

Water Supply and Sanitation

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A. Introduction

The Water and Sanitation Services (WSS) initiated under the United Nations Transitional Administration in East Timor (UNTAET) has been established and is now in operation. It has a total of 153 local staff out of an approved staffing limit of 174. Of these staff, approximately 130 are engaged in urban water supply provision, and approximately 65 of these staff are involved directly in providing water supply services outside Dili. In addition, 16 international staff (UNTAET, United Nations Volunteers, donor-funded) are assisting in capacity-building, planning and management activities. WSS will still require significant assistance and capacity-building efforts to undertake its broad responsibilities and extensive future developmental needs in the water sector. As part of its responsibilities WSS is also playing a key coordination role with the Trust Fund for East Timor (TFET)/bilaterals/NGOs in developing water resources, and in providing water supply and sanitation services. The annex shows the implementation schedule of water supply and sanitation projects.

B. An Overview of the Current Status

1. Urban Water Supply

Under the current TFET program the urban water supply system is expected to be rehabilitated to the levels prior to the independence struggle. However, this level of services is considered poor in terms of planning, design, and operation and maintenance. During the pre-crisis era most supplies were intermittent, pressures low, and water leakages high.

Prior to the crisis, service coverage was 39% in district capitals and 29% in sub-district towns. The average access to piped water supply was limited to only 13%. In Dili, it is estimated that there were 17,000 house connections and some 270 public water stands. In other urban areas, the unserved population made extensive use of private shallow wells by choice rather than pay for a low level of water supply service. It was estimated that only 48% of the total population of East Timor had some form of access to "safe" water. With TFET and other donor assistance, there has been significant progress in rehabilitating these services with emergency system repairs. The public water supply systems in each of the district capitals are generally being restored.

While the emergency phase and subsequent activities have made considerable progress towards rehabilitation, the service coverage and service delivery standards that

previously existed were poor (48%). A significant investment in urban and rural water supply systems is therefore still required to improve the levels of service.

2. Rural Water Supply

The coverage of rural areas with water and sanitation facilities was limited to 38% and 35%, respectively.

Postreferendum, the availability of usable water and sanitation facilities at village household level was further reduced to about 10% and 5%, respectively. No detailed inventory of the present facilities currently exists. WSS has established a Community Water Supply and Sanitation Division to reestablish a service to the rural population. Due to fund constraints, activities are very limited. The Division is working closely with a UNICEF Project to provide basic assistance to small rural communities through NGO support. The TFET's WSSRP-Ph. 1 has undertaken intensive community awareness and community participation in managing water use. Box 1 shows the Asian Development Bank's (ADB) experience in undertaking water supply projects through participatory process.

3. Sanitation

Before September 1999, approximately 35,000 of the 130,000 population (27%) in Dili was served by a garbage collection service. The pumping out of septic tanks was only on a request basis. There was no formal place to dump septage and so this was disposed of on vacant land.

4. Solid Waste

The increasing population in Dili is providing a significant challenge to solid waste disposal efforts. While a solid waste disposal site existed in Dili, the collection system was grossly inadequate and there was indiscriminate dumping of wastes in drains and on sidewalks. Significant quantities of waste were disposed of by burning. Most plants and equipment were destroyed and needed rehabilitation. Septic tanks pump out for private houses had all but ceased. The community and institutional systems for collection and disposal are no longer operational.

The WSS has reestablished a Sanitation Division that currently provides a reduced level of urban sanitation services. Due to staff restrictions, the Division has contracted out limited household waste collection service and is now managing the Tibar waste disposal site. The WS&S Project, Phase 2, will undertake solid waste disposal works and will attempt to undertake urgent drainage improvements. Further assistance is still required in the regulation and control of household drainage and septic tanks. Rebuilding the capacity of the local private sector to provide low cost sanitation services is essential. In 2002/2003, WSS has targeted to provide essential, solid waste disposal service to at least 80% of Dili residents.

Box 1: Participation: Making a Difference

Participation is the centerpiece of any water service endeavor. The most successful experiences in water use are based on involving the people who consume the water. Excluding them from participation has tended to make solutions to sustainability elusive.

In Nepal, ADB financed rural water supply projects in the 1980s where gravity-fed village water supply schemes were built by the Department of Water Supply and Sewerage and handed over to communities for operation and maintenance. Many of the schemes were not taken over by communities. They had not been consulted about their requirements, not involved in subproject design, and excluded from sharing in the costs of implementation. Subsequent projects developed community awareness and promoted active community participation in rural water supply and hygiene sanitation schemes. Water users' associations were established and communities decided how much water they needed, what they were willing to pay for, and how they would manage the facilities.

In irrigation and rural development projects, water users' associations have typically improved equity in water distribution, resolved water disputes, collected water charges, and maintained tertiary networks. In some cases they have also successfully taken over ownership of small-scale irrigation schemes. Nepal, Pakistan, and Philippines have particularly good examples of developing participatory approaches to operation and maintenance through farmer-managed irrigation schemes. A 1995 ADB postevaluation report found that poverty levels in such schemes were considerably lower in project areas in Nepal than elsewhere.

In Pakistan, an evaluation (September 1998) of the ADB-financed Second On-Farm Water Management Project showed that participatory on-farm drainage was extremely effective but was not sustained by complementary maintenance of the main drainage systems.

