

資料-1 調査団員・氏名

1. 調査団員・氏名

1-1 協力準備調査

氏名	担当業務	現職
松永 龍児	総括	独立行政法人 国際協力機構 気候変動対策室副室長
伊藤 将宏	計画管理	独立行政法人 国際協力機構 東南アジア第一・大洋州部
宮下 弘道	調達監理計画	財団法人日本協力システム 業務第一部 施設第一課 兼 業務第二部 特別業務室
元木 要	副業務主任/太陽光発電システム2 /環境社会配慮2	ICONS 国際協力株式会社
皆元 正博	戸別型発電施設運用・維持管理体制1	ICONS 国際協力株式会社
浦野 勝雄	戸別型発電施設運用・維持管理体制2	八千代エンジニアリング株式会社
栗田 貴之	機材・設備計画2/維持管理体制3	ICONS 国際協力株式会社
石井 優一	調達計画/積算2	ICONS 国際協力株式会社

1-2 概略設計概要説明調査

氏名	担当業務	現職
松井 伸晃	総括	独立行政法人 国際協力機構 トンガ事務所
福田 秀正	計画管理	独立行政法人 国際協力機構 産業開発部
村松 美江	調達監理計画	独立行政法人 国際協力機構 産業開発部
元木 要	副業務主任/太陽光発電システム2 /環境社会配慮2	ICONS 国際協力株式会社
栗田 貴之	機材・設備計画2/維持管理体制3	ICONS 国際協力株式会社
石井 優一	調達計画/積算2	ICONS 国際協力株式会社

資料-2 調査行程

2. 調査行程

大洋州地域太陽光を活用したクリーンエネルギー導入計画準備調査

(トンガ王国)

2-1 協力準備調査

日数	月日	曜日	調査内容		宿泊地	
			官団員	コンサルタント		
			総括:松永 龍児 計画管理:伊藤 将宏 調達監理計画:宮下 弘道	チームA 元木 要 栗田 貴之 石井 優一		チームB 皆元 正博 浦野 勝雄
1	8月24日	月		●移動 [成田 →]		
2	8月25日	火		●移動 [オークランド到着] ●移動 [オークランド → スクアロファ]	スクアロファ	
3	8月26日	水		●JICAトンガ支所との打合せ ●日本大使館表敬 ●外務省表敬 ●国土・調査・天然資源省表敬 ●サイト調査(発電所) ●エネルギー計画班との協議	スクアロファ	
4	8月27日	木		●国土・調査・天然資源省へのインセプション・レポート、質問票の説明、協議 ●AUS AIDとの協議 ●財務・国家計画省との協議	スクアロファ	
5	8月28日	金	●移動 [成田 →]	●国土・調査・天然資源省との協議	スクアロファ	
6	8月29日	土	●移動[オークランド到着] ●移動[オークランド → スクアロファ]	●データ整理、情報収集	スクアロファ	
7	8月30日	日	●サイト調査	●サイト調査	スクアロファ	
8	8月31日	月	●JICAトンガ支所との協議 ●日本大使館表敬 ●外務省表敬 ●国土・調査・天然資源省表敬、ミニッツに関する協議	●市場調査 ●関係諸機関訪問、調査	●移動 [スクアロファ → ババウ]	スクアロファ ババウ
9	9月1日	火	●ミニッツ(案)作成 ●ミニッツに関する説明、協議		●サイト調査	スクアロファ ババウ
10	9月2日	水	●ミニッツに関する説明、協議		●サイト調査	スクアロファ ババウ
11	9月3日	木	●移動 [スクアロファ → ババウ] ●サイト調査 ●移動 [ババウ → スクアロファ]		●サイト調査	スクアロファ ババウ
12	9月4日	金	●ミニッツ署名 ●JICAトンガ支所への報告 ●日本大使館 への報告		●サイト調査	スクアロファ ババウ
13	9月5日	土	●移動[スクアロファ → オークランド]	●移動 [スクアロファ → オークランド](石井団員のみ) ●データ整理、情報収集	●データ整理、情報収集	スクアロファ ババウ (オークランド)
14	9月6日	日	●移動[オークランド→ 成田]	●団内会議 ●移動[オークランド→ 成田]	●データ整理、情報収集	スクアロファ ババウ (成田)
15	9月7日	月		●国土・調査・天然資源省との協議	●サイト調査	スクアロファ ババウ
16	9月8日	火		●移動[スクアロファ → ハーパイ]	●移動[ババウ →ハーパイ]	ハーパイ
17	9月9日	水		●サイト調査		ハーパイ
18	9月10日	木		●サイト調査 ●移動[ハーパイ → スクアロファ]		ハーパイ
19	9月11日	金		●国土・調査・天然資源省との協議		スクアロファ
20	9月12日	土		●団内会議		スクアロファ

日数	月日	曜日	調査内容			宿泊地	
			官団員		コンサルタント		
			チームA		チームB		
			総括:松永 龍児 計画管理:伊藤 将宏 調達監理計画:宮下 弘道	元木 要 栗田 貴之 石井 優一	皆元 正博 浦野 勝雄		
21	9月13日	日		● 団内会議		ヌクアロファ	
22	9月14日	月		● サイト調査		ヌクアロファ	
23	9月15日	火		● 国土・調査・天然資源省との協議		ヌクアロファ	
24	9月16日	水		● 国土・調査・天然資源省との協議 ● パパウ開発委員会との協議		ヌクアロファ	
25	9月17日	木		● データ分析		ヌクアロファ	
26	9月18日	金		● JICAトンガ支所への報告 ● 日本大使館への報告		ヌクアロファ	
27	9月19日	土		● 移動[ヌクアロファ → オークランド]		オークランド	
28	9月20日	日		● 移動[オークランド → 成田]			

2-2 概略設計概要説明調査

日数	月日	曜日	調査内容				宿泊地
			官団員			コンサルタント	
			総括: 松井 信晃	計画管理: 福田 秀正	調達監理計画: 村松 美枝	元木 要 栗田 貴之 石井 優一	
1	2月19日	金				● 移動 [成田 →]	
2	2月20日	土		● 移動 [羽田→関空] ● 移動 [関空→]		● 移動 [オークランド到着] ● 移動 [オークランド → スク アロファ]	ヌクアロファ
3	2月21日	日	● 団内打合	● 移動 [→オークランド] ● 移動 [オークランド→ ヌクアロファ]	● 移動 [成田→]	● 団内会議	ヌクアロファ
4	2月22日	月	● 団内会議 ● JICA事務所報告 ● 大使館表敬 ● 国土・調査・天然資源省と報告書にかかる 協議		● 移動 [オークランド→ ヌクアロファ]	● 官側に同行	ヌクアロファ
5	2月23日	火	● 移動 [ヌクアロファ→ババウ] ● フンガ村委員会調査 ● 国土・調査・天然資源省との協議		● ミニッツ案作成 ● 資料収集	● 官側に同行	ヌクアロファ/ ババウ
6	2月24日	水	● 移動 [ババウ→ ヌクアロファ]	● 国土・調査・天然 資源省とのミニッ ツ等にかかる協議	● ミニッツ案作成 ● 関係省庁との打ち 合わせ	● 国土・調査・天然資源省との 協議	ヌクアロファ/ ババウ
7	2月25日	木	● ミニッツ案作成	● 移動 [ババウ→ ヌクアロファ]	● ミニッツ案作成	● 移動 [ババウ→ヌクアロファ]	ヌクアロファ
8	2月26日	金	● ミニッツ案協議 再生可能エネルギー委員会、国土・調査・天然資源省とのミニッツにかかる協議 ● 大使館報告				ヌクアロファ
9	2月27日	土		● 移動 [ヌクアロファ→オークランド] [オークランド→成田]		● 移動 [ヌクアロファ→オークランド] [オークランド→]	
10	2月28日	日				● 移動 [成田着]	

資料-3 関係者(面会者)リスト

3. 関係者（面談者）リスト

所属および氏名

職位

3-1 協力準備調査

大統領府 (Prime Minister's Office)

Dr. Feleti Sevele
Mr. `Akau'ola

Prime Minister
Renewable Energy Coordinator

国土調査・天然資源省 (Ministry of Land Survey and Natural Resource)

Hon. TUITA
Mr. Sione Halatuituia
Mr. Kelepei S. Mafi
Mr. Ofa Sefana
Ms. Winnie Veikoso

Minister
CEO
Acting Deputy Secretary, Natural Resource
Energy Planner
Energy Planner

外務省 (Ministry of Foreign Affairs)

Mr Vayin Tone
Mr. Tatafu Moenlin

Secretary for Foreign Affairs
Deputy Secretary

財務・国家計画省 Ministry of Finance and National Planning

Mr. `Aisake V Eke
Ms. Natalia Palu Latu
Mr. Teruhisa MIYATA

Secretary for Finance and National Planning
Principal Economist, Aid & Project
Management Division
JOCV Senior Volunteer

European Union (EU)

Mr. Isileli Aholelei

EU Technical Advisor

AusAid

Mr. Ms. Mele'ofa Mafi

Senior Program Manager/Development
Cooperation

The Main Streaming of Rural Development Innovations (NPO 団体)

Mr. Soane Patolo
Ms. Ana Aka

Program Coordinator
Personal Assistant

在トンガ日本国大使館

Mr. Yasuo TAKASE
Mr. Akira OUCHI
Mr. Yasuhide SAKAMOTO
Mr. Kenichi SHIBUYA

Ambassador
Counsellor
Adviser(Economic and Technical Cooperation)
Grant Aid reseacher

JICA トンガ事務所

Mr. Nobuaki MATSUI
Mr. Hiroyuki UEDA
Mr. Masafumi INOUE
Mr. Alfred VAKA

Resident Representative
Volunteer Coordinator
Volunteer Coordinator
Programme Officer

JICA フィジー事務所

Mr. Fumiaki SASO

Project Formulation Advisor

3-2 概略設計概要説明調査

Ministry of Land Survey and Natural Resource

Mr. Fetuu Vea
Mr. Ofa Sefana
Ms. Winnie Veikoso

Acting CEO
Energy Planner
Energy Planner

在トンガ日本国大使館

Mr. Yasuo TAKASE
Mr. Akira OUCHI
Mr. Yoshimitu KAWADA
Mr. Yasuhide SAKAMOTO

Ambassador
Counsellor
Counsellor
Adviser(Economic and Technical Cooperation)

JICA トンガ事務所

Mr. Nobuaki MATSUI
Mr. Alfred VAKA

Resident Representative
Programme Officer

資料-4 討議議事録(M/D)

Minutes of Discussions
on the Preparatory Survey
on the Project for introduction of Clean Energy by solar home system

The Government of Japan (hereinafter referred to as "GoJ") has established Cool Earth Partnership as a new financial mechanism. Through this, GoJ is cooperating actively with developing countries' efforts to reduce greenhouse gasses emissions, such as efforts to promote clean energy. A new scheme of grant aid, "Program Grant Aid for Environment and Climate Change", was also created by GoJ as a component of this financial mechanism. According to the initiative of Cool Earth Partnership, the Japan International Cooperation Agency (hereinafter referred to as "JICA"), in consultation with GoJ, decided to conduct a Preparatory Survey (hereinafter referred to as "the Survey") on the Project for introduction of Clean Energy by solar home system in the Kingdom of Tonga (hereinafter referred to as "the Project").

JICA sent to the Kingdom of Tonga (hereinafter referred to as "Tonga") the Preparatory Survey Team (hereinafter referred to as "the Team"), headed by Mr. Ryuji MATSUNAGA, Deputy Director General, Office for Climate Change, JICA, and is scheduled to stay in the country from August 24 to September 19 as the Preparatory Survey for Detailed Design.

The Team held discussions with the concerned officials of the Government of Tonga and conducted a field survey.

In the course of discussions and field survey, both sides confirmed the main items described in the attached sheets.

Nuku'alofa, September 4, 2009



Mr. Ryuji MATSUNAGA
Leader
Preparatory Survey Team
Japan International Cooperation Agency
JAPAN



Dr. Sione Nailasikau Halatuituia
Chief Executive Officer (CEO)
Lands, Survey, and Natural Resources
(MLSNR)



Mr. Aisake Eke
CEO/Secretary for Finance and National
Planning
Ministry of Finance and National Planning

ATTACHMENT

1. Current Situation

Based on the result of the previous project formulation study and the official request from the Government of Tonga, Detailed Design and Draft Tender Documents shall be created under the Survey.

2. Objective of the Project

The objective of the Project is to promote rural electrification using clean energy.

3. Responsible Organization and Implementing Agency

The responsible and implementing organization is the Ministry of Lands, Survey, and Natural Resources (MLSNR). (The organization chart of the responsible and implementing organization is shown in Annex-1.)

4. Project Component

- 4-1. After discussions with the Team, the procurement and the installation of the stand-alone Solar Home System (SHS) including soft component (technical assistance) was requested by the Tonga side. (The basic design is shown in Annex-2)
- 4-2. Project site is Tongapatapu islands and Vava'u islands as shown in Annex-3
- 4-3. The Tonga side explained that there is no duplication between the contents of the Project and any other plans implemented by the other donors or the Tonga side. Having experiences of SHS installation with financial supports by other donors in the Project sites, MLSNR recognizes the sites to be unelectrified areas for the reason almost all system have not worked.
- 4-4. The Team will assess the appropriateness of the request and will report the findings to JICA Headquarters and the GoJ. The Tonga side has understood that the final components and the design of the Project shall be decided (confirmed) after further survey.

5. Japan's Program Grant Aid for Environment and Climate Change

The Tonga side understood the Japan's Program Grant Aid for Environment and Climate Change scheme explained by the Team as described in Annex-4, 5 and 6.

6. Schedule of the Study

- (1) The Team will proceed to further survey in Tonga until September 19, 2009.
- (2) JICA will prepare the draft report and reference document in English and dispatch a mission to Tonga in order to explain their contents in December, 2009.
- (3) When the contents of the report are accepted in principle by the Government of Tonga, JICA will complete the final report and reference document, and submit them to the Government of Tonga and to the Procurement Agent by the end of January, 2010.



7. Other Relevant Issues

7-1 Major Undertakings to be taken by Each Government

The Tonga side confirmed that major undertakings as shown in Annex-7 should be taken by Tonga side at its own budget. In addition, the Tonga side should be responsible for following issues;

- (1) Securing necessary land
 - for PV Modules
- (2) Temporary Stockyard during installation of the equipment and materials
- (3) Vehicles for Operation and Maintenance
- (4) Tables and PCs, if necessary

7-2 Explanation to recipient householders

The Tonga side shall hold meetings with all recipient communities to explain the project outline including their obligations, and confirm their participation by the end of January 2010.

7-3 Procurement of Equipment and Materials

The Team explained that, in accordance with the policy of GoJ, products of Japan shall be procured for major equipment in the Project. The Tonga side agreed with the policy of GoJ.

7-4 Coordination with Related Organizations

The Implementing Agency of the Project (MLSNR) shall be the focal point for the Team, and responsible for the coordination with related organizations.

7-5 Establishment of implementation body

Making reference to Ha'apai model, both sides understood that establishment of implementation body including Solar Incorporated Society is indispensable for their sustainable operation. The Tonga side agreed that all institutional, financial and technical arrangement shall be established and be explained to the communities and the Societies under their responsibility by the end of January 2010, and report the results to the Japanese side immediately.

7-6 Clearance of existent modules

Regarding existent modules installed by other donors, the Tonga side shall remove and properly manage them at its own budget with permissions by the donors and the householders before the commencement of installation.

7-7 Property of Equipment and Materials

The Implementing Agency of the Project (MLSNR) shall own the equipment and materials provided under the Project during and after implementation of the Project.

7-8 Environmental and Social Considerations

The Team explained the outline of JICA Environmental and Social Considerations Guideline (hereinafter referred to as "the JICA Guideline") to the Tonga side. The Tonga side took the JICA



Guideline into consideration, and shall complete the necessary procedures.

7-9 Operation and Maintenance

The Tonga side agreed to secure the necessary budget and personnel for the Operation and Maintenance of SHS procured and installed under the Project.

7-10 Customs and Tax exemption

The Tonga side agreed that the Tonga side shall be responsible for the exemption and/or reimbursement (payment/assumption) of all customs, tax, levies and duties incurred in Tonga for implementation of the Project.

7-11 The Tonga side shall ensure the security of all concerned Japanese nationals working for the Project, if deemed necessary.

7-12 The Tonga side shall provide necessary numbers of counterpart personnel to the Team during the period of their studies in Tonga.

7-13 The Tonga side shall submit all the answers to the Questionnaire, which the Team handed to the Tonga side, by September 19, 2009.



<List of Annex>

Annex-1 Organization Chart of the Ministry of Lands, Survey, and Natural Resources & Environment

Annex-2 Basic design of stand-alone SHS

Annex-3 Project site / Candidate site of the Project

Annex-4 Japan's Environment Program Grant Aid Scheme

Annex-5 Flow of Funds for Project Implementation

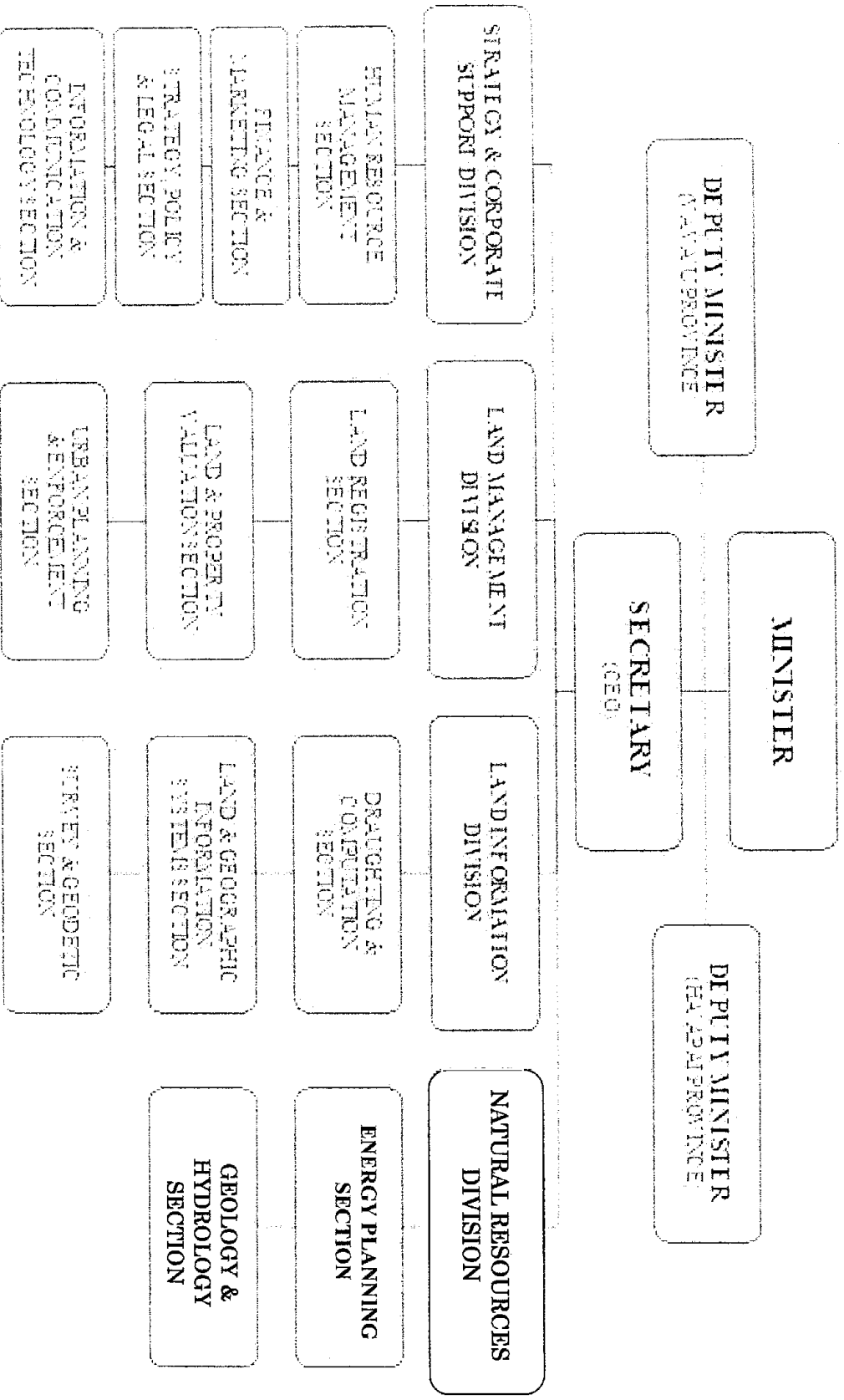
Annex-6 Project Implementation System

Annex-7 Major Undertakings to be taken by Each Government

Annex-8 Terms of Reference of the Consultative Committee (Provisional)



