

- (3) 水産局は公社設立の前後のあらゆる期間にわたり、公社の設立及び運営が滞らないように法制度・組織の整備を行う。

#### 7.4 水産物流通改善プログラムのアクション・プラン

##### (1) 法制度の整備

「水産物流通公社法」を制定し、新公社を設立する。

##### (2) 公社及び州政府による事業の範囲

2000年までに、各モデル地域の運営母体となる公社及び州政府が事業として取り込むべき範囲は以下に示す通りである（図IV.7.3, 7.4, 7.5参照）。

- 1) HFMA：ゾーン1及び2を直接運営の対象地域とし、このゾーン外の各水産センターに関しては買い付けを通じて間接的支援業務を行う。漁獲段階は漁民の自主的運営に任せ、公社は産地での水産物集荷、産地からホニアラまでの輸送およびホニアラ市場での水産物販売を促進する。この他に市場での社会的・文化的行事について協力する。
- 2) WPFMA：ゾーン3全域を対象とし、漁民に対する漁獲及び品質管理技術移転を行い、品質の良い水産物の集荷およびノロへの輸送を行う。ECが関与する産地に対しては、水産物集荷を通じて協力体制を確立する。
- 3) レンネル・ペロナ州政府：ゾーン4全域を対象とし、離島地域総合開発の観点から、海上には物流拠点整備のための栈橋、バージ、陸上施設としては水産物流通システム整備及び漁村社会の生活改善のためのコミュニティ開発を行う。このモデルでは水産物流通の全ての段階及び住民生活全般にわたり、水産局の支援を受けて州政府が運営の責任を持つ。

##### (3) 組織体制の整備

2,000年を目標とし、天然資源省水産局、公社及び州政府による当該プログラムの運営体制は図IV.7.6の通りである。

- 1) 水産物流通・輸送改善協議会：構成員はMNR、関係各省、州政府、既存公社(DBSI, CEMA, SIBA 等) 輸出加工業者、輸送業者、漁民代表者等からなる。
- 2) 水産物流通公社：理事会の構成は水産物流通・輸送改善協議会と同じとする。
- 3) 当面の人員配置
  - a. HFMA：幹部として、現有勢力1名の再教育と1名の採用を行う。
  - b. WPFMA：幹部については現有勢力の再教育を行い、残り1名を新規に採用する。一般職員は基本的には水産センターに配置されている人材の再配置により確保する。
  - c. レンネル・ペロナ州政府：プロジェクト全体の運営責任者は州政府で確保するものとし各サイトの幹部職員4名は、事業の進展に伴い徐々に増員していく。幹部職員の

うち一部は現有の要員を当て、残りは州政府または民間人から新規に採用し、教育訓練を行い責任を遂行させる。

#### (4) 段階的整備計画

公社機能の変化は下表に示す通り、第1段階（2000年まで）、第2段階（2000-2010年まで）、第3段階（2010年以降）に分け徐々に民営化を進める（表IV.7.1参照）。

##### 1) HFMA

第1段階：公社が漁民の同意を得て、水産物集荷・輸送・販売を支援する。ただし、この事業を推進する過程で、水産物流通業者の育成指導を行う。

第2段階：ホニアラでは公社水産物小売り業務の一部を民営化し、ツラギ支所では公社の運営の一部を州政府に移管する。

第3段階：ホニアラでは公社が水産物の卸売り機能の一部及び施設の維持管理のみを担当し、卸売り機能及び小売り機能は原則的に民間業者に移管する。

##### 2) WPFMA

第1段階：現在水産センターの運営は州政府の管轄下にあるが、公社設立後は州政府から公社へ運営を移管する。

第2段階：水産物の集荷・輸送は公社が全面的に行い、漁獲及び産地での集荷は漁民自身の手委ねる。

第3段階：公社は引き続き水産物の集荷・輸送業務を行う。

##### 3) レンネル・ベロナ州

第1段階：水産局の支援を受けて州政府が直轄するが、州政府が発足したばかりで、その運営・維持管理能力が不足している。この状況を勘案して、施設については維持・管理の簡易なインフラ及び関連施設のみを整備する。

第2・第3段階：必要な施設を全て整備し、州政府が独自に運営する。

#### (5) 外国からの技術援助

新公社設立準備段階から設立後その運営が軌道に乗るまで、外国から派遣される専門家グループによる技術援助と将来事業の中核となるべき職員の外国での研修を行う。技術移転対象分野は、水産流通、漁業及び設備・機械である。

##### 1) 水産局内の組織

中央政府要員として政府本部に籍を置き、必要に応じて巡回指導を行い、発生した問題について適切な措置をとる（図IV.7.7参照）。

ソロモン側人員配置：水産流通担当責任者、スタッフ（漁業及び設備・機械担当）

技術援助要員配置：加ジェク・マネジャー（水産流通）、漁業、設備・機械の専門家

##### 2) 各ゾーン別組織支援体制：中央政府からの派遣要員であるが、適宜本部と連絡をとれ

る体制とする。

ソロモン側人員配置：外国での研修を終えたスタッフ

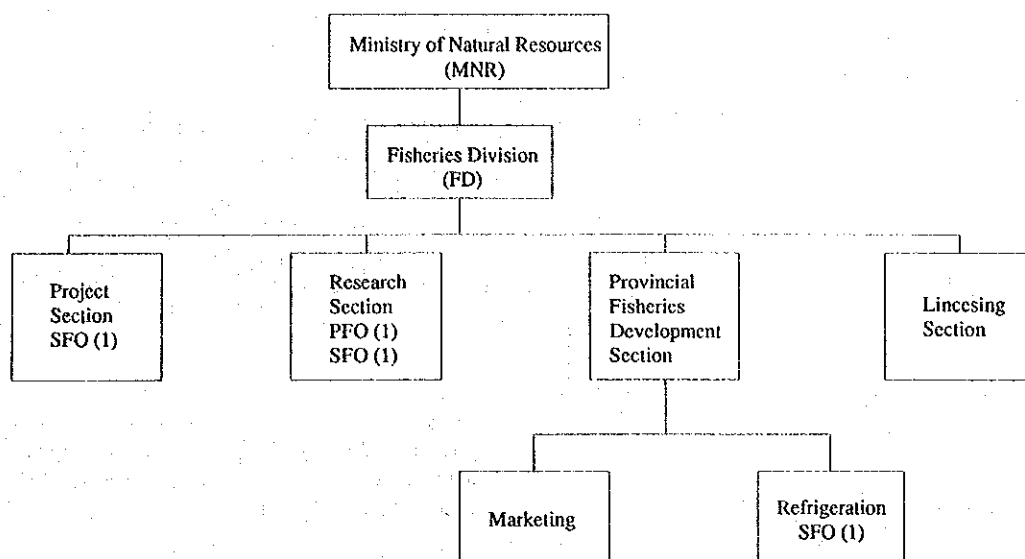
技術援助要員配置：若手専門家またはボランティア

- 3) 外国からの技術援助は公社設立準備段階から専門家の派遣、海外での研修及び援助プロジェクトの運転資金確保等をパッケージ化したシステムが適当である。

(6) 財務的措置

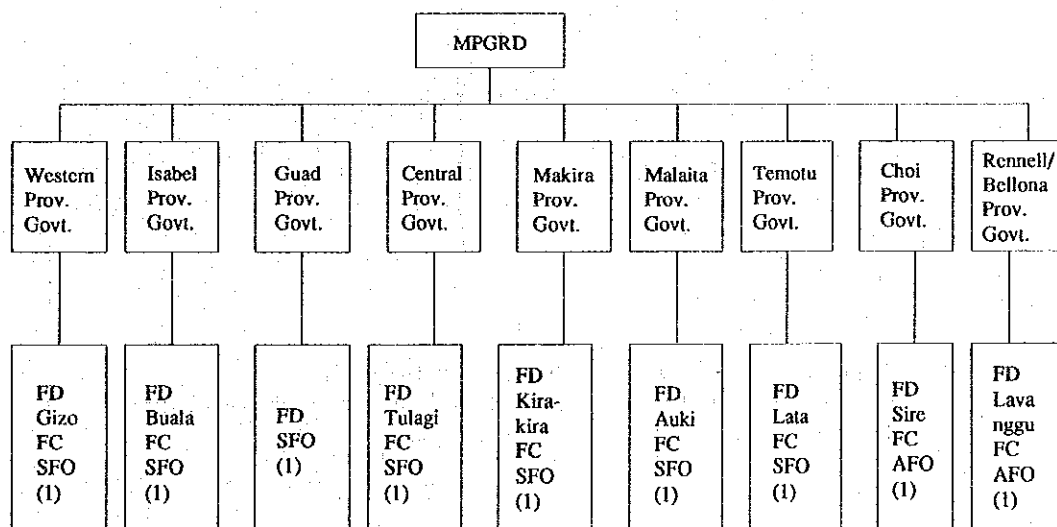
H F M A 運営開始後 1 年間について、当初 3 ヶ月程度の運転資金が確保されれば財務的に成り立つことが判明した（表Ⅳ. 7. 2 参照）。

- 1) 扱い量：フロリダ諸島及びその他の地域からの水産物入荷量の 50% とする。但し、国内消費者向けのみとし輸出向けは含まない。
- 2) 決済方式：運営開始後の最初の 3 ヶ月は入金の販売額の 50% にとどまるとした。但し、漁民への支払いは即金による。
- 3) 人件費：固定費としては、幹部 2 名のみとし、一般職員の採用は変動費として、水産物販売による粗利から捻出した。
- 4) 償却費：積み立てて施設更新費に当てる。
- 5) 融資：運転資金の不足は D B S I から融資に依存することとし、返済猶予期間は 3 ヶ月、返済期間は 9 ヶ月間、金利は 10% とする。



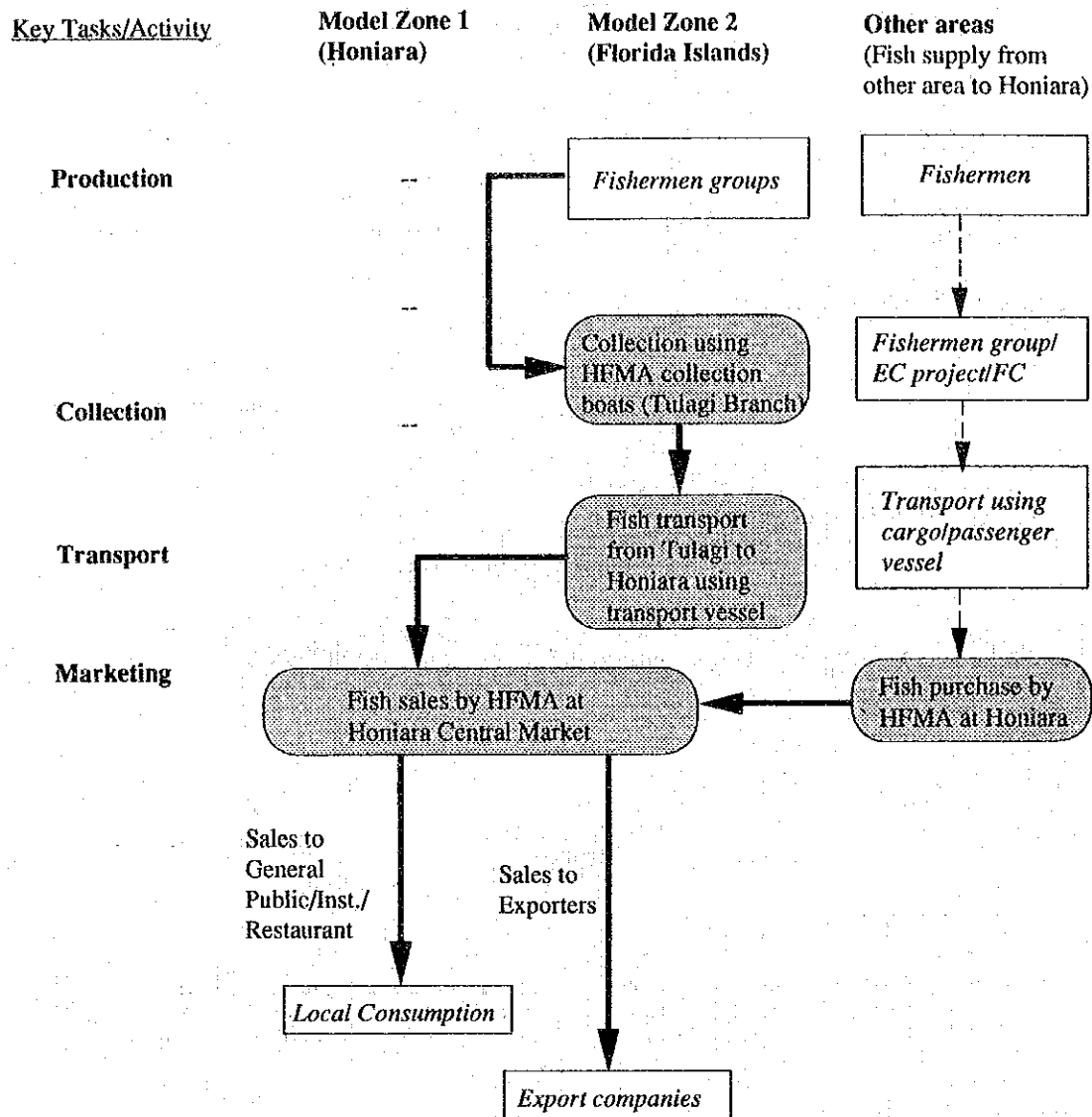
Remarks: 1) PFO; Principal Fisheries Officer  
 2) SFO; Senior Fisheries Officer  
 3) As of Feb 1994, MNR has been changed to Ministry of Agriculture and Fisheries.

図IV. 7.1 天然資源省水産局の組織図



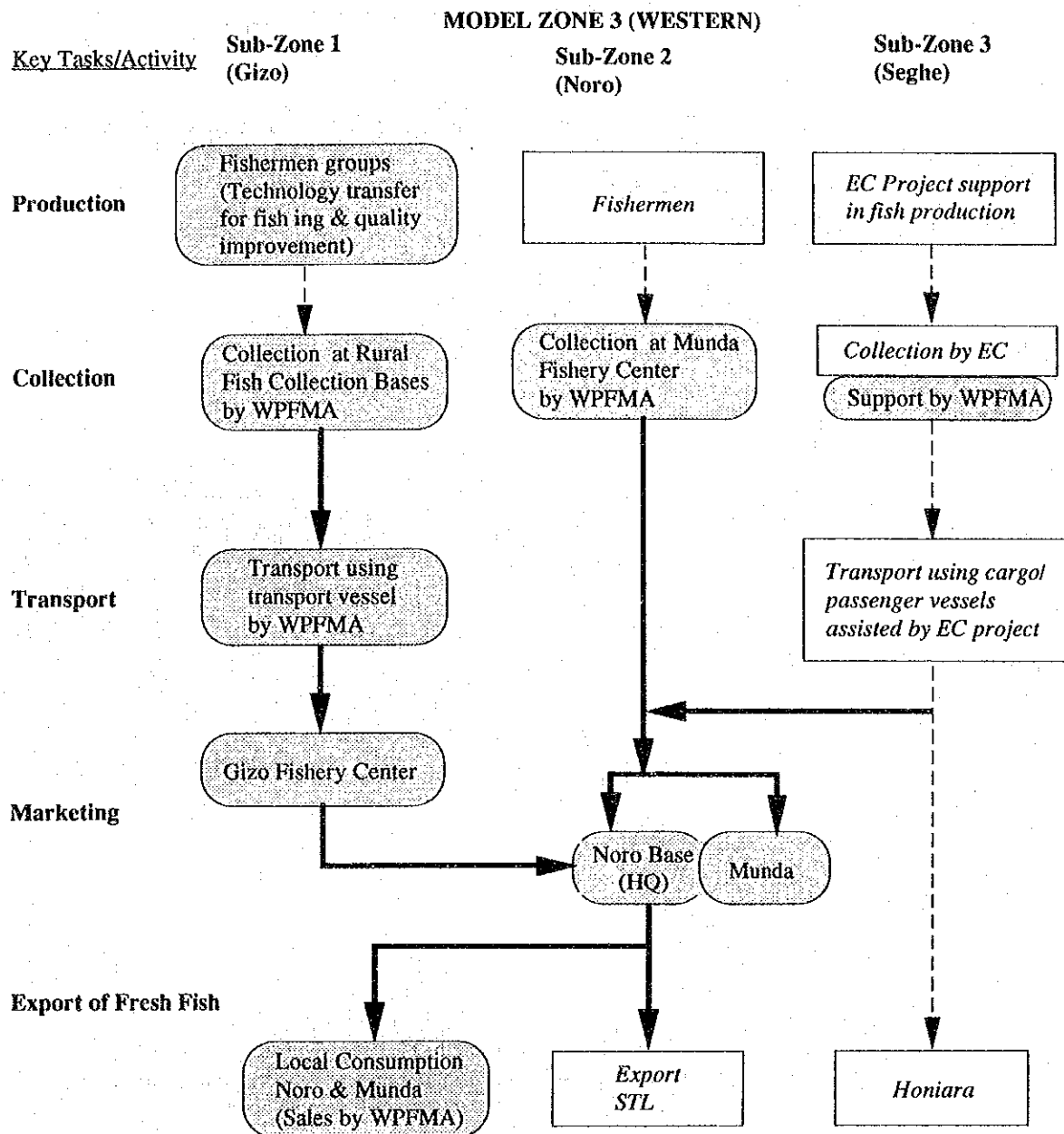
Remarks: 1) PG; Provincial government  
 2) SFO; Senior Fisheries Officer  
 3) AFO; Assistant Fisheries Officer  
 4) MPGRD; Min. of Prov. Govt. and Regional Development  
 5) Figures in parentheses show the existing number of staff.

図IV. 7.2 州政府水産部と水産センター組織図



Remarks: 1) Shaded area and bold lines indicate activity by HFMA.  
 2) HFMA will support in social/cultural events at Honiara Market Market.  
 3) HFMA ; Honiara Fish Marketing Authority

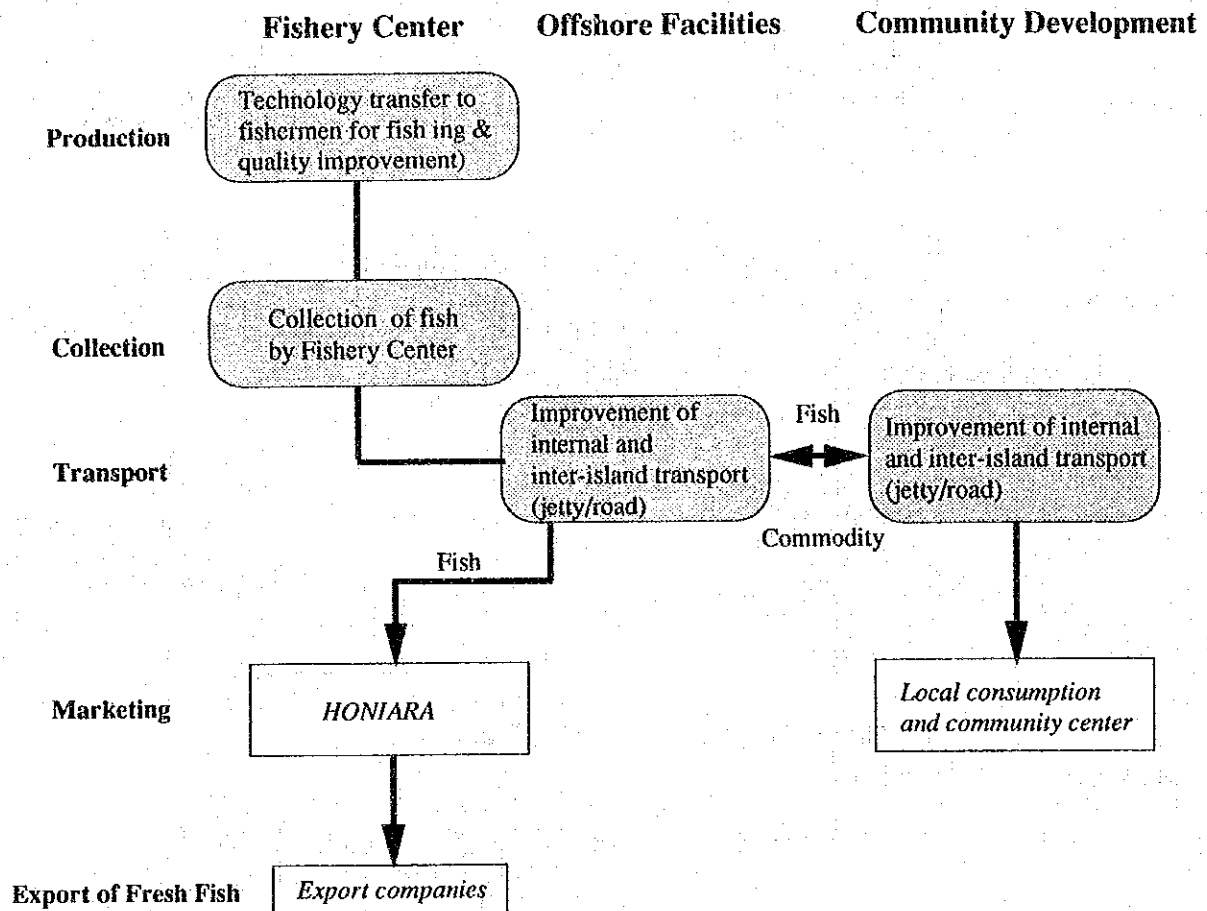
図IV. 7.3 モデル・ゾーン1及び2におけるホニアラ水産物流通公社の役割と事業内容



Remarks: 1) Shaded area and bold lines indicate activity by WPFMA.  
 2) HFMA will support in social/cultural events at Honiara Market Market.  
 3) WPFMA; Western Province Fish Marketing Authority

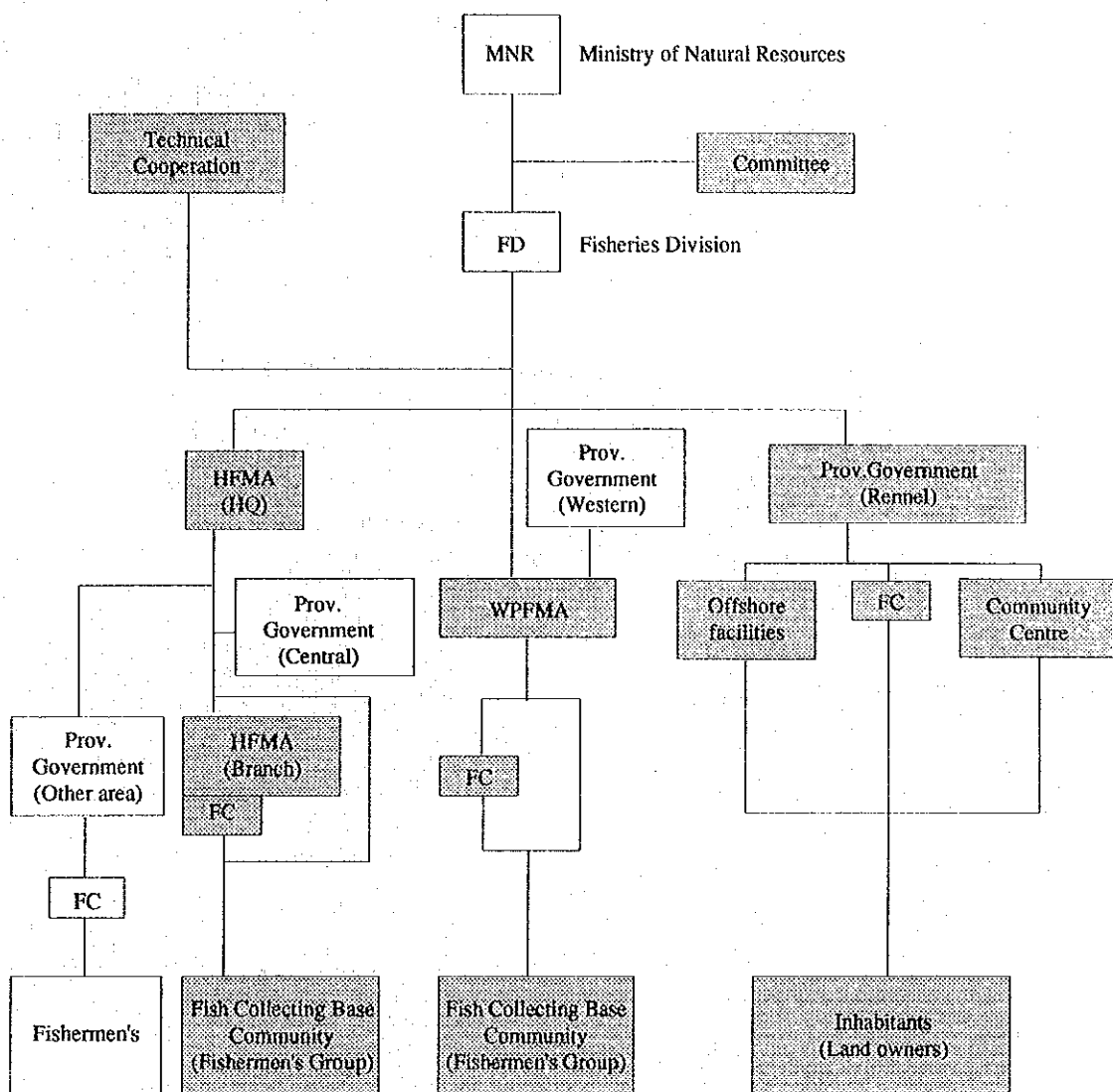
図IV. 7.4 モデル・ゾーン3におけるウエスタン州水産物流通公社の役割と事業内容

# MODEL ZONE 4 (RENNELL ISLAND)



Remarks: 1) Shaded area and bold lines indicate the role of provincial government.  
 2) Improvement of internal & inter-island transport is expected to promote tourism, and to offer accessibility to flow of fish to Honiara.

