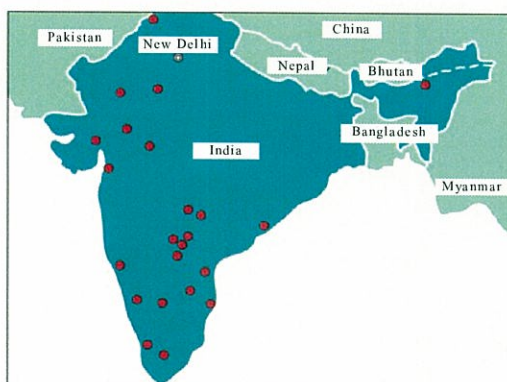


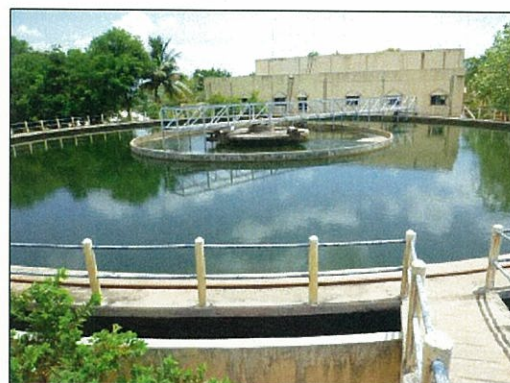
**EX-post Monitoring for ODA Loan Project**  
**“Urban Water Supply and Sanitation improvement program”**

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Pegasus Engineering Corporation

**1. Project Description**



Locations of the Project



Filtration Plant in Hyderabad

**1.1 Project Objective**

This project’s objective is to improve the water supply and public health services in India’s small- to medium-sized cities by extending long-term, low-interest loans via financial institutions to public service providers, thereby contributing to the improvement of living standards of people and develop infrastructure for industry.

**1.2 Outline of the Loan Agreement**

Loan Amount / Disbursed Amount	8,670 million yen / 8,670 million yen
Date of Loan Agreement / Final Disbursement Date	January 1996 / March 2001
Implementation of Ex-post Evaluation	Fiscal year 2006
Executing Agency	HUDCO

**1.3 Background of Ex-post Monitoring**

Water supply and sewerage services and solid waste disposal facilities are basic public services. However, in the latter half of the 1990s, many regions in India still lacked an adequate water supply, even in densely populated urban areas. Taking the rapid national urbanization into consideration, it

was considered that considerable funding would be needed to promote those services.

Thus, in support of these Indian government policies, this project aimed to provide funds to HUDCO and 26 sub-projects were implemented.

According to the ex-post evaluation performed in 2005, in terms of the achievement of goals<sup>1</sup> concerning effectiveness in each sub-project, while eight of the 26 sub-projects had achieved the project purpose by more than 80%, 13 sub-projects were only deemed as having achieved less than 50% of the project purpose, which meant average achievement ranging from around 60 to 70%. Sustainability has been problematic, particularly in terms of organizational and financial aspects, as well as a lack of adequate technical experts, which affected the project outcome.

The project was evaluated as low-achieving in terms of effectiveness in response to problems observed in organizational and financial aspects of the executing agency regarding its sustainability. Therefore, this project was selected for ex-post monitoring and reviewed under each criterion with the findings from the field survey and other research activities with a final conclusion being drawn.

## **2: Outline of the Monitoring Study**

### **2.1 Duration of Monitoring Study**

Duration of the Study: March 2011 – January 2012

Duration of Field Study: 3-15 July, 2011

### **2.2 Constraints during the Monitoring Study**

The project was implemented through HUDCO by providing long-term loan assistance for the execution of 26 sub-projects (19 water supply and seven sewerage sub-projects), in 23 cities/towns. 16 sub-projects (including two sewerage projects), for which responses to the questionnaire were received, were selected as target sub-projects for ex-post monitoring, field surveys of which were performed on five sub-projects (including two sewerage sub-projects).

## **3: Monitoring Results**

### **3.1 Effectiveness**

A profile of all individual projects and the result of the effectiveness evaluation during the ex-post monitoring as compared to those of the ex-post evaluation are summarized as follows:

The analysis of achievement of the goals for fourteen (14) water supply projects indicated that thirteen (13) of the fourteen (14) projects had achieved more than 50% of their targeted goals and only one (1) project achieved 50% or fewer of its goals.

Similarly, analysis of the achievement of the goals of two (2) sewerage projects indicated that one (1) of the two (2) sub-projects had reached 80% or more of its target goals while the other sub-project

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<sup>1</sup> Based on the final reports on each sub-project and the impact investigation reports (on some of the sub-projects), the achievement of project effects was comprehensively judged with the available data concerning the quantity of water supply, amount of sewerage disposed of, the number of individual water connections and the coverage rate, in comparison with the updated project effects reported with the project plan for the loan appraisal.

had achieved 50 to 80% of the goals.

