1.2 Provincial Development Plans and Socio-economic Structure

1.2.1 Provincial Development Plans

Five year socio-economic plans for the period of 1988 to 1992 was formulated for each province of the Solomon Islands. However, they were devised without the support of either the national or provincial budgets and they are a manifestation of the need and desire for development.

In 1992 and 1993 Choiseul and Rennell/Bellona provinces were newly formed from Western and Central provinces, respectively. Hence a socio-economic plan for both these new provinces has not yet been formulated. A summary of the five year plans for each province is delineated below.

(1) Summary of provincial plans

Due to the undeveloped socio-economy of each province, the major focus of each provincial plan has centered on improving its social foundations, in addition to increasing production of cash crops. Common objectives of each provincial plan have been listed below.

1) Develop natural resources (agriculture, forestry, fisheries, mining): Increase subsistent and cash crops, develop farmland, exploit fishery resources and increase production, and renovate or build new Fishery Centers.

2) Develop commerce, manufacturing, and tourist industries: Promote and develop commerce and manufacturing, survey tourist resources and improve infrastructure.

3) Develop socio-economic foundations: Renovate or build new roads, bridges, ocean transport, airports, electricity, water supply, etc.

4) Improve social foundations and social welfare services: Foster teaching personnel (schools and occupational training) and improve educational and medical facilities, medical facilities (hospitals, personnel).

(2) Main goals and characteristics of each provincial development plan

1) Western Province

a. Development goal

- Develop natural resources (agriculture, forestry, fisheries).
- Develop commerce, manufacturing sectors
- Renovate infrastructure.
- Develop social foundations (education, medicine, culture, etc.).

b. Priority development goals

- Accelerate protection of forestry resources and diversification of forestry resource use.
- Develop tourism within the province (Marovo Lagoon and nine other places).
- Improve communication systems within the province.

c. Characteristics of development plan

In addition to goals related to infrastructure, Western Province is developing forestry resources. As a result, its development plan has focused on forest rehabilitation and other forestry related industries, as well as tourism resources.

2) Isabel Province

a. Development goals

- Economic development (small-scale agriculture, fisheries)
- Infrastructural development (ocean transport services, wharves, roads, airport, electricity, etc.)

b. Priority development goals

- Develop hydroelectricity in Jeievo.
- Improve communication systems in the province.
- Renovate water supply of Buala (capital).
- Improve airport.

c. Characteristics of development plan

Due to lagging improvements in the infrastructure (electricity, water supply facilities, wharf construction, etc.) and the economy, the plan is centered on developing fisheries in the northern area of the province and increasing production of cash crops of the southeast.

3) Central Province

a. Development goals

- Develop natural resources (agriculture, fisheries, mining, etc.).
- Develop commerce, manufacturing, tourism, etc.
- Improve infrastructure (build new wharves, roads in Tulagi and Savo areas).
- Develop social services (education, health, community services).

b. Priority development goals

- Increase production of cash crops (cocoa) and accelerate their processing and marketing.

- Develop the capital city (renovate water supply, develop electricity, housing, traffic system, construct hospitals, etc.).
- Develop inter-province transport and traffic system.
- Environmental protection programs (recycle scraps, evaluate tourist sites, etc.)
- Develop manufacturing (steel to Tulagi, invite manufacturing industries).

c. Characteristics of development plan

Due to the presence of a commercial fishing base by NFD, etc. adjacent to the capital, emphasis on developing manufacturing in such areas as steel is prominent.

4) Malaita Province

a. Development goals

- Effectively train management and organizational personnel.
- Accelerate independent viability of the province's finances and create employment opportunities.
- Promote education.
- Alleviate land disputes (accelerate customary land registration).

b. Priority development goals

- Construct housing for provincial public servants.
- Develop infrastructure (build roads).
- Begin joint ventures in agriculture (especially in cocoa).
- Construct an Area Council Center (Kwiao District).
- Build a junior high school.

c. Characteristics of development plan

The plan centers on comprehensive development of the province. Economic zones have been established in North Malaita (350km^2), Ataa-Aluta (360km^2), East-Kwaio (390km^2), Areare (635km^2), and East-Maramasike (200km^2). Agricultural development (cocoa, coconut, livestock) is targeted through infrastructural development (main and branch roads, port, etc.).

5) Makira Province

a. Development goals

- Vitalize and accelerate economic activities.

b. Priority development goals

- Construct branch roads, bridges, wharves on the main island (Makira Island).

- Renovate and develop the infrastructure of Ulawa Island (wharves and airport).
- Develop the capital city (wharves, water supply, electricity, etc.).

c. Characteristics of development plan

The plan centers on building roads and improving the airport and ocean transport system, as an undeveloped infrastructure has suppressed economic activity in agriculture and forestry. In addition, the construction of a mini-hydro plant is under consideration to renovate the capital's energy resources.

6) Temotu Province

a. Development goals

- Improve the standard of living for its inhabitants and develop its natural resources and finances.
- Improve infrastructure (roads, wharves, airport, etc.)

b. Priority development goals

- Water supply facilities (install water supply facilities in areas utilizing rain water).
- Improve transport services (shipping).
- Improve infrastructure (water supply facilities in villages, build roads, airport, wharves, navigational beacons on Nendo and the outlying islands).
- Foster teachers.
- Build an airport, wharves, roads on the outlying island and roads in the northwestern area of Nendo island.

c. Characteristics of development plan

The plan focuses on improvements of the infrastructure and of the ocean/air transport system, due to the poor prevailing conditions. In addition, improvements in the living standard of its populace and social welfare programs which include the dissemination of water supply facilities, increased subsistent and cash crops, a better fish marketing system, etc. are also emphasized.

7) Guadalcanal Province

a. Development goals

- Strengthen the economy and develop a labor market by advancing mining and lumbering, etc.
- Improve the health and welfare services of the local inhabitants.
- Improve transport and communication facilities.
- Improve infrastructure.
- Develop manufacturing.

b. Priority development goals

- Construct commercial complex for stores, offices, etc.
- Improve infrastructure (road between Kombito-Marau and Lambi-Tangarare, bridge in Wethercoast).
- Expand the functions of the Fisheries Center (provide fresh fish transport vessels, build wharves and giant clam culture farm).
- Begin new fisheries and processing industry (breeding of fry, construct new Fisheries Center, tilapia culture, smoked fish plant).
- Expand local lumbering industry.
- Develop industrial park (Lungga District).
- Commence coconut processing and furniture plant.

c. Characteristics of development plan

The plan emphasizes the development of commerce and manufacturing.

8) Honiara Town

a. Development goals

- Implement re-zoning of the capital.
- Re-zone existing residential, civic, commercial, industrial, and vacant sectors to residential, traditional housing, commercial, industrial-light and heavy, community uses, government office, open space recreation and leisure, and reserved sites.

b. Priority development goals

- Improve the Site Development Fund.
- Construct elementary schools (six locations).
- Construct hospitals in the White River and Maha districts.
- Build a marketplace.
- Renovate branch roads.
- Develop a sanitary land fill.

c. Characteristics of the development plan

Due to pressures stemming from its burgeoning population, priority has been placed on improving the infrastructure of community services and re-zoning the capital into sectors according to their use.

1.2.2 Summary of the Socio-economy of Each Province

The socio-economic indicators of each province is shown in Table II.1.2.1.

(1) Socio-economic conditions of Western Province

1) Social conditions

a. Area and population

The area of Western Province is 5,475km^2 and encompasses approximately 19 percent of the entire area of the nation. The estimated population for 1992 was 49,716, approximately 14 present of the national ratio. The estimated population density for 1992 was 9 people/km^2.

b. Racial composition

Melanesians comprise 94 percent of the population and about 5 percent are immigrants from Kiribati.

c. Religion

The major religions are the United Church (48 percent), the Seventh Day Adventist (23 percent), and the Roman Catholic Church (11 percent).

d. Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 88 percent.

2) Economy

a. Summary of the economy

The economic development of Western Province is second to that of Honiara. Although a monetary economy is well established, a subsistent economy is still widespread in the countryside.

The major industry is copra production, but other sectors such as fisheries, manufacturing, and forestry are well-developed in comparison to other provinces. STL, a large-scale commercial fishing industry is based in Noro and operates a freezing and canning factory.

The capital, Gizo, is developing as a tourist base and related transport services and commercial businesses, etc. are also flourishing. In forestry, four logging companies are engaged in New Georgia and Kolombangara islands.

b. Agriculture

The agricultural land area of the province is 1,600km^2 (including Choiseul Province); and the major cash crops are copra and cocoa. In 1991 7,993 mt of copra was produced or about 37 percent of the total national production. Nearly 80 percent of this production volume was supplied by small holders. Although staple foods, vegetables, and a variety of fruits are cultivated on a subsistent level, they are also sold relatively actively in the capital of Gizo and Munda District.

c. Forestry

The land area containing forestry resources encompasses about 1,630km^2 (including Choiseul Province). Logging is flourishing on the islands of New Georgia, Short Land, Kohingo, and Kolombangara.

d. Fisheries

Large-scale commercial fishing is being carried out in the Noro district by the STL which is engaged in harvesting tuna and skipjack. Small-scale commercial fisheries, carried out by immigrant fishermen from the islands of Malaita and Kiribati, are prominent in the capital of Gizo.

e. Mining and manufacturing

Although the existence of bauxite, nickel, and copper resources is known, they have not been exploited. Aside from the canning factory in Noro, other types of manufacturing do not exist.

f. Commerce

Commerce, transport services, trade, tourism, etc. thrive in the capital of Noro.

g. Employed workers

The number of employed workers in 1992 was 3,934 (including Choiseul Province), which was 15 percent of the national ratio. The province has the second largest population of employed workers, after Honiara. Businesses and a large-scale commercial fishing industry (STL) provide employment opportunities. The average monthly salary is about SI$510, slightly below the national average of SI$631.

(2) Socio-economic conditions of Choiseul Province

1) Social conditions

a. Area and population

The area encompassed by Choiseul Province is 3,837km^2, approximately 13 percent of the entire area of the nation. Its estimated population in 1992 was 15,627 people or approximately 5 percent of the national ratio; and the estimated population density for the same year was 4 people/km^2.

b. Racial composition

The majority of the population are Melanesians.

c. Religion

The SDA is comparatively predominant.

d. Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 88 percent.

2) Economy

Appropriate data on the economy and industry were not available, since the province became recently independent from Western Province in 1992. Basically, a monetary economy remains undeveloped and a subsistent economy prevails.

(3) Socio-economic conditions of Isabel Province

1) Social conditions

a. Area and population

The area encompassed by Isabel Province is 4,136km^2, approximately 15 percent of the entire area of the nation. Its estimated population in 1992 was 17,520 people or approximately 5 percent of the national ratio; and the estimated population density for the same year was 4 people/km^2.

b. Racial composition

Melanesians comprise 99 percent of the population.

c. Religion

Approximately 97 percent of the populace belong to the Church of Melanesian.

d. Land ownership.

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 69 percent. The practice of land registration is relatively advanced, in comparison to other provinces.

2) Economy

a. Summary of the economy

A subsistent economy prevails and industry remains undeveloped. A monetary economy is mainly found in the agricultural and forestry sectors.

b. Agriculture

The area of suitable farmland is 620km^2 (about 15 percent of the land area in the province); and the major cash crops are copra and cocoa. In 1991, 1,445 mt of copra was produced; and nearly 80 percent of production was produced by small holders. Although staple foods, vegetables, and a variety of fruits are produced on a subsistent level, a segment of this produce is sold in the local market for cash.

c. Forestry

Land area available for forestry is 604km^2. Presently, one company is engaged in logging in the northwestern area of the province.

d. Fisheries

Much of the fisheries is subsistent. Although a small-scale commercial fishing industry targeting the revenue earning townspeople exists in the capital of Buala, it has not flourished due to the sparse population of the town.

EC efforts to promote small-scale fisheries in Tatamba are being carried out and fresh fish is being transported to the Honiara market.

e. Mining, manufacturing

Although the existence of nickel deposits is known, the size of the vein has not been surveyed. Manufacturing also remains largely undeveloped, with the exception of rattan furniture manufacturing.

f. Commerce

Commerce is undeveloped and there are no commercial zones.

g. Employed workers

The number of employed workers in 1992 was 676 people and employment opportunities remain low. The average monthly salary is SI$415 and well below the national average (SI$631).

(4) Socio-economic conditions of Central Province

1) Social conditions

a. Area and population

As of March 1993, the area encompassed by Central Province is 616km^2; and prior to the independence of Rennell Island, it was 1,286km^2. Its estimated population in 1992 was 20,427 people or approximately 5 percent of the national ratio; and the estimated population density for the same year was 6 people/km^2.

b. Racial composition

Approximately 82 percent of the population are Melanesians.

c. Religion

The Church of Melanesian comprises 70 percent of the populace, followed by the South Sea Evangelical Church at 11 percent, and the Roman Catholic Church at 9 percent.

d Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 88 percent.

2) Economy

a. Summary of the economy

A subsistent economy prevails and industry remains undeveloped. A monetary economy is mainly found in the copra producing industry on the Russell Islands, the tuna industry in Tulagi, and the small-scale commercial fishing industry on Ngella Island.

b. Agriculture

The area of suitable farmland is 620km^2 (approximately 15 percent of the area encompassed by the province); and the major cash crops are copra and cocoa. In 1991, 1,444 mt of copra were produced. Large-scale coconut plantations are found in the province and in 1985, about 10,000 mt of coconuts were produced. However, statistics show a drop in copra production, due to a shift by the plantations from coconut export to coconut oil processing and cocoa production. As a result, the copra production ratio of small holders has

increased from 4 percent in 1985 to 61 percent. Staple foods, vegetables, and fruits are produced on subsistent levels.

c. Forestry

Although the province has an area of 169km^2 forest land, it is scattered on islands with small trees low in resource value.

d. Fisheries

A large-scale commercial fishing industry led by NFD (tuna fishing) is based in Tulagi. In addition, small-scale commercial fishing is thriving in Ngella, due to its close proximity to the capital of Honiara (within 50 kilometers). An EC project to foster small-scale fisheries in Yandina is also underway.

e. Mining, manufacturing

Mining is not carried out in the province. Manufacturing remains largely undeveloped, with the exception of one boat building facility in Tulagi and two others in different locales.

f. Commerce

Commerce is undeveloped and there is no commercial zone.

g. Employed workers

The number of employed workers in 1992 was 2,599 people. The majority are employed by the coconut plantations on Russell Island and the NFD in Tulagi. The average monthly wage is SI$534 and well below the national average (SI$631).

(5) Socio-economy of Rennell/Bellona Province

The Rennell/Bellona Province gained independence from Central Province in March 1993.

1) Social conditions

a. Area and population

The area encompassed by Rennell Province is currently 670km^2 (comprises 651km^2 of Rennell and 19km^2 of Bellona). The population was 1,893 in 1976 and 1,802 and it shows declining trend.

b. Racial composition

The majority of the population are Polynesians. It is very different from the racial composition in other provinces.

2) Economy

a. Summary of the economy

The province is in a isolated condition since the transportation services from other islands are extremely scarce. Therefore a subsistent economy prevails.

b. Agriculture

The islands consisting of coral is not suitable for agriculture. Copra and cocoa are produced for cash income, and kumara, yam, taro and some vegetables for subsistent demand.

c. Fishery

Villages in the province are scattered in the inner part of the islands, and only Lavanggu in Rennell Island is located at sea-front and has an access to fishing grounds. Fishery in this area is still under-developed, however, there are good resources of high grade fish products such as cray fish, beach-de-mer and clam shell, and also tilapia in Te-Nggano lake.

(6) Socio-economic conditions of Malaita Province

1) Social conditions

a. Area and population

The area encompassed by Malaita Province is currently 4,225km^2, and it encompasses about 15 percent of the entire area of the nation or the third largest province in the country. Its estimated population in 1992 was the highest nationwide at 90,092 people or approximately 27 percent of the national ratio; and the estimated population density for the same year was 22 people/km^2, the second largest following Honiara.

Due to its minimal resources and large population, approximately 10 percent of the population regularly settle or go to work in other provinces.

b. Racial composition

About 98 percent of the population is Melanesian. There is a scattering of Polynesians in the outer islands (Ontongjawa island).

c. Religion

The population is evenly divided between the Church of Melanesia, the Roman Catholic Church, and the South Sea Evangelical Church.

d. Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 88 percent. Hereditary land ownership rights are patriarchal and passed on to the male members of the family. Disputes arising over land rights to cash crop producing land are common.

Although reef ownership rights are moderately executed in the case of subsistent fisheries, they are strictly enforced for specific revenue earning fish species.

2) Economy

a. Summary of the economy

The economy is largely subsistent. A monetary economy is mainly found in the agricultural and forestry sectors; and industries are undeveloped.

b. Agriculture

Farming land encompasses an area of 1,600km^2 (about 17 percent of the total land area of the province); and the major cash crops are copra and cocoa. The province has the third largest copra production volume in the nation, producing 4,075 mt in 1991. About 98 percent of this production volume is produced by small holders.

Although staple foods, vegetables, and fruits are produced mainly for subsistence, a small volume is sold for cash at the local market.

c. Forestry

Forestry resources cover a land area of 124km^2; and presently, four companies are engaged in logging in southern Malaita.

d. Fisheries

Small-scale commercial fisheries is found in the capital of Auki and a fisheries project by OFCF is underway in North Malaita. However, subsistence fisheries is carried out in other areas.

e. Mining and manufacturing

Mining and manufacturing are undeveloped.

f. Commerce

One commercial zone exists in the capital of Auki.

g. Number of employed workers

The number of employed workers in 1992 was 1,809 people (about 8 percent of the total national figure) or about 2 percent of the population in the province. The average monthly wage is SI$487, lower than the national average of SI$631.

(7) Socio-economic conditions of Makira Province

1) Social conditions

a. Area and population

The area encompassed by Makira Province is 3,187km^2. Its estimated population in 1992 was 26,741 people or approximately 8 percent of the national ratio; and the estimated population density for the same year was 7 people/km^2.

b. Racial composition

Approximately 98 percent of the population is Melanesian.

c. Religion

The Church of Melanesian comprises about 50 percent of the populace, followed by the South Sea Evangelical Church (26 percent) and the Roman Catholic Church (21 percent).

d. Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 98 percent.

2) Economy

a. Summary of the economy

The economy is largely subsistent and a monetary economy is mainly found in the agricultural and forestry sectors.

b. Agriculture

Farmland comprises 392km^2 (approximately 12 percent of the total land area of the province); and the major cash crops are copra and cocoa. In 1991, 1,230 mt of copra were produced and approximately 93 percent of this volume was produced by small holders.

Nearly all of the staple food, vegetables, and fruits are produced for subsistence. However, recently a small volume is sold for cash in the local market of Kirakira, the capital.

c. Forestry

Forestry resources cover an area of 730km^2. However, in 1986, only a low 15,347km^3 was logged.

d. Fisheries

Subsistent fishing dominates much of the province, with the exception of limited small-scale commercial fishing in the Three Sisters Island (carried out by a group of seven families), targeting the capital of Kirakira.

e. Mining and manufacturing

There are nickel deposits in the southeastern part of Makira Island where two companies presently own mining rights.

f. Commerce

There is no commercial zone in the capital.

g. Number of employed workers

The number of employed workers in 1992 was 476 people; and the average monthly salary was SI$407 which was very low in comparison to the national average.

(8) Socio-economic conditions of Temotu Province

1) Social conditions

a. Area and population

The province encompasses an area of 865km^2. Its estimated population in 1992 was 17,638 people or approximately 5 percent of the national ratio; and the estimated population density for the same year was 20 people/km^2.

b. Racial composition

Approximately 80 percent of the population are Melanesians and 20 percent are Polynesians.

c. Religion

Nearly 97 percent of the populace belong to the Church of Melanesian.

d. Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 84 percent.

2) Economy

a. Summary of the economy

The economy is largely subsistent and a monetary economy is mainly found in the agricultural and forestry sectors.

b. Agriculture

Farmland encompasses 183km^2 (approximately 24 percent of the total land area of the province); and major cash crops are copra and cocoa. Although copra production is the principal industry, only 837 mt were produced in 1991; and nearly 100 percent of this volume was produced by small holders.

Nearly all of the staple food, vegetables, and fruits are produced for subsistence.

c. Forestry

According to 1986 statistics, production was nonexistent.

d. Fisheries

Subsistent fishing dominates much of the province, although small-scale commercial fishing, targeting the salaried workers in the capital of Temotu, is carried out on a minimal level.

e. Mining and manufacturing

Nickel deposits are found in the southeastern part of Makira Island where two companies presently own mining rights.

f. Commerce

There is no commercial zone in the capital.

g. Number of employed workers

The number of employed workers in 1992 was 526 people.

(9) Socio-economic conditions of Guadalcanal Province

1) Social conditions

a. Area and population

The province encompasses an area of 5,336km^2 and it comprises about 19 percent of the total national area, making it the largest province of the country. Its estimated population in 1992 was 63,630 people or approximately 18 percent of the national ratio; and the estimated population density for the same year was 12 people/km^2.

b. Racial composition

Approximately 99 percent of the population are Melanesians.

c. Religion

The Roman Catholic Church (40 percent) and the Church of Melanesia (25 percent) are the two major religions in the province.

d. Land ownership

Land ownership is mainly based on a system of traditional ownership rights and the ratio of customary land is about 90 percent.

2) Economy

a. Summary of the economy

The economy is largely subsistent and therefore, industries are nonexistent. A monetary economy is mainly found in the agricultural and forestry sectors.

b. Agriculture

The area of available farmland is 740km^2; and the major cash crops are copra, cocoa, and palm oil. In 1991, 4,563 MT of copra were produced making the province the second largest copra producer in the nation. Nearly 76 percent of this volume was produced by small holders.

Although staple food, vegetables, and fruits are produced mainly for subsistence, farms near the capital grow produce to earn cash revenue in the capital.

c. Forestry

Forestry resources cover an area of 287km^2. Presently, there are five companies holding licenses and engaged in logging. In 1986 they recorded a production volume of 120,000m^3 (about 28 percent of the national production figure).

d. Fisheries

An EC project (RFEP) to promote small-scale commercial fisheries in Marau and Lambi is currently underway.

e. Mining and manufacturing

Gold mining is carried out in the province and approximately 110,000 grams were mined in 1986 (about SI$2.0 million in export earnings).

f. Commerce

There is only one commercial zone in the capital of Honiara.

g. Number of employed workers

The number of employed workers in 1992 was 3,477 people (about 13 percent of the national total); and the average monthly salary was SI$459, lower than the national average .

(10) Socio-economic conditions of Honiara

1) Social conditions

a. Area and population

The town encompasses an area of 22km^2. Its estimated population in 1992 was 39,600 people or approximately 13 percent of the national ratio; and the estimated population density for the same year was 2,037 people/km^2. The influx of people emigrating from other provinces is high due to its large employment market.

b. Racial composition

Melanesians comprise about 86 percent of the population, succeeded by Polynesians (7 percent), Kiribati (3 percent), Chinese (1 percent), and Europeans (2 percent).

c. Religion

The majority of the population are Roman Catholic (30 percent), Church of Melanesian (25 percent), and Seventh Day Adventist (15 percent).

d. Land ownership

Approximately 48 percent of the land (11km^2) has been registered, of which government land comprises about 6km^2.

2) Economy

a. Summary of the economy

Honiara is the economic and political center of the Solomon Islands. Due to this factor, it contains 50 percent of the national working population and it is the only area where a monetary economy has developed.

Primary industries targeting the city's inhabitants are only fisheries and fresh produce cultivated in the suburbs. Manufacturing is undeveloped both in scope and variety. However, the sale of daily commodities, overseas trade, transport, tourism, etc. are relatively well developed.

b. Number of employed workers

The number of employed workers in 1992 was 13,355 people (about 50 percent of the national total of employed workers); and the average monthly wage was SI$769, higher than the national average of SI$631.