図IV. 7.5 モデル・ゾーン4におけるレンネル州政府の役割と事業内容

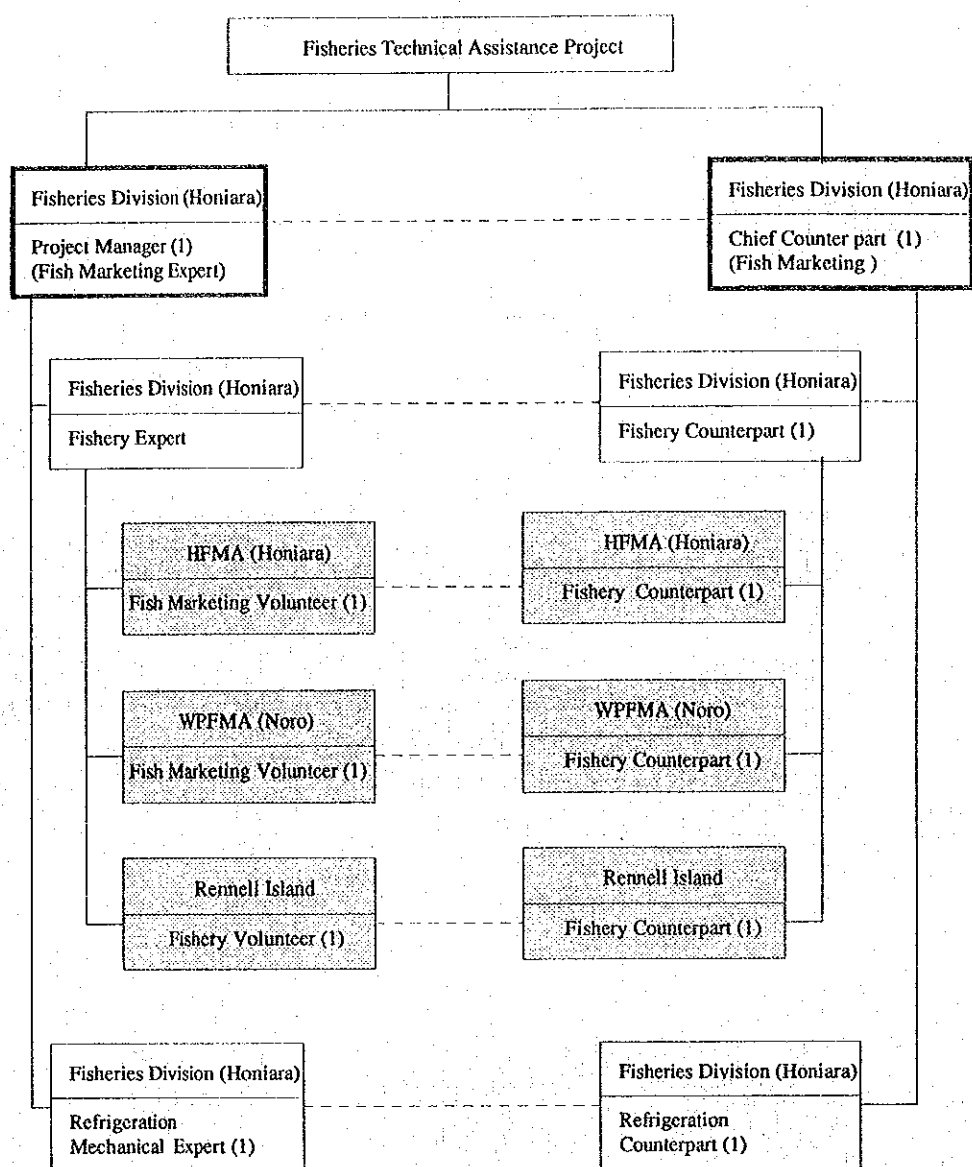


Remarks

- (1) HFMA : Honiara Fish Marketing Authority
- (2) WPFMA : Western province Fish Marketing Authority
- (3) FC : Fisheries Center
- (4) Shaded : Shaded areas are proposed organization for the project.

図IV. 7.6 水産物流通改善計画における公社と州政府の組織案





Remarks:

- : Volunteers/counterparts based in respective project areas.
- : Experts/counterparts based at Fisheries Division in Honiara.
- : Box in bold lines indicates the requirement of expert/counterpart during the preparation stage.

図IV. 7.7 技術協力におけるソロモン諸島と協力国との間の体制・組織図

表Ⅳ. 7. 1 組織制度の段階的整備案

|   |   | 1st Stage                              | 2nd Stage  | Final Stage                   |
|---|---|--|--|-------------------------------|
|   |   | 1995                                   | 2000   | 2010                          |
| <b>Model Zone 1&amp;2</b>   |   |  |  |                               |
| (1) Honiara Central Market Fisheries Related Facilities (HFMA - HQ) | O | Honiara Town Council                   | HTC  | HTC                           |
|   | M | FD and/or HFMA (Wholesaler & Retailer) | HFMA (wholesaler)      HFMA (Retailing) Retailer | HFMA Wholesaler      Retailer |
| (2) Tulagi Base (HFMA branch)                                       | O | FD/HFMA                                | Prov. Govt.                                      | Prov. Govt.                   |
|   | M | HFMA                                   | HFMA      Prov. Govt.                            | Prov. Govt.                   |
| (3) Fish Collection Base (HFMA Satellite)                           | O | FD/HFMA                                | FD/HFMA  | FD/HFMA                       |
|   | M | (Community) Fishermen                  | (Community) Fishermen                            | (Community) Fishermen         |

O : Ownership    M : Management

|   |   | 1st Stage                  | 2nd Stage                | Final Stage              |
|---|---|----------------------------|--------------------------|--------------------------|
| <b>Model Zone 3</b>                               |   |                            |                          |                          |
| Sub-Zone 2 (Noro) (WPFMA-HQ)                      | O | FD                         | Prov. Govt.              | Prov. Govt.              |
|   | M | Prov. Govt. and / or WPFMA | WPFMA                    | WPFMA                    |
| Sub-Zone 1 (Gizo) (WPFMA-Branch)                  | O | FD                         | Prov. Govt.              | Prov. Govt.              |
|   | M | Prov. Govt. and / or WPFMA | WPFMA                    | WPFMA                    |
| Sub-Zone 3 (Seghe) (WPFMA-Branch)                 | O | FD                         | Prov. Govt.              | Prov. Govt.              |
|   | M | Prov. Govt. and / or WPFMA | EEC-FC                   | FC                       |
| Sub-Zone 1 Fish Collection Base (WPFMA Satellite) | O | Prov. Govt. and/or WPFMA   | Prov. Govt. and/or WPFMA | Prov. Govt. and/or WPFMA |
|   | M | (Community) Fishermen      | (Community) Fishermen    | (Community) Fishermen    |

O : Ownership    M : Management

|                           |   | 1st Stage                                 | 2nd Stage                                 | Final Stage                               |
|---------------------------|---|---|---|---|
| <b>Model Zone 4</b>       |   |   |   |   |
| (1) Off-shore facilities  | O | Prov. Govt.                               | Prov. Govt.                               | Prov. Govt.                               |
|                           | M | Prov. Gov. Supported by FD/Port Authority | Prov. Gov. Supported by FD/Port Authority | Prov. Gov. Supported by FD/Port Authority |
| (2) Fisheries Development | O | Prov. Govt.                               | Prov. Govt.                               | Prov. Govt.                               |
|                           | M | Supported by FD                           | Supported by FD                           | Supported by FD                           |
| (3) Community Development | O | Prov. Govt.                               | Prov. Govt.                               | Prov. Govt.                               |
|                           | M | Prov. Gov. / Community (Inhabitants Coop) | Prov. Gov. / Community (Inhabitants Coop) | Prov. Gov. / Community (Inhabitants Coop) |

O : Ownership    M : Management

Remarks: 1) HFMA; Honiara Fish Marketing Authority, 2) WPFMA; Western Province Fish Marketing Authority;  
 3) FD; Fisheries Division (MNR); 4) HTC; Honiara Town Council  
 5) Fish marketing is related only to fresh fish.

表IV. 7.2 ホニアラ水産物流通公社の事業開始初年度における  
四半期毎の収支及び資金調達

|                              |              |                  |                   |                  | Unit: SI\$        |
|------------------------------|--------------|------------------|-------------------|------------------|-------------------|
|                              | Q'ty<br>(MT) | First<br>Quarter | Second<br>Quarter | Third<br>Quarter | Fourth<br>Quarter |
| I. Income Statement          |              |                  |                   |                  |                   |
| A. Revenue                   |              | \$343,119        | \$1,029,357       | \$686,238        | \$686,238         |
| 1) Fish sales                | 90           | \$342,000        | \$684,000         | \$684,000        | \$684,000         |
| 2) Ice                       |              | \$1,119          | \$2,238           | \$2,238          | \$2,238           |
| 3) Revenue from 1st. Quarter |              |                  | \$343,119         |                  |                   |
| B. Expense                   |              | \$530,664        | \$530,664         | \$530,664        | \$530,664         |
| Fixed                        |              |                  |                   |                  |                   |
| 1) Utility                   |              | \$12,720         | \$12,720          | \$12,720         | \$12,720          |
| 2) Maintenance               |              | \$14,655         | \$14,655          | \$14,655         | \$14,655          |
| 3) Salary/wages              |              | \$6,600          | \$6,600           | \$6,600          | \$6,600           |
| 4) Gen. expense (20%)        |              | \$1,320          | \$1,320           | \$1,320          | \$1,320           |
| Variable                     |              |                  |                   |                  |                   |
| 1) Salary/wages              |              | \$6,000          | \$6,000           | \$6,000          | \$6,000           |
| 2) Fish purchase cost        |              | \$450,000        | \$450,000         | \$450,000        | \$450,000         |
| Depreciation                 |              | \$39,369         | \$39,369          | \$39,369         | \$39,369          |
| C. Income before D & I       |              | (\$148,176)      | \$538,062         | \$194,943        | \$194,943         |
| D. Net Income                |              | (\$187,545)      | \$498,693         | \$155,574        | \$155,574         |
| II. A. Sources of Funds      |              | \$39,369         | \$538,062         | \$194,943        | \$194,943         |
| 1) Loan                      |              | \$187,545        | \$0               | \$0              | \$0               |
| 2) Depreciation              |              | \$39,369         | \$39,369          | \$39,369         | \$39,369          |
| 3) Net income                |              | (\$187,545)      | \$498,693         | \$155,574        | \$155,574         |
| B. Uses of Funds             |              | \$4,670          | \$65,138          | \$65,138         | \$65,138          |
| Repayment incl. interest     |              | \$4,670          | \$65,138          | \$65,138         | \$65,138          |
| C. Net cash flow             |              | \$34,699         | \$472,924         | \$129,805        | \$129,805         |

Remarks: 1) Assumption that revenue is about 50 percent of total sales in the first quarter and thereafter total revenue is collected.

2) Interest is 10 percent.

3) Loan to be repaid in in 9 months with 3 months grace period.

4) Purchase price of fresh fish from fishermen is SI\$5.00/kg in Honiara.

5) Sale price of grade-A is SI\$8.00/kg and grade-B is SI\$7.50/kg.

## 8. 結論と提言

### (1) 水産物流通システムの現況

- 1) ソロモン諸島における水産物流通システムに関しては、民間の流通業者が殆ど育っていないため、漁民が直接漁獲物を輸送するか、民間に代わって水産局及び諸外国援助機関が直接及び間接的に流通に関与している。
- 2) 水産物流通の地方の主要水揚げ拠点に多くの水産センターが設置されてきたが、産地と消費地間を結ぶ水産物流通・輸送・情報ネットワークの整備が遅れているため、各センターの機能が十分に生かされていない。
- 3) 水産物流通・輸送分野の運営にたずさわる組織について見ると、人材面・資金面のみならず運営能力が不足しており、十分な機能を発揮できない状態にある。

### (2) 水産物流通システム改善計画実施上の留意点

今後、水産物流通網整備にあたって、以下の点を配慮することが望ましい。

#### 1) 開発の進め方

- a. 計画の実施にあたっては、漁民及び関係者との意志疎通を図り開発を進める。
- b. 経済成長に見合った無理のない計画とし、民間活力を段階的に導入し、持続的な運営を目指す。
- c. 既存の水産物流通施設、関連インフラ及び海上輸送システムを最大限有効に利用する。
- d. ソロモン諸島の離島においては、住民の要求水準に見合った離島振興モデルを開発する。

#### 2) 法制度・組織の整備

天然資源省の下に「水産物流通・輸送協議会」を編成し、施設の完成前に以下に示す事項を推進すべきである。

- a. 法・制度の整備
- b. 公社の設立

#### 3) 援助方式の改善

プロジェクトの運営が軌道に乗るまで、外国から専門家グループを招請し、かつ将来プロジェクトの運営の中核となるべきスタッフの研修を外国で行うべきである。技術移転対象は、水産流通、漁撈および設備機械の各分野である。外国からの援助は単なる技術移転ではなく組織・制度面の改善も含まれるため、プロジェクト専門家派遣、研修員の受け入れおよびプロジェクト運営に必要な資機材のパッケージ化を検討する必要がある。

#### 4) 水産資源管理調査

当該調査は、水産物流通システム改善のための調査であり、沿岸海域における水産資

源および生産環境改善に関する調査を行っていない。ただし、一部魚種については、明らかに水産資源管理の必要性があり、水産資源管理システムの整備に向けた調査を実施することが望ましい。

(3) モデル地域の計画実施段階の補足調査

本調査はプレフィージビリティ調査であり、実施に先だって規模設定、コスト積算等に関しては、さらに精度を高める調査が必要である。今後のモデル地域の計画実施に向けて、以下の点について詳細な調査・作業を行うべきである。

1) モデル・ゾーン1（首都ホニアラ）

- a. 市場調査：今回調査手法に従い、中央市場、クム、ロベ市場の全体を対象として、特に、流通量の多い青果物の動きについて、年間を通じた動向把握のための調査が必要である。
- b. 市場運営管理システム調査：ホニアラ市当局及び関連機関を含め、中央市場の総合的運営体制について煮詰める必要がある。
- c. 自然条件調査：海岸部の地質調査は既に実施されているが、陸上部の市場用地に関しては、数カ所程度のボーリング調査が必要である。

2) モデル・ゾーン2（フロリダ諸島）

- a. 試験操業：水産局所属ダウラ号による試験的集荷・輸送を実施し、その結果を確認の上新船導入の検討に入るべきである。
- b. 自然条件調査：ツラギの前面海域は比較的穏やかであるが、計画実施前に気象、海象及び地質調査が必要である。

3) モデル・ゾーン3（ウエスタン州）

試験操業：州所属のクアラオ号による試験的集荷・輸送の実施及び市場開拓を行い、その結果を確認の上計画実施に移るべきである。

4) モデル・ゾーン4（レンネル州）

特に、カンガバ湾荷揚げ機能施設整備に関して、以下の調査が必要である。

- a. カンガバ湾で漁業を営む住民とのコンセンサスを得ることが必要である。
- b. 自然条件調査
  - ・ラバングの一般海象の詳細調査は必要ない。ただし、荒天時の状況把握のための詳細調査と検討が必要である。
  - ・珊瑚礁の状況調査は詳細に行う必要がある。
  - ・ボーリング調査による支持地盤の確認が必要である。
- c. 資材輸送・調達調査
  - 資材輸送が容易でないため、運搬方法に関しては詳細調査を行う必要がある。

## 付 属 資 料



付属資料－1 調査関係者

(A) Government of Japan

(1) Advisory Committee Members

---

|             |                  |   |
|-------------|------------------|---|
| 1) Chairman | Michimasa OGUSHI | Director, Cooperation Promotion Department,<br>Overseas Fishery Cooperation Foundation  |
| 2) Member   | Tsunero KOKUBU   | Deputy, Section Chief, International Cooperation Dept.<br>Fisheries Agency, Ministry of Agriculture, Forestry<br>and Fisheries                        |
| 3) Member   | Toru KUMATANI    | Deputy, Section Chief, International Cooperation Dept.<br>Fisheries Agency, Ministry of Agriculture, Forestry<br>and Fisheries                        |
| 4) Member   | Yasushi NAKAZATO | Section Chief, International Affairs Division, Oceanic<br>Fishery Department, Fisheries Agency, Ministry of<br>Agriculture, Forestry<br>and Fisheries |

---

(2) Study Team Members

---

|                              |  |
|------------------------------|--|
| 1) Team Leader               | Tateo KUSANO<br>(System Science Consultants Inc.)      |
| 2) Deputy Team Leader        | Teruo YABANA<br>(System Science Consultants Inc.)      |
| 3) Fish Marketing            | I. ALLAHPICHAY<br>(System Science Consultants Inc.)    |
| 4) Fish Production           | Tamio AKAOKA<br>(System Science Consultants Inc.)      |
| 5) Fishing Community         | Takashi MORIMOTO<br>(System Science Consultants Inc.)  |
| 6) Project Economy           | John M. FLOYD<br>(Development Alternatives Inc., USA)  |
| 7) Facilities/Infrastructure | Mikio TANAKA<br>(System Science Consultants Inc.)      |
| 8) Architectural Planning    | Masahiko WATANABE<br>(System Science Consultants Inc.) |
| 9) Environment               | Eng Guan TAN<br>(System Science Consultants Inc.)      |
| 10) Liaison                  | Hideto YASUI<br>(System Science Consultants Inc.)      |

---



(B) Government of Solomon Islands

---


|                        |                             |                               |
|------------------------|-----------------------------|-------------------------------|
| 1) Mostyn Habu         | Permanent Secretary         | Ministry of Natural Resources |
| 2) James Saliga        | Permanent Secretary         | Ministry of Natural Resources |
| 3) Alberta Wata        | Director of Fisheries       | Fisheries Division (MNR)      |
| 4) George Poape        | Principal Fisheries Officer | Fisheries Division (MNR)      |
| 4) Kitchener Collinson | Senior Fisheries Officer    | Fisheries Division (MNR)      |
| 5) Fred Fakarii        | Chief of Asian Section      | Ministry of Foreign Affairs   |

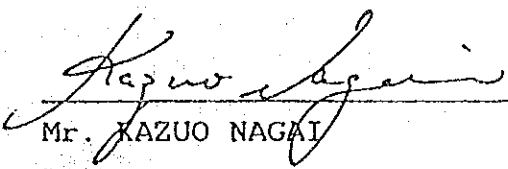
---

SCOPE OF WORK  
FOR  
THE DEVELOPMENT STUDY  
ON  
IMPROVEMENT OF NATIONWIDE FISH MARKETING SYSTEM  
IN  
SOLOMON ISLANDS

AGREED UPON BETWEEN  
MINISTRY OF NATURAL RESOURCES  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

Honiara, February 8, 1993

  
\_\_\_\_\_  
Mr. MOSTYN HABU  
PERMANENT SECRETARY,  
MINISTRY OF NATURAL RESOURCES

  
\_\_\_\_\_  
Mr. KAZUO NAGAI  
LEADER,  
PREPARATORY STUDY TEAM,  
JAPAN INTERNATIONAL  
COOPERATION AGENCY.

## I. INTRODUCTION

In response to the request of the Government of Solomon Islands, the Government of Japan has decided to conduct the Development Study on Improvement of Nationwide Fish Marketing System (hereinafter referred to as "the Study"), in accordance with the relevant laws and regulations in force in Japan.

Accordingly, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), the official agency responsible for the implementation of the technical cooperation programmes of the Government of Japan, will undertake the Study in close cooperation with the authorities concerned of Solomon Islands.

The present document sets forth the scope of work with regard to the Study.

## II. OBJECTIVE OF THE STUDY

The objectives of the Study are to provide alternative plans for achieving an efficient Fish Marketing System and thereby upgrading returns to small scale fishermen and stabilizing fish supply to urban areas, and to conduct pre-feasibility studies on the selected projects.

## III. STUDY AREA

The study area shall cover the whole of Solomon Islands.

## IV. OUTLINE OF THE STUDY

1. The Study consists of the following two (2) phases.

(Phase I) Comprehensive study on socio-economic conditions, current fisheries, previous projects on fish marketing and the existing Fish Marketing System will be conducted in the study area and a nationwide fish marketing development master plan will be prepared.

(Phase II) Based on the results of Phase I, pre-feasibility

*M. H. S.*

*[Signature]*

study will be conducted for some priority projects.

2. The detailed scope of the work at the respective phases are itemized as follows:

(1) Phase I

1) Collection of data and information on:

- a. Socio-economic conditions,
  - b. Existing policy and regulations concerned with the Study,
    - Socio-economic development plan
    - Environmental regulations
    - Others
  - c. Present fisheries,
    - Artesanal fisheries
    - Industrial fisheries
  - d. Local and domestic demand and supply of fishes,
  - e. Existing fish marketing system,
    - Fish marketing in Honiara
    - Provincial fisheries centers and sub-centers
    - Others
  - f. Past projects and studies related to fish marketing system,
  - g. Existing inter-island transportation system.
- 2) Field survey on the items mentioned in 1).
- 3) Preparation of a nationwide fish marketing development master plan including:
- a. Review of fish marketing system,
  - b. Strategy for improving fish marketing system,
  - c. Alternative plans to improve fish marketing system,
  - d. Others.
- 4) Listing of the candidate projects for pre-feasibility study.

(2) Phase II

- 1) Determination of the priority projects.
- 2) Supplemental survey on the items mentioned in (1)-(1).
- 3) Formulation of the priority projects including:
  - a. Improvement and/or development plan for fish marketing infrastructure and facilities,
  - b. Preliminary design of major infrastructures and facilities,
  - c. Basic plan of the organization and the institution,
  - d. Operation, maintenance and management plan of the project,
  - e. Others.
- 4) Estimation of cost and benefit of projects,
- 5) Initial environmental examination (IEE),
- 6) Project evaluation,
- 7) Recommendations.

#### V. STUDY SCHEDULE

The Study will be carried out in accordance with the attached tentative work schedule.

#### VI. REPORTS

JICA shall prepare and submit the following reports in English to the Government of Solomon Islands.

(1) Inception Report

Twenty (20) copies at the commencement of Phase I Study.

(2) Interim Report

Twenty (20) copies at the commencement of Phase II Study.

(3) Draft Final Report

Twenty (20) copies at the end of works in Japan of Phase II.

The Government of Solomon Islands provides JICA with its comments on the Draft Final Report through the Embassy of Japan within one (1) month after receipt of the Draft Final Report.

(4) Final Report

Fifty (50) copies within two (2) months after the receipt of the comments from the Government of Solomon Islands on the Draft Final Report.

VII. UNDERTAKING OF THE GOVERNMENT OF SOLOMON ISLANDS

1. To facilitate smooth conduct of the Study, the Government of Solomon Islands shall take necessary measures;
  - (1) to secure the safety of the Study team,
  - (2) to permit the members of the Study team to enter, leave and sojourn in Solomon Islands for the duration of their assignment therein, and exempt them from foreign registration requirements and consular fees,
  - (3) to exempt the members of the Study team from taxes, duties and other charges on equipment, machinery and other materials brought into Solomon Islands for the conduct of the Study,
  - (4) to exempt the members of the Study team from income tax and charges of any kind imposed on or in connection with any emoluments or allowances paid to the members of the Study team for their services in connection with the implementation of the Study,
  - (5) to provide necessary facilities to the Study Team for remittance as well as utilization of the funds introduced into Solomon Islands from Japan in connection with the implementation of the Study,
  - (6) to secure permission for entry into private properties or restricted areas for the implementation of the Study,
  - (7) to secure permission for the Study team to take all data and documents (including maps, photographs) related to the Study out of Solomon Islands to Japan,
  - (8) to provide medical services as needed. Its expenses will be chargeable on members of the Study team.
2. The Government of Solomon Islands shall bear claims, if any arises, against the members of the Study team resulting

from, occurring in the course of, or otherwise connected with, the discharge of their duties in the implementation of the Study, except when such claims arise from gross negligence or willful misconduct on the part of the members of the Study team.

3. Ministry of Natural Resources (hereinafter referred to as "MNR") shall act as counterpart agency to the Study team and also as coordinating body in relation with other governmental and non-governmental organizations concerned for the smooth implementation of the Study.

4. MNR shall, at its own expense, provide the Study team with the following, in cooperation with other organizations concerned;

- (1) available data and information related to the Study,
- (2) counterpart personnel,
- (3) suitable office space with necessary equipment in Honiara.
- (4) credentials or identification cards,
- (5) adequate means of local transport for official travel.

#### VIII. UNDERTAKING OF JICA

For the implementation of the Study, JICA shall take the following measures;

- (1) to dispatch, at its own expense, study teams to Solomon Islands,
- (2) to pursue technology transfer to the Solomon Islands counterpart personnel in the course of the Study.

#### IX. CONSULTATION

JICA and MNR shall consult with each other in respect of any matter that may arise from or in connection with the Study.

11/11

24

154

## TENTATIVE STUDY SCHEDULE

[illegible]

*[Signature]*





MINUTES OF MEETING  
ON  
SCOPE OF WORK  
FOR  
THE DEVELOPMENT STUDY  
ON  
IMPROVEMENT OF NATIONWIDE FISH MARKETING SYSTEM  
IN  
SOLOMON ISLANDS  
  
AGREED UPON  
BETWEEN  
MINISTRY OF NATURAL RESOURCES  
AND  
JAPAN INTERNATIONAL COOPERATION AGENCY

The Japanese Preparatory Study Team, headed by Mr Kazuo Nagai, visited Solomon Islands for the purpose of discussing the Scope of Work for the Development Study on Improvement of Nationwide Fish Marketing System from January 27 to February 9, 1993.

The team had a series of discussions with MNR to exchange views and opinions on the Study, and conducted field surveys in Solomon Islands.

Following the discussions, both sides have agreed on the following points, in addition to the Agreement on the Scope of Work.

1. As the coordinating body of the study, MNR will facilitate exchange of views and discussions with other donor agencies (governments) implementing similar or related assistance with the Study as necessary.
2. MNR stressed the difficulty in assigning a counterpart for each member of the Study team due to limitation in the number of personnel in the Fisheries Division.

MNR shall undertake its best efforts to assign counterparts to the Study team where possible, including fisheries officers in the Provinces.

3. To facilitate the entry of the Study team and to carry out its work in Solomon Islands, JICA undertakes to provide to MNR the necessary information regarding team members, for clearance with the relevant Government authorities in Solomon Islands. The information shall include the biodata and the passport numbers of each person and any equipment brought into Solomon Islands to carry out their work.

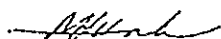
4. MNR clarified to JICA that there is no need for credential or identification cards for the Study team members while they are in Solomon Islands as their passports will serve that purpose.

5. Regarding the provision of a means of transport for the Study team in Solomon Islands, MNR expressed difficulty in providing vehicles due to limitations in the number of vehicles available to the Fisheries Division. MNR shall make arrangements with Provincial Fisheries Divisions to provide boats for the Study team but fuel shall be met by the Study team.

6. The Fisheries Division shall provide an office space for the Study team but charges for overseas telephone calls, facsimile and telexes shall be met by the Study team.

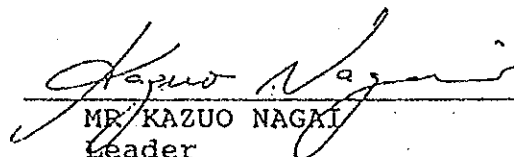
7. JICA is requested to accept local counterparts to the Study for training in Japan under JICA's Trainee Acceptance Programme.

Honiara, February 8 1993



---

MR MOSTYN HABU  
Permanent Secretary  
Ministry of Natural Resources  
Solomon Islands Government



---

MR KAZUO NAGAI  
Leader  
Preparatory Study Team  
JICA

MINUTES OF THE MEETING  
ON THE INCEPTION REPORT OF THE DEVELOPMENT STUDY  
ON IMPROVEMENT OF NATIONWIDE FISH MARKETING SYSTEM  
IN SOLOMON ISLANDS

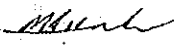
In pursuance to the objective of the Implementing Arrangement between Ministry of Natural Resources (hereinafter referred to as "MNR") and the Japan International Cooperation Agency (hereinafter referred to as "JICA") for the Development Study on Improvement of Nationwide Fish Marketing System in Solomon Islands (hereinafter referred to as "the Study") signed on February 8, 1993, JICA dispatched the Study Team headed by Mr. Tateo KUSANO and the Advisory Team headed by Mr. Toru KUMATANI from April 10, 1993 to May 15, 1993 and from April 10, 1993 to April 19, 1993, respectively.

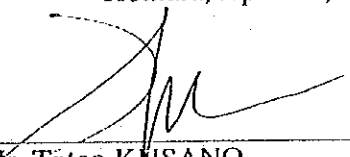
The JICA Study Team submitted 20 copies of the Inception Report to Solomon Islands side and held a series of discussions with the Solomon Islands authorities and counterparts headed by Mr. Mostyn Habu, Permanent Secretary, MNR.

