ADB

Completion Report

Project Number: 27132-01
Loan Number: 1415
May 2006

India: Karnataka Urban Infrastructure Development Project

Asian Development Bank

CURRENCY EQUIVALENTS

Currency Unit – Indian rupee/s (Re/Rs)

		At Appraisal	At Project Completion
		27 July 1995	30 June 2004
Re1.00	=	$0.0319	$0.0217
$1.00	=	Rs31.37	Rs46.03

ABBREVIATIONS

ADB	–	Asian Development Bank
AIEC	–	average incremental financial cost
AIFC	–	average incremental financial cost
BME	–	benefit monitoring and evaluation
EA	–	Executing Agency
EIA	–	environmental impact assessment
FIRR	–	financial internal rate of return
IA	–	implementing agency
KUIDFC	–	Karnataka Urban Infrastructure Development and Finance Corporation
KUWS&DB	–	Karnataka Urban Water Supply and Drainage Board
LA	–	loan agreement
MSW	–	municipal solid waste
NGO	–	nongovernment organization
O&M	–	operation and maintenance
PAP	–	project-affected person
RRP	–	report and recommendation of the President
RWA	–	resident welfare association
STP	–	sewage treatment plant
TA	–	technical assistance
UGD	–	underground drainage
WACC	–	weighted average cost of capital

WEIGHTS AND MEASURES

km	–	kilometer
m	–	meter
m^2	–	square meter
m^3	–	cubic meter
ppm	–	parts per million

NOTE

(i) In this report, "$" refers to US dollars.

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CONTENTS

BASIC DATA

A. Loan Identification

1.	Country	India
2.	Loan Number	1415
3.	Project Title	Karnataka Urban Infrastructure Development Project
4.	Borrower	India
5.	Executing Agency	Karnataka Urban Infrastructure Development and Finance Corporation
6.	Amount of Loan	Original was $85 million, but reduced to $80 million.
7.	Project Completion Report Number	939

B. Loan Data

1.	Appraisal	
	– Date Started	16 Jun 1995
	– Date Completed	5 Jul 1995
2.	Loan Negotiations	
	– Date Started	13 Nov 1995
	– Date Completed	17 Nov 1995
3.	Date of Board Approval	14 Dec 1995
4.	Date of Loan Agreement	10 May 1996
5.	Date of Loan Effectiveness	
	– In Loan Agreement	8 Jul 1996
	– Actual	8 Jul 1996
	– Number of Extensions	Nil
6.	Closing Date	
	– In Loan Agreement	30 Jun 2002
	– Actual Project Closing	30 Jun 2004
	– Financial Closing	7 Dec 2004
	– Number of Extensions	One
7.	Terms of Loan	
	– Interest Rate	London interbank offered rate
	– Maturity (number of years)	25 years
	– Grace Period (number of years)	5 years
8.	Terms of Relending (if any)	
	– Interest Rate	12%
	– Maturity (number of years)	25 years
	– Grace Period (number of years)	5 years
	– Second-Step Borrower	Various agencies; mix of loan and grant (See Appendix 1 for details.)

9. Disbursements

a. Dates

Initial Disbursement	Final Disbursement	Time Interval
29 November 1996	7 December 2004	97 months
Effective Date	**Original Closing Date**	**Time Interval**
8 July 1996	30 June 2002	5 years

b. Amount ($ million)

Category or Subloan	Original Allocation	Last Revised Allocation	Amount Canceled	Net Amount Available	Amount Disbursed	Undisbursed Balance
1. Civil Works	39.92	51.00	(11.08)	51.00	46.90	4.10
2. Equipment	7.24	6.00	1.24	6.00	5.77	0.23
3. Administration and O&M	1.98	4.00	(2.02)	4.00	4.54	(0.54)
4. Institutional Support	1.42	0.50	0.92	0.50	0.90	(0.40)
5. Consulting Support	4.55	5.50	(0.95)	5.50	5.54	(0.04)
6. Prior TA Financing	0.35	0.35	0.00	0.35	0.29	0.06
7. Interest and Commitment Charges	12.50	12.65	(0.15)	12.65	12.44	0.21
8. Unallocated	17.04	0.00	17.04	0.00	0.00	0.00
Total	**85.00**	**80.00**	**5.00**	**80.00**	**76.38**	**3.62**

10. Local Costs (Financed)

- Amount ($) 43,137,944
- Percent of Local Costs 70.6
- Percent of Total Cost 45.7