Table II.1.2.1. Socio-Economic Indicators by Province (1986, 1991 &1992)

Province		Honiara	Guadalcanal	Central	*1 Rennell/Bellona	Malaita	Isabel	Western	*2 Choiseul	Makira	Temotu	Total
LAND (Unit: km2)												
Total Area		22	5,336	1,286	670	4,225	4,136	5,475	3,837	3,186	775	28,370
Agri-Opportunity Area		0	740	304	-	620	820	1,600	-	392	183	7,000
Loggble Forest		0	287	169	-	124	804	1,630	-	730	-	3,744
Coconut		0	128	79	-	200	52	145	-	36	18	589
Cocoa		0	-	-	-	-	1,279	-		60	-	654
Registered land		11	550	231	-	104		445			445	3,478
POPULATION												
Population 1986		30,413	49,918	16,655	1,802	80,032	14,616	41,861	13,569	21,796	14,781	285,623
Urban population	1986	30,413	9	1,622	0	3,252	1,901	3,710	0	2,588	1,295	44,781
Rural population	1986	0	49,918	15,033	1,802	76,780	12,715	38,151	13,569	19,208	13,486	240,842
Density (Per/km2)	1986	1,382	9	13	3	19	4	8	4	7	19	10
Growth Rate (%)	1986-1992	4.40	4.05	3.40	-0.48	1.97	3.01	2.94	2.35	3.41	2.95	3.06
Population 1992		39,600	63,630	20,247	1,751	90,092	17,510	49,716	15,627	26,741	17,638	342,732
Urban population	1992	39,600	0	2,383	-	3,252	2,094	4,356	-	3,146	1,530	56,361
Density (Per/km2)	1992	1,800	12	16	3	21	4	9	4	8	23	12
Growth Rate (%)	1992-1995	5.47	4.30	2.01	2.49	0.52	1.83	3.94	4.06	2.17	2.95	2.95
Workforce (15-50 yrs)	1986	15,318	22,744	6,020	(Includ. Central)	30,128	5,759	23,938	(Includ. West)	-	-	120,149
Wage Earner	1986	8,289	4,823	2,683	(Includ. Central)	1,792	717	4,400	(Includ. West)	791	531	24,026
	1992	13,355	3,477	2,599	(Includ. Central)	1,809	676	3,934	(Includ. West)	476	516	26,842
Growth Rate (%)	1986-1992	61	28	-3	(Includ. Central)	1	-6	-11		-40	-3	12
School Aged (6-14)	1986	6,050	11,455	4,857	(Includ. Central)	21,402	3,938	15,223	(Includ. West)	5,685	3,743	72,353
Enrolment School	1986	3,377	6,153	2,885	(Includ. Central)	9,633	2,694	8,498	(Includ. West)	3,581	2,742	39,563
PRODUCTION												
Copra (mt)	1986	0	4,807	10,096	(Includ. Central)	3,284	1,848	8,642	(Includ. West)	1,916	1,076	31,669
% of Smallholder		0	83	22	(Includ. Central)	99	90	96	(Includ. West)	97	100	77
Copra (mt)	1991		4,563	1,444	(Includ. Central)	4,075	1,445	7,993	(Includ. West)	1,230	837	21,577
% of Smallholder			76	61	(Includ. Central)	98	80	98	(Includ. West)	93	100	90
Cocoa (mt)	1986	0	889	417	(Includ. Central)	413	48	32	(Includ. West)	21	2	1,820
% of Smallholder		0	36	0	(Includ. Central)	92	86	99	(Includ. West)	100	100	43
Cocoa (mt)	1991											2,435
Fish (Kg) *3	1986	0	7,203	0	0	207	31,457	17,648	0	0	3,976	60,491
(Kg) *3	1990	0	0	0	0	7,202	4,437	8,214	0	0	19,589	60,451
Cattle (Head)	1985	0	6,292	2,018	(Includ. Central)	3,810	1,110	4,841	(Includ. West)	1,462	153	19,750
Roundlog (m3)	1986	0	122,940	0	0	15,552	3,316	274,403	(Includ. West)	15,347	0	431,558
(m3)	1991											348,000
Palm Oil (mt)	1986	0	14,560	0	0	0	0	0	0	0	0	14,560
(mt)	1991	0	22,518	0	0	0	0	0	0	0	0	22,518

Remark: *1 & *2, Insufficent data due to the newly established province. *3, Purchasing volume by PFCs.

Source: 1) Population census (1986), Statistics Office, MOF

2) Provincial Development Plans

1.3 Fisheries Development Policy

The fisheries development policy of the country has been formulated in accordance with the last national development plan (1985-1989). Its objective is to develop and manage the exploitation of all fisheries resources in order to secure optimum social and economic benefits for the people of the Solomon Islands. The specific objectives are delineated below.

1) Achieve and maintain a balanced supply/demand of fish products domestically.

2) Improve cash incomes through the fisheries sector.

3) Increase employment in fishing and fisheries related activities in the provinces.

4) Promote the participation of Solomon Islanders in commercial fishing and fishermen organizations.

5) Improve the foreign exchange position of the Solomon Islands.

The government's development goals and objectives are reflected in a variety of projects in the large-scale commercial and small-scale fisheries sub-sectors as well as in resource assessment, aquaculture, institutional development and training activities. In 1981 the government initiated a plan entitled "Rural Fisheries Development Project"; and subsequently, a number of rural Fisheries Centers were established with foreign assistance. The aim of these centers was to stimulate fishing activity in the local areas by providing ice, fish landing and storage facilities and marketing assistance. A conference of provincial fisheries officers is held annually in Honiara to discuss and formulate plans and to request training and rehabilitation for their respective Fisheries Centers. The annual fish handling volume targeted by the Fisheries Centers, in accordance with the Rural Fisheries Development Plan, is 840 mt.

1.4 Fishery Resource and Fish Production

1.4.1 Fishery Resource

The nation of the Solomon Islands encompasses an area of 29,000 km^2 with a 200 mile ocean territory spanning 1.63 million km^2, containing abundant and varied fishery resources.

The waters surrounding the 950 islands of the nation contain the world's most favorable fishing grounds for tuna and skipjack. This has caught the attention of Japanese and other foreign firms; and tuna fishing in conjunction with the lumber industry contributes greatly to the nation's foreign currency earnings.

No scientific survey on fish species other than tuna or skipjack has been carried out.

The reefs which comprise the coastal waters surrounding the Solomon Islands are abundant in non-migratory demersal fish. A voluntary means of resource management has been implemented in the harvest of coastal fish, due to the traditional system of coastal land ownership and use practiced by the local inhabitants. The export volume of non-migratory species (Beche de mer, trochus, and giant clam) have rapidly fallen due to overfishing and urgent and resource management measures are required. In addition, measures to strengthen fish production strain resources and preventive management is needed for fish species whose ecology is threatened.

1.4.2 Issues and Conditions in Fish Production

(1) Type of fishing operation, fishing method, gear, fish species

There are three categories of fishing operations which are prevalent in the Solomon Islands. They are subsistent, traditional petty fishing operations which harvests the fish swimming along the coast, near the beach, and among the coral reefs and breakers; the small-scale commercial fishing operations of recent years carried out by FRP fishing boats, equipped with outboard engines which harvest the demersal fish swimming on the outer fringe of the atolls, the resident fish that exist in the offshore and coastal reefs, or the schools of pelagic fish found in the coastal waters; and lastly, the large scale commercial fishing operations funded by foreign capital (government joint ventures included) that harvest tuna and skipjack by purse seines or hook and line and which are based in Noro or Tulagi in Western and Central provinces.

The three types of fishing operations that have their own unique characteristics are summarized in the table shown in the following page.

Characteristics of fishing operations in the Solomon Islands

Type	Major fishing ground	Major fishing gear & method	Major types of fish products
Artisanal fishery	Coastal Zone (Shore rock and bank) Reefs	Hook and line Gill-net Dugout canoe	Fresh fish for self-consumption
Small-scale commercial fishery	Off-Shore Rock Sea-Mountain Fish Aggregating Device(FAD)	Hook and line FRP Out-board engine	Chilled fish for marketing to major consumption area
Large-scale commercial fishery	Exclusive Economic Zone (EEZ)	Pole fishing, Purse seine Steel boat	Frozen, chilled and canned fish for export

In the past fishing operations were polarized into the two extremes of subsistent, traditional petty fisheries on one end and the large-scale joint fishing operations funded by foreign capital on the other end. However, recently petty fishing operations have modernized into small-scale commercial fishing operations with the help of foreign agencies such as the JICA, OFCF, EC, USAID, and AIDAB; and the results have been noticeable.

The coastal and offshore waters were categorized into three types of fishing operations and the productivity of each category was studied based on factors such as the distance of the coast and the difficulties encountered in the fishing operations of petty or small-scale commercial fishermen.

The fifty major fish species found in the waters of the Solomon Islands are shown in Table II.1.4.1.

1) Reef fishing

The reefs or lagoons are enclosed fishing grounds shut off from the surrounding ocean waters which contain stable fishery resources. They remain unaffected by weather and sea conditions. As a result, they provide a stable source of fish at a low production cost throughout the year for the local inhabitants with minimal fishing skills. Hence they have an important and direct bearing on the livelihood of the inhabitants.

Consequently, possession of such highly productive fishing grounds in the reefs guarantees the livelihood of the inhabitants. They are used exclusively by those with fishing ground and ownership rights of the atoll. Outsiders are required to pay appropriate compensation in order to fish tuna and skipjack in these grounds.

Generally, the majority of the fish found in these waters are low grade class B or C fish. Hence, their market potential in other areas is not good and they are mainly consumed locally. In particular, these fishing grounds are an important source of fish supply during the lean fishing season when the fish catch in other areas decline.

2) Coastal fisheries

There has been a rapid rise in coastal fisheries by FRP fishing boats, due to the introduction of outboard engines and the use of ice for fish preservation and highly efficient fishing gear.

Demand is overtaking fish production volume especially in the densely populated areas of Honiara and the neighboring areas. As a result, fishing has expanded from the reefs to the coastal area.

Fish harvested by coastal fisheries can be categorized into bottom and pelagic fish.

a. Harvesting bottom dwelling fish: Much of the fishing is carried out by hand-line and the use of drop-line is being introduced on a trial basis. FRP fishing boats loaded with esky and ice navigate the waters using outboard engines. Consequently, the fishing area has expanded and a stable supply of relatively high quality fish is harvested.

Fish species harvested by the local fishermen are jobfish, snapper, fusilier, trevally, amberjack, emperor, large-eye bream, grouper, etc.

In the harvest of groupers, it is necessary to study fishing methods other than hand-line which take such factors as growth process, fishing season, species, etc. into consideration. However, such fishing methods have not been introduced in the Solomon Islands at the present time.

b. Harvesting pelagic fish: Island bonito, dog-tooth tuna, rainbow runner, kingfish, and wahoo are the main fish species harvested by trawling.

3) Offshore fisheries

Red snapper and jobfish which inhabit the offshore waters of the Solomon Islands are high grade, high priced fish. As a result, they are the major species targeted for exploitation by the OFCF project promoting coastal fisheries in north Malaita and by the Fisheries Center in Gizo.

These high grade fish are often exported via the domestic market or are earmarked for consumption in Honiara.

One major feature of these fish species is that they congregate in narrow sea valleys with relatively poor feed conditions. As a result, they take the bait quickly and are easy to harvest (according to fishermen). If they are over fished, resources will become markedly depleted, as in the case of the yellow jobfish and red snapper in Japan.

The red snapper is the major fish species harvested in the EEZ of the Solomon Islands. As these fishing grounds are remotely located, the fishing boats which navigate these distances, often troll for kingfish, wahoo, bonito, tuna, and rainbow runner.

(2) Issues and problems confronting fish production

1) Seasonal imbalances in fish production

The coastline of the Solomon Islands is formed by coral reefs, bays surrounded by peninsulas, lagoons, etc. In addition, the islands are often buffeted by cyclones and bad weather. As a result, the sea is affected by severe fluctuations in the direction and strength of wind velocity and tidal currents.

Despite such unfavorable conditions, the fishing boats are small with minimum horsepower and are incapable of withstanding bad weather conditions, with the exception of large commercial boats. Moreover, due to the nearly nonexistent transport system and fishing infrastructure, the fishermen are unable to change their fishing grounds in conjunction with the seasonal weather conditions, which in turn hinders stable fishing operations throughout the year.

In order to stabilize fish production, a comprehensive fish transport system must be effected, in addition to improved fishing boats.

2) Reef fishing grounds and limited resources

Reef fishing grounds in the Solomon Islands are found in the bays, lagoons, and the coral reefs. Although traditional, local exclusive fishing rights of these fishing grounds exist, aggressive resource management and increased production measures have not been undertaken.

Immediate profits from revenue earning fish and shellfish (beach de mer, trochus, giant clams, shark fin, etc.) have spurred overfishing and resources are clearly declining.

If fry and young fish used as bait for catching skipjack are over harvested, the ecological system surrounding the nation will be destroyed, contributing to a decline in fish production.

In addition to implementing thorough fish resource management, efforts to improve fishing grounds (environmental protection and building artificial reefs for fish breeding areas) and to establish a fish sanctuary in the fishing grounds near the fishing villages should be undertaken.

3) Undeveloped interim fishing grounds (outer perimeter of the reefs)

Interim fishing grounds are the areas between the reef and sea mount fishing grounds, located at a depth of 30m to 80m.

Fish which inhabit the reef and sea mount fishing grounds are non-migratory fish. If they are overfished, resources and fish harvest volume will decrease. In contrast, fish which are found in the interim fishing grounds, whether pelagic or bottom dwelling fish, are mostly migratory; and resources are efficiently replenished.

For example, tuna, skipjack, etc. are pelagic fish which move in schools. The fish aggregating device (FAD) has been successful in harvesting a large volume of fish catch. Further success of the FAD in harvesting bottom-dwelling fish can be anticipated; and if immovable artificial reefs are dropped, the migration of these fish can be stopped.

(3) Productivity of local fishermen

Fisheries in the Solomon Islands is mainly composed of petty fisheries which is carried out jointly with farming; and production remains at subsistent levels. However, small-scale commercial fishing activities have started with the technical assistance of foreign agencies and a professional fisheries group centered on fish marketing activities has begun to evolve.

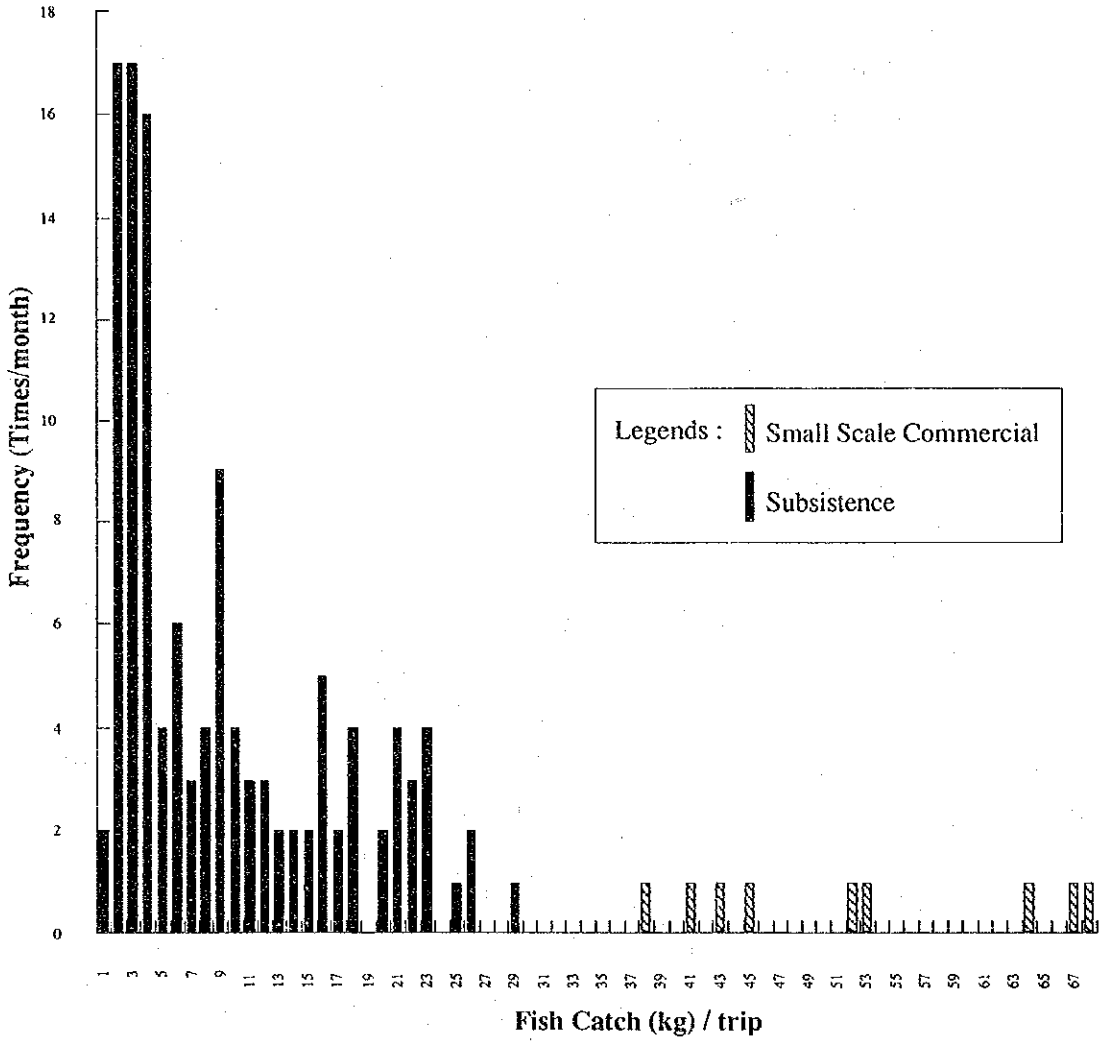
In terms of production, the gap between the two types of fisheries is large. Fig. II.1.4.1 shows the productivity difference between the two types of fisheries. The production volume of 116 fishing trips (about 93 percent of the total number of fishing trips) by subsistent fishermen, was 1,092kg (about 70 percent of the total production volume), in contrast to the total production volume of 470kg (30 percent of total production volume) of nine commercial fishing operations (7 percent of total number of fishing operations). Similar findings were found in Tatamba where the same conditions exist.

The fish landing volume per fishing trip of one fishing vessel in the study area is shown in Table II.1.4.2. The differences in productivity between the types of fisheries carried out are summarized below.

Subsistent fisheries (full-time fishermen) : The fish landing volume of a one-day fishing operation is about 4kg to 9kg.

Subsistent fisheries (part-time fishermen): The fish landing volume of a one-day fishing trip is about 25kg to 60kg.(as well as for sales).

Small-scale commercial fisheries: The fish landing volume of a two-day fishing operation is about 120kg.



Source : Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.4.1 Fish Catch per Trip and Expedition Frequency
(Puga Fisheries Project at Ngunde Village in Munda Area)

Table II.1.4.1 List of Fish Species in Solomon Island Waters (1/2)

	Scientific Name	English Name
1	*Katsuwonus pelamis*	Skipjack
2	*Euthynnus affinis*	Island bonito
3	*Thunnus albacares*	Yellow-fin tuna
4	*Gymnosarda unicolor*	Dogtooth tuna
5	*Elegatis bipinnulatus*	Raibow runner
6	*Scomberomorus commersoni*	Kingfish
7	*Acanthocybium solandri*	Wahoo
8	*Rastrelliger kanagurta*	Indian mackerel
9	*Pristipomoides filamentosus*	Rosy Jobfish
10	*Pristipomoides multidens*	Purplecheek Jobfish
11	*Pristipomoides flavipinnis*	Yellow Jobfish
12	*Aphareus rutilans*	Small toothed Jobfish
13	*Aprion virescens*	Green Jobfish
14	*Pristipomoides auricilla*	Gold-tail Jobfish
15	*Etelis radiosus*	Long-jaw red snapper
16	*Etelis coruscans*	Long-tail red snapper
17	*Etelis carbunculus*	Short-tailed red snapper
18	*Lutjanus bohar*	Two-spot red snapper
19	*Lutjanus gibbus*	Paddletail snapper
20	*Lutjanus fulvus*	Red-tail snapper
21	*Paracaesio kusakarii*	Kusakar's fusilier
22	*Paracaesio stonei*	Stone's fusilier
23	*Pristipomoides zonatus*	Banded flower snapper
24	*Caranx ignobilis*	Great trevally
25	*Caranx melampygus*	Bluefin trevally
26	*Gnathanodon speciosus*	Golden trevally
27	*Caranx lugubris*	Black trevally
28	*Seriola rivoliana*	Amberjack
29	*Lethrinus kallopterus*	Yellow-spot emperor
30	*Lethrinus harak*	Thumbprint emperor
31	*Lethrinus variegatus*	Variegated emperor
32	*Lethrinus nebulosus*	Spangled emperor
33	*Lethrinus mahsena*	Yellow-tail emperor

Source: Important Food Fishes of Solomon Islands, F/D, MNR

Table II.1.4.1 List of Fish Species in Solomon Island Waters (2/2)

	Scientific Name	English Name
34	*Lethrinus elongatus*	Longface emperor
35	*Lethrinus ramak*	Striped emperor
36	*Valamugil seheli*	Bluetail mullet
37	*Mugil cephalus*	Sea mullet
38	*Scarrus ghobban*	Five-band parrotfish
39	*Cetoscarus bicolor*	Bicolour parrotfish
40	*Siganus vermiculatus*	Spinefoot, Rabbitfish
41	*Siganus spinus*	Spinefoot, Rabbitfish
42	*Monotaxis grandoculus*	Large-eye bream
43	*Wattsia mossambica*	Large-eye bream
44	*Gymnocranius robinsoni*	Blue-line large-eye bream
45	*Cephalopholus urodelus*	Flagtail grouper
46	*Epinephelus chlorostigma*	Brown-spot grouper
47	*Epinephelus morrhua*	Brown-stripe grouper
48	*Epinephelus microdon*	Blue tailed grouper
49	*Epinephelus magniscuttis*	Giant grouper
50	*Epinephelus merra*	Honeycomb rock-cod
51	*Plectropomus leopardus*	Coral trout
52	*Variola louti*	Lunar-tail rock cod

Source: Important Food Fishes of Solmon Islands, F/D, MNR

Table II.1.4.2 Fish Catch Volume and Fishing Cost at Selected Survey Area Under Existing Condition

Fishing Scale		Subsistence Fishing			Small Scale Commercial Fishing						
Location / Items	Unit	Temotu	Munda Puga Project	Tatamba Area Takutu Tatamba Nagolau, Pors	Puga Project	Munda Munda Fishing Sub-Cntr	Tatamba Area Takutu Tatamba Nagolau, Pors	Gizo	Lambi	Malaita	Makira
No of Boat	Boats	—	—	—	—	40.0	—	—	—	—	—
Trips	Trips/Boat/year	—	—	—	—	90.0	—	—	—	—	—
	Trips/year	3256.0	658.0	480.0	50.0	—	274.0	—	—	—	—
No, days per trip	Days	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0
Fish catch per trip	kg	4.0	904.0	32.5	52.2	60.0	44.1	25.0	34.5	125.0	120.0
Selling price	SI$/kg	—	—	2.4	—	2.5	2.3	2.3	2.8	3.0	4.0
Revenue per trip	SI$/trip	—	—	78.0	—	150.0	101.0	58.0	97.0	375.0	400.0
Expenditure per trip	SI$/trip	—	—	27.7	—	88.8	85.6	67.5	95.8	224.6	188.5
Earning per trip	SI$/trip	—	—	50.0	—	61.0	15.0	-10.0	1.0	150.4	211.0

Remarks : 1) Subsistence - fish caught mainly for self-consumption.
2) Small scale fishing - fish caught mainly for sales.

Source : Field survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

1.5 Socio-economic Conditions of the Coastal Areas

1.5.1 Summary of Socio-economy

(1) Social structure

1) Racial composition

With a total population of approximately 285,000 people (1986), 94 percent of the populace are Melanesians, followed by Polynesians (4 percent), Micronesians (1 percent), and others (Europeans, Asians, etc.). The nation's social structure is centered on Melanesians. Polynesians are scattered in Central, Malaita, and Temotu provinces, in addition to the capital of Honiara. The majority of the Micronesians live in Western Province.

There are said to be approximately 80 languages in the Solomon Islands, but the society is mainly comprised of clans and tribes known as wontok. Blood and land ties which are the focal point of the clans and tribes are still very strong to the present day (Table II.1.5.1).

The majority of the villages are found along the coastal areas of the islands; and there are a comparatively large number of villages in the mountainous areas of Guadalcanal and Malaita islands.

Nonetheless, all inhabitants lead a subsistent lifestyle centered on fishing and various kinds of food cultivation.

2) Religion

In the past the major indigenous religions were ancestor worship and spiritism, but christianity was actively spread in conjunction with large scale coconut plantations developed by the British at the turn of the twentieth century. As a result, 98 percent of the population today are Christians.

The Church of Melanesian is the largest Christian church and has a following of approximately 34 percent of the population. It is followed by the Roman Catholic Church (19 percent), the South Sea Evangelical Church (18 percent), the United Church (11 percent), and the Seventh Day Adventist Church (10 percent).

Nearly 50 to 90 percent of the population in Isabel, Central, Temotu, and Makira provinces belong to the Church of Melanesian; and nearly 48 percent of the population of Western Province belong to the United Church. In Malaita Province, the three major churches each comprise about one third of the population (Table II.1.5.2).

3) Structure and size of the villages

The size of the villages in the Solomon Islands are extremely small. The national average population of a village is about 44 people. Moreover, of the approximately 6400 villages throughout the nation (including Honiara and the town areas of each provincial capital), about 51 percent of the villages (3,200) have populations of less than 20 people. The ratio of villages with a population of under 50 people is about 78 percent (5,000 villages) (Table II.1.5.3).

The villages are composed of clans and sub-clans. The smallest clan unit based on blood ties is composed of parents and children or parents and their children's families.

On the average, the majority of the villages with one to ten families will stem from one single blood tie, but in villages with a larger number of families, there will be two to three different blood ties in one village.

The leadership in these villages are usually held by the traditional hereditary position of chief. These traditional chiefs are in charge of various village functions (festivals, funerals, communal work), liaisons with other villages, arbitration and ruling on land and reef ownership disputes within the village, and fulfills all other leadership roles concerning the lives of the villagers.

An important obligation of the villagers is their participation in communal work which is the foundation of village society. These communal obligations mainly pertain to church and school related matters, road and water supply improvements, etc. In the larger villages, members are elected to various committees such as the church and road improvement committees. The time, date, and scope of the communal work is decided at the committee meetings.

In addition to the aforementioned, weddings, funerals, festivals, etc. are also considered part of the villagers' communal obligations. In order to prepare for these events, fishing and other preparations are carried out communally. Those villagers who absent themselves from this communal work, are punished with a monetary fine.

4) Economic activities

The distant coastal communities are on the whole subsistent. Their staple food, centered on varieties of food cultivation, vegetables and fruit production, and fresh fish caught in the reefs support a subsistent lifestyle (Table II.1.5.4).

However, the need for cash revenue is steadily increasing and the coastal inhabitants have begun to earn cash from the cultivation and sale of cash crops, varieties of root, and vegetables.

