

# ***ASIAN DEVELOPMENT BANK***



## ***SAMOA WATER AUTHORITY***

### ***Development of a Strategy for PSP in Small Scale Water Sector Projects***

### ***Focusing on the Samoa Sanitation and Drainage Project (SAM 28314-01)***

**March 2004**

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***ADB TA No. 6031***

***Promoting Effective Water Management Policies & Practices***

## ABBREVIATIONS

ADB	Asia Development Bank
CSO	Community Service Obligations
EMT	Executive Management Team
GoS	Government of Samoa
IA	SSDP Implementing Agency
MD	SWA Managing Director
OMM	Operations Maintenance and Management
PD	Position Description
PIA/CB	Project Implementation Assistance and Capacity Building consultancy recruited under the SSDP.
PMU	Project Management Unit, SSDP
PSP	Private Sector Participation
SNA	Special Needs Area
SSDP	Samoa Sanitation and Drainage Project
SWA	Samoa Water Authority
ToR	Terms of Reference
WWTP	Waste Water Treatment Plant

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## INTRODUCTION and BACKGROUND

Apia is the capital of Samoa and is its population and economic center. As a result of inadequate sanitation and drainage management systems, near shore marine water and urban stream water quality in the Apia area has been significantly degraded

The GoS has recognized the need to address Apia's wastewater management, sanitation and drainage issues and has secured a loan from the ADB to fund the Samoa Sanitation and Drainage Project (SAM 28314-01), which is expected to commence in mid 2004.

The Sanitation component of the Project consists of 2 infrastructure developments. Firstly, a reticulated sewerage system will be constructed to service commercial and government properties in the Central Business Area. Secondly, the rehabilitation of on-site treatment systems for approximately 500 domestic properties in the vulnerable low-lying areas of Apia will be followed by an ongoing septic tank maintenance program for the whole of Apia. Details of the proposed project (the Project) are summarised in [Appendix 1](#).

The Samoa Water Authority (SWA) has been designated as the implementing agency (IA) for the Sanitation component of the Project. The current SWA business activities are limited to the management of water supply to approximately 16,000 customers across Samoa. Currently, PSP in the water sector is limited to small maintenance contracts (eg compound maintenance), while some village water supplies are community managed, without SWA input. Both utility managed sanitation systems and extensive PSP are new concepts for the Samoan water sector.

Recognising this fact, the GoS requested assistance from ADB help SWA to develop a sustainable strategy for the management of the new schemes that maximizes private sector participation (PSP).

The Terms of Reference for this assistance are detailed in the ADB TA 6031 (Pilot Demonstration Activity – Establishment of SWA Wastewater Division and Associated PSP Enabling Conditions)<sup>1</sup>. The relevant reference to the activity documented in this report states:

*Activity 1 - “Development of a Management Strategy for the new scheme, with a particular focus on private sector participation. This component would include a survey and assessment of capacity and willingness of private sector organisations to be involved in the management of sanitation and small scale centralised wastewater management schemes”*

*Activity 12 – “The consultant will also prepare a brief summary of work undertaken and prospects for PSP in small-scale water sector projects and water sector management”*

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<sup>1</sup> A separate report details inputs and outputs on Activities 2 to 11 of the TA 6031

## METHODOLOGY

There are several opportunities for Private Sector Participation in the SSDP, including design, construction and ongoing Operation, Maintenance and Management (OMM) of the sanitation schemes. This report focuses on PSP opportunities in OMM only as PSP in design and construction is anticipated through international competitive bidding.

The methodology adopted to address Activities 1 and 12 in the ToR can be broadly summarised as follows:

1. Review of international literature and guidelines on PSP models commonly used in water sector projects (see References and [Appendix 2](#))
2. Facilitate workshops and awareness sessions with SWA Management to review PSP options for the 2 Sanitation schemes to be implemented under the Project (see [Appendix 3](#))
3. Interview local consultants, contractors and Chamber of Commerce Representatives to assess their capacity and willingness to be involved in the management of small scale sanitation schemes (see [Appendix 4](#))
4. Develop a Management Strategy to outsource Operations Maintenance and Management (OMM) of the 2 sanitation schemes
5. Incorporate a PSP focus into the ToR for Consulting services on the SSDP
6. Develop a new SWA organisational structure to include a Sanitation Division with a strong PSP focus (see [Appendix 6](#))
7. Development of Position Descriptions for the new Sanitation Division staff members. (Available from SWA on request)
8. Project awareness sessions for Chamber of Commerce and relevant community groups (see [Appendix 5](#))
9. Report Preparation

The objective of this process was to develop a strategy to augment SWA's sanitation management skills through partnerships with the private sector.

