2-2-4 Implementation Plan

The prime contractor will be a Japanese firm under the Japanese Grant Aid scheme. The Project will include construction of boreholes, pump houses, water reservoirs and communal tapstands, and laying of pipelines. These construction works should be practically undertaken by local sub-contractors under the supervision of the prime contractor.

The Project is to be executed in close collaboration with the DWAF local offices, O. R. Tambo District Municipality and relevant Local Municipalities for proper implementation.

2-2-4-1 Implementation Policy

Principally, local contractors and equipment and materials on the local market will be employed as much as the circumstances allow with sufficient consideration of the capacity of firms and the qualities of equipment and materials. Nevertheless, Japanese engineers will be dispatched for supervision requirements as well as to support the local capacity. Furthermore, the equipment and materials that are either not available or of improper quality in South Africa will be imported from Japan or a third country. Products from third countries are only those procurable in South Africa and will be regarded as South African products.

2-2-4-2 Implementation Conditions

The following are conditions concerning implementation and procurement.

1) Since the project sites are scattered, the one consultant assigned for supervision must work efficiently to maintain the standard of the construction works.
2) An appropriate transportation system will be planned out upon confirming the conditions of access roads to the target villages.
3) The construction works will be proceeded upon sufficient discussions with representatives of the target villages.
4) Laborers from the target villages will be employed as much as possible. These local laborers will be trained to promote capacity building.

5) Local subcontractors will be considered for selection from those principally based in Eastern Cape or preferably, in the target area, and having enough capability and experience.

6) The quality and availability of local materials and equipment will be surveyed, and multiple supply routes will be investigated to create fair competition and a stable supply.

2-2-4-3 Scope of Works

The scope of works of the South African side consists of the following:

1) Preparation of the access roads
2) Leveling of the land for the construction works
3) Extension of 3-phase power lines within 1 km from project pump station
4) Securing storage places for materials

2-2-4-4 Consultant Supervision

A full-time supervisor for the construction works stationed at the sites will mainly supervise the entire process. The drilling and borehole construction will be supervised by a hydrogeologist and the pipeline installation will be supervised by a water supply engineer. The project manager will be in charge of planning and discussions with the counterparts and contractors. The assigned tasks of the Japanese consultant is summarized below.

Table 2-7 Assignment for Detailed Design and Supervision

Function	Assignment
Chief Consultant	Management of the entire Project. Detailed design, Preparation of tender documents and drawings
Water Supply Facilities Design	Detailed design, Preparation of tender documents and drawings for water supply plan
Sanitation Facilities Design	Detailed design, Preparation of tender documents and drawings for sanitation plan
Hydrogeologist	Detailed design, Preparation of tender documents and drawings for drillings and borehole construction
Operation and Maintenance Plan	Detailed design, Preparation of tender documents and program for O&M strengthening and related ISD activities
Cost Estimation / Procurement Plan	Detailed design, Preparation of tender documents and drawings
Full-time supervisor for construction	Supervision of the construction works at project sites

2-2-4-6 Quality Control Plan

1) Equipment and Materials

Almost all construction materials can be procured in South Africa. Firstly, a procurement officer of the prime contractor checks the quality before making any orders. After the materials arrive at the sites, civil engineers and architects will check the delivered quality. Then, the consultants will check them before they can be used for the construction works.

2) Drilling Boreholes

Development of Existing Test Boreholes

- The test boreholes drilled during the field surveys will be reamed to the designed diameter.
- Casing pipes and screens will be installed, and gravel will be packed.
- Pumping tests will be conducted under the supervision of the engineer with confirmation by the consultant.
- Water sample is taken before the end of the pumping test to analyze the water quality.

Drilling of New Boreholes

- Sampling of the soil is carried out at 2 m intervals and at points where stratums change in order to gauge the hydrogeological conditions
- After electric logging, the screen position will be selected by the Japanese drilling engineer.
- Casing pipes and screens will be installed, and gravel will be packed.
- Pumping tests will be conducted under the supervision of the engineer with confirmation by the consultant.
- Water sample is taken before the end of the pumping test to analyze the water quality.

3) Concrete Works

The compressive strength test requirements on concrete works are shown below.

Table 2-8 Frequency of Compressive Strength Test

Facility	Test Items	Frequency
Reservoir	Foundation, Floor, Wall, Roof	3 times (3 samples each)
Elevated Tank	Foundation, Pillar, Floor, Wall, Roof	5 times (3 samples each)
Pump house, Control Room	Foundation, Pillar	2 times (3 samples each)

Concrete needs to go through a slump test, an entrapped air ratio test, and a chloride quantity ration test. Further, aggregate must go through sieve analysis tests and density tests by lots.

4) Pipeline Installation

Piping materials including fittings and valves will be checked through the entire line by methods such as visual tests and temporary connections. Before the piping trenches are covered, they need to be tested under water pressure to check for leakages.

5) Others

- Compressive strength tests must be made for concrete blocks for each lot.
- After installation of power distribution lines, insulation tests must be made on service wires.
- Fittings are checked by visual tests.

2-2-4-6 Procurement Plan

This Project does not include a procurement component. However, nearly all of the equipment and materials for the construction works can be procured in South Africa. Also, products from EU countries have dealers in the country. Construction machineries can be hired locally through leasing. Upon confirming the quality, procurement of sand and gravel for concrete from Umtata or near the construction sites will be considered.

2-2-4-7 Implementation Schedule

The Project will be divided into two phases. Each phase will commence upon finalizing the Exchange of Notes (E/N) for Japan's Grant Aid scheme between the South African and Japanese governments. The actual duration of construction works for each phase is restricted and Japanese Grant assistance stipulates that the Project must be completed within one Japanese fiscal year.