The salient results of the discussions are as follows:

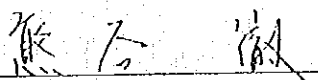
1. Solomon Islands side has agreed in principle upon the contents of the Inception Report, and that of the notes of discussions which is hereto attached.
2. Both sides agreed to cooperate with each other for the efficient conduct of the study so that its objectives would be attained as described in the Inception Report.

Honiara, April 16, 1993

  
Mr. Mostyn HABU  
Permanent Secretary  
MNR

  
Mr. Tateo KUSANO  
Leader of Study Team  
JICA

Witnessed by

  
Mr. Toru KUMATANI  
Leader of Advisory Team  
JICA

ATTACHMENT TO THE MINUTES OF MEETING  
ON THE INCEPTION REPORT OF THE DEVELOPMENT STUDY  
ON IMPROVEMENT OF NATIONWIDE FISH MARKETING SYSTEM  
IN SOLOMON ISLANDS

1. The Solomon Islands side agreed to allow the Study Team to use the Fisheries Division Office in the MNR in order to implement the Study smoothly.
2. The Solomon Islands side agreed to secure permission for entry into private properties or restricted area for the implementation of the Study.
3. The Solomon Islands side agreed to secure permission for the Study Team to take all data and documents (including maps, photographs) related to the Study out of Solomon Islands to Japan.
4. The Solomon Islands side agreed to exempt the members of the Study Team from taxes, duties and other charges on equipment, machinery and other materials brought into Solomon Islands for the conduct of the Study.
5. The Solomon Islands side has agreed to make arrangements with Provincial Fisheries Divisions to provide boats for the Study Team but the cost of fuel shall be met by the Study Team.
6. The Study Team has requested MNR to make necessary arrangement of visa for members of the Study Team.

*MAH*

*T. K*

*M*


MINUTES OF THE MEETING  
ON THE INTERIM REPORT OF THE DEVELOPMENT STUDY  
ON IMPROVEMENT OF NATIONWIDE FISH MARKETING SYSTEM  
IN SOLOMON ISLANDS

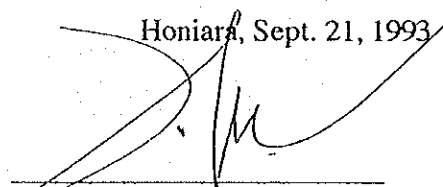
In pursuance to the Interim Report of the Development Study on Improvement of Nationwide Fish Marketing System in Solomon Islands (hereinafter referred to as "the Study"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Study Team headed by Mr. Tateo KUSANO and the Advisory Team headed by Mr. Michimasa OGUSHI from Sept. 18-25, 1993.

The JICA Study Team submitted 20 copies of the Interim Report to Solomon Islands side and held a series of discussions with the Solomon Islands authorities and counterparts headed by Mr. Albert WATA, Director of Fisheries, Fisheries Division, Ministry of Natural Resources (MNR).


The salient results of the discussions are as follows:

1. Solomon Islands side has agreed in principle upon the contents of the Interim Report.
2. Both sides agreed to cooperate with each other for the efficient conduct of Phase II of the study so that its objectives would be attained as described in the Inception Report.

  
Rt. Hon. Ezekiel ALEBUA  
Minister  
MNR

Honiara, Sept. 21, 1993  
  
Mr. Tateo KUSANO  
Leader of Study Team  
JICA

Witnessed by

  
Mr. Michimasa OGUSHI  
Leader of Advisory Team  
JICA

MINUTES OF THE MEETING  
ON THE DRAFT FINAL REPORT OF THE DEVELOPMENT STUDY  
ON IMPROVEMENT OF NATIONWIDE FISH MARKETING SYSTEM  
IN SOLOMON ISLANDS

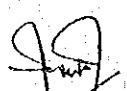
In pursuance to the Draft Final Report of the Development Study on Improvement of Nationwide Fish Marketing System in Solomon Islands (hereinafter referred to as "the Study"), the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Study Team headed by Mr. Tateo KUSANO and the Advisory Team headed by Mr. Yasushi NAKAZATO from Jan. 26 - Feb. 5, 1994.

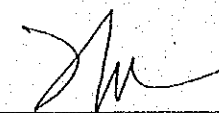
The JICA Study Team submitted 20 copies of the Draft Final Report to Solomon Islands side and held a series of discussions with the Solomon Islands authorities and counterparts headed by Mr. Albert WATA, Director of Fisheries, Fisheries Division, Ministry of Natural Resources (MNR).

The salient results of the discussions are as follows:


1. Solomon Islands side has agreed in principle upon the contents of the Draft Final report, and that the recommendations are acceptable.
2. The Government of Solomon Islands will convey to the Study Team its comments on the Draft Final Report by March 3, 1994. Fifty (50) copies of the Final report within two (2) months after receiving the comments on the Draft Final Report will be submitted to the Government of Solomon Islands

Honiara, Feb. 3, 1994

  
\_\_\_\_\_  
Mr. James SALIGA  
Permanent Secretary  
MNR

  
\_\_\_\_\_  
Mr. Tateo KUSANO  
Leader of Study Team  
JICA

Witnessed by

  
\_\_\_\_\_  
Mr. Yasushi NAKAZATO  
Leader of Advisory Team  
JICA

## 付屬資料－ 7 消費／市場調查

### 1. Objective

The objectives of this survey were to grasp the socio-economic profile, the current consumption pattern in fish products, frequency of fish consumption, money spent on fish purchase, and condition of fish marketing/distribution, etc.

### 2. Study Approach

#### (1) Sampling method and survey period

Sampling method and number of samples is given in Table A-7.1. The survey period covered about 20 days including the training of chief coordinator and enumerators in Honiara and respective provinces. The enumerators were locally recruited and have had previous experience in this type of survey.

#### (2) Questionnaires

Three sets of questionnaire were prepared covering (a) fish consumption survey, (b) market survey of Honiara Central Market, Rove Market and Kukum Market, (c) institutional survey (hospital, hostels, school dormitory, prison, hotels), and (d) market survey of Honiara Central Market for agricultural produce. Some of the major items in the questionnaire are listed below.

##### (A) Fish consumption survey

- Household characteristics
- Monthly income
- Monthly expenditure on food
- Food preference
- Frequency of fish consumption by type
- Quantity purchase each time
- Fish quality

##### (B) Market survey

- Number of esky and quantity (fish)
- Origin of esky
- Quantity of sold
- Type of agricultural produce
- Quantity of produce traded (weekday and weekend)
- Origin of produce



### 3. Analysis

#### 3.1 Fish Consumption Survey

##### (1) Socio-economic Aspects

The number of households, according to the population census in 1986, were 4765 in Honiara, 590 in Gizo, 487 in Auki, 333 in Buala and 385 in Kirakira. The total number of households covered in the consumption survey were three percent (185) of the total 6,560 households. Some 125 households (3 percent) in Honiara, 20 households each in Auki (Malaita) and Gizo (Western), and 10 households each in Kirakira (Makira) and Buala (Isabel) were covered.

##### (2) Household size

The distribution of households, according to different size classification is shown in Table A-7.2. Households with 4-6 members are 26 percent in Honiara, 52 percent in Gizo, 36 percent in Auki, 20 percent in Kirakira and 40 percent in Buala; while the proportion with six or more members was 67 percent in Honiara, 36 percent in Gizo, 48 percent in Auki, 50 percent in Kirakira and 40 percent in Buala. The average size of all households in Solomon Islands, according to the Population Census in 1986, was estimated at 6.5 members per household.

##### (3) Occupation of household head and number of income earners in household

In Honiara 40 percent of the respondents were government employee, 29 percent private company employees, 18 percent self employed, and 7 percent professionals; while in the provincial capitals, government employee were 52 percent in Gizo, 84 percent in Auki, 78 percent in Buala and 12 percent in Kirakira (Table A-7.3).

Income earner refers to a working member of the household. In Honiara (Table A-7.4), of 125 households surveyed, 30 percent indicated one income earning member, 46 percent two income earning members and 14 percent three income earning members, and the rest had 4 or 5 income earners. In Gizo 48 percent had one-income earner, 36 percent two-income earners and the rest had three or five income earners in the house. In Auki, Kirakira and Buala 76-80 percent had one income earning member, and the rest were two income earners. Most of regular working members in the provincial urban areas are government servants and in Honiara, there are both government servants and private company employees.

(4) Monthly household income and expenditure on food

An examination of the household monthly income is shown in Table A-7.5. In Honiara, 19 percent earn less than SI\$750 a month, 18 percent earn between SI\$750-1000, 22 percent earned SI\$1000-1500, 16 percent earned SI\$1500-2000 and 17 percent earned SI\$2000-4000; while about 9 percent earn more than SI\$4000 a month. In the provinces incomes of less than SI\$750 were 36 percent in Gizo, 52 percent in Auki and 40 percent in Kirakira and Buala. Those earning between SI\$750-1000 were 50 percent in Buala, 32 percent in Gizo, 24 percent in Auki and 10 percent in Kirakira. There were no respondents earning more than SI\$4000.

With regard to monthly food expenditure (Table A-7.6), 55 percent of the respondents in Honiara spent SI\$100-300 a month, 52 percent in Gizo, 64 percent in Auki, 30 percent in Kirakira and 70 percent in Buala. Monthly expenditure in the category of SI\$300-450 were 16 percent in Honiara, 12 percent in Gizo, 16 percent in Auki, 40 percent in Kirakira and 10 percent in Buala. In Honiara and Gizo, 25-28 percent of spent more than SI\$450, and none in the other areas.

(5) Fish consumption

1) Preference

Most of the respondents in the survey preferred fish than chicken/meat (Table A-7.7). In Honiara 83 percent prefer fish, 88 percent in Gizo, 96 percent in Auki, and 100 percent in Kirakira and Buala. Those responded fish as a second preference were mainly in Honiara and Gizo. The reasons for preferring fish is shown in Table A-7.8. In the case of fresh fish, the reasons for first preference were "cheaper in price than chicken/meat", "like the taste" and "good for health". Some 32 percent in Honiara indicated "cheaper than chicken/meat", 22 percent "like the taste", 22 percent "good for health", 19 percent "quality is good" and "always available" by 5 percent. With regard to frozen fish which available only in Honiara, the main reason for preference was "always available" as shown by 45 percent of respondents, 28 percent "cheaper than fresh fish and chicken/meat". In case of canned fish, all the respondents indicated the consumption of canned fish. In Honiara 54 percent reported "can afford", 33 percent "always available", 10 percent "not messy when cooking" and the rest is due to taste. Some 90 percent in Gizo and Auki indicated availability as the reason for consumption, and 40 percent in Kirakira and Buala gave similar reasons.

The reasons for not preferring fish as first cited by respondents (Table A-7.9) who gave more than one reason, high price (33%), poor quality (27%), dislike

taste (20%) in case of fresh fish. With regard to frozen fish, all of the above respondents gave similar reasons.

2) Frequency of fish consumption in Honiara

The frequency of fish consumption by type, area and monthly income is shown in Tables A-7.10-a and A-7.10-b).

a) Fresh fish

Frequency of fresh fish consumption in relation to monthly income is shown in Table A-7.10-b. Some 41 percent consume fish twice a week, 32 percent once week and daily is about 5 percent. In relation to monthly income, some 35-40 percent in each category of income consume fresh fish once or twice a week.

b) Frozen fresh

With regard to frozen fish about 68 percent consume once week and about 18 percent indicated dislike for frozen fresh (Table A-7.10-b). In relation to income, 65-90 percent in each category consume frozen fish once a week.

c) Canned fish

Some 54 percent indicated daily consumption of canned fish, followed by 22 percent three/four times a week, 10 percent five or six times a week (Table A-7.10-a). High percentage of daily consumption are noticed in all the income groups ranging from 45-65 percent.

3) Frequency of fish consumption in the provinces

The frequency of fish consumption by type, area and monthly income is shown in Tables A-7.10-a for the provinces.

a) Fresh fish

In Gizo 40 percent consumed fresh fish three/four times a week followed 36 percent daily consumption. In Auki 56 percent consume three/four times a week and twice a week was 32 percent, and in Kirakira and Buala it was 70 percent consuming three/four times a week.

b) Canned fish

In terms of canned fish, the shares fluctuates according to places, in Gizo canned fish consumed three/four times were 40 percent, once a week was 28 percent and daily and twice a week was 16 percent each. Once a week and twice a week were high in Auki and Kirakira, 50-33 percent in Auki and 40-30

percent in Kirakira. In Buala daily consumption was 40 percent and consumption five/six times a week was 20 percent.

4) Money spent and quantity purchased each time

The money spent and quantity of fish purchase each time by the number of respondents in Honiara and in the provincial town areas are shown in Tables A-7.11-a/b to A-7.15-a/b.

a) Honiara

In Honiara more than 60 percent of the respondents indicated spending SISI\$12-20 for fish purchase each time. In terms of monthly income, those in the high income category tend to spend more money for fish purchase (Table A-7.11-b). In terms of quantity of fish purchased, the money spent was converted to fish weight equivalent using a retail price of about SISI\$6.00/kg. The quantity of fish consumed per meal per person increases with income, 340 g in an income category of less than SISI\$750 income to 414 g in more than SISI\$4000 income.

b) Provincial towns

In Gizo (Table A.6-12-a) 40 percent indicated SI\$5-10 for fish purchase and 48 percent spent SI\$10-12. The quantity of fish in a meal of one person (Table 1A-7.2-b) is about 200 g in SI\$750 income level and 275 g in higher income levels (SI\$2000-4000). In Auki about 64 percent (Table A-7.13-a) indicated a spending of SI\$5-10 and those spending SI\$10-12 were about 20 percent. The quantity of fish in a meal (Table 13-b) was 195 g in lower income levels and 232 g in high income levels (SI\$1500-2000). In Buala (Table A-7.14-a), 70 percent spend SI\$5-12 for fish purchase, and the quantity of fish consumed in a meal ranges from about 240 g to 350 g (Table A-6.14-b). In Kirakira (Table A-7.15-a), about 50 percent spend SI\$5-12 for fish and another 50 percent spends SI\$12-18. The amount of fish in their meal ranges from about 230 g to 450 g with income.

5) Purchase of canned fish

a) Honiara

In Honiara the response to the number of canned fish purchase by income category is shown in Table A-7.16. About 52 percent indicated a purchase two cans each time and about 20 percent indicated purchasing three or four cans. Those purchasing two cans at a time are relatively higher in all income

levels, and this reflects that higher income is not necessarily purchasing more number of cans.

b) Provincial towns

In Gizo (Table A-7.17), those purchasing two to three cans are about 88 percent, and in terms of income level the number of cans purchased increases with income level. In Auki (Table A-7.18) about 68 percent indicated purchasing two cans at a time, while in Buala (Table A-7.19), 70 percent indicated purchasing one can, and those purchasing two cans were 20 percent. In Kirakira (Table A-7.20), the percentage varies from 20 percent to 30 percent in relation to the number of cans purchased.

(6) Fish quality

The responses to the degree of fresh and frozen fish quality is shown in Table A-7.22. In Honiara, 66 percent indicated that fresh fish purchase is of good quality and 20 percent indicated excellent. In the provincial towns, 88 percent in Gizo, 68 percent in Auki, 30 percent in Kirakira and 40 percent in Buala indicated good quality. In terms of excellent quality 8 percent in Gizo, 24 percent in Auki, 30 percent in Kirakira and 50 percent in Buala. On the whole the quality of fresh fish available to consumers is good. In terms of frozen fish, which are only available to consumers in Honiara, 54 percent indicated fair quality and 29 percent good, and 16 percent poor quality.

3.2 Market survey

Market survey-1 of Honiara Central Market, and Rove Market was conducted using enumerators for about 20 days from June 21 to July 12, 1993 (Tables A-7.23 & A-7.24). The purpose of this survey was to count the number of eskies, particularly for fresh fish (reef and pelagic), and its origin as well as to estimate the quantity of fresh fish. The market was visited in the morning and evening. The weather during the survey was not good; it was rainy and the seas were rough. As a result, the landings or the number of eskies brought to Honiara were less than expected. Market survey-2 was conducted during phase 2 for 30 days from September 27 to October 30, 1993.

(1) Central Market

The Honiara Central Market is normally closed on Sundays and national holidays. During the Market survey-1, the Honiara Central market was opened for only 19 days, and the eskies of fresh fish were seen only for 16 days. During these 16 days, 65 eskies were noted with an estimated quantity of 3,690 kg of fish. Of these 65 eskies, 49 eskies

(75percent) were from Florida Islands (Gela), 7 eskies (11%) from Isabel, and the remaining 9 eskies (14%) were from Central (Russels), Guadalcanal (Marau and Lambi). On an average, there were 4 eskies a day with an estimate of 230 kg of fresh fish, besides the eskies of frozen fish, on an average about 25 eskies. During market survey-2, the weather was fairly good and there were a considerable number of eskies daily. A total of 466 eskies of fresh fish were counted at the Honiara Central Market. The total quantity of fresh fish traded during the 30-day period was 36.2 MT which amounted to an average of 1.2 MT a day. By way of origin about 77 percent was from Central Province (mainly Florida Islands), 12 percent from Isabel, 8 percent from Guadalcanal and 3 percent from Malaita provinces.

(2) Rove market

The Rove market is normally open on Sundays except on national holidays. During the survey period, eskies of fresh fish were seen only 12 days, and 26 eskies were recorded with an estimate of 1,540 kg of fish. Of these 26 eskies, 11 eskies (42 percent) were from Russels (Central Province), 10 eskies (38 percent) from Florida Islands (Central Province), and the remaining 5 eskies (20 percent) from Malu'u (Malaita Province), Lambi (Guadalcanal Province). On an average there were 2 eskies a day with 128 kg of fish, in addition 2 or 3 eskies of frozen fish. During market survey-2, there were no eskies of fresh fish at Rove market.

Table A-7.1 Fish Consumption Survey in Honiara and Provincial Urban  
Unit: Households

|            | Honiara | Gizo | Auki | Buala | Kirakira | Total |
|------------|---------|------|------|-------|----------|-------|
| Households | 4,765   | 590  | 487  | 333   | 385      | 6560  |
| Sampled HH | 125     | 20   | 20   | 10    | 10       | 185   |
| % sample   | 3%      | 3%   | 4%   | 3%    | 3%       | (3%)  |

Source: 1) Solomon Islands Statistical Bulletin No. 16/92

2) Population Census, MOP, 1986

Table A-7.2 Distribution of Household Size

|             | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|-------------|----------|----------|----------|----------|---------|
| 1-3 members | 6 (5%)   | 3 (12%)  | 4 (16%)  | 3 (30%)  | 2 (20%) |
| 4-6 members | 36 (29%) | 13 (52%) | 9 (36%)  | 2 (20%)  | 4 (40%) |
| > 6 members | 83 (66%) | 9 (36%)  | 12 (48%) | 5 (50%)  | 4 (40%) |
|             | 125      | 25       | 25       | 10       | 10      |

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

Table A-7.3 Occupation of Household Head

|                                     | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|-------------------------------------|----------|----------|----------|----------|---------|
| Professional (Doctor, Lawyer, etc.) | 9 (7%)   | 0 (0%)   | 0 (0%)   | 2 (20%)  | 0 (0%)  |
| Self-employed                       | 22 (18%) | 3 (12%)  | 1 (4%)   | 0 (0%)   | 0 (0%)  |
| Service (Waiter, etc.)              | 2 (2%)   | 0 (0%)   | 0 (0%)   | 1 (4%)   | 0 (0%)  |
| Merchant                            | 0 (0%)   | 2 (8%)   | 0 (0%)   | 1 (4%)   | 0 (0%)  |
| Private company employee            | 36 (29%) | 2 (8%)   | 1 (4%)   | 1 (4%)   | 0 (0%)  |
| Govt. employee                      | 50 (40%) | 13 (52%) | 21 (84%) | 3 (12%)  | 7 (70%) |
| Retired                             | 2 (2%)   | 0 (0%)   | 1 (4%)   | 0 (0%)   | 0 (0%)  |
| Labourer                            | 0 (0%)   | 0 (0%)   | 1 (4%)   | 1 (4%)   | 0 (0%)  |
| Others                              | 4 (3%)   | 5 (20%)  | 0 (0%)   | 1 (4%)   | 3 (30%) |
|                                     | 125      | 25       | 25       | 10       | 10      |

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

Table A-7.4 Number of Income Earning Members in the House.

|           | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|-----------|----------|----------|----------|----------|---------|
| 1 member  | 37 (30%) | 12 (48%) | 19 (76%) | 8 (80%)  | 8 (80%) |
| 2 members | 58 (46%) | 9 (36%)  | 5 (20%)  | 2 (20%)  | 1 (10%) |
| 3 members | 18 (14%) | 2 (8%)   | 1 (4%)   | 0 (0%)   | 1 (10%) |
| 4 members | 7 (6%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)  |
| 5 members | 5 (4%)   | 2 (8%)   | 0 (0%)   | 0 (0%)   | 0 (0%)  |
|           | 125      | 25       | 25       | 10       | 10      |

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

Table A-7.5 Monthly Household Income

|             | Honiara  | Gizo    | Auki     | Kirakira | Buala   |
|-------------|----------|---------|----------|----------|---------|
| < \$750     | 23 (18%) | 9 (36%) | 13 (52%) | 4 (40%)  | 4 (40%) |
| \$751-1000  | 22 (18%) | 8 (32%) | 6 (24%)  | 1 (10%)  | 5 (50%) |
| \$1001-1500 | 28 (22%) | 1 (4%)  | 4 (16%)  | 3 (30%)  | 1 (10%) |
| \$1501-2000 | 20 (16%) | 5 (20%) | 2 (8%)   | 1 (10%)  | 0 (0%)  |
| \$2000-4000 | 21 (17%) | 2 (8%)  | 0 (0%)   | 1 (10%)  | 0 (0%)  |
| > \$4000    | 11 (9%)  | 0 (0%)  | 0 (0%)   | 0 (0%)   | 0 (0%)  |
|             | 125      | 25      | 25       | 10       | 10      |

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

Table A-7.6 Monthly Expenditure on Food

|           | Honiara  | Gizo    | Auki    | Kirakira | Buala   |
|-----------|----------|---------|---------|----------|---------|
| <\$100    | 6 (5%)   | 2 (8%)  | 5 (20%) | 3 (30%)  | 2 (20%) |
| \$101-200 | 28 (22%) | 6 (24%) | 7 (28%) | 2 (20%)  | 4 (40%) |
| \$201-300 | 40 (32%) | 7 (28%) | 9 (36%) | 1 (10%)  | 3 (30%) |
| \$301-400 | 20 (16%) | 3 (12%) | 4 (16%) | 4 (40%)  | 1 (10%) |
| >\$400 -- | 31 (25%) | 7 (28%) | 0 (0%)  | 0 (0%)   | 0 (0%)  |
|           | 125      | 25      | 25      | 10       | 10      |

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

Table A-7.7 Preference of Fish or Meat/Chicken

|                                  | Honiara   | Gizo     | Auki     | Kirakira  | Buala     |
|----------------------------------|-----------|----------|----------|-----------|-----------|
| First Preference (Fish)          | 104 (83%) | 22 (88%) | 24 (96%) | 10 (100%) | 10 (100%) |
| Second Preference (Meat/Chicken) | 21 (17%)  | 3 (12%)  | 1 (4%)   | 0 (0%)    | 0 (0%)    |
|                                  | 125       | 25       | 25       | 10        | 10        |
| First Preference (Meat/Chicken)  | 21 (17%)  | 3 (12%)  | 1 (4%)   | 0 (0%)    | 0 (0%)    |
| Second Preference (Fish)         | 104 (83%) | 22 (88%) | 23 (96%) | 10 (100%) | 10 (100%) |
|                                  | 125       | 25       | 24       | 10        | 10        |

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

Table A-7.8 Reasons for preferring fish as first preference

|  | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|--|----------|----------|----------|----------|---------|
| <b>Fresh Fish</b>                      |          |          |          |          |         |
| Like the taste/better than frozen fish | 27 (22%) | 1 (4%)   | 3 (12%)  | 6 (38%)  | 3 (30%) |
| Quality is good                        | 24 (19%) | 1 (4%)   | 4 (16%)  | 1 (6%)   | 0 (0%)  |
| Always available                       | 6 (5%)   | 3 (12%)  | 2 (8%)   | 5 (31%)  | 4 (40%) |
| Cheaper than meat/chicken              | 40 (32%) | 20 (80%) | 12 (48%) | 3 (19%)  | 3 (30%) |
| Good for health                        | 28 (22%) | 0 (0%)   | 4 (16%)  | 1 (6%)   | 0 (0%)  |
|  | 125      | 25       | 25       | 16       | 10      |
| <b>Frozen Fish</b>                     |          |          |          |          |         |
| Like the taste/better than Fresh fish  | 2 (2%)   | 0        |          |          |         |
| Quality is good                        | 9 (9%)   | 0        |          |          |         |
| Cheaper than Fresh fish                | 17 (17%) | 0        |          |          |         |
| Cheaper than Fresh fish & meat/chicken | 28 (28%) | 0        |          |          |         |
| Always available                       | 45 (45%) | 0        |          |          |         |
|  | 101      | 0        | 0        | 0        | 0       |
| <b>Canned Fish</b>                     |          |          |          |          |         |
| Can afford                             | 60 (54%) | 0        | 1 (4%)   | 5 (50%)  | 1 (10%) |
| Not messy when cooking                 | 11 (10%) | 0        | 1 (4%)   | 0 (0%)   | 5 (50%) |
| Like the taste/better than frozen fish | 3 (3%)   | 0        | 1 (4%)   | 0 (0%)   | 0 (0%)  |
| Like the taste/better than fresh fish  | 1 (1%)   | 0        | 0 (0%)   | 1 (10%)  | 0 (0%)  |
| Always available                       | 37 (33%) | 0        | 22 (88%) | 4 (40%)  | 4 (40%) |
|  | 112      | 0        | 25       | 10       | 10      |

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



Table A-7.9 Reasons for not preferring fish as first preference

|                      | Honiara  | Gizo    | Auki    | Kirakira | Buala |
|----------------------|----------|---------|---------|----------|-------|
| Fresh Fish           |          |         |         |          |       |
| Don't like the taste | 10 (20%) | 1 (33%) | 1 (25%) | 0        | 0     |
| Poor quality         | 14 (27%) | 0 (0%)  | 0 (0%)  | 0        | 0     |
| High price           | 17 (33%) | 2 (67%) | 3 (75%) | 0        | 0     |
| Not always available | 10 (20%) | 0 (0%)  | 0 (0%)  | 0        | 0     |
|                      | 51       | 3       | 4       | 0        | 0     |
| Frozen Fish          |          |         |         |          |       |
| Don't like the taste | 17 (33%) | 0       | 0       | 0        | 0     |
| Poor quality         | 17 (33%) | 0       | 0       | 0        | 0     |
| High price           | 17 (33%) | 0       | 0       | 0        | 0     |
| Not always available |          | 0       | 0       | 0        | 0     |
|                      | 51       | 0       | 0       | 0        | 0     |