Most of the 16 sub-projects (including two sewerage projects) for which responses to the questionnaire were received achieved the planned value on the appraisal, hence the effectiveness of these projects was considered high.

HUDCO provided the necessary technical and administrative support to the project executing agencies in the process from the appraisal stage to the completion of construction, the effectiveness of which was obvious.

Table 1: Outline and Degree of Completion of Sub- Projects  
Evaluation Results for Effectiveness

N O	City	Population (2005) (Million people)	State	Project type	Effectiveness	
					Ex-post evaluation	Monitoring
1	Bangalore	5.16	Karnataka	Sewerage system (new)	△	-
2	Chennai	4.37	Tamilnadu	Sewerage system (expansion)	○	-
3	Surat	2.93	Gujarat	Sewerage system (expansion)	◎	-
4	Jaipur	2.78	Rajasthan	Sewerage system (expansion)	△	-
5	Amritsar	1.1	Punjab	Sewerage system (expansion)	△	△
6	Jodhpur	0.93	Rajasthan	Sewerage system (expansion)	△	-
7	Tirupati	0.25	Andhra Pradesh	Sewerage system (new)	○	○
8	Ahmedabad	3.8	Gujarat	Water supply increase and waterworks (expansion)	◎	◎
9	Hyderabad	3.62	Andhra Pradesh	Stabilization of water supply and water distribution	◎	◎
10	Hyderabad	3.62	Andhra Pradesh	Stabilization of water supply	◎	◎
11	Indore	1.85	Madhya Pradesh	Stabilization of water supply	◎	-
12	Amritsar	1.1	Punjab	Water supply increase and waterworks (expansion)	△	△
13	Tirupati	0.25	Andhra Pradesh	Water supply increase and waterworks	○	○
14	Ramagundam	0.24	Andhra Pradesh	Waterworks (new)	△	○
15	Vizianagaram	0.18	Andhra Pradesh	Water supply increase and waterworks (expansion)	△	○
16	Mahbubnagar	0.14	Andhra Pradesh	Water supply increase and waterworks (expansion)	△	○
17	Chickmagalur	0.12	Karnataka	Water supply increase and waterworks (expansion)	◎	-
18	Coimbatore	0.1	Tamilnadu	Waterworks (expansion)	◎	-
19	Siddiopet	0.06	Andhra Pradesh	Water supply increase and waterworks (expansion)	△	○
20	Wanparty	0.05	Andhra Pradesh	Water supply increase and waterworks (expansion)	△	○
21	Golaghat	0.05	Assam	Water supply increase and waterworks (expansion)	△	-
22	Chalakudy	0.05	Kerala	Water supply increase and waterworks (expansion)	○	○
23	Pratapgarh	0.05	Rajasthan	Water supply increase and waterworks	◎	◎
24	Kandukur	0.05	Andhra Pradesh	Waterworks (new)	△	○
25	Sadasivapet	0.04	Andhra Pradesh	Water supply increase and waterworks (expansion)	○	○
26	Bagevadi	0.03	Karnataka	Water supply increase and waterworks (expansion)	△	-

Note (1) Based on the final reports on each sub-project and the impact investigation reports (on some of the sub-projects), the achievement of project effects were comprehensively judged with the available data concerning the quantity of water supply, amount of sewerage disposed of, the number of individual water connections and the coverage rate, in a comparison of the updated project effects reported with the project plan on the loan appraisal. The details are reported in the following sections. Further data to show the arguments is attached to the end of this project report.

□: 80% or more, ○: 50% - 80%, △: Less than 50%

Note (2) Concerning projects such as Hyderabad and Ahmedabad, for which the amount of supply water was considerably increased due to collaboration with other projects, the effects brought by the Japanese ODA loan project were only evaluated.

### 3.1.1 Quantitative effectiveness

#### (1) Effectiveness and achievement of the objectives of the water supply projects

Most of the 14 water supply sub-projects for which responses to the questionnaire were received

achieved the planned values in the appraisal and were hence considered highly effective.

In order to ascertain the effectiveness direction (increase/decrease), the average increase/decrease in the quantity of water supply, coverage of water connections, population of water supply and number of water connections as operation and effect indicators were compared to those of the ex-post evaluation (The base value in 2005 was considered to be 100%).

All the values of the four operation and effect indicators mentioned above exceeded those of the ex-post evaluation, particularly the quantity of water supply and number of water connections.