Organization Chart of the Ministry of Lands, Survey, and Natural Resources & Environment



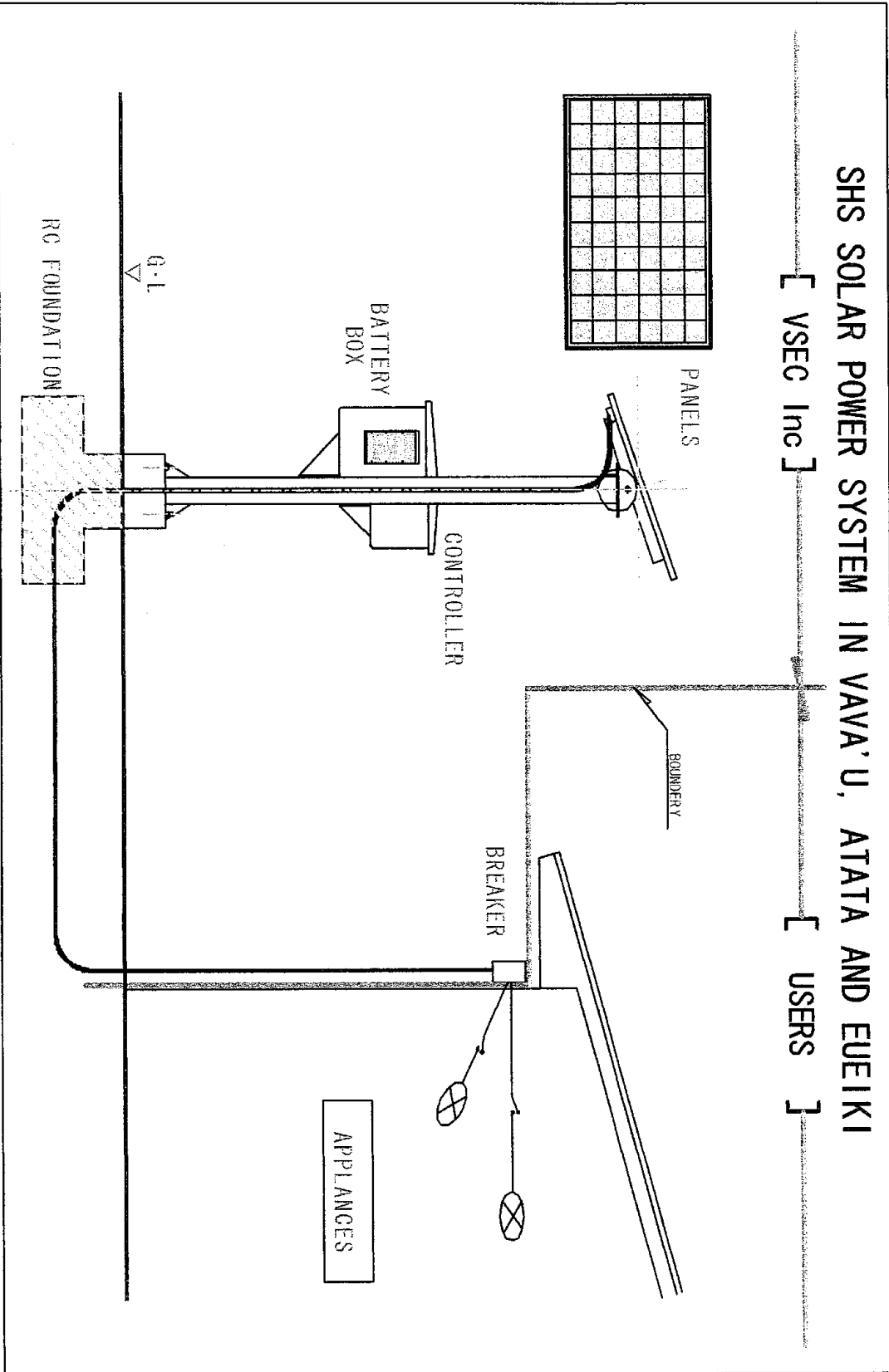
Basic design of stand-alone SHS

Annex-2

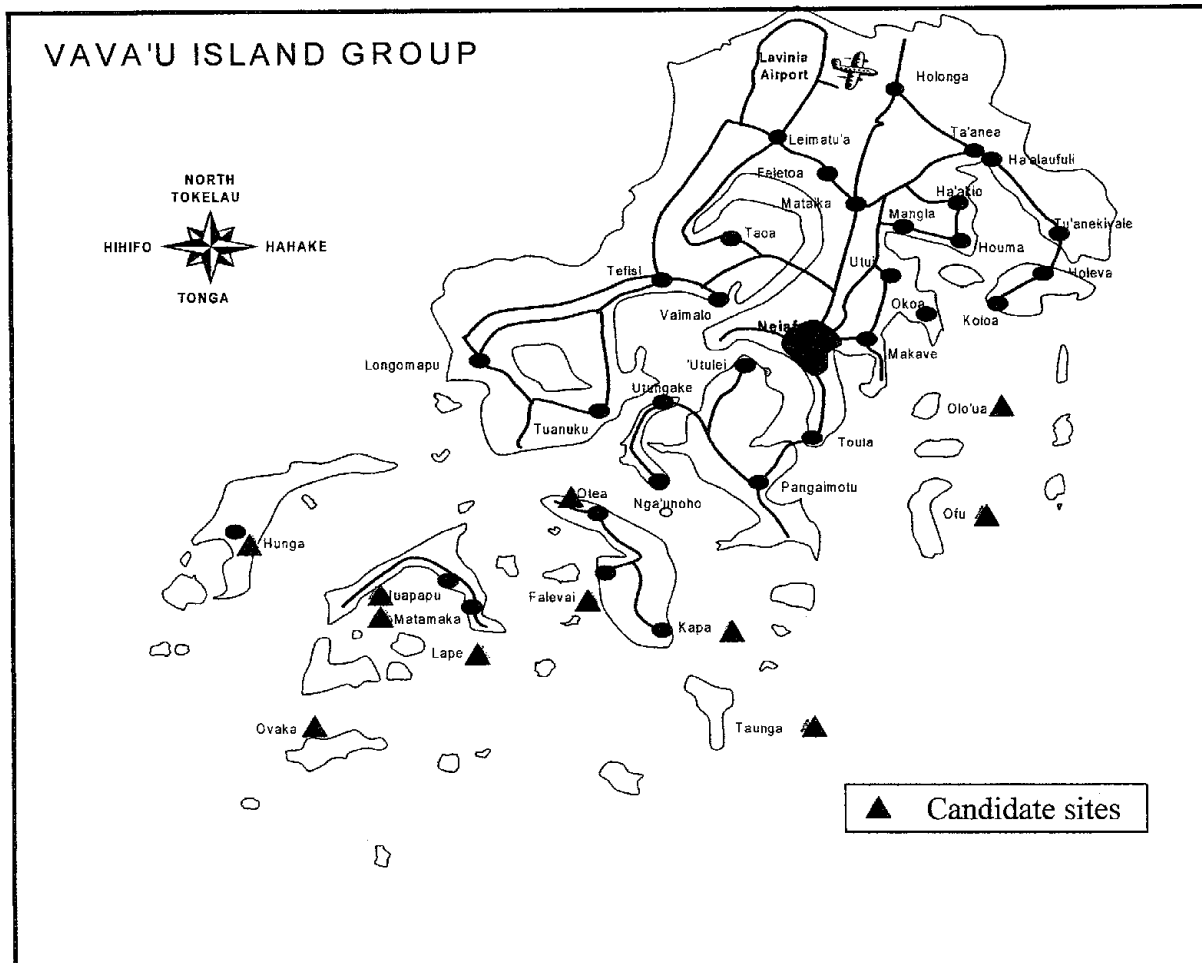
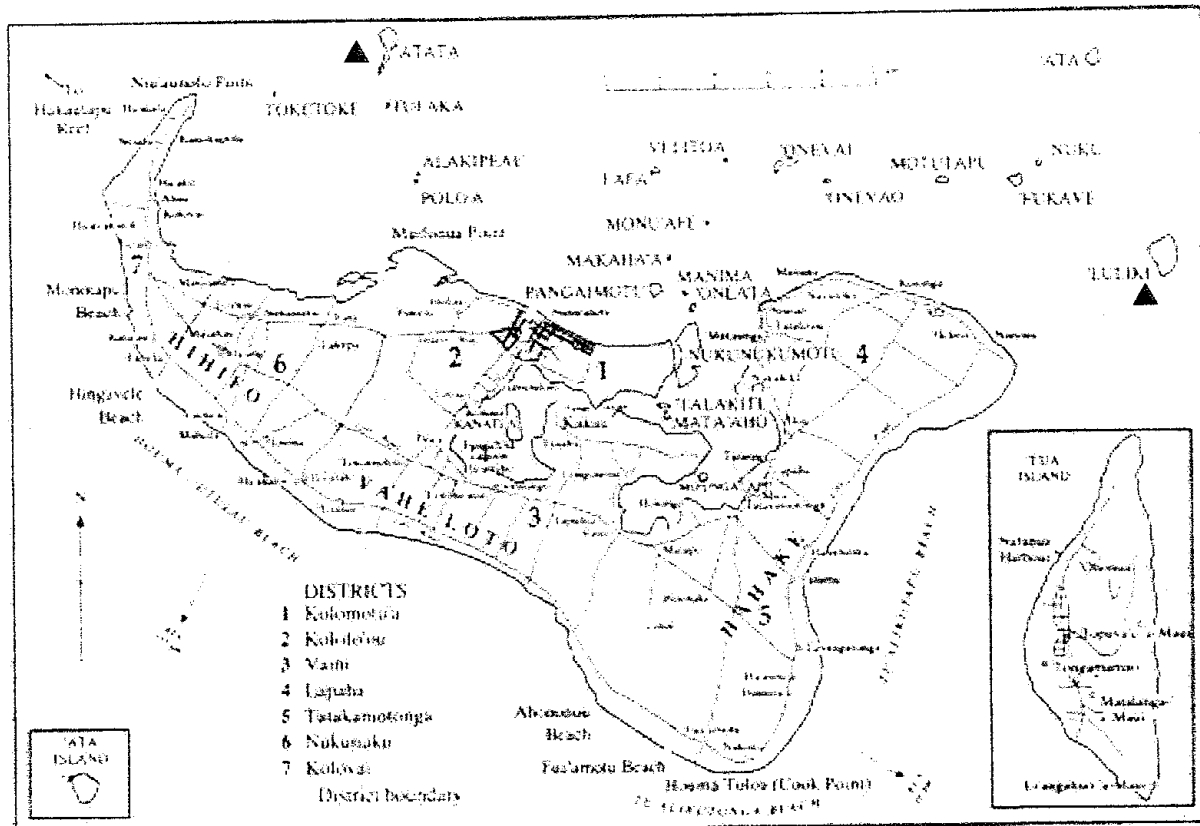
SHS SOLAR POWER SYSTEM IN VAVA'U, ATATA AND EUEIKI

[VSEC Inc]

[USERS]



Project site / Candidate site of the Project



Program Grant Aid for Environment and Climate Change
of the Government of Japan
 (Provisional)

The Grant Aid provides a recipient country (hereafter referred to as “the Recipient”) with non-reimbursable funds to procure the facilities, equipment, and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on “Cool Earth Partnership” initiative of the Government of Japan, the Program Grant Aid for Environment and Climate Change (hereafter referred to as “GAEC”) aims to mitigate effects of global warming by reducing GHGs emission (mitigation; e.g. improvement of energy efficiency) and to take adaptive measures (adaptation; e.g. measures against disasters related to climate change, including disaster prevention such as enhancing disaster risk management).

1. Procedures for GAEC

GAEC is executed through the following procedures.

Preparatory Survey (Phase 1)	Preparatory Survey (Phase 1 for project identification) conducted by Japan International Cooperation Agency (JICA)
Application	Request made by a recipient country
Appraisal & Approval	Appraisal by the Government of Japan and Approval by the Cabinet
Determination of Implementation	The Notes exchanged between the Government of Japan and the Recipient Country
Grant Agreement (hereinafter referred to as the “G/A”)	Agreement concluded between JICA and the Recipient
Preparatory Survey (Phase 2)	Preparatory Survey (Phase 2 for detailed design) conducted by JICA
Implementation	Procurement through the Procurement Agency by the Recipient

Firstly, if the candidate project for a GAEC is identified by the Recipient and the Government of Japan, the Government of Japan (the Ministry of Foreign Affairs) examines it whether it is eligible for GAEC. When the request is deemed appropriate, JICA, in consultation with the Government of Japan, conducts the Preparatory Survey (hereafter referred to as “the Survey”) on the candidate project as Phase 1 of the Survey with Japanese consulting firms.

Secondly, the Recipient submits the official request to the Government of Japan, while the appropriateness, necessity and the basic components of the project are examined in the course of Phase 1 of the Survey,

Thirdly, the Government of Japan appraises the project to see whether it is suitable for Japan's GAEC, based on the Survey report prepared by JICA, and the results are then submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of

Notes (E/N) signed by the Governments of Japan and the Recipient.

Fifthly, JICA engages Grant Agreement (G/A) with the Recipient and executes the Grant by making payments of the amount agreed in the E/N and strictly monitors that the funds of the Grant are properly and effectively used.

Procurement Management Agent is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts) for GAEC on behalf of the Recipient. The Agent is an impartial and specialized organization that will render services according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2 Preparatory Survey

1) Contents of the Survey

The purpose of the Preparatory Survey (hereafter referred to as "the Survey"), conducted by JICA on a requested project (hereafter referred to as "the Project"), is to provide the basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Survey are as follows:

- Confirmation of background, objectives, and benefits of the Project and institutional capacity of agencies and communities concerned of the Recipient necessary for project implementation.
- Evaluation of relevance of the Project to be implemented under the Grant Aid Scheme for Environment and Climate Change from a technical, social, and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of the detailed design of the Project and reference document for tender.
- Estimation of cost for the Project.

The contents of the original request will be modified, as found necessary, in the design of the Project according to the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the Recipient to take whatever measures necessary to ensure its responsibility in implementing the Project. Such measures must be guaranteed even if they may fall outside the jurisdiction of the implementing organization of the Recipient. This has been confirmed by all relevant organizations of the Recipient through the Minutes of Discussions.

2) Selection of consulting firms

For the smooth implementation of the Survey, JICA will conduct the Survey with registered consulting firms. JICA selects the firms based on proposals submitted by firms with interest in implementing the Survey. The firms selected will carry out the Preparatory Survey and prepare a report, based on the terms of reference set by JICA.

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N)

The content of GAEC will be determined in accordance with the Notes exchanged by the two Governments concerned, in which items including, objectives of the project, period of execution, conditions and amount of the Grant Aid are confirmed.

2) Details of Procedures

Details of procedures on procurement and services under GAEC will be agreed between the authorities of the two governments concerned at the time of the signing of the G/A.

Essential points to be agreed are outlined as follows:

- a) JICA will supervise the implementation of the Project.
- b) Products and services will be procured and provided in accordance with JICA's "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change."
- c) The Recipient will conclude a contract with the Agent.
- d) The Agent is the representative acting in the name of the Recipient concerning all transfers of funds to the Agent.

3) Focal points of "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change"

a) The Agent

The Agent is the organization, which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient will conclude the Agent Agreement, in principle, within two months after the signing of the G/A, in accordance with the A/M. The scope of the Agent's services will be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement will be submitted to JICA by the Recipient through the Agent. JICA confirms whether the Agent Agreement is concluded in conformity with the E/N, A/M, and G/A and the Procurement Guidelines for the Program Grant Aid for Environment and Climate Change then approves the Agent Agreement.

The Agent Agreement concluded between the Recipient and the Agent will become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement will stipulate that "Regarding all transfers of the fund to the Agent, the Recipient will designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization ("the BDA") to conduct the transfer of the fund (hereinafter referred to as "the Advances") to the Procurement Account from the Recipient Account.

The Agent Agreement will clearly state that the payment to the Agent will be made in Japanese yen from the Advances and that the final payment to the Agent will be made when the total remaining amount become less than three percent (3%) of the Grant and its accrued interests excluding the Agent's fees.

e) Products and Services Eligible for Procurement

Products and services to be procured will be selected from those defined in the G/A.

f) Selection of firms

In principle, firms of any nationality could be contracted as long as the firms satisfy the conditions specified in the tender documents.

The same applies for any individual consultants who will be involved in the project and provide services necessary for the training and guidance related to the Project. The consultants that will be employed to do detail design and supervise the work for the Project, however will be, in principle Japanese nationals recommended by JICA for the purpose of maintaining technical consistency with the Survey

g) Method of Procurement

When conducting the procurement, sufficient attention will be paid to transparency in selecting the firms and for this purpose, competitive tendering will be employed in principle.

h) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Recipient, the Agent and the firms supplying products and services should be stipulated in the tender documents to be prepared by the Agent. Aside from this, the tender documents will be prepared in consultation with the Recipient.

i) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether the prospective tenderers have the capability of concluding the contracts.

For this, the following points should be taken into consideration:

- (1) Experience and past performance in contracts of similar kind
- (2) Financial credibility (including assets such as real estate)
- (3) Existence of offices and other items to be specified in the tender documents.
- (4) Their potentialities to use necessary personnel and facilities.

j) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those tenderers which substantially conform to the technical specifications and other stipulations of the tender documents, will be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price will be designated as the successful tenderer.

The Agent will submit a detailed evaluation report of tenders to JICA for its information, while the notification of the results to the tenderers will not be premised on the confirmation by JICA.

k) Additional procurement

If there is any remaining balance after the competitive and/or selective tendering and/or direct negotiation for a contract, and if the Recipient would like to procure additional items, the Agent is allowed to conduct this additional procurement, following the points mentioned below:

(1) Procurement of same products and services

When the products and services to be additionally procured are identical with the initial tender and a competitive tendering is judged not efficient, additional procurement can be conducted by a negotiated contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be conducted through competitive tendering. In this case, the products and services for additional procurement will be selected from among those in accordance with the G/A.

l) Conclusion of the Contracts

In order to procure products and services in accordance with the guideline, the Agent will conclude contracts with firms selected by tendering or other methods.

m) Terms of Payment

The contract will clearly state the terms of payment. The Agent will make payment from the "advances," against the submission of the necessary documents from the firm on the basis of the conditions specified in the contract. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Undertakings required by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the Recipient is required to undertake necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the Project.
- b) To provide facilities for distributing electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) To ensure all the expense and prompt execution for unloading, customs clearing at the port of disembarkation and domestic transportation of products purchased under the Grant Aid,
- d) To ensure that customs duty, internal taxes and other fiscal levies that may be imposed in the Recipient with respect to the purchase of the Components and the Agent's services will be exempted by the Government of the Recipient.
- e) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into the Recipient and stay therein for the performance of their work.