According to the 1986 census, 61 percent of the nation's total number of households, excluding those in Honiara town, were engaged in the sale of coconut and copra, and about 37 percent sold a variety of roots and vegetables in order to earn cash income (Table II.1.5.5).

In addition, according to separate statistics, approximately 17 percent (7,427 households) of the total number of coastal village households in 1986 (43,386) harvested and sold fresh fish as a means of earning cash income. This is an indication of the significance of fisheries as an important economic activity for the coastal community (Table II.1.5.5).

(2) Population distribution and working population

1) Population and its growth rate

The population of the Solomon Islands for 1986, the projected population for 1992 and 1995, and the population growth rate are shown in Table II.1.5.7.

The population of the Solomon Islands in 1986 was approximately 285,000. It rose to 342,000 in 1992 and is projected to reach 372,000 in 1995. The average national growth rate for the period of 1986 to 1992 was 2.93 percent, while the period for 1992 to 1995 is projected to rise to a high 3.06 percent.

In studying the population growth rate of each province from 1986 to 1992 , the growth rate was 4.40 percent for the capital town of Honiara and 4.05 percent for Guadalcanal Province, both extremely high growth ratios in comparison to the national average. Moreover, the ratio is projected to become 5.47 percent for Honiara Town and 4.30 percent for Guadalcanal Province during the period of 1992 to 1995, indicating a continued concentration of the population in the town. Western Province is also projected to maintain a high growth rate of 3.90 percent, due to the growing urbanization of Noro District.

In contrast, the population growth rate of Malaita Province from 1982 to 1992 was 1.97 percent and its projected growth for the period of 1992 to 1995 is 0.52 percent, much lower than the national average. The growth rate for Rennell/Bellona Province has a minus growth rate and it is surmised that a population outflow from the provinces to the capital is occurring.

The population growth rate of the remaining provinces is comparatively high, but stable indicating the existence of an autonomous lifestyle based on a subsistent economy.

2) Population distribution

The nation of the Solomon Islands is composed of numerous islands where the population is divided into clans and tribes, each with their own lifestyles. In the past, the population was distributed predominantly on Malaita island, but with the development of a monetary economy in the capital of Honiara, there has been a marked concentration of the population in Honiara (Tables II.1.5.1 & II.1.5.6).

3) Population of the outlying towns

The population of the provincial capitals and their major town areas, including future projections, growth rate, etc. are shown in Table II.1.5.7.

The population growth rate from 1986 to 1992 of Noro and the Munda District in Western Province was 4.49 percent and 5.76 percent respectively, 6.41 percent for Tulagi of Central Province, and 3.76 percent for Malu'u (sub-center) of Malaita Province. The population growth rate for all areas was much higher than the national growth rate of 2.93 percent.

The high population growth rate of Noro is attributed to the large-scale commercial fishing base operated by STL and the presence of a canning factory, etc. Moreover, the population growth rate of adjacent Munda surpasses that of Noro's, due to its tourist industry as well as being a residential area for workers employed in Noro.

Gizo, the capital of Western Province is restricted in area; and as a result, its development as a commercial center is limited. Therefore, it is anticipated that Munda and Noro will form a new economic zone in this province.

The population growth rate of Auki, the capital of Malaita Province is a low 1.63 percent. However, the growth rate of Malu'u District in northern Malaita is relatively high at 3.76 percent. The population of Malaita Province has always been unevenly distributed in the north. Although the characteristics of Auki town are not expected to change, it has the potential to become the economic center of Malaita with improved infrastructure.

Tulagi, the capital of Central Province, also has an extremely high population growth rate. This is due to the presence of NFD which is engaged in commercial fisheries there and its geographical proximity to the economic zone of Honiara.

The population growth rate of other provincial capitals is stable and there are no significant changes.

4) Employed opportunities

The working population of the Solomon Islands and wage conditions are given in Tables II.1.5.8, II.1.5.9 and II.1.5.10.

In 1992 the total working population of the nation numbered 26,842. Of this figure, 8,605 people or 32 percent of the national total were employed by the central and provincial governments, which is also indicative of the undeveloped state of private industry in this country.

Moreover, the working population of Honiara is 13,355 people or roughly 50 percent of the national total and reflects the large gap in economic development between Honiara and the distant provincial capitals.

Agricultural plantations, large scale commercial fisheries, forestry, etc. form the major job markets, but in Honiara, commerce and transport services are a major source of jobs.

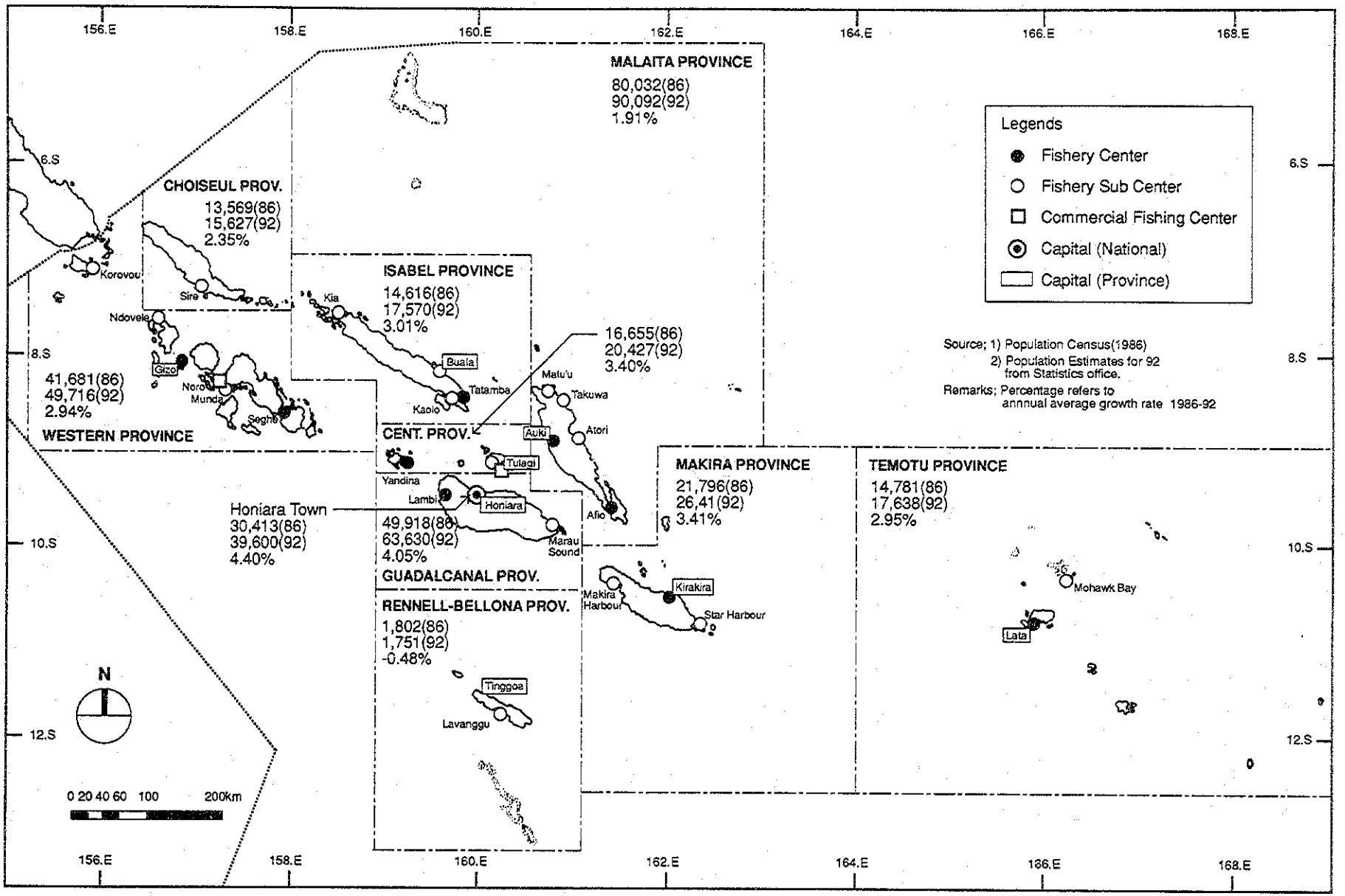


Fig. II.1.5.1 Population Distribution by Province (1986-1992)

Table II.1.5.1 Population by Race and Province (1986)

	Melanesian	%	Polynesian	%	Kiribati	%	Chinese	%	European	%	Others	%	Total	%
Western	52,106	94.0	220	0.4	2,554	4.6	37	0.1	171	0.3	162	0.3	55,250	100
Isabel	14,450	98.9	91	0.6	62	0.4	0	0.0	8	0.1	5	0.0	14,646	100
Central	15,304	82.9	2,897	15.7	157	0.9	4	0.0	19	0.1	76	0.4	18,457	100
Guad.	49,066	98.5	325	0.7	242	0.5	17	0.0	105	0.2	76	0.2	49,918	100
Honiara	26,255	86.3	2,032	6.7	871	2.9	305	1.0	719	2.4	231	0.8	30,413	100
Malaita	78,240	97.8	1,672	2.1	22	0.0	10	0.0	66	0.1	22	0.8	80,032	100
Makira	21,248	97.5	506	2.3	14	0.1	6	0.0	13	0.1	9	0.0	21,796	100
Temotu	11,847	80.2	21,918	19.7	7	0.0	0	0.0	6	0.0	3	0.0	14,781	100
TOTAL	268,536	94.2	10,661	3.7	3,929	1.4	379	0.1	1,107	0.4	584	0.2	285,263	100

Remark *: Other Pacific Island. and Other Asian.
Source: Report on The Census of Population 1986. Report 2.B.
Statistics Office, MOF, 1989.

Table II.1.5.2 Distribution Ratio of Population by Province and Religion (1986)

	CM *1	RC *2	SSEC *3	UC *4	CFC *5	SDA *6	JW *7	BHI *8	BAP *9	AG *10	Cus-tomary	Other	None	Total (100%)
Western	2.7	10.6	2.0	47.9	11.9	23.8	0.2	0.2	0.0	0.1	0.1	0.3	0.2	55,250
Isabel	96.7	0.3	0.9	0.5	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	14,616
Central	69.7	8.9	10.5	1.5	0.0	7.8	0.2	0.1	0.6	0.0	0.1	0.4	0.1	18,457
Guad.	24.4	39.7	19.1	3.2	0.1	8.8	1.2	0.1	0.2	0.2	2.0	0.3	0.6	49,918
Honiara	30.7	12.7	25.4	8.4	1.2	15.3	2.2	0.6	0.2	0.8	0.2	0.9	1.4	30,413
Malaita	26.9	23.4	30.1	0.4	0.0	5.2	4.4	1.0	0.7	0.7	6.2	0.4	0.5	80,032
Makira	49.5	21.3	26.4	0.3	0.0	2.0	0.1	0.0	0.0	0.0	0.	0.1	0.1	21,796
Temotu	96.6	0.3	0.5	0.2	0.0	0.6	1.3	0.0	0.0	0.0	0.0	0.2	0.3	14,781
TOTAL	33.9	19.2	17.6	11.0	2.5	10.0	1.8	0.4	0.3	0.3	2.1	0.4	0.5	285,263

Remark: *1; Church of Melanesia, *2; Roman Catholic *3; south Sea Evangelical Church, *4; United Church, *5; Christian Fellowship Church, *6; Seventh Days Adventist Mission, *7; Jehovah's witnesses, *8; Bahai, *9; Baptist, *10; Assembly of God.
Source: Report on The Census of Population 1986. Report 2.B.
Statistics Office, MOF, 1989.

Table II.1.5.3 Number and Ratio of Households by Locality (1986)

	Number of households per locality									Total
	0~9	10~19	20~49	50~99	100~199	200~299	300~499	500~999	1000~	Locality
Western	327	300	311	120	93	31	19	2	1	1,204
Isabel	59	47	47	43	37	12	2	1	0	248
Central	146	104	120	62	30	6	3	0	1	472
Guad.l	406	432	516	171	55	5	8	0	2	1,595
Honiara	0	0	0	0	0	0	0	0	1	1
Malaita	550	565	614	278	127	18	17	4	0	2,173
Makira	115	135	133	60	37	14	3	2	0	499
Temotu	47	46	59	50	30	10	5	0	0	247
Total	1,650	1,629	1,800	784	409	96	57	9	5	6,439
%	25.6	25.3	28.0	12.2	6.4	1.5	0.9	0.1	0.1	100.0

Source: Report on The Census of Population 1986. Report 2.B.
Statistics Office, MOF, 1989.

Table II.1.5.4 Household Economic Activity (1976 & 1986)

	Percentage of private households undertaking each activity							
	Food for sale		coconut & copra		cocoa		cattle	
	1976	1986	1976	1986	1976	1986	1976	1986
Western	23.9	44.6	82.8	56.8	14.0	7.7	15.5	2.1
Isabel	10.5	35.9	90.0	54.8	6.5	17.7	50.3	6.7
Central	32.6	43.0	63.7	28.8	0.7	2.1	3.8	1.3
Guadalcanal	20.1	35.2	53.2	22.2	2.6	9.7	9.5	1.4
Honiara	0.8	12.5	15.8	3.0	1.0	1.7	3.7	1.1
Malaita	7.2	31.5	44.7	14.2	4.1	15.1	13.3	3.1
Makira	7.6	24.5	62.3	39.4	0.1	3.1	16.8	4.0
Temotu	24.9	57.0	79.0	51.7	0.4	0.9	0.9	2.5
Solomon Island	15.2	34.0	58.2	29.4	4.8	9.0	13.2	2.5
Except Honiara	16.4	37.0	61.7	32.2	5.1	9.8	14.0	2.6

Source: Report on The Census of Population 1986. Report 2.B.
Statistics Office, MOF, 1989.

Table II.1.5.5 Number of Private Households Undertaking Activities for Money.(1986)

Type of activity	No. of households	Percentage
Production of food crop	15,008	34.6
Production of copra	12,758	29.4
Fishing	7,442	17.2
Production betelnut	7,427	17.1
Collection of shells	7,369	17.0
Raising of pigs	5,408	12.5
Poultry	4,244	9.8
Production of cocoa	3,926	9.0
Collection of beach-de-mer	2,991	6.9
Fishing of crabs/lobsters	1,603	3.7
Raising of cattle	1,082	2.5
Total number of households	43,386	

Remarks: * Households may be reported in more than one category and the columns do not add up.
Source: Report on The Census of Population 1986. Report 2.B.
Statistics Office, MOF 1989.

Table II.1.5.6 Population and Growth Rate of Solomon Islands by Province (1986-1995)

Province	1986 Person	1992 Person	1986-92 G.R.%	1995 Person	1992-95 G.R.%
Western	41,681	49,716	2.94	55.887	3.90
Choiseul	13,569	15,627	2.94	17,649	3.90
Isabel	14,616	17,510	3.01	18,499	1.83
Central	16,655	20,427	3.40	21,696	2.01
Rennel/Bellona	1,802	1,751	-0.48	1,887	2.49
Guadulcanal	49,918	63,630	4.05	72,397	4.30
Honiara	30,413	39,600	4.40	46,660	5.47
Malaita	80,032	90,092	1.97	91,517	0.52
Makira	21,796	26,741	3.41	38,539	2.17
Temotu	14,781	17,638	2.95	18,034	0.74
Total	285,263	342,732	2.93	372,765	3.06

Source: Report on The Census of Population 1986. Report 2.B. Statistics Office, MOF 1989.

Table II.1.5.7 Population and Growth Rate of Urban Area (1986-1995)

Province	1986 Person	1992 Person	1986-92 G.R.%	1995 Person	1992-95 G.R.%
Western					
Gizo	3,710	4,356	2.68	4,902	3.94
Noro	2,837	3,714	4.49	4,180	3.94
Munda	2,247	3,174	5.76	3.572	3.94
Isabel					
Buala	1,901	2,094	1.61	2,212	1.83
Central					
Tulagi	1,622	2,383	6.41	2,531	2.01
Guadulcanal	0	0	0	0	0
Honiara	30,413	39,600	4.40	46,660	5.47
Malaita					
Auki	3,252	3,586	1.63	3,643	0.52
Maluu	3,113	3,900	3.76	3,962	0.53
Makira					
Kirakira	2,588	3,146	3.25	3,358	2.17
Temotu					
Lata	1,295	1,530	2.78	1,564	0.74

Source: Report on The Census of Population 1986. Report 2.B. Statistics Office, MOF 1989.

Table II.1.5.8 Employment in Government, Provincial Assemblies and Private Sector (1992)

	Central Government	Provincial Assemblies	Sub Total	Private Sector	Total
Agriculture	0	0	0	4,097	4,097
Forestry/Logging	114	0	114	1,047	1,161
Fishing	0	0	0	1,097	1,097
Mining	0	0	0	36	36
Manufacturing	48	0	48	1,956	2,004
Electricity/Water	83	46	129	257	386
Construction	47	75	122	3,079	3,201
Transport/Communication	428	44	472	946	1,418
Finance	0	0	0	1,195	1,195
Administration	3,806	420	4,226	47	4,273
Other Services	3,891	653	4,544	2,321	6,865
Total	8,605 (32%)	1,518 (6%)	10,123 (38%)	16,719 (62%)	26,842 (100%)

Source: Report on The Census of Population 1986. Report 2.B, Statistics Office, MOF 1989.

Table II.1.5.9 Employment in Industries and Province (1992)

	Western	Isabel	Central	Guadalcanal	Honiara	Malaita	Makira	Temotu	Total
Agriculture	34	183	1,559	2,160	12	132	6	11	4,097
Forestry/Logging	844	0	0	161	27	77	0	52	1,161
Fishing	654	0	359	12	72	0	0	0	1,097
Mining/Manufacture	532	0	157	75	1,188	86	2	0	2,040
Electricity/Water	50	5	0	72	233	16	5	5	386
Construction	148	18	26	166	602	144	5	0	1,109
Trading	219	18	66	127	2,610	84	24	53	3,201
Transport/Commun.	66	4	162	103	1,045	6	28	4	1,418
Finance	46	5	2	0	1,094	37	11	0	1,195
Administration	374	147	140	299	2,814	166	179	154	4,273
Other Services	967	296	128	302	3,658	1,061	216	237	6,865
Total	3,934	676	2,599	3,477	13,355	1,809	476	526	26,842

Source: Report on The Census of Population 1986. Report 2.B, Statistics Office, MOF 1989.

Table II.1.5.10 Average Monthly Earnings of Employment by Province (1991 & 1992)

	Average Monthly Earnings (SI$) 1991	Average Monthly Earnings (SI$) 1992	Increase Ratio (%)
Western	440	510	16
Isabel	358	415	16
Central	460	534	16
Guadalcanal	459	532	16
Honiara	663	769	16
Malaita	420	487	16
Makira	351	407	16
Temotu	542	629	16
Solomon Islands.	544	631	16

Source: Statistical Bulletin (No.7/92) and (No.10/93). Statistics Office, MOF.

1.5.2 Coastal Village Lifestyle

(1) Surveyed villages

Villages with Fisheries Centers were selected nationwide and divided into several groups. Questionnaires were prepared and an interview survey was carried out in the selected villages. The selection criteria included the existence of a monetary economy, small scale commercial fisheries, and the existence of a subsistent economy. The selected villages are listed below.

1) Small-scale commercial fishing villages
   - Honiara Town Council, Kukum village
   - Fishing village in the suburbs of Gizo, Western province

2) Traditional subsistent villages
   - Pututiva village in Seghe, Western province
   - Buala village, adjacent to the provincial capital of Buala, Isabel province
   - Takuwa and Malu'u in Malaita province
   - Village near Kirakira in Makira Province

(2) Summary of village lifestyles and social customs

1) Living environment

The living environment of the villages is given in Table II.1.5.11.

a. Villages on the outskirts of Honiara and the provincial capitals use mainly concrete and wood in their housing and their living conditions are notably good.

b. In the farming villages, traditional housing utilizing the reefs are common, and they are in poor condition.

c. Electric lighting is prevalent in Honiara and the provincial capitals, but kerosene lighting is overwhelmingly predominant in the villages.

d. Communal stand-pipe provide relatively good water supply conditions. However, water shortages frequently occur due to pipe damage and during the dry season.

2) Food habits and preferences

The food habits and preferences of the inhabitants are shown in Tables II.1.5.16.

a. Traditional eating habits where the staple food are a variety of root crops (kumara, pana, cassava, taro, yam s) with a side dish of fish, continue to this day.

b. However, for a segment of the population in the provincial capitals such as Gizo and in the villages on the outskirts of Honiara, rice has become increasingly popular (60 percent of the staple food in Gizo).

c. In terms of food preferences, 70 percent of the population preferred root crop varieties of tuberous roots as the staple food, followed by rice. Nearly 100 percent of the populace preferred fresh fish as the side dish, an indication that traditional food preferences are strongly rooted.

d. Reef fish or pelagic fish are the preferred varieties of fresh fish. Traditional preparations such as stone baked fish, followed by a type of fish soup of coconut milk, is popular. Subsequently, the preference for reef fish which is more suited to local cooking methods, is higher than pelagic fish.

e. The traditional eating practice of the villages is to eat when one is hungry. Generally, the customary practice is to eat a large meal in the evening and to have a light breakfast of pre-prepared taro or other staple foods before going to the fields. Lunch usually consists of fruit taken from a nearby field. Consequently, the main meal is the once a day evening meal. This practice probably evolved due to the lengthy time required to prepare the meal by traditional stone baking.

f. According to the interview survey, 43 percent of the villagers consumed canned fish on an average of once or twice a month, three to five times a month by 39 percent, more than six times a month by 16 percent, and none at all by 14 percent of the respondents. The reasons given for canned fish consumption were good taste by 13 percent of the subjects, cheap price by 42 percent, easy to prepare by 29 percent, and always available by 16 percent of the respondents.

3) Fish production activities

Fish production activities by the inhabitants are shown in Table II.1.5.12.

a. Objective of production activities

According to the 1986 census, 83 percent of the inhabitants of the coastal villages were engaged in subsistent fisheries. In the current survey study, 100 percent of the villages neighboring the capital of Kirakira in Makira Province, 75 percent of the villages in North Malaita, and 50 percent of Buala village near the provincial capital of Isabel Province, were engaged in subsistence fisheries. However, in the Kukum area of Honiara town and Gizo in Western Province, commercial fisheries comprised 100 percent of the fishing operations. Although fishing operations by professional fishermen are viable in the active economic areas of Honiara and the provincial capitals, they are not feasible in the provincial capitals with a sluggish economy.

b. Fishing gear and methods

The use of FRP fishing boats and engine operated canoes are common among professional fishermen based in Honiara and in the suburbs of the provincial capitals, but in the majority of the villages, traditional dugout canoes are used in fishing operations.

The major traditional fishing methods are the hand-lines, trolling, customary nets, underwater fishing (diving), etc.

c. Types of fishing activities

Hand-lines and trolling are carried out by individuals or by small groups of a few fishermen. The use of customary nets are usually carried out by the clan; and fishing is also carried out as community work.

d. Number of fishing days

Fishing operations usually last five days (in good weather) for coastal fishing villages near Honiara and the provincial capitals. In the case of subsistent villages, fishing operations average two to three days, although it may differ according to individuals and sea conditions.

e. Reef utilization rights

There are no restrictions set forth for subsistent fisheries by reef owning villages . However, the permission of the other village chief is required if subsistent fishing operations are carried out in the reefs that belong to another village. For fishery products other than fresh fish (beche de mer, giant clam, crayfish, etc.) harvested for marketing purposes, there are strict restrictions.

4) Cash income level of villages

The cash income level of the villages are shown in Table II.1.5.14.

a. The income level is high for professional fishermen operating near the cities. (In Kukum fishing village, the average monthly income is more than SI$2,000 and SI$1,500 for a fishing village in Gizo.)

b. In subsistent villages and villages near the provincial capitals, the monthly income varies from SI$74 to SI$840. These differences are due to social environmental and geographical factors.

5) Degree of income satisfaction and work volition

The levels of income satisfaction and work volition are shown in Tables II.1.5.14 & II.1.5.15.

a. Unless the income levels were extremely low, the degree of income satisfaction among the subsistent fishing villages tended to be high, irrespective of a low earnings. In contrast, professional fishing villages had a low level of income satisfaction, despite comparatively high earnings.

b. In terms of work volition, nearly 50 percent of the subjects surveyed in Kukum fishing village in Honiara town and other professional fishing villages in Gizo, said they did not want to work more than they do now. At first, this appears to indicate a low work volition. But all of these fishing villages are engaged in fishing five to six days a week, earning relatively high incomes. Thus it is believed that nearly half of the respondents simply expressed an opinion that they did not need to work more than their present levels.

In other villages, more than 80 percent of the respondents stated that they would like to increase their workload if they were able to earn a higher cash income, in spite of income satisfaction. This indicates a very high work volition. Therefore, if given the opportunity and market to carry out fishing activities as a means of earning cash revenue, it is believed that subsistent villages would become more active than they are at present.