## OUTPUTS AND OUTCOMES

Very early in the SSDP design process, SWA Executive Management team (EMT) recognised that the Project presented a unique opportunity for augmenting its management and technical skills via the private sector. However, SWA EMT indicated that regardless of the PSP strategy adopted, SWA would retain ownership of the assets upon commissioning.

A review of international literature on possible models for PSP revealed a range of options from basic service contracts, Management contracts, through to leases, Concessions, BOT/BOOS schemes and Divesture models. See [Appendix 2](#) for further discussion on options.

Given the SWA requirement for asset ownership, several management options were ruled out and 3 final options presented to management for consideration during and a series of workshops and meetings in July and August 2003 (see [Appendix 3](#) for example of workshop notes and [Appendix 5](#) for a summary of key consultations).

The management strategies for the 2 sanitation schemes considered were shortlisted to 3 options:

- Option 1 – OMM in-house (new SWA Division with no private sector participation in management of the schemes)
- Option 2 – Partially managed in House and partially outsourced (ie a service contract to outsource OMM of Treatment Plant only)
- Option 3 – OMM outsourced ( through management contract)

Following lengthy discussions, the SWA EMT adopted Option 3 as the management strategy for both the septic tank pump out scheme and the CBA scheme.

A review of the willingness and capability of local private sector firms to participate in the PSP Management Strategy was carried out. This survey revealed several important points.

- Samoa has two well established septic tank pump-out businesses operating on both Upolu and Savai'i. Both firms indicated a willingness and capacity to tender for pump outs of a septic pump out scheme.
- Samoa has a range of design and construction firms with the capability to design and build the sanitation systems through Joint Venture arrangements with international firms.

- Samoa has never before experienced the benefits of a centrally managed sanitation schemes and Samoa “lacks skills in the plumbing area, especially sanitation plumbing”<sup>2</sup>.
- Samoa has no wastewater treatment plant OMM skills in the public sector and private sector capabilities are limited to small package WWTP’s which are operated to varying degrees of efficiency.

Given background information on the management strategies available and local capacity, SWA have developed a Management Strategy for OMM of the 2 sanitation schemes, as summarised below.

### **1. OMM of Septic Pump-out Scheme.**

Upon upgrade of the septic tanks in the low-lying areas, SWA will tender contracts for the regular pump-out of septic tanks in the Apia region by using existing private sector operators. Revenue for the pump outs will be sourced through an “environmental” tariff applied to all water consumers in the Apia urban area.

### **2. CBA Reticulated Sewerage Scheme and WWTP**

The CBA scheme tendered for construction using a Design, Build and Operate contract, where the “Operate” component of the contract is a Management Contract for 5 years after commissioning. SWA will retain ownership of the assets, will be responsible for revenue collection through the existing water billing system, be responsible for OMM contract management and compliance monitoring, be responsible for capital investment, and retain the commercial risk. The OMM contractor will be paid an agreed monthly fee to cover all OMM costs including electricity costs, repairs and responding to customer complaints of a technical nature. The Contractor will also be responsible for ensuring the system meets environmental requirements. The DBO contract documents will stipulate that at least 1 international staff member is retained for the OMM contract to ensure the system is operated and maintained according to design requirements. This DBO approach also gives SWA the security that the system will be fully operational at the commissioning phase, a situation which has not been achieved in the past on some donor funded water supply projects.

This approach to the 2 schemes was subsequently included in the project design, project cost estimates, the PIA/CB consultants ToR and the new SWA Organisational Structure and Sanitation Division Position Descriptions.

In summary the outputs and achievements of this TA can be listed as follows:

1. Development of an appropriate and sustainable Management Strategy for OMM of the new sanitation schemes that promotes PSP.
2. Strong SWA ownership and support for the PSP approach to ongoing management of sanitation systems.