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

Table A-7.10-a Frequency of fish consumption

|                | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|----------------|----------|----------|----------|----------|---------|
| Fresh Fish     |          |          |          |          |         |
| Daily          | 6 (5%)   | 9 (36%)  | 0 (0%)   | 0 (0%)   | 1 (10%) |
| Once/week      | 40 (32%) | 2 (8%)   | 2 (8%)   | 1 (10%)  | 1 (10%) |
| Twice/week     | 51 (41%) | 2 (8%)   | 8 (32%)  | 2 (20%)  | 1 (10%) |
| 3-4 times/week | 25 (20%) | 10 (40%) | 14 (56%) | 7 (70%)  | 7 (70%) |
| 5-6 times/week | 3 (2%)   | 2 (8%)   | 1 (4%)   | 0 (0%)   | 0 (0%)  |
|                | 125      | 25       | 25       | 10       | 10      |
| Frozen Fish    |          |          |          |          |         |
| Daily          | 3 (2%)   | 0        | 0        | 0        | 0       |
| Once/week      | 68 (54%) | 0        | 0        | 0        | 0       |
| Twice/week     | 24 (19%) | 0        | 0        | 0        | 0       |
| 3-4 times/week | 7 (6%)   | 0        | 0        | 0        | 0       |
| 5-6 times/week |          | 0        | 0        | 0        | 0       |
| Do not eat     | 23 (18%) | 0        | 0        | 0        | 0       |
|                | 125      | 0        | 0        | 0        | 0       |
| Canned Fish    |          |          |          |          |         |
| Daily          | 67 (54%) | 4 (16%)  | 0 (0%)   | 2 (20%)  | 4 (40%) |
| Once/week      | 10 (8%)  | 7 (28%)  | 3 (50%)  | 4 (40%)  | 1 (10%) |
| Twice/week     | 9 (7%)   | 4 (16%)  | 2 (33%)  | 3 (30%)  | 2 (20%) |
| 3-4 times/week | 27 (22%) | 10 (40%) | 1 (17%)  | 1 (10%)  | 1 (10%) |
| 5-6 times/week | 12 (10%) | 0 (0%)   | 0 (0%)   | 0 (0%)   | 2 (20%) |
|                | 125      | 25       | 6        | 10       | 10      |

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

Table A-7.10-b Frequency of fish consumption in Honiara

| Fresh fish     |           |                           |           |           |           |           |
|----------------|-----------|---------------------------|-----------|-----------|-----------|-----------|
| Monthly Income | Responses | Fresh Fish (Reef/Pelagic) |           |           |           |           |
|                |           | Daily                     | 1/week    | 2/week    | 3-4/week  | 5-6/week  |
| <\$750         | 23 (18%)  | 1<br>4%                   | 6<br>26%  | 9<br>39%  | 5<br>22%  | 2<br>9%   |
| \$750-1000     | 22 (18%)  | 1<br>5%                   | 8<br>36%  | 8<br>36%  | 5<br>23%  | 0<br>0%   |
| \$1000-1500    | 27 (22%)  | 0<br>0%                   | 7<br>26%  | 12<br>44% | 7<br>26%  | 1<br>4%   |
| \$1500-2000    | 20 (16%)  | 1<br>5%                   | 8<br>40%  | 8<br>40%  | 3<br>15%  | 0<br>0%   |
| \$2000-4000    | 22 (18%)  | 2<br>9%                   | 9<br>41%  | 7<br>32%  | 4<br>18%  | 0<br>0%   |
| >\$4000        | 11 (9%)   | 1<br>9%                   | 2<br>18%  | 7<br>64%  | 1<br>9%   | 0<br>0%   |
|                | 125       | 6<br>5%                   | 40<br>32% | 51<br>41% | 25<br>20% | 3<br>2%   |
| Frozen fish    |           |                           |           |           |           |           |
| Monthly Income | Responses | Frozen Fish (STL)         |           |           |           |           |
|                |           | Daily                     | 1/week    | 2/week    | 3-4/week  | 5-6/week  |
| <\$750         | 21 (21%)  | 0<br>0%                   | 19<br>90% | 2<br>10%  | 0<br>0%   | 0<br>0%   |
| \$750-1000     | 17 (17%)  | 1<br>6%                   | 10<br>59% | 4<br>24%  | 2<br>12%  | 0<br>0%   |
| \$1000-1500    | 26 (25%)  | 0<br>0%                   | 17<br>65% | 6<br>23%  | 3<br>12%  | 0<br>0%   |
| \$1500-2000    | 14 (14%)  | 0<br>0%                   | 7<br>50%  | 5<br>36%  | 2<br>14%  | 0<br>0%   |
| \$2000-4000    | 17 (17%)  | 1<br>6%                   | 11<br>65% | 4<br>24%  | 1<br>6%   | 0<br>0%   |
| >\$4000        | 7 (7%)    | 0<br>0%                   | 5<br>71%  | 2<br>29%  | 0<br>0%   | 0<br>0%   |
|                | 102       | 2<br>2%                   | 69<br>68% | 23<br>23% | 8<br>8%   | 0<br>0%   |
|                |           |                           |           |           |           | 23        |
| Canned fish    |           |                           |           |           |           |           |
| Monthly Income | Responses | Canned Fish               |           |           |           |           |
|                |           | Daily                     | 1/week    | 2/week    | 3-4/week  | 5-6/week  |
| <\$750         | 23 (18%)  | 15<br>65%                 | 1<br>4%   | 3<br>13%  | 3<br>13%  | 1<br>4%   |
| \$750-1000     | 22 (18%)  | 13<br>59%                 | 1<br>5%   | 3<br>14%  | 3<br>14%  | 2<br>9%   |
| \$1000-1500    | 27 (22%)  | 11<br>41%                 | 1<br>4%   | 1<br>4%   | 10<br>37% | 4<br>15%  |
| \$1500-2000    | 20 (16%)  | 11<br>55%                 | 4<br>20%  | 0<br>0%   | 5<br>25%  | 0<br>0%   |
| \$2000-4000    | 22 (18%)  | 10<br>45%                 | 2<br>9%   | 0<br>0%   | 5<br>23%  | 5<br>23%  |
| >\$4000        | 11 (9%)   | 7<br>64%                  | 1<br>9%   | 2<br>18%  | 1<br>9%   | 0<br>0%   |
|                | 125       | 67<br>54%                 | 10<br>8%  | 9<br>7%   | 27<br>22% | 12<br>10% |

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

Table A-7.11-a Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

| Honiara                         |            | Money Spend for Fish Purchase Each Time |            |            |            |        |
|---------------------------------|------------|---|------------|------------|------------|--------|
| Monthly Inc Responses<br>Income |            | <\$5                                    | \$5-10     | \$10-12    | \$12-18    | >\$20  |
|                                 |            | Converted Fish Weight Equivalent        |            |            |            |        |
|                                 |            | <1 kg                                   | 0.8-1.6 kg | 1.6-2.0 kg | 2.0-3.0 kg | >3.0kg |
| <\$750                          | 23 (18%)   | 0                                       | 3          | 8          | 7          | 5      |
|                                 |            | 0%                                      | 13%        | 35%        | 30%        | 22%    |
| \$750-1000                      | 22 (18%)   | 0                                       | 2          | 2          | 11         | 7      |
|                                 |            | 0%                                      | 9%         | 9%         | 50%        | 32%    |
| \$1000-1500                     | 27 (22%)   | 0                                       | 2          | 6          | 8          | 11     |
|                                 |            | 0%                                      | 7%         | 22%        | 30%        | 41%    |
| \$1500-2000                     | 20 (16%)   | 1                                       | 1          | 2          | 9          | 7      |
|                                 |            | 5%                                      | 5%         | 10%        | 45%        | 35%    |
| \$2000-4000                     | 22 (18%)   | 0                                       | 0          | 2          | 11         | 9      |
|                                 |            | 0%                                      | 0%         | 9%         | 50%        | 41%    |
| >\$4000                         | 11 (9%)    | 0                                       | 1          | 1          | 1          | 8      |
|                                 |            | 0%                                      | 9%         | 9%         | 9%         | 73%    |
|                                 | 125 (100%) | 1                                       | 9          | 21         | 47         | 47     |

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

Remarks: Retail fish price of \$6.00/kg is considered.

Table A-7.11-b Number of Responses to Quantity of Fish Purchased Each Time in relation to Monthly Income

| Monthly<br>Income | Responses  | Converted Fish Weight Equivalent |            |            |            |        | Total<br>(kg) | Q'ty of fish//person<br>per meal (kg) |
|-------------------|------------|----------------------------------|------------|------------|------------|--------|---------------|---------------------------------------|
|                   |            | <1 kg                            | 0.8-1.6 kg | 1.6-2.5 kg | 2.5-3.0 kg | >3.0kg |               |                                       |
| <\$750            | 23 (18%)   | 0                                | 3.9        | 14.4       | 17.5       | 15     | 50.8          | 0.340                                 |
| \$750-1000        | 22 (18%)   | 0                                | 2.6        | 3.6        | 27.5       | 21     | 54.7          | 0.383                                 |
| \$1000-1500       | 27 (22%)   | 0                                | 2.6        | 10.8       | 20         | 33     | 66.4          | 0.378                                 |
| \$1500-2000       | 20 (15%)   | 0.8                              | 1.3        | 3.6        | 22.5       | 21     | 49.2          | 0.378                                 |
| \$2000-4000       | 22 (18%)   | 0                                | 0          | 3.6        | 27.5       | 27     | 58.1          | 0.406                                 |
| >\$4000           | 11 (9%)    | 0                                | 1.3        | 1.8        | 2.5        | 24     | 29.6          | 0.414                                 |
|                   | 125 (100%) |                                  |            |            |            |        | 308.8         |                                       |

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

Remarks: Average number of persons in an household considered is 6.5 persons.

Table A-7.12-a Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

Gizo

| Monthly Inc Responses<br>Income |           | Money Spend for Fish Purchase Each Time |            |            |            |         |
|---------------------------------|-----------|---|------------|------------|------------|---------|
|                                 |           | <\$5                                    | \$5-10     | \$10-12    | \$12-18    | >\$20   |
|                                 |           | Converted Fish Weight Equivalent        |            |            |            |         |
|                                 |           | <1 kg                                   | 0.8-1.6 kg | 1.6-2.0 kg | 2.0-3.0 kg | >3.0kg  |
| <\$750                          | 9 (36%)   | 1<br>11%                                | 6<br>67%   | 2<br>22%   | 0<br>0%    | 0<br>0% |
| \$750-1000                      | 8 (32%)   | 1<br>13%                                | 2<br>25%   | 4<br>50%   | 0<br>0%    | 0<br>0% |
| \$1000-1500                     | 1 (4%)    | 0<br>0%                                 | 0<br>0%    | 1<br>100%  | 0<br>0%    | 0<br>0% |
| \$1500-2000                     | 5 (20%)   | 0<br>0%                                 | 1<br>20%   | 4<br>80%   | 0<br>0%    | 0<br>0% |
| \$2000-4000                     | 2 (8%)    | 0<br>0%                                 | 1<br>50%   | 0<br>0%    | 1<br>50%   | 0<br>0% |
| >\$4000                         | 0 (0%)    | 0                                       | 0          | 0          | 0          | 0       |
|                                 | 25 (100%) | 2                                       | 10         | 12         | 1          | 0       |

Remarks: Retail fish price of \$6.00/kg is considered.

Table A-7.12-b Responses to Quantity of Fish Purchased Each Time in relation to Monthly Income

| Monthly Income | Responses | Converted Fish Weight Equivalent |            |            |            |        | Total (kg) | Q'ty of fish//person per meal (kg) |
|----------------|-----------|----------------------------------|------------|------------|------------|--------|------------|------------------------------------|
|                |           | <1 kg                            | 0.8-1.6 kg | 1.6-2.5 kg | 2.5-3.0 kg | >3.0kg |            |                                    |
| <\$750         | 9 (36%)   | 0.85                             | 8.1        | 3.8        | 0          | 0      | 12.75      | 0.202                              |
| \$750-1000     | 8 (32%)   | 0.85                             | 2.7        | 7.6        | 0          | 0      | 11.15      | 0.199                              |
| \$1000-1500    | 1 (4%)    | 0                                | 0          | 1.9        | 0          | 0      | 1.9        | 0.271                              |
| \$1500-2000    | 5 (20%)   | 0                                | 1.35       | 7.6        | 0          | 0      | 8.95       | 0.256                              |
| \$2000-4000    | 2 (8%)    | 0                                | 1.35       | 0          | 2.5        | 0      | 3.85       | 0.275                              |
| >\$4000        | 0 (0%)    | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
|                | 25 (100%) |                                  |            |            |            |        | 38.6       |                                    |

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

Remarks: Average number of persons in an household considered is seven.

Table A-7.13-a Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

Auki

| Monthly Inc Responses<br>Income |          | Money Spend for Fish Purchase Each Time |            |            |            |        |
|---------------------------------|----------|---|------------|------------|------------|--------|
|                                 |          | <\$5                                    | \$5-10     | \$10-12    | \$12-18    | >\$20  |
|                                 |          | Converted Fish Weight Equivalent        |            |            |            |        |
|                                 |          | <1 kg                                   | 0.8-1.6 kg | 1.6-2.0 kg | 2.0-3.0 kg | >3.0kg |
| <\$750                          | 13 (52%) | 3                                       | 8          | 1          | 1          | 0      |
|                                 |          | 23%                                     | 62%        | 8%         | 8%         | 0%     |
| \$750-1000                      | 6 (24%)  | 0                                       | 4          | 2          | 0          | 0      |
|                                 |          | 0%                                      | 67%        | 33%        | 0%         | 0%     |
| \$1000-1500                     | 4 (16%)  | 0                                       | 3          | 1          | 0          | 0      |
|                                 |          | 0%                                      | 75%        | 25%        | 0%         | 0%     |
| \$1500-2000                     | 2 (8%)   | 0                                       | 1          | 1          | 0          | 0      |
|                                 |          | 0%                                      | 50%        | 50%        | 0%         | 0%     |
| \$2000-4000                     | 0 (0%)   | 0                                       | 0          | 0          | 0          | 0      |
|                                 |          | 0%                                      | 0%         | 0%         | 0%         | 0%     |
| >\$4000                         | 0 (0%)   | 0                                       | 0          | 0          | 0          | 0      |
|                                 |          | 0%                                      | 0%         | 0%         | 0%         | 0%     |
| 25 (100%)                       |          | 3                                       | 16         | 5          | 1          | 0      |

Remarks: Retail fish price of \$6.00/kg is considered.

Table A-7.13-b Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

| Monthly Income | Responses | Converted Fish Weight Equivalent |            |            |            |        | Total (kg) | Q'ty of fish//person per meal (kg) |
|----------------|-----------|----------------------------------|------------|------------|------------|--------|------------|------------------------------------|
|                |           | <1 kg                            | 0.8-1.6 kg | 1.6-2.5 kg | 2.5-3.0 kg | >3.0kg |            |                                    |
| <\$750         | 13 (52%)  | 2.55                             | 10.8       | 1.9        | 2.5        | 0      | 17.75      | 0.195                              |
| \$750-1000     | 6 (24%)   | 0                                | 5.4        | 3.8        | 0          | 0      | 9.2        | 0.219                              |
| \$1000-1500    | 4 (16%)   | 0                                | 4.05       | 1.9        | 0          | 0      | 5.95       | 0.213                              |
| \$1500-2000    | 2 (8%)    | 0                                | 1.35       | 1.9        | 0          | 0      | 3.25       | 0.232                              |
| \$2000-4000    | 0 (0%)    | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
| >\$4000        | 0 (0%)    | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
| 25 (100%)      |           |                                  |            |            |            |        | 36.15      |                                    |

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

Remarks: Average number of persons in an household considered is seven.

Table A-7.14-a Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

## Buala

| Monthly Income | Responses (HH) | Money Spend for Fish Purchase Each Time |            |            |            |         |
|----------------|----------------|---|------------|------------|------------|---------|
|                |                | <\$5                                    | \$5-10     | \$10-12    | \$12-18    | >\$20   |
|                |                | Converted Fish Weight Equivalent        |            |            |            |         |
|                |                | <1 kg                                   | 0.8-1.6 kg | 1.6-2.0 kg | 2.0-3.0 kg | >3.0kg  |
| <\$750         | 4 (40%)        | 1<br>25%                                | 3<br>75%   | 0<br>0%    | 0<br>0%    | 0<br>0% |
| \$750-1000     | 5 (50%)        | 0<br>0%                                 | 1<br>20%   | 3<br>60%   | 1<br>20%   | 0<br>0% |
| \$1000-1500    | 1 (10%)        | 0<br>0%                                 | 0<br>0%    | 0<br>0%    | 1<br>100%  | 0<br>0% |
| \$1500-2000    | 0 (0%)         | 0<br>0%                                 | 0<br>0%    | 0<br>0%    | 0<br>0%    | 0<br>0% |
| \$2000-4000    | 0 (0%)         | 0<br>0%                                 | 0<br>0%    | 0<br>0%    | 0<br>0%    | 0<br>0% |
| >\$4000        | 0 (0%)         | 0<br>0%                                 | 0<br>0%    | 0<br>0%    | 0<br>0%    | 0<br>0% |
|                | 10 (40%)       | 1                                       | 4          | 3          | 2          | 0       |

Remarks: Retail fish price of \$6.00/kg is considered.

Table A-7.14-b Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

| Monthly Income | Responses (HH) | Converted Fish Weight Equivalent |            |            |            |        | Total (kg) | Q'ty of fish//person per meal (kg) |
|----------------|----------------|----------------------------------|------------|------------|------------|--------|------------|------------------------------------|
|                |                | <1 kg                            | 0.8-1.6 kg | 1.6-2.5 kg | 2.5-3.0 kg | >3.0kg |            |                                    |
| <\$750         | 4 (16%)        | 0.85                             | 4.05       | 0          | 0          | 0      | 4.9        | 0.175                              |
| \$750-1000     | 5 (20%)        | 0                                | 1.35       | 5.7        | 2.5        | 0      | 9.55       | 0.273                              |
| \$1000-1500    | 1 (4%)         | 0                                | 0          | 0          | 2.5        | 0      | 2.5        | 0.357                              |
| \$1500-2000    | 0 (0%)         | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
| \$2000-4000    | 0 (0%)         | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
| >\$4000        | 0 (0%)         | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
|                | 10 (40%)       |                                  |            |            |            |        | 16.95      |                                    |

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

Remarks: Average number of persons in an household considered is seven.

Table A-6.15-a Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

## Kirakira

| Monthly Income | Responses (HH) | Money Spend for Fish Purchase Each Time |            |            |            |        |
|----------------|----------------|---|------------|------------|------------|--------|
|                |                | <\$5                                    | \$5-10     | \$10-12    | \$12-18    | >\$20  |
|                |                | Converted Fish Weight Equivalent        |            |            |            |        |
|                |                | <1 kg                                   | 0.8-1.6 kg | 1.6-2.0 kg | 2.0-3.0 kg | >3.0kg |
| <\$750         | 4 (40%)        | 0                                       | 3          | 0          | 1          | 0      |
|                |                | 0%                                      | 75%        | 0%         | 25%        | 0%     |
| \$750-1000     | 1 (10%)        | 0                                       | 0          | 1          | 0          | 0      |
|                |                | 0%                                      | 0%         | 100%       | 0%         | 0%     |
| \$1000-1500    | 3 (30%)        | 0                                       | 0          | 0          | 1          | 2      |
|                |                | 0%                                      | 0%         | 0%         | 33%        | 67%    |
| \$1500-2000    | 1 (10%)        | 0                                       | 0          | 0          | 1          | 0      |
|                |                | 0%                                      | 0%         | 0%         | 100%       | 0%     |
| \$2000-4000    | 1 (10%)        | 0                                       | 0          | 1          | 0          | 0      |
|                |                | 0%                                      | 0%         | 100%       | 0%         | 0%     |
| >\$4000        | 0 (0%)         | 0                                       | 0          | 0          | 0          | 0      |
|                |                |   |            |            |            |        |
|                | 10 (100%)      | 0                                       | 3          | 2          | 3          | 2      |

Remarks: Retail fish price of \$6.00/kg is considered.

Table A-7.15-b Responses to Money Spend Each Time for Purchase of Fish in relation to Monthly Income

| Monthly Income | Responses (HH) | Converted Fish Weight Equivalent |            |            |            |        | Total (kg) | Q'ty of fish//person per meal (kg) |
|----------------|----------------|----------------------------------|------------|------------|------------|--------|------------|------------------------------------|
|                |                | <1 kg                            | 0.8-1.6 kg | 1.6-2.5 kg | 2.5-3.0 kg | >3.0kg |            |                                    |
| <\$750         | 4 (16%)        | 0                                | 4.05       | 0          | 2.5        | 0      | 6.55       | 0.234                              |
| \$750-1000     | 1 (4%)         | 0                                | 0          | 1.9        | 0          | 0      | 1.9        | 0.271                              |
| \$1000-1500    | 3 (12%)        | 0                                | 0          | 0          | 2.5        | 7      | 9.5        | 0.452                              |
| \$1500-2000    | 1 (4%)         | 0                                | 0          | 0          | 2.5        | 0      | 2.5        | 0.000                              |
| \$2000-4000    | 1 (4%)         | 0                                | 0          | 1.9        | 0          | 0      | 1.9        | 0.000                              |
| >\$4000        | 0 (0%)         | 0                                | 0          | 0          | 0          | 0      | 0          | 0.000                              |
|                |                |                                  |            |            |            |        |            |                                    |
|                | 10 (40%)       |                                  |            |            |            |        | 22.35      |                                    |

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

Remarks: Average number of persons in an household considered is seven.

Table A-7.16 Number of Responses in Relation to Number of Canned Fish Purchased Each Time by Income in Honiara

| Monthly<br>Income | Canned Fish |       |        |       |        |       |        |       | Sub-total |
|-------------------|-------------|-------|--------|-------|--------|-------|--------|-------|-----------|
|                   | 1 can       |       | 2 cans |       | 3 cans |       | 4 cans |       |           |
| <\$750            | 2           | (9%)  | 14     | (61%) | 4      | (17%) | 3      | (13%) | 23 (100%) |
| \$750-1000        | 2           | (10%) | 14     | (70%) | 0      | (0%)  | 4      | (20%) | 20 (100%) |
| \$1000-1500       | 3           | (10%) | 18     | (62%) | 4      | (14%) | 4      | (14%) | 29 (100%) |
| \$1500-2000       | 0           | (0%)  | 10     | (56%) | 3      | (17%) | 5      | (28%) | 18 (100%) |
| \$2000-4000       | 2           | (9%)  | 6      | (26%) | 12     | (52%) | 3      | #REF! | 23 (100%) |
| >\$4000           | 1           | (8%)  | 3      | (25%) | 3      | (25%) | 5      | (42%) | 12 (100%) |
|                   | 10          | (8%)  | 65     | (52%) | 26     | (21%) | 24     | (19%) | 125       |

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

Table A-7.17 Number of Responses in Relation to Number of Canned Fish Purchased Each Time by Income in Gizo

| Monthly<br>Income | Canned Fish |       |        |       |        |        |        |       | Sub-total |
|-------------------|-------------|-------|--------|-------|--------|--------|--------|-------|-----------|
|                   | 1 can       |       | 2 cans |       | 3 cans |        | 4 cans |       |           |
| <\$750            | 1           | (11%) | 6      | (67%) | 2      | (22%)  | 0      | (0%)  | 9 (100%)  |
| \$750-1000        | 1           | (13%) | 3      | (38%) | 4      | (50%)  | 0      | (0%)  | 8 (100%)  |
| \$1000-1500       | 0           | (0%)  | 0      | (0%)  | 2      | (100%) | 0      | (0%)  | 2 (100%)  |
| \$1500-2000       | 0           | (0%)  | 1      | (25%) | 3      | (75%)  | 0      | (0%)  | 4 (100%)  |
| \$2000-4000       | 0           | (0%)  | 1      | (50%) | 0      | (0%)   | 1      | (50%) | 2 (100%)  |
| >\$4000           | 0           | (0%)  | 0      | (0%)  | 0      | (0%)   | 0      | (0%)  | 0 (0%)    |
|                   | 2           | (8%)  | 11     | (44%) | 11     | (44%)  | 1      | (4%)  | 25        |

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



Table A-7.18 Number of Responses in Relation to Number of Canned Fish Purchased Each Time by Income in Auki

| Monthly Income | Canned Fish |          |         |        | Sub-total |
|----------------|-------------|----------|---------|--------|-----------|
|                | 1 can       | 2 cans   | 3 cans  | 4 cans |           |
| <\$750         | 3 (23%)     | 8 (62%)  | 1 (8%)  | 1 (8%) | 13 (100%) |
| \$750-1000     | 0 (0%)      | 4 (100%) | 0 (0%)  | 0 (0%) | 4 (100%)  |
| \$1000-1500    | 0 (0%)      | 4 (67%)  | 2 (33%) | 0 (0%) | 6 (100%)  |
| \$1500-2000    | 0 (0%)      | 1 (50%)  | 1 (50%) | 0 (0%) | 2 (100%)  |
| \$2000-4000    | 0 (0%)      | 0 (0%)   | 0 (0%)  | 0 (0%) | 0 (0%)    |
| >\$4000        | 0 (0%)      | 0 (0%)   | 0 (0%)  | 0 (0%) | 0 (0%)    |
|                | 3 (12%)     | 17 (68%) | 4 (16%) | 1 (4%) | 25        |

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

Table A-7.19 Number of Responses in Relation to Number of Canned Fish Purchased Each Time by Income in Buala

| Monthly Income | Canned Fish |          |         |        | Sub-total |
|----------------|-------------|----------|---------|--------|-----------|
|                | 1 can       | 2 cans   | 3 cans  | 4 cans |           |
| <\$750         | 3 (75%)     | 0 (0%)   | 1 (25%) | 0 (0%) | 4 (100%)  |
| \$750-1000     | 4 (80%)     | 1 (20%)  | 0 (0%)  | 0 (0%) | 5 (100%)  |
| \$1000-1500    | 0 (0%)      | 1 (100%) | 0 (0%)  | 0 (0%) | 1 (100%)  |
| \$1500-2000    | 0 (0%)      | 0 (0%)   | 0 (0%)  | 0 (0%) | 0 (0%)    |
| \$2000-4000    | 0 (0%)      | 0 (0%)   | 0 (0%)  | 0 (0%) | 0 (0%)    |
| >\$4000        | 0 (0%)      | 0 (0%)   | 0 (0%)  | 0 (0%) | 0 (0%)    |
|                | 7 (70%)     | 2 (20%)  | 1 (10%) | 0 (0%) | 10        |

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

Table A-7.20 No of Responses in Relation to Number of Canned Fish Purchased Each Time by Income in Kirakira

| Monthly Income | Canned Fish |         |         |          | Sub-total |
|----------------|-------------|---------|---------|----------|-----------|
|                | 1 can       | 2 cans  | 3 cans  | 4 cans   |           |
| <\$750         | 1 (25%)     | 1 (25%) | 2 (50%) | 0 (0%)   | 4 (100%)  |
| \$750-1000     | 1 (100%)    | 0 (0%)  | 0 (0%)  | 0 (0%)   | 1 (100%)  |
| \$1000-1500    | 0 (0%)      | 1 (33%) | 0 (0%)  | 2 (67%)  | 3 (100%)  |
| \$1500-2000    | 1 (100%)    | 0 (0%)  | 0 (0%)  | 0 (0%)   | 1 (100%)  |
| \$2000-4000    | 0 (0%)      | 0 (0%)  | 0 (0%)  | 1 (100%) | 1 (100%)  |
| >\$4000        | 0 (0%)      | 0 (0%)  | 0 (0%)  | 0 (0%)   | 0 (0%)    |
|                | 3 (30%)     | 2 (20%) | 2 (20%) | 3 (30%)  | 10        |