Upon conclusion of an E/N, the executing agency, the Department of Water Affairs and Forestry (DWAF) will sign a contract with a Japanese consulting firm. After the government of Japan verifies the contract, the consultant will make a detailed design of the systems, prepare the tender drawings, and acquire the approval from the governments of both Japan and South Africa. In addition, the consultant shall support DWAF concerning the tender for the construction works or actually conduct it on behalf of DWAF, and also assist in the negotiation with the lowest tenderer. Then, the consultant will supervise all of the works including construction works, procurement of the equipment and materials, and test runs until the facilities are handed over to the government of South Africa.

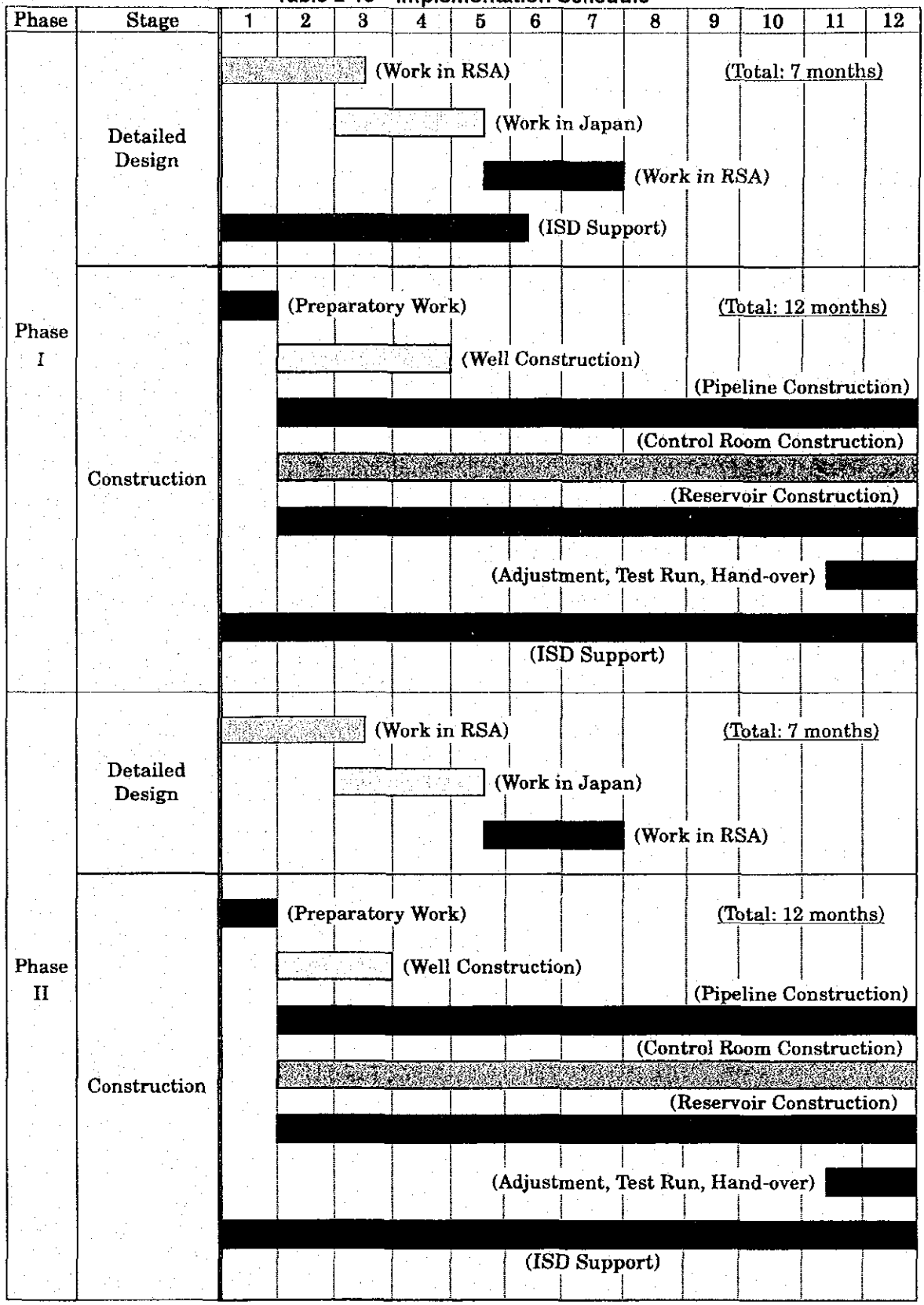
On the other hand, the ISD activities will start at all target villages before commencement of the construction works. Dividing the project into 2 phases gives advantages to the ISD program. The villages which completed construction of facilities in the first phase can be confirmed for their understanding on responsibilities for operation and maintenance, and the villages for which facilities will be constructed during the second phase can be confirmed on their degree of consciousness of ISD inputs provided in the first phase. Furthermore, by starting the activities before the construction, the villagers can become more prepared for acceptance of the facilities and contribute to decisions on the implementation.

The implementation schedule is shown in the next page and the water supply schemes for each phase are listed in the table below.

Table 2-9 Water Schemes by Phase

Phase	Local Municipality	Water Scheme Group	
I	Nyandeni	1	1. Kumaxhaka
		2	2. Qanqu
		3	3. Didi
		4	4. Ezinkozweni
	KSD (King Sabata Dalindyebo)	5	5. Sikobeni
		6	6. Centuli
		7	7. Dlova
		8	8. Upper Xongora
		9	9. Gubevu
		10	10. Luxolweni, 13. Tafeni
		11	11. Cezu, 12. Mavundleni
II	Mhlontlo	12	14. Lower Roza, 16. Ncalukeni, 17. Ndasane
		13	15. Ndwane, 18. Mvumelwano
	Ntabankulu	14	19. Dambeni, 20. Bhakuba
		15	21. Kwazulu

Table 2-10 Implementation Schedule



2-3 Obligations of Recipient Country

If the project is approved for implementation, in order for the project to proceed in a smooth manner, both sides need to carry out the required obligations as explained below.