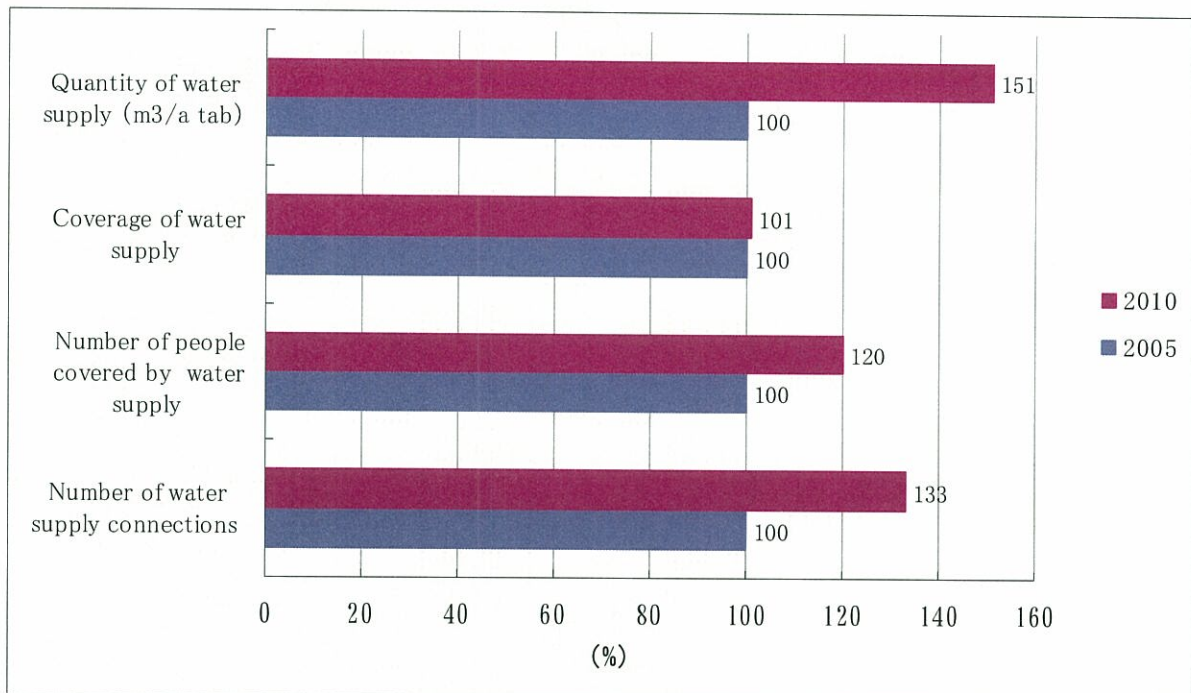


Figure 1: Rate of increase on indicators (average values for 14 water supply projects)

Each sub-project sought to increase the number of water supply connections while decreasing the number of public water connections. The number of public water connections decreased from 17,561 (2005) to 16,701 (2010), a reduction of about 5%, in the 14 sub-projects for which responses to the questionnaires were received. Users of public water connections are generally poor, who generally use such water for drinking purposes, making it difficult to reduce the number of public water connections.

The following project effects were reported in five cities of the 14 water supply sub-projects which were provided with loan assistance:

- In these five cities, 393,000 people obtained water tabs following the ex-post evaluation and an increased number of people had access to water supply.
- In these five cities, the daily water supply capacity increased to 278,000m<sup>3</sup>/day. For a total of 5.7 million people living in these cities, the daily water supply capacity per person more than doubled from the pre-project average of 41L to a post-project level of 90L.
- In Hyderabad, thanks to improvements in water pressure and stabilization of the water volume through the other regions, the water supply was stabilized.

The achievement level for the objectives of water supply projects was analyzed by comparing the plan and actual results in the latest performance reports (2010). 13 of the 14 projects reached 50% or more of their target and one project achieved 50% or less of its target (See Table 1). As of the ex-post evaluation, there were seven projects whose achievement levels were 50% or less. In Andhra Pradesh State, however, all ten projects achieved the planned value.

The main reason for the unsatisfactory level of achievement in some of the sub-projects was a lack of funds and the fact that the facility was not constructed as planned.

As regards the water quality in 14 water supply projects for which responses to the questionnaire were received, it was within the national average level.

## (2) Effectiveness and achievement of the sewerage project objectives

The sewerage projects targeted by the ex-post monitoring were Amritsar in Punjab Province (No. 5)<sup>2</sup> and Tirupati in Andhra Pradesh Province (No. 7)<sup>3</sup>.

The achievement level of the sewerage project objectives was analyzed by comparing the plan and actual results in the latest performance reports (2010). One of the two projects (Tirupati) reached 80% or more of its target, while the other project (Amritsar) achieved 50 to 80% of its target. The major reason for the unsatisfactory achievement level was the lack of planned funding and provisional suspension of the loan, although the condition of the loan for the sewerage project involved constructing a sewerage plant. Eventually its loan resumed subject to the construction of the plant.