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

Table A-7.21 Money spend each time buy fish

|         | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|---------|----------|----------|----------|----------|---------|
| <\$5    | 1 (1%)   | 2 (8%)   | 3 (12%)  | 0 (0%)   | 1 (10%) |
| \$5-10  | 9 (7%)   | 11 (44%) | 17 (68%) | 3 (30%)  | 3 (30%) |
| \$10-15 | 21 (17%) | 11 (44%) | 4 (16%)  | 2 (20%)  | 4 (40%) |
| \$15-20 | 47 (38%) | 1 (4%)   | 1 (4%)   | 3 (30%)  | 2 (20%) |
| >\$20   | 47 (38%) | 0 (0%)   | 0 (0%)   | 2 (20%)  | 0 (0%)  |
|         | 125      | 25       | 25       | 10       | 10      |

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

Table A-7.22 Degree of quality of fresh/frozen fish

|             | Honiara  | Gizo     | Auki     | Kirakira | Buala   |
|-------------|----------|----------|----------|----------|---------|
| Fresh fish  |          |          |          |          |         |
| Excellent   | 25 (20%) | 2 (8%)   | 6 (24%)  | 3 (30%)  | 5 (50%) |
| Good        | 82 (66%) | 22 (88%) | 17 (68%) | 3 (30%)  | 4 (40%) |
| Fair        | 16 (13%) | 1 (4%)   | 2 (8%)   | 4 (40%)  | 1 (10%) |
| Poor        | 2 (2%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)  |
| Very bad    | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)   | 0 (0%)  |
|             | 125      | 25       | 25       | 10       | 10      |
| Frozen fish |          |          |          |          |         |
| Excellent   | 1 (1%)   | 0        | 0        | 0        | 0       |
| Good        | 36 (29%) | 0        | 0        | 0        | 0       |
| Fair        | 68 (54%) | 0        | 0        | 0        | 0       |
| Poor        | 20 (16%) | 0        | 0        | 0        | 0       |
| Very bad    | 0 (0%)   | 0        | 0        | 0        | 0       |
|             | 125      | 0        | 0        | 0        | 0       |

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

Table A-7.23 Estimated Quantity of Fresh Fish Traded in Central Market (June21-July10, 1993)

| Date   | Day  | Q'ty<br>(kg) | Number of Eskies by Origin |           |        |       |          |        |              | Total |       |
|--------|------|--------------|----------------------------|-----------|--------|-------|----------|--------|--------------|-------|-------|
|        |      |              | Fl. Is.                    | Russel Is | Isabel | Lambi | Ramos Is | Malu'u | Fishing Vil. |       | Marau |
| 21-Jun | Mon  | 270          | 5                          |           |        |       |          |        |              |       | 5     |
| 22-Jun | Tues | 165          | 3                          |           |        |       |          |        |              |       | 3     |
| 23-Jun | Wed  | 185          | 3                          |           |        |       |          |        |              |       | 3     |
| 24-Jun | Thu  |              |                            |           |        |       |          |        |              |       | 0     |
| 25-Jun | Fri  | 115          | 2                          |           |        |       |          | 1      |              |       | 3     |
| 26-Jun | Sat  |              |                            |           |        |       |          |        |              |       | 0     |
| 27-Jun | Sun  |              |                            |           |        |       |          |        |              |       | 0     |
| 28-Jun | Mon  | 270          | 3                          |           |        |       |          | 1      |              |       | 4     |
| 29-Jun | Tues | 290          | 4                          |           |        |       |          |        |              |       | 4     |
| 30-Jun | Wed  | 260          | 6                          |           |        |       |          |        |              |       | 6     |
| 1-Jul  | Thu  | 180          | 3                          | 1         |        |       |          |        |              |       | 4     |
| 2-Jul  | Fri  | 275          | 1                          |           | 3      |       |          |        |              |       | 4     |
| 3-Jul  | Sat  | 100          |                            |           | 3      |       |          |        |              |       | 3     |
| 4-Jul  | Sun  |              |                            |           |        |       |          |        |              |       | 0     |
| 5-Jul  | Mon  | 120          | 2                          |           |        |       |          |        |              |       | 2     |
| 6-Jul  | Tues | 160          | 3                          |           |        |       |          |        |              |       | 3     |
| 7-Jul  | Wed  |              |                            |           |        |       |          |        |              |       | 0     |
| 8-Jul  | Thu  | 270          | 2                          | 1         |        |       |          |        |              | 1     | 4     |
| 9-Jul  | Fri  | 380          | 5                          |           |        |       |          |        | 2            |       | 7     |
| 10-Jul | Sat  | 240          | 4                          |           |        |       |          |        |              |       | 4     |
| 11-Jul | Sun  |              |                            |           |        |       |          |        |              |       | 0     |
| 12-Jul | Mon  | 410          | 3                          |           | 1      | 1     |          |        |              | 1     | 6     |
|        |      | 3,690        | 49                         | 2         | 7      | 1     | 0        | 0      | 2            | 4     | 65    |
|        |      |              | 75%                        | 3%        | 11%    | 2%    | 0%       | 0%     | 3%           | 6%    |       |

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

Table A-7.24 Estimated Quantity of Fresh Fish Traded in Rove Market (June21-July10, 1993)

| Date   | Day  | Q'ty<br>(kg) | Number of Eskies by Origin |           |        |       |          |        |              | Total |       |
|--------|------|--------------|----------------------------|-----------|--------|-------|----------|--------|--------------|-------|-------|
|        |      |              | Fl. Is.                    | Russel Is | Isabel | Lambi | Ramos Is | Malu'u | Fishing Vil. |       | Marau |
| 21-Jun | Mon  |              |                            |           |        |       |          |        |              |       | 0     |
| 22-Jun | Tues |              |                            |           |        |       |          |        |              |       | 0     |
| 23-Jun | Wed  |              |                            |           |        |       |          |        |              |       | 0     |
| 24-Jun | Thu  | 300          | 4                          | 1         |        |       |          |        |              |       | 5     |
| 25-Jun | Fri  | 50           |                            | 1         |        |       |          |        |              |       | 1     |
| 26-Jun | Sat  | 100          | 1                          | 1         |        |       |          |        |              |       | 2     |
| 27-Jun | Sun  | 80           | 1                          | 1         |        |       |          |        |              |       | 2     |
| 28-Jun | Mon  |              |                            |           |        |       |          |        |              |       | 0     |
| 29-Jun | Tues |              |                            |           |        |       |          |        |              |       | 0     |
| 30-Jun | Wed  | 70           |                            | 1         |        |       |          |        |              |       | 1     |
| 1-Jul  | Thu  | 110          |                            | 1         |        |       |          | 1      |              |       | 2     |
| 2-Jul  | Fri  |              |                            |           |        |       |          |        |              |       | 0     |
| 3-Jul  | Sat  |              |                            |           |        |       |          |        |              |       | 0     |
| 4-Jul  | Sun  | 310          | 2                          |           |        | 1     | 1        | 1      |              |       | 5     |
| 5-Jul  | Mon  | 30           | 1                          |           |        |       |          |        |              |       | 1     |
| 6-Jul  | Tues |              |                            |           |        |       |          |        |              |       | 0     |
| 7-Jul  | Wed  | 170          |                            | 2         |        |       |          |        |              |       | 2     |
| 8-Jul  | Thu  | 80           |                            | 2         |        |       |          |        |              |       | 2     |
| 9-Jul  | Fri  | 70           |                            |           |        | 1     |          |        |              |       | 1     |
| 10-Jul | Sat  |              |                            |           |        |       |          |        |              |       | 0     |
| 11-Jul | Sun  |              |                            |           |        |       |          |        |              |       | 0     |
| 12-Jul | Mon  | 170          | 1                          | 1         |        |       |          |        |              |       | 2     |
|        |      | 1,540        | 10                         | 11        | 0      | 2     | 1        | 2      | 0            | 0     | 26    |
|        |      |              | 38%                        | 42%       |        | 8%    | 4%       | 8%     |              |       |       |

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

Table A-7.25 Results of Market Survey in Honiara (Sept. 27 - Oct.30, 1993) (1/3)

| Date      | Day | Origin       | Sandfly | Buena Vista | Big Gela | Small Gela | Lambi | Marau | Isabel | Russel | Malaita | Others | Total |
|-----------|-----|--------------|---------|-------------|----------|------------|-------|-------|--------|--------|---------|--------|-------|
| 27-Sep    | Mon | No. of eskys | 4       | 2           | 2        |            |       | 4     | 4      |        |         |        | 16    |
|           |     | Kg           | 400     | 200         | 200      |            |       | 400   | 300    |        |         |        | 1,500 |
|           |     | No. of boats | 4       | 2           | 2        |            |       |       |        |        |         |        | 8     |
| 28-Sep    | Tue | No. of eskys | 9       | 5           | 5        |            |       | 1     | 2      |        |         |        | 22    |
|           |     | Kg           | 700     | 300         | 500      |            |       |       |        |        |         |        | 1,500 |
|           |     | No. of boats | 7       | 3           | 5        |            |       |       |        |        |         |        | 15    |
| 29-Sep    | Wed | No. of eskys | 8       |             | 4        | 1          |       |       | 7      | 1      | 1       | 1      | 23    |
|           |     | Kg           | 550     |             | 200      | 100        |       |       | 700    | 100    | 100     | 100    | 1,850 |
|           |     | No. of boats | 6       |             | 2        | 1          |       |       |        |        |         |        | 9     |
| 30-Sep    | Thu | No. of eskys | 5       | 4           | 1        | 1          |       | 2     | 5      | 1      | 5       |        | 24    |
|           |     | Kg           | 400     | 400         | 100      | 100        |       | 200   |        |        | 100     |        | 1,300 |
|           |     | No. of boats | 4       | 4           | 1        | 1          |       |       |        |        |         |        | 10    |
| 1-Oct     | Fri | No. of eskys | 4       | 1           |          |            |       |       | 7      |        | 3       |        | 15    |
|           |     | Kg           | 300     | 100         |          |            |       |       | 400    |        | 200     |        | 1,000 |
|           |     | No. of boats | 3       | 1           |          |            |       |       |        |        |         |        | 4     |
| 2-Oct     | Sat | No. of eskys | 5       |             |          |            | 2     |       |        |        |         |        | 7     |
|           |     | Kg           | 500     |             |          |            | 200   |       |        |        |         |        | 700   |
|           |     | No. of boats | 5       |             |          |            |       |       |        |        |         |        | 5     |
| Weekly    |     | No. of eskys | 35      | 12          | 12       | 2          | 2     | 7     | 25     | 2      | 9       | 2      | 108   |
| Sub-total |     | Kg           | 2,850   | 1,000       | 1,000    | 200        | 200   | 600   | 1,400  | 100    | 400     | 200    | 7,950 |
|           |     | No. of boats | 29      | 10          | 10       | 2          |       |       |        |        |         |        | 51    |
| 4-Oct     | Mon | No. of eskys | 4       | 1           |          |            |       |       | 2      |        |         |        | 7     |
|           |     | Kg           | 400     | 100         |          |            |       |       | 200    |        |         |        | 700   |
|           |     | No. of boats | 4       | 1           |          |            |       |       |        |        |         |        | 5     |
| 5-Oct     | Tue | No. of eskys | 3       |             | 1        |            |       |       | 1      | 1      |         |        | 6     |
|           |     | Kg           |         |             | 100      |            |       |       | 100    | 100    |         |        | 300   |
|           |     | No. of boats |         |             | 1        |            |       |       |        |        |         |        | 1     |
| 6-Oct     | Wed | No. of eskys |         | 1           | 3        |            |       |       | 3      | 1      |         |        | 8     |
|           |     | Kg           |         | 100         | 300      |            |       |       | 300    | 100    |         |        | 800   |
|           |     | No. of boats |         | 1           | 3        |            |       |       |        |        |         |        | 4     |
| 7-Oct     | Thu | No. of eskys | 2       |             | 1        | 1          | 1     |       |        |        |         |        | 5     |
|           |     | Kg           | 200     |             |          | 100        | 100   |       |        |        |         |        | 400   |
|           |     | No. of boats | 2       |             |          | 1          |       |       |        |        |         |        | 3     |
| 8-Oct     | Fri | No. of eskys | 4       |             | 4        |            |       | 1     | 2      | 1      |         |        | 12    |
|           |     | Kg           | 400     |             | 300      |            |       | 100   | 100    | 100    |         |        | 1,000 |
|           |     | No. of boats | 4       |             | 3        |            |       |       |        |        |         |        | 7     |
| 9-Oct     | Sat | No. of eskys | 3       |             | 2        | 1          | 1     |       | 1      |        |         |        | 8     |
|           |     | Kg           | 300     |             | 200      | 100        | 100   |       | 100    |        |         |        | 800   |
|           |     | No. of boats | 3       |             | 2        | 1          |       |       |        |        |         |        | 6     |
| Weekly    |     | No. of eskys | 16      | 2           | 11       | 2          | 2     | 1     | 9      | 3      | 0       | 0      | 46    |
| Sub-total |     | Kg           | 1,300   | 200         | 900      | 200        | 200   | 100   | 800    | 300    | 0       | 0      | 4,000 |
|           |     | No. of boats | 13      | 2           | 9        | 2          |       |       |        |        |         |        | 26    |

Source: Survey of Phase 2 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Table A-7.25 Results of Market Survey in Honiara (Sept. 27 - Oct.30, 1993) (2/3)

| Date      | Day | Origin       | Sandfly | Buena Vista | Big Gela | Small Gela | Lambi | Marau | Isabel | Russel | Malaita | Others | Total |
|-----------|-----|--------------|---------|-------------|----------|------------|-------|-------|--------|--------|---------|--------|-------|
| 11-Oct    | Mon | No. of eskys | 6       |             | 1        | 4          |       | 2     |        |        |         | 1      | 14    |
|           |     | Kg           | 600     |             | 100      | 400        |       | 100   |        |        |         | 100    | 1,300 |
|           |     | No. of boats | 6       |             | 1        | 4          |       |       |        |        |         |        | 11    |
| 12-Oct    | Tue | No. of eskys | 2       | 4           |          |            |       |       |        | 3      |         | 1      | 10    |
|           |     | Kg           |         | 400         |          |            |       |       |        | 300    |         | 100    | 800   |
|           |     | No. of boats |         | 4           |          |            |       |       |        |        |         |        | 4     |
| 13-Oct    | Wed | No. of eskys | 7       | 2           | 3        |            |       |       |        | 1      |         | 1      | 14    |
|           |     | Kg           | 700     | 200         | 300      |            |       |       |        |        |         | 100    | 1,300 |
|           |     | No. of boats | 7       | 2           | 3        |            |       |       |        |        |         |        | 12    |
| 14-Oct    | Thu | No. of eskys | 8       | 2           | 4        | 2          |       |       |        |        |         |        | 16    |
|           |     | Kg           | 800     |             | 100      | 200        |       |       |        |        |         |        | 1,100 |
|           |     | No. of boats | 8       |             | 1        | 2          |       |       |        |        |         |        | 11    |
|           |     | Sold         | 700     | 100         | 200      | 100        |       |       |        |        |         |        |       |
| 15-Oct    | Fri | No. of eskys | 6       | 1           | 5        | 6          |       |       | 9      |        | 3       | 1      | 31    |
|           |     | Kg           | 400     | 100         | 400      | 400        |       |       | 900    |        | 300     | 100    | 2,600 |
|           |     | No. of boats | 4       | 1           | 4        | 4          |       |       |        |        |         |        | 13    |
| 16-Oct    | Sat | No. of eskys | 2       |             | 3        | 2          |       |       | 6      |        | 3       |        | 16    |
|           |     | Kg           |         |             | 100      |            |       |       |        |        | 200     |        | 300   |
|           |     | No. of boats |         |             | 1        |            |       |       |        |        |         |        | 1     |
| Weekly    |     | No. of eskys | 31      | 9           | 16       | 14         | 0     | 2     | 15     | 4      | 6       | 4      | 101   |
| Sub-total |     | Kg           | 2,500   | 700         | 1,000    | 1,000      | 0     | 100   | 900    | 300    | 500     | 400    | 7,400 |
|           |     | No. of boats | 25      | 7           | 10       | 10         |       |       |        |        |         |        | 52    |
| 18-Oct    | Mon | No. of eskys | 2       | 1           | 4        | 1          |       |       |        |        |         |        | 8     |
|           |     | Kg           | 200     | 100         | 400      | 100        |       |       |        |        |         |        | 800   |
|           |     | No. of boats | 2       | 1           | 4        | 1          |       |       |        |        |         |        | 8     |
| 19-Oct    | Tue | No. of eskys | 4       | 4           | 3        | 2          |       |       |        | 3      |         |        | 16    |
|           |     | Kg           | 200     | 400         |          | 200        |       |       |        | 300    |         |        | 1,100 |
|           |     | No. of boats | 2       | 4           |          | 2          |       |       |        |        |         |        | 8     |
| 20-Oct    | Wed | No. of eskys | 2       | 6           | 2        | 2          |       |       |        |        |         |        | 12    |
|           |     | Kg           | 200     | 400         | 200      | 100        |       |       |        |        |         |        | 900   |
|           |     | No. of boats | 2       | 4           | 2        | 1          |       |       |        |        |         |        | 9     |
| 21-Oct    | Thu | No. of eskys | 4       | 3           | 2        | 3          |       |       |        |        |         | 2      | 14    |
|           |     | Kg           | 200     | 200         | 200      | 300        |       |       |        |        |         | 200    | 1,100 |
|           |     | No. of boats | 2       | 2           | 2        | 3          |       |       |        |        |         |        | 9     |
| 22-Oct    | Fri | No. of eskys | 2       |             | 7        | 4          | 1     |       |        |        |         | 1      | 15    |
|           |     | Kg           | 200     |             | 500      | 400        | 100   |       |        |        |         | 100    | 1,300 |
|           |     | No. of boats | 2       |             | 5        | 4          |       |       |        |        |         |        | 11    |
| 23-Oct    | Sat | No. of eskys | 6       | 1           | 4        | 3          | 2     |       |        |        |         |        | 16    |
|           |     | Kg           | 600     | 100         | 200      | 300        | 200   |       |        |        |         |        | 1,400 |
|           |     | No. of boats | 6       | 1           | 2        | 3          |       |       |        |        |         |        | 12    |
| Weekly    |     | No. of eskys | 20      | 15          | 22       | 15         | 3     | 0     | 0      | 3      | 0       | 3      | 81    |
| Sub-total |     | Kg           | 1,600   | 1,200       | 1,500    | 1,400      | 300   | 0     | 0      | 300    | 0       | 300    | 6,600 |
|           |     | No. of boats | 16      | 12          | 15       | 14         |       |       |        |        |         |        | 57    |

Source: Survey of Phase 2 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)

Table A-7.25 Results of Market Survey in Honiara (Sept. 27 - Oct.30, 1993) (3/3)

| Date      | Day |              | Sandfly | Buena Vista | Big Gela | Small Gela | Lambi | Marau | Isabel | Russel | Malaita | Others | Total  |
|-----------|-----|--------------|---------|-------------|----------|------------|-------|-------|--------|--------|---------|--------|--------|
| 25-Oct    | Mon | No. of eskys | 4       | 1           | 7        | 3          |       |       |        |        |         |        | 15     |
|           |     | Kg           | 200     | 100         | 600      | 300        |       |       |        |        |         |        | 1,200  |
|           |     | No. of boats | 2       | 1           | 6        | 3          |       |       |        |        |         |        | 12     |
| 26-Oct    | Tue | No. of eskys | 4       | 1           | 8        | 1          | 1     |       |        | 5      |         | 1      | 21     |
|           |     | Kg           | 200     |             | 500      | 100        | 50    |       |        | 500    |         | 100    | 1,450  |
|           |     | No. of boats | 2       |             | 5        | 1          |       |       |        |        |         |        | 8      |
| 27-Oct    | Wed | No. of eskys | 9       | 3           | 7        | 1          |       |       |        | 4      |         |        | 24     |
|           |     | Kg           | 900     | 200         | 400      | 100        |       |       |        | 400    |         |        | 2,000  |
|           |     | No. of boats | 9       | 2           | 4        | 1          |       |       |        |        |         |        | 16     |
| 28-Oct    | Thu | No. of eskys | 6       |             | 4        | 6          |       |       | 13     | 2      |         | 1      | 32     |
|           |     | Kg           | 200     |             | 400      | 600        |       |       | 1,300  | 200    |         | 100    | 2,800  |
|           |     | No. of boats | 2       |             | 4        | 6          |       |       |        |        |         |        | 12     |
| 29-Oct    | Fri | No. of eskys | 3       | 1           | 3        | 1          | 1     |       | 9      | 1      | 2       | 1      | 22     |
|           |     | Kg           | 300     | 100         | 300      | 100        | 100   |       |        |        | 200     | 100    | 1,200  |
|           |     | No. of boats | 3       | 1           | 3        | 1          |       |       |        |        |         |        | 8      |
| 30-Oct    | Sat | No. of eskys | 6       | 3           | 4        | 1          | 2     |       |        |        |         |        | 16     |
|           |     | Kg           | 600     | 300         | 400      | 100        | 200   |       |        |        |         |        | 1,600  |
|           |     | No. of boats | 6       | 3           | 4        | 1          |       |       |        |        |         |        | 14     |
| Weekly    |     | No. of eskys | 32      | 9           | 33       | 13         | 4     | 0     | 22     | 12     | 2       | 3      | 130    |
| Sub-total |     | Kg           | 2,400   | 700         | 2,600    | 1,300      | 350   | 0     | 1,300  | 1,100  | 200     | 300    | 10,250 |
|           |     | No. of boats | 24      | 7           | 26       | 13         |       |       |        |        |         |        | 70     |

| Date          | Day |              | Sandfly | Buena Vista | Big Gela | Small Gela | Lambi | Marau | Isabel | Russel | Malaita | Others | Total  |
|---------------|-----|--------------|---------|-------------|----------|------------|-------|-------|--------|--------|---------|--------|--------|
| Monthly total |     |              |         |             |          |            |       |       |        |        |         |        |        |
|               |     | No. of eskys | 134     | 47          | 94       | 46         | 11    | 10    | 71     | 24     | 17      | 12     | 466    |
|               |     | Kg           | 10,650  | 3,800       | 7,000    | 4,100      | 1,050 | 800   | 4,400  | 2,100  | 1,100   | 1,200  | 36,200 |
|               |     | No. of boats | 107     | 38          | 70       | 41         | 0     | 0     | 0      | 0      | 0       | 0      | 256    |

Source: Survey of Phase 2 (The Dev. Study on Improvement of NFMS in Solomon Islands, 1993)



## 付属資料－8 インフラストラクチャー

### (A) Electricity

#### (1) Operational ratio and profitability of the power stations

A cost breakdown and the expenditures and revenues of the small diesel power station in Kirakira and the Malu'u hydro power station are shown in Table A-8.1.

##### 1) Operation ratio of the power stations

Presently, the operation ratio of the power stations averages a low 54 percent. The effect of an improved operation ratio on the balance of expenditures and revenues of the power stations at Kirakira and Malu'u are shown below.

It was assumed that during periods of peak demand, the power stations were in operation to maximum capacity. Peak demand was established at 80kw (Kirakira) and 10kw (Malu'u), in accordance with 1991 records.

##### 2) Maximum capacity operation

|          | <u>Capacity/peak demand</u> | <u>Amount Sold</u>        |
|----------|-----------------------------|---------------------------|
| Kirakira | 170kw/80kw = 2.1            | \$28,385 x 2.1 = \$59,609 |
| Malu'u   | 30kw/10kw = 3.0             | \$3,209 x 3.0 = \$9,627   |

##### 3) Fuel Costs

The fuel costs of the Kirakira power station has increased in comparison to the operational load of its generator; and calculations were made accordingly as shown below.

Fuel consumption ratio = 2kwh/liter (actual figure of Kirakira, 2.04kwh/liter)\*1

Fuel costs = 85.16 cents/liter (Kirakira figures from April to June '93)\*2

$0.8516\$/\text{liter} \times 53,000\text{kwh}/2\text{kwh}/\text{liter} \times 2.1 = \$47,392$

Initial fuel costs =  $0.8516 \times 53,000\text{kwh}/2\text{kwh}/\text{liter} = \$22,567$

Increased costs =  $\$47,392 - \$22,567 = \$24,825$



When the actual figures given above are calculated during full operation, the following breakdown is achieved.

| Item                    | Kirakira               | Malu'u                |
|-------------------------|------------------------|-----------------------|
| A. Energy sold          | 111,300 Kwh            | 21,000 Kwh            |
| B. Sales amount         | \$59,609 (\$0.54/Kwh)  | \$9,627 (\$0.46/Kwh)  |
| C. Cost                 | \$121,867 (\$1.10/Kwh) | \$21,247 (\$1.01/Kwh) |
| D. Deficit (C-B)        | \$62,258               | \$11,620              |
| E. Deficit per Kwh(D/A) | \$0.56/Kwh             | \$0.55/Kwh            |

In studying the ratio of shortages in terms of the actual sales amount, the following breakdown is achieved.

| Operation        | Kirakira  | Malu'u   |
|------------------|---|--|
| Actual Operation | SI\$68,657/SI\$28,385=242%<br>SI\$1.30/Kwh (0.47) | SI\$18,038/SI\$3,209=562%<br>SI\$2.58/Kwh (0.33) |
| Full Operation   | SI\$62,258/SI\$59,609=104%<br>SI\$0.56/Kwh (1.0)  | SI\$11,620/SI\$9,627=121%<br>SI\$0.55/Kwh (1.0)  |

## (2) Fuel consumption ratio

Based on the actual operation figures of 1992, the relation between the scope of power facilities and the efficiency of fuel consumption is shown in Table A-8.2. The graduation of the KW value, showing the scope of facilities on the horizontal axis, indicates the square root.

The fuel consumption ratio rapidly decreases when the scope becomes larger than 1,000Kw, as shown in the figure above, then gradually falls, and finally levels off when the scope surpasses 2,000Kw.

The unit cost of diesel oil from April to June 1993 was 85.76 cents/liter in Kirakira in comparison to Honiara which was 18 percent cheaper at 70.16 cents/liter.

Costs incurred by the Honiara power station such as the fuel consumption ratio and the unit cost of fuel was less than the costs incurred by the Kirakira power station. Based on these factors, the profitability of the Honiara power station was studied and the results are given in Table A-8.1.

### (3) Profitability of power stations

According to Table A-8.1, annual profits of the Honiara power station is about SI\$5 million under the current system of electricity charges. This is equivalent to 16.96 cents/Kwh. A comparison of this figure to the deficits incurred by the small power stations is shown below.

The total volume of electricity produced by 7 small power stations (1991) = 2,721,019Kwh

Estimated deficit (deficit ratio of Kirakira station is roughly SI\$1.30/Kwh) = 3,537,325Kwh

Profit of Honiara station minus the deficit of seven stations = SI\$4,989,462- SI\$3,537,325= SI\$1,452,137

The profits of the Honiara power station offset the deficits of the small, local power stations and it is still left with a surplus. Although the capacity of the Noro power station is large at 3,000Kw, its fuel consumption costs are 0.26 liters/Kwh (1992) which is lower than Honiara's 0.28 liters/Kwh, indicating an efficiency comparable to that of the Honiara station. Subsequently, its expenditures and revenues were set at  $\pm 0$ .

Based on the aforementioned analytical findings, it was concluded that the profitability of all nine power stations nationwide was in the black. Furthermore, it was concluded that the differences in expenditure and revenue produced by increased facilities and expanded capacities of small power stations planned in this project, will be sufficiently offset on a nationwide scale.