The Japanese Government will provide assistance in the form of grant aid for the following works and activities.

- Construction of water supply schemes
- Support needed for capacity building and social intervention activities

On the other hand, the South African Government must confirm undertaking the following responsibilities.

- To secure land necessary to construct the water supply and sanitation facilities, and clear, level and reclaim the land prior to commencement of the construction.
- To provide facilities for conditional distribution of electricity up to the constructed facilities, and other incidental facilities in and around the project sites, as necessary.
- To ensure all expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products under the Grant Aid, in case products are imported.
- To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the verified contracts.
- To accord Japanese nationals, whose services may be required in connection with the supply of the products and services under the verified contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.
- To assure the safety of the said Japanese nationals and provide full-time police accompaniment at especially dangerous sites.
- To operate and maintain the facilities constructed and equipment procured under the Grant Aid properly and effectively, and to appoint necessary staff for this operation and maintenance.
- To share costs and expenses incurred on institutional and social development issues and other social intervention activities.
- To bear the advising commission for an Authorization to Pay (A/P) and the payment commissions to the Japanese foreign exchange bank for the banking services based upon on the banking arrangement (B/A).
- To bear all the expenses other than those covered by the Grant Aid.

The cost estimations of the portion to be borne by the South African side are given in the Appendix.

2-4 Project Operation and Maintenance Plan

2-4-1 Operation and Maintenance Structure

According to the Water Services Act (1997), Municipal Structures Act (1998), Municipal Structures Amendment Act (2000) and Municipal Systems Act (2000), the completed water supply facilities are to be handed over to the jurisdicted District Municipality (DM) for operation and maintenance. The structure for management of water services and operation and maintenance of the facilities is shown in the next page.

The Water Services Authority (WSA) is in charge of the management focused on planning, while the Water Services Provider (WSP) is responsible for actual operation and maintenance activities. The DM should basically be the WSA and the WSP can be a local authority, NGO, CBO or private organization. If the CBO becomes the WSP, Support Services Agents can be involved for technical and social support.

Options are available for selection of the WSP in consideration of the differences in characteristics and capabilities of the present local governments which were recently formed out of the formerly transitional bodies. In the project area, local municipalities are placed under district municipalities which in turn are situated below the provincial government. The Local Municipalities (LM) covering the project villages are Nyandeni, King Sabata Dalindyebo (KSD), Mhlontlo and Ntabankulu, while the relevant district municipality is Oliver R. Tambo DM. The body which will function as the WSA for this project is O. R. Tambo DM. However, the lack of staff, inexperience and budget for operation and maintenance of water supply systems would create great difficulties for this DM to handle the activities of the WSA. According to the organizational plan of O. R. Tambo DM shown in the following page, the water and sanitation sub-directorate has 30 seats, and as of February 2002, only 4 seats are occupied (3 seats in October 2001 and 1 in May 2001). Presently, DWAF is planning to transfer their staff to fill these positions and to strengthen the capacity of this DM.