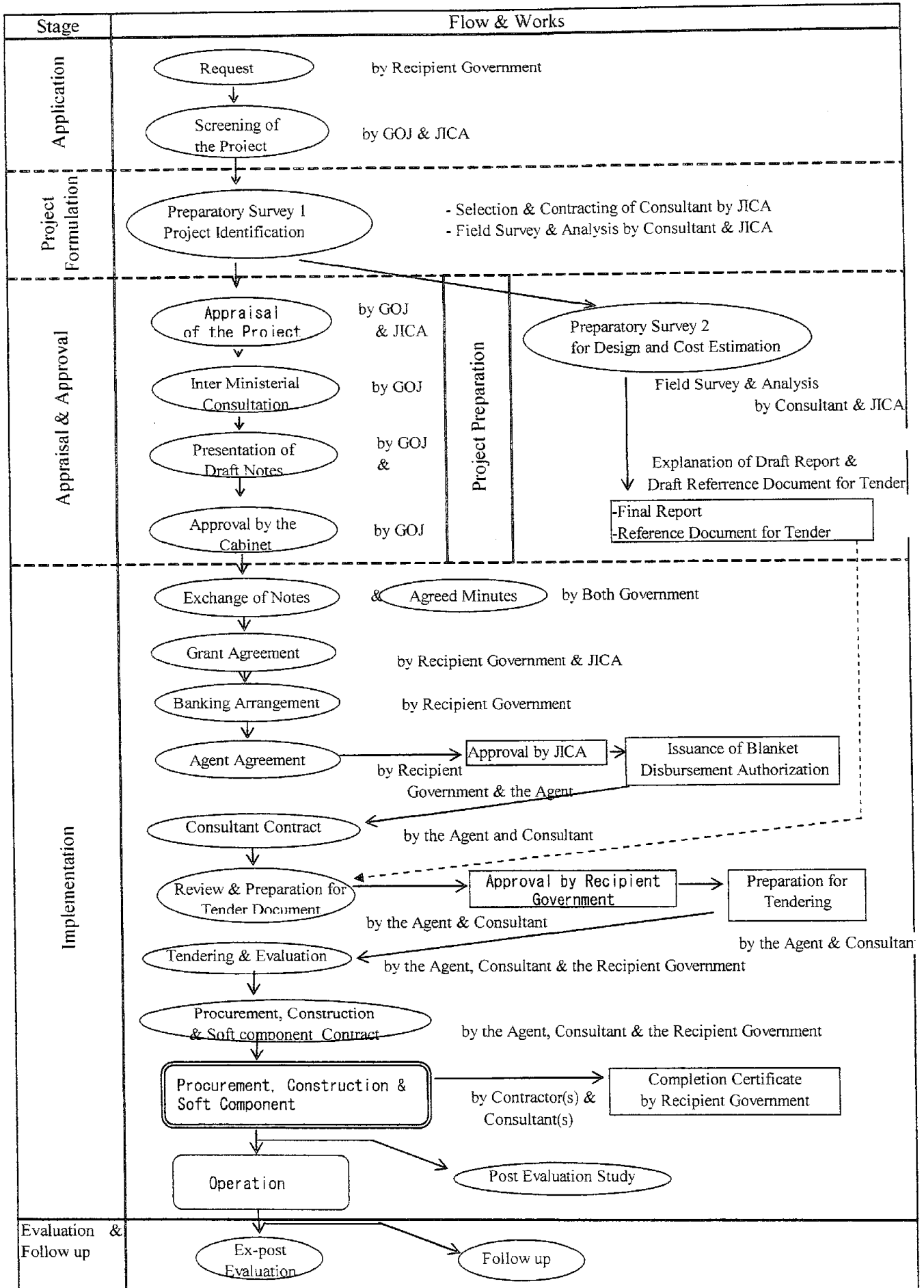
5) "Proper use of funds"

The Recipient is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign personnel necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

6) "Export and Re-export" of products

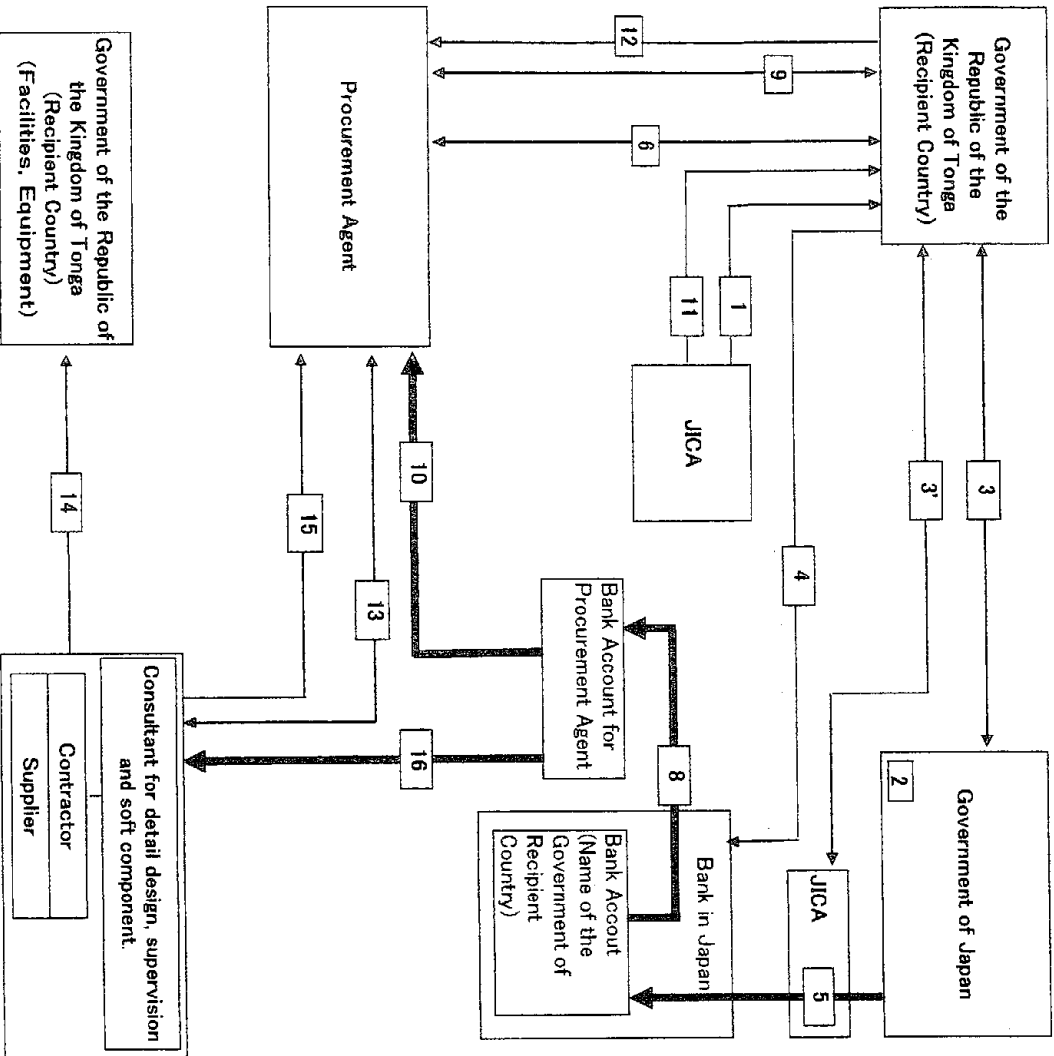
The products purchased under the Grant and its accrued interest will not be exported or re-exported from the Recipient.

Handwritten signatures and initials in black ink, located in the bottom right corner of the page. There are three distinct marks: a large, stylized signature, a smaller signature, and a set of initials.



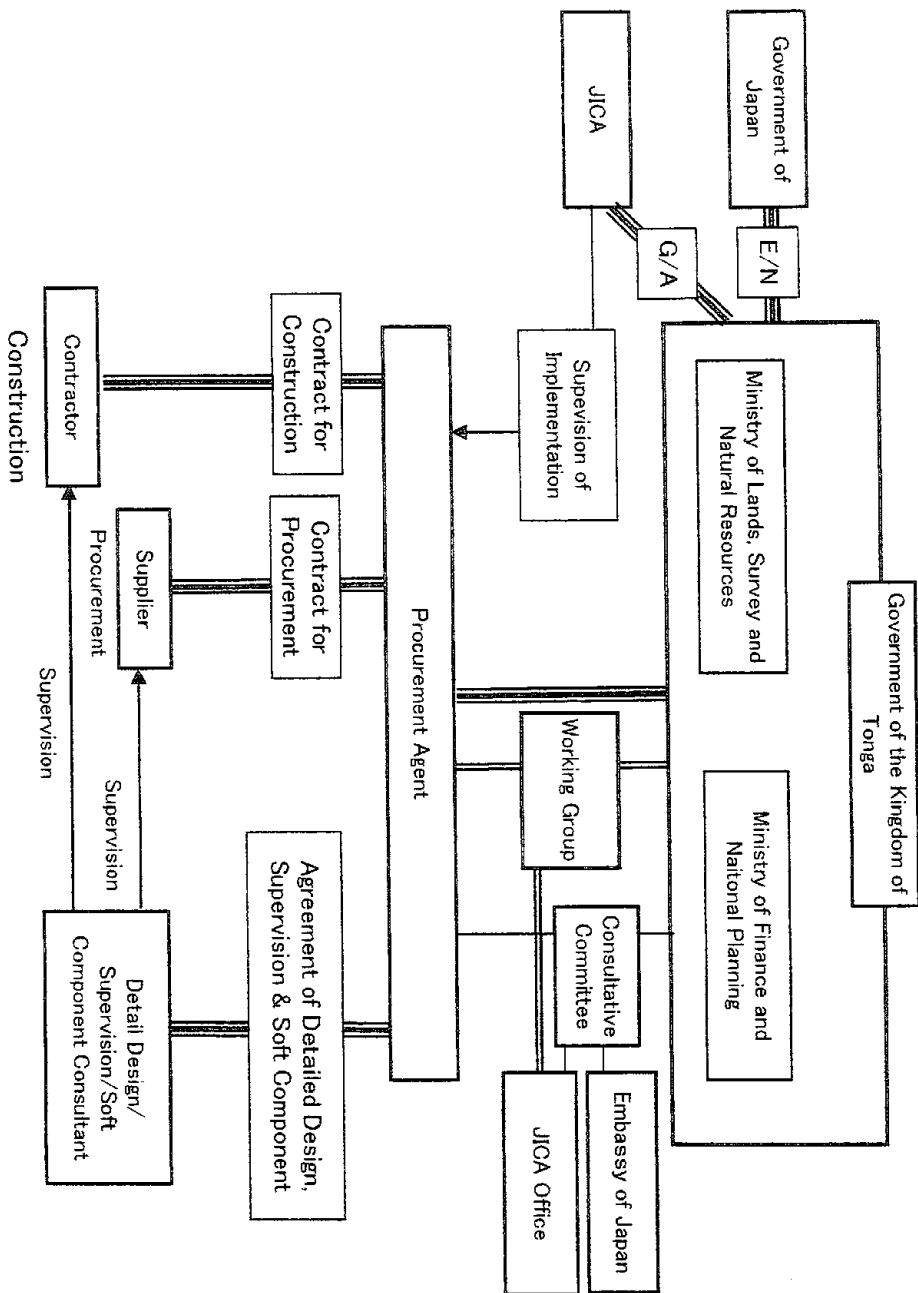
Flow of Funds for Project Implementation

Implementation Flow
Cash Flow



- 1 Preparatory Survey / Reference Document for Tender
- 2 Approval of Cabinet
- 3 Signing of Exchange of Notes (E/N)
- 3' Signing of Grant Agreement (G/A)
- 4 Banking Arrangement (B/A)
- 5 Disbursement of Funds from the Government of Japan
- 6 Signing of Agent Agreement (A/A) +BDA
N/A
- 7 N/A
- 8 Transfer of Funds
- 9 Decision of Project Components
- 10 Payment of Remuneration for Agent
- 11 Recommendation of Consultant for Detail Design/Supervision (JICA→Government of Kingdom of Tonga)
- 12 Recommendation of Consultant for Detail Design / Supervision (Government of the Republic of the Marshall Islands→ Procurement Agent)
- 13 Conclusion of Contract
- 14 Construction and Procurement
- 15 Application for Payment
- 16 Payment

Project Implementation System



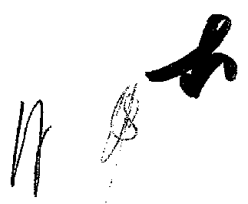
[Handwritten signatures]

Major undertakings to be taken by each Government

No.	Items	To be covered by Grant Aid	To be covered by Recipient Side
1	To secure land		●
2	To clear, level and reclaim the site when needed urgently		●
3	To construct gates and fences in and around the site		●
4	To construct a parking lot if necessary		●
5	To construct roads		
	1) Within the site	●	
	2) Outside the site and Access road		●
6	To construct the facility and install the equipment	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities if necessary:		
	1) Electricity		
	a. The power distribution line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer for the site	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for conveying storm water, sewage, etc. from the site)		●
	b. The drainage system within the site (for sewage, ordinary waste, storm water, etc.)	●	
	4) Gas Supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		●
	b. The MDF and the extension after the frame/panel	●	
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8	To bear the following commissions applied by the bank in Japan for banking services based upon the Bank Arrangement (B/A):		
	1) Payment of bank commission		●
9	To ensure all the expense and prompt execution of unloading and customs clearance at the port of disembarkation in the recipient country		
	1) Marine or air transportation of the products from Japan or third countries to the recipient	●	
	2) To ensure all the expense and prompt execution of unloading, tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	●	
10	To accord Japanese nationals and / or nationals of third countries, including persons employed by the agent whose services may be required in connection with the Components such facilities as may be necessary for their entry into recipient country and stay therein for the performance of their work.		●
11	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the purchase of the Components and to the employment of the Agent will be exempted by the Government of recipient country		●
12	To maintain and use properly and effectively the facilities that are constructed and the equipment that is provided under the Grant.		●
13	To bear all the expenses, other than those covered by the Grant and its accrued interest, necessary for the purchase of the Components as well as for the agent's fees.		●
14	To ensure environmental and social consideration for the Programme.		●

Terms of Reference of the Consultative Committee (Provisional)

1. To confirm an implementation schedule of the Programme for the speedy and effective utilization of the Grant and its accrued interest.
2. To discuss the modifications of the Programme, including modification of the design of the facility.
3. To exchange views on allocations of the Grant and its accrued interest as well as on potential end-users.
4. To identify problems which may delay the utilization of the Grant and its accrued interest, and to explore solutions to such problems.
5. To exchange views on publicity related to the utilization of the Grant and its accrued interest.
6. To discuss any other matters that may arise from or in connection with the G/A.



**Minutes of Discussions
on
the Preparatory Survey
on
the Project for Introduction of Clean Energy by Solar Home System
in the Kingdom of Tonga**

(Explanation on Draft Final Report)

In September 2009, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Preparatory Survey Team on the Project for Introduction of Clean Energy by Solar Home System (hereinafter referred to as "the Project") in the Kingdom of Tonga (hereinafter referred to as "Tonga"), and through discussions, field survey and technical examination of the results of the survey in Japan, JICA prepared a Draft Final Report of the Preparatory Survey.

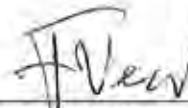
In order to explain and to consult with the concerned officials of the Government of Tonga on the component of Draft Final Report, JICA sent Tonga the Draft Final Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Mr. Nobuaki MATSUI, Resident Representative of JICA Tonga office from 22nd February, 2010 to 26th February, 2010.

As a result of discussion, both sides confirmed the main items described on the attached sheets.

Nuku'alofa, 5th March, 2010

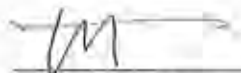


Mr. Nobuaki MATSUI
Leader
Outline Design Study Team
Japan International Cooperation Agency
JAPAN



Mr. Fetu'u Vea
Acting Chief Executive Officer
Ministry of Land Survey and Natural Resources

Witness



Mr. Aisake Eke
Chief Executive officer
Secretary for Finance and National Planning

ATTACHMENT

1. Components of the Draft Final Report

The Ministry of Land Survey and Natural Resources (hereinafter referred to as "MLSNR") agreed and accepted in principle the components of the Draft Final Report explained by the Team.

2. Program Grant Aid for Environment and Climate Change of the Government of Japan

The Tongan side understood components of the Minutes of Discussion signed by both sides on 4th September, 2009 (hereinafter referred to as "the previous M/D"), and would take the necessary measures confirmed on the previous M/D for smooth implementation of the Project following procedures of the Program Grant Aid for Environment and Climate Change of the Government of Japan as shown in **Annex-1**.

3. Schedule of Study

JICA sent a revised draft final report on 4th March, 2010. The comments from the Tongan side shall be no later than 12th March, 2010.

JICA will complete the final report in accordance with the confirmed items and send it to the MLSNR by 31st March, 2010.

4. Confirmation of Progress Made from the Previous M/D

4-1. Relation with Tongan Energy Roadmap

Both sides confirmed that the Project is in line with the Tongan Energy Roadmap, the final version of which is expected to be issued in late April 2010.

The Japanese side was informed by Renewable Energy Sub-Committee, the Prime Minister's Office, that the Project would be implemented as designed; however, some institutional reform might be taken in place in accordance with the Roadmap.

4-2. Project sites and number of Solar Home System

Both sides confirmed that project sites are Tongatapu islands and Vava'u islands shown in **Annex-2** and the number of stand-alone Solar Home System (SHS) procured under the Project shall not exceed 512 sets.

4-3. The procedure to determine the final number and locations to install SHS

The final number and locations to install SHS to be described in a tender document for the Project will be determined in accordance with the number of the participants contracted paying full initial payment by the end of July 2010 and agreed to comply with the guideline and rules Outer Islands Solar Electricity Societies (hereinafter referred to as "Solar Societies") in Tongatapu and Va'vau.

In case participant(s) cancel their participation after the commencement of tender process for the procurement, MLSNR and Solar Society shall secure the replacement site(s) to install excess SHS which was cancelled to alternative houses or institutional building(s) with in the same group of project villages.

4-4. Official permission to install SHS on the Project sites

Both sides confirmed that no official permission is necessary from related organization to install SHS in the Project sites. However, MLSNR will obtain the confirmation letter from Electricity Commission.

4-5. Environment Impact Assessment (EIA)

MLSNR confirmed with CEO of the Ministry of Environment Climate Changes (MECC) that the approval of EIA for the Project is necessary in prior to the commencement of implementation.

MLSNR will consult with MECC, and finalize the items and level necessary for the EIA report by the end of March 2010.

MLSNR requested JICA to provide assistance to employ a consultant to produce a report for

EIA, if it is required, because MLSNR does not have designated budget. JICA will take it in consideration and inform MLSNR the result.

5. Items of Equipment to be Procured

The Team explained that the items of equipment to be procured as shown in **Annex-3** as well as their specifications based on the result of the Preparatory Survey conducted in September, 2009. MLSNR understood and will give comments on the composition of items and specification of the equipment by 12th March 2010.

6. Soft Component

The Team explained that the following items are included to the soft component of the Project.

Category	Outline of the items
SHS Technology:	<ul style="list-style-type: none"> • Training for EPU Trainer • Training for Community Technician Basics of electric circuitry, SHS basic knowledge, SHS maintenance. Instruction of preventive maintenance to technicians in the communities.
Organization Strengthening:	<ul style="list-style-type: none"> • Training for management staff Financial management, organizational management, human resources management, labor affairs management.

MLSNR requested Japanese sides to include printing of Tongan version technical training manual for Community Technician and sticker for beneficiaries.

7. Project Cost

The Tongan side agreed that the Project cost should not exceed the upper limit of amount agreed on in Exchange of Notes (E/N). Both sides also confirmed that the Project cost contains procurement cost of equipment, the cost for transportation up to the Project Sites, installation cost, the Agent fee, and the consultant fee includes cost for soft component for the technical support of operation and maintenance of equipment.

The Tongan side understood that the Project Cost Estimation attached as **Annex-4** is not final and is subject to change by the result of examination through revision of the Preparatory Survey.

8. Project Schedule

Both sides adapted the tentative implementation schedule as shown in the draft final report. The agreed Project Schedule (provisional) is attached as **Annex-5**.

9. Procurement Process of the Project

Both sides reconfirmed that procurement process would be supervised by the Procurement Management Agent (hereinafter referred to as "the Agent") with necessary consultation by the Consultative Committee (hereinafter referred to as "the Committee"). And both sides also reconfirmed roles of the Agent as follows;

- (1) The Agent renders the services stipulated in the provisions of the G/A as well as the E/N for the Project;
- (2) The Agent will undertake the procurement procedure necessary for the Project according to the provisions of the G/A and E/N and any other concerned guidelines;
- (3) The Agent will commence the procurement according to the contents of the Final Report of the Outline Design.

The Team explained that if tender price exceeds the amount agreed on G/A and E/N, quantity or/and items of the equipment would be reduced until the Project cost comes down to

the amount agreed on G/A and E/N.

The Tongan side agreed that if there is a remaining amount of the project cost after tenders, additional items of equipment which is identical with the initial tender would be procured.

The Tongan side also understood that decision on addition or reduction of the equipment to be procured would be made through necessary consultation among members of the Consultative Committee.

10. The Consultative Committee

The Tongan side understood that the MLSNR CEO will chair the Consultative committee in order to facilitate consultation and procurement process. The Terms of Reference of the Consultative Committee was settled in **Annex-6**.

The members of the Committee are as follows:

- (1) CEO of Ministry of Land Survey and Natural Resources (Chair)
- (2) Representative(s) of Energy Planning Unit (Secretary)
- (3) CEO of Ministry of Finance and National Planning
- (4) Representative of JICA Tonga Office

The first meeting of the Committee shall be held immediately after the JICA's approval of the Agent Agreement which shall be concluded between MLSNR and the Procurement Agent. The employment of the Agent shall be agreed between the two Governments.

Further meetings shall be held upon request of either the Tongan side or the Japanese side. The Procurement Agent may advise both sides on the necessity to call a meeting of the Committee.

11. Undertakings required by the Recipient Country

The Team requested the Tongan side to abide by the following undertakings by the Tongan side in addition to major undertakings described in the previous M/D. The Tongan side agreed to do so.

- (1) Allocation of land/space for installation of PV system

The Tongan side should be responsible for following issues;

- 1) Securing necessary land for PV Modules
- 2) Temporary stockyard (at least 250m² in Tongatapu main island and 1,400m² in Va'vau main island) during installation of equipment and materials

- (2) Establishment of implementing organization of the Project

In Ha'apai islands, operation and maintenance of SHS, and budgetary arrangement for its maintenance and management are conducted by Ha'apai Solar Committee in collaboration with MLSNR. Making reference to SHS management and operation system in Ha'apai islands, both sides understood that establishment of Solar Societies as an implementing organization authorized by MLSNR is indispensable for sustainable operation of SHS in Tongatapu islands and Vava'u islands.

