

5. BASIC PLAN

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(1) Goals of FTS Development

The objective is to establish a fish product distribution and transportation network for capture fisheries mainly concentrated in municipal fisheries and the aquaculture industry. It will be instituted on a nationwide scale for the mid-term target year of 1995 and the final target year of 2010. The aim of establishing this FTS is to increase the efficiency in the distribution and processing of fish products, to raise the income of small-scale fishermen, to stabilize the supply of fish products and to increase the accumulation of foreign exchange by promoting exports.

(2) Strategy for FTS Development

The 187 MFPs throughout the country, functioning as production bases in the distribution of fish products, have been broken down into 11 zones and 52 prototype sites. This breakdown is based on production of fish products, fish surplus, and the development of related infrastructure in each zone. FTS integrated with MFP/IPCS will be established in these zones and prototype sites.

NFPC will function as a FTS base (FTS terminal) to collect fish products from all over the country and to act as a base for the transfer of technology (FTS pilot project), which will help expand the FTS system.

NFPC will be linked to the fish production areas of various regions throughout the country, i.e. in the 11 zones and the 52 small-scale prototype sites, via a nationwide fish products distribution and transportation (FTS) network. This nationwide network system is to be implemented step-by-step. The first step will be implemented with the FTS system, its 4 zones and 1 prototype site as model areas.

TABLE 18 CLASSIFICATION OF MODEL AREAS IN THE NATIONWIDE FTS NETWORK SYSTEM

Type	Model Area	Similar Areas	Characteristics
T	NFPC	NFPC	The central terminal of the nationwide FTS network.
A	Zone 1	Zone 1	The largest aquaculture base in the country.
B	Zone 2	Zones 2,5,9, 10, 11	Areas promoting municipal fisheries centered around small-scale fishing industries.
C	Zone 3	Zones 3,7,8	Integrated Fisheries Development areas where the various fishing industries have undergone development.
D	Zone 6	Zone 6	The largest domestic production area of yellowfin tuna, as well as being an area with combined municipal and commercial fisheries.
E	Zone 4	Zone 4	Area promoting cultivated seaweed. (A similar area outside the MFP is Tawitawi in the Sulu archipelago)
F	Pasacao	The 52 prototype sites throughout the country	Scattered all over the country, these MFPs are unable to be formed into a network as a zone. These are areas with large catches and a surplus of fish products, where municipal fisheries are being promoted.

1) NFPC

a. FTS Terminal

The FTS terminal will function as a base for the transport vessels

that carry fish products from various zones to the Metro Manila area. It will organize the shipping schedules, taking into consideration the fish production condition in each zone, and the balance between supply and demand of fish products in Manila, Luzon Island, and other areas. Its objective will be to regulate the supply and demand of fish products on a nationwide level. In order to effectively fulfill this function, the FTS terminal will collect information from the various areas throughout the country, process the data, and distribute this information to the relevant parties. The FTS terminal facilities and operational system should make the fullest possible use of the existing facilities and PFDA organization. This base will have the dual function of serving simultaneously as the nationwide base and the zone center of Zone 1.

b. FTS Pilot Project

This project calls for establishing a pilot plant (for processing prawns and surimi). It will establish a system for developing and improving processing technology, including upgrading the quality of processed fish products. In addition to this, the project calls for constructing a plant to manufacture insulated fish boxes in order to improve the capability of transporting and storing fresh fish.

To facilitate the transfer of technology of the FTS at the sites located in various zones, insulated trucks, mobile ice-making plants, mobile plants for salted/dried fish, mobile plants that give demonstrations to sell fish products, and various training materials for the transfer of quality control technology of fish products are to be arranged.

Furthermore, it will facilitate the sales shop for demonstration and provide insulated trucks at the public markets in the Metro Manila area and the provinces of Tarlak and Nueva Ecija, located in the inland regions of this zone, and will facilitate the supply of fish produced in the zone.

In order to improve the handling of fish products from the stage of the catch, fishing vessels and collection vessels for training purposes are to be provided and will participate in conveying technical know-how at the various zones whenever necessary.

2) Zone 1

a. Sub-center (Collection base for yellowfin tuna)

Collection vessels will be provided to collect yellowfin tuna at sea, and to transport the fish to the Masinloc MFP, located in the province of Zambales, which will serve as the sub-center of the sub-zone as well as the base for municipal fisheries.

Following this, after the catch is unloaded at MFP, the fish will be transported to Manila in insulated trucks. As a general rule, ice used for ice storage will be purchased at low prices in Manila. This ice is to be loaded onto the insulated trucks after their fish products have been unloaded. The ice is then transported back to the zone. This system saves on facility construction and operation costs. The jetties of the existing MFP will be extended to facilitate the docking of fish collection vessels.

b. Sub-center (Base for cultured black tiger prawns)

The Orani MFP, located in the province of Bataan, is presently active in fish products trade. It is the collection base of cultivated fish products, in particular black tiger prawns. It will be established as the the sub-zone center, and will implement facilities with the functions as presented below.