C. Project Data

1. Project Cost ($ million)

Cost	Appraisal Estimate	Actual
Foreign Exchange Cost	36.00	33.24
Local Currency Cost	76.00	61.11
Total	**112.00**	**94.35**

2. Financing Plan ($ million)

Cost	Appraisal Estimate	Actual
Implementation Costs		
Borrower Financed	27.00	17.97
ADB Financed	72.50	63.94
Other External Financing	0.00	0.00
Total	**99.50**	**81.91**
IDC Costs		
Borrower Financed	0.00	0.00
ADB Financed	12.50	12.44
Other External Financing	0.00	0.00
Total	**12.50**	**12.44**

ADB = Asian Development Bank, IDC = interest during construction.

3. Cost Breakdown by Project Component ($ million)

Component	Appraisal Estimate	Actual
A. Base Cost		
1. Environmental Sanitation		
a. Water Supply	15.4	17.49
b. Solid Waste Management	1.3	1.63
c. Sewerage	19.1	15.63
d. Storm Water Drainage	1.3	1.28
e. Lake Improvements	0.0	0.46
f. Public Toilets	0.0	0.08
g. Rainwater Harvesting	0.0	0.04
2. Road Improvement and Truck Terminal		
a. Road Improvements	11.2	22.01
b. Truck and Bus Terminal	1.6	0.81
3. Poverty Reduction		
a. Slum Upgrading	0.4	2.64
b. Low-Income Sanitation	1.4	1.46
c. Residential Sites and Services	14.3	4.74
d. Cultural and Women's Training Centers	0.5	0.36
e. Municipal Building	0.0	0.10
4. Industrial Sites and Services	5.6	1.44
5. Implementation Assistance and Institutional Strengthening		
a. Consulting Services	4.7	6.31
b. Administration and Incremental Operation and Maintenance	2.1	4.78
c. Institutional Support	1.4	0.35
B. Land Acquisition Cost		7.01
C. Payment to Electricity Board for Connections		0.58
D. Payment to Railways for Underpass (unclaimed from ADB)		1.53
E. Contingencies	18.8	0.00
F. Interest during Construction	12.5	12.44
G. Partial Repayment of Cost of TA 1977-IND	0.4	0.29
Total	**112.0**	**103.48**

4. Project Schedule

Item	Appraisal Estimate	Actual
Date of Contract with Consultants (3 consultants)	Within 6 months from the date of loan effectiveness, i.e., before 31 Dec 1996	Oct 1996
Completion of Engineering Designs	30 Sep 1997	31 Mar 2003
Civil Works Contract		
Date of Award	First—30 Jun 1996	First—6 Dec 1997
Completion of Work	Last—31 Dec 1997	Last—21 Oct 2003
Equipment and Supplies		
Dates		
First Procurement		10 Feb 1998
Last Procurement		19 Jan 2004
Completion of Equipment Installation (last equipment)		30 Jun 2004
Start of Operations (first major contract)		
Completion of Tests and Commissioning		30 Apr 2001
Beginning of Startup		1 Aug 2001

5. Project Performance Report Ratings

	Ratings	
Implementation Period	Development Objectives	Implementation Progress
From November 1998 to February 1999	S	S
From March 1999 to August 1999	PS	PS
From Sep 1999 to December 2000	PS	S
From January 2001 to February 2001	S	S
From March 2001 to March 2001	S	HS
From April 2001 to April 2002	S	S
From May 2002 to June 2003	PS	S
From July 2003 to December 2004	S	S

S = satisfactory, PS = partially satisfactory, HS = highly satisfactory.