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<sup>2</sup> John Boyle, Executive Secretary Samoa Chamber of Commerce

3. Community and Government awareness of the proposed sanitation systems and management strategies
4. Revised SWA organisational structure to incorporate a Sanitation Division
5. SWA Sanitation Division Position Descriptions (PD's) that focus on management of outsourcing contracts
6. SWA Board approval of the management strategy, organisational restructure, and Sanitation Division staff PD's at its meeting on 26<sup>th</sup> February 2004.

## CHALLENGES FOR PSP IN SAMOAN WATER SECTOR

The SWA now have the mechanisms in place for developing a PSP through management contracts into the Private Sector. However the process of detailed design and implementation of the PSP will determine whether or not the initiative succeeds. This process has two objectives:

- Finalise the details for the best possible arrangement for local needs and local circumstances and
- To find a suitable private sector partner for the arrangement and obtain the best possible offer from that partner.

The SWA has invested considerable effort towards selecting the best possible PSP arrangement and identified a process to select the best private sector partner however considerable detail is still required. In order the PSP strategy in Sanitation to be successful, there are several areas that must be addressed prior to letting contracts and commissioning of the schemes

1. Policy Formulation
2. Technical Analysis
3. Legal and regulatory reform
4. Public Relations
5. Human resources<sup>3</sup>

The PIA/CB Consultancy under the ADB Loan Funded SSDP (SAM 28314-01) is tasked with addressing items 2, 4 and 5 above. The ADB TA which piggybacks the loan (SAM 28314-02) is tasked with addressing items 1 and 3 above. While these processes are identified and addressed in the project design, it is important that SWA remain an active participant in the process to ensure the solutions adopted are appropriate to local needs and local circumstances.

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<sup>3</sup> Details on each area can be sourced from the "World Bank Toolkit # 2 (1997) – Designing and Implementing and Option for Private Sector Participation"

## PROSPECTS FOR PSP IN SMALL SCALE WATER SECTOR PROJECTS

The decision by SWA to introduce PSP (using Management Contracts) into the water/sanitation sector has the main objective of bringing technical and managerial expertise to manage technology and systems that are new to the country. Other reasons for adopting PSP on future Water Sector projects in Samoa or the Pacific region may include one or more of the following<sup>4</sup>:

- Insulate the sector from short-term political intervention in utility operations and limit opportunities for intervention by powerful special interest groups
- Improve economic efficiency in the sector in both operating performance and the use of capital investment
- Reduce public subsidies to the sector or redirect them from groups now served to those not served and the poor

The introduction of management contracts to OMM of new water sector systems in small island nations, particularly donor funded projects is a unique opportunity to develop the sector. Several key lessons from the SWA experience should be considered during the design process:

- If technical and management expertise is unavailable locally in either the public or private sector, then the OMM contract and the cost recovery mechanism should include a provision for sourcing expertise internationally
- DBO Contracts are an opportunity to ensure the construction leads smoothly to service delivery and therefore revenue collection, a situation which has not been achieved in the past on some donor funded water supply projects in Samoa.
- Political support and understanding of PSP arrangements is essential
- Appropriate policy, legislation and regulations are essential to successful projects.
- Wide community consultation on the proposed project is essential

## CONCLUSION

The SWA has identified a management strategy for the new Sanitation systems being developed under the SSDP. The strategy has a strong PSP focus which is both appropriate and sustainable in a small island context and will allow SWA to source technical and management expertise from both the local and international private sector. The SWA has also set processes in place to ensure both the successful

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<sup>4</sup> World bank Toolkit # 1 (1997) – Selecting an Option for Private Sector Participation

implementation of the SSDP and the sustainable ongoing management of the sanitation schemes. While these processes are now identified and addressed in the project design, it is important that SWA remain an active participant in the process to ensure the solutions adopted are appropriate to local needs and local circumstances.

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## REFERENCES

- World Bank Toolkit # 1(1997) – Selecting an Option for Private Sector Participation
- World Bank Toolkit # 2(1997) – Designing and Implementing an Option for Private Sector Participation
- World Bank Toolkit # 3 (1997) – What a Private Sector Participation Arrangement Should Cover
- New Roles, New Rules: Does PSP Benefit the Poor? - WaterAid and Tearfund (2003) Eric Gutierrez, Belinda Calaguas, Joanne Green, Virginia Roaf.
- The Role of Small Scale Private Water Providers in Serving the Poor: Summary Paper and Recommendations - ADB TA 6031, (200?). Herve Conan (BURGEAP) and Maria Paniagua (ADB)
- A Survey of Theoretical issues on PSP in Water and Sanitation - WaterAID (2001). Eric Gutierrez and PSP Project Team
- Private Sector Development Strategy – ADB (2000)