Both sides confirmed that MLSNR has commenced institutional and financial arrangement to establish a Solar Society in each island.

Moreover, MLSNR shall draw up their guidelines and rules, organization structures, their roles and report to JICA TONGA Office by 12th March 2010.

Outline of organization structure and role of the Solar Societies are shown in the Draft Final Report

- (3) Explanation to recipient household

Both sides confirmed that the Tongan side has already held meetings with all recipient communities to explain the project outline and their obligation in accordance with the guideline and rules of each Solar Society to install and use SHS.

Outline of their obligation submitted is as follows.

- to pay TOP 200 as an initial payment per one SHS by the end of July 2010.
- to pay TOP13 and TOP15 as a monthly payment per one SHS at Vava'u and Tongatapu respectively.

(4) Clearance of Existing PV Module

The Tongan side agreed that the each householder and institutions shall remove and dispose/store existing unfunctioning PV modules installed by other donors in the Project Sites at its own cost before the commencement of installation of SHS. MLSNR shall take the permission by the donors and the consent from householders, and supervise the process.

(5) Ownership of Equipment and Materials

Both sides agreed that the equipment and materials provided by the Project become the asset of MLSNR.

(6) Electric Lights

Japanese side requested Tongan side to bare the cost for the light bulbs to be installed with SHS by the time of completion of SHS installation because they are not usually covered by the Japanese Grant Aid.

MSLNR and Solar Societies explained that procurement of bulb would not be possible by the Tongan side due to Government fiscal and financial constraints and outer islands communities' current socioeconomic incapability.

Both sides confirmed that there would be a great risk that the project fails to bring about the expected outcome without bulbs from the beginning if the Japanese Grant Aid does not cover the bulbs.

Japanese side will take further consideration about this issue.

(7) Operation and Maintenance of the Equipment

The Tongan side agreed that the maintenance service for the external wiring and equipment shall be provided by the Solar Society. The Tongan side agreed to secure the necessary personnel for the operation and maintenance, and make appropriate budgetary arrangement for the personnel and procurement of the necessary equipment such as renew of batteries, maintenance tools and equipment and office supplies from the accumulated initial and monthly payment from the beneficiaries. The quarterly report which includes the financial condition, maintenance record and activities of Solar Society shall be submitted to JICA Tonga Office until the completion of soft components.

Both sides confirmed that each household takes responsibility to maintain the system inside the individual house, i.e., the internal wiring, electric fixture and bulbs, switches, etc. as described in the draft final report and each household will bear the cost to change the bulbs when necessary even if the electric bulbs were initially installed by the donor.

(8) Environmental and Social Considerations

The Tongan side shall determine the plan for collection and disposal of the batteries used for SHS and be responsible for obtaining necessary permission by MECC by the end of July 2010. The Tongan side shall report the plan and result to JICA Tonga Office. This plan is to be included EIA report.

(9) Application of the Related Laws and Regulations

The Tongan side agreed the structural design for the installation of SHS shall comply with the Architectural Regulation in Japan and Tonga. Electrical design for SHS should follow the standards and codes of Japan Electrotechnical Committee (JEC).

The Tongan side agreed that the MLSNR shall be responsible for the application of related laws and regulations for the operation of SHS. The Japanese side shall assist the Tongan side to

Handwritten signature and initials in the bottom right corner of the page.

introduce necessary procedures through soft component during the implementation of the Project.

Solar Societies shall obtain the status of authorized non-profit society under the Incorporated Societies Act as soon as possible, and MLSNR shall monitor the process.

(10) Customs and Tax Exemption

In respect of all materials and supplies for the project, the Tongan side will, in accordance with Tongan law:

- a) exempt at the border all materials and supplies from import duties and other taxes such as consumption tax and excise tax;
- b) facilitate movement of such supplies by providing appropriate customs and wharfage facilities including payment of any necessary storage costs at the first port of discharge of the Project Supplies in Tonga;
- c) exempt from consumption tax all materials and supplies purchased in Tonga if the supplier is registered for consumption tax;
- d) exempt from excise tax any vehicle purchased in Tonga for the project.

(11) Assignment of Counterpart Personnel

1) Overall project management

The Tongan side agreed to assign necessary personnel for overall project management.

The Tongan side shall inform the name of the following number of Counterpart Personnel to JICA Tonga office by the end of March 2010:

- Project contact person as a secretary for Consultative Committee
- Two staff from MLSNR (one each for Tongatapu islands and Vava'u islands) who will be in charge of financial, technical and personnel management and will eventually be the trainers. Roles are also highlighted in the Solar Society's guidelines and rules.

(12) Banking Arrangement

The Tongan side, being convinced that the conclusion of the Banking Arrangement (B/A) and Blanket Disbursement Authorization (BDA) constitutes a very important factor to implement the Program smoothly and without delay, shall take the necessary measures. The flow of funds is shown in the Annex-I.

By signing the BDA, the Tongan side designates the Procurement Agent as the representative authorized to act in the name of the Tongan side concerning all transfers of the Grant plus any interest earned to the Procurement Account.

12. Confidentiality of the Project

Both sides confirmed that all the information related to the Project shall not be released to any outside parties before conclusion of all the contract(s) for the Project because they are confidential document that contains information related to the tender.

These information includes:

- a) detailed drawings, specifications, and other technical information of the facilities and equipment;
- b) cost estimation
- c) the Final Report

<List of Annex>

Annex-1 Program Grant Aid for Environment and Climate Change of the Government of Japan

Annex-2 Project sites

- Annex-3 List of Equipments
- Annex-4 Project Cost Estimation (Confidential)
- Annex-5 Project Schedule (Provisional)
- Annex-6 The Terms of Reference of the Consultative Committee

Handwritten signature and initials in the bottom right corner.

Program Grant Aid for Environment and Climate Change
of the Government of Japan
 (Provisional)

The Grant Aid provides a recipient country (hereafter referred to as “the Recipient”) with non-reimbursable funds to procure the facilities, equipment, and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials as such.

Based on “Cool Earth Partnership” initiative of the Government of Japan, the Program Grant Aid for Environment and Climate Change (hereafter referred to as “GAEC”) aims to mitigate effects of global warming by reducing GHGs emission (mitigation; e.g. improvement of energy efficiency) and to take adaptive measures (adaptation; e.g. measures against disasters related to climate change, including disaster prevention such as enhancing disaster risk management). GAEC may contain multiple components that can be combined to effectively meet these needs.

1. Procedures for GAEC

GAEC is executed through the following procedures.

Preparatory Survey 1	Preparatory Survey for project identification conducted by Japan International Cooperation Agency (JICA)
Application	Request made by a recipient country
Appraisal & Approval	Appraisal by the Government of Japan and Approval by the Cabinet
Determination of Implementation	The Notes exchanged between the Government of Japan and the Recipient Country
Grant Agreement (hereinafter referred to as the “G/A”)	Agreement concluded between JICA and the Recipient
Preparatory Survey 2	Preparatory Survey for design conducted by JICA
Implementation	Procurement through the Procurement Agency by the Recipient

Firstly, if the candidate project for a GAEC is identified by the Recipient and the Government of Japan, the Government of Japan (the Ministry of Foreign Affairs) examines it whether it is eligible for GAEC. When the request is deemed appropriate, JICA, in consultation with the Government of Japan, conducts the Preparatory Survey (hereafter referred to as “the Survey”) on the candidate project as Phase 1 of the Survey with Japanese consulting firms.

Secondly, the Recipient submits the official request to the Government of Japan, while the appropriateness, necessity and the basic components of the project are examined in the course of Phase 1 of the Survey.

Thirdly, the Government of Japan appraises the project to see whether it is suitable for Japan's GAEC, based on the Survey report prepared by JICA, and the results are then

submitted to the Cabinet for approval.

Fourthly, the project, once approved by the Cabinet, becomes official with the Exchange of Notes (E/N) signed by the Governments of Japan and the Recipient.

Fifthly, JICA engages Grant Agreement (G/A) with the Recipient and executes the Grant by making payments of the amount agreed in the E/N and strictly monitors that the funds of the Grant are properly and effectively used.

Procurement Management Agent is designated to conduct the procurement services of products and services (including fund management, preparing tenders, contracts) for GAEC on behalf of the Recipient. The Agent is an impartial and specialized organization that will render services according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the Agreed Minutes ("A/M").

2. Preparatory Survey

1) Contents of the Survey

The purpose of the Preparatory Survey (hereafter referred to as "the Survey"), conducted by JICA on a requested project (hereafter referred to as "the Project"), is to provide the basic document necessary for the appraisal of the Project by the Government of Japan. The contents of the Survey are as follows:

- Confirmation of background, objectives, and benefits of the Project and institutional capacity of agencies and communities concerned of the Recipient necessary for project implementation.
- Evaluation of relevance of the Project to be implemented under the Grant Aid Scheme for Environment and Climate Change from a technical, social, and economic point of view.
- Confirmation of items agreed upon by both parties concerning the basic concept of the Project.
- Preparation of the design of the Project and reference document for tender.
- Estimation of cost for the Project.

The contents of the original request will be modified, as found necessary, in the design of the Project according to the guidelines of Japan's Grant Aid scheme.

The Government of Japan requests the Government of the Recipient to take whatever measures necessary to ensure its responsibility in implementing the Project. Such measures must be guaranteed even if they may fall outside the jurisdiction of the implementing organization of the Recipient. This has been confirmed by all relevant organizations of the Recipient through the Minutes of Discussions.

2) Selection of consulting firms

For the smooth implementation of the Survey, JICA will conduct the Survey with registered consulting firms. JICA selects the firms based on proposals submitted by firms with interest in implementing the Survey. The firms selected will carry out the Preparatory Survey and prepare a report, based on the terms of reference set by JICA.

Handwritten initials/signature

3. Implementation of GAEC after the E/N

1) Exchange of Notes (E/N)

The content of GAEC will be determined in accordance with the Notes exchanged by the two Governments concerned, in which items including, objectives of the project, period of execution, conditions and amount of the Grant Aid are confirmed.

2) Details of Procedures

Details of procedures on procurement and services under GAEC will be agreed between the authorities of the two governments concerned at the time of the signing of the G/A.

Essential points to be agreed are outlined as follows:

- a) JICA will supervise the implementation of the Project.
 - b) Products and services will be procured and provided in accordance with JICA's "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change."
 - c) The Recipient will conclude a contract with the Agent.
 - d) The Agent is the representative acting in the name of the Recipient concerning all transfers of funds to the Agent.
- #### 3) Focal points of "Procurement Guidelines for the Program Grant Aid for Environment and Climate Change"

a) The Agent

The Agent is the organization, which provides procurement of products and services on behalf of the Recipient according to the Agent Agreement with the Recipient. The Agent is recommended to the Recipient by the Government of Japan and agreed between the two Governments in the A/M.

b) Agent Agreement

The Recipient will conclude the Agent Agreement, in principle, within two months after the signing of the G/A, in accordance with the A/M. The scope of the Agent's services will be clearly specified in the Agent Agreement.

c) Approval of the Agent Agreement

The Agent Agreement is prepared as two identical documents and the copy of the Agent Agreement will be submitted to JICA by the Recipient through the Agent. JICA confirms whether the Agent Agreement is concluded in conformity with the E/N, A/M, and G/A and the Procurement Guidelines for the Program Grant Aid for Environment and Climate Change then approves the Agent Agreement.

The Agent Agreement concluded between the Recipient and the Agent will become effective after the approval by JICA in a written form.

d) Payment Methods

The Agent Agreement will stipulate that "Regarding all transfers of the fund to the Agent, the Recipient will designate the Agent to act on behalf of the Recipient and issue a Blanket Disbursement Authorization ("the BDA") to conduct the transfer of the fund (hereinafter referred to as "the Advances") to the Procurement Account from the Recipient Account.

The Agent Agreement will clearly state that the payment to the Agent will be made in Japanese yen from the Advances and that the final payment to the Agent will be made when the total remaining amount become less than three percent (3%) of the Grant and its

accrued interests excluding the Agent's fees.

e) Products and Services Eligible for Procurement

Products and services to be procured will be selected from those defined in the G/A.

f) Firm and Consultant

The firm and consultant who would contract with the Agent shall be Japanese Nationals.

The consultants that will be employed to do detail design and supervise the work for the Project, however will be in principle, Japanese nationals recommended by JICA for the purpose of maintaining technical consistency with the Study.

g) Method of Procurement

When conducting the procurement, sufficient attention will be paid to transparency in selecting the firms and for this purpose, competitive tendering will be employed in principle.

h) Tender Documents

The tender documents should contain all information necessary to enable tenderers to prepare valid offers for the products and services to be procured by GAEC.

The rights and obligations of the Recipient, the Agent and the firms supplying products and services should be stipulated in the tender documents to be prepared by the Agent. Aside from this, the tender documents will be prepared in consultation with the Recipient.

i) Pre-qualification Examination of Tenderers

The Agent may conduct a pre-qualification examination of tenderers in advance of the tender so that the invitation to the tender can be extended only to eligible firms. The pre-qualification examination should be performed only with respect to whether the prospective tenderers have the capability of concluding the contracts.

For this, the following points should be taken into consideration:

- (1) Experience and past performance in contracts of similar kind
- (2) Financial credibility (including assets such as real estate)
- (3) Existence of offices and other items to be specified in the tender documents.
- (4) Their potentialities to use necessary personnel and facilities.

j) Tender Evaluation

The tender evaluation should be implemented on the basis of the conditions specified in the tender documents.

Those tenderers which substantially conform to the technical specifications and other stipulations of the tender documents, will be judged in principle on the basis of the submitted price, and the tenderer who offers the lowest price will be designated as the successful tenderer.

The Agent will submit a detailed evaluation report of tenders to JICA for its information, while the notification of the results to the tenderers will not be premised on the confirmation by JICA.

k) Additional procurement

If there is any remaining balance after the competitive and/or selective tendering and/or direct negotiation for a contract, and if the Recipient would like to procure additional

items, the Agent is allowed to conduct this additional procurement, following the points mentioned below:

(1) Procurement of same products and services

When the products and services to be additionally procured are identical with the initial tender and a competitive tendering is judged not efficient, additional procurement can be conducted by a negotiated contract with the successful tenderer of the initial tender.

(2) Other procurements

When products and services other than those mentioned above in (1) are to be procured, the procurement should be conducted through competitive tendering. In this case, the products and services for additional procurement will be selected from among those in accordance with the G/A.

l) Conclusion of the Contracts

In order to procure products and services in accordance with the guideline, the Agent will conclude contracts with firms selected by tendering or other methods.

m) Terms of Payment

The contract will clearly state the terms of payment. The Agent will make payment from the "advances," against the submission of the necessary documents from the firm on the basis of the conditions specified in the contract. When the services are the object of procurement, the Agent may pay certain portion of the contract amount in advance to the firms on the conditions that such firms submit the advance payment guarantee worth the amount of the advance payment to the Agent.

4) Undertakings required by the Government of the Recipient Country

In the implementation of the Grant Aid Project, the Recipient is required to undertake necessary measures as the following:

- a) To secure land necessary for the sites of the Project and to clear, level and reclaim the land prior to commencement of the Project.
- b) To provide facilities for distributing electricity, water supply and drainage and other incidental facilities in and around the sites.
- c) To ensure all the expense and prompt execution for unloading, customs clearing at the port of disembarkation and domestic transportation of products purchased under the Grant Aid,
- d) To ensure that customs duty, internal taxes and other fiscal levies that may be imposed in the Recipient with respect to the purchase of the Components and the Agent's services will be exempted by the Government of the Recipient.
- e) To accord all the concerned parties, whose services may be required in connection with supply of the products and services under the contracts, such facilities as may be necessary for their entry into the Recipient and stay therein for the performance of their work.

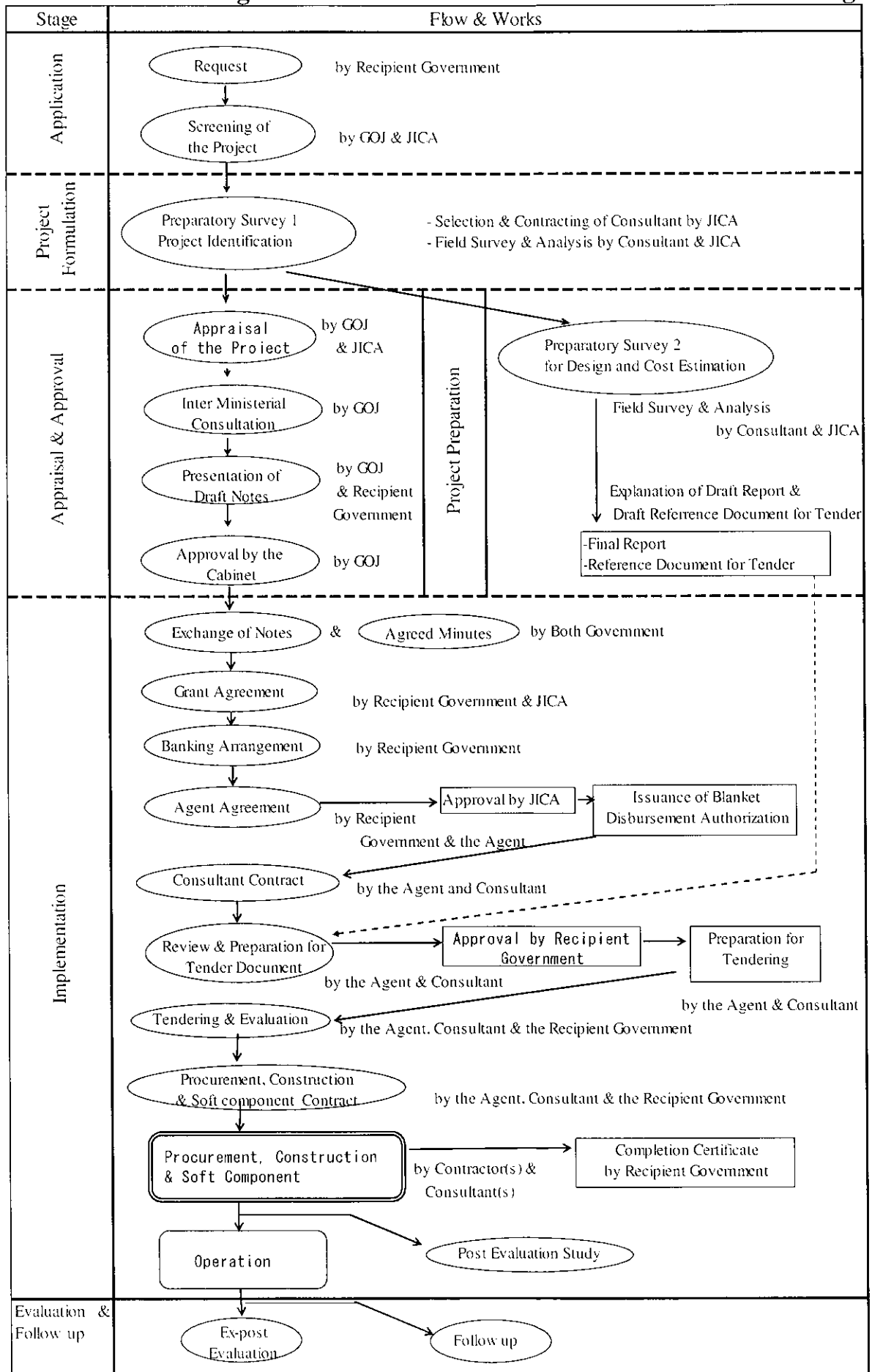
5) "Proper use of funds"

The Recipient is required to operate and maintain the facilities constructed and equipment purchased under the Grant Aid properly and effectively and to assign personnel necessary for this operation and maintenance as well as to bear all the expenses other than those covered by the Grant Aid.