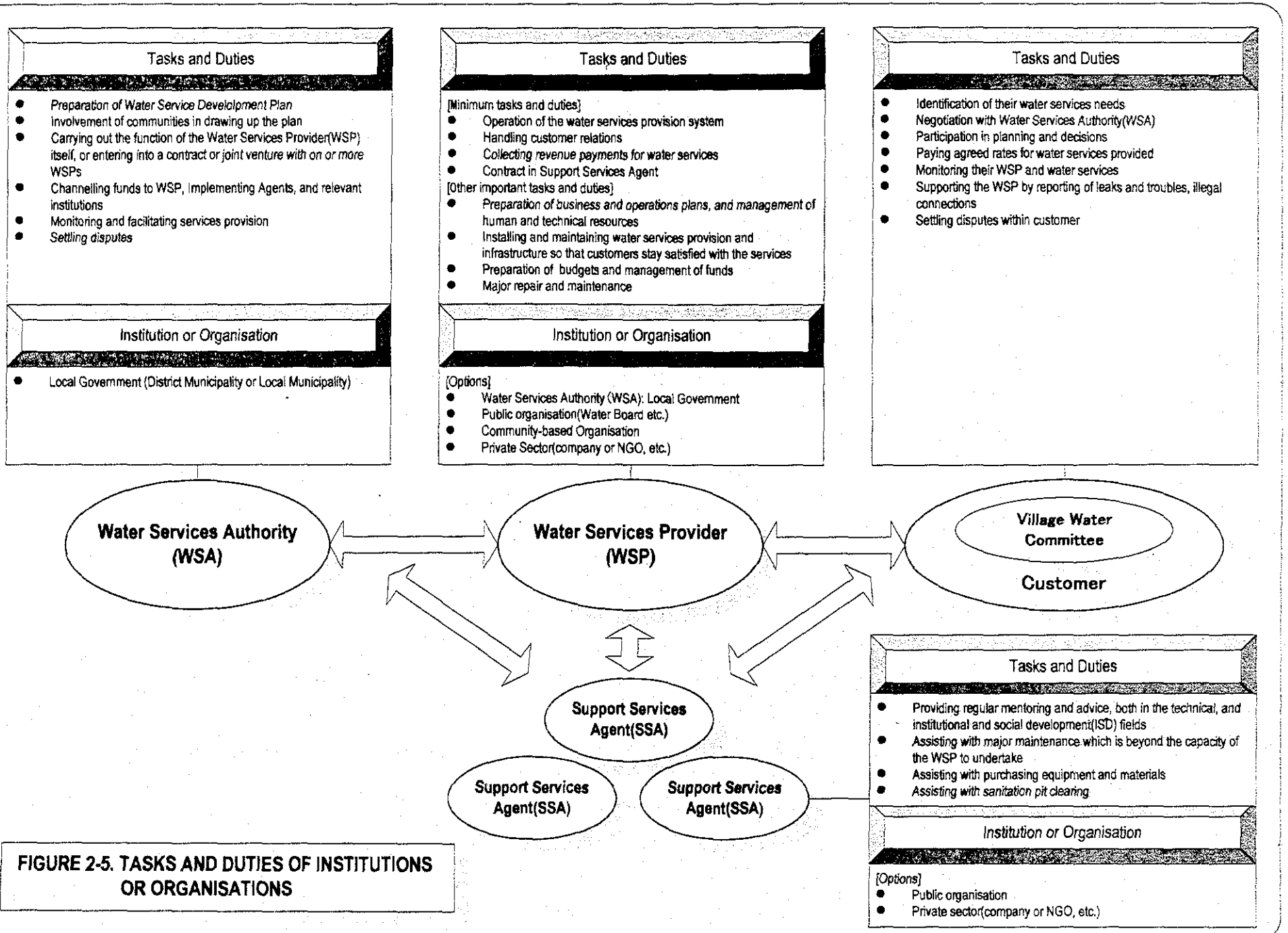
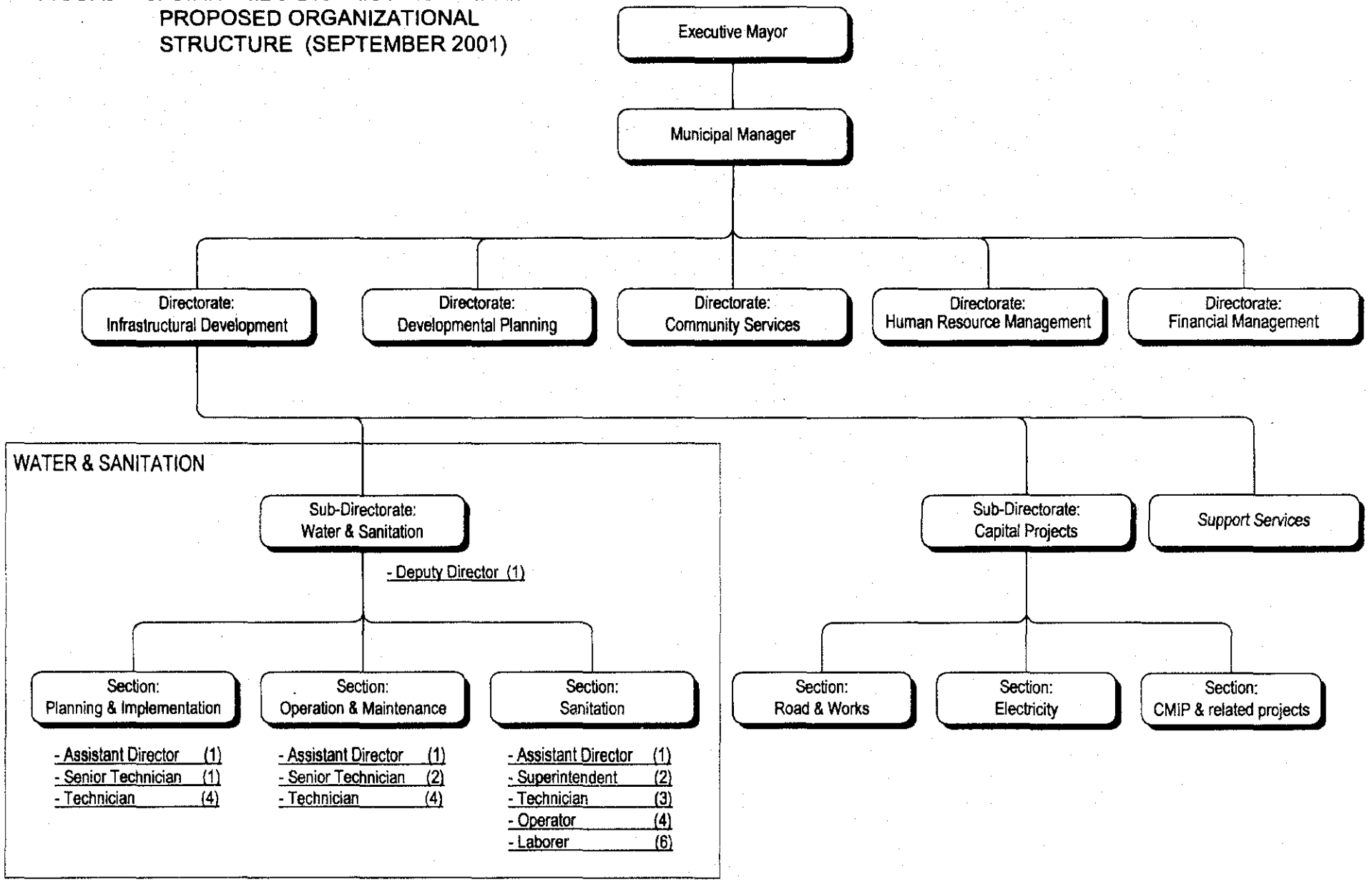


FIGURE 2-5. TASKS AND DUTIES OF INSTITUTIONS OR ORGANISATIONS

FIGURE 2-6. O.R.TAMBO DISTRICT MUNICIPALITY PROPOSED ORGANIZATIONAL STRUCTURE (SEPTEMBER 2001)