## APPENDIX 1

### DESCRIPTION OF THE SAMOA SANITATION AND DRAINAGE PROJECT

The overall objective of the Project is to improve the environment and public health in Apia through. (i) improving drainage and sanitation infrastructure and capacity in urban management, (ii) reducing frequency of flooding in specific low lying areas, (iii) improving surface and groundwater quality, and (iv) promoting private sector participation in the provision of urban services. The Project consists of:

#### **Part (A): Drainage**

- i. Rehabilitation of approximately 2,850 meters (m) of floodways in the Fugalei River, Asaga Stream Bypass, and the Gasegase River;
- ii. Rehabilitation of approximately 2,425 m of existing drains;
- iii. Installation of water gauging stations to monitor flood flows and provide data for hydraulic modelling and further drainage design;
- iv. Undertaking topographical and cadastral surveys to establish correct levels in the floodplain and low-lying area; hydraulic modelling of flood flows, design and implementation of the civil works; and
- v. Supply pumps to release floodwaters from constrained drainage ways.

#### **Part (B): Wastewater Management and Sanitation**

- i. Individual System Rehabilitation and Septage Collection and Treatment Program including (a) implementation of operation and maintenance (O&M) program for individual systems; (b) carrying out a approximately 8,000 households; and (d) supply of two 10.0 cubic meters (m<sup>3</sup>) vacuum trucks for such services;
- ii. CBA Wastewater Collection and Treatment System including (a) construction of approximately 2 kilometres (km) of sewers and 1.3 km of rising mains, and (b) design, construction, and operation of a wastewater treatment plant (WWTP) with an average capacity of 950 m<sup>3</sup>/day; and
- iii. SNA Wastewater Treatment including (a) connection of priority SNAs to the CBA collection system; (b) construction of approximately 3 km of sewers and 0.4 km of rising mains to connect this system to the WWTP; and (c) identification and provision of support to additional SNA.

#### **Part (C): Capacity Building**

- iv. Capacity building in technical and management areas through identifying training needs and developing training programs;
- v. Funding of twinning arrangement for SWA with a well-functioning wastewater utility, or similar organization;
- vi. Community awareness programs in the key areas such as (a) need for new infrastructure and new practices, including the environment implications of unsafe sanitation and drainage practices, (b) application of good on-site planning principles and practices for sanitation and drainage, (c) on-site sanitation design, O&M including where to seek technical assistance and advice, (d) the responsibilities of Government, households and individuals in regard to sanitation and drainage, (e) safe wastewater practices; and
- vii. Project implementation assistance

**APPENDIX 2**

**Summary of PSP Options and allocation of key responsibilities under the main private sector participation options<sup>5</sup>**

<b>Option</b>	<b>Asset Ownership</b>	<b>Operations and Maintenance</b>	<b>Capital Investment</b>	<b>Commercial Risk</b>	<b>Duration</b>
<b>1. Service contract</b>	Public	Public and private	Public	Public	1–2 years
<b>2. Management contract</b>	Public	Private	Public	Public	3–5 years
<b>3. Lease</b>	Public	Private	Public	Shared	8–15 years
<b>4. Concession</b>	Public	Private	Private	Private	25–30 years
<b>5. BOT/BOO</b>	Public and Private	Private	Private	Private	20–30 years
<b>6. Divestiture</b>	Public or Private and Public	Private	Private	Private	Indefinite (may be limited by license)

*Note: SWA have adopted Option 2 – Management Contract for PSP in the Sanitation systems*

<sup>5</sup> World Bank Toolkit # 1 – Selecting and Option for Private Sector Participation

### APPENDIX 3

#### Example SWA Management Strategy Workshop Notes

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#### SDSP – Workshop Notes 30<sup>th</sup> July 2003

### Management Structure for Sanitation Component

This document summarises the proposed strategy for SWA management of the sanitation schemes, the risks associated with each strategy and any outstanding issues or questions. SWA have endorsed Private Sector Participation (outsourcing) as the preferred model for both the CBA scheme and Individual systems scheme.

#### 1. Management Strategy, CBA scheme

Design Build Operate (DBO) contract with 1 year commissioning phase and 5 year performance based OMM contract.