Table II.1.5.11 Housing Environment

Province	Honiara	Western	Western	Isabel	Malaita	Makira-Ulawa
Village	Kukum	Fisherman-Village	Seghe (Puttiva)	Buala Vil.	N. Malaita	Kirakikra
Land possession	Government	Government	Clan	Clan	Clan	Clan
Residence	Concrete	Traditional leaves	Traditional leaves	Traditional leaves	Traditional leaves	Traditional leaves
Light	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene	Kerosene
Fuel for cooking	Wood	Wood	Wood	Wood	Wood	Wood
Water supply	Community	Community	Community	Community	Community	Community

Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.5.12 Fishing Activity

Province	Honiara	Western	Western	Isabel	Malaita	Makira-Ulawa
Village	Kukum	Fisherman-Village	Segeh (Puttiva)	Buala Vil.	N. Malaita	Kirakikra
Category	Full time	Full time	Part time	Part time	Part time	Part time
Purpose	Sales	Sales	Subsistence (30%)	Subsistence (50%)	Subsistence (75)	Subsistence (100%)
Fishing days/ week (Ave.)	5 days	5.1 days	4.7 days	2.9 days	3 days	2.3 days
Type of boat						
FRP	80%	Comparatively low	Comparatively low	50%	Comparatively low	Comparatively low
Canoe with engine	40%	80%	Comparatively low	Comparatively low	Comparatively low	Comparatively low
Market	Own village Central market	Beach PFC	Passenger boat Own village or other village	4 retail shops Town market Beach	MDA Own village and other village	Own village Town market
Reef ownership	No ownership	No ownership	Mutual use for subsistence fishing with permission of chiefs (Conflicts exist for *beach der mer*, clams, cray fish)	Mutual use for subsistence fishing with permission of chiefs (Conflicts exist for *beach der mer*, clams, cray fish)	Mutual use for subsistence fishing with permission of chiefs (Conflicts exist for *beach der mer*, clams, cray fish)	Mutual use for subsistence fishing with permission of chiefs

Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.5.13 Farming Activity

Province	Honiara	Western	Western	Isabel	Malaita	Makira-Ulawa
Village	Kukum	Fisherman-Village	Segeh (Puttiva)	Buala Vil.	N. Malaita	Kirakikra
Farmland possession	Government	Government	Customary land	Customary land	Customary land	Customary land
Land condition	Less farmland	• Many regulation for cash crops • For self-supply easy negotiation with clan	• Many regulation for cash crops • For self-supply easy negotiation with clan	• Many regulation for cash crops • For self-supply easy negotiation with clan	• Many regulation for cash crops • For self-supply easy negotiation with clan • Many landless	• Many regulation for cash crops • For self-supply easy negotiation with clan
Main cash crops	None	None	• Copra • Root crops • Vegetable • Fruits	• Copra • Cocoa • Root crops • Vegetable • Fruits	• Copra • Cocoa • Root crops • Vegetable • Fruits	• Copra • Cocoa • Root crops • Vegetable • Fruits
Livestock	None	• Poultry • Pigery not active	• Poultry • Pigery active for sale and self-supply	• Poultry • Pigery active for sale and self-supply	• Poultry • Pigery active for sale and self-supply	• Poultry • Pigery active for sale and self-supply

Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.5.14 Monthly Cash Income

Unit: SI$

Province	Honiara	Western	Western	Isabel	Malaita		Makira-Ulawa
Village	Kukum	Fisherman-Village	Segeh (Puttiva)	Buala Vil.	N. Malaita		Kirakikra
					Takuwa	Maluu	
Average	$2,379	$1,530	$151	$840	$74	$539	$446
Lowest	$300	$100	$60	$0	$16	$80	$220
Highest	$11,600	$3,070	$220	$1,688	$170	$2,570	$815
Source	Fishery	Fishery	Copra	Copra	Copra	Copra/Fishery	Copra

Remarks: Based on survey of an average of 10 households in each village.
Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.5.15 The Will to Work and Income Satisfaction

Province	Honiara	Western	Western	Isabel	Malaita		Makira-Ulawa
Village	Kukum	Fisherman-Village (Gizo)	Segeh (Puttiva)	Buala Vil.	N. Malaita		Kirakikra
					Takuma	Maluu	
Income satisfaction	Satisfy (50%)	Satisfy (50%)	Satisfy (50%)	Satisfy (20%)	Satisfy (30%)	Satisfy (90%)	Satisfy (80%)
Willingness to work (for income)	High (50%)	High (100%)	High (100%)	High (80%)	High (100%)	High (90%)	High (80%)
	Low (50%)			Low (20%)	Low (0%)	Low (10%)	Low (20%)

Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.5.16 Diet

Province	Honiara	Western	Western	Isabel	Malaita	Makira-Ulawa
Village	Kukum	Fisherman-Village	Seghe (Puttiva)	Buala Vil.	N. Malaita	Kirakikra
Staple foods	Mainly root crops	Rice/root crops	Root crops	Root crops	Root crops	Root crops
Preference	Half rice/half root crops	Rice	Root crops	Root crops	Root crops	Root crops
Side dish	Fresh fish	Fresh fish	Fresh fish	Fresh fish	Fresh fish	Fresh fish
Average fish intake	6.6 days	6.3 days	5.7 days	4.3 days	4.95 days	2.3 days
Way of cooking	• Traditional steaming	• Traditional steaming	• Traditional steaming	• Traditional steaming	• Traditional steaming	• Traditional steaming

Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

1.5.3 Land Ownership System

(1) Land system

The land ownership system of Solomon Islands is comprised of a legal system based on the Land and Title Act and a traditional system based on customary laws. Land which has been legally registered is known as registered land and land which is owned and managed according to customary laws is known as customary land.

As of March 1987, nearly 88 percent of all the land in Solomon Islands was customary land and only 12 percent was registered land (Table II.1.5.17).

Customary lands are owned and managed by the clans or communities and the government's policy has been to respect this traditional system of customary land ownership.

Subsequently, in order to guarantee and authenticate customary land ownership rights of the clans and communities, to implement appropriate development and utilization measures for effective use of the land, registration of customary land has been encouraged. However, due to a shortage of manpower, the lack of knowledge in surveying technology and registration procedures, etc., registration of customary land has not progressed. Problems which are inherent in the customary land ownership system are explained below.

1) Since the ownership rights belong simultaneously to the clan and the community, the scope and area covered by exclusive ownership rights are not clear. Subsequently, negotiations for government development projects are lengthy and time-consuming.

2) Due to the aforementioned factor, issues regarding the use of land for cash crop production such as copra, cocoa, etc. and its reversion, are a source of internal and external disputes among the clans.

3) Customary land rights also exist for reefs, lagoons, and other ocean areas. Internal and external disputes over ownership rights of these areas also occur among the clans, particularly for reefs containing bait fish used in fishing skipjack.

(2) Scope and conditions of exclusive land use

The area which has been used by past generations of a clan, determine the scope of its exclusive land rights within a village or between villages; and there are no clear demarcations. The areas are roughly delineated by a river, valley, a large tree, a rock, etc.

Exclusive rights to land within a village or to land between villages are recognized according to the rules explained below.

1) The scope of exclusive land rights lying between villages is the same as that recognized by past generations.

2) In order to use land which belongs to another village, the chief of the village must request and receive permission from the other village chief.

3) The scope of exclusive land ownership by different clans within one village is also recognized.

4) In order to use land which has been recognized as belonging to another clan, the villager must request permission through his chief.

(3) Reef ownership rights

Ownership rights to reefs are strictly enforced in some local areas and moderately restricted in others. Reef rights are strictly enforced in Lao Lagoon in North Malaita. Clans within the same village divide the reefs according to each family and are exclusively used.

However, in areas with a large population, exclusive rights are observed according to each village. If the reefs are located outside village territorial waters, they can be used by fishermen of another clan. However, in the case of shared use between villages, the chief of one village must obtain permission from the chief of the reef owning village.

It is not difficult to obtain permission for subsistent fisheries. However, permission for harvesting specific marine products for commercial use (beche de mer, giant clam, trochus, crayfish, etc.) is rarely given to another village.

The state of commercial fisheries at its present level is seen as an extension of subsistent fisheries and does not pose any problems. However, when commercial fisheries begin harvesting large volumes of fresh fish, it will become a source of friction.

Numerous disputes between clans and families have arisen over ownership rights of reefs which are fishing grounds for bait fish used in harvesting skipjack by STL and others; and arbitration is often carried out by the local courts.

Table II.1.5.17 Land Tenure by Province (1987)

	Provincial Land Area (km^2)	Percent of Solomon Islands Total Land (%)	Registered Customary Land Area (km^2)	Registered Alienated Land Area (km^2)	Total Registered Land Area (km^2)	Percent of Total Land Registered (%)
Western	9,313	(32.8)	10.4	1,091.5	1,101.9	(11.8)
Isabel	4,136	(14.6)	4.3	1,275.1	1,279.4	(30.9)
Central	1,286	(4.5	2.0	228.8	230.8	(17.9)
Guadalcanal	5,336	(8.8)	1.1	546.7	547.8	(10.3)
Honiara	22	(0.1)	-	10.5	10.5	(48.0)
Malaita	4,225	(14.9)	2.9	101.1	104.0	(2.5)
Makira	3,188	(11.2)	0.4	60.1	60.5	(1.9)
Temotu	865	(3.0)	0.02	141.1	141.12	(16.3)
Solomon Islands	28,370	(100)	21.12	3,456.9	3,478.02	(12.3)

Source: Report on The Census of Population 1986. Report 2.B.
Statistics Office, MOF 1989.

1.6 Fish Marketing System

1.6.1 Fish Marketing Volume

(1) Fish supply/ demand volume

1) Fish supply

a. Fresh fish

There is no recorded data on fresh fish production, with the exception of fish purchase volumes, that are recorded by the Provincial Fisheries Centers (PFCs) in the Fisheries Division (FD) annual reports. Fish purchase by provinces for 1988 -1990 and 1992 is summarized in Table II.1.6.1. The annual average purchase for 1989-1992 is about 74 MT, which is less than 10 percent of the projected 840 MT per year, mentioned in the report entitled "Rural Fisheries Development Project, 1981".

The total fish purchase for 1992 by the PFCs and other sources such as Rural Fisheries Enterprise Project (RFEP), Velaviru Producers Development Cooperative Association (VDA), and Malaita Development Authority (MDA) are summarized in Table II.1.6.2. About 203 mt of fresh fish were purchased, of which the PFCs contributed 68.9 mt (34 percent). The RFEP (Marau, Yandina and Tatamba) contributed 89.5 mt (44 percent), VDA 37.6 mt (18 percent), and the OFCF/MDA 7.3 mt (4 percent).

Fish purchase by species in 1992 is shown in Table II.1.6.3. Of the total 68.9 mt of fish purchased by the Fisheries Centers, 28.3 mt (41 percent) was reef fish of grade C; and 14.3 mt (21 percent)was bonito/tuna of grade C, 14.0 mt (20 percent) was red snapper of grade A, and the remaining 12.3 mt (18 percent) were mainly grade C fish, namely mackeral, trevally ,and job fish. The grade A kingfish was only about 1.9 mt.

b. Frozen fish

Frozen fish from the tuna fishery industry is sold to some extent in Honiara by Solomon Taiyo Limited (STL) and National Fisheries Development Limited (NFD). Most of the fish sold are those species unsuitable for canning, principally island bonito, rainbow runner, small size skipjack tuna, and yellowfin tuna. The domestic frozen sales from 1988-1992 is summarized in Table II.1.6.4. Peak sales of STL frozen fish was 680 MT in 1988 which declined to 551 mt in 1991 and 335 mt in 1992. The contribution of NFD frozen fish was 248 mt and 415 mt in 1991 and 1992, respectively, according to the available data from FD. The total

consumption volumes were about 798 mt in 1991 and 750 mt in 1992. Small quantities of frozen fish were imported and in 1991, about 7.4 mt were imported.

The sudden drop of STL frozen tuna in Honiara in 1992 is basically attributed to transport and not to the availability of undersized tuna. These undersized tuna are transported from Noro base. Until 1991 STL utilized charter and their own vessels to transport daily commodities to Noro Base from Honiara on a monthly basis. Simultaneously, frozen bonito/tuna was carried from Noro to Honiara. In 1992 STL stopped chartering vessels as it was not cost effective, and utilized their own vessel. As a result, the supply of frozen tuna dropped. In May 1993, a trader has commenced transporting about 5 mt of frozen fish per trip using Ramos 1 to Honiara.

c. Canned fish

The consumption of canned fish is of major importance in the Solomon Islands. The summary of canned fish supply (domestic and import) is shown in Table II.1.6.5. In 1991, the supply was 1,397 mt, of which 1,215 mt (87 percent) were locally produced tuna and the remaining 183 mt (13 percent) were mainly imported canned mackerel.

2) Fish demand

As part of the study, a fish consumption survey of households in the Honiara and provincial urban centers (Gizo, Auki, Kirakira and Buala) was conducted using questionnaires. The purpose was to obtain estimates of fish consumed in Honiara and the provincial urban centers, frequency of fish in the meals, money spent for fish purchase, etc. A similar study was also conducted by EC in 1992, and some of the results were considered here. There were about 4,720 households in Honiara with an estimated population of 39,600 in 1992.. The results of the survey is shown in Annex-6. In Honiara 83 percent indicated first preference of fish over meat/chicken. With regard to frequency of purchasing of fish products, 43 percent indicated fresh fish, and 57 percent preferred frozen fish. The main reason for not purchasing fresh fish more frequently was the high price in comparison to frozen fish. All the households sampled, consumed canned fish. With regard to money spent for fish purchase each time, 75 percent spent S$12-20 for fish products. The quantity of fish in the meal of a household is estimated at 2.47kg in a family of 6.5 persons or 7 persons, which amounts to 350-380g of fish per person. This quantity more or less corresponds to the study conducted by EC in 1992.

a. Consumption

The per capita consumption of fish was estimated for Honiara (major consumption center) and the provinces. According to the estimated fish product supply of 1,897 mt, including domestic and imported fish (Table II.1.6.6), the per capita consumption was 47.9kg in 1992, based on the Honiara population of 39,600. The corresponding figure for the provinces is estimated at 65kg, based on an estimated average of random sampling surveys; a family of 6.5 persons consumes 2.5 kg of fish per meal, four times a week The general preference is for fresh fish in the provinces. The demand in the provinces was estimated to be about 19,703 mt. It is assumed that imported fish products are consumed in Honiara (Table II.1.6.9).

A summary of imports (1982-1991) mainly canned fish and some frozen fish, expressed in whole weight equivalent, is shown in Table II.1.6.7 The imported volume of both items has decreased from 832 mt in 1982 to 197 mt in 1991, with the exception of more than 1,000 mt in 1985/86 and 1989.

b. Exports

The summary of exported fish products is shown in Table II.1.6.8. The exports are mainly frozen, canned, and some smoked tuna. In 1992, the country exported 21,357 mt of frozen tuna, 9,907 mt of canned fish, and 1,848 mt of smoked fish (whole weight equivalent). The export of frozen tuna is not stable as it fluctuates from year to year. These fluctuations are due to the biological nature of the tuna species such as reproductive cycle and migratory behavior.

3) Supply/demand balance

The supply/demand balance of fish products for 1992 is shown in Table II.1.6.9. The total supply was 54,766mt which comprised 35,899 mt (65.5 percent) of fish products that were marketed; and the remaining 18,670 mt (34.2 percent) were estimated to be the self consumption volume, and 197 mt (0.3 percent) was imported. Of the marketed supply of 35,899 mt, about 62 percent (22,107 mt) was frozen bonito & tuna from commercial fishing, 32 percent (11,427 mt) from canned fish (whole weight equivalent), 5 percent (1,848 mt) from smoked fish (whole weight), and the remaining less than one percent (517 mt) was fresh fish. Imports contributed only less than 0.5 percent of the total supply.

(2) Origin/destination of fish products

The origin and destination of fish production in 1992 for the whole country is shown in Table II.1.6.10. Of the total supply of 54,766 mt in 1992, about 50 percent (27,574 mt) was from Western Province, 23 percent (12,428 mt) was from Central Province, 26 percent (14,567 mt) was from the other provinces, and a negligible amount of less than 0.5 percent (197 mt) was imported fish. Of the total supply of 54,766 mt, about 61 percent (33,166 mt) was exported and 21,600 (39 percent) were consumed in the country. Of the 27,574 mt originating from Western Province, 22,643 mt (82 percent) were exported and was comprised of 10,888 mt (48 percent) of frozen tuna, 9,907 mt (44 percent) of canned tuna, 1,848 mt (8 percent) of smoked tuna, and the remaining 4,931 mt (18 percent) were consumed domestically. Of the 12,428 mt from Central Province, 10,480 mt (84 percent) comprising 10,469 mt of frozen fish from NFD and 11 mt of fresh were exported; and the remaining 1,948 mt (16 percent) were consumed locally.

In 1992, some 1,987 mt of fish products were supplied to Honiara, of which 90 percent (1,700 mt) were produced domestically and 10 percent (197 mt) were imported. The domestically produced fish products consisted of 750 mt (44 percent) of frozen fish, 369 mt (22 percent) of fresh fish, and 581 mt (34 percent) of canned fish. Of the 369 mt of fresh fish supplied to Honiara, about 65 percent (239 mt) originated from Central Province, 14 percent (50 mt) from Isabel Province, 8 percent (31 mt) from Guadacanal Province, and the remaining 13 perent (49 mt) from Choiseul and Malaita Province.

Table II.1.6.1 Volume of Fresh Fish Purchase by FCs (1988-1990 & 1992)

Unit: Kg

Province	1988	1989	1990	1991	1992
Guadacanal	ND	606	ND	ND	ND
Central	ND	11,489	14,196	ND	18,713
Malaita	ND	14,964	8,002	ND	1,648
Makira	ND	ND	ND	ND	2,012
Western	ND	18,786	9,127	ND	15,342
Isabel	ND	16,824	14,078	ND	21,648
Temotu	ND	16,347	21,766	ND	9,542
Total	84,444	79,016	67,168	ND	68,906

Remarks: 1) Figures expressed in whole weight equivalent.
2) FCs; Fisheries Centers

Source: 1) Annual Reports (1988 & 1989) FD
2) Annual Reports, Unpublished (1990 & 1992), FD

Table II.1.6.2 Volume of Fresh Fish Purchases by FCs and Others (1992)

Unit: Kg

Province	FCs	REFP	VDA	OFCF/MDA	Total
Guadacanal	ND	13,992	ND	ND	13,992
Central	18,713	32,481	ND	ND	51,194
Malaita	1,648	ND	ND	7,288	8,936
Makira	2,012	ND	ND	ND	2,012
Western	15,342	ND	ND	ND	15,342
Choiseul	ND	ND	37,556	ND	37,556
Isabel	21,648	43,017	ND	ND	64,664
Temotu	9,542	ND	ND	ND	9,542
Total	68,906	89,490	37,556	7,288	203,239

Remarks: 1) FCs; Fisheries Centers
2) REFP; Rural Enterprise Fisheries Project (EC)
3) VDA; Velaviru Producers Dev. Coop. Association Ltd.
4) OFCF; Overseas Fisheries Cooperation Foundation
5) MDA; Malaita Development Authority
6) Figures expressed in whole weight equivalent.

Source: 1) Annual Reports, unpublished (1992), FD
2) Annual Report, VDA
3) Monthly records of REFP (EC)

Table II.1.6.3 Volume of Fresh Fish Purchase by Species at FCs(1992)

Unit:Kg

	Isabel	Western	Central	Malaita	Makira	Temotu	Total	Percent
Bonito/Tuna (G-C)	140	1,926	3,198	11	64	8,986	14,324	20.8%
Kingfish (G-A)	1,047	118	663	56	0	37	1,920	2.8%
Jobfish (G-B)	5,392	280	2,549	128	0	8	8,357	12.1%
Red Snapper (G-A	7,133	382	5,456	653	56	326	14,006	20.3%
Mackeral (G-C)	0	0	279	0	0	39	318	0.5%
Trevally (G-C)	0	178	1,467	0	8	11	1,663	2.4%
Reeffish (G-C)	7,936	12,459	5,102	800	1,884	137	28,318	41.1%
	21,648	15,342	18,713	1,648	2,012	9,542	68,906	100.0%

Remarks: 1) G-A refers to grade A; G-B to grade B and G-C to grade C.
2) Figures expressed in whole weight equivalent..
3) FCs; Fisheries Centers

Source: Annual Report, unpublished (1992), FD

Table II.1.6.4 Volume of Domestic Frozen Fish Sales in Honiara (1988-1992)

Unit: mt

	1988	1989	1990	1991	1992
January	0.09	66.78	42.61	52.45	19.79
February	4.80	64.60	26.00	59.61	24.89
March	33.19	105.91	52.68	79.92	52.53
April	52.35	25.82	49.08	56.15	27.88
May	49.81	26.01	42.51	72.60	44.74
June	59.41	52.25	60.06	65.83	23.81
July	84.11	39.95	70.73	64.39	5.53
August	59.77	78.95	66.62	ND	23.21
September	94.85	59.06	36.26	ND	18.75
October	91.18	66.34	70.89	15.87	31.10
November	78.20	66.46	59.49	35.17	49.13
December	72.24	26.18	66.68	49.07	13.41
Total (STL)	680.00	678.31	643.62	551.06	334.77
Total (NFD)	ND	ND	ND	248.00	415.00
TOTAL	680.00	678.31	643.62	799.06	749.77

Remarks: ND; No data.
Source: 1) STL & NFD
2) FD, MNR

Table II.1.6.5 Supply of Canned Fish in Solomon Islands (1982-1992)

Unit: mt

Year	Domestic	Import	Total
1982	971	769	1,740
1983	1,052	459	1,511
1984	1,568	676	2,243
1985	1,201	1,121	2,321
1986	1,579	1,315	2,894
1987	1,321	362	1,682
1988	1,746	424	2,170
1989	1,946	1,219	3,164
1990	2,870	178	3,048
1991	1,215	183	1,397
1992	1,520	ND	1,520

Remarks: 1) Quantity expressed in whole weight equivalent
2) Conversion rates of 54% for domestic canned fish & 60% for imported cans.
Source: FD, MNR

Table II.1.6.6 Estimated Supply of Fish Products in Honiara (1992)

Unit: mt

	Supply to Honiara (A)	Export via Honiara (B)	Consumption (A-B)
Fresh Fish			
EC project	67	50	17
VDA	37	3	34
Other source			
- MDA	1	0	1
- Prov. Centers	3	0	3
Fishermen	314	0	314
Sub-total	423	54	369
Frozen Fish			
STL	335	0	335
NFD	415	0	415
Imported	15	0	15
Sub-total	765		765
Canned Fish			
STL	581	0	581
Imported	182	0	182
Sub-total	763		763
Total	1,951	54	1,897

Remarks: 1) Supply of fresh fish by fishermen based on field survey estimate (1993).
2) Supply of canned fish based on 1991 data.
3) Figures expressed in whole weight equivalent.
4) Population of 39,600 (1992) in Honiara
Source: 1) RFEP (EC), STL/NFD, FD
2) Field Survey (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.6.7 Imports of Fish Products to Solomon Islands (1982-1992)

Unit: mt

Year	Canned Fish	Frozen Fish	Total
1982	769	63	832
1983	459	41	501
1984	676	34	710
1985	1,121	59	1,179
1986	1,315	33	1,348
1987	362	9	371
1988	424	12	435
1989	1,219	5	1,224
1990	178	1	179
1991	183	15	197
1992	ND	ND	ND

Remarks: 1) Figures expressed in whole weight equivalent.
2) ND; No data.
3) Conversion rate of 60% for imported canned fish.

Source: FD, MNR

Table II.1.6.8 Exports of Fish Products from Solomon Islands (1982-1992)

Unit: mt

Year	Frozen Fish	Canned Fish	Smoked fish	Total
1982	15,065	1,708	1,324	18,097
1983	29,183	1,527	1,575	32,285
1984	32,532	1,637	859	35,028
1985	26,346	1,703	784	28,833
1986	39,737	1,691	1,206	42,634
1987	26,226	2,182	1,735	30,143
1988	34,516	2,192	1,802	38,510
1989	28,705	2,336	2,034	33,075
1990	11,035	5,079	2,489	18,603
1991	37,882	8,826	1,996	48,704
1992	21,357	9,907	1,848	33,112

Remarks: 1) Figures expressed in whole weight equivalent.
2) ND; No data.
3) Conversion rate of 54% for exported canned fish.

Source: FD, MNR

Table II.1.6.9 Supply/Demand of Fish Products in Solomon Islands (1992)

Unit: mt

	SUPPLY				DEMAND					BAL-ANCE
	Self Consumption	Marketed Fish	Import	TOTAL	Domestic Consumption Hon	Prov.	Sub-total	Export	TOTAL	
1) Fresh Fish	18,670	517	0	19,187	369	18,764	19,133	54	19,187	0
2) Frozen Fish	0	22,107	15	22,122	765	0	765	21,357	22,122	0
2) Canned Fish	0	11,427	182	11,609	763	939	1,702	9,907	11,609	0
3) Smoked Fish	0	1,848	0	1,848	0	0	0	1,848	1,848	0
Total	18,670	35,899	197	54,766	1,897	19,703	21,600	33,166	54,766	0

Remarks:
1) Fresh fish caught by small scale fishermen.
2) Frozen fish produced by commercial fisheries.
3) Per capita of fish consumption of 47.9 kg/year in Honiara.
4) Per capita of fish products of 65 kg/year in provinces.
5) Marketed fresh fish of 517 mt indicated in small/traditional is the sum of 203 mt purchased by FCs & RFEP, VDA, OFCF/MDA and 314 mt from individual fishermen and groups.
6) Figures expressed whole weight equivalent.