6) "Export and Re-export" of products

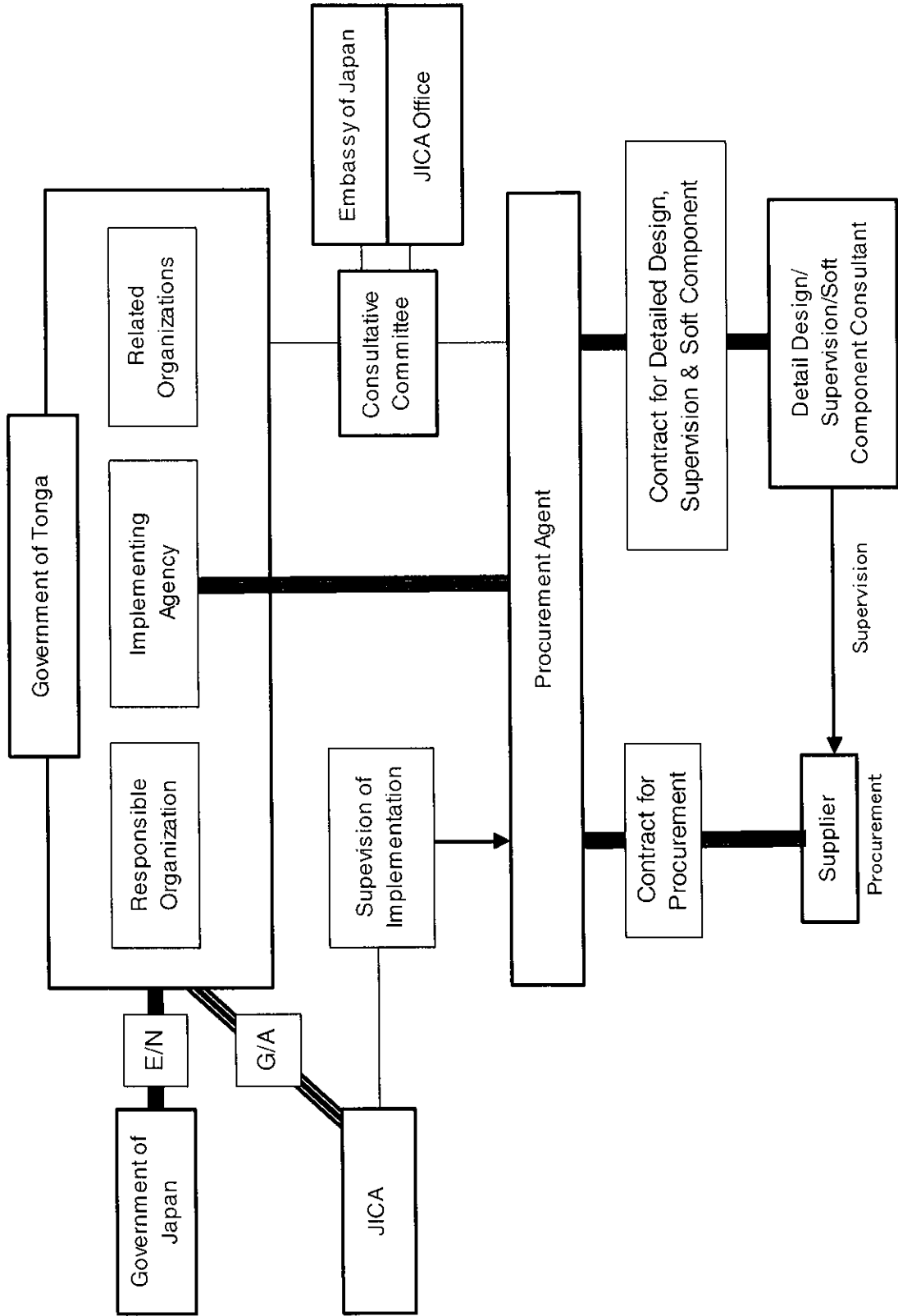
The products purchased under the Grant and its accrued interest will not be exported or re-exported from the Recipient.

General Flow of Program Grant Aid for Environment and Climate Change



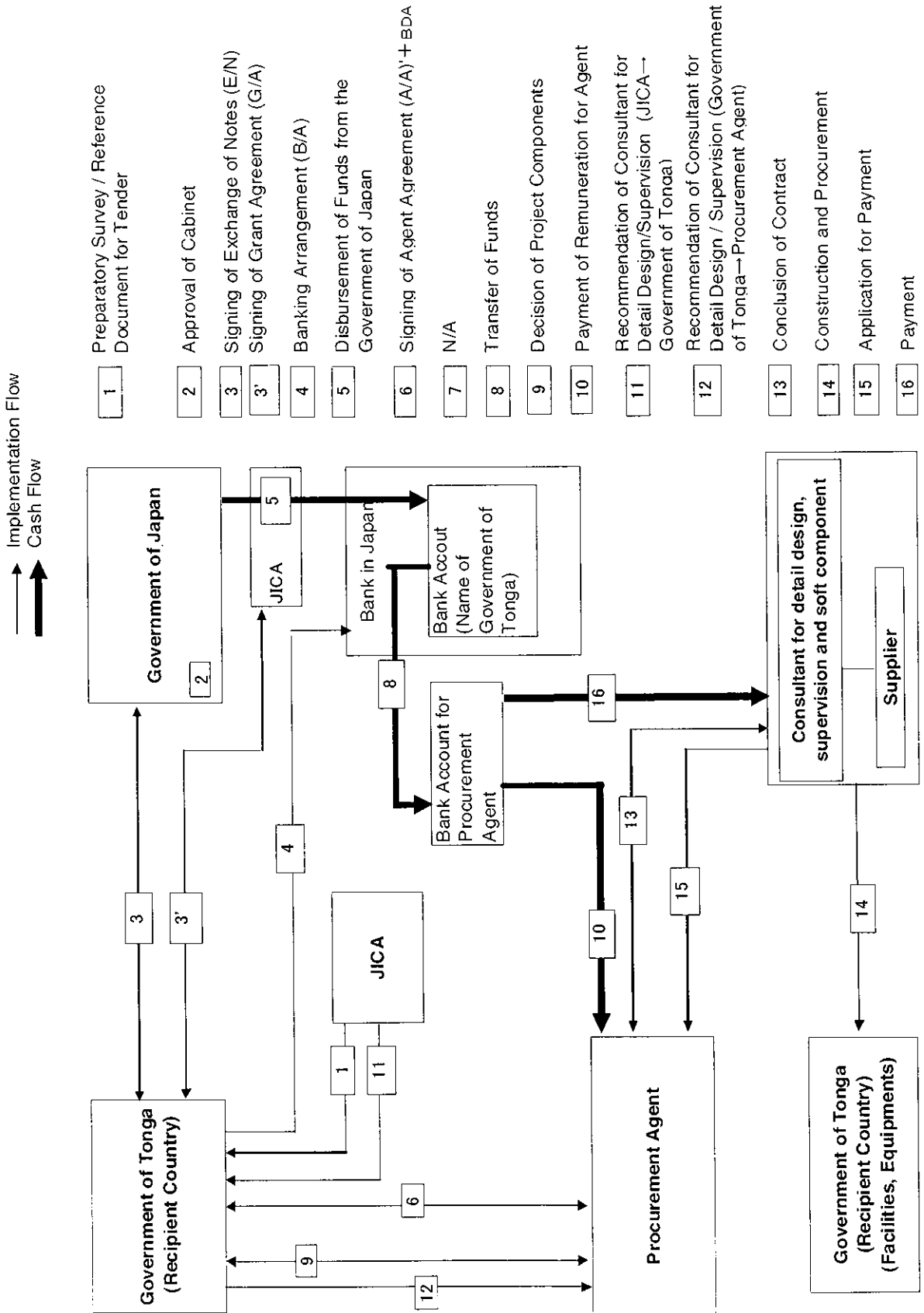
Handwritten signature/initials

Project Implementation System



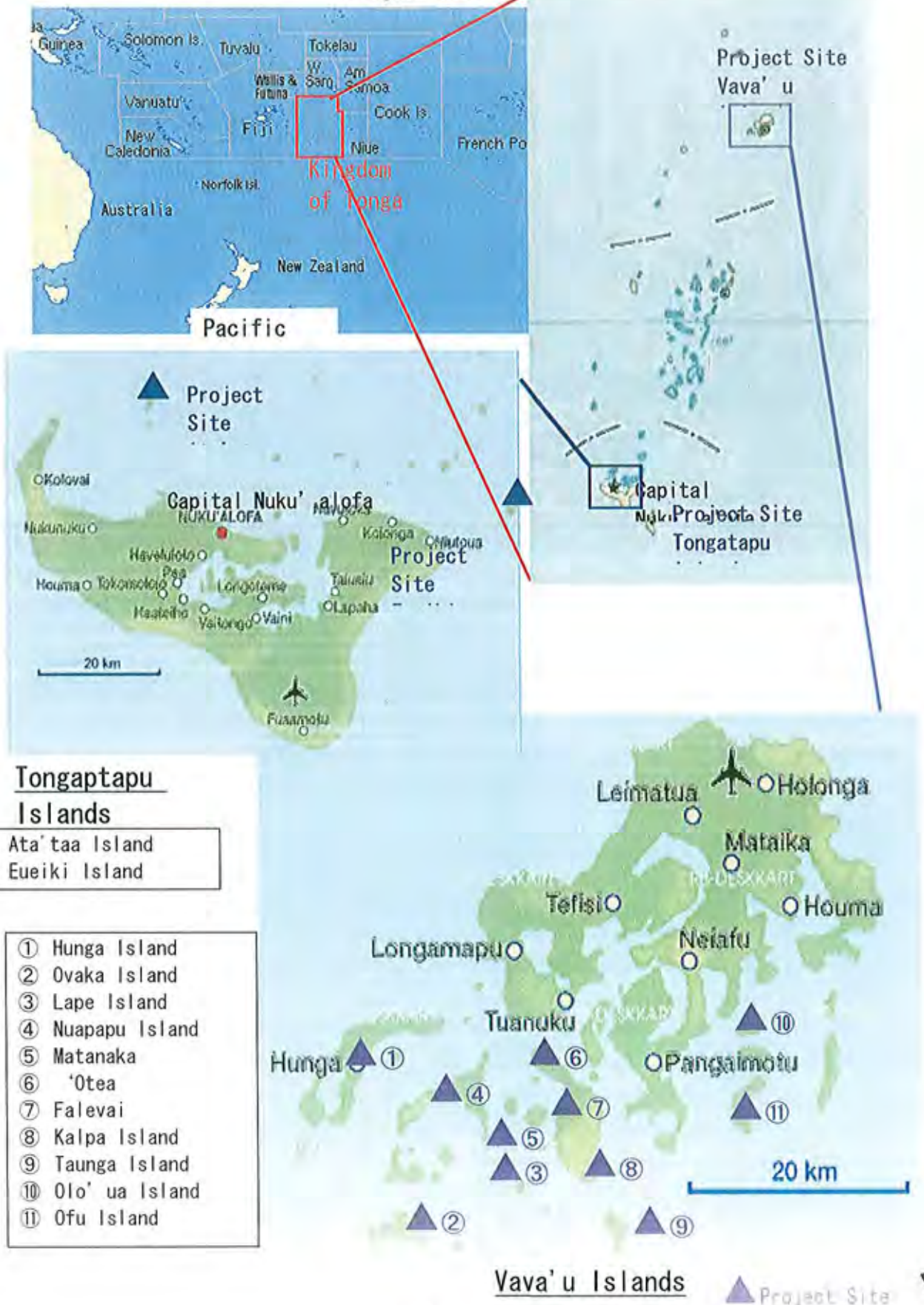
Handwritten signature/initials

Flow of Funds for Project Implementation



Handwritten signatures and initials.

Project sites



Handwritten signature and initials

List of Equipment

3-1 List of Equipments

The following table shows a list of equipments procured under the Project.

Item No.	Name of Equipment	Maximum quantity	Final Delivery Point (Site)
1	Solar module/panel 85W	1.024 pcs	See the following Table 3-2
2	Panel mounting structure	512 unit	
3	Box for battery and controller	512unit	
4	Charge Controller	512 unit	
5	Battery	512 unit	
6	DC/DC converter	512 unit	
7	Wiring/interconnects	512set	
8	Emergency Spare parts	1set	
9	Test Apparatus	1set	
10	Maintenance tools and equipment	1set	

FO
Jan

3-2 Number of SHS installed

The following table shows Number of SHS installed under the Project by community in the Project sited.

Name of islands	Town	No.of SHS	No. of household which will install SHS	No. of institutional building which will install SHS
Vava'u Islands				
	FALEVAI	38	32	6
	HUNGA	95	79	16
	KAPA	20	16	4
	LAPE	10	8	2
	MATAMAKA	49	39	10
	NOAPAPU	52	43	9
	OFU	51	46	5
	OLO'UA	33	28	5
	OVAKA	38	32	6
	OTEA	36	31	5
	TAUNGA	20	18	2
Sub-total (Vava'u Islands)		442	372	70
Tongatapu Islands				
	ʻEUEIKI	22	16	6
	ʻATATAA	48	43	5
Sub-total (Tongatapu Islands)		70	59	11
Total		512	431	81
Notes		Institutional Buildings : Church Buildings, Church & Community Halls, Schools and Clinics.		

Handwritten initials/signature

Project Cost Estimation (Confidential)

This cost estimate is provisional and would be further examined by the Government of Japan for the approval of the Grant Aid.

1. Cost to be borne by the Japanese side: approximately ¥ million

Item	Amount (Million Japanese Yen)
1. Procurement cost of equipment and materials	
2. Procurement Agent & Consulting Services Fee	
3. Total (1+2)	

2. Cost to be borne by the Tongan side: US\$ 6,800 (approximately ¥0.655million)

The contents and cost of work on the Tongan side are as follows:

Item	Amount
1. Payment of commission to Japanese bank	6,800 US\$ (Approximately ¥0.655 million)
Total	6,800 US\$ (Approximately ¥0.655 million)

Operation and Maintenance Cost on the Tongan side are as follows:

The equipment to be procured in the Project is basically maintenance-free except for water level check of storage battery and water supply, however, it will be necessary to always keep replacement parts on hand in case of breakdowns as was mentioned earlier (see 2-4-2). Moreover, it will be necessary to secure personnel expenses for technicians assigned in each islands in order to be prepared for daily maintenance, accident and trouble. Therefore, the Tonga side will need to budget for the following operation and maintenance expenses (annual) to ensure that no problems arise in the operation and maintenance of equipment in accordance with Solar Society's Guideline and Rules.

- ① Personnel expenses
- ② Expendable and replacement parts costs (after warrantee period)
- ③ Total Approximately

Furthermore, the above amount is the annual forecast cost expected to arise in the first seven years when there will be no need for battery replacements. The above cost corresponds to roughly 10% of the forecast annual income. If appropriate fund management is carried out, it should be possible to comfortably secure the funds required to conduct each year's maintenance and battery replacements.

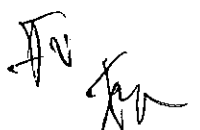
3. Conditions for estimation

- (1) Time of estimation: September 2009
- (2) Foreign exchange rate: 1 US\$ = ¥97.57

fu
the

(3) Others:

The above estimation was carried out in accordance with relevant rules and the guideline of Japan's Grant Aid.



Project Schedule (Provisional)
 Project title: The Project for Introduction of Clean Energy by solar home system

Year	2010												2011												2012					
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Calendar Month	total month																													
A	Exchange of Notes (E/N) between both Governments																													
B	Grant Agreement (G/A) between JICA and Government																													
C	Agent Agreement (A/A) between Procurement Agent and Government																													
D	Consultant Agreement																													
E	Preparation approval and delivery of Tender Document																													
F	Tender																													
G	Tender Evaluation																													
H	Contractor Contract																													
I	Preparation of Bids, Advance payment, etc																													
J	Preparation of drawings, Approval																													
K	Fabrication of equipment at factories																													
L	Procurement of materials																													
M	Marine and inland transportation																													
N	Architectural Steel Frame Work for PV panels																													
O	Installation of equipment and materials for Solar Electricity Generation																													
P	Site test and commissioning																													
Q	Handing over																													

Handwritten signature or initials.

Terms of Reference of the Consultative Committee

1. To confirm an implementation schedule of the Programme for the speedy and effective utilization of the Grant and its accrued interest.
2. To discuss the modifications of the Programme, including modification of the design of the facility.
3. To exchange views on allocations of the Grant and its accrued interest as well as on potential end-users.
4. To identify problems which may delay the utilization of the Grant and its accrued interest, and to explore solutions to such problems.
5. To exchange views on publicity related to the utilization of the Grant and its accrued interest.
6. To discuss any other matters that may arise from or in connection with the G/A.

A.
K

資料-5 事業事前計画表(概略設計時)

事業事前計画表（概略設計時）

1. 案件名
トンガ王国 太陽光を活用したクリーンエネルギー導入計画
2. 要請の背景（協力の必要性・位置付け）
<p>「トンガ王国」（以下、「ト」国と称す）のエネルギー分野については、国土・調査・天然資源省（MLSNR：Ministry of Land Survey and Natural Resources）が、責任省庁となっている。「ト」国の再生可能エネルギー政策は、首相府の傘下に設置された再生可能エネルギーサブコミッティ（Renewable Energy Committee）が、関連プロジェクト実施の際には、責任機関の一つとして役割を負っている。また、国土・調査・天然資源省（MLSNR：Ministry of Land Survey and Natural Resources）MLSNRの傘下にあるエネルギー計画班（EPU：Energy Planning Unit）が、国家エネルギー計画、エネルギー政策の策定をはじめとし、離島部のディーゼル発電やオフグリッド型電力発電などの整備を行っており、いる。太陽光発電設備など再生可能エネルギー関連プロジェクトに関するドナーとの調整から実施・監理を行っている。</p> <p>市中電力に関しては、トンガ電力局（TPL：Tonga Power Limited）が業務を実施しており、首都ヌクアロファ、ババウ、ハーパイの本島を中心に整備された系統連系設備にて発電から配電を担当しているが、再生可能エネルギー関連業務は行っていない。またLPGについては、「ト」国政府が50%所有する「Tonga Home Gas」が輸入から供給を行っている。</p> <p>「ト」国のエネルギー資源は、従来輸入石油とバイオマス（木材、ココナッツ等）に依存してきた。しかし近年は農耕地化による森林面積の減少と、エネルギー多消費型経済への移行を反映し、バイオマスのシェアが減少し、石油製品のシェアが増加している。1992年にはバイオマスが56%、石油製品が44%となっていたが、2001年にはバイオマスが43%に減少する一方、石油製品のシェアが54%に増加した。主要地域で電力供給を担当するTPLによると、さらに今後の年間の電力需要の伸び率は7%程度と想定し、2010年8月までには、火力または太陽光発電により2.8MWの新規電力供給を計画している。</p> <p>しかし、現在の輸入石油に大きく依存したエネルギー供給体制は、昨今の石油価格の高騰など外部環境の影響を大きく受けるため、「ト」国としては、石油価格の変化の影響を受けることなく安定的なエネルギー供給が行われる体制整備を目指している。そして、2012年までに、電力供給による総発電量の50%を再生可能エネルギーで生産することを目標として掲げ、2008年から本格的に再生可能エネルギーの開発に取り組み始めている。</p> <p>太陽光発電は、目標の達成の手段の一つとして注目されており、「ト」国としては、オーストラリア、EUなどの支援を得ながら、1990年代から、戸別型太陽光発電設備（ソーラーホームシステム：SHS）の整備をババウ、ハーパイ、ニウアス等の各諸島の離島部にて推進しており、離島部の持続可能なエネルギー供給体制の構築に対する支援と併せて、これらプロジェクトで蓄積された知見を生かし、気候変動問題の緩和策支援としてふさわしいクリーンエネルギー活用を具現するメカニズムの形成準備を行うことが要請された。</p>
3. プロジェクト全体計画概要
<p>(1) プロジェクト全体計画の目標（裨益対象の範囲及び規模）</p> <p>本計画の実施により、本計画の実施により、無電化地域であるトンガタブ諸島の2村落、またババウ諸島の11村落の住民1,625名（2009年8月現在）の住民に対し、太陽光発電を利用した電力を供給することが可能となる。</p> <p>(2) プロジェクト全体計画の成果</p> <ol style="list-style-type: none">1) <u>独立型太陽光発電設備（ソーラーホームシステム：以下、「SHS」と称す）の調達・据付が行われる。</u>2) 太陽光発電を利用した電力が無電化村落に供給される。 <p>(3) プロジェクト全体計画の主要活動</p>

