Water Supply and Sanitation Sector

A. Sector Profile

Introduction

In September 1999, East Timor experienced extensive destruction. The widespread destruction included looting, burning, and damage to town and village water supply and sanitation (WS&S) facilities throughout the country. Typically in towns with public water supply systems, vehicles, pumps, and motors were removed; water treatment plants damaged; offices, stores, and other buildings burned; pipelines, tools, and spare parts stolen; storage tanks ruptured; latrines and septic tanks damaged; and water sources impaired. And with the burning houses, water connections, including meters, were completely destroyed.

Prior to the crisis, the public water supply network covered the 13 district towns and 49 of the 63 subdistrict towns. All 440 rural villages had water supply of varying types but most were of low standard and were badly maintained. Sanitation systems and solid waste management were generally lacking or in poor condition throughout the country.

B. Status of the Water Supply and Sanitation Sector

1. Institutional Arrangements

The Water and Sanitation Service (WSS) of the United Nations Transitional Administration in East Timor (UNTAET) has been established and is now in operation. It has appointed staff in all districts, is managing 13 public water supply systems in Dili and in the other district capitals, and through the approved Project and other donor support has commenced the essential policy development and institution building required to develop its capacity to deliver WS&S services. Under its strategic plan WSS will assume broad responsibilities for the delivery of WS&S services including water policy/water resource management, solid waste, and drainage.

However, WSS is a new agency that is being built from scratch including its staffing, institutional infrastructure, policies and legislation, and operations and management (O&M) systems. It requires significant capacity building and is also constrained in undertaking broader responsibilities because of human resource capacity and capability constraints. Sector rehabilitation activities are being undertaken in an evolving institutional and policy environment and significant resource constraint in all areas of WSS.

WSS will play a key role in the coordination of the wide range of donor activities for the sector but there is a need for flexibility in planning and implementation in the developing institutional environment.

2. Water Supply

Prior to referendum, the quality of the public water supply systems was problematic with many of them poorly planned, designed, and operated. Typically deficiencies included low service coverage, poor maintenance, high levels of unaccounted for water, intermittent supply, inappropriate treatment systems, poor water quality particularly from surface water sources during the wet season, and frequent failure due to flood and landslide damage to transmission pipelines. Service coverage[1] in the piped systems was low (39 percent in district capitals and 29 percent in subdistrict towns). In the urban areas extensive use was made of private shallow wells in Dili and other towns.

In the villages and rural areas not served by public water supply systems there were extensive community owned and operated piped systems and water from small springs or streams.

Extensive use was also made of shallow wells in villages and rural areas, especially those near the sea or on river plains. It was estimated that 48 percent of the total population of East Timor had access to safe water.[2]

The key impacts of the violence on water supply may be summarized as follows.

(i) The institutions responsible for water supply O&M ceased to exist after the Indonesian withdrawal.

(ii) The institutional infrastructure including buildings and other assets, technical and financial records, vehicles, tools, and equipment were either stolen or destroyed.

(iii) Consumer connections were generally destroyed along with the widespread destruction of the houses that they served.

(iv) The large numbers of displaced persons who moved into the urban areas, particularly in Dili, caused further damage when they attempted to access water supply through illegal connection and physical damage to pipes.

(v) Damage to major installations, such as treatment plants, was limited. Some bores were destroyed with pumps and/or removal of electrical switchboards and in some instances the bore casings were filled with rocks.

(vi) Power supply was damaged and this has impacted on the pumped systems, causing significant problems especially in the early period after the Indonesian withdrawal. Anecdotal information indicates that damage to rural water supply was not extensive.

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[1] Service coverage is defined as the percentage of the population receiving water supply services within the service area of the piped network.

[2] UNDP Common Country Assessment; DiKesTk. I; Health Profile, 1998.

Since the destruction of September 1999 there has been significant progress with both emergency system repairs and with the planning for more substantial rehabilitation and augmentation. The public water supply systems in each of the district capitals are operating and providing water supply of equivalent or better standard than previously existed.

However, the service coverage and the standards of service delivery that previously existed were poor (48 percent estimated compared with 73 percent in Indonesia as a whole). While the emergency phase and subsequent activities have made considerable progress towards rehabilitation and repair of the immediate damage caused by the civil strife, a significant investment in additional improvements in both urban and rural water supply systems is required to extend the coverage to an acceptable level and to improve the service.