Source:
1) FD, MNR
2) RFEP, EC
3) Statistics Office, MOF
4) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.6.10 Origin/Destination of Fish Products in Solomon Islands (1992)

Unit: mt

	Destination Origin		DOMESTIC CONSUMPTION Honaira	Guad	Malaita	Makira	Central	Isabel	Western	Choiseul	Temotu	Rennel & Belona	Sub-total	EXPORT	TOTAL
PRODUCTION	Honiara	Fresh													0
		Frozen													0
	Guad	Fresh	31	3,921									3,952	9	3,961
		Frozen													0
	Malaita	Fresh	12		5,557								5,569		5,569
		Frozen													0
	Makira	Fresh				1,649							1,649		1,649
		Frozen													0
	Central	Fresh	239				1,294						1,533	11	1,544
		Frozen	415										415	10,469	10,884
	Isabel	Fresh	50					1,104					1,154	30	1,184
		Frozen													0
	Western	Fresh	2						3,075				3,077		3,077
		Frozen	335										335	10,888	11,223
		Canned	581	197	279	83	63	54	154	48	55	5	1,519	9,907	11,426
		Smoked												1,848	1,848
	Choiseul	Fresh	34							963			997	3	1,001
		Frozen													0
	Temotu	Fresh									1,096		1,096		1,096
		Frozen													0
	Rennel/Belona	Fresh										108	108		108
		Frozen											0		0
		Fresh	369	3,921	5,557	1,649	1,294	1,104	3,075	963	1,096	108	19,134	54	19,188
		Frozen	750										750	21,357	22,107
		Canned	581	197	279	83	63	54	154	48	55	5	1,519	9,907	11,426
		Smoked												1,848	1,848
	Sub-total		1,700	4,118	5,836	1,732	1,357	1,158	3,229	1,011	1,151	113	21,403	33,166	54,569
IMPORT	Import	Fresh													0
		Frozen	15										15		15
		Canned	182										182		182
	TOTAL		1,897	4,118	5,836	1,732	1,357	1,158	3,229	1,011	1,151	113	21,600	33,166	54,766

Source:
1) FD, MNR
2) RFEP, EC
3) Statistics Office, MOF
4) STL & NFD
5) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

1.6.2 Passenger and Cargo Transport System

The nation of the Solomon Islands is comprised of many islands and due to the undeveloped road infrastructure, transport of cargo between each island and the capital, Honiara (Guadalcanal Province), or between the islands themselves is dependent on ocean transport. Therefore, an analysis of the economic aspects and the existing conditions of the major routes taken by ocean transport is delineated in this section.

(1) Transport service according to routes

Presently, approximately 180 ships which ply the waters between the islands of this nation are registered with the Marine Division of the government. About 150 of the 180 ships are under private ownership. Excluding the large commercial fishing vessels, the lumber transport freighters, the sightseeing and leisure boats, the boats owned by churches, etc., approximately 100 ships of the 150 privately owned boats provide transport service. However, they are mainly small boats of under 20 tons, built more than 20 years ago and only a dozen major ships provide regular transport service (Fig. II.1.6.1).

The major routes taken by regular transport service vessels are shown below.

	Routes	Hours	Charges	
			Passengers	Cargo
Route-1	Honiara ~ Auki (North Malaita)	5~7	SI$20~25/person	Approx. SI$50/mt
Route-2	Honiara ~ Gizo (Western)	10~15	SI$60~70/person	Approx. SI$100/mt
Route-3	Honiara ~ Buala (Isabel)	5~7	SI$25~30/person	Approx. $60~70/mt
Route-4	Honiara ~ Kirakira (Makira)	10~15	SI$40~60/person	Approx. SI$120~140/mt
Route-5	Honiara ~ Marau (Guadacanal)	7~8		
Route-6	Honiara ~ South Malaita	7~8	SI$50~60/person	

As shown in the table above, Route-1 has the highest navigational frequency and although the cargo capacity differs, at least one trip is made regularly on a daily basis. The large passenger ship Ramos I (owned by the Malaita Shipping Company) has been using this route since 1992, but details of its transport data is not known. However, it has greatly affected the other shipping companies where the number of passengers has dropped by one fifth to one tenth in number.

Route -2 is also a major navigational route and it is mainly used by large passenger and cargo ships. One of the major cargo items for the Markwarth Shipping Company which owns two freighters of over 150 tons, is the canned fish produced by Solomon Pacific in Noro. Route 2 is also in operation on this route once a week.

Passenger and cargo ships also utilize Route-3 (Isabel route) and Route-4 (Makira route). The Isabel Development Group of Companies which owns these ships, ply these routes upon request from the local inhabitants and therefore, the service is not regular. Nonetheless, lucrative routes are those that connect to the capital and these routes offset the deficit incurred from the unprofitable routes. Route 4 is also utilized by government transport ships.

Although the volume of cargo transported through Route-5 and Route-6 is not large, the existing demands had made regular transport service available.

As explained in the aforementioned, the private ocean transport services are mainly centered around routes which connect Honiara to each provincial capital; and transport services extending out to small local villages is not available. Furthermore, transport to the remotely located provinces of Temotu, Rennell/Bellona, and Choiseul is also limited. As a result, the unprofitable routes to distantly located provinces are navigated by public transport services run by the central or provincial governments.

In addition, another characteristic of the ocean transport services of this country is that the transport volume varies considerably according to the seasons. It was the general consensus of the marine transport related personnel that normally 50 to 60 percent of the passenger and cargo ratio reaches 120 to 180 percent during the year-end and around June during the vacation period.

(2) Transitions in transport volume on major routes

According to the data of one of the major shipping companies, Isabel Development Group of Companies, on recent transitions in transport volume, the volume of cargo has grown steadily in contrast to the number of passengers which has leveled off or declined. In the past the rise and fall of both passengers and cargo were proportionate to one another, since the copra producers (sellers) would travel to Honiara along with their product. However, recently passengers reflect a different trend (see Tables II.1.6.13 & II.1.6.14); and it is believed that there has been a change in the cargo content and in the types of passengers. Copra has been replaced by an increased volume of other products; and there has been an increase in the transport of daily commodities such as food and fuel due to the rise in population, and of a relative increase in long-term residents in Honiara or a rise in the number of local laborers who wish to reside permanently there. These are believed to be some of the factors which have contributed to the transitions in transport volume

Although copra production improved in 1992, prices have continued to fall (unstable prices) and export volume continues to decline. In contrast, the production and export volume of coconut and palm oil is growing steadily. In addition to the present coconut

production plant in Yandina, CEMA will begin the operation of two more facilities, one of which is the Kirakira plant set to begin operations in mid-1993 (Fig. II.1.6.2, Tables II.1.6.11, II.1.6.12).

It is assumed that the increase in the number of laborers moving to Honiara from the outer provinces has contributed greatly to an increased ratio of employed workers in the capital, and this increased ratio is larger that the increase ratio of its total population. Simultaneously, despite the fact that the total population of all the provinces is increasing, the number of employed workers is declining, with the exception of Honiara.

(3) Financial evaluation of transport vessels

In a comparison of the earnings and expenses of both public and private transport services, one salient fact is the inordinately high ratio of the total expenditures spent on personnel and maintenance costs by public transport services (see Table II.1.6.15).

Boats in the 40 to 50 tons class, belonging to the provincial government had a crew of ten personnel, whereas the privately owned boats of the same class maintained a crew of five members. Government pay scales were 30 to 50 percent higher than the private companies. Furthermore, government's expense on maintenance and repair was more than double that of privately owned boats, which took up a major portion of its expenditures. One of the underlying factors for this may be due to the fact that government boats have been in service for more than 15 to 20 years since their construction. It is estimated that approximately 90 percent of the present deficit can be eliminated, if the number of crew members were decreased, the salaries brought down to the equivalent of the privately owned boats, and the maintenance and repair costs cut down by purchasing new boats. Moreover, it is necessary to raise the relatively cheap public transport fares in some areas, to the same levels as that of private transport.

The aforementioned deficit problems which plague public transport services are believed to be nationwide.

Crew of a 40 to 50 ton boat and their average monthly wages

Unit: SI$

Public		Private	
Captain	1,000	Captain	700
2nd Captain	800	2nd Captain	400
Engineer	1,200	Engineer	500
2nd Engineer	1,000	2nd Engineer	300
Clerk	300	Crew (2)	180
Crew (6)	300		
	6,100		2,260

In addition to keeping down personnel and maintenance costs as a means of raising profits, the private shipping companies specialize in one area, i.e. one company will focus on cargo transport by large ships while another will center their activities on fish transport and sale by small vessels. Efficient management is carried out by implementing a kind of specialized transport which is suited to the scope of the ship.

(4) Issues and countermeasures in marine transport

The issues confronting marine transport are listed below.

1) Improve access between the routes around the islands (on the village level) and the major routes.
2) Provide transport services on a regular basis from a system of services based on request.
3) Cut down personnel costs in public transport.
4) Cut down maintenance and repair costs by purchasing new ships.
5) Improve transport efficiency by taking into consideration the seasonal fluctuations in transport volume.
6) Cope with the changes in transport/cargo content.

In order to resolve these issues, it is necessary to consider the privatization of public transport routes in future. However, it will be difficult for government run transport services to make a profit simply from routes which are important socio-economically. The economically viable routes which tie Honiara with the provincial capitals, as well as regular inner and inter-island transport services must be combined. An important factor is to accurately grasp the scope, content, and characteristics of the routes. All future planning must be based on thorough confirmation of the transport route conditions; and it will be necessary to divide the commercial area of Honiara into 1) the suburbs (North Malaita, Nggela, etc.), 2) remote areas capable of becoming independent (Choiseul), and 3) areas feasible for regular transport (provincial capitals, etc.).

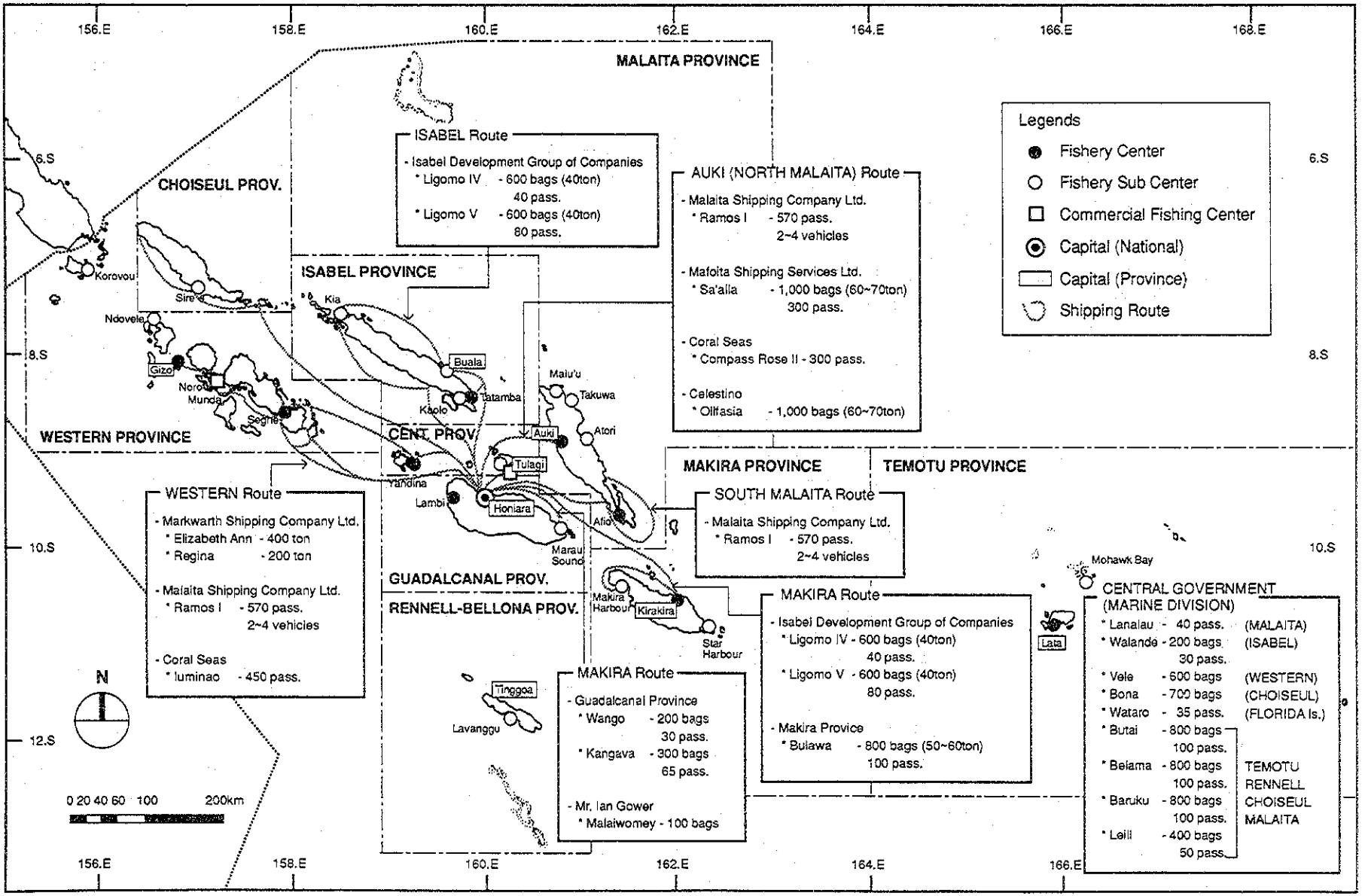
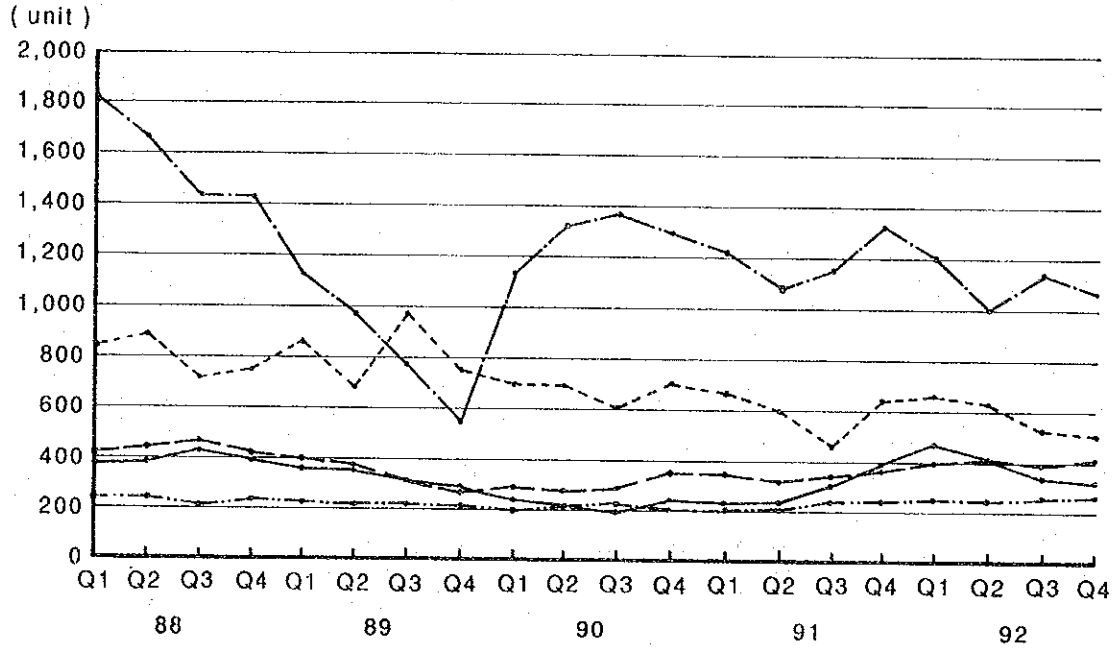


Fig. II.1.6.1 Major Shipping Routes and Transport Vessels of Shipping Company



Legend

——— Copra (US$/m.t)
— — — Palm Oil (US$/m.t)
- - - - - - - Fish (US$/m.t) - average ATSA prices for yellow fin & skipjack supplied by INFOFISH.
——·—— Cocoa (US$/m.t)
——··—— Logs (US$/cu.m) - Malaysian Meranti, Sale price charged by importer, Japan.

Source : Statistics office, Ministry of Finance.

Fig. II.1.6.2 Trends of International Commodity Prices of Selected Commodities

Table II.1.6.11 Production by Major Commodity (1988-1992)

		1988	1989	1990	1991	1992
Copra	(mt)	29,272	33,691	34,306	25,133	29,073
Coconut oil	(mt)	-	21	2,693	2,717	3,879
Palm oil	(mt)	15,227	20,091	22,104	22,518	30,854
Palm kernel	(mt)	3,172	4,476	5,051	4,992	6,781
Cocoa	(mt)	2,639	3,299	3,895	4,615	4,159
Cattle Slaughtered	(Number)	1,354	921	410	295	485
Log Production	(m^3)	310,000	304,000	442,000	336,000	640,000

Source : Statistics Office, MOF

Table II.1.6.12 Volume of Exports by Commodity (1988-1992)

		1988	1989	1990	1991	1992
Total fish	(mt)	38,510	33,075	18,603	37,882	33,112
Frozen		34,516	28,705	11,035	1,996	21,357
Smoked		1,802	2,034			1,848
Canned		2,192	2,336			9,907
Total timber	(m^3)	266,000	265,000	407,000	298,000	553,000
Copra	(mt)	27,137	32,866	29,584	27,000	22,890
Coconut oil	(mt)	-	-	3,027	500	2,499
Palm oil	((mt)	13,591	20,750	23,701	21,735	30,540
Palm kernel	(mt)	3,010	2,914	4,700	4,973	3,742
Cocoa	(mt)	2,620	3,284	3,474	4,297	3,829
Marine shells	(m^3)	563,000	473,000	363,000	17,000	92,000

Remarks : Fish quantity expressed in whole weight equivalent.
Source: 1) Statistics Office, MOF
2) Fisheries Division, MNR

Table II.1.6.13 Number of Passengers and Volume of Cargo Transported by Major Private Shipping Company on the Isabel/Makira Routes

Year		1990	1991	1992	1993	
Number of Vessels		1	2	2 (1)	2	
Isabel route				(est.)	(est.)	(act.)
• Number of round trips	(times)	109	111	101	117	30 *
• Number of passengers	(person)	11,906	14,798	12,809	13,008	2,488 *
• Quantity of cargoes	(mt)	5,163	5,318	5,226	5,859	1,422 *
• Average no. of passengers per trip	(person)	109	133	127	111	
• Share for regular no. of passengers	(%)	136.3	124.1	120.(	104.1	
• Average quantity of cargoes per	(mt)	47	48	52	50	
• Share for capacity of cargo hold	(%)	58.8	60.(	65.(	62.5	
Makira route						
• Number of round trips	(time)	0	54	33	45	8 *
• Number of passengers	(person)	0	2,993	1,706	2,417	393 *
• Quantity of cargoes	(mt)	0	2,713	1,674	2,612	345 *
• Average no. of passengers per trip	(person)	0	55	52	54	
• Share for regular no. of passengers	(%)	0	51.(	48.8	50.6	
• Average quantity of cargoes per	(mt)	0	50	51	58	
• Share for capacity of cargo hold	(%)	0	62.5	63.8	72.5	

Remarks: (1) The major shipping route of this company is Isabel Province route.
(2) Figures in 1992 & 1993 are processed basing on 1990 & 1991 data since all the data for each route are not available.
(As actual figures, only total numbers are available for 1992.)
(3) One of the vessels was not available because of repairs from February to October in 1992.
4) Figures marked by *) show the sum of February, March and April's figures in 1993.
Source : Isabel Development Group of Companies

Table II.1.6.14 Volume of Cargo Transported on Western Routes

			1987			1988	
Freight income (SI$)			1,328,168			1,856,815	
Cargo volume							
1. Annual	(mt)	approx.	13,000		approx.	18,000	
2. Monthly	(mt)	approx.	1,100	(30.1%)	approx.	1,500	(41.6%)
3. Per trip (one-way trip)	(mt)						
1) Elizabeth Ann (capa.: 400 mt)		approx.	120		approx.	165	
20 Regina (capa.: 200 mt)		approx.	60		approx.	85	

Remarks: Estimated figures from Markwarth Shipping Company's annual income data
Source: Markwarth Shipping Company Limited
(Financial Statements as of 31st December, 1988)

Table II.1.6.15 Revenue/Expenditure of Public Shipping Agency & Private Company

(Unit: SI$)

Item	*Provincial Marine Div. in 1991/1992		Provincial Marine Div. in 1990/1991		Private Organization			
					A Company in 1988		B Association in 1991	
Revenue	49,282	(100.0)	273,726	(100.0)	1,957,672	(100.0)	173,092	(100.0)
Freights	29,152		102,317	(37.4)	1,856,815	(84.8)	43,299	(25.0)
Passenger. fares	15,286		83,956	(30.7)	-		6,195	(3.6)
Charter	4,202		31,365	(11.5)	-		-	
Shipping grants	-		53,172	(19.4)	-		-	
Fish trading	-		-		-		111,266	(64.3)
Others	642		2,916	(1.0)	100,857	(5.2)	12,332	(7.1)
Expenditure	309,078		405,085		1,417,339		169,868	
• Operating expenses	275,599	(100.0)	371,900	(100.0)	606,345	(100.0)	100,488	(100.0)
Salaries/wages for crew	145,194	(52.7)	168,606	(45.3)	214,151	(35.3)	35,627	(35.4)
Wharf charges	2,605	(0.9)	9,231	(2.5)	28,949	(4.8)	3,317	(3.3)
Fuel/Oil	52,476	(19.0)	104,701	(28.2)	217,799	(35.9)	41,743	(41.5)
Repairs/ Maintenance	74,804	(27.1)	84,145	(22.6)	33,366	(5.5)	11,474	(11.4)
Insurance for Vessels	-		-		24,625	(4.1)	1,894	(1.9)
License fees	49	(0.0)	798	(0.2)	1,800	(0.3)	2,296	(2.3)
Communication	471	(0.2)	3,171	(0.9)	31,660	(5.2)	2,269	(2.3)
Vessel running exp.	-		1,338	(0.3)	53,995	(8.9)	1,868	(1.9)
• Admin. expenses	33,479		33,095		654,000		16,800	
Salaries/wages	24,000		24,000		185,765		4,130	
Utilities	4,966		1,534		9,847			
Rental fee					54,555		6,142	
Office expense	855		2,482		6,643		980	
Traveling/transport	1,566		2,063		160,178		471	
Others	2,0922		3,016		237,012		5,077	
Loan Interests	-		-		99,869		33,254	
Depreciation	-		-		57,125		19,326	
Profit	-259,796		-131,359		697,327		5,804	Bef. D & I
	-259,796		-131,359		540,333		3,224	Aft. D & I

Remarks : (1) Figures in parentheses are percentages.
(2) Financial Condition of Provincial Shipping shows the debt of SI$184,531 without shipping grants from Central Government.

Source : Makira Provincial Gov., Markwarth Shipping Company (A), Velaviru Producers Co-op (B)

1.6.3 Fish Marketing System

(1) Fish marketing system in Honiara

1) Supply of fish to Honiara

Honiara is the main urban consumption area in the Solomon Islands. The principal markets are the Honiara Central Market, Rove Market, and Kukum Market. The supply of fresh fish to Honiara comes from a number of sources, surplus catches by Rural Fisheries Enterprise Project (RFEP) and catches of local as well as provincial fishermen (Fig. II.1.6.3 & Table II.1.6.17).

There is no recorded data on fresh fish traded in Honiara and therefore, a market survey was conducted twice during the study. The summarized result is shown in Table II.1.6.16.

During market survey-1 the weather was bad with rainy and rough seas. As a result, the landings or the number of eskies to Honiara were minimal. During the survey period of 20 days, a total of 65 eskies of fresh fish were counted for 16 days at Honiara Market (an average of 4 eskies a day). and 26 eskies in 12 days at Rove Market (an average of two eskies a day). During our survey an average of 230 kg of fresh fish were traded per day at the Honiara Market and 128 kg a day in Rove Market.

During market survey-2 which was conducted for 30 days, the weather was fairly good and there were a considerable number of eskies daily. A total of 465 eskies were counted at the Honiara Central Market, but there were no eskies of fresh fish at Rove Market.

The total quantity of fresh fish traded during the 30-day period was 36.20 mt which amounts to an average of 1.21 mt a day. By way of origin about 77 percent was from Central Province (mainly the Florida Islands), 12 percent from Isabel, 8 percent from Guadacanal, and 3 percent from the Malaita provinces. The estimated total of 1.73 mt of fresh fish per day, reported by the EC study in 1992, was higher than the quantity estimated in this survey.

2) Marketed volume of fish

The supply of fresh fish traded in 1992 by various sources is shown in Table II.1.5.17. Of the total volume of 517 mt of which about 72 percent (369 mt) were sent to Honiara, 18 percent (95 mt) were consumed locally, and the remaining 10 percent (54 mt) were exported. The supply of frozen fish was mainly from two

sources, Solomon Taiyp Limited (STL) in Noro and National Fisheries Development Limited (NFD) in Tulagi; and this amounted to 765 mt including import. The total supply of fish including frozen tuna was 1,282 mt (517 mt of fresh fish and 765 mt of frozen fish).

3) Marketing routes to Honiara

The regular marketing routes of fresh fish, particularly of RFEP (Tatamba, Yandina and Marau), and Overseas Fisheries Cooperation Foundation/Malaita Development Authority (OFCF/MDA) are shown in Figs. II.1.6.4-II.1.6.6. The estimated total supply of fresh fish to Honiara in 1992 was about 423 mt. The RFEP contributed about 16 percent (67 mt) of the volume supplied to Honiara, and 9 percent (37 mt) was shipped from Choiseul Province by Velaviru Development Cooperative Association (VDA).

Individual fishermen and groups from Central Province (Florida Islands and Russell Islands), Isabel and Malaita provinces are the major contributors to the fresh fish supply in Honiara. These fishermen are estimated to have supplied about 314 mt of fresh fish (74 percent) out of the total supply of 423 mt, based on the market survey and interview survey (Fig.II.1.6.3). Of the 314 mt of fresh fish, about 80 percent (250 mt) was estimated to be from the Florida Islands (Buena Vista, Sandfly, Big Gela, Small Gela) and Russel Islands of Central Province.