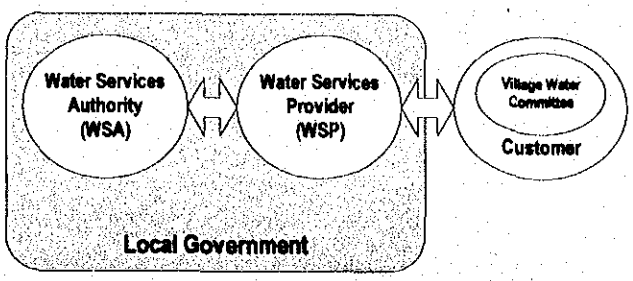
The options available to select the WSP for the project villages are local authorities (DM or LM), private firms, NGOs or community-based organizations (CBO). These options are illustrated in the next page and the constraints for selection of the body to play the WSP role are listed in the table below. If the DM or LM is to function as the WSP, the institutional weaknesses would rule them out as mentioned previously. Local private firms and NGOs have limitations in their scope of activities and difficulties would arise from a viewpoint of profitability. As to the CBO, DWAF has been promoting the user pay principle and for routine operate and maintain activities, the CBOs of rural villages are most appropriate for this function. Therefore, in consideration of these local conditions, option 3 or 4 would be the most recommendable choice. At the present time, O. R. Tambo DM which will be the WSA cannot make a definite decision as to the selection of the WSP, but they commented that a CBO based on the village water and sanitation committee (VWSC) would be the most ideal and hence, the most probable choice. In this case, Support Services Agents (SSA) would be necessary, and since the function of the SSA is not routine work, local authorities (DM or LM), private contractors or NGOs can manage the assignment.

Table 2-11 Constraints on Options for Water Services Provision

Option	WSP	Constraints
1	Local Government	· Local government is District Municipality or Local Municipality · Since local authority is newly organized and inexperienced, capacity building is essential
2	Public Organization or Private Body (Private company, NGO, etc.)	· Need to confirm availability, capability, locale and other information on private organization · Need funding and budget allocation to contract private organization
3	Community-based organization (CBO) based on village water and sanitation committee (VWSC) with support from local authority	· CBO needs training on management · Villagers need education and awareness promotion to strengthen sense of ownership · Need to confirm availability, capability and other information on supporting section of local authority · Need budget allocation for support assignment
4	CBO based on VWSC with assistance of SSA	· CBO needs training on management · Villagers need education and awareness promotion to strengthen sense of ownership · Need to confirm availability, capability, locale and other information on SSA if a private organization is used · Need funding and budget allocation, if SSA is a private organization

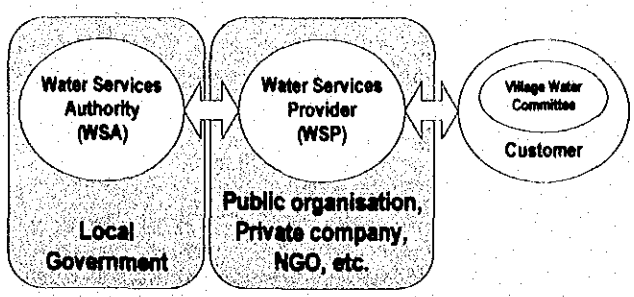
FIGURE2-7. MANAGEMENT, OPERATION AND MAINTENANCE - OPTIONS

Management, Operation and Maintenance - Option1:
Local Government = Water Services Provider(WSP)



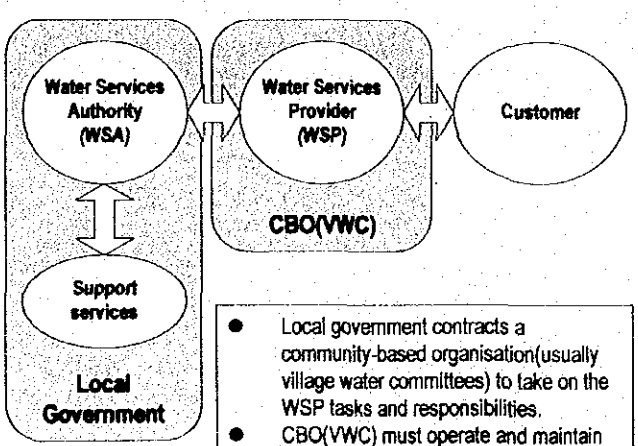
- Local government takes on the full water services provision role, as well as providing retail water services to customers.
- WSA and WSP functions are managed and carried out separately.

Management, Operation and Maintenance - Option2:
Public or Private Sector = Water Services Provider(WSP)



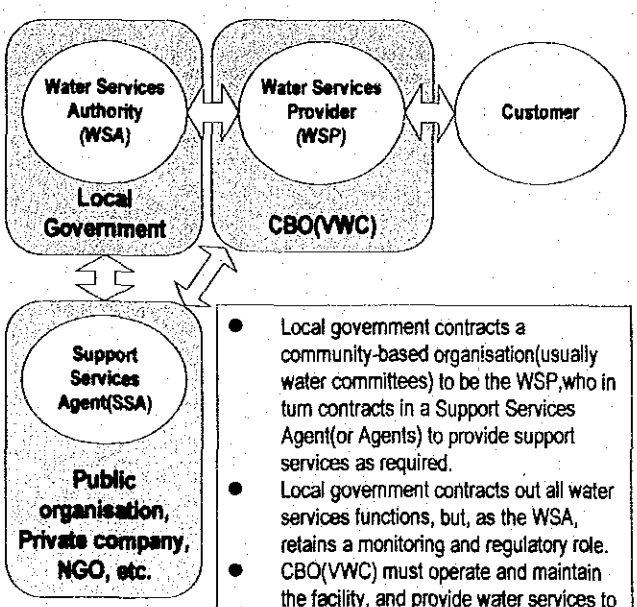
- Local government contracts out all water services provision functions to another organisation(e.g. public organisation, private company or NGO).
- Public organisation, private comany or NGO must operate and maintain the facility, and provide water services to customer(villager).
- Local government(as the WSA) monitors water services provision.
- Local government may do some functions itself(e.g. support services).