In order to reduce the shortages in expenditure and revenue of small, local power stations, the overall balance in expenditures and revenue of electricity must be improved. One example of this is the aforementioned case where a cable will be laid from the Noro power station to offset the growing demands of the Munda power station. After the cable has been installed, the Munda power station will also become a supplementary station in times of emergency and the deficits of both power stations will be eliminated. The deficit of the Noro power station according to SIEA calculations are shown in Table A-8.3.

According to this table, it is projected that the annual deficit will be reduced from SI\$82,344 to SI\$5,603, a decrease of about SI\$77,000. Although installation costs of the cable are estimated at SI\$1,998,400, the following benefits listed are anticipated.

- 1) A stable supply of electricity will be available for hospitals, schools, water supply facilities, and the Munda airport (to allow use at night).

- 2) A restricted supply of electricity will no longer impede the development of new businesses, factories, and other infrastructure.
- 3) The operation ratio of the Noro power station will improve.

(B) Transportation

A comparative analysis of transport according to time and cost was analysed and the cost of actual transport time in each area was compared.

1) Actual transport time

|      | Section |           | Distance | Time      | Speed     | Transport mode |
|------|---------|-----------|----------|-----------|-----------|----------------|
| Road | Noro    | ~ Munda   | 17 Km    | 0.7       | 24.4 K/hr | Truck          |
|      | Auki    | ~ Malu'u  | 82       | 2.5       | 33.0      | Truck          |
|      | Malu'u  | ~ Takuwa  | 20       | 0.8       | 25.0      | Truck          |
|      | Honiara | ~ Lambi   | 72       | 1.7       | 42.0      | Truck          |
| Sea  | Buala   | ~ Tatamba | 50       | 2.0 ~ 2.5 | 20 ~ 25   | Boat           |
|      | Honiara | ~ Tulagi  | 40       | 1.8       | 23.0      | Boat           |

2) Road and ocean route conditions

Road and ocean route conditions were categorized and the speed of road and sea traffic was estimated.

| Medium                           | Estimated speed | Transport mode |
|----------------------------------|-----------------|----------------|
| Sales Road (2 way)               | 60 Km/hr        | Truck          |
| Gravel Road (2 way)              | 30              | Truck          |
| Gravel 4 ~ 5 m Wide Road (1 way) | 24              | Truck          |
| Under 4 m Wide Road (1 way)      | 15              | Truck          |
| Sea Located among Islands        | 25              | Boat           |
| Open Sea                         | 22              | Boat           |

### 3) Required travel time

| Sea or Land | Section             | Distance | Speed    | Time     | Methodogy |       |
|-------------|---------------------|----------|----------|----------|-----------|-------|
| Land        | Noro ~ Munda        | 17 Km    | 30 Km/hr | 0.6 hr   | Truck     |       |
| Sea         | Noro ~ Munda        | 24 Km    | 25 Km/hr | 1.0 hr   | Boat      |       |
| Land        | Auki ~ Malu'u       | 82 Km    | 30 Km/hr | 2.7 hr   | Truck     |       |
| Land        | Malu'u ~ Takuwa     | 20 Km    | 24 km/hr | 0.8 hr   | Truck     |       |
| Sea         | Auki ~ Malu'u       | 75 km    | 22 Km/hr | 3.4 hr   | Boat      |       |
| Sea         | Malu'u ~ Takuwa     | 32 Km    | 25 Km/hr | 1.3 hr   | Boat      |       |
| Land        | Honiara ~ Mangakiki | 57 Km    | 60 Km/hr | 1.0 hr   | Truck     |       |
| Land        | Mangakiki ~ Lambi   | 15 Km    | 15 Km/hr | 1.0 hr   | Truck     |       |
| Sea         | Honiara ~ Lambi     | 72 Km    | 22 Km/hr | 3.3 hr   | Boat      |       |
| Land        | Honiara ~ Aola      | 75 Km    | 50 Km    | 60 Km/hr | 0.8 hr    | Truck |
|             |                     |          | 25 Km    | 30 Km/hr |           |       |
| Sea         | Aoloa ~ Marau       | 58 Km    | 25 Km/hr | 2.3 hr   | Boat      |       |
| Sea         | Honiara ~ Marau     | 133 Km   | 25 Km/hr | 5.3 hr   | Boat      |       |

Remarks: The speed of truck or boat shown here is estimated average speed considering bad weather condition.

#### - Analytical findings on required travel time

##### Noro - Munda

Land: 0.6 hours      Ocean: 1.0 hour

##### Auki - Takuwa

Land: 3.5 hours      Ocean: 4.7 hours

##### Honiara - Lambi

Land: 2.0 hours      Ocean: 3.3 hours

##### Honiara - Marau

Land and ocean travel (no roads): 3.9 hours (excluding transfer time)

Ocean travel only: 5.3 hours

- Land travel requires less time than ocean travel in all the aforementioned areas, within the scope of the actual estimated speed. (The areas given above have comparatively good roads.)
- In some areas where there are no roads, the transfer time between land and ocean travel has not been included.
- The road conditions were categorized into four stages. The roads other than the sealed road, have inadequate bridge facilities, where the width and height require renovation.

4) Transport costs

The estimated ocean and land transport costs of major routes were calculated based on the actual transport cost below.

a) Actual transport cost of esky

| Section                    | Distance  | Full Esky | Empty Esky | Person  | Transport Mode |
|----------------------------|-----------|-----------|------------|---------|----------------|
| Auki ~<br>Malu'u/Takuwa    | 82/102 Km | \$50/Esky | \$25/Esky  | -       | Truck          |
| Honiara ~ Auki             | 98        | 25        | 10         | 25      | Ship           |
| Honiara ~<br>Buala/Tatamba | 155/105   | 20        | 10         | 25 ~ 30 | Ship           |
| Honiara ~ Kirakira         | 233       | 22        | 12         | 45 ~ 45 | Ship           |

b) Estimated Transport cost of Esky

| Section                | Distance | Full Esky | Empty Esky | Person  | Transport Mode |
|------------------------|----------|-----------|------------|---------|----------------|
| Honiara ~ Gizo*        | 383 Km   | \$42/Esky | \$21/Esky  | 50 ~ 60 | Ship           |
| Honiara ~ Tulagi       | 40       | 15        | 8          | 10      | Boat           |
| Honiara ~ Lambi        | 72       | 20        | 10         | 20      | Boat           |
| Honiara ~ Choiseul Bay | 465      | 50        | 25         | 65      | Ship           |
| Honiara ~ Lata*        | 620      | 60        | 30         | 70      | Sip            |
| Honiara ~ Lavanggu*    | 340      | 40        | 20         | 50      |                |

Remarks: \* Actual Transport Cost, 1993

The actual transport time, costs, etc. of major areas were combined with the factors found in other routes and were calculated accordingly.

Table A-8.1 Revenue and Operating Cost at Kirakira, Malu'u (from Jan. to March in 1993)  
and Honiara (1992) power stations

| Items                      | Kirakira                              |               |   | Malu'u         |               |   | Honiara       |               |   |
|----------------------------|---------------------------------------|---------------|---|----------------|---------------|---|---------------|---------------|---|
|                            | (1)<br>Budget                         | (2)<br>Actual | (3)<br>Achievement Ratio<br>((2)/(1)x100) | (1)<br>Budget  | (2)<br>Actual | (3)<br>Achievement Ratio<br>((2)/(1)x100) | (1)<br>Budget | (2)<br>Actual | (3)<br>Achievement Ratio<br>((2)/(1)x100) |
| 1. Energy Source           | Oil (Diesel)                          |               |   | Mini Hydro     |               |   | Oil (Diesel)  |               |   |
| 2. Continuous Output (kw)  | 170                                   |               |   | 30             |               |   | 12,280        |               |   |
| 3. Year of Installation    | 1) 2 units : 1986<br>2) 1 unit : 1984 |               |   | 1 units : 1986 |               |   |               |               |   |
| 4. Total Energy sold (kwh) | 60,000                                | 53,000        | 88  | 7,000          | 7,000         | 100                                       | -             | 29,416,683    | -   |
| 5. Electricity Sales (SIS) |                                       |               |   |                |               |   |               |               |   |
| Domestic                   | -                                     | 5,037         | -   | -              | 974           | -   | -             | 2,259,765     | -   |
| Government                 | -                                     | 11,858        | -   | -              | 1,358         | -   | -             | 1,450,522     | -   |
| Commercial                 | -                                     | 3,210         | -   | -              | 225           | -   | -             | 6,038,030     | -   |
| Industrial                 | -                                     | 32            | -   | -              | -             | -   | -             | 1,843,360     | -   |
| Others                     | -                                     | 89            | -   | -              | 53            | -   | -             | 294,965       | -   |
| Minimum Charge             | -                                     | 695           | -   | -              | 187           | -   | -             | 233,424       | -   |
| Service Charge             | -                                     | 1,280         | -   | -              | 412           | -   | -             | -             | -   |
| Fuel Adjustments           | -                                     | 6,184         | -   | -              | -             | -   | -             | 3,235,835     | -   |
| Total Revenue              | 33,153                                | 28,385        | 86  | 3,303          | 3,209         | 97  | -             | 15,355,901    | -   |
| 6. Cost (SIS)              |                                       |               |   |                |               |   |               |               |   |
| Power Generation           |                                       |               |   |                |               |   |               |               |   |
| Costs                      | -                                     | 75,529        | -   | -              | 5,209         | -   | -             | -             | -   |
| Distribution               |                                       |               |   |                |               |   |               |               |   |
| Costs                      | -                                     | 12,366        | -   | -              | 14,003        | -   | -             | -             | -   |
| Overhead Admin             | -                                     | 9,147         | -   | -              | 2,035         | -   | -             | -             | -   |
| Total Costs                | 77,771                                | 97,042        | 125                                       | 13,676         | 21,247        | 155                                       | -             | 10,366,439    | -   |
| 7. Benefit                 | -44,618                               | 68,657        | -   | -10,373        | -18,038       | -   | -             | 4,989,462     | -   |

Source : (1) SIEA System Guide, Brief Description, Feb.1993, SIEA  
(2) Data 1993, SIEA  
(3) Prefeasibility Studies of Hydro-power Projects in SI., Jul.1986, UNIDO.

Table A-8.2 Fuel Consumption Versus Capacity (1992)

| Location    |            | Capacity (Kw) | Fuel Consumption Per Unit<br>Electricity Generated (l/Kwh) |
|-------------|------------|---------------|--|
| Town        | Province   |               |  |
| 1. Buala    | Isabel     | 60            | 0.37   |
| 2. Lata     | Temotu     | 108           | 0.51   |
| 3. Munda    | Western    | 135           | 0.41   |
| 4. Kirakira | Makira     | 170           | 0.38   |
| 5. Auki     | Malaita    | 600           | 0.29   |
| 6. Gizo     | Western    | 600           | 0.28   |
| 7. Noro     | Western    | 3,000         | 0.26   |
| 9. Honiara  | Guadacanal | 12,280        | 0.28   |

Source : SIEA System Guide, Brief Description, 1993, SIEA

Table A-8.3 Benefit of Supplying Electricity to Munda from Noro Power Station

| Item                       | Unit : SI\$  |                                    |
|----------------------------|--------------|------------------------------------|
|                            | Munda (1990) | Supply from<br>Noro<br>(Estimated) |
| Generation Costs           | 97,963       | 61,550                             |
| Distribution Costs         | 44,528       | 4,200                              |
| Overhead & Admin Costs     | 19,550       | 19,550                             |
| Total Operating Costs      | 162,041      | 85,300                             |
| Revenue Derived from Sales | 79,697       | 79,697                             |
| Benefit                    | -82,344      | -5,603                             |

Source : SIEA Project Document Revision B, Nov.1992, SIEA,

付属資料－ 9 経済財務評価

The details on project components and its cost, and the assumptions considered in the economic and financial evaluation are listed the following pages.

Table A-9.1 Physical Life of Building and Equipment of HFMA Project (Model zones 1 & 2)

|                         | Financial Cost     | Physical<br>Year | Depreciation     | Unit: SLS<br>Main. |
|-------------------------|--------------------|------------------|------------------|--------------------|
| <b>(A) Satellite</b>    | <b>\$1,116,700</b> |                  | <b>\$72,147</b>  | <b>\$18,544</b>    |
| Building-1              | \$450,000          | 25               | \$18,000         | \$9,000            |
| Building-2              | \$110,000          | 25               | \$4,400          | \$2,200            |
| Ice storage-1           | \$129,500          | 15               | \$8,633          | \$2,590            |
| Ice storage-2           | \$48,200           | 15               | \$3,213          | \$964              |
| Water tank              |                    |                  |                  |                    |
| 600 gal.                | \$14,400           | 10               | \$1,440          | \$144              |
| Radio                   | \$324,600          | 10               | \$32,460         | \$3,246            |
| Esky                    | \$40,000           | 10               | \$4,000          | \$400              |
| <b>(B) Tulagi Base</b>  | <b>\$2,205,800</b> |                  | <b>\$122,887</b> | <b>\$36,821</b>    |
| Shore work/jetty        | \$990,000          | 25               | \$39,600         | \$9,900            |
| Building                | \$630,000          | 25               | \$25,200         | \$12,600           |
| Cold/ice storage        | \$328,300          | 15               | \$21,887         | \$6,566            |
| Truck crane             | \$87,500           | 5                | \$17,500         | \$4,375            |
| Carrier boat            |                    |                  |                  |                    |
| Hull                    | \$75,000           | 15               | \$5,000          | \$750              |
| Engine                  | \$42,000           | 5                | \$8,400          | \$2,100            |
| Water tank              |                    |                  |                  |                    |
| 2000 gal.               | \$6,000            | 10               | \$600            | \$60               |
| Radio                   | \$27,000           | 10               | \$2,700          | \$270              |
| Esky                    | \$20,000           | 10               | \$2,000          | \$200              |
| <b>(C) Honiara Base</b> | <b>\$3,718,600</b> |                  | <b>\$198,913</b> | <b>\$64,568</b>    |
| Fish market             | \$618,000          | 25               | \$24,720         | \$6,180            |
| Building (service)      | \$1,785,250        | 25               | \$71,410         | \$17,853           |
| Cold storage            | \$304,000          | 15               | \$20,267         | \$15,200           |
| Ice making/storage      | \$282,000          | 15               | \$18,800         | \$14,100           |
| Hand lifter             | \$10,800           | 10               | \$1,080          | \$540              |
| Pellet                  | \$3,000            | 3                | \$1,000          | \$300              |
| Truck                   | \$81,000           | 5                | \$16,200         | \$4,050            |
| Esky                    | \$40,000           | 10               | \$4,000          | \$400              |
| Radio                   | \$54,000           | 10               | \$5,400          | \$540              |
| Transport boat          | \$540,550          | 15               | \$36,037         | \$5,406            |
| <b>Total (A+B+C)</b>    | <b>\$7,041,100</b> |                  | <b>\$393,947</b> | <b>\$119,933</b>   |

Remarks: HCM leases building/facilities to HFMA.



Table A-9.2 Financial and Economic Cost of HFMA Project (Model Zones 1 &amp; 2)

Unit: SI\$

|                         | Financial Cost      | Economic Cost      |
|-------------------------|---------------------|--------------------|
| <b>(A) Satellite</b>    | <b>\$1,116,700</b>  | <b>\$949,195</b>   |
| Building-1              | \$450,000           | \$382,500          |
| Building-2              | \$110,000           | \$93,500           |
| Ice storage-1           | \$129,500           | \$110,075          |
| Ice storage-2           | \$48,200            | \$40,970           |
| Water tank              |                     |                    |
| 600 gal.                | \$14,400            | \$12,240           |
| Radio                   | \$324,600           | \$275,910          |
| Esky                    | \$40,000            | \$34,000           |
| <b>(B) Tulagi Base</b>  | <b>\$2,205,800</b>  | <b>\$1,874,930</b> |
| Shore work/jetty        | \$990,000           | \$841,500          |
| Building                | \$630,000           | \$535,500          |
| Cold/Ice storage        | \$328,300           | \$279,055          |
| Truck crane             | \$87,500            | \$74,375           |
| Carrier boat            |                     |                    |
| Hull                    | \$75,000            | \$63,750           |
| Engine                  | \$42,000            | \$35,700           |
| Water tank              |                     |                    |
| 2000 gal.               | \$6,000             | \$5,100            |
| Radio                   | \$27,000            | \$22,950           |
| Esky                    | \$20,000            | \$17,000           |
| <b>(C) Honiara Base</b> | <b>\$3,718,600</b>  | <b>\$3,160,810</b> |
| Fish market             | \$618,000           | \$525,300          |
| Building (service)      | \$1,785,250         | \$1,517,463        |
| Cold storage            | \$304,000           | \$258,400          |
| Ice making/storage      | \$282,000           | \$239,700          |
| Hand lifter             | \$10,800            | \$9,180            |
| Pellet                  | \$3,000             | \$2,550            |
| Truck                   | \$81,000            | \$68,850           |
| Esky                    | \$40,000            | \$34,000           |
| Radio                   | \$54,000            | \$45,900           |
| Transport boat          | \$540,550           | \$459,468          |
| <b>Total (A+B+C)</b>    | <b>\$7,041,100</b>  | <b>\$5,984,935</b> |
| Contingency (20%)       | \$1,408,220         | \$1,196,987        |
| Wharf (1/3)             | \$2,000,000         | \$1,700,000        |
| <b>Total</b>            | <b>\$10,449,320</b> | <b>\$8,881,922</b> |

Remarks: 1) One third of wharf construction cost (SI\$6 million) included.

2) Conversion factor of 0.85 is applied for economic cost, and this factor this factor is generally used by international agencies for the South Pacific Countries.

Table A-9.3 Re-investment cost &amp; O/M cost of HFMA (Model Zones 1 &amp; 2)

| Unit: SI\$ |               |              |           |          |           |          |
|------------|---------------|--------------|-----------|----------|-----------|----------|
|            | Re-investment | Salary/wages | Utilities | Fuel     | Main      | Others   |
| 1995       |               | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 1996       |               | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 1997       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 1998       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 1999       | \$210,500     | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2000       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2001       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2002       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2003       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2004       | \$747,300     | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2005       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2006       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2007       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2008       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2009       | \$1,921,050   | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2010       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2011       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2012       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2013       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2014       | \$747,300     | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2015       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2016       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2017       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2018       | \$3,000       | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |
| 2019       | \$0           | \$182,880    | \$71,380  | \$48,238 | \$119,933 | \$36,576 |

Salvage value of SI\$837,583 included.

Table A-9.4 Economic Evaluation of HFMA Project (Model Zones 1 &amp; 2)

| Unit: SI\$ |                 |          |           |             |
|------------|-----------------|----------|-----------|-------------|
| Year       | Investment Cost | O/M Cost | Benefit   | Net Benefit |
| 1994       | 8,881,922       |          | 0         | (8,881,922) |
| 1995       |                 | 441,000  | 1,047,893 | 606,893     |
| 1996       |                 | 441,000  | 1,085,904 | 644,904     |
| 1997       | 2,550           | 441,000  | 1,123,915 | 680,365     |
| 1998       |                 | 441,000  | 1,161,927 | 720,927     |
| 1999       | 178,925         | 441,000  | 1,199,938 | 580,013     |
| 2000       | 2,550           | 441,000  | 1,237,949 | 794,399     |
| 2001       |                 | 441,000  | 1,328,179 | 887,179     |
| 2002       |                 | 441,000  | 1,418,408 | 977,408     |
| 2003       | 2,550           | 441,000  | 1,508,638 | 1,065,088   |
| 2004       | 635,205         | 441,000  | 1,598,867 | 522,662     |
| 2005       |                 | 441,000  | 1,689,097 | 1,248,097   |
| 2006       | 2,550           | 441,000  | 1,779,327 | 1,335,777   |
| 2007       |                 | 441,000  | 1,869,556 | 1,428,556   |
| 2008       |                 | 441,000  | 1,959,786 | 1,518,786   |
| 2009       | 1,632,893       | 441,000  | 2,050,015 | (23,878)    |
| 2010       |                 | 441,000  | 2,140,245 | 1,699,245   |
| 2011       |                 | 441,000  | 2,140,245 | 1,699,245   |
| 2012       | 2,550           | 441,000  | 2,140,245 | 1,696,695   |
| 2013       |                 | 441,000  | 2,140,245 | 1,699,245   |
| 2014       | 635,205         | 441,000  | 2,140,245 | 1,064,040   |
| 2015       | 2,550           | 441,000  | 2,140,245 | 1,696,695   |
| 2016       |                 | 441,000  | 2,140,245 | 1,699,245   |
| 2017       |                 | 441,000  | 2,140,245 | 1,699,245   |
| 2018       | 2,550           | 441,000  | 2,140,245 | 1,696,695   |
| 2019       |                 | 441,000  | 2,852,191 | 2,411,191   |

Remarks: 1) Approximately one third of the wharf construction cost is included.

2) Salvage value is included in the benefit at the end of year 25.

EIRR= 9.67%

Table A-9.5 Physical Life of Building and Equipment of HCM (Model Zone 1)

Unit: SI\$

|                               | Financial Cost | Physical Year | Depreciation |
|-------------------------------|----------------|---------------|--------------|
| Market hall                   |                |               |              |
| Building                      | \$4,750,000    | 25            | \$190,000    |
| Service facilities            | \$1,785,250    | 25            | \$71,410     |
| Market service facilities     | \$1,890,000    | 25            | \$75,600     |
| External work                 | \$2,300,000    | 25            | \$92,000     |
| M & E work                    |                |               |              |
| Freshwater supply             | \$100,000      | 15            | \$6,667      |
| Rainwater discharge           | \$150,000      | 15            | \$10,000     |
| Waste water treat.            | \$75,000       | 15            | \$5,000      |
| Seawater intake               | \$70,000       | 15            | \$4,667      |
| Fire Extinguishers            | \$10,000       | 5             | \$2,000      |
| Sub-total                     | \$11,130,250   |               | \$457,343    |
| Honiara Base (Leased to HFMA) |                |               |              |
| Fish market                   | \$618,000      | 25            | \$24,720     |
| Building (service)            | \$1,785,250    | 25            | \$71,410     |
| Cold storage                  | \$304,000      | 15            | \$20,267     |
| Ice making/storage            | \$282,000      | 15            | \$18,800     |
| Hand lifter                   | \$10,800       | 10            | \$1,080      |
| Pellet                        | \$3,000        | 3             | \$1,000      |
| Truck                         | \$81,000       | 5             | \$16,200     |
| Esky                          | \$40,000       | 10            | \$4,000      |
| Radio                         | \$54,000       | 10            | \$5,400      |
| Transport vessel              | \$540,550      | 15            | \$36,037     |
| Sub-total                     | \$3,178,050    |               | \$162,877    |
| Total                         | \$14,308,300   |               | \$620,220    |

Remarks: 1) Total cost excludes the cost of transport vessel.

2) Transport vessel will be owned and operated by HFMA.

Table A-9.6 Financial and Economic Cost of HCM (Model Zone 1)

Unit: SI\$

|                               | Financial Cost | Economic Cost |
|-------------------------------|----------------|---------------|
| Market hall                   |                |               |
| Building                      | \$4,750,000    | \$4,037,500   |
| Service facilities            | \$1,785,250    | \$1,517,463   |
| Market service facilities     | \$1,890,000    | \$1,606,500   |
| External work                 | \$2,300,000    | \$1,955,000   |
| M & E work                    |                |               |
| Freshwater supply             | \$100,000      | \$85,000      |
| Rainwater discharge           | \$150,000      | \$127,500     |
| Waste water treat.            | \$75,000       | \$63,750      |
| Seawater intake               | \$70,000       | \$59,500      |
| Fire Extinguishers            | \$10,000       | \$8,500       |
| Sub-total                     | \$11,130,250   | \$9,460,713   |
| Honiara Base (Leased to HFMA) |                |               |
| Fish market                   | \$618,000      | \$525,300     |
| Building (service)            | \$1,785,250    | \$1,517,463   |
| Cold storage                  | \$304,000      | \$258,400     |
| Ice making/storage            | \$282,000      | \$239,700     |
| Hand lifter                   | \$10,800       | \$9,180       |
| Pellet                        | \$3,000        | \$2,550       |
| Truck                         | \$81,000       | \$68,850      |
| Esky                          | \$40,000       | \$34,000      |
| Radio                         | \$54,000       | \$45,900      |
| Transport boat                | \$540,550      | \$459,468     |
| Sub-total                     | \$3,178,050    | \$2,701,343   |
| Total                         | \$14,308,300   | \$12,162,055  |
| Contingency (20%)             | \$2,861,660    | \$2,432,411   |
| Wharf                         | \$6,000,000    | \$5,100,000   |
| Grand Total                   | \$23,169,960   | \$19,694,466  |

Remarks: 1) Total cost excludes the cost of transport boat.

2) Conversion factor of 0.85 is applied for economic cost, and this factor is generally used by international agencies for the South Pacific Countries.

Source: Economic factor provided by MOF.

Table A-9.7 Reinvestment cost &amp; O/M cost of HCM

Unit: SI\$

| Year | Re-investment | Salary/wages | Utilities | Maintenance | Total (O/M) |
|------|---------------|--------------|-----------|-------------|-------------|
| 1995 |               | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 1996 |               | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 1997 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 1998 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 1999 | \$77,350      | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2000 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2001 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2002 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2003 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2004 | \$166,430     | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2005 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2006 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2007 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2008 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2009 | \$913,750     | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2010 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2011 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2012 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2013 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2014 | \$166,430     | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2015 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2016 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2017 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2018 | \$2,550       | \$25,000     | \$49,500  | \$239,502   | \$314,002   |
| 2019 | \$0           | \$25,000     | \$49,500  | \$239,502   | \$314,002   |

Salvage value SI\$2,872,490 is included.

Table A-9.8 Economic Evaluation of HCM Project

Unit: SI\$

| Year | Investment Cost | O/M Cost | Benefit   | Net Benefit  |
|------|-----------------|----------|-----------|--------------|
| 1994 | 19,694,466      |          | 0         | (19,694,466) |
| 1995 |                 | 314,000  | 1,218,616 | 904,616      |
| 1996 |                 | 314,000  | 1,272,695 | 958,695      |
| 1997 | 2,550           | 314,000  | 1,326,774 | 1,010,224    |
| 1998 |                 | 314,000  | 1,380,854 | 1,066,854    |
| 1999 | 77,350          | 314,000  | 1,434,933 | 1,043,583    |
| 2000 | 2,550           | 314,000  | 1,489,012 | 1,172,462    |
| 2001 |                 | 314,000  | 1,586,781 | 1,272,781    |
| 2002 |                 | 314,000  | 1,684,365 | 1,370,365    |
| 2003 | 2,550           | 314,000  | 1,781,950 | 1,465,400    |
| 2004 | 166,430         | 314,000  | 1,879,534 | 1,399,104    |
| 2005 |                 | 314,000  | 1,977,118 | 1,663,118    |
| 2006 | 2,550           | 314,000  | 2,074,703 | 1,758,153    |
| 2007 |                 | 314,000  | 2,172,287 | 1,858,287    |
| 2008 |                 | 314,000  | 2,269,871 | 1,955,871    |
| 2009 | 913,750         | 314,000  | 2,367,456 | 1,139,706    |
| 2010 |                 | 314,000  | 2,464,855 | 2,150,855    |
| 2011 |                 | 314,000  | 2,464,855 | 2,150,855    |
| 2012 | 2,550           | 314,000  | 2,464,855 | 2,148,305    |
| 2013 |                 | 314,000  | 2,464,855 | 2,150,855    |
| 2014 | 166,430         | 314,000  | 2,464,855 | 1,984,425    |
| 2015 | 2,550           | 314,000  | 2,464,855 | 2,148,305    |
| 2016 |                 | 314,000  | 2,464,855 | 2,150,855    |
| 2017 |                 | 314,000  | 2,464,855 | 2,150,855    |
| 2018 | 2,550           | 314,000  | 2,464,855 | 2,148,305    |
| 2019 |                 | 314,000  | 5,337,345 | 5,023,345    |

Remarks: 1) The wharf construction cost is included.