D. Data on Asian Development Bank Missions

Name of Mission	Period	No. of Persons	No. of Person-Days	Specialization of Members[a]
Fact-Finding Mission	27 Feb–17 March 1995	5	95	PS/SS
Appraisal Mission	16 June–5 July 1995	5	75	PS/SS
Inception Mission	29 Feb–9 March 1996	4	40	PS/SS
Loan Review Mission	9–13 Sep 1996	2	10	PS
Loan Review Mission	1–3 Feb 1997	1	3	PS
Midterm Review Mission	19–29 Jan 1998	3	30	PS/SS
Loan Review Mission	8–19 June 1998	3	36	PS
Loan Review Mission	24 Feb–9 Mar 1999	2	28	PS
Loan Review Mission	1–5 Nov 1999	3	12	PS
Loan Review Mission	30 Nov–9 Dec 1999	2	20	PS
SoE Review Mission	3–5 Jan 2000	1	3	NO
Loan Review Mission	21–25 Feb 2000	2	10	PS/NO
Loan Review Mission	25–30 Jun 2000	2	12	PS
Loan Review Mission	6–7 Sep 2000	2	4	PS/NO
Loan Review Mission	18–23 Dec 2000	2	12	PS/NO
SoE Review Mission	16–20 Jul 2001	2	10	NO/SS
Loan Review Mission	2–4 Sep 2001	3	12	PS/NO/SS
Loan Review Mission	1–4 April 2002	1	4	NO
Loan Review Mission	20–24 May 2002	2	10	PS/NO
Loan Review Mission	15–16 Aug 2002	1	2	NO
Loan Review Mission	25– 31 Oct 2002	3	21	PS/NO
Loan Review Mission	4–7 Feb 2003	2	8	PS/NO
Loan Review Mission	23–26 Feb 2003	3	12	PS
Loan Review Mission	26–31 May 2003	2	10	SC/AS
Disbursement Mission	25–29 Aug 2003	1	5	NO
Loan Review Mission	14–23 Sep 2004	3	10	PS/AS/SC
Loan Review Mission	20–23 Sep 2004	3	1	PS
Project Completion Review Mission[b]	6–10 June 05 and 20–21 July 05	2	14	PS/NO

[a] AS = administrative staff, NO = national officer, PS = professional staff, SS = support staff, SC = staff consultants, SoE = statement of expenditures,

[b] Alex Jorgensen, principal urban specialist; and Vijay Kumar Akasam, assistant project analyst

I. PROJECT DESCRIPTION

1. The Karnataka Urban Infrastructure Development Project (the Project)[1] was the first Asian Development Bank (ADB)-financed urban sector project in India. The Project aimed to reduce the rural-to-urban migration pressure on Bangalore caused by strong growth of information and communication technology related service sector, industrialization, and urbanization. The Government of India asked ADB to help formulate an integrated urban development project[2] and strategy for the Bangalore subregion,[3] to develop nearby potential growth centers as "counter-magnets" and reduce the pressure on Bangalore. The state government assigned the Karnataka Urban Infrastructure Development and Finance Corporation Limited (KUIDFC) as the Executing Agency (EA). KUIDFC was strengthened through a capacity-building technical assistance (TA).[4] The loan document for the Project included an institution-strengthening program and an associated loan for housing finance.

2. The primary objective of the Project was to decentralize population and economic growth away from the rapidly expanding subregion by reversing infrastructure deficiencies and environmental deterioration in Channapatnam, Mysore, Ramanagaram, and Tumkur. In February 2002, two towns, Maddur and Mandya were added to the project scope, using about $6 million in loan savings that resulted from the variation in the rupee–dollar exchange rate. The Project also aimed to build the capacity of urban local bodies and other sector institutions concerned with ensuring the sustainability of investments, and to provide housing assistance to low-income groups at affordable interest rates through direct lending to the Housing Development and Finance Corporation (Loan 1416-IND).[5]

3. **Project Components and Outputs.** The Project had six parts:

(i) **Part A—environmental sanitation.** Augmentation of water supply, rehabilitation and expansion of sewerage systems, solid waste management programs, and comprehensive storm water drainage and sullage disposal schemes in the four towns.

(ii) **Part B—road improvement and truck and bus terminals.** Rehabilitation and upgrading of about 190 kilometers (km) of urban roads, a study of traffic management in each project town, introduction of traffic management measures, construction of truck terminals in Mysore and Tumkur, and a new bus stand in Ramanagaram to ease traffic congestion.

(iii) **Part C—poverty reduction.** Slum upgrading by providing basic amenities such as water supply, sanitation, drainage, and solid waste facilities to about 31 slums in the four project towns; provision of low-cost sanitary latrines to about 23,700 low-income households; and development of about 7,200 housing sites, mostly in

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1 ADB. 1995. *Report and Recommendation of the President (RRP) to the Board of Directors on a Proposed Loan to India for the Karnataka Urban Infrastructure Project*. Manila (Loan 1415-IND, for $85 million, approved on 14 December).

2 ADB. 1993. *Technical Assistance to India for Urban Infrastructure Development Project*. Manila (TA 1977-IND, for $646,000, approved on 12 November).