One contract would be let out for design, construction, commissioning and operation of new scheme to one successful international contractor in partnership with a local contractor. Under the contract, the contractor would conduct:

- Design & construction
- Commissioning phase (1 year )
- 5 year OMM following commissioning which would include: -
  - capacity building of local contractor partner during this phase
  - operation and maintenance performance measures clearly defined in contract
  - possible revenue sharing options to be explored
  - contractor is entirely separate from SWA with own premises, staff, vehicles, equipment and customer service mechanism.
  -

#### SWA responsibilities would be:

- managing this OMM contract portion of entire contract (Contract Engineer, technicians admin etc)
  - ensuring contractor carries out operation & maintenance work according to performance measures stipulated in contract, including effluent quality testing.
- own the assets (TP, pipelines etc)
- setting the tariffs, billing and revenue collection (out of which the contractor would be paid for O&M)
- The contract to allow for price increases due to changing circumstances (eg expansion of system)

**Customer Responsibilities would be:**

- contractor access,
- tariff payment
- payment of initial connection?

<p align="center"><b>Potential Risks to SWA (CBA Scheme)</b></p>	<p align="center"><b>Risk Management Strategy</b></p>
<p>Risk 1. Limited sanitation system skills in Samoan Private Sector.</p>	<p>OMM contract with International Expertise (Manager and STP operator/plumber). Cost ???</p>
<p>Risk 2. Loss of sanitation system expertise when international staff withdrawal at end of 5 year OMM contract.</p>	<p>Specified skills transfer process detailed in OMM contract. eg, Apprentice agreement with Polytechnic, local counterpart firm. Subcontracting of some aspects to encourage SS PSP (eg electrical maintenance, compound maintenance) Cost ???</p>
<p>Risk 3. Low Cost Recovery due to customer unwillingness to pay tariff.</p>	<p>Tariff based on OMM plus SWA overheads / management fee. Debt servicing covered by Govt through general taxation. Customer Surveys and awareness programs</p>
<p>Risk 4. Ineffective regulatory environment</p>	<p>PUMA TA. Performance measures based OMM contract.</p>
<p>Risk 5. Adverse Stakeholder reaction</p>	<p>Stakeholder awareness program.</p>
<p>Risk 6. Stakeholder Pressure to connect additional customers and increase load onto the scheme on pipelines to Special needs areas.</p>	<p>See option below.</p>
<p>Risk 7. OMM Contract failure</p>	<p>Meticulous contract tendering and evaluation process.</p>
<p>Risk 8. Adverse impact of scheme on other SWA business activities</p>	<p>SWA involvement in Capacity Building design. Tariff to cover all increased overhead costs to SWA. SWA Finance Division to revisit O'head costs.</p>

## APPENDIX 4

### Capacity for Private Sector Participation in SSDP

A survey of private sector firms indicates that Samoa has a well established private sector with a strong track record of involvement in implementation of international projects. Samoa also has 2 established septic pump out businesses who indicated they are willing and able to expand their services to meet the objectives of the SSDP. However Samoa has never before experienced the benefits of a centrally managed sanitation schemes and Samoa “lacks skills in the plumbing area, especially sanitation plumbing”<sup>6</sup>.

It was clear from the survey of local businesses and their capabilities that international expertise was required for that implementation and ongoing OMM of the CBA scheme, while local businesses could manage the design, construction and ongoing Operation of the septic pump-out scheme.

#### A. Capacity for Private Sector Participation in Upgrading Individual Sanitation System Scheme

##### 1. Septage Collection and Disposal

In Apia, two companies are currently operating Septic Tank pump out businesses (see below). Both are undergoing business expansion since the MoW ceased operating a septic pump out service for Government Buildings.

Both companies charge around Tala \$150 to pump out a domestic septic tank.

Both companies advised that well built septic tanks in low lying areas require pump outs every 1 or 2 years, while all other areas require pump outs every 3 to 4 years.

Both companies would be interested in tendering for a SWA managed septic tank pump out contract. Company details follow:

##### **Jaffas Sanitary Systems Ltd.**

*Contact:* Afa Fesili

*Phone:* 31037 or 70100

*Located:* Apia (Motoatua'a)

*Equipment:* 3 Vacuum trucks (3.7kL, 6kL and 7.2kL)

*Other:* Can pump from a maximum of 150m from septic tank. Multiple government and private industry contracts. Involved in Tafai'gata anaerobic digester project with SPREP.