Management, Operation and Maintenance - Option3:
Community-based Organisation = Water Services Provider(WSP)
Local Government = Provision of support services



- Local government contracts a community-based organisation(usually village water committees) to take on the WSP tasks and responsibilities.
- CBO(VWC) must operate and maintain the facility, and provide water services to customer(villager).
- Local government(as the WSA) must monitor the community provider and provide support services.

Management, Operation and Maintenance - Option4:
Community-based Organisation = Water Services Provider(WSP)
Public or Private Sector = Support Service Agent(or Agents)



- Local government contracts a community-based organisation(usually water committees) to be the WSP,who in turn contracts in a Support Services Agent(or Agents) to provide support services as required.
- Local government contracts out all water services functions, but, as the WSA, retains a monitoring and regulatory role.
- CBO(VWC) must operate and maintain the facility, and provide water services to customer(villager).
- The community-based WSP contracts a Support Services Agent(or Agents) to assist with, for example, sanitation promotion, ISD and technical mentoring.

2-4-2 Institutional Strengthening and Capacity Building

The key to the success of this project in terms of operation and maintenance would depend on the following constraints.

- □ O. R. Tambo DM will function properly as the WSA
- □ CBOs are formed and they will function properly as WSPs after completion of the facilities.

Presently, O. R. Tambo DM cannot function as the WSA due to lack of capacity resulting from shortages in staff and experience. However, DWAF and other organizations are in the stage of strengthening and capacitating this DM to enable them to become a WSA through the Implementation of Sustainable Water Services Institutions Programme (ISWIP) funded by DWAF (2000 to 2001) and the Multi-Annual Action Plan (MAAP) funded by DWAF, DPLG and EU (2002 to 2004). Consequently, this DM as the WSA through the support of DWAF is anticipated to become involved in the implementation of this project. Their involvement in this project will become the first actual opportunity for them to play a role in water service management, and will contribute to decentralization and strengthening of local authorities, which are high priorities of the South African government.

On the other hand, the activities of the WSP to handle the operation and maintenance is also an important aspect. As mentioned before, the VWSC is envisioned as playing the role of the WSP, and therefore the ISD program proposed in this study is aimed at formation and capacity building of the WSP. As a result of the ISD intervention, the beneficiary villagers will become aware of the importance of a sustainable system through proper operation and maintenance which they will initiate and take responsibility. Also, capacity strengthening and technology transfer to create a CBO which can properly function as the WSP, and awareness and education activities to establish a self-reliant operation and maintenance system through appropriate fee collection can be realized. In this respect, the contribution and participation of the ISD section of DWAF and local authorities are essential. The proposed ISD program for this project is explained in a later section of this Chapter.

2-4-3 Free Basic Water Policy

A Free Basic Water Policy was enacted in January 2001 and implementation started in July 2001 as a social policy to alleviate poverty. The policy states that all households will receive 6,000 liters/month of water free of charge and all local government must implement the policy without any exception. This requires, however, that the local authority in charge must be adequately capable to handle the responsibilities, and therefore, they must introduce this policy into their jurisdiction as soon as they are evaluated to be financially capable. Nevertheless, implementation of the free water policy in the study target area, where the poorest villagers are making their living, will contradict the user pay principle. Furthermore, the policy can shatter the financial foundation of the CBO proposed as the WSP to jeopardize the water services.

In order to avoid such circumstances, the South African government is advising the use of the cross-subsidy and equitable share to finance the WSPs. Presently however, the local authorities of the study area are undergoing transformation and their capacities are not yet built. Therefore, the free basic water policy cannot be implemented in the study area for some time until the relevant authority is ready to accept the responsibilities. As a consequence, fees must be collected from the users to maintain the activities of the CBO as the WSP, and this would not conflict with the concept of the free water policy which states that the users are obligated to pay for the services until the local authorities are adequately ready and declares the introduction of the policy.

2-4-4 Operation and Maintenance Costs

Since the free basic water policy cannot be implemented in the study area, fees collected from the users will cover the operation and maintenance costs in accordance with the user pay principle. The required fee to be shared per household will be calculated from running costs, costs for spare parts, replacement costs, costs for pipeline inspection and repairs, and salary of facilities operator. Also, the fees must be set at a level payable by the villagers considering the results of the socio-economic survey on willingness-to-pay and ability-to-pay of the villagers.

The calculation of the operation and maintenance costs is based on the RDP standards as listed below.

a. Life of Facilities

Pump and Motor	15 years
Electrical Facilities	15 years
Structures and Pipeline	30 years

b. Operating Costs

For electricity, according to ESKOM rates

For diesel generators, according to fuel consumption rate

c. Maintenance Costs

Control Room	0.5%/yr of pipeline works cost
	0.25%/yr of control room construction cost
	4%/yr of electrical and mechanical facilities cost
Pipeline Works	0.5%/yr of total construction cost
Civil Works	0.25%/yr of total construction cost

d. Discount Rate

Since fees will be collected in this project, discount rate is not applied

For the project target villages, capital investments, running costs and maintenance costs for using commercial power (Option A), diesel generator (Option B) and diesel engine (Option C) are listed in the table below. Moreover, costs for pipeline inspections and repairs are included in the operation and maintenance cost to be paid by the users.