<ul style="list-style-type: none"> 1) <u>SHS の調達・据付を行う。</u> 2) 計画対象設備の運営維持管理のための能力強化を行う。 <p>(4) 投入（インプット）</p> <ul style="list-style-type: none"> 1) <u>日本側：無償資金協力 5.84 億円</u> 2) 相手国側 <ul style="list-style-type: none"> a) 調達された機材の維持・管理要員とかかる人材の管理組織の設置 b) 運転・維持管理要員 c) 調達された設備の運転・維持管理費用 <p>(5) 実施体制</p> <ul style="list-style-type: none"> 1) 主管官庁： 国土・調査・天然資源省（MLSNR） 2) 実施機関： 国土・調査・天然資源省（MLSNR）
<p>4. 無償資金協力案件の内容</p>
<ul style="list-style-type: none"> (1) サイト <ul style="list-style-type: none"> 1) アタタ諸島の離島部に位置する以下の 2 村落 Atataa、Eueiki 2) ババウ諸島の離島部に位置する以下の 11 村落 Hunga、Ovaka、Lape、Nuapapu、Matamaka、Otea、Falevai、Kapa、Taunga、Olo'ua、Ofu (2) 概要 独立型太陽光発電設備の調達と据付 (3) 相手国側負担事項 用地確保、銀行口座開設手数料負担 (4) 概算事業費 5.84 億円（無償資金協力 5.83 億円、「ト」国側負担 0.01 億円） (5) 工期 入札期間を含め約 26 ヶ月（予定） (6) 貧困、ジェンダー、環境及び社会面の配慮 特になし
<p>5. 外部要因リスク</p>
<p>特になし</p>
<p>6. 過去の類似案件からの教訓の活用</p>
<p>対象地域では、EU、UNESCO などの他ドナーが SHS を供与した実績がある。また他の諸島（ハーパイ、ニウアス）でも、SHS 供与を内容とするプロジェクトが実施されている。これらプロジェクトからの教訓は以下のとおり。</p> <p>[機材について]</p> <ul style="list-style-type: none"> ・ 長期使用に耐えうる仕様の機材を調達する。 <p>[人材について]</p> <ul style="list-style-type: none"> ・ 適切な機材の使用のため、住民へ啓蒙活動を行う。また各対象村落に配置され、住民へ技術サービスを行う技術者（テクニシャン）に対し適切な SHS 技術を移転する。 ・ 技術者を管理する各諸島の太陽光発電委員会が適切に技術者の労務管理を行う。 <p>[運営維持管理費用について]</p> <ul style="list-style-type: none"> ・ 住民から徴収する資金を適切に管理し、バッテリーの更新など必要資金を確保するよう努める。
<p>7. プロジェクト全体計画の事後評価に係る提案</p>
<ul style="list-style-type: none"> (1) プロジェクト全体計画の目標達成を示す成果指標 対象地域は無電化地域であり、現在発電のための燃油消費はない。しかし SHS により供給さ

れる電力量をディーゼル発電機により供給したと想定し、指標となりうる項目の試算を行った。その結果、生じる効果は以下のとおり。なお、各村落は分散した小規模地域であるため、かかる地域で使用する小規模発電機を想定し、試算を行った。

① ディーゼル燃料消費量 : 年間 A 重油約 28kL。

② CO2 削減量 : 約 76 トン。

(2) その他の成果指標
特になし

(3) 評価のタイミング
2011 年以降

資料-6 ソフトコンポーネント計画書

ソフトコンポーネント計画（案）

1. ソフトコンポーネントを計画する背景

(1) 周辺状況及び背景

トンガ王国（以下、「ト」国と称す）のエネルギー生産は、大きくディーゼル発電に依存しており、昨今の石油価格の高騰などの影響を大きく受けやすいなど、エネルギー供給体制が非常に脆弱な状況にある。そのため、「ト」国は、2008年10月にPIEPSAP (Pacific Islands Energy Policy and Strategic Action Plan)、PIGGAREP (Pacific Islands Greenhouse Gas Abatement through Renewable Energy Project) などの支援を受け、「Renewable Energy Act」を大洋州地域で最初に制定した。この方針では、石油価格の変動の影響を受けることなく安定的なエネルギー供給を行うことを目指して、2012年までに総発電量の50%を再生可能エネルギーで賄うという目標が掲げられており、「ト」国政府は2008年から本格的に再生可能エネルギー開発に取り組んでいる。2009年4月には「ト」国で大洋州地域内エネルギー大臣会合が行われ、「ト」国首相のイニシアティブの下、世銀、ADB、EU などドナーも参加し、再生可能エネルギー分野での開発ロードマップ作成にかかる会議が開催された。同ロードマップは2010年4月に「ト」国政府内で承認される予定となっている。

本環境プログラム型無償資金協力「太陽光を活用したクリーンエネルギー導入計画」（以下、「本計画」と称す）における対象サイトは、市中電力が供給されていないトンガタブ諸島 (Tongatapu Group) の2村落、およびババウ諸島 (Vava'u Group) の11村落であり、主管官庁および実施機関は「ト」国政府の国土・調査・天然資源省 (Ministry of Land Survey and Natural Resources: MLSNR) となる。なお、同省のエネルギー計画班 (Energy Planning Unit : EPU) が再生可能エネルギー関連のプロジェクトの計画、実施、管理を担当しており、本計画の実質的な実施組織となる。

本計画においては戸別型太陽光発電システム (Solar Home System: SHS) 一式が調達される。太陽光パネル、バッテリー、各戸の屋内配線等、本計画で調達する機材は全て MLSNR の所有となり、その維持・管理を EPU が中心となって各諸島に設立する太陽光発電委員会 (Outer Island Solar Electricity Society) が担当する計画となっている。なお、太陽光発電委員会は、SHS を導入する各戸から一定額の使用料を徴収し、その資金を用いて各村落に配置される技術者 (テクニシャン) が日常の機材メンテナンスを行う。また、屋内配線及び電球については各戸が交換を含めた維持・管理の責任を負うこととなる。

太陽光発電委員会は EPU、各州知事、テクニシャン、各村落長 (タウンオフィサー) により構成される計画で、「ト」国の組合法に基づく政府認定団体となる予定である。SHS が過去に導入された他の諸島 (ハーパイ諸島、ニウアス諸島) においても同様のシステムにて機材の運用管理が行われている。

(2) 現状及び目的

「ト」国では、地理的に市中電力供給が不可能な無電化地域への電力供給手段として、1990年代からオーストラリアや、ニュージーランド、EU の支援により SHS が導入されており、本計画前に既に全国で813台の SHS が供与されている。本計画対象地域においては、ババウ諸島に対しては1995年にEUが、トンガタブ諸島に対しては1997年以降にUNESCO、オーストラリア等が SHS を供与している。しかし、いずれの案件も供与時期から10年以上が経過し、劣化が激しく既に使用されていない機材が多い状況にある。本計画の実施にあたっては、対象地域で過去に実施された計画や他地域にて実施された計画の情報収集、及び問題点の抽出を行った。その結果、判明した問題点は以下のとおりである。

- 物理的な問題
 - ・ 長期使用に耐え得る仕様の機材が調達されていない。
- 財政的な問題
 - ・ 太陽光発電委員会の資金管理が適切に行われていない。
 - ・ 消耗品の更新が計画的になされていない。
- 人的・組織的な問題

- ・ テクニシャンに対して適切な技術指導が行われていない
- ・ 日常的なメンテナンスが行われていない。
- ・ トラブルシューティングへの対応が徹底されていない。
- ・ 住民に対して SHS の使用法に関する適切な説明がなされていない。
- ・ 太陽光発電委員会がテクニシャンの労務管理を適切に行っていない。
- 情報の問題
 - ・ 現地に太陽光モジュールメーカーの代理店が存在せず、トラブルが生じた際の対応体制が整っていない。

物理的な問題、情報の問題に関しては、本計画において入札条件で調達業者に現地代理店の保有を求める等、適切な機材導入に向けた施策を講じることで解消可能であり、本計画内で対応する。他方、財務的な問題、人的・組織的な問題に関しては、現状の住民及び実施機関による運営・維持管理体制や方法等に能力不足と判断される面もあり、円滑な立ち上がりと持続的な運営・維持管理を確実とするために、ソフトコンポーネントによる技術支援を実施することが望ましい。

ソフトコンポーネントを実施することで期待される成果は、3.ソフトコンポーネントのPDM（案）にて詳述する。

(3) 運営・維持管理体制、関係者の役割分担

本計画において想定している運営・維持管理体制は以下のとおりである。

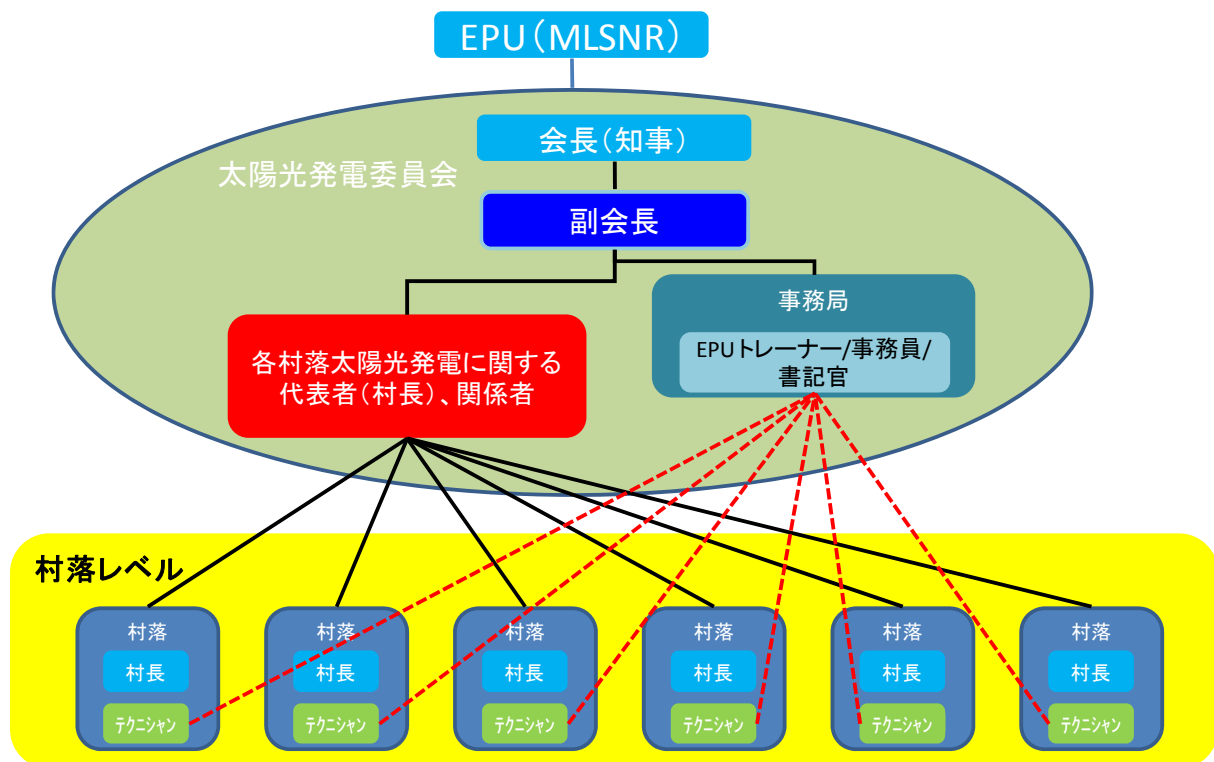


図1 太陽光発電委員会の組織図

各諸島に太陽光発電委員会を設立する。各委員会は各州知事、EPU、各村落長（タウンオフィサー）、各村落から1～2名選定されるテクニシャンにより構成され、本計画に関する情報共有を図る他、日常的な維持管理、SHS 使用料金の徴収等を行う。関係者の役割は以下のとおり。

- 会長(州知事/ガバナー): 太陽光発電委員会の議長として委員会の会合の指揮を執り、委員会の総意をまとめる。
- EPU 本部担当者: 本計画の担当者として各太陽光発電委員会の運営に関わると共に、太陽光発電委員会運営マニュアル及び SHS 維持管理マニュアルの策定に責任を負う。また、定期的に各太陽光発電委員会の運営状況を把握し、必要に応じて改善に向けた

指導を行う。

- EPU 各諸島事務所担当者：太陽光発電委員会の運営管理者として、資金管理、プロジェクト管理を担う他、太陽光発電委員会の職員及び各村落から選定されるテクニシャンの労務管理を担う。また、トレーナーとしてテクニシャンに対し、SHS の維持・管理のためのトレーニングを実施する。
- 各村落の代表（タウンオフィサー）：各村落における SHS の運用状況及び資金回収状況を把握し、運営管理者に報告する。
- テクニシャン：太陽光発電委員会が実施するトレーニングを通じて SHS の維持・管理方法を学び、各村落の SHS の運用状況を定期的に点検する。また、必要に応じて各機器を修理する。

2. ソフトコンポーネントの目標

太陽光発電委員会の運営管理マニュアル及び SHS 維持管理マニュアルの作成とマニュアルを用いた活動の支援を通じ、太陽光発電委員会を中心とした本計画の運営・維持管理体制が整備されることを目標とする。この上位目標としては、「調達された SHS が据付後も長期間にわたって利用される」ことである。

3. ソフトコンポーネントの PDM (案)

本計画にかかるソフトコンポーネントの PDM (案) を以下に示す。

表 1 ソフトコンポーネントの PDM (案)

プロジェクト名：大洋州地域 太陽光を活用したクリーンエネルギー導入計画
プロジェクト期間（ソフトコンポーネント実施期間）：2011年3月～2012年3月
対象地域：トンガ国 トンガタブ諸島、ババウ諸島

Ver. 0

ターゲットグループ：EPU 本部担当者、EPU 各諸島事務所担当者、各諸島太陽光発電委員会およびテクニシャン
作成日：2010年3月

プロジェクトの要約	指標	入手手段	外部条件
上位目標 調達された SHS が据付後も長期間利用される。	SHS の使用状況（機材据付後 10 年後を目安とする）	修理保守記録 太陽光発電委員会報告書	
プロジェクト（ソフトコンポーネント）目標 太陽光発電委員会の運営管理マニュアル及び SHS 維持管理マニュアルの作成とマニュアルを用いた活動の支援を通じ、太陽光発電委員会を中心とした本計画の運営・維持管理体制が整備される。	1. 運営維持管理マニュアルの整備状況 2. SHS 維持管理マニュアルの整備状況 3. 委員会メンバーのマニュアルの活用状況	1. 太陽光発電委員会報告書 2. 太陽光発電委員会記録 3. 委員会メンバーへのマニュアル内容確認テストならびにアンケート	
成果 1. 太陽光発電委員会によって資金管理が適切に行われる。	1-1 資金管理マニュアルの整備 1-2 資金管理に関する指導回数、理解度 1-3 資金管理状況	1-1 資金管理マニュアルならびに改定状況 1-2 巡回記録、監査結果 1-3 銀行残高ならびに会計報告書	

<p>2. 太陽光発電委員会の運営管理者によって委員会の職員及びテクニシャンの労務管理が適切に行われる。</p>	<p>2-1 労務管理マニュアルの整備状況 2-2 労務管理に関する指導回数、理解度 2-3 労務管理状況</p>	<p>2-1 太陽光発電委員会記録 2-2 巡回指導記録（理解度モニタリングを含む） 2-3 勤務記録表ならびに定期報告書</p>	
<p>3. 太陽光発電委員会の年間活動計画が策定される。</p>	<p>3-1 プロジェクト管理に関する指導回数、参加人数、理解度 3-2 活動計画策定状況</p>	<p>3-1 太陽光発電委員会記録、訓練参加者へのインタビュー 3-2 太陽光発電委員会</p>	
<p>4. テクニシャンが SHS の維持管理に必要なメンテナンスマニュアルが策定される。</p>	<p>4-1 維持管理マニュアル整備 4-2 維持管理技術指導回数、参加人数、理解度</p>	<p>4-1 維持管理マニュアルならびに改定状況 4-2 保守・整備記録ならびに既存機器の保守状況</p>	
<p>5. トラブルシューティング対応マニュアルが策定される。</p>	<p>5-1 トラブルシューティングに関するマニュアル整備 5-2 トラブルシューティング指導回数</p>	<p>5-1 トラブルシューティングマニュアルならびに改定状況 5-2 訓練参加者へのインタビュー、保守管理記録</p>	
<p>6. 住民に対しての SHS の適切な使用方法についてのマニュアルが策定される。</p>	<p>6-1 住民への啓蒙活動に関するマニュアル整備 6-2 住民への啓蒙活動実施実績</p>	<p>6-1 講習会記録 6-2 太陽光発電委員会年間報告書</p>	
<p>活動</p>	投入		
<p>1-1 太陽光発電委員会資金管理マニュアル整備・改訂支援を行う。</p>	<p>【「ト」国側】</p> <ul style="list-style-type: none"> ・ カウンターパート ・ 施設、事務所 ・ ソフトコンポーネント活動費 	<p>【日本国側】</p> <ul style="list-style-type: none"> ・ 専門家（総括、組織運営、SHS 技術） 	<p>SHS に甚大な被害をもたらす天災が発生しない。</p>
<p>1-2 資金管理に対する指導を行う。</p>			
<p>1-3 マニュアルに基づく資金管理、定期的なモニタリングにかかる OJT を行う。</p>			
<p>2-1 太陽光発電委員会労務管理マニュアル整備・改訂支援を行う。</p>			前提条件
<p>2-2 マニュアルに基づく労務管理、定期的なモニタリングにかかる OJT を行う。</p>			<p>「ト」国側が SHS の長期使用の重要性を認識する。</p>
<p>2-3 EPU のトレーナーを中心にテクニシャンのサポート体制整備支援を行う。</p>			
<p>2-4 トレーナー、テクニシャンに対する指導を行う。</p>			
<p>3-1 太陽光発電委員会の活動計画策定にかかる OJT を行う。</p>			

4-1	SHS 維持管理マニュアルの整備・支援を行う。		
4-2	マニュアルに基づくテクニシャン、トレーナーに対するSHSにかかる技術指導を行う。		
5-1	トラブルシューティングに対するマニュアル作成支援を行う。		
5-2	マニュアルに基づきテクニシャン、トレーナーに対するトラブルシューティングにかかる技術指導を行う。		
6-1	住民への啓蒙活動に対するマニュアル作成支援を行う。		
6-2	住民への啓蒙活動の実施支援を行う。		

なお、各マニュアルは以下の内容を含めることとする。

- 太陽光発電委員会運営管理マニュアル
 - ・ 財務管理（バランスシート、各種書類様式の作成方法等）
 - ・ 労務・人事管理（報酬制度、評価制度、リーダーシップ論等）
 - ・ プロジェクト管理（必要機材の調達・在庫管理、実行計画策定等）
- SHS 維持管理マニュアル
 - ・ 太陽光発電及び SHS の基礎知識
 - ・ SHS の日常的な点検方法
 - ・ SHS のメンテナンス方法
 - ・ 住民への SHS の使用に関する教授方法
 - ・ トラブルシューティング
 - ・ モニタリング方法

5. ソフトコンポーネントの活動（投入計画）

（1）活動区分

ソフトコンポーネントの活動は、「ソフトコンポーネント実施体制の整備」、「マニュアル作成支援」、「マニュアルを用いた現場での実施指導支援」、「現場での実施指導後のフォロー」、「活動成果報告」に大別することができる。3. ソフトコンポーネントの PDM（案）で示した各成果達成のための活動内容を(5)活動内容にて整理する。

（2）「ト」国側の投入

- ① 太陽光発電委員会の組織強化
 - 直接的な対象者：EPU 本部担当者、EPU 各諸島事務所担当者
 - 間接的な対象者：太陽光発電委員会
- ② SHS に関する知識・技術の向上
 - 直接的な対象者：EPU 本部担当者、EPU 各諸島事務所担当者
 - 間接的な対象者：テクニシャン

（3）日本側の投入

本計画で導入される SHS はその多くの機器が日本製のため日本の電力品質確保に係る技術要件に準拠したものとなる予定である。従って、本計画におけるソフトコンポーネントの実施者は、日本のガイドラインを熟知した者が望ましく、本邦コンサルタントによる直接支援型とし

たい。なお、同コンサルタントの業務はマニュアルの作成支援、マニュアルを用いた実施指導支援、及び実施後のモニタリングと断続的に実施される予定のため、「総括」、「組織運営」、「SHS 技術」の三名による各段階におけるスポット派遣とする。各コンサルタントの総 M/M は以下の通りの計画とする。

- ・ 総括：3.5M/M
- ・ 組織運営：6.5M/M
- ・ SHS 技術：7.5M/M

(4) 関係者の役割

ソフトコンポーネントにおける関係者の役割は以下のとおり。

表2 ソフトコンポーネントにおける関係者の役割分担

担 当	コンサルタント	「ト」国
本計画の組織	総括、組織運営、SHS 技術	EPU（中央から1名、各諸島から1名ずつ） 太陽光発電委員会 テクニシャン(各村落から2名ずつ)
本計画の運営方法	ソフトコンポーネント全体の進捗状況の管理	太陽光発電委員会の運営管理 SHS の維持管理
料金徴収方法の策定、実施	提 言	検討・実施
ソフトコンポーネントのためのオリエンテーション	開催支援	開催
太陽光発電委員会運営マニュアル	助 言	原案作成
委員会運営のフォローアップ	管理・指導	モニタリング結果の反映
SHS 維持管理マニュアル	助 言	原案作成
SHS 維持管理のフォローアップ	管理・指導	モニタリング結果の反映
報告先	「ト」国政府関係諸機関	コンサルタント

(5) 活動内容

1) ソフトコンポーネント実施体制の整備

円滑に活動が実施されるよう、「ト」国の関係機関および本計画の対象地域である 13 村落に対しソフトコンポーネントの実施を周知させるため、オリエンテーションを開催。受け入れ体制の整備・調整を行う。