The efficacy of cooperative approaches was demonstrated yet again in Indonesia under the ADB-financed Irrigated Command Area Development Project (postevaluated in May 1998) where water users' associations were significantly strengthened, and contributed to equitable water allocation and improved system maintenance.

5. Drainage

The drainage systems in most towns including the Dili drainage system has been poorly maintained and consists of poorly designed and constructed drains. There are significant solid waste and silt deposits that cause a reduction in drain cross-section. This is further aggravated by broken roadside entry pits, and broken or missing drain covers. The drains have become fertile breeding grounds for vermin and insects and are a significant health hazard. The lack of maintenance combined with poor design and construction cause flooding during the wet season. A master plan for a drainage system

for Dili was prepared in 1995 but has not been implemented. Further funding will be required to improve drainage in all towns including Dili.

6. Water Resource Management

The water resources require urgent assessment, protection, and a system of allocation to the various users (water supply, irrigation, environmental requirements, and possibly hydropower generation) to ensure most efficient and economic use of the limited resource. The water resource sector suffered significant losses including all records, equipment, and staff.

The TFET-funded WS&S Project (Phase I) has prepared a water resource management policy and legislation. WSS has established a Water Resource Division to facilitate and assist the assessment, allocation, and protection of East Timor's surface and underground water resources; however, the division's capacity is limited. Box 2 shows the lessons learned by ADB from water supply projects.

C. Current Constraints and Recommendations

Constraint	Recommendation
<ul style="list-style-type: none"> • Lack of effective water supply and sanitation services management • Lack of tariff policy and regulatory framework • Low service coverage • Lack of resources and capacity among stakeholders • Lack of funding 	<ul style="list-style-type: none"> • Formulate and implement institutional, policy, and legal framework • Formulate and implement water and sanitation services legislation • Formulate appropriate tariff policy and implement the tariff system • Improve service levels and reliability of water supply and sanitation services • Install new connections based on demand and system capacity • Promote awareness and capacity building in all related programs • Seek donor assistance to finance capital works and capacity building

Box 2: Lessons Learned by ADB from investments in the Water Sector

- There is a need to move rapidly from disaggregated water sector investments aimed at primarily creating assets to an era of holistic, integrated investments to promote efficient water use.
- Investments in water supply and sanitation, flood control, irrigation and drainage and watershed management should be set in the context of managing water resources within river basins.
- The creation of assets in each subsector, and water use within that sector has impacts on other sectors that need to be factored into investment decisions to optimize project designs.
- Competition for use of dwindling water resource requires support for the development of an effective legislative framework that gives users rights to water and mechanism for dispute resolution.
- There is a need to promote efficiencies in water use by supporting demand management, including water pricing.
- The poor need to be targeted for equitable and rapid access to water.
- Communities need to be empowered, educated, and involved in the process of water management.
- Capacities need to be sustainably built to manage water use more efficiently.

D. Sector Policies and Legislative Framework

Following are the recommendations for the policy and legislative framework of the water supply and sanitation sector of East Timor.

- (i) Improve access to water and sanitation services for public health, environmental protection and promotion of economic growth;
- (ii) Promote public-private-community/NGO participation in restoring water and sanitation services;
- (iii) Provide, operate, and maintain water supplies to Dili and district towns and for rural communities;
- (iv) Improve regulations and increase public awareness to foster water conservation and management;
- (v) Review charges to recover costs for water supply and sanitation services;
- (vi) Promote ownership for community-based water management; and
- (vii) Establish a national water management authority to promote a national focus on the water sector.

E. Proposed National Water Supply and Sanitation Services Development Plan

Vision:

To ensure the East Timorese have access to water supply and sanitation services, which is essential for health, environmental protection, and economic growth.

Goals:

- (i) Establish and maintain a WSS department responsible for management and operation of WSS services in East Timor.
- (ii) Coordinate with other agencies including district administrations and communities to ensure efficient delivery of services.
- (iii) Involve the private sector for cost-effective delivery of services.
- (iv) Inculcate ownership at all levels and promote equity between regions, urban, and rural communities.
- (v) Protect the natural environment from all forms of degradation and pollution of water bodies.

F. Medium- to Long-Term Strategy

- (i) Develop/implement strategies for institutional development including policies and legal frameworks for water resource management and urban sanitation.
 - (ii) Improve planning and management of water supply systems through preparation of asset databases and regular master plan reviews.
 - (iii) Develop best practice strategies for community participation. Facilitate, support, and implement the community water supply and sanitation programs.
 - (iv) Rehabilitate and augment Dili and district town water supply systems, and establish water tariff policies.
 - (v) Implement water supply operation and maintenance (O&M) improvement programs including new connections, reduction of unaccounted-for water, and minimize unauthorized connections in Dili and district towns.
 - (vi) Implement improvements to urban sanitation (including solid waste, wastewater, and drainage) in Dili and district towns.
 - (vii) Implement IEC programs and consultations to ensure that communities are informed and contribute to WSS activities.
 - (viii) Ensure effective donor coordination to maximize the contribution of donor activities to the strategic plan and programs.
 - (ix) Promote and support the involvement of the private sector and NGOs in water supply and sanitation activities—for development and O&M.
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