2) Salvage value of SI\$2,872,490 is included.

EIRR= 5.93%

Table A-9.9 Physical Life of Building and Equipment of WPFMA Project (Model Zone 3)

| Table A-2: Physical Estimates of Buildings and Equipment at the Station (Unit: SI\$) |                |             |          |              |            |
|--|----------------|-------------|----------|--------------|------------|
|  | Financial Cost |             | Physical | Depreciation | Unit: SI\$ |
|  | Unit cost      | Total       | Year     |              | Main.      |
| (A) Satellites   |                |             |          |              |            |
| Buildings  | \$83,200       | \$499,200   | 25       | \$19,968     | \$9,984    |
| Ice storage  | \$18,100       | \$108,600   | 15       | \$7,240      | \$2,172    |
| Water tank   |                |             |          |              |            |
| 600 gal.   | \$2,400        | \$14,400    | 10       | \$1,440      | \$144      |
| Radio  | \$27,000       | \$108,000   | 10       | \$10,800     | \$1,080    |
| Esky   | \$1,100        | \$110,000   | 10       | \$11,000     | \$1,100    |
| Sub-total  |                | \$840,200   |          | \$50,448     | \$14,480   |
| (B) Noro Base  |                |             |          |              |            |
| Building   | \$377,055      | \$377,055   | 25       | \$15,082     | \$7,541    |
| Cold/Ice storage   | \$350,000      | \$350,000   | 15       | \$23,333     | \$7,000    |
| Truck crane  | \$87,500       | \$87,500    | 5        | \$17,500     | \$4,375    |
| Truck  | \$85,000       | \$85,000    | 5        | \$17,000     | \$4,250    |
| Water tank   |                |             |          |              |            |
| 2000 gal.  | \$6,000        | \$6,000     | 10       | \$600        | \$60       |
| Radio  | \$27,000       | \$27,000    | 10       | \$2,700      | \$270      |
| Esky   | \$1,050        | \$157,500   | 10       | \$15,750     | \$1,575    |
| Sub-total  |                | \$1,090,055 |          | \$91,966     | \$25,071   |
| Contingency (10%)  |                | \$193,026   |          |              |            |
| Total  |                | \$2,123,281 |          | \$142,414    | \$39,551   |
| Transport boat   | \$540,550      | \$1,081,100 | 15       | \$72,073     | \$10,811   |
| TOTAL  |                | \$3,204,381 |          | \$214,487    | \$50,362   |

Remarks: 1) Transport boats will be introduced in the year 2000.

2) Buildings and equipment will be introduced in 1998.

3) Initial operation will commence with existing transport vessel (Kurao).

Table A-9.10 Reinvestment cost &amp; O/M cost of WPFMA (Model Zone 3)

|      |               | Unit: SI\$   |           |             |          |             |
|------|---------------|--------------|-----------|-------------|----------|-------------|
|      | Re-investment | Salary/wages | Utilities | Maintenance | Others   | Total (O/M) |
| 1995 |               | \$66,000     | \$21,312  | \$15,000    | \$19,578 | \$121,890   |
| 1996 |               | \$66,000     | \$21,312  | \$15,000    | \$19,578 | \$121,890   |
| 1997 |               | \$66,000     | \$21,312  | \$15,000    | \$19,578 | \$121,890   |
| 1998 | \$1,804,788   | \$66,000     | \$21,312  | \$33,618    | \$19,578 | \$140,508   |
| 1999 |               | \$66,000     | \$21,312  | \$33,618    | \$19,578 | \$140,508   |
| 2000 | \$918,935     | \$66,000     | \$21,312  | \$42,808    | \$19,578 | \$149,698   |
| 2001 |               | \$66,000     | \$21,312  | \$42,808    | \$20,600 | \$150,720   |
| 2002 | \$146,625     | \$66,000     | \$21,312  | \$42,808    | \$21,622 | \$151,742   |
| 2003 |               | \$66,000     | \$21,312  | \$42,808    | \$22,644 | \$152,764   |
| 2004 |               | \$66,000     | \$21,312  | \$42,808    | \$23,666 | \$153,786   |
| 2005 |               | \$66,000     | \$21,312  | \$42,808    | \$24,688 | \$154,808   |
| 2006 |               | \$66,000     | \$21,312  | \$42,808    | \$25,710 | \$155,830   |
| 2007 | \$506,090     | \$66,000     | \$21,312  | \$42,808    | \$26,732 | \$156,852   |
| 2008 |               | \$66,000     | \$21,312  | \$42,808    | \$27,754 | \$157,874   |
| 2009 |               | \$66,000     | \$21,312  | \$42,808    | \$28,776 | \$158,896   |
| 2010 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2011 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2012 | \$1,363,060   | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2013 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2014 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2015 | \$918,935     | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2016 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2017 | \$506,090     | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2018 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2019 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2020 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |
| 2021 |               | \$66,000     | \$21,312  | \$42,808    | \$29,798 | \$159,918   |

Table A-9.11 Economic Evaluation of WPFMA Project (Model Zone 3)

| Unit: SI\$ |                 |           |           |               |
|------------|-----------------|-----------|-----------|---------------|
| Year       | Investment Cost | O/M Cost  | Benefit   | Net Benefit   |
| 1994       |                 |           | 0         | 0             |
| 1995       |                 | \$128,490 | \$121,900 | (\$6,590)     |
| 1996       |                 | \$135,741 | \$141,584 | \$5,843       |
| 1997       |                 | \$142,992 | \$161,268 | \$18,276      |
| 1998       | \$1,640,717     | \$150,243 | \$180,952 | (\$1,610,008) |
| 1999       |                 | \$157,494 | \$200,636 | \$43,142      |
| 2000       |                 | \$164,745 | \$220,320 | \$55,575      |
| 2001       | \$918,935       | \$166,364 | \$239,505 | (\$845,794)   |
| 2002       |                 | \$167,983 | \$258,690 | \$90,707      |
| 2003       | \$172,500       | \$169,602 | \$277,875 | (\$64,227)    |
| 2004       |                 | \$171,221 | \$297,060 | \$125,839     |
| 2005       |                 | \$172,840 | \$316,245 | \$143,405     |
| 2006       |                 | \$174,459 | \$335,430 | \$160,971     |
| 2007       |                 | \$176,078 | \$354,615 | \$178,537     |
| 2008       | \$595,400       | \$177,697 | \$373,800 | (\$399,297)   |
| 2009       |                 | \$179,316 | \$392,985 | \$213,669     |
| 2010       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2011       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2012       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2013       | \$172,500       | \$180,935 | \$412,170 | \$58,735      |
| 2014       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2015       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2016       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2017       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2018       | \$595,400       | \$180,935 | \$412,170 | (\$364,165)   |
| 2019       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2020       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2021       |                 | \$180,935 | \$412,170 | \$231,235     |
| 2022       |                 | \$180,935 | \$412,170 | \$231,235     |

Salvage value of SI\$1,014,047 is included.

EIRR= 0.95%

Table A-9.12 Maintenance Cost of Facilities in Rennell Development Project

| Unit: SI\$                        |                    |    |                  |
|-----------------------------------|--------------------|----|------------------|
|                                   | Financial Cost     | %  | Main.            |
| <b>Fisheries Development Plan</b> |                    |    |                  |
| Road improvement                  | \$1,215,000        | 1  | \$12,150         |
| Unloading barge station           | \$981,837          | 1  | \$9,818          |
| Plumbing work                     | \$48,600           | 3  | \$1,458          |
| Equipment                         | \$334,120          | 5  | \$16,706         |
| Freshwater intake system          | \$270,000          | 5  | \$13,500         |
| Training equipment                | \$89,000           | 5  | \$4,450          |
| Solar powered equipment           | \$162,000          | 10 | \$16,200         |
| <b>Community Assistance Plan</b>  |                    |    |                  |
| MCAC Building                     | \$1,347,600        | 1  | \$13,476         |
| MCAC Solar Powered facilities     | \$649,540          | 10 | \$64,954         |
| Water intake system & tank        | \$438,150          | 5  | \$21,908         |
| Equipment                         | \$297,300          | 5  | \$14,865         |
| Trailer tractor                   | \$415,200          | 5  | \$20,760         |
| <b>Total</b>                      | <b>\$6,248,347</b> |    | <b>\$210,245</b> |

Table A-9.13 Summary of Estimated Economic Benefits

HFMA project (Model Zones 1 & 2)

|                        | 1995        | 2000        | Unit: SI\$<br>2010 |
|------------------------|-------------|-------------|--------------------|
| Time cost saving       |             |             |                    |
| - Increase catch       | \$780,000   | \$904,000   | \$1,560,000        |
| - Consumer             | \$56,908    | \$83,688    | \$108,203          |
| Fuel saving            |             |             |                    |
| - Collection/transport | \$73,022    | \$90,411    | \$195,774          |
| - Storage/transport    | \$2,189     | \$2,530     | \$4,378            |
| Value added            | \$135,774   | \$157,320   | \$271,890          |
|                        | \$1,047,893 | \$1,237,949 | \$2,140,245        |

HCM project (Model Zone 1)

|                        | 1995        | 2000        | Unit: SI\$<br>2010 |
|------------------------|-------------|-------------|--------------------|
| Time cost saving       |             |             |                    |
| - Increase catch       | \$780,000   | \$904,000   | \$1,560,000        |
| - Consumer (Fish)      | \$56,908    | \$83,688    | \$108,203          |
| - Consumer (General)   | \$170,723   | \$251,063   | \$324,610          |
| Fuel saving            |             |             |                    |
| - Collection/transport | \$73,022    | \$90,411    | \$195,774          |
| - Storage/transport    | \$2,189     | \$2,530     | \$4,378            |
| Value added            | \$135,774   | \$157,320   | \$271,890          |
|                        | \$1,218,616 | \$1,489,012 | \$2,464,855        |

Table A-9.14 Increase of Catch And Benefits Through Time Saving

|      | Number of boat trips per week | Time saved by 2 persons per boat trip in a week (man-days) | Increase fish catch (MT) |        | Total benefit (SI\$) |
|------|-------------------------------|--|--------------------------|--------|----------------------|
|      |                               |  | Week                     | Annual |                      |
| 1995 | 25                            | 200  | 3                        | 156    | \$780,000            |
| 2000 | 29                            | 232  | 3                        | 181    | \$904,800            |
| 2010 | 50                            | 400  | 6                        | 312    | \$1,560,000          |

Remarks: 1) Time saving of two persons per boat trip refers to 4 days of saving per week with the fish collection and transport by HFMA to Honiara.  
 2) Normally two persons a boat travel to Honiara to sell fish.  
 3) Average fish catch per trip/person is 15 kg.

Table A-9.15 Time Saving by Fresh Fish Purchasers at HCM

|      | Number of Households in Honiara | Weekly Visits to HCM for General Purchase (2 times a week) | Annual Visits | Time saved (man-days) | Benefit (SI\$) |
|------|---------------------------------|--|---------------|-----------------------|----------------|
| 1995 | 5,253                           | 10,506   | 546,312       | 5,691                 | \$56,908       |
| 2000 | 7,725                           | 15,450   | 803,400       | 8,369                 | \$83,688       |
| 2010 | 9,988                           | 19,976   | 1,038,752     | 10,820                | \$108,203      |

Remarks: 1) Number of household estimated based on estimated Honiara population of 1992, 2000 and 2010 and household size of 6.5 person/house.  
 2) It is assumed that a member of the household visits at least two times a week for general purchase.  
 3) A consumer visiting market to purchase fresh fish experience time loss in terms of moving, sorting and selecting from one esky to another due to congestion of access ways caused by haphazard and unsystematic manner of arrangement of eskies.  
 4) With project, the consumer is assumed to save at least 5 minutes per visit to purchase fresh fish.  
 5) Salary/wages of SI\$10/man-day was applied.

Table A-9.16 Time Saving by General Consumers of HCM

|      | Number of Households in Honiara | Weekly Visits to HCM for General Purchase (3 times a week) | Annual Visits | Time saved (man-days) | Benefit (SI\$) |
|------|---------------------------------|--|---------------|-----------------------|----------------|
| 1995 | 5,253                           | 15,759   | 819,468       | 17,072                | \$170,723      |
| 2000 | 7,725                           | 23,175   | 1,205,100     | 25,106                | \$251,063      |
| 2010 | 9,988                           | 29,964   | 1,558,128     | 32,461                | \$324,610      |

Remarks: 1) Number of household estimated based on estimated Honiara population of 1992, 2000 and 2010 and household size of 6.5 person/house.  
 2) It is assumed that a member of the household visits at least three times a week for general purchase.  
 3) A consumer spends at least 30 minutes in the market and experience time loss in terms of moving haphazardly and unsystematic manner due to congestion of access ways.  
 4) With project, the consumer is assumed to save at least 10 minutes per visit by using the planned access ways for vehicles and people.  
 5) Salary/wages of SI\$10/man-day was applied.



Table A-9.17 Estimated Fuel Consumption (Model Zones 1 &amp; 2)

a) Without Proj Fuel consumed on a round trip from Village to Honiara

|                               | Round Trip<br>(miles) | Fuel consumption<br>Per Round Trip (liters) |
|-------------------------------|-----------------------|---|
| Oleu. -> Hon. -> Tul -> Olue. | 75                    | 57  |
| Soso -> Hon. -> Tul -> Soso   | 84                    | 63  |
| Vura -> Hon. -> Tul -> Vura   | 102                   | 77  |
| Humba -> Hon. -> Tul -> Humba | 66                    | 50  |
| Peula -> Hon. -> Tul -> Peula | 80                    | 60  |
| Tul -> Hon -> Tul             | 52                    | 40  |

Remarks: 1) Boat engine; 25 HP with speed of 12 knots.

2) Fuel consumption (diesel); 9 liters/hour

b) With Project Fuel consumed using carrier boats by HFMA

|                                | Round Trip<br>(miles) | Fuel consumption<br>Per Round Trip (liters) |
|--------------------------------|-----------------------|---|
| Oleu. <-> Tul                  | 34                    | 36  |
| Soso <-> Tul                   | 40                    | 21  |
| Vura <-> Tul                   | 52                    | 28  |
| Humba <-> Tul                  | 24                    | 13  |
| Peula <-> Tul                  | 40                    | 21  |
| Tul <-> Hon (Transport vessel) | 52                    | 68  |

Remarks: 1) Boat engine; 42 HP with speed of 10 knots.

1) Transport vessel (Tul &lt;-&gt; Hon): Boat engine; 42 HP &amp; speed 10 knots.

Fuel consumption (diesel); 13 liters/hour

2) Carrier boats: Boat engine; 25 HP &amp; speed 12 knots.

Fuel consumption; 9 liters/hour

c) Estimated Number of Trips in 1995, 2000 &amp; 2010

|                               | Number of Boat Trips/Week |      |      | Number of Boat Trips/Year |      |      |
|-------------------------------|---------------------------|------|------|---------------------------|------|------|
|                               | 1995                      | 2000 | 2010 | 1995                      | 2000 | 2010 |
| Oleu. -> Hon. -> Tul -> Olue. | 18                        | 20   | 38   | 936                       | 1040 | 1976 |
| Soso -> Hon. -> Tul -> Soso   | 4                         | 5    | 9    | 208                       | 260  | 468  |
| Vura -> Hon. -> Tul -> Vura   | 2                         | 3    | 5    | 104                       | 156  | 260  |
| Humba -> Hon. -> Tul -> Humba | 3                         | 4    | 7    | 156                       | 208  | 364  |
| Peula -> Hon. -> Tul -> Peula | 2                         | 2    | 3    | 104                       | 104  | 156  |
| Tul -> Hon -> Tul             | 5                         | 5    | 10   | 260                       | 260  | 520  |

|               | Number of Boat Trips/Week |      |      | Number of Boat Trips/Year |      |      |
|---------------|---------------------------|------|------|---------------------------|------|------|
|               | 1995                      | 2000 | 2010 | 1995                      | 2000 | 2010 |
| Oleu. <-> Tul | 2                         | 2    | 2    | 104                       | 104  | 104  |
| Soso <-> Tul  | 2                         | 2    | 2    | 104                       | 104  | 104  |
| Vura <-> Tul  | 2                         | 2    | 2    | 104                       | 104  | 104  |
| Humba <-> Tul | 2                         | 2    | 2    | 104                       | 104  | 104  |
| Peula <-> Tul | 2                         | 2    | 2    | 104                       | 104  | 104  |

d) Estimated Fuel Consumption in 1995, 2000 &amp; 2010

|                                    | Without Project                  |         |         | With Project                     |          |           |
|------------------------------------|----------------------------------|---------|---------|----------------------------------|----------|-----------|
|                                    | Annual Fuel Consumption (liters) |         |         | Annual Fuel Consumption (liters) |          |           |
|                                    | 1995                             | 2000    | 2010    | 1995                             | 2000     | 2010      |
| Oleu. -> Hon. -> Tul -> Olue.      | 53,352                           | 59,280  | 112,632 | 3,744                            | 3,744    | 3,744     |
| Soso -> Hon. -> Tul -> Soso        | 13,104                           | 16,380  | 29,484  | 1,248                            | 1,248    | 1,248     |
| Vura -> Hon. -> Tul -> Vura        | 8,008                            | 12,012  | 20,020  | 2,912                            | 2,912    | 2,912     |
| Humba -> Hon. -> Tul -> Humba      | 7,800                            | 10,400  | 18,200  | 1,352                            | 1,352    | 1,352     |
| Peula -> Hon. -> Tul -> Peula      | 6,240                            | 6,240   | 9,360   | 2,184                            | 2,184    | 2,184     |
| Tul -> Hon -> Tul                  | 10,400                           | 10,400  | 20,800  | 21,080                           | 21,080   | 21,080    |
| Total                              | 98,904                           | 114,712 | 210,496 | 32,520                           | 32,520   | 32,520    |
| Fuel saved with project (liters)   |                                  |         |         | 66,384                           | 82,192   | 177,976   |
| Fuel cost (SI\$) at SI\$1.10/liter |                                  |         |         | \$73,022                         | \$90,411 | \$195,774 |

Table A-9.18 Estimated Total Flow of Fresh Fish to Honiara (1995, 2000 &amp; 2010)

|      | Choiseul | Western | Central | Isabel | Malaita | Guadacanal | Total |
|------|----------|---------|---------|--------|---------|------------|-------|
| 1995 | 38       | 2       | 258     | 82     | 12      | 43         | 435   |
| 2000 | 44       | 4       | 299     | 95     | 14      | 48         | 504   |
| 2010 | 66       | 4       | 560     | 144    | 23      | 64         | 861   |

Table A-9.19 Fuel Saving Through Use of Storage at HCM

|      | Fresh Fish<br>Volume Flow to<br>Honiara (mt) | Handling<br>Volume of<br>Fresh Fish at<br>HCM (mt) | Storage<br>Volume of<br>Fresh Fish<br>(mt) | No. of Eskies<br>Stored | Fuel Saved<br>(liters) | Total benefit<br>(SI\$) |
|------|--|--|--|-------------------------|------------------------|-------------------------|
| 1995 | 435  | 397  | 199  | 1990                    | 1990                   | \$2,189                 |
| 2000 | 504  | 460  | 230  | 2300                    | 2300                   | \$2,530                 |
| 2010 | 861  | 795  | 398  | 3980                    | 3980                   | \$4,378                 |

Remarks: 1) Handling volume at HCM excludes fresh fish from Choiseul as VDA does the marketing.  
 2) Approximately 50 percent of eskies with unsold fresh fish are transported on an average of 3 km away from HCM for storage at friend's or relative's house. A distance of 6 km is covered per esky/trip using taxi or van.  
 3) Fuel consumption for a distance of 6 km is about one liter.  
 4) With project, eskies with unsold fresh fish can be stored in the storage provided at HCM.  
 5) Price of gasoline is SI\$1.10/liter.

Table A-9.20 Value Added From Export of Fresh Fish

|      | Fresh Fish<br>Volume Flow to<br>Honiara (mt) | Handling<br>Volume of<br>Fresh Fish at<br>HCM (mt) | Product<br>Weight<br>(mt) | Exportable<br>Volume (mt) | Increase<br>benefit<br>(SI\$/kg) | Total benefit<br>(SI\$) |
|------|--|--|---------------------------|---------------------------|----------------------------------|-------------------------|
| 1995 | 435  | 397  | 357                       | 36                        | \$3.80                           | \$135,774               |
| 2000 | 504  | 460  | 414                       | 41                        | \$3.80                           | \$157,320               |
| 2010 | 861  | 795  | 716                       | 72                        | \$3.80                           | \$271,890               |

Remarks: 1) Handling volume excludes fresh fish from Choiseul as VDA does the marketing.  
 2) Product weight (90 percent of whole weight) excludes guts and gill.  
 3) Exportable quantity of fresh fish is estimated at 10 percent of product weight.  
 4) Increase benefit is cif price minus sales price to exporter (SI\$9.80-SI\$6.00 = SI\$3.80)  
 5) Calculation of Cif price (SI\$/kg):  
     Market price (Brisbane)      SI\$13.20/kg  
     Deduct Freight                SI\$2.40/kg  
     Deduct processing/packing   SI\$1.00/kg  
     Cif price                        SI\$9.80/kg  
 6) Sales price to exporters is SI\$6.00/kg.  
 7) Market price of whole fresh fish in Brisbane is A\$6.00/kg (SI13.20/g).

Table A-9.21 Revenue and Expenditure of HFMA Project by Cases (1/4)

## Case-1

|  |                  |               |                 | Unit: S\$          |                    |
|--|------------------|---------------|-----------------|--------------------|--------------------|
|  |                  |               |                 | 2000               | 2010               |
| Fish purchase (mt)   |                  |               |                 | 414                | 716                |
| Florida Is.  |                  |               |                 | 227                | 423                |
| Other source   |                  |               |                 | 187                | 293                |
| Ice sales (mt)   |                  |               |                 | 64                 | 64                 |
| <b>Revenue</b>   |                  |               |                 | <b>\$3,127,745</b> | <b>\$5,400,245</b> |
| 1) Fish Marketing  |                  |               |                 | \$3,118,500        | \$5,391,000        |
| Local sales  |                  |               |                 |                    |                    |
| Grade-A  |                  |               |                 | \$637,500          | \$1,096,500        |
| Grade-B  |                  |               |                 | \$2,235,000        | \$3,862,500        |
| Exporters  |                  |               |                 | \$246,000          | \$432,000          |
| 2) Ice   |                  |               |                 | \$9,245            | \$9,245            |
|  |                  |               |                 |                    |                    |
| <b>Expenditure</b>   | <b>Honiara</b>   | <b>Tulagi</b> | <b>Satelite</b> |                    |                    |
|  | <b>\$216,643</b> | <b>\$0</b>    | <b>\$0</b>      | <b>\$2,286,643</b> | <b>\$3,796,643</b> |
| <b>Fixed</b>   | <b>\$216,643</b> | <b>\$0</b>    | <b>\$0</b>      | <b>\$216,643</b>   | <b>\$216,643</b>   |
| 1) Salary/wages  | \$89,280         | \$0           | \$0             | \$89,280           | \$89,280           |
| 2) Utility   | \$50,880         | \$0           | \$0             | \$50,880           | \$50,880           |
| 3) Maintenance   | \$58,623         | \$0           | \$0             | \$58,623           | \$58,623           |
| 4) General expense   | \$17,860         | \$0           | \$0             | \$17,860           | \$17,860           |
|  |                  |               |                 | \$0                | \$0                |
| <b>Variable</b>  | <b>\$0</b>       | <b>\$0</b>    | <b>\$0</b>      | <b>\$2,070,000</b> | <b>\$3,580,000</b> |
| 1) Fish purchase   |                  |               |                 | \$2,070,000        | \$3,580,000        |
| 2) Fuel  | \$0              | \$0           | \$0             | \$0                | \$0                |
|  |                  |               |                 |                    |                    |
| Profit/Loss Bef. Depreciation  |                  |               |                 | \$841,102          | \$1,603,602        |
| Depreciation   | \$157,477        | \$0           | \$0             | \$157,477          | \$157,477          |
| Profit/Loss Aft. Depreciation  |                  |               |                 | \$683,625          | \$1,446,125        |
| Remarks: 1) Fishermen transport fish to Honiara using own FRP boats (Case-1) |                  |               |                 |                    |                    |
| 2) HFMA purchase the fish from fishermen at S\$5.00/kg at Honiara.           |                  |               |                 |                    |                    |
| 3) Transport vessel not introduced yet.                                      |                  |               |                 |                    |                    |
| 4) Tulagi base not introduced.   |                  |               |                 |                    |                    |
| 5) Ice sales at \$6.50 per tray (45kg).                                      |                  |               |                 |                    |                    |

Table A-9.21 Revenue and Expenditure of HFMA Project by Cases (2/4)

## Case-2

|                               |                  |            |                | Unit: SIs          |                    |
|-------------------------------|------------------|------------|----------------|--------------------|--------------------|
|                               |                  |            |                | 2000               | 2010               |
| Fish purchase (mt)            |                  |            |                | 414                | 716                |
| Florida Is.                   |                  |            |                | 227                | 423                |
| Other source                  |                  |            |                | 187                | 293                |
| Ice sales (mt)                |                  |            |                | 64                 | 64                 |
| <b>Revenue</b>                |                  |            |                | <b>\$3,127,745</b> | <b>\$5,400,245</b> |
| 1) Fish Marketing             |                  |            |                | \$3,118,500        | \$5,391,000        |
| Local sales                   |                  |            |                |                    |                    |
| Grade-A                       |                  |            |                | \$637,500          | \$1,096,500        |
| Grade-B                       |                  |            |                | \$2,235,000        | \$3,862,500        |
| Exporters                     |                  |            |                | \$246,000          | \$432,000          |
| 2) Ice                        |                  |            |                | \$9,245            | \$9,245            |
|                               |                  |            |                |                    |                    |
|                               | Honiara          | Tulagi     | Satelite       |                    |                    |
| <b>Expenditure</b>            | <b>\$216,643</b> | <b>\$0</b> | <b>\$3,570</b> | <b>\$2,290,213</b> | <b>\$3,800,213</b> |
| <b>Fixed</b>                  | <b>\$216,643</b> | <b>\$0</b> | <b>\$3,570</b> | <b>\$220,213</b>   | <b>\$220,213</b>   |
| 1) Salary/wages               | \$89,280         | \$0        | \$0            | \$89,280           | \$89,280           |
| 2) Utility                    | \$50,880         | \$0        | \$0            | \$50,880           | \$50,880           |
| 3) Maintenance                | \$58,623         | \$0        | \$3,570        | \$62,193           | \$62,193           |
| 4) General expense            | \$17,860         | \$0        | \$0            | \$17,860           | \$17,860           |
|                               |                  |            |                | \$0                | \$0                |
| <b>Variable</b>               | <b>\$0</b>       | <b>\$0</b> | <b>\$0</b>     | <b>\$2,070,000</b> | <b>\$3,580,000</b> |
| 1) Fish purchase              |                  |            |                | \$2,070,000        | \$3,580,000        |
| 2) Fuel                       | \$0              | \$0        | \$0            | \$0                | \$0                |
|                               |                  |            |                |                    |                    |
| Profit/Loss Bef. Depreciation |                  |            |                | \$837,532          | \$1,600,032        |
| 5) Depreciation               | \$157,477        | \$0        | \$16,040       | \$173,517          | \$173,517          |
| Profit/Loss Aft. Depreciation |                  |            |                | \$664,015          | \$1,426,515        |

Remarks: 1) Fishermen transport fish to Honiara using own Agency's leased boats (Case-2).