3 ADB. 1994. *Technical Assistance to India for Capacity Building for Improved Infrastructure Development in Selected Municipalities in Karnataka State*. Manila (TA 2202-IND, for $600,000, approved on 9 November).

4 ADB. 1995. *Technical Assistance to India for Institutional Strengthening of Karnataka Urban Infrastructure Development and Finance Corporation*. Manila (TA 2368-IND, for $100,000, approved on 27 July).

5 ADB 1995: RRP *to the Board of Directors on a Proposed Loan to the India for the Housing Development and Finance Corporation Limited.* Manila. (Loan No.1416-IND, for $20 million, approved on 14 December)

Mysore, with basic services; cultural, commercial and training center in Ramanagaram and a women's training center in Tumkur.

(iv) **Part D—development of industrial sites and services.** Development of about 50 lots in Tumkur, providing roads, water supply, and drainage and sanitation facilities for industrial and commercial activities.

(v) **Part E—implementation assistance and institutional strengthening.** Equipment, service vehicles, training, incremental staffing costs, as well as consulting services to implement the Project and enhance the capacity of urban local governments. This component had an associated TA.[6] The TA was to prepare a comprehensive strategic plan for improving the financial resources initially for the project towns of Channapatnam, Mysore, Ramanagaram, and Tumkur, which would include examining steps to improve revenues from (a) property tax, (b) user charges on municipal services, (c) property rents, (d) shared taxes, and (e) other additional innovative measures.

(vi) **Part F—low-income housing finance.** Alleviation of the housing shortage in the project towns as well as in other selected areas within the Bangalore subregion by providing housing finance primarily to low-income beneficiaries at affordable interest rates without any form of subsidy. Through an associated loan under the Project, $20 million was allocated “footnote 5” to provide housing finance mainly to the low-income population in the project area to promote home ownership. The Housing and Development Finance Corporation, the EA for this component, was to associate itself with nongovernment organizations (NGOs) and community-based organizations that would help identify low-income beneficiaries, mainly in the project towns, and provide them housing finance for home ownership. This report does not cover the project completion of that loan, which was prepared separately in 2002.

II. EVALUATION OF DESIGN AND IMPLEMENTATION

A. Relevance of Design and Formulation

4. The Project’s focus on social and economic infrastructure, poverty reduction, implementation assistance, and local capacity building proved to be satisfactory and highly relevant. The project design supported the long-term objectives of the Government and the state for the urban sector—accessibility to basic services by all income levels through coverage, sustainability, and cost recovery—and helped the state implement key urban policy reforms and loosen financial constraints. The project design was consistent with the Government’s development plans for the most rapidly urbanizing states and cities, which had prioritized the Bangalore subregion. The Project components supported the Government’s Eighth Five-Year Plan (1992–1997), which emphasized (i) effective implementation of the Seventh Five-Year Plan (1985–1990) strategies, (ii) investments in small and medium-sized towns and their integrated development to check migration to large cities, (iii) infrastructure planning based on urban poverty assessment, (iv) industrial location through regional and urban planning, (v) environmental improvement of urban slums, (vi) poverty reduction through urban development, (vii) resource mobilization, and (viii) institutional capacity-building programs. The project design was closely responsive to Karnataka’s Eighth Five-Year Plan priorities: (i) balanced regional development, (ii) creation of effective rural–urban links, (iii) distribution of economic activities to selected high-growth urban areas, and (iv) provision of reasonable service levels to urban

[6] ADB. 1995. *Technical Assistance to India for Resource Mobilization Study for Local Governments in Karnat*aka. Manila (TA2471-IND, for $300,000, approved on 14 December).

areas. The associated TA to improve the financial and administrative capacity of the urban local governments directly supported the Government's 74th constitutional amendment, which requires local governments to be self-sufficient in mobilizing resources and increasing revenue.

5. The project formulation was also consistent with ADB's operational strategy in India, which is based on supporting development of economic infrastructure, and with ADB's urban sector priorities of (i) helping improve policy, (ii) supporting economic growth, (iii) maximizing poverty impact, (iv) improving the environment, and (v) enhancing local institutional capacity. The Project also aligned with ADB's strategic development objectives: (i) enhancing economic growth by improving infrastructure, (ii) increasing the value of human capital through better health and productivity, (iii) reducing poverty by providing basic services to those who lack them, (iv) benefiting women through economic and social development, and (v) improving the management of natural resources by reducing waste.