The marketing pattern to Honiara from these islands is shown in Fig. II.1.6.10. Fresh fish landed at these islands are sent directly to Honiara by FRP boats or ship via Tulagi by the fishermen themselves or fishermen groups who purchase from other fishermen.

(2) Local marketing pattern in provinces

1) Gizo (Western Province)

The marketing pattern in Gizo area is shown in Fig. II.1.6.7. There are three main sites for fish caught in the Gizo area, namely Gizo Fisheries Center, the beach next to the market and the Fish Cooperative. Fish purchased by the Fisheries Center from individual fishermen, are sold directly to retail shops, hotels and the general public. The fish landed at the beach is sold directly to the general public. Quality fish landed by cooperative members, such as crayfish and shark fins, are transported to Honiara; and other fish are sold to Fisheries Center.

2) Buala (Isabel Province)

The marketing pattern in the Buala area is shown in Fig. II.1.6.8. The fishermen sell their catch to three retail shops and also sell to the general public at the beaches immediately after landing.

3) Malu'u-Auki (North Malaita)

The marketing pattern in Malaita is shown in Fig. II.1.6.9. There are three marketing patterns for fish caught in North Malaita, particularly in Malu'u ward, which are fish bought by satellite centers for the MDA, fish taken to Honiara by the fishermen themselves, and fish sold to local consumers. The fish purchased by MDA is sold in Auki and quality fish (Grade A) are sent to Honiara (Mendana Hotel).

(3) Price mechanism

1) Production and marketing costs

Two typical marketing patterns of fish earmarked for Honiara and their production and marketing costs were studied (seeTable II.1.6.18).

a. Case 1: Fish harvested in North Malaita and shipped to Honiara
b. Case 2: Fish harvested in Tatamba in Isabel Province and shipped to Honiara

The average catch per trip was about 50kg for fishermen in Malu'u and 80kg for RFEP fishermen. The production cost per kilogram of fish was SI$1.12 for Malu'u fishermen and SI$0.61 for RFEP fishermen in Tatamba.

The marketing costs from the fish landing points to Honiara are given below.

Case 1 - From Malu'u via Auki to Honiara using road and ocean transport.

The estimated marketing cost for one large esky is SI$95.00 from Malu'u to Auki (by road) which includes SI$75.00 for transport and SI$20.00 for ice (five blocks). The cost for one esky by cargo vessel from Auki to Honiara was SI$53.50. The total marketing cost of one kilogram of fish from Malu'u to Honiara was SI$1.49/kg.

Case 2 - From Tatamba (Isabel Province) to Honiara

The estimated marketing cost for one large esky from Tatamba to Honiara is SI$50.00 (approximately SI$0.50/kg of fish).

Profits from the aforementioned two cases are shown in Table II.1.6.19. Marketing grade A fish to Honiara through OCFC/MDA would earn a profit of approximately SI$125 per esky. However, if fishermen directly market their fish to Honiara, they earn SI$379 per esky.

The profit from one esky of fish for RFEP is SI$29.00, though the marketing and fishing costs are comparatively less than OFCF/MDA. The underlying cause for the low profit is a lower selling price than the Honiara Market price.

2) Fish price

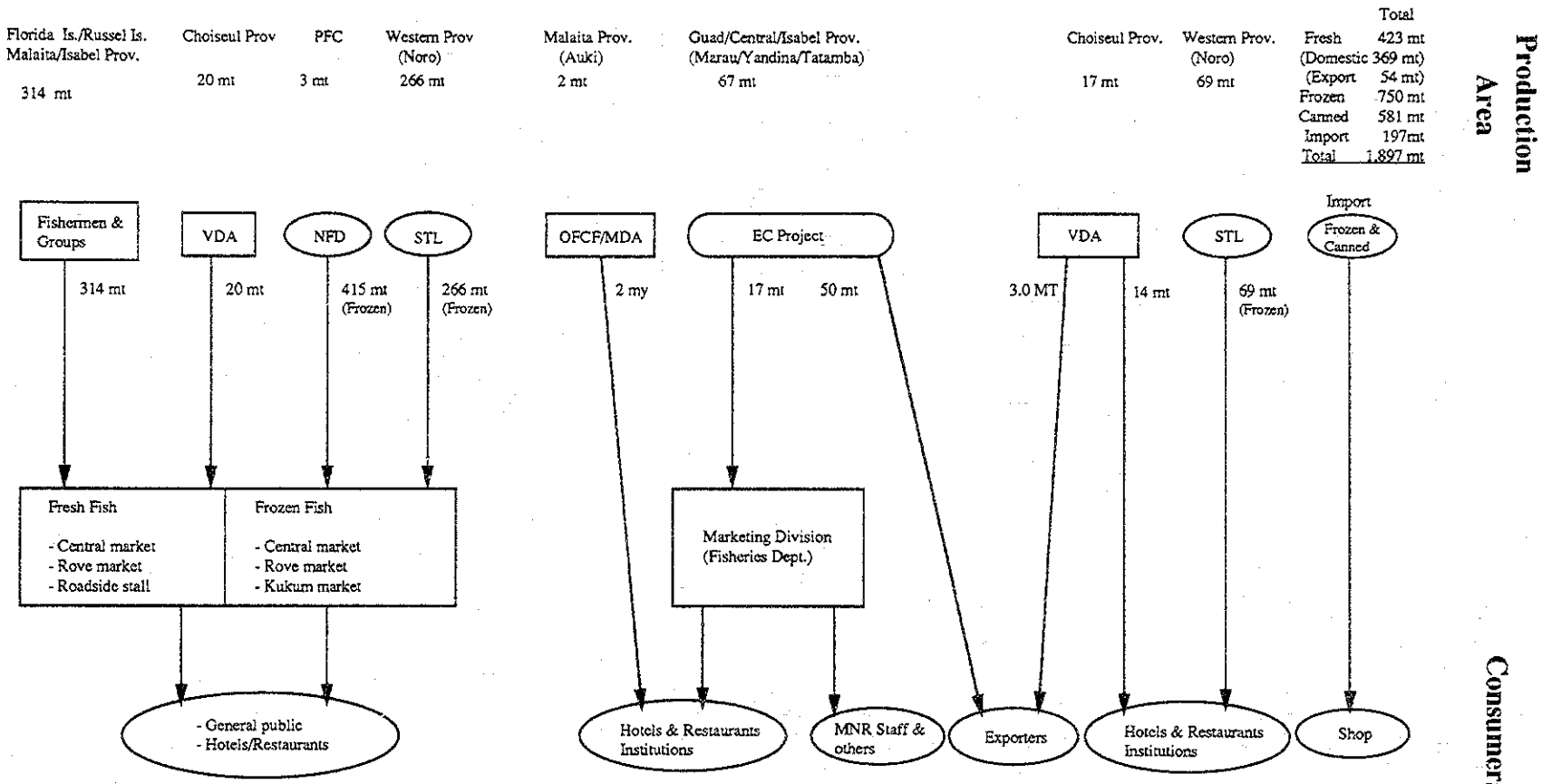
The fresh fish marketing volume was 517 mt in 1992, which is a mere one percent of the total landing volume of 54,569 mt. Of the 517 mt of fresh fish, 94 mt were consumed locally and 369 mt were shipped to Honiara. The market price mechanism is not applicable to the extremely small volume of fresh fish consumed.

As a result, the price is established by the provincial government. The Fisheries Center purchases a small volume of fish from the fishermen and sells it to the local consumers. The price of fresh fish according to grades is shown in Table 2.6.20.

The purchase price of fish at the production site is set by the provincial governments at a standard price of SI$2.10 to SI$2.50/kg for grade A fish and SI$1.80 to SI$2.10/kg for grade C fish.

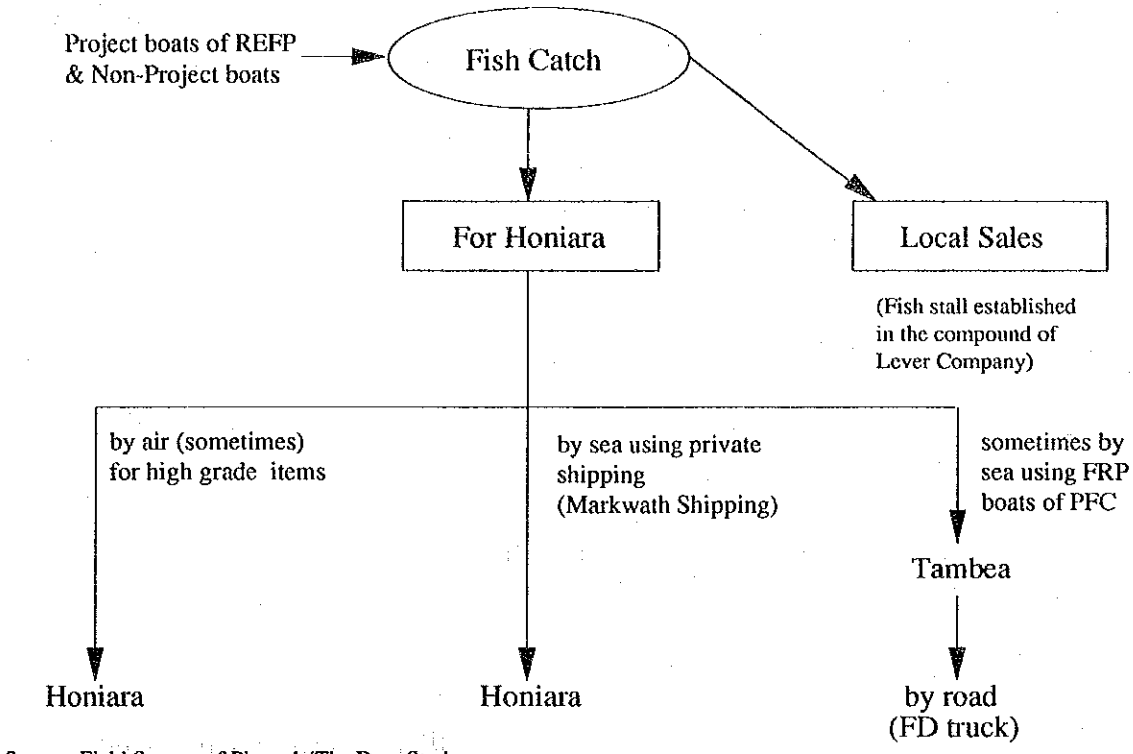
The difference or margin between the local retail price and the purchase price of fish products handled by Fisheries Center and RFEP is set at SI$1.80 to 2.10/kg.

The retail price of fresh fish in the Honiara Market ranges from SI$7.50/kg to SI$8.00/kg. Frozen tuna is sold for about SI$4.00/kg to SI$4.40/kg and it is much cheaper than fresh fish.



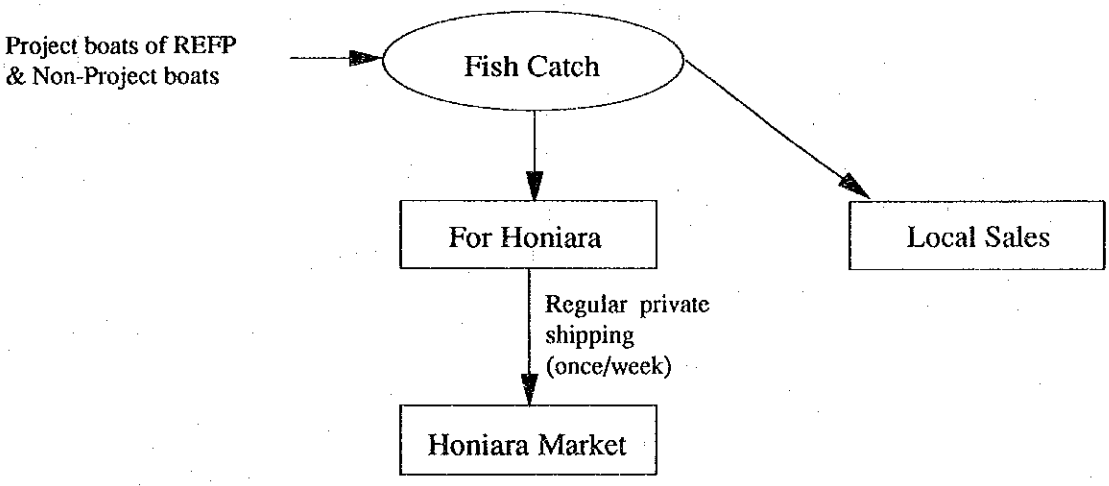
Remarks: Data for 1992 (whole weight equivalent)
Source: 1) Fisheries Division
2) REFP Project (Yandina/Marau/Tatamba)
3) STL & NFD
4) Velaviru Dev. Coop. Association
5) OFCF/MDA
6) Field Survey (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.3 Origin/Destination of Fish Products Supplied to Honiara (1992)



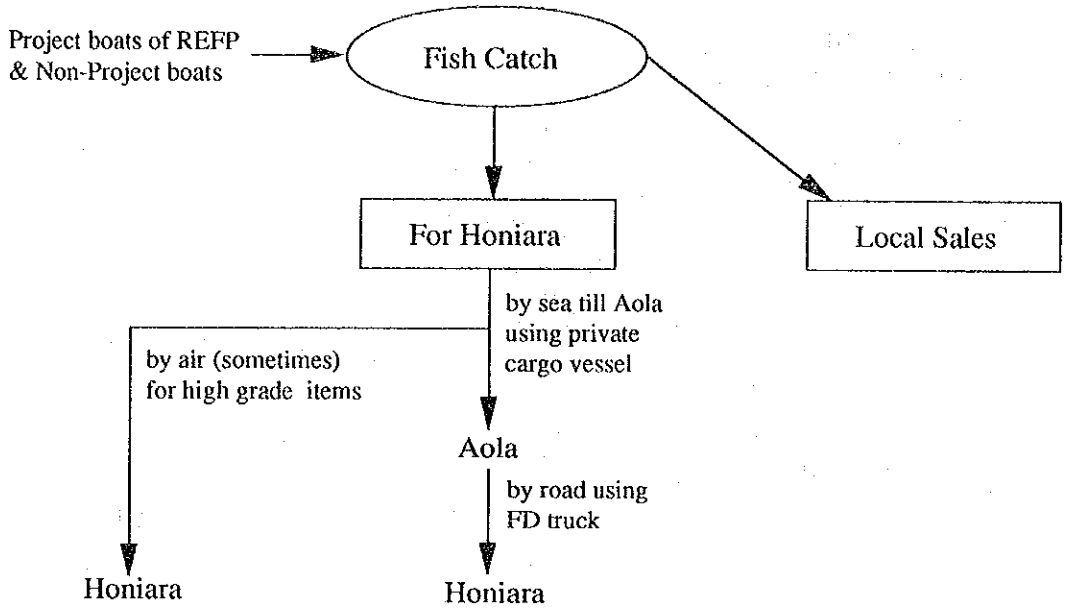
Source: Field Survey of Phase 1 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.4 Fish Marketing Route of Yandina Fisheries Center



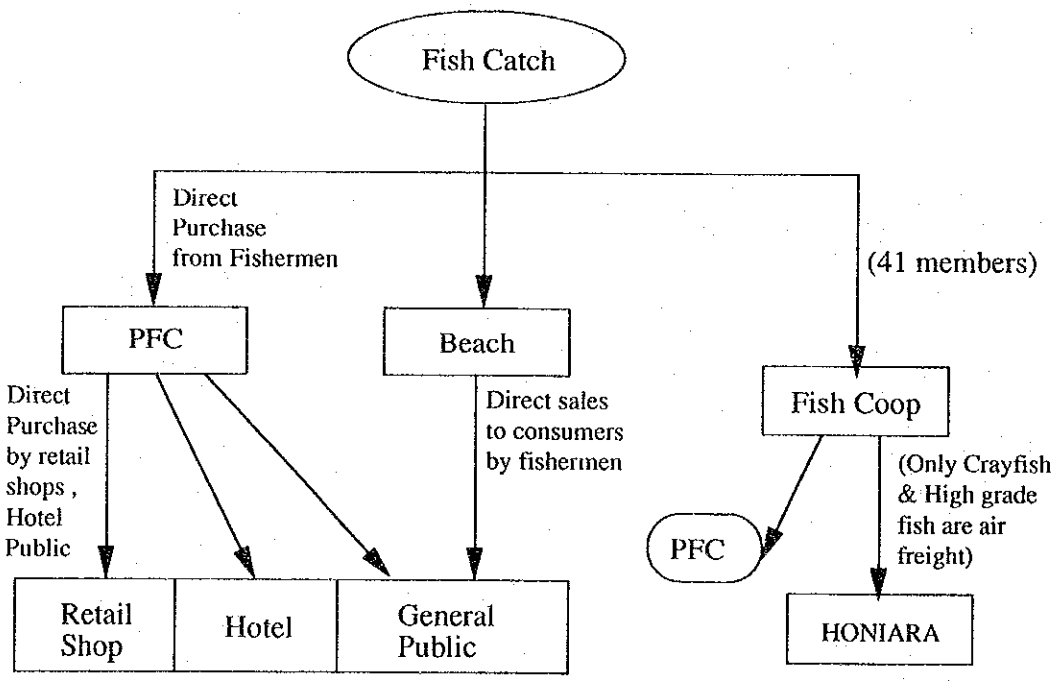
Source: Field Survey of Phase 1 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.5 Fish Marketing Route of Tatamba Fisheries Center



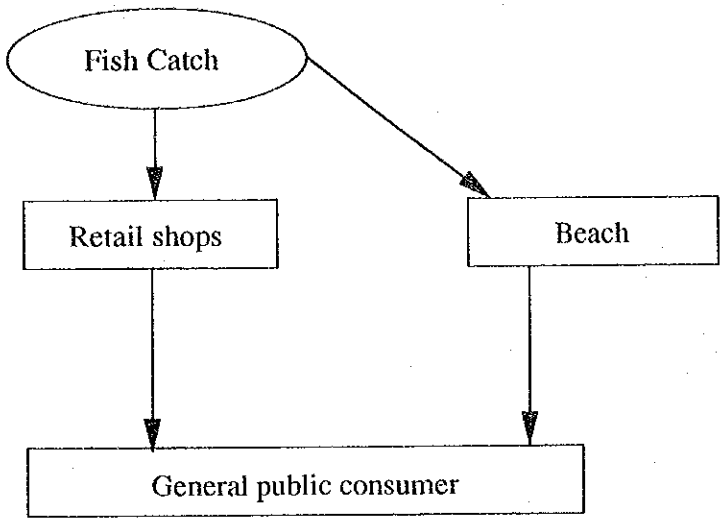
Source: Field Survey of Phase 1 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.6 Fish Marketing Route of Marau Fisheries Sub-Center



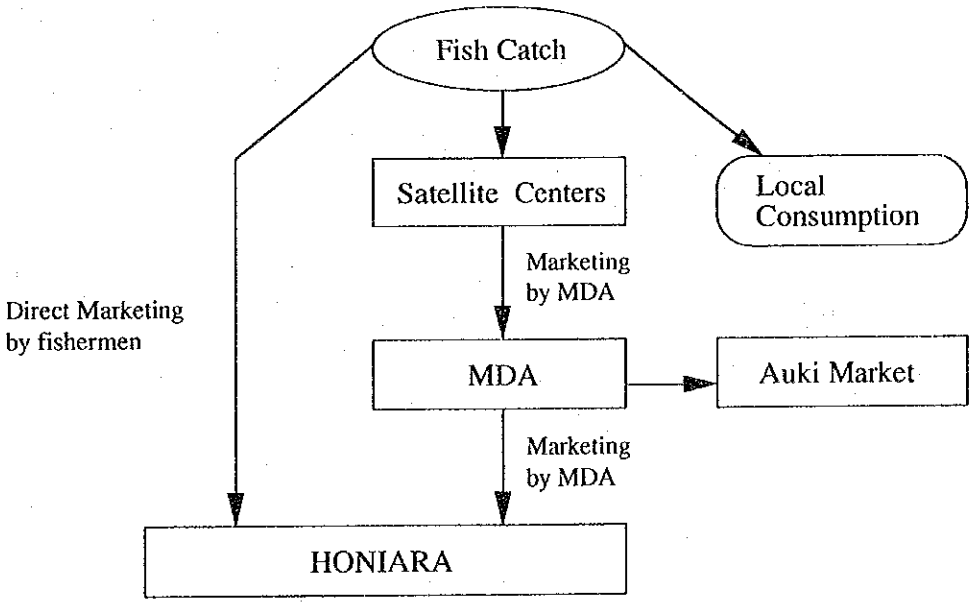
Source: Field Survey of Phase 1 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.7 Fish Marketing Pattern in Gizo Area



Source: Field Survey of Phase 1 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.8 Fish Marketing Pattern in Buala Area



Source: Field Survey of Phase 1 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Fig. II.1.6.9 Fish Marketing Pattern in North Malaita/Auki

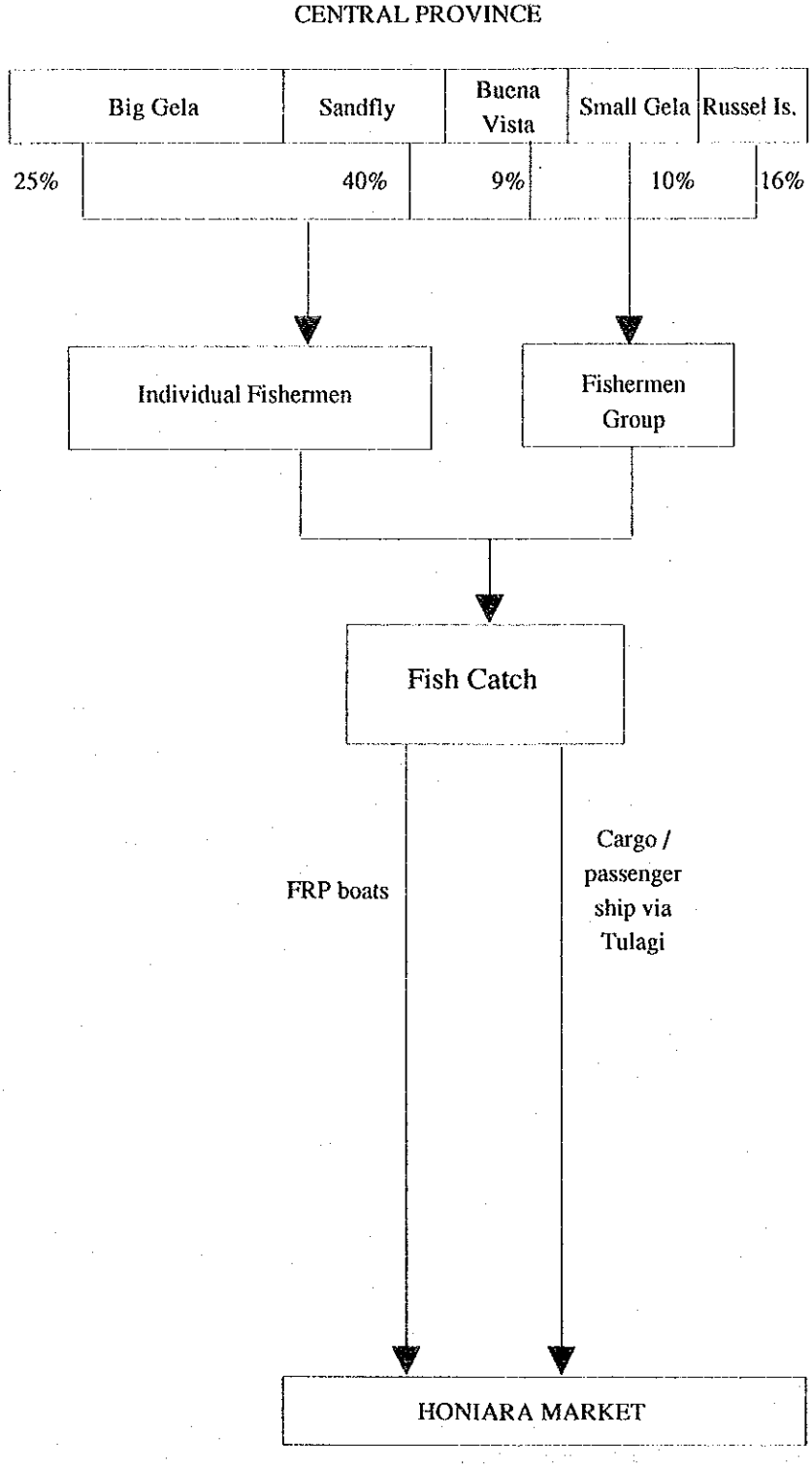


Fig. II.1.6.10 Fresh Fish Marketing Routes in Central Province

Table II.1.6.16 Volume of Fresh Fish Traded During Market Survey at Honiara Central Market and Rove Market

	Days Surveyed	Origin	Quantity (mt) Honiara		Quantity (mt) Rove	
Market Survey-1*	20	Central	2.89	78%	1.24	81%
(June 21-July 12)		Isabel	0.40	11%	0.00	0%
		Guadacanal	0.40	11%	0.18	12%
		Malaita	0.00		0.12	8%
		Total	3.69		1.54	
Market Survey-2	30	Central	27.75	77%		
(Sept 27-Oct 30)		Isabel	4.40	12%		
		Guadacanal	2.95	8%		
		Malaita	1.10	3%		
		Total	36.20			

Remarks: 1) * - During Market Survey-1, only 16 days had eskys with fresh fish.
2) During Market Survey-2, there was no fresh fish esky in Rove market.
Source: Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.6.17 Supply of Fresh Fish and Frozen Fish to Honiara (1992)