2) HFMA purchase the fish from fishermen at SI\$5.00/kg at Honiara.

3) Transport vessel not introduced yet.

4) Tulagi base not introduced.

5) Ice sales at \$6.50 per tray (45kg).

Table A-9.21 Revenue and Expenditure of HFMA Project by Cases (3/4)

## Case-3

|                               |                  |                  |                 | Unit: SI\$         |                    |
|-------------------------------|------------------|------------------|-----------------|--------------------|--------------------|
|                               |                  |                  |                 | 2000               | 2010               |
| Fish purchase (mt)            |                  |                  |                 | 414                | 716                |
| Florida Is.                   |                  |                  |                 | 227                | 423                |
| Other source                  |                  |                  |                 | 187                | 293                |
| Ice sales (mt)                |                  |                  |                 | 64                 | 64                 |
| Passengers                    |                  |                  |                 | 313                | 313                |
| Cargo (mt)                    |                  |                  |                 | 157                | 157                |
| <b>Revenue</b>                |                  |                  |                 | <b>\$3,171,565</b> | <b>\$5,444,065</b> |
| 1) Fish Marketing             |                  |                  |                 | \$3,118,500        | \$5,391,000        |
| Local sales                   |                  |                  |                 |                    |                    |
| Grade-A                       |                  |                  |                 | \$637,500          | \$1,096,500        |
| Grade-B                       |                  |                  |                 | \$2,235,000        | \$3,862,500        |
| Exporters                     |                  |                  |                 | \$246,000          | \$432,000          |
| 2) Ice                        |                  |                  |                 | \$9,245            | \$9,245            |
| 3) Passengers                 |                  |                  |                 | \$31,300           | \$31,300           |
| 4) Cargo                      |                  |                  |                 | \$12,520           | \$12,520           |
| <b>Expenditure</b>            | <b>Honiara</b>   | <b>Tulagi</b>    | <b>Satelite</b> | <b>\$2,218,735</b> | <b>\$3,513,135</b> |
| <b>Fixed</b>                  | <b>\$270,188</b> | <b>\$124,677</b> | <b>\$3,570</b>  | <b>\$370,235</b>   | <b>\$370,235</b>   |
| 1) Salary/wages               | \$103,680        | \$57,600         | \$0             | \$161,280          | \$161,280          |
| 2) Utility                    | \$50,880         | \$20,500         | \$0             | \$71,380           | \$71,380           |
| 3) Maintenance                | \$66,728         | \$35,057         | \$3,570         | \$105,355          | \$105,355          |
| 4) General expense            | \$20,700         | \$11,520         | \$0             | \$32,220           | \$32,220           |
| <b>Variable</b>               | <b>\$28,200</b>  | <b>\$0</b>       | <b>\$0</b>      | <b>\$1,848,500</b> | <b>\$3,142,900</b> |
| 1) Fish purchase              |                  |                  |                 | \$1,820,300        | \$3,114,700        |
| 2) Fuel                       | \$28,200         | \$0              | \$0             | \$28,200           | \$28,200           |
| Profit/Loss Bef. Depreciation |                  |                  |                 | \$952,830          | \$1,930,930        |
| 5) Depreciation               | \$198,913        | \$109,487        | \$16,040        | \$324,440          | \$324,440          |
| Profit/Loss Aft. Depreciation |                  |                  |                 | \$628,390          | \$1,606,490        |

Remarks: 1) Fishermen transport fish to Tulagi Base using own Agency's leased boats (Case-3).  
 2) HFMA purchase the fish from fishermen at SI\$3.90/kg at Tulagi Base and SI\$5.00/kg at Honiara.  
 3) Transport vessel transports esky from Tulagi to Honiara.  
 4) Ice sales at SI\$6.50 per tray (45kg).  
 5) Five passengers one way trip at SI\$10 a person.  
 6) About 0.5 mt of cargo from Honiara to Tulagi at SI\$80/mt.

Table A-9.21 Revenue and Expenditure of HFMA Project by Cases (4/4)

## Case-4

Case-4

|                                      | Unit: SI\$         |                    |                 |                    |                    |
|--------------------------------------|--------------------|--------------------|-----------------|--------------------|--------------------|
|                                      | 2000               | 2010               |                 |                    |                    |
| Fish purchase (mt)                   | 414                | 716                |                 |                    |                    |
| Florida Is.                          | 227                | 423                |                 |                    |                    |
| Other source                         | 187                | 293                |                 |                    |                    |
| Ice sales (mt)                       | 64                 | 64                 |                 |                    |                    |
| Passengers                           | 313                | 313                |                 |                    |                    |
| Cargo (mt)                           | 157                | 157                |                 |                    |                    |
| <b>Revenue</b>                       | <b>\$3,171,565</b> | <b>\$5,444,065</b> |                 |                    |                    |
| 1) Fish Marketing                    | \$3,118,500        | \$5,391,000        |                 |                    |                    |
| Local sales                          |                    |                    |                 |                    |                    |
| Grade-A                              | \$637,500          | \$1,096,500        |                 |                    |                    |
| Grade-B                              | \$2,235,000        | \$3,862,500        |                 |                    |                    |
| Exporters                            | \$246,000          | \$432,000          |                 |                    |                    |
| 2) Ice                               | \$9,245            | \$9,245            |                 |                    |                    |
| 2) Passengers                        | \$31,300           | \$31,300           |                 |                    |                    |
| 3) Cargo                             | \$12,520           | \$12,520           |                 |                    |                    |
|                                      |                    |                    |                 |                    |                    |
|                                      | Honiara            | Tulagi             | Satelite        |                    |                    |
| <b>Expenditure</b>                   | <b>\$270,188</b>   | <b>\$195,541</b>   | <b>\$31,528</b> | <b>\$1,987,357</b> | <b>\$3,007,357</b> |
| <b>Fixed</b>                         | <b>\$241,988</b>   | <b>\$153,441</b>   | <b>\$31,528</b> | <b>\$426,957</b>   | <b>\$426,957</b>   |
| 1) Salary/wages                      | \$103,680          | \$79,200           | \$0             | \$182,880          | \$182,880          |
| 2) Utility                           | \$50,880           | \$20,500           | \$0             | \$71,380           | \$71,380           |
| 3) Maintenance                       | \$66,728           | \$37,901           | \$31,528        | \$136,157          | \$136,157          |
| 4) General expense                   | \$20,700           | \$15,840           | \$0             | \$36,540           | \$36,540           |
| <b>Variable</b>                      | <b>\$28,200</b>    | <b>\$42,100</b>    | <b>\$0</b>      | <b>\$1,560,400</b> | <b>\$2,580,400</b> |
| 1) Fish purchase                     |                    |                    |                 | \$1,502,500        | \$2,522,500        |
| 2) Fuel                              | \$28,200           | \$29,700           | \$0             | \$57,900           | \$57,900           |
|                                      |                    |                    |                 |                    |                    |
| <b>Profit/Loss Bef. Depreciation</b> |                    |                    |                 | <b>\$1,184,208</b> | <b>\$2,436,708</b> |
|                                      |                    |                    |                 |                    |                    |
| 5) Depreciation                      | \$198,913          | \$122,887          | \$72,147        | \$393,947          | \$393,947          |
|                                      |                    |                    |                 |                    |                    |
| <b>Profit/Loss Aft. Depreciation</b> |                    |                    |                 | <b>\$790,261</b>   | <b>\$2,042,761</b> |

Remarks: 1) Agency purchase fish at satellites using carrier vessels and stores at Tulagi base (Case-4).  
 2) HFMA purchase the fish from fishermen at SI\$2.50/kg at Satellite and SI\$5.00/kg at Honiara.  
 3) Transport vessel transportsthe collected fish from Tulagi to Honiara.  
 4) Ice sales at SI\$6.50 per tray (45kg).  
 5) Five passengers one way trip at SI\$10 a person.  
 6) About 0.5 mt of cargo from Honiara to Tulagi at SI\$80/mt.

Table A-9.22 Revenue and Expenditure Under Full and Partial Purchase (2000 &amp; 2010)

|                                      | 2000               |                    | 2010               |                    |
|--------------------------------------|--------------------|--------------------|--------------------|--------------------|
|                                      | Full Purchase      | 80% Purchase       | Full Purchase      | 80% Purchase       |
|                                      | \$3,171,565        | \$2,547,865        | \$5,444,065        | \$4,020,265        |
| <b>Revenue</b>                       |                    |                    |                    |                    |
| 1) Fish Marketing                    | \$3,118,500        | \$2,494,800        | \$5,391,000        | \$3,967,200        |
| Local sales                          |                    |                    |                    |                    |
| Grade-A                              | \$637,500          | \$510,000          | \$1,096,500        | \$877,200          |
| Grade-B                              | \$2,235,000        | \$1,788,000        | \$3,862,500        | \$3,090,000        |
| Exporters                            | \$246,000          | \$196,800          | \$432,000          | \$345,600          |
| 2) Ice                               | \$9,245            | \$9,245            | \$9,245            | \$9,245            |
| 3) Passengers                        | \$31,300           | \$31,300           | \$31,300           | \$31,300           |
| 4) Cargo                             | \$12,520           | \$12,520           | \$12,520           | \$12,520           |
| <b>Expenditure</b>                   | <b>\$1,987,357</b> | <b>\$1,686,857</b> | <b>\$3,007,357</b> | <b>\$2,502,857</b> |
| <b>Fixed</b>                         | <b>\$426,957</b>   | <b>\$426,957</b>   | <b>\$426,957</b>   | <b>\$426,957</b>   |
| 1) Salary/wages                      | \$182,880          | \$182,880          | \$182,880          | \$182,880          |
| Tulagi Base                          | \$79,200           | \$79,200           | \$79,200           | \$79,200           |
| Honiara Base                         | \$103,680          | \$103,680          | \$103,680          | \$103,680          |
| 2) Utility                           | \$71,380           | \$71,380           | \$71,380           | \$71,380           |
| Tulagi Base                          | \$20,500           | \$20,500           | \$20,500           | \$20,500           |
| Honiara Base                         | \$50,880           | \$50,880           | \$50,880           | \$50,880           |
| 3) Maintenance                       | \$136,157          | \$136,157          | \$136,157          | \$136,157          |
| Tulagi Base                          | \$37,901           | \$37,901           | \$37,901           | \$37,901           |
| Honiara Base                         | \$66,728           | \$66,728           | \$66,728           | \$66,728           |
| Satellite Base                       | \$31,528           | \$31,528           | \$31,528           | \$31,528           |
| 4) General expense                   | \$36,540           | \$36,540           | \$36,540           | \$36,540           |
| Tulagi Base                          | \$15,840           | \$15,840           | \$15,840           | \$15,840           |
| Honiara Base                         | \$20,700           | \$20,700           | \$20,700           | \$20,700           |
| <b>Variable</b>                      | <b>\$1,560,400</b> | <b>\$1,259,900</b> | <b>\$2,580,400</b> | <b>\$2,075,900</b> |
| 1) Fuel                              | \$57,900           | \$57,900           | \$57,900           | \$57,900           |
| Tulagi Base                          | \$29,700           | \$29,700           | \$29,700           | \$29,700           |
| Honiara Base                         | \$28,200           | \$28,200           | \$28,200           | \$28,200           |
| 2) Fish Purchase                     | \$1,502,500        | \$1,202,000        | \$2,522,500        | \$2,018,000        |
| <b>Profit/Loss Bef. Depreciation</b> | <b>\$1,184,208</b> | <b>\$861,008</b>   | <b>\$2,436,708</b> | <b>\$1,517,408</b> |
| <b>5) Depreciation</b>               | <b>\$393,947</b>   | <b>\$393,947</b>   | <b>\$393,947</b>   | <b>\$393,947</b>   |
| Tulagi Base                          | \$122,887          | \$122,887          | \$122,887          | \$122,887          |
| Honiara Base                         | \$198,913          | \$198,913          | \$198,913          | \$198,913          |
| Satellite Base                       | \$72,147           | \$72,147           | \$72,147           | \$72,147           |
| <b>Profit/Loss Aft. Depreciation</b> | <b>\$790,261</b>   | <b>\$467,061</b>   | <b>\$2,042,761</b> | <b>\$1,123,461</b> |

Remarks: 1) Full purchase indicates purchase of planned volume of fish of 414 mt in 2000 and 716 mt in 2010

2) 80% purchase refers HFMA purchases 80 percent of the planned volume and the rest marketed by the fishermen

Table A-9.23 Revenue and Expenditure of WPFMA Project (model Zone 3)

|                                      | Unit: S/\$       |                   |                  |
|--------------------------------------|------------------|-------------------|------------------|
|                                      | 1995             | 2000              | 2010             |
| <b>Revenue</b>                       | <b>\$196,446</b> | <b>\$442,266</b>  | <b>\$833,106</b> |
| 1) Fish Marketing                    |                  |                   |                  |
| Local                                | \$192,000        | \$348,000         | \$660,000        |
| Export                               | \$0              | \$89,820          | \$164,670        |
| 2) Passengers                        | \$2,496          | \$2,496           | \$4,736          |
| 3) Cargo                             | \$1,950          | \$1,950           | \$3,700          |
| <b>Expenditure</b>                   | <b>\$193,770</b> | <b>\$292,922</b>  | <b>\$414,502</b> |
| <b>Fixed</b>                         | <b>\$108,912</b> | <b>\$155,024</b>  | <b>\$160,304</b> |
| 1) Salary/wages                      | \$66,000         | \$66,000          | \$70,800         |
| 2) Utility                           | \$21,312         | \$21,312          | \$21,312         |
| 3) Maintenance                       | \$15,000         | \$61,112          | \$61,112         |
| 4) General expense                   | \$6,600          | \$6,600           | \$7,080          |
| <b>Variable</b>                      | <b>\$84,858</b>  | <b>\$137,898</b>  | <b>\$254,198</b> |
| 1) Fuel                              | \$19,578         | \$19,578          | \$29,798         |
| 2) Fish Purchase                     | \$65,280         | \$118,320         | \$224,400        |
| <b>Profit/Loss Bef. Depreciation</b> | <b>\$2,676</b>   | <b>\$149,344</b>  | <b>\$418,604</b> |
| <b>Depreciation</b>                  | <b>\$0</b>       | <b>\$214,487</b>  | <b>\$214,487</b> |
| <b>Profit/Loss Aft. Depreciation</b> | <b>\$2,676</b>   | <b>(\$65,143)</b> | <b>\$204,117</b> |

Remarks: 1) In 1995, there will no new facilities and Kualao will be used.

2) In 2000, two new boats will be introduced and new facilities will be constructed.

3) In 2000, WPFMA will export grade A fish.



Table A-9.24 Estimated Revenue From Fresh Fish Sales by HFMA (Model Zones 1 &amp; 2)

|                   | 1995      |              | 2000      |              | 2010      |              |
|-------------------|-----------|--------------|-----------|--------------|-----------|--------------|
|                   | Q'ty (mt) | Value (SI\$) | Q'ty (mt) | Value (SI\$) | Q'ty (mt) | Value (SI\$) |
| Purchase          |           |              |           |              |           |              |
| - Florida Islands | 195       | \$487,500    | 227       | \$567,500    | 423       | \$1,057,500  |
| - Other sources   | 162       | \$810,000    | 187       | \$935,000    | 293       | \$1,465,000  |
| sub-total         | 357       | \$1,297,500  | 414       | \$1,502,500  | 716       | \$2,522,500  |
| Sales             |           |              |           |              |           |              |
| - Local sales     | 321       |              | 373       |              | 644       |              |
| Grade-A           | 64        | \$545,700    | 75        | \$634,100    | 129       | \$1,094,800  |
| Grade-B           | 257       | \$1,926,000  | 298       | \$2,238,000  | 515       | \$3,864,000  |
| - Exporters       | 36        | \$216,000    | 41        | \$246,000    | 72        | \$432,000    |
| sub-total         | 357       | \$2,687,700  | 414       | \$3,118,100  | 716       | \$5,390,800  |
| Revenue           |           | \$1,390,200  |           | \$1,615,600  |           | \$2,868,300  |

Remarks: 1) Quantity refer to product weight.  
 2) Sales of exportable quantity to exporters is estimated at 10 percent of fish handled by HFMA.  
 3) Purchase price of SI\$2.50/kg was applied for fish purchased at the satellites.  
 4) Purchase price of SI\$5.00/kg was applied for fish from other sources in Honiara.  
 5) Sale prices of SI\$8.50/kg for Grade-A and SI\$7.50/kg for Grade-B were applied for local sale  
 6) Sale prices of SI\$6.00/kg for exporters was applied.

Table A-9.25 Total Revenue Earning by HFMA (Model Zones 1 &amp; 2)

|            |             |             | Unit: SI\$  |
|------------|-------------|-------------|-------------|
|            | 1995        | 2000        | 2010        |
| Fish sales | \$1,390,200 | \$1,615,600 | \$2,868,300 |
| Passengers | \$31,300    | \$31,300    | \$31,300    |
| Cargo      | \$12,520    | \$12,520    | \$12,520    |
| Ice sales  | \$9,245     | \$9,245     | \$9,245     |
|            | \$1,443,265 | \$1,668,665 | \$2,921,365 |

Remarks: 1) Revenue from passengers based on 10 persons/round trip on transport boat between Honiara and Tulagi, for 313 trips a year at SI\$10.00/person/one way.  
 2) Revenue from cargo based on allowable cargo of 0.5 MT per return trip from Honiara to Tulagi for 313 trips a year at SI\$80/MT.  
 3) Revenue from ice based on local sales of about 64 MT (1422 trays at 45kg/tray) of ice at SI\$6.50 per tray.

Table A-9.26 Income Statement and Cash Flow of the HFMA Project (1/2)

|                         | 0          | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        |
|-------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                         |            |           |           |           |           |           |           |           |           |           |           |           | Unit: S/S |
| I. Income Statement     | 1995       | 1996      | 1997      | 1998      | 1999      | 2000      | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      |
| A. Revenue              |            | 2,740,765 | 2,826,845 | 2,912,925 | 2,999,005 | 3,171,165 | 3,398,435 | 3,625,705 | 3,852,975 | 4,080,245 | 4,307,515 | 4,534,785 | 4,762,055 |
| Basic Facilities        |            |           |           |           |           |           |           |           |           |           |           |           |           |
| 1) Fish sales           |            | 2,687,700 | 2,773,780 | 2,859,860 | 2,945,940 | 3,118,100 | 3,345,370 | 3,572,640 | 3,799,910 | 4,027,180 | 4,254,450 | 4,481,720 | 4,708,990 |
| 2) Ice                  |            | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     |
| 3) Passengers           |            | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    |
| 4) Cargo                |            | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    |
| 5) Salvage value        |            |           |           |           |           |           |           |           |           |           |           |           |           |
| B. Expense              |            | 2,150,447 | 2,191,447 | 2,232,447 | 2,273,447 | 2,355,447 | 2,457,447 | 2,559,447 | 2,661,447 | 2,763,447 | 2,865,447 | 2,967,447 | 3,069,447 |
| 1) O/M                  |            | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   |
| 2) Fish purchase        |            | 1,297,500 | 1,338,500 | 1,379,500 | 1,420,500 | 1,502,500 | 1,604,500 | 1,706,500 | 1,808,500 | 1,910,500 | 2,012,500 | 2,114,500 | 2,216,500 |
| 3) Depreciation         |            | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   |
| C. Income before Depre. | 0          | 984,265   | 1,029,345 | 1,074,425 | 1,119,505 | 1,209,665 | 1,334,935 | 1,460,205 | 1,585,475 | 1,710,745 | 1,836,015 | 1,961,285 | 2,086,555 |
| D. Net Income           | 0          | 590,318   | 635,398   | 680,478   | 725,558   | 815,718   | 940,988   | 1,066,258 | 1,191,528 | 1,316,798 | 1,442,068 | 1,567,338 | 1,692,608 |
| II. A. Sources of Funds | 10,449,320 | 984,265   | 1,029,345 | 1,074,425 | 1,119,505 | 1,209,665 | 1,334,935 | 1,460,205 | 1,585,475 | 1,710,745 | 1,836,015 | 1,961,285 | 2,086,555 |
| 1) Govt.                | 10,449,320 |           |           |           |           |           |           |           |           |           |           |           |           |
| 2) Depreciation         |            | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   |
| 3) Net income           | 0          | 590,318   | 635,398   | 680,478   | 725,558   | 815,718   | 940,988   | 1,066,258 | 1,191,528 | 1,316,798 | 1,442,068 | 1,567,338 | 1,692,608 |
| B. Uses of Funds        | 10,449,320 | 0         | 0         | 3,000     | 0         | 210,500   | 3,000     | 0         | 0         | 3,000     | 747,300   | 0         | 3,000     |
| 1) Construction         | 10,449,320 |           |           |           |           |           |           |           |           |           |           |           |           |
| Wharf                   | 2,000,000  |           |           |           |           |           |           |           |           |           |           |           |           |
| Market/others           | 8,449,320  |           |           |           |           |           |           |           |           |           |           |           |           |
| 2) Reinvestment         |            |           |           | 3,000     |           | 210,500   | 3,000     |           |           | 3,000     | 747,300   |           | 3,000     |
| C. Net cash flow        | 0          | 984,265   | 1,029,345 | 1,071,425 | 1,119,505 | 999,165   | 1,331,935 | 1,460,205 | 1,585,475 | 1,707,745 | 1,088,715 | 1,961,285 | 2,083,555 |

Remarks: Assumption HFMA owns the fisheries related facilities in the Honiara Central Market.

Table A-9.26 Income Statement and Cash Flow of the HFMA Project (2/2)

|                                |               | 13         | 14        | 15        | 16        | 17        | 18        | 19        | 20        | 21        | 22        | 23        | 24        | 25        |
|--------------------------------|---------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                                |               | Unit: \$IS |           |           |           |           |           |           |           |           |           |           |           |           |
| <b>I. Income Statement</b>     |               | 2008       | 2009      | 2010      | 2011      | 2012      | 2013      | 2014      | 2015      | 2016      | 2017      | 2018      | 2019      | 2020      |
| <b>A. Revenue</b>              |               | 4,989,325  | 5,216,595 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 5,443,865 | 6,281,448 |
| <b>Basic Facilities</b>        |               |            |           |           |           |           |           |           |           |           |           |           |           |           |
| 1) Fish sales                  |               | 4,936,260  | 5,163,530 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 | 5,390,800 |
| 2) Ice                         |               | 9,245      | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     | 9,245     |
| 3) Passengers                  |               | 31,300     | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    | 31,300    |
| 4) Cargo                       |               | 12,520     | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    | 12,520    |
| 5) Salvage value               |               |            |           |           |           |           |           |           |           |           |           |           |           | 837,583   |
| <b>B. Expense</b>              |               | 3,171,447  | 3,273,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 | 3,375,447 |
| 1) O/M                         |               | 459,000    | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   | 459,000   |
| 2) Fish purchase               |               | 2,318,500  | 2,420,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 | 2,522,500 |
| 3) Depreciation                |               | 393,947    | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   |
| <b>C. Income before Depre.</b> |               | 2,211,825  | 2,337,095 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 3,299,948 |
| <b>D. Net Income</b>           |               | 1,817,878  | 1,943,148 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,906,001 |
| <b>II. A. Sources of Funds</b> |               | 2,211,825  | 2,337,095 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 2,462,365 | 3,299,948 |
| 1) Govt.                       |               |            |           |           |           |           |           |           |           |           |           |           |           |           |
| 2) Depreciation                |               | 393,947    | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   | 393,947   |
| 3) Net income                  |               | 1,817,878  | 1,943,148 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,068,418 | 2,906,001 |
| <b>B. Uses of Funds</b>        |               | 0          | 0         | 1,921,050 | 0         | 0         | 3,000     | 0         | 747,300   | 3,000     | 0         | 0         | 3,000     | 0         |
| 1) Construction                | Wharf         |            |           |           |           |           |           |           |           |           |           |           |           |           |
|                                | Market/others |            |           |           |           |           |           |           |           |           |           |           |           |           |
| 2) Reinvestment                |               |            |           | 1,921,050 |           |           | 3,000     |           | 747,300   | 3,000     |           |           | 3,000     |           |
| <b>C. Net cash flow</b>        |               | 2,211,825  | 2,337,095 | 541,315   | 2,462,365 | 2,462,365 | 2,459,365 | 2,462,365 | 1,715,065 | 2,459,365 | 2,462,365 | 2,462,365 | 2,459,365 | 3,299,948 |
| Remarks: Assumption HFMA       |               |            |           |           |           |           |           |           |           |           |           |           |           |           |

Table A-9.27 Financial Evaluation of the HFMA Project

|      | Investment | Re-invest | Income before<br>Depreation | Unit: SI\$<br>Net Benefit |
|------|------------|-----------|-----------------------------|---------------------------|
| 1995 | 10,449,320 | 0         | 0                           | -10,449,320               |
| 1996 |            | 0         | 984,265                     | 984,265                   |
| 1997 |            | 0         | 1,029,345                   | 1,029,345                 |
| 1998 |            | 3,000     | 1,074,425                   | 1,071,425                 |
| 1999 |            | 0         | 1,119,505                   | 1,119,505                 |
| 2000 |            | 210,500   | 1,209,665                   | 999,165                   |
| 2001 |            | 3,000     | 1,334,935                   | 1,331,935                 |
| 2002 |            | 0         | 1,460,205                   | 1,460,205                 |
| 2003 |            | 0         | 1,585,475                   | 1,585,475                 |
| 2004 |            | 3,000     | 1,710,745                   | 1,707,745                 |
| 2005 |            | 747,300   | 1,836,015                   | 1,088,715                 |
| 2006 |            | 0         | 1,961,285                   | 1,961,285                 |
| 2007 |            | 3,000     | 2,086,555                   | 2,083,555                 |
| 2008 |            | 0         | 2,211,825                   | 2,211,825                 |
| 2009 |            | 0         | 2,337,095                   | 2,337,095                 |
| 2010 |            | 1,921,050 | 2,462,365                   | 541,315                   |
| 2011 |            | 0         | 2,462,365                   | 2,462,365                 |
| 2012 |            | 0         | 2,462,365                   | 2,462,365                 |
| 2013 |            | 3,000     | 2,462,365                   | 2,459,365                 |
| 2014 |            | 0         | 2,462,365                   | 2,462,365                 |
| 2015 |            | 747,300   | 2,462,365                   | 1,715,065                 |
| 2016 |            | 3,000     | 2,462,365                   | 2,459,365                 |
| 2017 |            | 0         | 2,462,365                   | 2,462,365                 |
| 2018 |            | 0         | 2,462,365                   | 2,462,365                 |
| 2019 |            | 3,000     | 2,462,365                   | 2,459,365                 |
| 2020 |            | 0         | 3,299,948                   | 3,299,948                 |

FIRR= 13.01%