A processing plant for the shrimp will be constructed, and insulated trucks to collect the raw materials (prawns) and refrigerated trucks to transport frozen prawns will be provided. In addition, an information facility to accurately grasp the actual availability of prawn resources as well as the market conditions of frozen prawns will be implemented. Expansion of the existing MFP will be undertaken to accommodate the FTS facility. Road repair, including the construction of bridges over small rivers, will be undertaken to create access roads linking major national highways with the FTS facility. This will facilitate the transportation of raw materials and processed products.

c. Satellite

MFP with information processing devices to accommodate fishermen and aquaculture operators in the production and collection of fish products will be provided.

3) Zone 2

a. Zone Center

With Mercedes as the zone center, which is located in the province of Camarines Norte and has the largest catch of fish products of the Bicol region, collection vessels shall be provided to allow collection of the haul of ocean fish caught by municipal fisheries. This particular area has become a base for a salt-cured fish processing industry which has already advanced into a relatively commercialized scale. A salt-cured fish production plant will be constructed here to upgrade the quality of these products into a high value-added item suitable for both domestic and export markets, and thus raise the incomes of small-scale fishermen.

FTS base is established on the grounds of existing IPCS land owned by PFDA, and fish collection vessels are introduced in the existing neighboring MFP so that fish products can be collected at sea, and transported by insulated trucks to neighboring areas and Manila.

Ice for storage is to be purchased at low prices in Manila and transported back to the site by these insulated trucks, or the ice can be supplied by the IPCS project.

b. Satellite

Each of the isolated and dispersed MFPs in the coastal areas in the province of Camarines Norte will function as a satellite. The primary function of these MFPs will be to collect at the zone center the raw materials to be processed into salt-cured fish products. Fish to be transported as fresh fish to the neighboring areas around the zone will, as a general rule, be collected at the zone center from each satellite, and then transported to their respective place of consumption by insulated

trucks. However, fresh fish destined for Manila will be either transported directly from each satellite or collected first at Mercedes, and transported to Manila together with processed fish.

4) Zone 3

a. Zone Center (Marine fish collection base)

Estancia, located in the northern part of the province of Iloilo, will function as a zone center, where fish will be collected by collection vessels and from fishing villages on isolated islands. They will be unloaded at the existing MFP sites, and directly transported to the Metro Manila area by transport vessels bound for Manila. Fish products for consumption in the areas adjacent to the zone or Iloilo City are to be transported overland by insulated trucks.

As the zone has numerous very small-scale salt-cured fish processing facilities that utilize natural sunshine (mostly operated by the fishermen at their homes), it is hoped that this will grow into a fish processing base operating on a commercial scale to help raise the income of the fishermen. To accomplish this, an indoor high-grade salt-cured fish processing plant which is capable of operating in the rainy and typhoon seasons should be established as a FTS facility, with the aim of developing high value-added processed goods suitable for export.

The grounds of the existing MFP are already overcrowded, and several social problems, including that of illegal occupants or squatters, may arise. Therefore, in accordance with DPWH (Department of Public Works and Highways) guidelines, a portion of land which has been enlarged by reclamation, should be set aside for building this facility. Further, in light of the overall problem of obtaining water and electricity on Panay Island, it is essential to consolidate the infrastructure to alleviate this situation.

Ice for storage can be obtained at low cost from Manila by transport vessels or it can be supplied from the IPCS project's ice-making plant.

b. Sub-Center (Collection base for cultured fish)

Roxas City, in the province of Capis, will be the sub-center and will function primarily as a base for the collection and processing of cultivated prawns, and their transportation to Manila. As for facilities for this base, a prawn processing plant will be established in the present commercial zone, which is located inland with insulated trucks readied to secure raw materials (prawns) and refrigerated trucks for transporting the processed goods to the nearly completed Roxas MFP or the Roxas commercial port. As transportation from this point to Manila by sea is convenient, the NFPC can serve as the terminal, where regularly scheduled transport vessels equipped with refrigeration capabilities can be stationed, and the production, collection, processing and transport of prawns can be implemented as an integrated system. This zone is also the aquaculture base for milkfish. As Manila is the main destination for milkfish, transport of this product must be taken into consideration when formulating shipping plans and schedules.

To secure the required water depth for the transport vessels coming in to dock at the MFP, construction to extend the jetties should be carried out. In the FTS, facilities for ice manufacturing, freezing, and cold storage should be implemented within the factory to provide ice for raw materials (prawns), freezing, and cold storage for the processed goods.

c. Satellite

Each of the MFPs scattered throughout the northern part of Panay Island will function as a satellite. They will be furnished with equipment which will be used to disseminate simple information related to fish products to the fishermen and to communicate with the zone center and sub-center so that the appropriate amount of fish products can be collected at the appropriate time at any of the fish products collection, processing or transporting terminals.