Table 2-12 Operation and Maintenance Cost Calculation

(ZAR)

	A	B	C
Power Source	Commercial Line	Generator	Diesel Engine
Initial Capital	1,005,000	1,875,000	1,500,000
Monthly Running Cost	23,931	126,778	117,521
Spare Parts/mon	2,100	8,350	8,500
Replacement/mon	3,500	13,917	14,167
Operator Salary/mon	7,500	7,500	7,500
Pipe Inspect & Repair/mon	10,127	10,127	10,127
Monthly O&M Cost	47,158	166,672	157,815
Annual O&M Cost	565,901	2,000,067	1,893,779
Household Collection Fee	18.0	65.00	62.00

Unit costs used for above calculations:

a. Initial Capital
   (1) Commercial power line: Extension cost x 15 schemes; cost for conversion to 3-phase and 3-phase connection (by ESKOM)
   (2) Generator: Average ZAR 125,000/set
   (3) Diesel engine: Average ZAR 100,00/set

b. Running Cost
   (1) Commercial power supply: Base rate ZAR 162.63/mon
   Charge 34.35 C/kWh (<700 kWh) + 19.86 C/kWh (>700 kWh)
   (2) Diesel fuel: ZAR 4.00/lit

c. Spare parts: 4%/yr of electrical and mechanical facilities cost
d. Replacement: assuming that electrical and mechanical facilities such as pump engines are replaced in 15 years
e. Salary of operator: ZAR 500/mon
f. Pipeline inspection and repair: 0.75%/yr of total construction cost as operation and maintenance cost of pipeline and civil works
g. Rate of fee collection: 50%

The monthly per household operation and maintenance cost for Option A using commercial power supply was calculated as ZAR 18/mon/HH. According to the socio-economic survey, the average amount of ability to pay is about ZAR 27/mon/HH (3% of assumed income). Therefore, ZAR 18/mon/HH is a feasible amount, but amounts higher than this would become a financial burden on the villagers.

2-5 Institutional and Social Development Issues

The South African side requested assistance to institutional and social development (ISD) activities for communities in the target villages for upgrading sustainability of operation and maintenance of the completed facilities. Using the information obtained through the socio-economic survey held during the first field survey and in accordance with the water services structure proposed by the South African government, the ISD activities will focus on formation and capacitating of village water and sanitation committees in the target villages.

Present State of Water Services Management

Presently, the responsibilities for operation and maintenance of water supply facilities are being transferred from DWAF to local authorities. However, since the local authorities were recently reformed and reorganized, the organization, budget and staff are not yet clearly established. Under these circumstances, DWAF as the transferring side is advancing their support and assistance on the one hand, while the local authority as the transferred side is making adjustments and preparations for accepting the duties and responsibilities for operation and maintenance on the other hand. The proposed ISD intervention program will contribute to sustainability of the water supply systems constructed through the Japanese assistance as well as giving support to the new water services management system.

ISD Program

The following supports require ISD intervention.

a) Support for institutional strengthening and capacity building in the organizational structure for sustainable operation and maintenance
b) Support in formation of village water and sanitation committees (VWSC) and capacity building and community development to foster a strong sense of ownership and sanitation promotion.

To implement the above requirements, a recommended program based on the program currently used by the ISD section of DWAF is shown in the next page. The implementation of this program will be shared by both sides.

In order to develop sustainability of the project sites, support for capacity strengthening of the local authority which will become the Water Services Authority (WSA) and support for structuring of the operation and maintenance system by forming and capacitating the village organization which will eventually function as the Water Services Provider (WSP) are particularly essential. The support to the local authority to function as the WSA is already on-going through ISWIP (funded by DWAF) and is expected to continue with MAAP (funded by DWAF, DPLG and EU). The basic concept on the choice of option which is being proposed in this support is in line with the foundation of the proposed ISD program of this project.

Table 2-13 Proposed ISD Program

Stage	Activities	Apportionment
Pre-construction	1. Strengthening of Management, Operation and Maintenance System □ Formation of Water Services Authority (WSA) □ Training to WSA on Technical Aspects □ Training to WSA on Social and Administrative Aspects	RSA
	2. Training of Local Facilitators □ Training on Community Development □ Training on Health Education and Hygiene Promotion	Japan
	3. Mobilization of Stakeholders □ Meeting with Relevant Local Authorities □ Meeting with Village Heads and Key Persons	
	4. Meeting with Community Members to Explain Outline and Concept of Project	
	5. Community Research / Baseline Survey	
	6. Formation of Village Water and Sanitation Committee (VWSC) □ Meeting with Villagers to Explain Roles and Importance of VWSC □ Selection of VWSC Members and Formation of VWSC	
	7. Formation of Project Steering Committee (PSC) □ Meeting with VWSCs, Local Authorities, and Ward Councilors to Explain Roles and Importance of PSC □ Selection of PSC Members and Formation of PSC □ Explanation on Roles and Functions of PSC	
Construction	8. Promotion of Community Participation, Awareness Building on Water Use, and Promotion of Health and Hygiene □ Community Participation through Participatory Methods to Foster a Strong Sense of Ownership □ Explanation on the Importance of Water Fee Collection □ Awareness Education □ Health Education and Hygiene Promotion	
	9. Capacity Building of VWSC □ Workshop Sessions for Practical Training (OJT) * Leadership Training * Attitude Training, Conflict Resolution * Bookkeeping, Accounting * Operation of Facilities, Maintenance Record Keeping * Routine Maintenance, Basic Repair Skills	
	10. Workshop for PSC □ *Training Workshop Sessions* * Coordination Skill * Definition of Roles and Responsibilities * Preparation of Agreements	
Post-Construction	11. Creation of Water Services Provider (WSP) □ *Base Formulation* * Explanation of Water Services Provision * Definition of Roles and Responsibilities of WSP * Formation of WSP	RSA
	12. Capacity Building of WSP □ Hold Training Workshop to Strengthen Capacity of WSP (Technical Aspects, Management, O&M, Fee Collection, Bookkeeping, Accounting, etc.) □ Registration and Contracting of WSP with WSA	
	13. Formation of Committee-Based Water Management Structure □ Confirmation of Savings □ Meeting with VWSC, PSC and WSP for each Water Scheme to Define Roles and Responsibilities □ Signing of Memorandum of Understanding on Roles and Responsibilities	
	14. Mentoring (Periodic Follow-up, Participatory Evaluation and Monitoring)	