Unit: mt

	Prov. F	REFP	Fishermen	Others	Total	L.Cons	To Hon	Export
Fresh Fish								
Malaita	1.65	-	10.00	7.29	19	8	11	0
Makira	2.01	-	-	-	2	2	0	0
Central	18.71	32.48	235.00	-	286	36	239	11
Isabel	21.65	43.02	41.00	-	106	25	51	30
Temotu	9.54	-	-	-	10	10	0	0
Guadacanal	0.00	13.99	28.00	-	42	2	31	9
Choiseul	0.00	-	-	37.56	38	0	34	3
Western	15.34	-	-	-	15	13	2	0
Fresh fish (Total)	68.91	89.49	314.00	44.85	517	94	369	54
Frozen fish								
Western (STL)				335.00	335	-	335	-
Central (NFD)				415.00	415	-	415	-
Import				15.00	15	-	15	-
Frozen fish (Total)				765.00	765		765	
TOTAL					1,282	94	1,134	54

Remarks: 1) Figures expresed in whole weight equivalent.
2) Frozen fish is from Noro base (Western Prov.) and Tulagi (Central Prov.)
3) L. Cons.; Refers to local consumption volume at provincial level.
4) To Honiara.; Refers to consumption volume in Honiara.
5) Export.; Refers to export volume via Honiara.
Source: 1) FD, STL , NFD, MDA, VDA and REFP Records
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.6.18 Fish Marketing Routes and Its Cost

Case-1 Malu'u - via Auki - Honiara Unit: SI$

ORIGIN		Via			DESTINATION
Malu'u/Takuwa	By Road (unpaved) --->		**Auki**	Ocean --->	**Honiara**
Distance					
Transport mode	Truck			Ship	
Time	2.5 hours			5-6 hours (Ramos)	
				10 hours (Salias)	
Transport cost/esky					
Large esky	100 kg $50/esky ($25/empty esky)			$25/esky ($12.50/empty esky)	
Medium esky	$25/esky ($12.5/empty esky)				
Small esky	$10/esky				
Marketing Cost (L)					
Transport	$75.00 /esky			$37.50 /esky	$112.50 /esky
Ice	5 blks $20.00 /esky		4 blks	$16.00 /esky	$36.00 /esky
Total	$95.00 /esky			$53.50 /esky	$148.50 /esky
Cost/kg of fish	$0.95 /kg			$0.54 /kg	$1.49 /kg
Fishing cost/trip					
Petrol	4 gall $44.00				
Ice	2 blks $8.00				
Fishing gear	$4.00				
Total	$56.00				
Catch /trip (kg)	50				
Cost/kg of fish	$1.12				

Case-2 Tatamba - Honiara

ORIGIN			DESTINATION
Tatamba	Ocean --->	Ocean --->	**Honiara**
Distance			
Transport mode	ship	ship	
Time	8 hours		
Transport cost			
Large esky	100 kg $20/esky ($10/empty esky)		
Marketing Cost			
Transport	$30.00 /esky		$30.00 /esky
Ice	$20.00 /esky		$20.00 /esky
Total	$50.00 /esky		$50.00 /esky
Cost/esky	$0.50 /kg		$0.50 /kg
Fishing cost/trip			
Petrol	$36.75		
Ice	$8.00		
Fishing gear	$4.00		
Total	$48.75		
Average catch /trip (kg)	80		
Cost/kg of fish	$0.61		

Source: 1) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands,1993)
2) RFEP, EC

Table II.1.6.19 Cost Analysis of Marketing By OFCF/MDA, Fishermen & RFEP

Marketing - OFCF/MDA		Unit: SI$
	Grade A	Grade B
Volume of fish = 100 kg/esky		
Selling Price (to Mendana)/kg	$6.00	
Sales (esky)	$600.00	
Marketing cost (esky)		
(Malu'u - > Honiara)	$148.00	
Purchase cost of fish (esky)	$300.00	
Profit	$152.00	

Marketing - Fishermen Directly		Unit: SI$
	Grade A	Grade B
Volume of fish = 100 kg/esky		
Retail price (Honiara)/kg	$6.60	$5.00
Sales (esky)	$660.00	$500.00
Fishing cost (esky)	$112.00	$112.00
Marketing cost (esky)		
---> to Auki	$95.00	$95.00
---> to Honiara	$53.50	$53.50
Market fee (Honiara) (esky)	$20.00	$20.00
Profit	$379.50	$219.50

Marketing -RFEP (EC)		Unit: SI$
	Grade A	Grade B
Volume of fish = 100 kg/esky		
Selling Price (to FD) per kg	$4.00	$3.50
Sales (esky)	$400.00	$350.00
Marketing cost (esky)		
(Tatamba - > Honiara)	$50.00	$50.00
Purchase cost of fish (esky)	$260.00	$220.00
Fishing cost (EC) (esky)	$61.00	$61.00
Profit	$29.00	$19.00

Source: 1) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)
2) RFEP, EC

Table II.1.6.20 Fish Price in Production and Consumption Areas

Unit: SI$/kg

	Production Area		Consumption Area				
	Buying Price from Fishermen	Local (Retail Price)	Buying Price from REFP by Marketing Sect. (FD)	Selling Price to SunKing	Selling Price to Mendana Hotel	Selling Price to SICHE	Selling Price to Hospital
1) RFEP Project							
Grade 1 (Exportable)	$3.00						
Grade A	$2.60		$4.00	$4.50	$5.50	$4.70	
Grade B	$2.20		$3.50	$4.00		$4.70	
Grade C	$1.80		$3.00	$3.50		$4.70	

	Buying Price from Fishermen	Local (Retail Price)
2) Gizo (FC)		
Grade A	$2.80	$3.80
Grade B	$2.10	$2.60
Grade C	$2.10	$2.60
Selling price (Noro)		$4.40

	Buying price from Fishermen at Mal'u/Takuwa	Buying price from Fishermen at Auki	Retail price in Auki	Retail price in Honiara
3) North Malaita (MDA)				
Grade A	$3.00	$4.00	$4.50	$6.00
Grade B	$2.50	$3.00	$3.50	
Grade C	$1.80	$2.50	$3.50	

	Buying Price from Fishermen	Local (Retail Price)
4) Buala		
a) Buala Consumer		
Kingfish	$3.00	$3.50
Other species	$2.30	$3.00
b) Ragoso Store		
Kingfish	$3.00	$3.60
Other species	$1.80	$2.80
c) Rifucoti Store		
Kingfish	$3.00	$4.00
Other species	$2.10	$2.80

	Buying Price from Fishermen	Selling Price to SICHE	Selling Price to Hospital
5) Choiseul (VDA)			
Any species	$2.00	$4.20	$4.20

	Retail price in Honiara
6) Honiara Market	
Fresh fish	$7.50-8.00
Frozen fish	$4.00-4.40

Remarks: SICHE; Solomon Islands College of Higher Education

Source: 1) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)
2) RFEP, EC

1.6.4 Fish Quality

(1) Methodology

1) Freshness Test

In order to determine the present condition of fish quality, a freshness test using the K-value and body temperature (inner) of the fish was conducted. Fresh fish from Florida Islands, Tatamba (Isabel Province), Marau (South of Guadacanal Province) Gizo (Western Province), Malu'u (North Malaita), and Auki (capital of Malaita Province) was surveyed in Honiara (the main consumption area) and Auki, a consumption center of Malaita Province as well as a transit point for fish from North Malaita. The species tested are listed in Table II.1.6.21.

2) K-value

K-value test measures the ebb and flow of ATP (Adenosine Triphosphate) which indicates autolysis in the muscles. Although there are other testing methods, the test paper method was selected for simple and quick testing in the field. The K-value of fish just after death ranges from 5 to 10 percent and it increases with temperature and time.

(2) Analysis

The results of the freshness test is shown in Table II.1.6.21.

1) Florida Islands (Central Province)

Tests of fish caught two days before, showed a 10 percent K-value and inner body temperature of 1.5°C. The freshness was good and this was due to the proximity of the production area to Honiara, as well as proper handling by the fishermen.

2) Tatamba (Isabel Province)

Tatamba Provincial Fisheries Center is operated and managed under the REFP project, and the fish tested were eight days old. The K-value was 10 percent and the body temperature ranged from 0.6° - 2.8°C. The high degree of freshness is attributed to the provision of ice, purchase of fish, and proper handling and marketing activities under the REFP project.

3) Marau (Guadacanal Province)

A freshness test was carried out on catch which was 5 days old and the freshness test showed a K-value of 10 percent. The value is similar to that of Tatamba and this center is also operated under REFP.

4) Gizo (Western Province)

In comparison to the other centers mentioned above, the Gizo Provincial Fisheries Center is operated and managed by the provincial government. The fish tested were two to four days old, and the K-value ranged between 20-25 percent. It appears that fishermen do not carry ice on daily fishing trips; and the fish are iced only at the time of purchase from fishermen. This is the cause of a high loss in quality.

5) Malu'u (Malaita Province)

Three day old fish were tested in Auki; and the freshness test showed a 10 percent K-value. The fishermen take ice on their daily trips and the fish are purchased by MDA/OFCF and marketed to Auki as well as to Honiara (only grade A). This freshness level indicates good handling in terms of catch, transport to Auki, and use of ice.

6) Auki (Malaita Province)

As Auki was the transit point for fish marketed from Malu'u, and the fish was repacked and transported by ship. Normally sea transport takes 6-7 hours but in this case the transport was delayed for three days. Therefore, the fish were 7 days old by the time it reached Honiara and the K value was rather high (ranging 15-60 percent).

(3) Conclusion

Quality is influenced by the availability of an ice supply and how the fish is handled at each stage of the fish marketing and distribution system (FMDS), i.e. fishing and handling on board the fishing vessel, transport time and transit points. Overall, the degree of quality in terms of freshness is good.

Table II.1.6.21 Freshness Test (K-value) of Some Selected Species at the Consumption Area

Fish Species		Florida Is. (Central)			Tatamba (Isabel)			Marau (Guad)		
	Grade	K-value	B.T	Days	K-value	B.T	Days	K-value	B.T	Days
1 Rosy Jobfish	A				10%	2.8 °C	8			
2 Small toothed Jobfish	B									
3 Gold tailed Jobfish	A									
4 Redtailed Snapper	B				10%	0.6 °C	8			
5 Two-spot red snapper	B									
6 Long tail red snapper	A									
7 Striped Emperor	B									
8 Longface Emperor	B									
9 Tumbprint Emperor	B				10%	2.4°C	8	10%	8.7 °C	5
10 Emperor fish	B									
11 Lunar rock cod	B							10%	10 °C	5
12 Lunar-tail rock cod	B	10%	1.3 °C	2						
13 Coral trout	A	10%	1.4 °C	2						
14 Stone Fusilier	B									
15 Brown-spot grouper	B									

Fish Species		Gizo (Western)			Malu'u (N. Malaita)			Auki (Malaita)		
	Grade	K-value	B.T	Days	K-value	B.T	Days	K-value	B.T	Days
1 Rosy Jobfish	A									
2 Small toothed Jobfish	B	20-25%	0.2 °C	4						
3 Gold tailed Jobfish	A				10%	0.2 °C	4	15%	1.4 °C	7
4 Redtailed Snapper	B									
5 Two-spot red snapper	B	20-25%	1 °C	2						
6 Long tail red snapper	A				10%	0.6 °C	4	25-30%	0.7 °C	7
7 Striped Emperor	B									
8 Longface Emperor	B	25-30%	4.1 °C	4						
9 Tumbprint Emperor	B									
10 Emperor fish	B	20-25%	4.5 °C	4						
11 Lunar rock cod	B									
12 Lunar-tail rock cod	B									
13 Coral trout	A									
14 Stone Fusilier	B				16%	0.4 °C	4	25-30%	0.4 °C	7
15 Brown-spot grouper	B				30-40%	0 °C	4	50-60%	1.7 °C	7

Remarks: 1) B.T. refers to inner body temeperature.

2) Days refer to number of days after landing.

Source: 1) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

1.6.5 Fish Marketing Information System

The head office of the EC project (Rural Fisheries Enterprise Project) is located in the Fisheries Division in Honiara and communicates with their fisheries project centers (Marau, Tatamba and Yandina) by radio. They have effectively utilized this central to local communication network, to supervise fish harvest, shipping methods, and to grasp the departure and arrival schedules of transport vessels and the present conditions of the Honiara and export markets.

For example, in the shipment of fish products from Choiseul to Honiara by transport ship, the chairman of Velaviru Producers Cooperative Association (VDA) who is based in Honiara, advises his member fishermen (including part-time fishermen) of the appropriate timing for fish shipment by radio; and thereby is able to keep the loss in fish harvest and shipment to a minimum, in addition to raising profits for the transport ship as well.

With the exception of these two cases, a fish marketing information system is nonexistent on a commercial basis.

1.7 Fish Marketing Facilities

1.7.1 Plan to Establish Basic Fishery Facilities

The Rural Fisheries Development Plan enacted in 1981 was responsible for establishing basic fishery facilities in the Solomon Islands. The objectives of this plan were to renovate the existing Fisheries Centers in five locations, to set up eight new Fisheries Centers, install twenty ice making machines, provide 500 ice boxes, and to purchase two vehicles for collecting and transport and one transport vessel. In addition, the Fisheries Division and the provincial Fisheries Divisions planned to construct 14 Fisheries Centers and sub-centers. However, due to limited financial resources of the government, implementation was difficult and the plan had to rely on foreign assistance.

The locations of these facilities are scattered throughout the country and the selection criteria of candidate sites are given below.

- Fishery resources
- Existence of a population engaged in fisheries
- Existence of a market
- Existence of alternative income earning opportunities

Although some slight changes have been made in the existing Fisheries Centers or those presently under construction, building had been implemented according to the original plan. However, some of the existing facilities have terminated operations. At the Annual Conference held in June, 1993 of senior officers of the Fisheries Division and provincial Fisheries Divisions, priority was given on renovating these facilities; and construction of new centers has been postponed for the time being.

1.7.2 Fisheries Centers and Sub-Centers

(1) Summary

There are a total of nine Fisheries Centers, 16 Sub-Centers and two commercial fishing bases in 27 locations throughout the country. Of the 25 facilities, excluding the commercial fishing bases, five are currently under construction. Of the remaining 20 facilities, 11 are in full operation (two with damaged ice-making equipment); two facilities are still under preparation (Buala and Namuka); five facilities have shut down operations due to damaged ice-making equipment (Lambi, Afio, Seghe, Kaolo, Kia); one facility has been closed down due to its remoteness and lack of a consumption market (Aurou); and one facility is being utilized as the provincial fisheries office (Auki) (Tables II.1.7.1 & II.1.7.2).

(2) Condition of the facilities and issues to be resolved

1) Present conditions

a. Buildings

Excluding the recently constructed structures, buildings which were built ten years ago are, on the whole in good condition, despite corrosion of exposed steel-frames and outdoor electrical wiring, damaged window glass, screens, eaves trough, walls, and ceilings.

b. Electrical generator, ice-making equipment, and cold storages

Of the eleven centers and sub-centers in operation, 10 facilities experienced equipment failure after construction. The equipment is currently in operation after the facilities received foreign aid to offset the shortage in repair funds. However, the ice-making equipment of the remaining two facilities (Munda, Tulagi) remain inoperable and their effectiveness as a center has been curtailed.

Generally, equipment has been poorly preserved and corrosion is prominent, since proper anti-rust measures have not been taken. The maintenance of equipment after inspection and repair work have been inadequate and the equipment remains neglected after it has been dismantled.

2) Issues

a. Repair of damaged equipment and buildings has not been carried out and anti-rust measures should be taken. Corrosion in the ice-making equipment is prominent and much of it cannot be repaired and it must be replaced.

b. A system of maintenance and control to supply spare parts for equipment is inadequate and there is a shortage of spare parts.

c. Equipment brands and makers are diverse, making repair and the exchange of parts difficult.

(3) Conditions and issues in management and operations

1) Present conditions

a. Ownership rights

The ownership rights of facilities which have been constructed under foreign aid belong to the central government (Fisheries Division). Although there are facilities which have been built by the provincial governments, it is believed that much of the funding for construction was footed by the central government.

b. Management and operations

The management and operations of each center and sub-center lie with the provincial governments (Fisheries Division); however, the operation of some of the centers have been entrusted to the private sector (Noro).

In addition, the provincial Fisheries Centers and the central Fisheries Division are responsible for the operations of EC and OFCF projects with the support and guidance of EC and OFCF staff members. However, due to a shortage in personnel, EC and OFCF staff members are in charge of actual operations.

c. The provincial government and the Fisheries Department of the central government are jointly in charge of equipment and parts repair. However, in actuality, with only three technicians in the Fisheries Division and a shortage of technicians in each province, compounded by a budget deficit, repairs remain inadequate.

d. The activities of each fisheries center and sub-center, with the exception of the Lata and Gizo, have been curtailed due to non-appropriation of a marketing budget (for purchasing fish) or failure to supply payment despite appropriation.

2) Issues

a. Currently, the EC and OFCF projects are operated by foreign staff members. However, it is necessary to select personnel capable of carrying out responsible management and operations of these facilities after project completion.

b. It is essential to procure a budget to supply capital for activities, in order to vitalize each center.

c. It is necessary to carry out educational/training sessions on inspection and maintenance measures for personnel in charge of each center and equipment operations personnel.

Table II.1.7.1 Present Status of Facilities of Fisheries Center/Sub-Center (1993)

	Name of Center	Center/ Sub-Center	Administrative Location	Construction / Installation				Rehabilitation	
				Building Year	Source of Fund	Equipment Year	Source of Fund	Rehabilited year	Source of Fund
	Western Prov.								
1	Gizo	C	P.H.	1984	JAPAN	1984 1984	JAPAN AIDAB	1992-1993	OFCF
2	Koravou	S	P.S.	1992	USAID	Under Const.	USAID	–	–
3	Munda	S	P.S.	1986	PG.	1984	PG.	–	–
4	Seghe	S	P.S.	1984	JAPAN	1984 1984	JAPAN AIDAB	–	–
5	Noro	S	V	1992	JAPAN	1992	JAPAN	–	–
6	Noro	Com.	V	1976	STL	1976	STL	–	–
	Choisel Prov.								
7	Sire	S	V	1990	PG.	Under Const.	PG.	–	–
	Malaita Prov.								
8	Auki	C	P.H.	1978	JAPAN	–	–	–	–
9	Afio	S	P.S.	1984	JAPAN	1984 1984	JAPAN AIDAB	–	–
10	Atori	S	P.S.	Under Const.	USAID	Under Const.	USAID	–	–
11	Malu'u	S	P.S.	1986	PG.	1992	OFCF	1992	OFCF
12	Takwa	S	P.S.	1989	PG.	1992	OFCF	1992	OFCF
	Makira Prov.								
13	Kirakira	C	P.H.	1984	JAPAN	1984 1984	JAPAN AIDAB	1992	OFCF
14	Aurou	S	V	1986	PG.	–	–	–	–
15	Namugha	S	P.S.	1993	USAID	Under Const.	USAID	–	–
	Isabel Prov.								
16	Tatamba	C	P.S.	1984	JAPAN	1984 1984	JAPAN AIDAB	1990/1992	EEC/OFCF
17	Kia (Bohana)	S	P.S.	1986	PG.	1986	AIDAB	–	–
18	Kaolo	S	V	1986	PG.	1986	PG.	–	–
19	Buala	S	P.H.	1993	USAID	1993	USAID	–	–
	Guadalcanal Prov.								
20	Lambi	C	P.S.	1984	JAPAN	1984 1984	JAPAN AIDAB	1987	OFCF
21	Marau	C	P.S.	1978	PG.	1990	USAID	–	–
	Central Prov.								
22	Yandina	C	P.S.	1984	JAPAN	1984 1984	JAPAN AIDAB	1990/1992	EEC/OFCF
23	Tulagi	S	P.H.	1978	PG.	1984	AIDAB	–	–
24	Tulagi	Com.	P.H.	1973	STL	1973	STL	–	–
	Rennell Prov.								
25	Lavangu	S	P.H.	Under Const.	USAID	Under Const.	USAID	–	–
	Temotu Prov.								
26	Lata	C	P.H.	1984	JAPAN	1984 1984	JAPAN AIDAB	1992	OFCF
27	Mohawk Bay	S	V	Under Const.	USAID	Under Const.	USAID	–	–

Source : 1) Fisheries Division
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Remarks : C : Fisheries Center
S : Fisheries Sub-Center
PH : Provincial Headquarter
PS : Provincial Sub-station
V : Village
CG : Central Government
PG : Provincial Government

Table II.1.7.2 Present Status of Operation/Management of Fisheries Center/Sub-Center (1993)

	Name of Center	Owner-ship	Operational Condition						Manage-ment Body	Opera-tion Body	Mainte-nance Body	On going Technical Assist.
			Bldg.	IP	CS	GE	Jety	Marketing				
	Western Prov.											
1	Gizo	C.G.	○	○	○	–	○	Active	PG	PG	PG/FD	JOCV
2	Koravou	C.G.	⊗	Δ	–	Δ	–	–	PG	–	–	USAID
3	Munda	P.G.	○	○	–	–	–	In Operation	PG	PG	PG/FD	–
4	Seghe	C.G.	○	XR	⊗	R	R	Not in Operation	PG	PG	PG/FD	–
5	Noro	C.G.	○	⊗	○	–	–	Active	PG	STL	STL	JICA
6	Noro	STL	○	○	○	○	○	Active	STL	STL	STL	–
	Choisel Prov.											
7	Sire	PG	○	Δ	–	Δ	–	–	PG	PG	PG/FD	–
	Malaita Prov.											
8	Auki	CG	○	–	–	–	–	In Operation	PG	PG	PG/FD	–
9	Afio	CG	○	XR	⊗	R	R	Not in Operation	PG	PG	PG/FD	–
10	Atori	CG	Δ	Δ	–	Δ	–	–	PG	–	–	USAID
11	Malu'u	PG/CG	○	○	–	–	–	Active	PG	OFCF	OFCF	OFCF
12	Takwa	PG/CG	○	○	–	○	○	Active	PG	OFCF	OFCF	OFCF
	Makira Prov.											
13	Kirakira	CG	○	○	○	–	–	Active	PG	PG	PG/FD	–
14	Aurou	PG	⊗	–	–	–	–	Closed	–	–	–	–
15	Namugha	CG	⊗	⊗	–	⊗	⊗	Operational	PG	–	–	USAID
	Isabel Prov.											
16	Tatamba	CG	○	○	○	○	○	Active	PG	EEC	EEC	EEC
17	Kia (Bohana)	PG	○	XR	XR	R	–	Not in Operation	PG	PG	PG/FD	–
18	Kaolo	PG	⊗	XR	–	XR	–	Not in Operation	PG	PG	PG/FD	–
19	Buala	CG	⊗	⊗	–	–	–	Operational	PG	PG	PG/FD	–
	Guadalcanal Prov.											
20	Lambi	CG	⊗	XR	XR	XR	R	Not in Operation	PG	PG	PG/FD	–
21	Marau	PG/CG	○	○	○	○	○	Active	PG	EEC	EEC	EEC
	Central Prov.											
22	Yandina	CG	○	○	○	○	○	Active	PG	EEC	EEC	EEC
23	Tulagi	PG	○	XR	–	–	–	In Operation	PG	PG	PG/FD	–
24	Tulagi	NFD	○	○	○	○	○	Active	NFD	NFD	NFD	–
	Rennell Prov.											
25	Lavangu	CG	⊗	Δ	–	Δ	–	–	–	–	–	USAID
	Temotu Prov.											
26	Lata	CG	○	○	○	○	R	Active	PG	PG	PG/FD	–
27	Mohawk Bay	CG	○	Δ	–	Δ	–	–	–	–	–	USAID

Source : 1) Fisheries Division
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Remarks : CG : Central Government
PG : Provincial Government
Bldg. : Building
IP : Ice Making Machine
CS : Cold storage
GE : Generator

○ : Completed & in use
⊗ : Completed & not yet in use
X : Not in use
R : Need rehabilitation
Δ : Under construction

1.7.3 Honiara and Other Regional Markets

(1) Markets surveyed and study approach

1) Surveyed markets

The three markets of Honiara Central, Kukum, and Rove markets were surveyed. In addition, a study of the markets in the provincial capitals of Gizo and Auki which were comparatively active and functional, was also carried out.

2) Study approach

a. Collected existing data on the market from the provincial and central government offices in Honiara and the provinces.

b. Implemented an interview survey of retailers and consumers at the market.

(2) Products transacted at market

The variety of products sold at the markets were mainly fruits, vegetables, root crops, fish, livestock, etc. In addition, a canteen and a daily commodity shop were seen at the Honiara Central and Gizo markets.

(3) Honiara markets

1) Location and inter-connections between markets

There are currently three markets located in central Honiara, Rove, and Kukum in the capital of Honiara. These markets are located along the Mendana Highway that connects west Honiara to the eastern area, Mendana Avenue, and Kukum Highway. All three markets are connected by a small bus that charges a flat rate of 60 cents per passenger. All the residents of Honiara can get to any of the three markets in 15 minutes; and therefore, they are vital to the production areas which are directly linked to the markets. Due to the rapidly burgeoning population of Honiara, all three markets are confronted with problems over land area, function, etc. Subsequently, the project to improve the Honiara market is crucial as a means of improving its infrastructure to enhance its services for its inhabitants (see Fig. II.1.7.1-II.1.7.2).