5) Zone 6

Zone 6 is the largest base for producing large fish, such as

yellowfin tuna, in the Philippines. By upgrading its functions, it will be possible to achieve mass production of high-grade fish for export, thus contributing to the country's acquisition of foreign exchange, and in addition, increase the zone's capacity to supply the inland areas of Mindanao Island with fish products. Another objective of this zone is to contribute to raising the incomes of small-scale fishermen and to enhance local industrial development.

The zone center will be located in General Santos, in the province of South Cotabato, where the unloading of tuna is presently concentrated. In this area, highly capitalized private enterprises have vigorously engaged in business activities, with activities by these private enterprises in related industries, such as refrigerated tuna processing, showing yearly increases. Therefore, it is planned that establishment of facilities be limited to those which can be jointly owned by the private and government sectors, with the government sector taking only a supportive role. Further, FTS will be implemented for the benefit of small-scale tuna fishermen who do not have much capital, to enlarge their operations and raise their incomes.

Whether or not to collect the fish products at the MFP will be left up to the discretion of the fishermen, therefore neither Payao nor collection vessels will be instituted under this project. At FTS facilities, however, transport vessels will be introduced to chill or freeze and ship the unloaded tuna to Manila. The primary aim of using these said transport vessels is to facilitate the transport of fresh tuna, and replace the current method of transport via General Santos Airport or Davos Airport. These transport vessels will collect fish products at the General Santos commercial port or the newly constructed MFP, with the goal of transporting large volumes of fish products to Manila. Insulated trucks will also be a means of transporting various fish products to inland areas of Mindanao Island. Thus, with the introduction of these insulated trucks, the supply of fish products to the various regions of the inland areas of Mindanao will contribute to the expansion of their transportation capacity.

Communication equipment will be installed to gain timely and more accurate information concerning tuna production in this zone, as well as

market conditions in various parts of the Philippines and abroad.

The services provided by the IPCS project (which calls for the renovation and expansion of the existing ice manufacturing and cold storage plants that stand on land owned by PFDA and set aside for IPCS use), should be utilized to their fullest possible extent.

As for the MFP, only a part of this coastal area has been equipped with unloading facilities, and transport vessels are presently unable to approach for docking. In order to facilitate the effective operation of FTS facilities, construction work will be carried out to extend the jetties, making it possible for transport vessels to dock.

6) *Prototype Site Pasacao*

This is a typical unloading site for the exclusive use of municipal fishing vessels. To increase the efficiency of the collection of fish products at sea, collection vessels will be stationed there. As is obvious in the present distribution pattern, fish products unloaded at this site are mostly consumed in the neighboring areas. In order to increase the transport ability, insulated trucks will be introduced. However, for transport to Manila, or in the event of a surplus in production sometime in the future, it will be made possible to utilize the services of the Zone 2 center, located at the Mercedes base.

Construction work will be undertaken to extend the jetties to allow the collection vessels access to MFP. As this site is the prototype site of the IPCS project, a small ice manufacturing plant will be set up, and with the completion of FTS, the integrated MFP/IPCS/FTS will be able to function effectively.

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ANNEX 1 - LIST OF PERSONS INVOLVED

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Name	Speciality	Position/Office
A. Japanese Side		
1.1 Advisory Committee		
(1) Satoshi Moriya	Chairman	Executive Director Relief Fund for Oil Pollution Damage in Fishing Ground
(2) Naotakae Ito	Fish Marketing	Assistant Director, Fish Marketing Division
(3) Masaru Okamoto	Fishery Development	International Affairs Division, Fishery Agency
1.2 Study Team		
(1) Tateo Kusano	Team Leader	System Science Consultants Inc.
(2) Akira Imai	Fishery Expert	System Science Consultants Inc.
(3) Shigeru Iwasaki	Fishery Economist	System Science Consultants Inc.
(4) Teru Yabana	Market and Transport Planner	System Science Consultants Inc.
(5) Sakae Negishi	Fish Quality Control Expert	System Science Consultants Inc.
(6) Hiroshi Kishimoto	Plant Engineer	System Science Consultants Inc.
(7) Seiichiro Kamimura	Communication and Information Planner	System Science Consultants Inc.
(8) Kyoichi Sugiyama	Architect	System Science Consultants Inc.
(9) Nobuo Tsuchihashi	Institutional Expert	System Science Consultants Inc.
(10) Hiroshi Hutami	Naval Architect	System Science Consultants Inc.
(11) Masao Ganke	Civil Engineer	System Science Consultants Inc.
B. Philippine Side		
(1) Malcom I. Sarmiento		General Manager, PFDA
(2) Facundo T. Yeneza, Jr.		Manager, Planning & Development Department, PFDA
(3) Nelso M. Davila		Chief, Project Planning Division
(4) Grace G. Santicanez		Chief, Planning Division
(5) Teodoro C. Catalla		Senior Economist