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<sup>6</sup> John Boyle, Executive Secretary Samoa Chamber of Commerce

## **Town Area Septic Disposal**

*Contact:* Catherine Faolotoi,

*Phone:* 24874

*Located:* Apia

*Equipment:* 4 Vacuum trucks

*Other:* Multiple government and private industry contracts

### **2. Rehabilitation of Septic Tanks**

Numerous companies available to tender for septic tank rehabilitation, most associated with the building industry. Engineering and environmental standards for septic tank construction are needed before tendering could be considered. Numerous Engineering companies could be considered for septic tank inspection and rehabilitation phase of the contract. See page 2 for a list of companies for each category.

## **B. Capacity for Private Sector Participation in CBA Sanitation Scheme**

The preferred management model by SWA is a DBO contract with a 1 year commissioning phase and 5 year OMM contract phase (SWA retain asset ownership). Notes on potential for local private sector involvement in three phases of the contract follow:

### **1. Design Contract**

Based on recent design projects outsourced by SWA, Samoa has a limited skills base in the sanitation design area. The design phase would require an international / local partnership. The project would have to decide on adopting design standards from a similar country before the design process could commence.

The list of Engineering Consulting firms below have responded to tenders for SWA work in the past and have all expressed an interest in tendering for design work on the sanitation project. All companies could also offer staff for the local counterpart on the project management component.

### **Engineering Consulting Firms**

- IPA Engineering and Management Consultants. Contact Isikuki Punivalu & Associates Ltd. Phone 20842, Fax 20843
- Kew Consultants. Contact Latu Kupa. Ph 28886 mobile 71300
- Kramer Group. Contact Jason Goddard, ph 20252, fax 30355
- OSM Consultants. Contact Sebastian Mariner ph/fax 26605 or mobile 70515
- PPG Consultants. Contact Philip Wendt. ph/fax 30505, mobile 70870
- Tinai Gordon & Associate. Contact Tom Tinai ph 22906 fax 22913

## **2. Construction and OMM Phase**

Samoa is well equipped with competent engineering firms with extensive experience in major construction projects, including JV projects with international firms.

### **Engineering Firms**

- Ott McConnell Dowell , contact Rudy Ott phone 21608
- Silva Transport Co Ltd Contact Sala Leslie Silva, phone 23211/20682
- Fletchers Construction. Contact Mark Anderson, phone 23433
- PLT Consult. Contact Ufi Tone. Phone 20109
- Mac.Build Construction Ltd. Contact Collin McCarthy (Matautu) 20682
- Bluebird Construction Contact Henry Ah Liki (Vaimea) phone 21629

All these firms have contact with international construction firms and have expressed a willingness to be involved in the design and ongoing operation of a reticulated sewerage scheme with treatment plant. However it is clear that international expertise would be required to OMM the CBA sewerage scheme