また、ソフトコンポーネントの円滑な実施とソフトコンポーネント終了後の持続的運用を促進するため、ソフトコンポーネントの達成状況把握、意見交換、課題討議のための場として EPU、太陽光発電委員会、コンサルタントからなるソフトコンポーネント委員会を設置する。

2) マニュアル作成支援

① 太陽光発電委員会の組織強化

太陽光発電委員会が作成する太陽光発電委員会運営管理マニュアルの作成を支援する。内容は 3. ソフトコンポーネントの PDM (案) に示した通りとする。

② SHS に関する知識・技術の向上

太陽光発電委員会が作成する SHS 維持管理マニュアルの作成を支援する。内容は 3. ソフトコンポーネントの PDM (案) に示した通りとする。

3) マニュアルを用いた現場での実施指導支援

① 太陽光発電委員会の組織強化

各諸島の太陽光発電委員会に対し、太陽光発電委員会運営マニュアルに基づき、委員会の運営管理、組織強化に関するトレーニングを各諸島にて実施する。

② SHS に関する知識・技術の向上

各諸島の太陽光発電委員会に対し、SHS 維持管理マニュアルに基づいた EPU のトレーナー、およびテクニシャンを対象とした知識及び技術力向上のためのトレーニングの実施を支援する。

なお、テクニシャンが居住する対象村落は全て離島部に属しており、各村落にてテクニシャンを対象としたトレーニングを開催することは難しい。そのため、効率的、効果的なトレーニングを実施するという観点から、トレーニングをババウ諸島本島にて行う「全テクニシャンを対象とした初期トレーニング」と EPU から派遣される「トレーナーに対するトレーニング」の二段階に分けて実施する。まずは、各村落から初期トレーニングに参加するテクニシャンを 2 名選出し、SHS の維持管理に関する基礎的な講義と機材を使った簡易な実施指導を併せたトレーニングを実施。その後、EPU トレーナーを対象とした実機を用いたトレーニングを実施する。

4) 現場での実施指導後のフォロー

① 太陽光発電委員会の組織強化

各諸島の太陽光発電委員会の運営状況を資金管理、労務管理、プロジェクト管理の各方面から確認し、同委員会への指導・助言を行うと共に、EPU の担当者に対し、モニタリング方法を中心とした技術的フォローを行い、ソフトコンポーネント完了後も技術が伝承するような仕組みを構築する。また、必要に応じて太陽光発電委員会運営マニュアルの改訂を支援する。

② SHS に関する知識・技術の向上

EPU トレーナーによる各村落のテクニシャンに対するトレーニングの実施状況を確認し、トレーナーへの指導・助言を行うと共に、太陽光発電委員会に対し、モニタリング方法を中心とした技術的フォローを行い、ソフトコンポーネント完了後も技術が伝承するよう仕組みを構築する。また、必要に応じて SHS 維持管理マニュアルの改訂を支援する。

5) 活動成果報告

本計画の活動成果を確認し、成果及び今後の課題を取りまとめ、関係機関へ報告する。

6. ソフトコンポーネントの実施行程

「太陽光発電委員会の組織強化」及び「SHS に関する知識・技術の向上」の 2 フェーズ体制とし、それぞれに「組織運営」及び「SHS 技術」を担当するコンサルタントを配置する。また、全体工程のマネージメント、関係機関との折衝、他のコンサルタントのサポート、活動全体およびその評価の取りまとめのために「総括」を配置する。

ソフトコンポーネントの全体工程を表 3 で、本計画の全体工程とソフトコンポーネントの工程との関係を図 2 で整理する。

表 3 ソフトコンポーネントの全体工程

	太陽光発電委員会の組織強化	SHS に関する知識・技術の向上
ソフトコンポーネント実施体制の整備	<ul style="list-style-type: none"> ・ 業務実施体制整備に関する関係機関との調整 ・ 要員の技術レベルの把握 ・ 他地域など太陽光発電委員会会計資料の分析 	<ul style="list-style-type: none"> ・ 業務実施体制整備に関する関係機関との調整 ・ 要員の技術レベルの把握
	総括：0.25M/M	総括：0.75M/M

	組織運営：1.0M/M	
マニュアル作成支援	<ul style="list-style-type: none"> 太陽光発電委員会運営マニュアルの作成支援 会計書式の整備 会計監査方法の確立 	<ul style="list-style-type: none"> SHS 維持管理マニュアルの作成支援
	総括：0.5M/M 組織運営：1.0M/M	総括：0.5M/M SHS 技術：1.0M/M
マニュアルを用いた現場での実施指導	<ul style="list-style-type: none"> 資金管理、労務管理、プロジェクト管理（資機材在庫・調達管理）、実行計画の策定、リーダーシップ論等に関する講義 管理業務ルーチン化のためのトレーニングの実施支援 	<ul style="list-style-type: none"> SHS に関する知識・技術(電気回路基礎、SHS 基礎知識、日射エネルギーの扱い、発電電力量の見積、主要構成機器の特徴と仕様、バッテリーの性質と取扱い、計測機器と運転データの扱い等)に関する講義 機材を用いたハンズオントレーニングの実施支援 講義及びトレーニングを受講したテクニシヤンの評価試験及びトレーナー選抜・認定のための支援 トレーナーに対する SHS に関するより高度な知識・技術(SHS の構成の目視確認、測定機器の使用法、正常運転中の運転データ取得と評価、正常 PV モジュールと異常 PV モジュールの差異確認、PV モジュールの設置条件と出力確認、蓄電池の液レベル確認法と調整法、蓄電池放電状態確認（比重測定、端子電圧測定など）、連続運転（数日間）データの取得と評価法、悪天候時の運転状態確認と評価法（モジュールを覆うなど模擬的に体験）)に関するトレーニング
	組織運営：3.5M/M（1.5M/M＋2.0M/M）	SHS 技術：5.0M/M（1.0M/M×1 回＋1.5M/M×2 回）
現場での実施指導後のフォロー	<ul style="list-style-type: none"> ソフトコンポーネント対象者のレベル確認 太陽光発電委員会の運営状況のモニタリング 太陽光発電委員会運営マニュアルの改訂 	<ul style="list-style-type: none"> ソフトコンポーネント対象者のレベル確認 各村落の SHS の維持管理状況のモニタリング SHS 維持管理マニュアルの改訂
	総括：0.5M/M 組織運営：1.5M/M	総括：0.5M/M SHS 技術：1.5M/M

5. 活動成果報告	<ul style="list-style-type: none"> 活動成果の確認及び関係機関への活動報告書の作成ならびに報告 	<ul style="list-style-type: none"> 活動成果の確認及び関係機関への活動報告書の作成ならびに報告
	総括：0.25M/M 組織運営：0.5M/M	総括：0.25M/M SHS 技術：0.5M/M

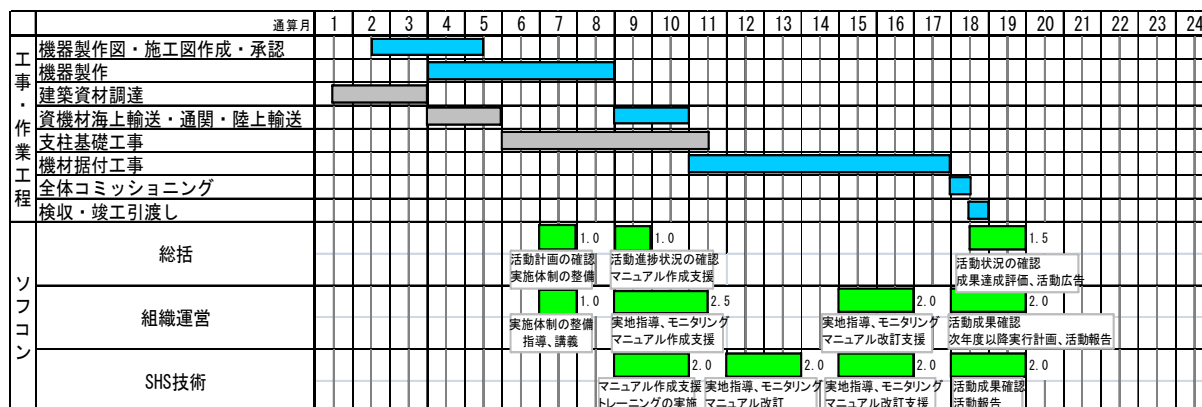


図2 本計画及びソフトコンポーネント全体工程

7. ソフトコンポーネントの成果品

本計画のソフトコンポーネント実施により得られる成果品は次の通りである。

- 1) オリエンテーション開催記録
- 2) ソフトコンポーネント委員会開催記録
- 3) 進捗状況報告書*工程ごとに提出
- 4) 太陽光発電委員会運営マニュアル
- 5) SHS 維持管理マニュアル
- 6) 資金管理レポート
- 7) 労務管理レポート (テクニシヤンの業務実施状況報告書含む)
- 8) 理解度確認テストの結果
- 9) 関係者へインタビュー調査及び実作業に対する評価結果

8. ソフトコンポーネント概算事業費

ソフトコンポーネントの概算事業費は、49,700,000 円と見積もられる。

9. 相手国実施機関の責務

- 1) EPU は、各諸島の太陽光発電委員会と共同し、ソフトコンポーネントの円滑な実施促進のためにソフトコンポーネント委員会を設置する。
- 2) EPU は、各諸島の太陽光発電委員会と調整の上、本ソフトコンポーネント実施に必要な作業室等を用意する。
- 3) EPU 及び各諸島の太陽光発電委員会は、本ソフトコンポーネントに必要な人員を提供する。
- 4) EPU 及び各諸島の太陽光発電委員会は、コンサルタントと協議し、各種マニュアルの改訂を自発的に行う。
- 5) 各諸島の太陽光発電委員会は、太陽光発電委員会運営マニュアル及びコンサルタントの提言に基づき、住民から徴収した維持管理のための資金の管理を EPU の管理下において適切に行う。
- 6) 各諸島の太陽光発電委員会は、太陽光発電委員会運営マニュアル及びコンサルタントの

提言に基づきテクニシャンの労務管理を適切に行う。

- 7) 各村落のテクニシャンは、SHS維持管理マニュアルに基づき SHS を適切に維持管理する。
- 8) EPU 及び各諸島の太陽光発電委員会は、ソフトコンポーネント実施期間中、コンサルタントへ定期的に資金管理と労務管理に関する報告書を提出する。

以上

資料-7 参考資料／入手資料リスト

7. 参考資料／入手資料リスト

調査名：大洋州地域太陽光を活用したクリーンエネルギー導入計画準備調査(トンガ王国)

番号	名称	形態 図書・ビデオ・地図 ・写真等	オリジナル・コピー	発行機関	発行年
1	Tonga 2006 Census of Population and housing, Volume 1: Administrative Report and Basic Tables	図書	コピー	Tongan Statistics Department	2008
2	Tonga 2006 Census of Population and housing, Volume 2: Analytical Report	図書	コピー	Tongan Statistics Department	2008
3	Statistical Abstract - 2006	図書	コピー	Tongan Statistics Department	2006
4	Report on the Household Income and Expenditure Survey	図書	コピー	Tongan Statistics Department	2002
5	Community Based Information	図書	コピー	Mainstreaming of Rural Development Innovation in the Kingdom of Tonga	
6	Participatory Learning and Action Report	図書	コピー	Mainstreaming of Rural Development Innovation in the Kingdom of Tonga	2007
7					
8					
9					
10					
11					

A-7-1

資料-8 プロジェクトの裨益効果

8. プロジェクトの裨益効果

(1) 燃料節減効果

比較の対象として、SHS により供給される電力量を、ディーゼル発電機により供給した場合を考え、発電機の燃料が直接節約されたものとする。燃料を各島へ運搬する船の燃料などは考慮しないものとする。

SHS 1 セット当り供給される年間電力量を $\sum EL$ (kWh)とすれば

$$\sum EL \text{ (kWh)} = EL \times 365 / 1000 = 400 \times 365 / 1000 = 146 \text{ (kWh)}$$

総設置数を $n=480$ セットとすれば SHS により供給される総電力量 PL (kWh)は

$$PL = \sum EL \times n = 146 \times 480 = 70,080 \text{ (kWh)} = 70.08 \text{ (MWh)}$$

となる。

発電機は小規模となり、小規模発電の燃費を A 重油換算 0.4 (L / kWh)とすれば SHS に
よる年間発電電力量に要する燃料 Q は

$$Q = PL \times 0.4 = 70,080 \times 0.4 \text{ (L)} = 28 \text{ (kL)}$$

これが SHS による直接的年間燃料節約量と考えることができる。

期待年間燃料節約量 = A 重油 28 kL

(2) CO2 排出量の削減効果

SHS 導入による直接的年間燃料節約量は上記の様に A 重油換算 28kL である。これより、年間 CO2 排出量は都議のように求められる。

$$CO_2(\text{年}) = 2.71 \times Q = 2.71 \times 28 = 75.88 \text{ (ton)}$$

ここで： A 重油の CO2 排出係数 = 2.71 tCO₂ / kL

期待年間 CO2 削減量 = 約 76 ton

(3) その他

村民の生活レベル向上への貢献 (読書、ラジオ、朝夕の家事環境他)

子供の教育環境の改善

夜間労働 (マット編みなど) による収入の増加

資料-9 その他収集資料

**Incorporation of the Tongatapu Outer Islands Solar Electricity Society
(TOISES) as a Non-Profit Society**

“We, the several person whose names are subscribed hereto, being members of the Management Committee of the above mentioned society, hereby make application for the incorporation of the society under the foregoing rules, in accordance with the Incorporated Societies Act”.

Name	Designation	Address	Signature	Phone No.
1. Takiékina Pohiva	Town Officer	‘Eueiki		8862263
2. Siotame Fonua	Town Officer	‘Ataa		8711689
3. ‘Ofa Sefana	A/Energy Planner Specialist	Nuku’alofa		
4. Kelepi Mafi	Natural Resource/Deputy Chairperson	Nuku’alofa		
5. Dr. Nailasikau Halatuituia	CEO-MLSNR - Chairperson	Nuku’alofa		

Witness to the above, on [date] [month] [year]

Rules of the Society

- [a] Name of the Society
The name of the Society shall be The Tongatapu Outer Islands Solar Electricity Society Incorporated [TOISES Inc.]
- [b] Objects of the Society
The object of the Society is to supply cost-effective, reliable and environmental friendly solar electricity to its members as according to appropriate regulations.
- [c] Mode in which a person becomes a member
The Society shall form a Management Committee and have a Chairperson and Deputy Chairperson. The members of the Society shall be all the members of the Outer Islands Solar Electricity Committees of ‘Eueiki and ‘Atataa and shall be represented by the Town Officers to the Management Committee meetings. They are the people and entities, which have been supplied with solar electricity through the new Solar Electrification Programme of the Energy Planning Unit of the Ministry of Lands, Survey and Natural Resources (MLSNR).

The Secretary for MLSNR and the Energy Planner Specialist, Deputy Secretary for Natural Resources, Energy Planner/Officer as Secretary and Government Auditor will all be member of the Committee/Society on an advisory and technical assistance capacity.

The other islands in the Tongatapu Group can be a member of the Committee upon fulfilling the following requirements:

- i) It must agree that its solar project be run and managed in the same manner as the islands above.
- ii) It must pay a capital sum to the Society [to be determined according to the present status of its PV systems needs] in the Tongatapu Group.

[d] Mode of ceasing to be a member

A person or entity will cease to be a member of the Society once the supply of solar electricity is permanently disconnected from that member.

The responsibilities of the Management Committee shall be the following:

- i) To provide an affordable, reliable and sustainable renewable source of photovoltaic electricity to the members.
- ii) To endorse the annual income and expenditure budget of the Society
- iii) To review the Annual Report of the Society
- iv) To provide policy guidance and operational guidelines to the Society

The responsibilities of the Island Solar Committees shall be the following:

- i) To consider viable schemes for development of the electrification program in the island
- ii) To recommend to the Management Committee through the Chairperson of their Island Solar Committee any necessary actions to be executed in order to solve problems that are facing the program.

[e] Mode of holding general meeting and voting

The Management Committee of the Society must hold a general meeting once or more if needed, every twelve months. Resolutions of the Society's Management Committee meetings must be by consensus.

The Islands Solar Electricity Committees can have general meetings as often as it wishes. Resolutions of these meetings must be by consensus too.

[f] Assets of the Society

The Society shall be responsible and own the panels, battery and battery box, controller, breaker and wires that connected them. Society may also lease other assets such as house and offices.

[g] Member responsibilities and roles.

The Society must consider re-electing of its members every two years according to the followings:

- 1) Chairperson : CEO Ministry of Lands, Survey and Natural Resources
- 2) Deputy Chairperson : Deputy Natural Resources
- 3) Secretary/Treasurer : Energy Planner/Officer - EPU Tongatapu,

- 4) Cheque Account Trustees: i. Secretary/Treasurer, ii. Town Officer ‘Eueiki, iii. Town Officer ‘Atataa.
- 5) Savings Account Trustee: i. Secretary/CEO – Lands and Survey ii. Town Officer ‘Eueiki, iii. Town Officer ‘Atataa
- 6) Term investment Trustees: i. Secretary/CEO Lands, Survey and Natural Resources, ii. Town Officer ‘Eueiki, iii. Town Officer ‘Atataa.

[h] Establishment of the Society’s Secretariat/Office and appointment of employees of the Society

The Society shall establish its office with the Energy Planning Unit shall be the Secretariat to the Society. Its responsibilities shall include but not restricted to the following:

- i) Collect the Society’s revenue and spend in accordance with directives provided by the Management Committee
- ii) Preparation and the safe keeping of all the Society’s financial and technical records
- iii) Prepare and submit for the consideration of the Management Committee the Society’s annual budget of income and expenditures
- iv) Amongst other things, deliver to the Energy Planning Section a; (a) brief half-yearly, (b) Annual Report of the operations of the Outer Islands Solar Electricity Society and the consolidated financial statements for the financial year consisting of the statements of financial position, financial performance, changes in financial position, and any other necessary statements within two months of the end of each stated periods.
- v) Provide to the Energy Planning Section an annual audit report on the financial statements within six months of the end of the financial year
- vi) Prepare and submit for the consideration of the Management Committee the Society’s Annual Report
- vii) Stock and sell solar equipment
- viii) Repair and maintain the solar components that are owned by the Society
- ix) Seek donor assistance for the Society
- viii) Any other responsibilities apart from Financial and Technical shown below as directed from time to time by the Management Committee.

FINANCIAL SECTION

- i) The Secretary/Treasurer must collect and spend the Society’s funds only in accordance with that endorsed by the Management Committee
- ii) The Society’s funds must only be disbursed in accordance with the approved budget items and the amount for each budget item
- iii) The Trustees for the Society’s “Term Investment” funds must approve any request for an increase in any budget item and for any internal transfers within the approved budget
- iv) There must be a Reserve Fund established under the Society’s name with 4 Trustees to be elected by the Management Committee as in [f]6 above.
- v) The Control and investment of funds of the Society shall be vested in its Management Committee.
- vi) The Reserve Fund shall only be used for the replacement, repair or an upgrade of the solar components that are owned by the Society

- vii) No money shall be withdrawn from the Reserve Fund unless the amount and the details for its use is first approved by the Management Committee
- viii) The Reserve Fund shall not be used to buy solar systems for individual houses
- ix) 60% of the annual electricity monthly fee and other income shall be deposited annually to the Reserve Fund
- x) Secretariat shall furnish members through their representative to the Management Committee with status of monthly fee on a quarterly basis.
- xi) Abusing of the Society's financial resource shall be taken to court.
- xii) Secretary/Treasurer shall also conduct according to the Financial Procedure shown in **ANNEX 1**.

TECHNICAL SECTION

- i)a Services shall be disconnected from households who fail to pay their monthly electricity fee for two continuous months
- i)b Service shall also be disconnected from households who experience 3 times low battery state of charge or 1.17 of a hydrometer readings due to excessive usage of the system.
 - i) There will be a reconnection fee of \$20
 - ii) The Committee's solar components shall be removed from household who fail to pay their monthly electricity dues two months after being disconnected and from those who are not in compliance with the requirements of the Programme
 - iii) Households are to pay for the replacements of parts that are not owned by the Committee. These include the lights, internal wiring, switches and the sockets.
 - iv) Households shall pay for damages to the solar systems resulting from their negligence.
 - v) Households can enlarge their solar systems provided there is prior consultation with the Secretariat.
 - vi) Abusing or damaging of the system shall be taken to court by the Secretariat.
- [i] Mode of adding rules or altering rules of the Society
The rules of the Society shall be formulated by consensus by the Management Committee. These rules shall only be altered by consensus of the Management Committee.
- [j] Use of common seal
There shall be a common seal of the Society.
- [k] Power to Borrow Money
The Society can only borrow money through the authorisation of the Management Committee.
- [l] Disposition of property assets of the Society in the event of winding up
In the event of a winding up of the Society, the properties and assets of the Society shall be transferred to the Energy Planning Unit of the Ministry of Lands, Survey and Natural Resources.
- [m] Rules must not be inconsistent with the Act

In the event that the rules of the Society are inconsistent with the Act, the Act shall prevail.