3. Sanitation

Sanitation coverage before referendum was estimated at 38 percent. As a consequence of the destruction of houses and the displacement of residents, there has been a decrease in access to higher order sanitation systems in the urban areas. The damage to water supply has also impacted on water availability and sanitation. Anecdotal evidence indicates that there has been a limited impact on sanitation systems in rural areas. Some facilities have been implemented, particularly in Dili, to accommodate the additional demands created by the influx of UNTAET and UN Peacekeeping Forces personnel.

While the initial emergency phase rehabilitation activities focused on water supply, donors and nongovernment organizations (NGOs) are now expanding their activities incorporating integrated programs for WS&S, which include community education and hygiene promotion aimed at improving environmental sanitation through community participatory approaches. Similar activities are being undertaken under the Project through the engagement of NGOs in Dili and several district towns.

4. Solid Waste

During the previous administration, a solid waste collection system was available in most towns with waste being deposited in strategically located collection boxes. A solid waste disposal site existed in Dili and some other towns. The capacity of collection systems was grossly inadequate and there was significant indiscriminate dumping of wastes in drains and on sidewalks. The construction and operation of solid waste disposal sites was questionable. Significant quantities of waste were disposed of by burning. There was no solid waste management system in Dili after the Indonesian withdrawal. Previous systems involved both community and institutional participation in solid waste collection, cartage, and disposal. Equipment (handcarts and trucks) used for collection and transport has either been destroyed, diverted to other uses, or removed. The Dinas Kebersihan

within the former Dili city administration no longer exists. The destruction of markets has also impacted negatively on solid waste generated from market activities as informal markets have been established on sidewalks. While the solid waste collection systems in other district towns were less extensive, most had some form of collection and disposal. The equipment previously used has either been destroyed or removed. The community and institutional systems for collection and disposal are no longer operating.

The increasing population in Dili is having a significant impact on the generation of solid waste. There are significant additional quantities of solid waste including building rubble, roofing material, car bodies, etc. Much of these still litter Dili streets because there is no capacity to collect and dispose of it.

Initial solid waste management activities have been undertaken through CEP and other programs mainly in Dili. The Project provides support in critical areas such as markets and in the cleanup of large quantities of waste generated by the postconsultation destruction. Portugal has funded studies on solid waste management in Dili and the districts but does not propose to fund the implementation of recommended proposals.

5. Drainage

Apart from Dili, the drainage systems in most towns comprise a network of minor street drains and are not of major significance. The Dili drainage system has been poorly maintained and badly neglected for many years. Deficiencies include poorly designed and constructed drains (frequently including a lack of level control), significant solid waste and silt deposition causing a reduction in drain cross-section, broken roadside entry pits, and broken or missing drain covers. The drains provide breeding grounds for vermin and insects and are a significant health hazard. The lack of maintenance combined with poor design and construction causes flooding during the wet season. A master plan for a drainage system for Dili was prepared in 1995 but has not been implemented.

C. Medium- to Long-Term Sector Development

There has been significant investment in the WS&S sector since the post-referendum. In relation to WS&S this has to a significant extent restored basic services to standards similar to those that applied during the Indonesian administration. Nevertheless, substantial rehabilitation investment is still required and importantly there is a need for capacity building. There is a high level of donor interest in the sector. The Trust Fund for East Timor (TFET)-funded Project (Phase 1) has been a significant contributor to the overall sector development.

The sector status may be summarized as follows:

(i) The emergency phase is over.

(ii) It is time for proper planning and careful implementation of proposed sector investments.

(iii) Substantial rehabilitation remains to be done.
(iv) There is a substantial medium- and long-term sector investment requirement in order to improve WS&S services to more appropriate levels.
(v) WSS has been established but it is a new institution requiring substantial capacity building. Capacity building for other stakeholders is also essential.
(vi) Quality and sustainability are priorities for future sector investments.
(vii) An integrated approach is required for WS&S implementation to deliver the expected benefits particularly for the poor, comprising
- urban water supply;
- community (i.e. rural) water supply and sanitation;
- urban sanitation (i.e. drainage, wastewater, solid waste); and
- water resources.