The difficulty of development in local areas where settlements are scattered results in low coverage of sewerage network services.

The sewerage treatment plant in Tirupati drains water for industry and agriculture but no quality problems are reported. Recently, there have been plans to use part of the water drained from the plant in the private sector as cooling water following tertiary treatment.

The achievement level of the sewerage project objectives is shown in Table 3 Service level benchmarking.

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<sup>2</sup> Projects to expand the network of sewerage, solid waste disposal plants is only for the plan.

<sup>3</sup> The new construction of sewerage networks and construction of solid waste disposal plants.

Table 2: Actual value of sewerage projects

Name of indicators	Planned Value (national standard)	Actual Value in 2010	
		Amritsar	Tirupati
Population targeted	-	1,217,000	104,000
Sewerage coverage	100%	50%	63%
Quality of disposed water	BOD100/TSS150 (for agricultural use)	BOD210/TSS340	BOD44/TSS120

### 3.1.2 Qualitative Effects

There was a certain aspect of effectiveness achieved by the project at the time of the ex-post evaluation. Based on interviews<sup>4</sup>, the following changes were experienced in residents' living standards upon completion of the project and it was found that the project effectiveness continued to the ex-post monitoring:

- Individual water tabs became widespread and the continuity and quantity of water supply were stabilized.
- Thanks to newly constructed water tabs, water availability increased and the water quality also improved.
- Water supply projects became widespread and the time required to obtain water was reduced.
- Connections with sewerage considerably improved the hygienic environment and decreased malodors and the number of mosquitoes, also ensuring a very clean environment in the area.

### 3.1.3 Issues concerning improvement in effectiveness

Approaches taken to improve effectiveness for each sub-project following the ex-post evaluation were as follows:

- Improvement of water quality, increase of the continuity of water supply and redressal of customer complaints were inducted into the planned indicators as measures to improve public services at State and civic level, and for facility and institutional improvement through central government schemes such as JNNURM.

Data collection, the establishment of systems and improvement of data accuracy have been adopted as approaches to service level benchmarking. However, the actual data on data processing and analysis of the planned value are some issues that remain outstanding.

<sup>4</sup> Interview with water and sewerage agencies in each state and some of the beneficiaries in Tirupati selected at random.

Table 3: Service level benchmarking

National Level Benchmarks			
Water Supply projects		Sewerage projects	
Coverage of water supply connections	100%	Coverage of toilets	100%
Per capita supply of water	135lpcd	Coverage of sewerage network services	100%
Extent of metering of water connections	100%	Collection efficiency of the sewerage network	100%
Extent of non-revenue water	20%	Adequacy of sewerage treatment capacity	100%
Continuity of water supplied	24 hours	Quality of sewerage treatment	100%
Quality of water supplied	100%	Extent of reuse and recycling of sewerage	20%
Efficiency in redressal of customer complaints	80%	Efficiency in redressal of customer complaints	80%
Cost recovery in water supply services	100%	Extent of cost recovery in sewerage management	100%
Efficiency in collection of water supply-related charges	90%	Efficiency in collection of sewerage charges	90%

Source: Ministry of Urban Development 2010

- For each sub-project, widespread publicity and consumer awareness activities were implemented in order to increase the number of individual water connections. The standard of services improved with better water quality and time expansion of the water supply.
- During the facility construction, HUDCO gave training, such as supervision of works and quality control, to transfer their techniques to State Municipal Corporations, State Water supply and Sewerage Boards who were provided with loan assistance.
- HUDCO, moreover, offered an NGO support program to the borrower, covering 15% of the operating cost and 0.25% of the loan amount, usable for human resource development.

As the result of these interventions, most of the 16 sub-projects (14 water supply projects and two sewage projects) for which responses to the questionnaire were received achieved the planned value of operation and effect indicators, hence the effectiveness were improved following the ex-post evaluation.

### 3.2 Impact

#### 3.2.1 Improvements in living standards

According to the report from HUDCO, during the ex-post evaluation, improvements in living standards were identified in each of the cities where individual projects had been implemented. The Sub-Projects had various impacts, including increased water consumption, decreased supply-related costs (including time costs for drawing water), improved hygiene habits (coinciding with increased water consumption and improved public health facilities), a healthier environment in residential areas,



and lower incidence of water-borne diseases.

Based on interviews<sup>5</sup> with each entity and beneficiaries during the ex-post monitoring, similar impacts concerning the hygienic environment were noticed throughout the areas by implementing the project in various habitats.