ANNEX 1

TONGATAPU OUTER ISLAND SOLAR ELECTRICITY SOCIETY INCORPORATED (TOISES Inc.) FINANCIAL PROCEDURE

(for TOISES Inc. Secretary and Treasurer)

1. *Expenditure*

All budget item must be disbursed in accordance with the approved items and within the approved amount.

(1.01) The Trustees in the Term Investment must approved any requests for virements and increase of budget items or reallocations of Committee approved budget.

2. *Reserve Fund*

(2.01) The Reserve Fund (Term Deposit # xxxx), shall cover costs only for replacement, repair or upgrade of the solar components of the TOISES.

(2.02) No withdrawal shall be made from the account unless the Committee grants approval.

(2.03) The Fund shall not cover costs for individual purchases of solar home system (SHS).

(2.04) 60% of the annual electricity fee shall be deposited to the Reserve Fund.

(2.05) Withdrawal from the Term Investment must be signed by the Trustees.

3. Bank Accounts

(3.01) Saving Accounts (One way Account)

All Committee Revenues shall be deposited to the saving account.

Withdrawal from this account shall be made only once every year, which is the annual budget approved. The Committee must approve any request for any other withdrawal. Withdrawal shall be countersigned by any 2 of the Trustees.

(3.02) Cheque Accounts

Cheque Account Trustees: i. Secretary/Treasurer, ii. Town Officer ‘Eueiki, iii. Town Officer ‘Atataa.

(4.01) Purchases of PV items costing \$500.00 and over will require competitive quotes of three or more suppliers.

(4.02) Officer in Charge [Secretary/Treasurer] of the TOISES Inc. Office must obtain approval from the Energy Planner Specialist to Tender for equipment and subsequently purchase any item(s) for the project.

(4.03) An Order Book must be maintained which shall record all purchases.

5. Payment

(5.01) All “Order for Supplies” shall be signed by the TOISES Inc. Treasurer/Secretary.

(5.02) A voucher shall be processed on every expenses such as wages etc. and shall be signed by any of the Term Investment Trustees.

(5.03) All payment shall be made in cheque only.

(5.04) Cheques shall be countersigned by either 2 of the Trustees.

6. Wages

(6.01) The island technicians’ monthly wages shall start paying out every last working day of the month.

(6.02) The TOISES Inc. Office Manager Trainee’s wages shall be paid out every fortnight as Government Civil Servant. Timesheet shall be signed and presented by the Trainee together with the payment voucher for signing.

7. Cash

(7.01) There shall be no petty cash

8. Revenue

(8.01) All revenue collected shall be deposited at the bank no later than 24 hours from the date of receipt.

(8.02) A cashbook, which records payment to the account, must be maintained.

9. Reporting

(9.01) At the end of the month, a report shall be submitted to the Energy Planning Unit. All supporting document must be submitted with the reports.

Note :

This guideline outlines the terms and conditions for managing the financial resources of the TOISE Inc. electrification program and to which must be adhered closely to ensure that the program is sustainable. The terms and conditions outlined in this document will be adopted from the approved TOISES Inc. constitutions and will be revised if necessary and must be approved by the Committee.

The above arrangement is subject to audit by the Government Audit Department or Auditor recommended by the Management Committee.

Incorporation of the Vava’u Outer Islands Solar Electricity Society (VOISES) as a Non-Profit Society

1. “We, the several person whose names are subscribed hereto, being members of the Management Committee of the above mentioned society, hereby make application for the incorporation of the society under the foregoing rules, in accordance with the Incorporated Societies Act”.

Name	Designation	Address	Signature	Phone No.
1. ‘Asaeli Taufalele	Town Officer	‘Olo’ua		
2. ‘Ovaleni ‘Ilangana	Town Officer	Ofu		
3. Manu Fosita	Town Officer	Taunga		
4. Semisi Ngu	Town Officer	Kapa		
5. Kilisimasi Ma’ukoloa	Town Officer	‘Otea		
6. Ofa Blake	Town Officer	Falevai		
7. Sateki Kivalu	Town Officer	Nuapapu		
8. Latu Manu	Town Officer	Matamaka		
9. Uikelotu Taufu	Town Officer	Lape		
10. Valupe Vaisima	Town Officer	Ovaka		
11. Napa’a Halatanu	Town Officer	Hunga		
12. Sitiveni Moahengi Pua	Motu District Officer	Hunga		
13. Finau Sione Tupou	Neiafu District Officer	Neiafu		
14. Winnie Veikoso	Treasurer/ Secretary	Neiafu		7718151
15. Ofa Sefana	Acting Energy Planner Specialist	Tongatapu		7753150
16. ‘Isileli ‘Aholelei	Vava’u Development Unit	Tongatapu		
17. Paula Latu	Vava’u Sub-Treasurer	Neiafu		
18. Paula Lo’amanu	District Surveyor	Neiafu		
19. Masina Tu’itupou	Secretary Governor’s Office	Neiafu		
20. Dr. Nailasikau Halatuituia	CEO-MLSNR	Tongatapu		
21. Paula Tatafu	Vava’u Police	Neiafu		

	Magistrate			
22. Lord Luani	Governor of Vava'u	Neiafu		

Witness to the above, on [date] [month] [year]

Rules of the Society

[a] Name of the Society
The name of the Society shall be The Vava'u Outer Islands Solar Electricity Society Incorporated [VOISES Inc.].

[b] Objects of the Society
The object of the Society is to supply cost-effective, reliable and environmental friendly solar electricity to its members as according to appropriate regulations.

[c] Mode in which a person becomes a member
The Society shall form a Management Committee and have a Chairperson and Deputy Chairperson. The members of the Society shall be all the members of the Outer Islands Solar Electricity Committees of 'Olo'ua, Ofu, Taunga, Kapa, 'Otea, Falevai, Matamaka, Nuapapu, Lape, Ovaka, Hunga and shall be represented by the Town Officers to the Management Committee meetings. They are the people and entities, which have been supplied with solar electricity through the new Solar Electrification Programme of the Energy Planning Unit of the Ministry of Lands, Survey and Natural Resources (MLSNR).

The Secretary for MLSNR and the Energy Planner Specialist, Secretary to the Governor of Vava'u, Sub-Treasurer Vava'u, Vava'u District Surveyor, Representative of Vava'u Development Committee and Government Auditor will all be member of the Committee/Society on an advisory and technical assistance capacity.

The other islands in the Vava'u Group can be a member of the Committee upon fulfilling the following requirements:

- i) It must agree that its solar project be run and managed in the same manner as the islands above.
- ii) It must pay a capital sum to the Society [to be determined according to the present status of its PV systems needs] in the Vava'u Group.

[d] Mode of ceasing to be a member
A person or entity will cease to be a member of the Society once the supply of solar electricity is permanently disconnected from that member.

The responsibilities of the Management Committee shall be the following:

- i) To provide an affordable, reliable and sustainable renewable source of photovoltaic electricity to the members.
- ii) To endorse the annual income and expenditure budget of the Society

- iii) To review the Annual Report of the Society
- iv) To provide policy guidance and operational guidelines to the Society

The responsibilities of the Island Solar Committees shall be the following:

- i) To consider viable schemes for development of the electrification program in the island
- ii) To recommend to the Management Committee through the Chairperson of their Island Solar Committee any necessary actions to be executed in order to solve problems that are facing the program.

[e] Mode of holding general meeting and voting

The Management Committee of the Society must hold a general meeting once or more if needed, every twelve months. Resolutions of the Society's Management Committee meetings must be by consensus.

The Islands Solar Electricity Committees can have general meetings as often as it wishes. Resolutions of these meetings must be by consensus too.

[f] Assets of the Society

The Society shall be responsible and own the panels, battery and battery box, controller, breaker and wires that connected them. Society may also lease other assets such as house and offices.

[g] Member responsibilities and roles.

The Society must consider re-electing of its members every two years according to the followings:

- 1) Chairperson : Hon. Governor of Vava'u
- 2) Deputy Chairperson : Government Representative/District Police Magistrate
- 3) Secretary/Treasurer : Energy Planning Unit Vava'u,
- 4) Cheque Account Trustees: i. Secretary/Treasurer, ii. Motu District Officer, iii. Vava'u Sub-Treasurer
- 5) Savings Account Trustee: i. Secretary/Treasurer, ii. Vava'u Governor's Office Secretary, iii. Motu District Officer
- 6) Term investment Trustees: i. Energy Planner Specialist, ii. Vava'u Sub-Treasurer, iii. CEO Lands, Survey and Natural Resources, iv. Motu District Officer.

[h] Establishment of the Society's Secretariat/Office and appointment of employees, Office Manager and Island Technicians of the Society

The Society shall establish its office with the Energy Planning Unit shall be the Secretariat to the Society. Its responsibilities shall include but not restricted to the following:

- i) Collect the Society's revenue and spend in accordance with directives provided by the Management Committee

- ii) Preparation and the safe keeping of all the Society's financial and technical records
- iii) Prepare and submit for the consideration of the Management Committee the Society's annual budget of income and expenditures
- iv) Amongst other things, deliver to the Energy Planning Section a; (a) brief half-yearly, (b) Annual Report of the operations of the Outer Islands Solar Electricity Society and the consolidated financial statements for the financial year consisting of the statements of financial position, financial performance, changes in financial position, and any other necessary statements within two months of the end of each stated periods.
- v) Provide to the Energy Planning Section an annual audit report on the financial statements within six months of the end of the financial year
- vi) Stock and sell solar equipment
- vii) Repair and maintain the solar components that are owned by the Society
- viii) Seek donor assistance for the Society
- ix) Any other responsibilities apart from Financial and Technical shown below as directed from time to time by the Management Committee.
- x) Fulfil reporting obligations directed under Incorporated Society Act.

FINANCIAL SECTION

- i) The Secretary/Treasurer must collect and spend the Society's funds only in accordance with that endorsed by the Management Committee
- ii) The Society's funds must only be disbursed in accordance with the approved budget items and the amount for each budget item
- iii) The Trustees for the Society's "Term Investment" funds must approve any request for an increase in any budget item and for any internal transfers within the approved budget
- iv) There must be a Reserve Fund established under the Society's name with 4 Trustees to be elected by the Management Committee as in [f]6 above.
- v) The Control and investment of funds of the Society shall be vested in its Management Committee.
- vi) The Reserve Fund shall only be used for the replacement, repair or an upgrade of the solar components that are owned by the Society
- vii) No money shall be withdrawn from the Reserve Fund unless the amount and the details for its use is first approved by the Management Committee
- viii) The Reserve Fund shall not be used to buy solar systems for individual houses
- ix) 60% of the annual electricity monthly fee and other income shall be deposited annually to the Reserve Fund
- x) Secretariat shall furnish members through their representative to the Management Committee with status of monthly fee on a quarterly basis.
- xi) Abusing of the Society's financial resource shall be taken to court.
- xii) Secretary/Treasurer shall also conduct according to the Financial Procedure shown in **ANNEX 1**.

TECHNICAL SECTION

- i)a Services shall be disconnected from households who fail to pay their monthly electricity fee for two continuous months

- i)b Service shall also be disconnected from households who experience 3 times low battery state of charge or 1.17 of a hydrometer readings due to excessive usage of the system.
 - i) There will be a reconnection fee of \$20
 - ii) The Committee's solar components shall be removed from household who fail to pay their monthly electricity dues two months after being disconnected and from those who are not in compliance with the requirements of the Programme
 - iii) Households are to pay for the replacements of parts that are not owned by the Committee. These include the lights, internal wiring, switches and the sockets.
 - iv) Households shall pay for damages to the solar systems resulting from their negligence.
 - v) Households can enlarge their solar systems provided there is prior consultation with the Secretariat.
 - vi) Abusing or damaging of the system shall be taken to court by the Secretariat.
- [i] Mode of adding rules or altering rules of the Society
The rules of the Society shall be formulated by consensus by the Management Committee. These rules shall only be altered by consensus of the Management Committee.
 - [j] Use of common seal
There shall be a common seal of the Society.
 - [k] Power to Borrow Money
The Society can only borrow money through the authorisation of the Management Committee.
 - [l] Disposition of property assets of the Society in the event of winding up
In the event of a winding up of the Society, the properties and assets of the Society shall be transferred to the Energy Planning Unit of the Ministry of Lands, Survey and Natural Resources.
 - [m] Rules must not be inconsistent with the Act
In the event that the rules of the Society are inconsistent with the Act, the Act shall prevail.

ANNEX 1

VAVA’U OUTER ISLANDS SOLAR ELECTRICITY SOCIETY INCORPORATED (VOISES Inc.) FINANCIAL PROCEDURE

(for VOISES Inc. Secretary and Treasurer)

1. Expenditure

All budget item must be disbursed in accordance with the approved items and within the approved amount.

(1.02) The Trustees (Energy Planner Specialist, ii. Vava’u Sub-Treasurer, iii. CEO Lands, Survey and Natural Resources, iv. Motu District Officer.) must approved any requests for virements and increase of budget items or reallocations of Committee approved budget.

2. Reserve Fund

(2.01) The Reserve Fund (Term Deposit # xxxx), shall cover costs only for replacement, repair or upgrade of the solar components of the VOISES.

(2.02) No withdrawal shall be made from the account unless the Committee grants approval.

(2.03) The Fund shall not cover costs for individual purchases of solar home system (SHS).

(2.04) 60% of the annual electricity fee shall be deposited to the Reserve Fund.

3. Bank Accounts

(3.01) Saving Accounts (One way Account)

All Committee Revenues shall be deposited to the saving account. Withdrawal from this account shall be made only once every year, which is the annual budget approved. The Committee must approve any request for any other withdrawal.

(3.02) Cheque Accounts

Refer to “5.

4. Purchases

(4.01) Purchases of PV items costing \$500.00 and over will require competitive quotes of three or more suppliers.

(4.02) Officer in Charge of the VOISES Inc. Office must obtain approval from the Energy Planner Specialist to Tender for equipment and subsequently purchase any item(s) for the project.

(4.03) An Order Book must be maintained which shall record all purchases.

5. Payment

(5.01) All “Order for Supplies” shall be signed by the VOISES Inc. Treasurer/Secretary.

(5.02) A voucher shall be processed on every expenses such as wages etc. and shall be signed by either Chairperson or his Deputy or the Sub-Treasurer Vava’u.

(5.03) All payment shall be made in cheque only.

(5.04) Cheques shall be countersigned by either 2 of these Society Members; i. Secretary/Treasurer, ii. Motu District Officer, iii. Vava’u Sub-Treasurer.

6. Wages

(6.01) The island technicians’ monthly wages shall start paying out every last working day of the month.

(6.02) The VOISES Inc. Office Manager Trainee’s wages shall be paid out every Friday. Timesheet shall be signed and presented by the Trainee together with the payment voucher for signing. Refer to (4.02) above.

7. Cash

(7.01) There shall be no petty cash

8. Revenue

(8.01) All revenue collected shall be deposited at the bank no later than 24 hours from the date of receipt.

(8.02) A cashbook, which records payment to the account, must be maintained.

9. Reporting

(9.01) At the end of the month, a report shall be submitted to the Energy Planning Unit. All supporting document must be submitted with the reports.

Note :

This guideline outlines the terms and conditions for managing the financial resources of the VSES Inc. electrification program and to which must be adhered closely to ensure that the program is sustainable. The terms and conditions outlined in this document will be adopted from the approved VOISES Inc. constitutions and will be revised if necessary and must be approved by the Committee.

The above arrangement is subject to audit by the Government Audit Department.

The document will be revised when and where necessary.

9 その他収集資料（申込書）

ANNEX 1: **APPLICATION FORM FOR SOLAR ELECTRIFICATION PROJECT**

Name of Community	<input type="text"/>
District	<input type="text"/>
Date	<input type="text"/>

Minister of Land Survey and Natural Resources

Office of Land Survey and Natural Resources

P.O.Box 5

Nuku'alofa

Honorable Minister,

I would like to apply for a solar electrification project. Details below are information about my commitment and willingness to be part of this project.

Do you agree to install solar power system to your house	Yes/ No
Owner of the house	Personal/ Group
If group please state group Name	<input type="text"/>
Number of lights you want to install	<input type="text"/>
Do you agree to obey and follow all regulation and requirement of the project	Yes/ No

Signature of the Applicant:

契約書

ANNEX 1: APPLICATION FORM FOR SOLAR ELECTRIFICATION PROJECT

Name of Community

District

Date

Minister of Land Survey and Natural Resources

Office of Land Survey and Natural Resources

P.O.Box 5

Nuku'alofa

Honorable Minister,

I am seek in your approval to include my/our [House/ Town Hall/ Group Hall/ Chapel/ School] in the PROJECT FOR INTRODUCTION OF CLEAN ENERGY BY SOLAR HOME SYSTEM IN THE KINGDOM OF TONGA. I am residing in the community of of district. I would like to have in the house.

I would like to declare in this letter that I will abide and follow the regulation and requirement of the project and also allow the project holder to install the solar system on my house.

Signature of the Applicant: _____

To be filled out by the Town Officer

I would like to declare that this house is occupy permanently and is pass to be part of this electrification project.

Town Officer Signature: _____

For Office Use Only

Applicant Number: _____

Account Number: _____

Total Amount of Installation Fee: _____

Has Installation Fee Paid in Full: _____

財務関連

HA'APAI SOLAR ELECTRICITY COMMITTEE INCORPORATED (HSEC Inc.)

FINANCIAL PROCEDURE

(for HSEC Inc. Office Manager Trainee)

1. Expenditure

All budget item must be disbursed in accordance with the approved items and within the approved amount.

(1.02) The Trustees (1. Ha'apai Sub-Treasurer, 2. Secretary for Lands, Survey and Natural Resources, 3. Energy Planner, 4. Fotuha'a Town Officer) must approved any requests for virements and increase of budget items.

2. Reserve Fund

(2.01) The Reserve Fund (Term Deposit # 20001 08882 – note : subject to change), shall cover costs only for replacement, repair or upgrade of the solar components of the HSEC.

(2.02) No withdrawal shall be made from the account unless the Committee grants approval.

(2.03) The Fund shall not cover costs for individual purchases of solar home system (SHS).

(2.04) 60% of the annual electricity fee shall be deposited to the Reserve Fund.

3. Bank Accounts

(3.01) Saving Accounts (One way Account)

All Committee Revenues shall be deposited to the saving account.

Withdrawal from this account shall be made only once every year, which is the annual budget approved. The Committee must approve any request for any other withdrawal.

(3.02) Cheque Accounts

Refer to "5.

4. Purchases

(4.01) Purchases of PV items costing \$500.00 and over will require competitive quotes of three or more suppliers.

(4.02) Officer in Charge of the HSEC Inc. Office must obtain approval from the Energy Planner to Tender for equipment and subsequently purchase any item(s) for the project.

(4.03) An Order Book must be maintained which shall record all purchases.

5. Payment

(5.01) All "Order for Supplies" shall be signed by the HSEC Inc. Office Manager Trainee.

(5.02) A voucher shall be processed on every expenses such as wages etc. and shall be signed by either Chairperson or his Deputy or the Sub-Treasurer, Ha'apai Treasury Department.

(5.03) All payment shall be made in cheque only.

(5.04) Cheques shall be countersigned by the Principal Surveyor or Sub-Treasurer Ha'apai or the HSEC Inc. Secretary/Treasurer.

6. Wages

(6.01) The island technicians' monthly wages shall start paying out every last working day of the month.

(6.02) The HSEC Inc. Office Manager Trainee's wages shall be paid out every Friday. Timesheet shall be signed and presented by the Trainee together with the payment voucher for signing. Refer to (4.02) above.

7. Cash

(7.01) There shall be no petty cash

8. Revenue

(8.01) All revenue collected shall be deposited at the bank no later than 24 hours from the date of receipt.

(8.02) A cashbook, which records payment to the account, must be maintained.

9. Reporting

(9.01) At the end of the month, a report shall be submitted to the Energy Planning Unit. All supporting document must be submitted with the reports.

Note :

This guideline outlines the terms and conditions for managing the financial resources of the HSEC Inc. electrification program and to which must be adhered closely to ensure that the program is sustainable. The terms and conditions outlined in this document were adopted from the approved HSEC Inc. constitutions and further revised in July 2003 by the Secretary/Treasurer and approved by the Deputy Chairperson as well as the Energy Planning Unit.

The above arrangement is subject to audit by the Government Audit Department.

The document will be revised when and where necessary.

Prepared By :.....

Sefana