful. Most Local Government Authorities put top priority in revenue collection above anything else. Most field staff including fisheries personnel are deployed in revenue collection raids otherwise they do not get salaries for that particular months.

The ongoing decentralization process will put more and more responsibility on the shoulders of, local government, district officers and who are far from specialists in every field they have to cover. Unfortunately most of the district officers are not up to their task to explain and educate their district superiors and which of course in their position is not an evident matter to handle.

To attend to this serious matter one of the recommendations (no. 5) entitled: "Programme implementation based on a sense of responsibility and self reliance of the beneficiaries": The fundamental objective of the programme are to strengthen the capabilities of the District Fisheries Officers who provide direct guidance to the fishers.

It is therefore proposed that a team (2 to 3) of fisheries experts drawn from the various training institutes visit on a regular base the district offices:

To explain the fisheries policy and the needs to be covered to elaborate and to keep this policy up to date through through an adequate data collection scheme;

To give the district officers their much needed attention and guidance which will facilitate the work of the fisheries district officers and who on their turn would through a substantial improvement of their performance gain respect and attention from their district bosses.

For long the district fisheries officers have been left on their own and their enthusiasm for the job is moderate to low. By regular visiting their offices and supplying guidance, advice and follow-up action their spirit may revive and their pleasure in the job come back.

Some locations where actually the idea was born and where results were booked:

Bagamoyo

During several visits to the district fisheries office the team member discussed with the fisheries officers ways and means to study active cooperatives, the trade of fishmongers and the fishermen activities to such an extent that the fisheries officers took the initiative to elaborate a future follow-up programme which would elaborate the interaction between the groups and their in common commercial activities.

Interest has been created in the possibilities to gather data which are easy available and obtainable at no extra cost or means. Discussed was the project idea for the regular visits of a team of local experts in order to stimulate and activate the district fisheries officers in their data collection and analyses which eventually would lead to a personal interest in the officer's work and would eventually assist the fisher folks in their work operations and the district officials in their decision making.

Mwaloni Market Traders Development Society. MWADESO

At several visits to MWADESO it was observed that detailed data (weight/quantity) on revenue per commodity traded in the Kirambo market, and collected by the grass root revenue collectors, were not elaborated. The importance of the elaboration of these data for the analyses of the market activities and strategies was stressed upon and it was recommended to engage an university student for the compilation of the data in the computer and to execute various analyses and presentations. An example of diagrammes obtained from Nyegezi showing total number of students divided in number of male and female students was presented to show the possibilities of presentation of total weight/quantity of commodities traded at the Kirambo market divided in the individual weight/quantity per individual commodity. The discussion on detailed data analyses rose interest and follow-up action was anticipated.

Nyegezi Freshwater Fisheries Training Institute.

Initial discussions held on the revival of the Institute attended by the head of the departments and chaired by the deputy principal resulted in the return on duty of the principal to coordinate the activities which conclusions were finally compiled in a comprehensive report elaborating a full fledged project on the institute's future performance.

2) Construction of new fisheries office near Banda beach market

Is the Fisheries Division spread over three floors, the Ministry of Natural Resources and Tourism itself is located in various buildings which dispersion is not favourable for the internal and inter ministerial relations. The fisheries staff suffers under this lack of communication and they long for regular meetings to be briefed and for an understanding what is going on. The offices are small and crowded and desks are full of piled up documents. Some offices are air-conditioned while others enjoy a nice sea breeze. In general the working conditions are not favourable and talking to the staff the overall complain is that the existing manpower capacity is insufficient and that modern equipment, in case available, is not working or has a limited capacity to cater for new adequate programmes.

Equally the reception of commercial steak holders is poor and licenses or certificates have to be obtained and discussed in overcrowded and unfavourable conditions which does not contribute to the much needed esteem for government in general and in particular for the fisheries division which activities cover large income generating funds.

New and well equipped offices would enhance the working capacity of the fisheries staff and contribute to an efficient relationship with the commercial steak holders who would experience through adequate services that their monies in form of royalties and fees are well handled and used for their own interest.

3)

The organisation of an independent counterpart structure enabling the creation of a full fledged discussion partner. The counterpart structure should have their own programme and budget to enable the organisation of regular meetings/seminars where project ideas could be formulated.

4)

The set-up of a mobile phone communication system between a shore based trader and fisher groups active on the lake. Catch data could be gathered prior to landings enabling negotiations with factories on a purchase price and landing location.

Chairman, ladies and gentlemen thank you very much for your kind attention.