Public water tap in Tirupati

### 3.2.2 Improvement of the industrial infrastructure

A significant contribution to the improvement of industrial infrastructure was observed during the ex-post evaluation in some of the targeted cities. For example, in Hyderabad the project-funded development of the water supply system contributed significantly to the IT Industrial Urban Development promoted by the city.

No such impacts were found in targeted cities during the ex-post monitoring.

### 3.2.3 Other positive and negative impacts (Impacts on the natural environment)

The very poor hygiene environment in certain areas lacking adequate sewerage systems at the time of ex-post evaluation was found to have improved.

State government and entities are responsible for environmental monitoring on sub-project implementation, so no monitoring is performed by HUDCO. The following examples were observed during the monitoring:

- There was drawdown of the groundwater level caused by excessive pumping of groundwater and depletion of water resources. However there are no current problems in Hyderabad city as groundwater dependence is presumed to have decreased due to the water supply being brought by upstream water resources to the surface level.
- The sub-project in Amritsar shows potentially negative environmental effects since the ex-post evaluation showed increased malodor and a decline in water quality. The proposed sewerage treatment plant<sup>6</sup> could not take off; meaning water not treated to effluent standard was drained into water channels. To tackle these issues, improvement measures were taken. For example, the construction of two sewerage treatment plants will be funded by Japanese ODA loans.

According to the results of the questionnaire and field survey, positive impacts were found in the

<sup>5</sup> Interview with water and sewerage agencies in each state and some of the beneficiaries in Tirupati selected at random

<sup>6</sup> There were plans to construct a self-funded disposal plan in Amritsar and a sewerage system funded by loans from HUDCO, but Amritsar city was unable to provide the funds and the solid waste disposal plan was shelved.

respective sub-project even following the ex-post evaluation, while measures to mitigate negative impacts have been taken.

### **3.3 Sustainability**

#### **3.3.1 Sustainability of the sub-project**

##### **3.3.1.1 Structural Aspects of Operation and Maintenance**

Generally speaking, many water and sewerage public corporations in large cities had numerous capable employees and well-established systems of management, operation and maintenance for each of the sub-projects but the water and sewerage services departments of smaller cities were organizationally poorly equipped in this regard.

During the ex-post monitoring, HUDCO has established a training system<sup>7</sup> for concerned staff of the State governments to ensure a strong relationship and cooperation between HUDCO and State governments. No problems were reported in terms of the organizational aspect, such as the number of staff in each entity involved in the operation and maintenance of facilities.

Thus overall, the structural aspects of operation and maintenance following the ex-post evaluation have been improved.

##### **3.3.1.2 Technical Aspects of Operation and Maintenance**

Small- to-medium-sized cities lacked technicians for water supply and sewerage services during the ex-post evaluation and this issue remains unresolved.

During ex-post monitoring, it was found that HUDCO has been implementing a policy of providing training/technical support to staff in each entity pending completion of the facility as an approach to improve the competencies of the concerned staff of executing agencies.

Based on the annual report(s) of HUDCO, it was found that following staff training in executing agencies in the Human Settlement Management Institute (HSMI), the capacity of the agencies for administrative duties and the operation and maintenance of newly constructed facilities had improved.

In a project approved by the State government, the Economic Internal Rate of Return (EIRR) was calculated during planning of the water supply and sewerage projects, while analysis of users' ability and willingness to pay<sup>8</sup> makes it a more realistic approach for the project plan formulation.

##### **3.3.1.3 Financial Aspects of Operation and Maintenance**

During the ex-post evaluation, the financial sustainability of each entity was deemed inadequate.

In most states, the user charges for both water supply and sewerage are not recovered in full, except big cities like Hyderabad, and this gap is made up through collections from taxes including house tax. A structure where operation and maintenance costs are fully covered by collection fees is

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<sup>7</sup> The training provides for the planning, construction and operation and maintenance concerning the construction of facilities for staff in water entities.

<sup>8</sup> Based on interviews with residents, the current water fee is 100Rs/household and the ling pay is assumed to be around Rs200.

necessary.

The facility in Tirupati normally runs smoothly and without financial strain because the expenses paid towards operation and maintenance are covered as planned. However, part of the expenses is covered by house and other taxes as mentioned above.

Table 4 Expenses for Operation and Maintenance in Tirupati (unit: lacs)

Expense for operation and maintenance		2005	2006	2007	2008	2009	2010
Sewerage	Planned value	26.00	27.00	29.00	31.00	33.00	35.00
	Actual value	25.20	25.98	26.80	29.20	31.43	33.56
Water Supply	Planned value	375.00	95.00	425.00	468.00	468.00	468.00
	Actual value	370.00	390.00	420.00	460.00	460.00	470.20

Source: Response of the questionnaire

### 3.3.1.4 Current Status of Operation and Maintenance

During the site visits to Amritsar, Tirupati and Hyderabad, it was observed that operation and maintenance were being reasonably implemented in terms of the availability of requisite staff and fund allocation. Based on responses to the questionnaire, the collection rate for water and sewerage fees was between 75 and 98%, averaging up to 90%. For proper operation and maintenance, however, the collection fees remained insufficient.