For water supply projects in South Africa, a mentoring period for a period of one year after completion of facilities is included as part of the project. This mentoring period allows the beneficiaries to further prepare for acceptance and ownership of the facilities through technical and social assistance. During this period, capacity building of the CBO to function as the WSP through OJT, and monitoring and evaluation will be included in the program. The implementation of this portion of the total ISD program is difficult under Japan's grant aid system because the bilateral agreement terminates after completion of the facilities. Consequently, this portion will be implemented by the South African side.

The responsibilities for implementation of the ISD program is proportioned as follows.

Table 2-14 Responsibility Allocation for ISD Program

Responsibility of Japanese Side	Responsibility of South African Side
• Formation and capacity building of PSC and VWSC • Awareness building to strengthen sense of ownership of villagers • Health education and hygiene promotion • Program supervision	• Institutional strengthening and capacity building of WSA • Mentoring activities including creation and capacity building of WSP • Program supervision

CHAPTER 3
PROJECT EVALUATION AND RECOMMENDATIONS

CHAPTER 3 PROJECT EVALUATION AND RECOMMENDATIONS

3-1 Project Effect

The effects of the Project and anticipated improvements in the present situation are listed below.

Table 3-1 Effects and Improvements due to Project Implementation

Present State and Problems	Measures to be Taken in the Project	Effects and Improvements
1. The target villages are using rivers and springs as water sources, which are unsanitary and have unstable flow throughout the year. Due to this situation, the villagers are become infected with cholera and other water-borne diseases. The villagers are consuming about 9 lit/cap/day of water which takes an average of about 30 min. each day to fetch.	• In the target villages, piped water schemes will be constructed and communal tapstands will be installed within 200 m from each household.	• 25 lit/cap/day of safe and clean water will be supplied to the target villages. • Water can be supplied continuously due to the constructed water supply facilities. • The constructed facilities can contribute to alleviating water-borne diseases such as cholera.
2. The beneficiary villagers are inexperienced in operation and maintenance of water schemes, and so sustainability cannot be assured. The responsibility for water services will be transferred from DWAF to the recently formed O. R. Tambo District Municipality to jeopardize the structure for management of water services.	• Institutional and social development (ISD) activities will be conducted including formation and capacity building of community-based organizations (CBOs), and institutional strengthening and capacitating of Water Services Authority (WSA)	• Community-based organizations will be formed for appropriate operation and maintenance of the facilities. • An effective water services system will be structured.

3-2 Recommendations

1) Use of Project Facilities Design for Requesting Fund

The basic designs prepared in this study for the water schemes and toilets which were eliminated from this project should be used effectively to request funding from other donor organizations. However, for water schemes having problems with water quality or groundwater potential, other candidate water sources need to be carefully sought.

2) Use of Study Data for Groundwater Development in Target Area

The groundwater success rate of the target area is estimated at 66%. During this study, the 20 test drillings gave 15 successful boreholes. The results obtained from the test drillings as well as the hydrogeological survey in the study will be useful for future groundwater development of this area.

3) Proper Operation and Maintenance through Institutional and Social Development Intervention

Institutional and social development (ISD) intervention activities are included in this project to strengthen the management, operation and maintenance structure. In order to maximize the effects of the project for realization of a sustainable water and sanitation system, the following points must be ascertained to assure a proper structure for operation and maintenance.

a. After completion of the facilities in this project, the responsibilities for water services including operation and maintenance of these facilities will be transferred to O. R. Tambo District Municipality which will function as the Water Services Authority (WSA). The institutional strengthening and capacitating of the WSA will be implemented by the South African side with anticipation for assurance of proper management.

b. The formation and capacity building of the village water and sanitation committee as the community-based organization needs to be realized. The implementation program should emphasize education to the villagers to heighten awareness on sufficient ownership and sound payment of water fees to ensure proper operation and maintenance.

c. The 12 months' mentoring period including capacity building of the Water Services Provider (WSP), monitoring and other follow-up activities cannot be implemented under the Japanese grant assistance program. However, this portion of the ISD program was agreed to be implemented by the South African side. Since the operation and maintenance system will be firmly structured during this period, the proper functioning of the WSP is anticipated as a result of the mentoring activities.

4) Necessity for Continuous Monitoring

As mentioned above, the one-year mentoring period after completion of the facilities is one of the responsibilities of the South African side. To confirm the behavioral changes of the villagers and other project effects, periodic monitoring on a long-term continuous basis is essential. The actual demands and necessities of the beneficiaries as well as other results from monitoring and evaluation can be reflected in similar future projects.

5) Significance of Users Pay Principle in spite of Free Basic Water Policy

Since the responsible local authority for the target area is not yet ready to implement the free basic water policy, implementation of this policy in this area will not be possible for quite some time. However, if the South African government continues to promote this policy, eventually the residents of the target area will receive water free of charge, but until then, collection of fees under the users pay principle must be applied and obligated if operation and maintenance is to be sustained. On the other hand, if the government somehow decides to discontinue the free water policy, then water fee payment by the villagers will become inevitable and collection must be effectuated. In either case, capacity building of the village committees will be a significant issue to heighten their awareness on the importance of fee collection.