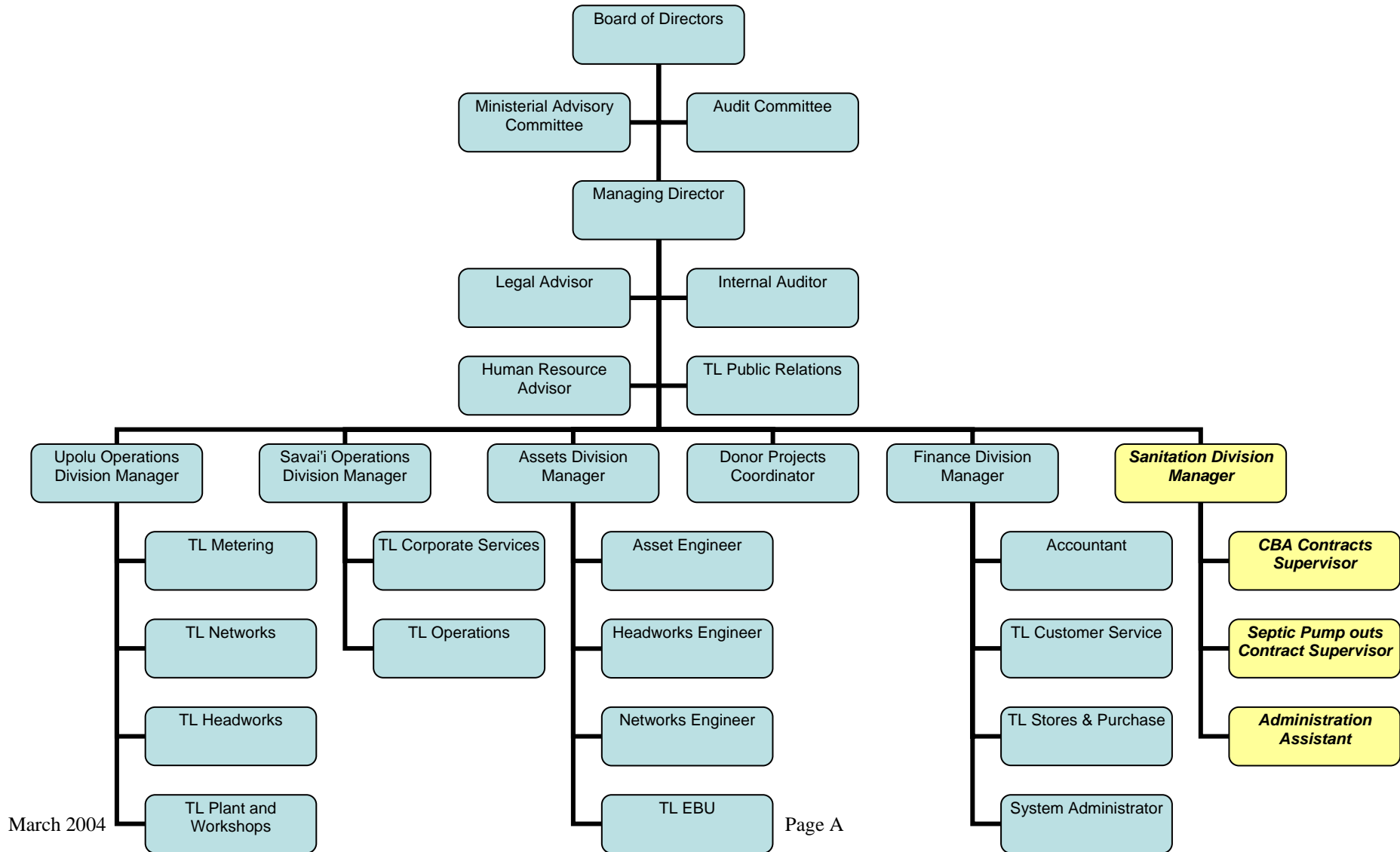
**APPENDIX 5**

**Summary of Key Meetings, Workshops and Awareness Sessions for Project Stakeholders with regard to development of a management strategy**

<b>DATE</b>	<b>SESSION</b>	<b>OUTCOME</b>	<b>ATTENDEES</b>
17 <sup>th</sup> July 2003	Workshop	Presentation of Options for management of Sanitation Systems	EMT, ADB consultant
28 <sup>th</sup> July 2003	Meeting	Detailed discussions with MD on SSDP and Management Options	Managing Director, ADB consultant
30 <sup>th</sup> July 2003	Workshop	SWA Decision on appropriate Management Strategy with PSP. (See <a href="#">Appendix 3</a> )	EMT, ADB consultant
8 <sup>th</sup> July to 12 <sup>th</sup> August 2003	Series of meetings on Divisional and Corporate Planning for SSDP	Inclusion of SSDP in Divisional Plans and Corporate Plan	EMT, ADB consultant
July and August 2003	Series of meetings with private industry	Survey of Capacity and willingness of Private Sector for involvement in SSDP	Chamber of Commerce, private consultants, construction contractors, ADB consultant.
8 <sup>th</sup> August 2003	Meeting	Finalise Sanitation System management Strategies	EMT, ADB consultant
29 <sup>th</sup> and 30 <sup>th</sup> August 2003	Field Visit to American Samoa Power Authority (ASPA)	Review of Sanitation Management	SWA MD, donor projects Co-ordinator, Design engineer, ADB consultant
1 <sup>st</sup> September to 12 <sup>th</sup> September	Series of meetings during ADB field mission	Project fine tuning (Scope, Financial, tariffs, community awareness)	SWA, ADB Staff, ADB Consultants, Chamber of Commerce

**APPENDIX 6**

**Revised SWA organisational Structure**



March 2004