Sewerage facility in Amritsar



Water supply facility in Hyderabad

### 3.3.2 Sustainability of HUDCO as an implementing agency

#### 3.3.2.1 Structural Aspects of Operation and Maintenance

Basically State governments<sup>9</sup> are responsible for the formulation and planning of the projects. HUDCO's role was to review the project plans in terms of the technical and financial perspectives at the time of appraisal. The current HUDCO guidelines suggest that both an adequate scale of operation

<sup>9</sup> Mainly public health engineering departments in state government and urban development department.

and fee structure as well as designing a more realistic project plan for sustainable operations should be taken into consideration during the appraisal.

From the time of appraisal up to the project implementation, HUDCO provides the necessary guidance and expert advice, in terms of both technical and financial aspects, as well as the project analysis by referring to the guideline. To date, it has accordingly reinforced the impact on project implementation.

In the following organization chart, the departments involved in this project consist of Water Supply, Sewerage/Drainage of Utility Infrastructure, and Infrastructure Finance.

However, HUDCO does not monitor the quality (effectiveness and sustainability) of each sub-project as all loans are guaranteed by State governments, meaning there is seemingly no risk for HUDCO in terms of repayments of both principal and interest.

Other investment-and-financing organizations in India meanwhile, such as the power sector, are also responsible for the project from the time of appraisal to project completion, whereupon the monitoring function is transferred to the executing agency.

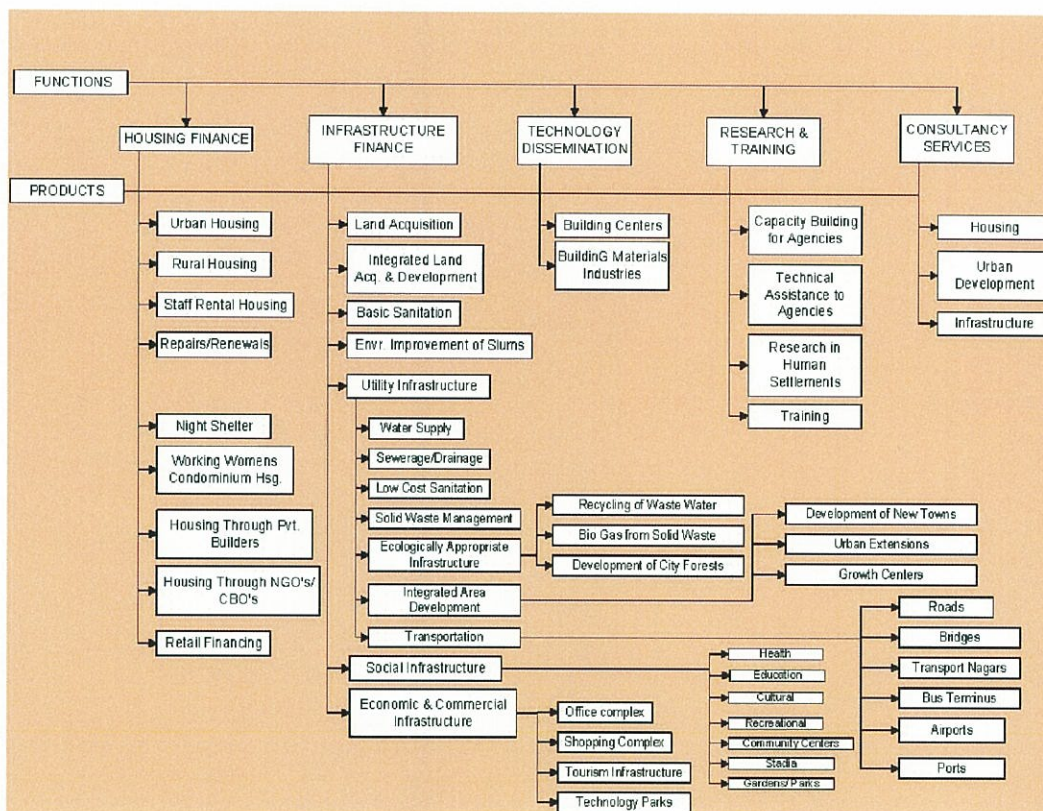


Figure 2: Organization chart in HUDCO

Source: HUDCO annual report

### 3.3.2.2 Technical Aspects of Operation and Maintenance

According to HUDCO's annual report, the quality of staff's evaluation and the ability of supervision on project implementation have improved by enhancing the training facilities, programs, and guidelines of HUDCO.