2) Honiara Central Market

The location of the Honiara Central Market is shown in Fig. II.1.7.3. and Table II.1.7.3.

a. Land area: The market is located in the central part of Honiara Town, and it lies between Mendana Road, the Town's arterial road, and the coast. The SIPA

mooring jetty, with a width of 7.5m and a length of 40.0m, located on the coastal west side of the market area is deterioated. The lower reinforced support of the concrete slab is exposed and needs to be repaired. The coast is naturally divided by a 60 to 70cm rock partition. During seasonal transitions and changes in sea conditions, sand from the Mataniko River approximately 300m away accumulates on the east side of the market area. Occasionally, due to changes in the sea current, the coral reefs become exposed and small FRP boats are unable to land. Fishermen must carry out the difficult and arduous task of hauling in their 200kg eskys to the land area.

The area of land occupied by the market is enclosed by the road, the coast, and the adjacent boundary; and it encompasses an area of 0.84ha.

The market is under the management of Honiara Town Council and there are three sections within the market which are leased to the private sector. Presently, these sections are occupied by an ice cream shop, a restaurant, a meat processing and storage facilities, etc.

The jetty is managed by Solomon Islands Port Authority (SIPA).

b. Market hall: Renovations have been implemented periodically. Although there are 19 small, roof-covered market stalls (920m^2), the majority are fruit and vegetable stalls. The area is much too small to accommodate all of the approximately 400 retailers there; and on Fridays and Saturdays which are the peak market days, nearly half of the retailers sell their wares outdoors, displaying them on the ground.

Retailers begin bringing in their goods to the market around 3 A.M. Stall locations are taken on a first come first serve basis, with early arrivals occupying the best locations. By 6 A.M., all of the roof-covered stalls are taken. Retailers who arrive later set up and display their wares in the parking area.

In addition to fresh fish, frozen fish such as skipjack is brought in indirectly from Taiyo Solomon based in Noro and NFD in Gela on Florida Island. All frozen fish is transported to the market in eskys and are sold frozen, packed in ice. Ice is purchased from the ice shop adjacent to the market and used by fish retailers to maintain fish freshness.

c. Shops and offices: Stores and offices are housed in one building containing 13 continuous rooms, each with a front of 2 to 3m and a depth of 3m. Eight of the

13 rooms are occupied by shops selling daily commodities, and six rooms are used to store fruits and vegetables. However, storage capacity is insufficient, in view of the volume of produce brought to the market. The one remaining room is used as an office for market administration. Originally built as a storage room, it has been converted into office space. However, ventilation is poor and it is unsuited as an office.

d. Canteen/Ice cream shop: Both are housed in a separate building. Private individuals have leased the space from the Town Council. Both facilities have a storage space and small refrigeration facilities.

e. Drainage/sanitation facilities: There are only two usable water pipes in the market and the sewage pipe is broken. Some of the sewage water has overflowed into the market area. The toilet facilities are also inadequate in view of the number of retailers and customers utilizing the market; and waste water treatment facilities are deficient. Waste water simply runs out onto the shore and the sanitary conditions of the beach front is poor.

f. Lighting facilities: Lighting facilities are nonexistent and retailers who arrive early set up their wares in the dark.

g. Parking area: Although the parking area is sufficient to meet marketplace needs from Monday to Thursday, nearly half of the area is occupied by produce sellers and their goods on the peak days of Friday and Saturday.

h. Paving within the market: The roofed enclosures are paved in concrete, but the exposed areas such as the parking lot are unpaved; and mud and water holes make walking difficult on rainy days.

i. Ice making facilities: Presently, there are two ice making plants in Honiara Town and there are two ice retailers located near Honiara Central Market (selling ice for the eskys). The price of their ice is expensive in comparison to Fisheries Centers prices on the outlying islands.

In addition to fresh fish, ice is also being used for refrigerating coconuts, etc. and the demand for refrigerated products is gradually rising. It is anticipated that there will be a shortage of ice in the near future.

j. Refrigeration facilities: Fresh fish is packed in ice and preserved in eskys when it is marketed. Although frozen fish is also sold in eskys, ice is not utilized.

k. Other facilities: There are privately operated shops such as meat shop, daily commodity store, ice shop, etc. around Honiara Central Market.

3) Honiara Rove Market

The location of Honiara Rove Market is shown in Fig. II.1.7.4. and Table II.1.7.3.

a. Market land area: The market is located in the western area of Honiara Town on a narrow strip of land, lying between Tendai Highway and the coast. Surrounded by a road, the adjacent boundary, and coast, it occupies an area of about 0.5ha. The market is under the management of Honiara Town.

There are no fish landing facilities here due to high waves that occur throughout the year, which make the area unsuitable for such facilities. However, when the waves are moderate, small FRP boats are able to maneuver between the coastal reefs to unload their eskys.

b. Market hall: There are only a few small roofed enclosures selling spices and condiments. Fruits, vegetables, and fish are sold outdoors on unpaved ground. Fish is sold in eskys. There are no public facilities, including toilets and only one stall for storing cleaning equipment.

c. Facilities: There are lighting or waste water facilities.

4) Honiara Kukum Market

The location of Honiara Kukum Market is shown in Fig. II.1.7.5 and Table II.1.7.5.

a. Market area: The market is located in the eastern area of Honiara Town Council and it is about 100m inland from the Kukum Highway. Shaded by large trees, it is the busiest market following Honiara Central Market.

It encompasses an area of 0.14ha and occupies both sides of a road that runs perpendicular to the main road. The actual market space is only slightly larger than the Rove Market.

b. Market hall: Buildings include a 20m x 30m enclosure housing a few dry goods and daily commodity shops, a simple canteen and daily commodity shop, and public toilet. All fruits, vegetables, fish, etc. are sold outdoors and there are no roofed stalls.

c. Drainage/sanitation facilities: There is only one standing water tap, about 60 cm high in the market which is used for washing vegetables and fruits, as well as hands. Sewage water drains out through a simple gutter running along the road and feeds into an open drain. Waste water from the toilet is treated through a simple waste water tank and drained. The toilet cannot be locked and is not often used.

d. Paving within the market: The market compound is unpaved.

e. Other facilities: There are no lighting facilities.

(4) Other markets

The provincial markets are located in towns or villages where there is a concentration of population; and they provide the local inhabitants with food supplies. In areas where there is a large number of salaried workers, the markets are developed. In markets where the transport system is well established, a variety of products can be found. A characteristic of the markets in the Solomon Islands is that they are administered by the government; and retailers are also producers that bring in their goods directly to the market from the production areas. Markets which are administered by the government, excluding the Honiara markets, are given below.

1) Gizo Market

The Gizo Market is located in the center of Gizo facing the main road which runs along the coast. The post office, bank, hotel, and private shops are found nearby. Its land space is narrow and lies between the main road and the coast. However, renovations such as its roof covered stalls and wharf construction on the shore have been implemented (see Fig. II.1.7.6). The market has the most facilities following the Honiara Central Market. However, during the peak market days of Friday and Saturday, produce is sold under the trees which line the side road in the market compound. It is anticipated that the current market area is insufficient to meet its future needs.

Fish is sold from the fishing boats docked along the shore in front of the market, despite the provision of market stalls for fishery products. Therefore, new measures in market operations need to be devised. The majority of the produce sold in the Gizo Market is brought in by boat from other parts of the island or from neighboring islands.

2) Auki Market

The land area of Auki Market is larger than that of Gizo Market. Nearly 70 percent of the produce marketed is displayed outdoors and the standard of market facilities is low (Table II.1.7.3). The fish stalls are managed by the MDA and they are provided with a showcase, freezer box, and refrigerator. However, reef fish is mainly sold and the volume is minimal. At the open fish market removed from Auki Market, a large volume of skipjack is sold.

(5) Management/operations

The markets in Honiara were built, managed, and operated by the municipal government. Although the Auki and Gizo markets were built by the provincial government, Gizo Market is administered and operated by the municipal government of Gizo; and the Auki Market is administered by the provincial government, and operated by MDA (see Table II.1.7.4). The market fee paid by retailers are given in Table II.1.7.4. The operating hours for all the markets are from 6 A.M. to 6 P.M., six days a week with the exception of the Kukum and Rove markets.

Each market is managed by a town council officer known as the Market Master; and the markets in Honiara also retain a management and operations advisor.

Garbage which is generated at the market is disposed of by the Town garbage truck after the market has closed.

(6) Issues to be resolved

The markets of Honiara and the provinces need to be renovated and improved. Some of the major issues which must be resolved are given below.

1) The land area occupied by the markets is narrow.

2) The market halls are too narrow for selling produce and they are unable to accommodate all the retailers. Subsequently, the roads and parking areas are used to sell produce.

3) Produce which is displayed outdoors is more prone to damage and spoilage; and both retailers and customers are inconvenienced on rainy days.

4) The market administration offices are rudimentary. Although there is space allocated for an office at the Honiara Central Market, it is unsuited to office needs and functions.

5) The capacity of the produce storehouse at the Honiara Central Market do not meet the needs of retailers.

6) There are no water supply facilities and waste water treatment facilities at the market halls.

7) Toilet facilities are deficient.

8) The market compound is unpaved and becomes muddy on rainy days.

9) All markets have no lighting facilities; and retailers arriving prior to 6 A.M. must set up their wares in the dark. Safety measures are also required.

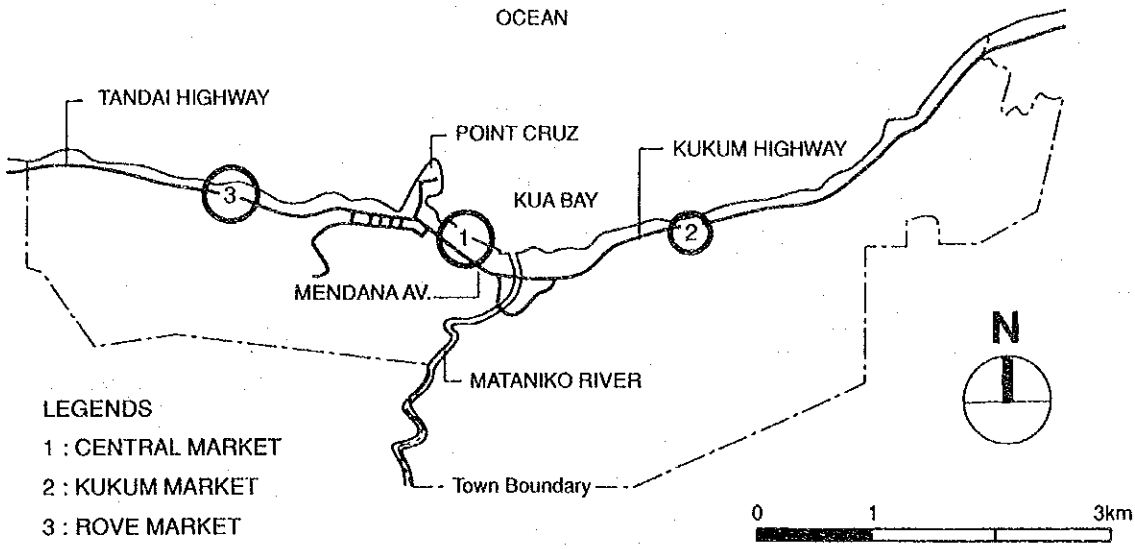


Fig. II.1.7.1 Location of Markets in Honiara

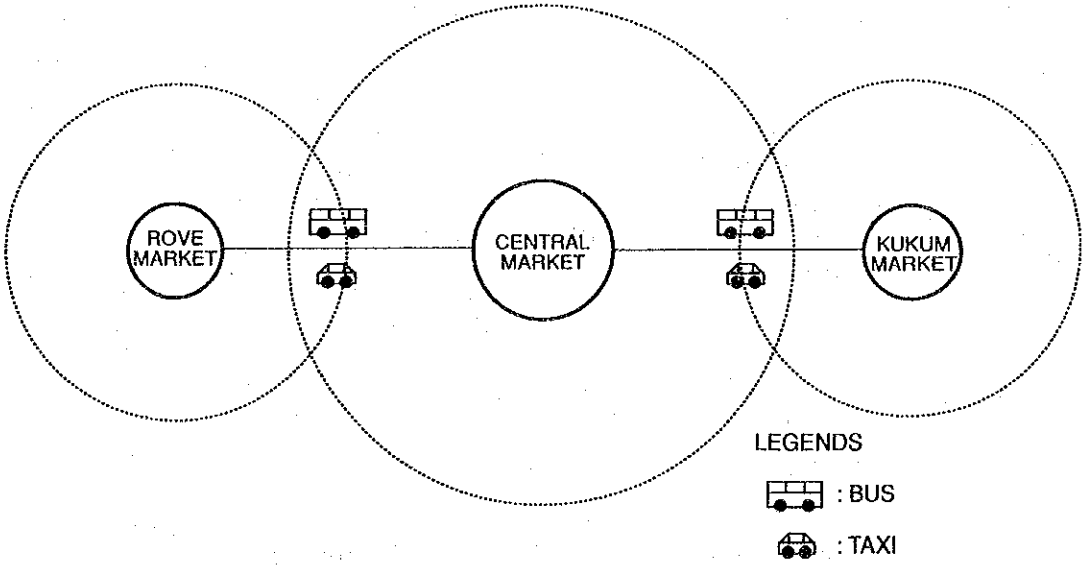


Fig. II.1.7.2 Profile of the Connection of the Three Markets

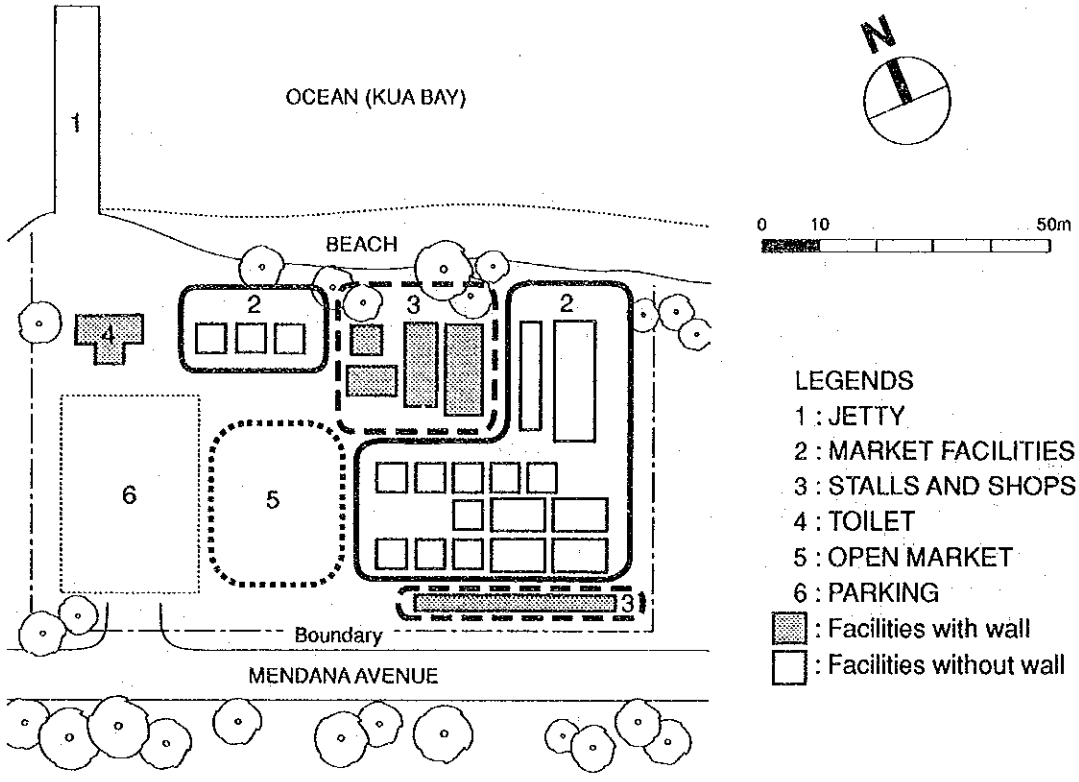


Fig. II.1.7.3 Honiara Central Market (Existing Condition)

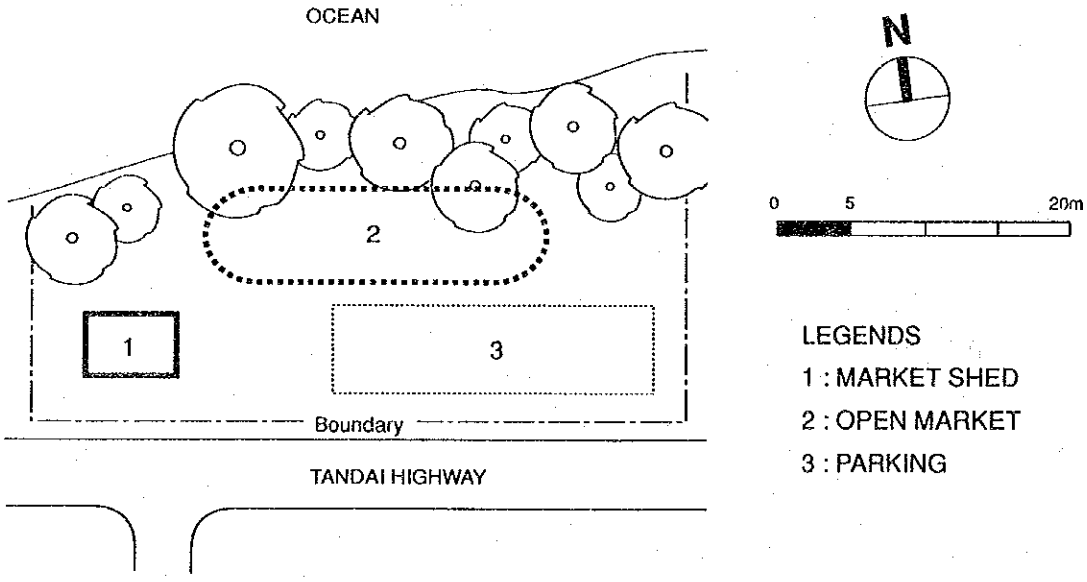


Fig. II.1.7.4 Rove Market (Existing Condition)

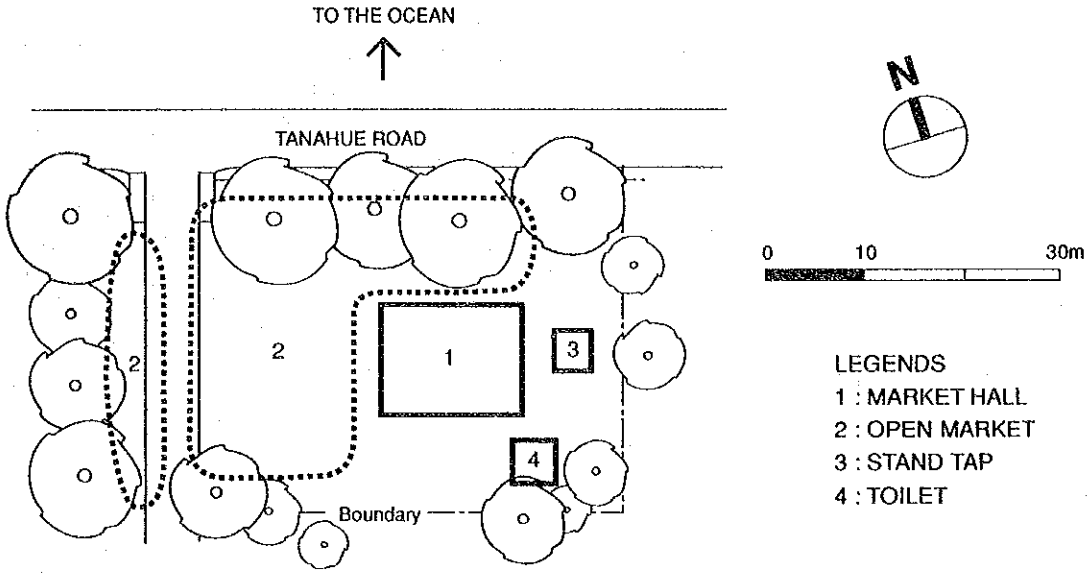


Fig. II.1.7.5 Kukum Market (Existing Condition)

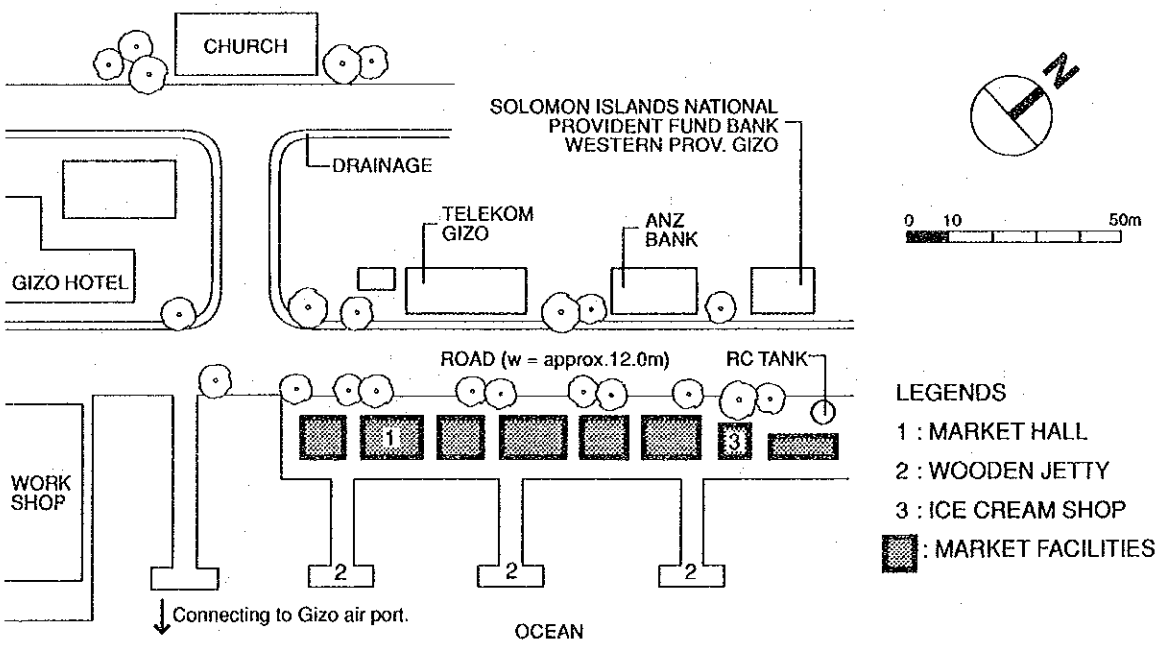


Fig. II.1.7.6 Outline of Gizo Market

Table II.1.7.3 Facilities of Existing Markets in Major Towns (1/2)

Name of Market	Land Area (Ha)	Facilities (m^2)						
		Market Bldg.		Shop/Office Bldg.	Canteen	Ice Cream Shop	Butchery	Toilet
		Vegetable/Crops	Fish					
Honiara								
Central	0.84	920	-	135	135	105	50	70
Kukum	0.14	100	-	Included in Market Bldg.	-	-	-	Included in Market Bldg.
Rove	NA	-	-	-	-	-	-	-
Gizo	0.15	172	63	45	36	-	68	-
Auki	0.21	72 (126*)	48 (90**)	-	-	36	48	-

Remarks: * ; Selling tables without shade.
**; Container type cold storage shed.

Source : 1) Honiara Town Council
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.7.3 Facilities of Existing Markets in Major Towns (2/2)

Name of Market	Parking (m^2)	Water supply No. of Taps	Waste Water Treatment
Honiara			
Central	1,600	2	For Toilet
Kukum	-	-	-
Rove	-	-	-
Gizo	-	-	-
Auki	-	1	-

Source : 1) Honiara Town Council
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.7.4 Operation/Management of Existing Markets in Major Towns (1/2)

Name of Market	Owner ship	Construc tion Year	Expansion Year	Management Body	Operation Body	Maintenanc e Body	Market Law	Market Fee	
								Fish	Veg- etable
Honiara									
Central	T.C.	1968	1986	T.C.	T.C.	T.C.	○	○	○
Kukum	T.C.	1972	-	T.C.	T.C.	T.C.	○	○	○
Rove	T.C.	1978	-	T.C.	T.C.	T.C.	○	○	○
Gizo	T.C.	1991	-	T.C.	T.C.	T.C.	×	○	×
Auki	P.G.	NA	-	P.G.	MDA	P.G./MDA	×	-	○

Remarks: (1) T.C.; Town Council, P.G.; Provincial Government, MDA; Malaita Development Authority

(2) Market Law ○ ; Has Law
× ; No Law

Market Fee ○ ; Charged
× ; Free

Honiara Vegetable/Crops/Fruits ; SI$1/day/Retailer
Fish Frozen ; SI$130/year/esky
Fresh ; SI$20/day/esky

Gizo Vegetable/Crops/Fruits ; Free
Fish ; 10% of sales

Auki SI$0.15/day/Retailer for all produces

Source : 1) Honiara Town Council
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)

Table II.1.7.4 Operation/Management of Existing Markets in Major Cities (2/2)

Name of Market	Average No. of Retailers/day	No. of Trucks/Boats/day	No. of Consumer	Opening hours & days
Honiara				
Central	400	2,203 *Cars	11,000*	6AM to 6PM 6 days/week
Kukum	40	NA	NA	6AM to 6PM Every day
Rove	20	NA	NA	6AM to 6PM 6 days/week
Gizo	55	15 Boats	NA	6AM to 6PM 6 days/week
Auki	100	25 Trucks	NA	6 AM to 6PM 6 days/week

Remarks: Asterisk (*) refers to figures on peak day (Saturday) and for more details refer to the regional plan.

Source : 1) Honiara Town Council
2) Field Survey (The Development Study on Improvement of NFMS in Solomon Islands, 1993)