The Human Settlement Management Institute, a HUDCO training agency, provides training in order to improve the ability of water supply entities in terms of formulating business plans, procurement procedures, and monitoring the operation and maintenance for constructed facilities.

A manual was also newly created to review the demand prediction method as was earmarked at the ex-post evaluation. The manual section concerning the evaluation of the water supply and sewerage business aims to increase prediction accuracy by using actual values for the last 3 years as well as forming an evaluation team with experts from regional offices to collaborate with the same in obtaining and analyzing field data.

### 3.3.2.3 Financial Aspects of Operation and Maintenance

HUDCO came up to standard as a national financial institution on the ex-post evaluation. We verified the financial conditions, including the annual loan amount and pre-tax profit through the annual report following the ex-post evaluation.

According to the report, more advantageous funds under the JNNURM (a project for national urban development) program have been provided since 2005; hence the loan amount from HUDCO has decreased. However, the loan amount sanctioned has been increasing with strengthening infrastructure demands and previously peaked in F.Y. 2010. Furthermore, the capital adequacy ratio reached 9.6% in F.Y. 2010.

Although the ex-post evaluation showed the financial situation has declined temporarily, the business performance has gradually recovered and expanded.

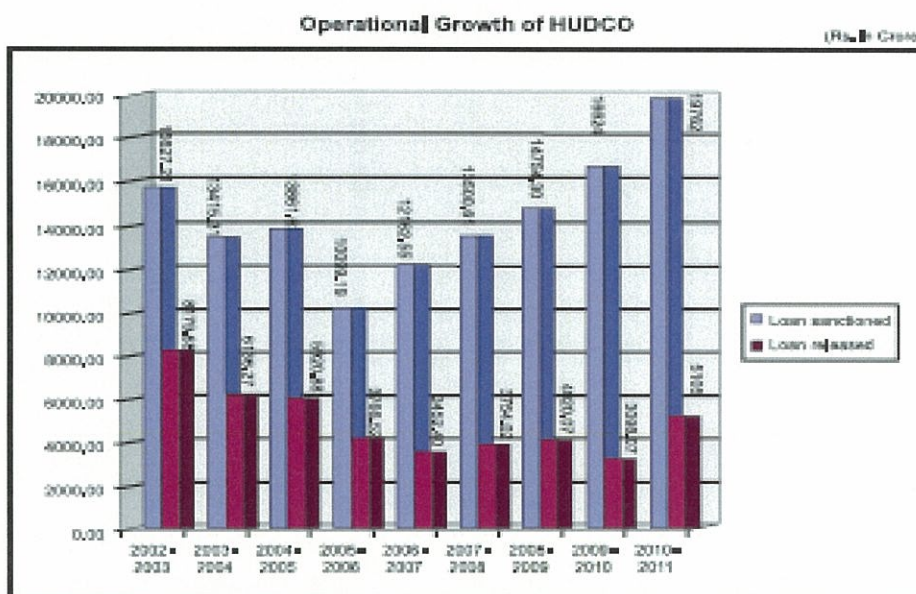


Figure 3: Shift of the loan amounts in HUDCO

Source: HUDCO financial report

### 3.3.3 Sustainability of Two Step Loans (TSL)

As regards the repayment of loans following the ex-post evaluation, it was confirmed that the full

amount of all 26 sub-loans had been repaid as of 31 March, 2011.

However, swap costs designed to avoid exchange risk have been mounting and the revolving fund account has remained below zero, hence no refinancing has resumed since the ex-post evaluation.

During the ex-post evaluation, new funding to contribute to the sustainability of TSL was considered but did not eventually transpire, due to institutional problems, such as the fact that funding in local currency was not admitted.

Finally, as mentioned above, based on responses to the questionnaire, structural aspects of operation and maintenance for the water supply and sewerage improvement project appear to have improved when compared to those of the ex-post evaluation.

#### **4. Conclusion, Lessons Learned and Recommendations**

##### **4.1 Conclusion**

The achievement of project objective was approximately 60 - 70% at the time of the ex-post evaluation, though the project made a certain impact and its effectiveness was hence deemed fair.

Responses to the questionnaire were received from 16 of the 26 sub-projects, including two sewerage projects where the field survey was implemented. Most of these 16 sub-projects achieved the target indicators, hence the effectiveness of this project is deemed high.

Under this ex-post monitoring, HUDCO provided the necessary guidance to the executing agencies, both technical and administrative, throughout the entire course of project implementation, right from the stage of project appraisal to project construction. HUDCO, however, did not carry out any regular monitoring of the project upon completion of the project construction. Monitoring is supposed to be implemented by each of the executing agencies of the relevant sub-project.

Based on responses from executing agencies and the field survey, no crucial problem emerged in terms of Operation and Maintenance and structural aspects.

##### **4.2 Recommendations**

None.

##### **4.3 Lessons Learned**

None.

## Appendix: Achievement of Outputs

### Comparison of Major Plan and Actual achievement

Items	Plan	Actual achievement
1. Outputs	<p>Disbursement of a total of 8,670 million yen in loans to 60-70 water supply, sewerage and solid waste disposal projects in small- to medium-sized cities.</p> <p>(Overall scheme)</p> <p>1. Target projects: Water supply projects, sewerage and drainage projects, and solid waste disposal projects in urban areas (construction, expansion and rehabilitation)</p> <p>2. End users: Organizations responsible for providing water supply, sewerage and solid waste disposal services as defined in HUDCO guidelines</p> <p>3. Loan terms</p> <p>Interest: [ JBIC interest rate +government warranty + swap rate + 5% HUDCO margin] or the normal HUDCO lending rate, whichever is lowest</p> <p>Repayment period: Maximum of 15 years</p> <p>Loan amount: 500 million rupees, with individual loans of 40-50 million rupees</p> <p>Loan ratio: Up to 100% of HUDCO's loan ceiling</p> <p>Security/guarantees: State government guarantees, bank guarantees and property etc.</p>	<p>90% of the total loan target of 8,670 million yen was disbursed to 26 projects in 23 cities. Nineteen projects related to water supply facilities, and seven were for sewerage systems.</p> <p>(Overall scheme)</p> <p>1. As planned. However, no funds were disbursed for solid waste disposal projects.</p> <p>2. As planned.</p> <p>3. Essentially as planned.</p> <p>Interest: A drop in market interest rates pushed HUDCO's normal lending rate down, thus this was adopted as the "lower" of the two.</p> <p>Repayment period: 8-15 years (average: 13 years)</p> <p>Loan amount: 12-461 million rupees / loan (average rupees 148 million)</p> <p>Loan ratio: 50 - 100% (average: 75%)</p> <p>Security/guarantees: all loans guaranteed by the state government</p>
2. Project periods	January 1996 to December 2001	January 1996 to March 2001
3. Project Cost		
Amount paid in Foreign currency	8,670 million yen	8,670 million yen
Amount paid in Local currency	None	None
Total	8,670 million yen	8,670 million yen
Japanese ODA loan portion	8,670 million yen	8,670 million yen

Major data in sub-projects

Evaluation number	SUB-PROJECT			Number of water supply connections (unit)	People covered by water supply (people)	Coverage of water supply (%)	Quantity of water supply (m3/a tab)
Andhra							
9	Hyderabad	Stabilization of water supply and water distribution	2010	728,000	4,510,000	95%	332,000
10			2005	478,000	3,800,000	70%	176,000
			TARGET				
24	Kandukur	Waterworks (new)	2010	56,000	56,187	70%	80,000
			2005	40,000	40,323	50%	15,000
			TARGET				
16	Mahbubnagar	Water supply increase and waterworks (expansion)	2010	140,930	177,000	76%	18,184
			2005	108,170	143,000	56%	18,184
			TARGET				
14	Ramagundam	Waterworks (new)	2010	236,000	236,000	66%	21,700
			2005	236,000	236,000	48%	21,700
			TARGET				
19	Sadasivapet	Water supply increase and waterworks (expansion)	2010	45,000	300,000	67%	5,000
			2005	37,000	200,000	55%	5,000
			TARGET				
25	Siddipet	Water supply increase and waterworks (expansion)	2010	80,000	60,000	75%	6,500
			2005	62,000	40,000	66%	6,500
			TARGET				
13	Tirupati(WATER)	Water supply increase and waterworks	2010	20,985	29,500	60%	34,500
			2005	8,699	18,000	35%	34,500
			TARGET				
15	Vizianagaram	Water supply increase and waterworks (expansion)	2010	140,000	163,000	93%	17,000
			2005	110,000	133,000	76%	17,000
			TARGET				
20	Wanparty	Water supply increase and waterworks (expansion)	2010	75,000	55,000	78%	7,000
			2005	50,000	30,000	65%	4,000
			TARGET				
Gujarat							
8	Ahmedabad	Water supply increase and waterworks (expansion)	2010	54,400	60,500	78%	71,500
			2005	33,000	37,500	65%	
			TARGET				
Kerala							
22	Chalakydy	Water supply increase and waterworks (expansion)	2010	4,179	58,166	97%	7,250
			2005	3,175	52,683	92%	7,150
			TARGET				
Punjab							
12	Amritsar (water supply)	Water supply increase and waterworks (expansion)	2010	1,039	1,217	85%	223,000
			2005	1,027	1,100	73%	169,000
			TARGET				