6. The objectives and scope identified in the preparatory TA during project formulation were satisfactorily implemented, as they remained unchanged through implementation. Ownership and participation by key government and nongovernment stakeholders were essential for the Project's success. During project formulation, the key sectoral issues and constraints were analyzed and addressed through policy dialogue with the state government. During the TA, the state and local governments, and NGOs were consulted extensively.

7. A major change in scope,[7] however, included the towns of Mandya and Maddur under the Project. These towns were evaluated during the TA but, because of funding constraints, were not in the scope. Once loan savings became apparent, the towns asked to be included. During the detailed planning, design, and implementation phases, the scope was changed several times based on ground realities to adjust the coverage, technical options, and findings of engineering investigations. As a result, the Project's physical coverage, connectivity, operational impact, cost-efficiency, use, sustainability, and impact on beneficiaries were increased and improved. The design was also changed to reduce the operation and maintenance (O&M) costs of assets. The midcourse inclusion of the towns improved the Project's impact. The loan savings were the result of the common overestimation[8] of costs caused by the fixed formulas used to calculate physical and price contingencies, and variation in exchange rates. The original scope did not provide household connectivity with new water distribution and sewerage collection networks, as ADB has traditionally considered it to be the owners' responsibility. By adding this work to the project scope, the outputs were much improved.

B. Project Outputs

8. Most project outputs identified during appraisal were achieved satisfactorily, though with some changes in physical scope, coverage, location, and technical options. The major deviations in project scope are summarized below. The detailed achievement of outputs and their constituent contract packages are in Appendix 1.

9. **Part A—Environmental Sanitation.** The component included water supply, storm water drainage, sewerage, solid waste management, and low-cost sanitation works. Public toilets, lake improvement, and rainwater-harvesting works were included through a change in scope. In Mysore, a package was added to the Project's water supply scope for new feeder mains to link

[7] Approved in November 2002.
[8] The original project scope resulted in $8.6 million of savings after inclusion of the towns.

the storage reservoirs with the distribution network for more effective use of the augmented water supply. One water supply system was built to service Channapatnam and Ramanagaram.

10. In Mysore, the sewerage system was completed and is in operation. The scope was augmented by extending the collection system to pick up sewage outfalls that were discharging into the storm drainage system. This has helped increase the use of the collection system and treatment plants. In Tumkur, the new sewage collection system and treatment plant were completed. In Ramanagaram, the existing sewage collection system was improved and extended and a treatment plant constructed. Out of 10,000 possible house service connections, around 6,000 connections were made under the Project. Although these were not part of the original scope, output was much better.

11. In Mysore, the solid waste management program was completed with (i) construction of community collection bins; (ii) provision of collection and transport vehicles; and (iii) a 200-ton/day composting plant, which is operated under a leasing arrangement with a private sector operator. In Tumkur, a new solid waste disposal site was completed, though resistance by local residents still prevents its use. For Channapatnam and Ramanagaram, the solid waste program, comprising improved collection and development of a shared new disposal site, was completed. However, the sites are not being properly operated as sanitary landfills but as traditional garbage dumps.

12. **Part B—Road Improvement and Truck and Bus Terminals.** This component (i) improved city roads, (ii) constructed bypass and ring roads, (iii) widened intercity connecting roads, and (iv) constructed bus and truck terminals. These works have visibly improved traffic and the environment in all the project towns. In Mysore, only one bus terminal was completed, as the land for the others could not be acquired. The Mysore truck terminal was deleted from the scope because the experience of the one in Tumkur and the detailed demand studies indicated that it would need to be carefully planned and sited. The alignment of the Mysore outer ring road was changed following the findings of an environmental impact assessment (EIA), including extensive public consultations, which determined that this was necessary to protect migratory birds in a nearby water body. Although this delayed acquiring land for the new alignment, it was a healthy exercise in public consultation and led to a much better appreciation of the Project. It also led to additional environmental improvements at two other lakes, including one at the Mysore Zoo. In Channapatnam, Ramanagaram, Tumkur, and additional road works were added at the towns' request. The road and drainage works in Maddur and Mandya improved drainage and road surface life.

13. **Part C—Poverty Reduction.** Living conditions in many slums were improved by provision or upgrading of water supply, sanitation, roads, drains, solid waste disposal facilities, street lighting, and social facilities such as community and women's buildings and training centers. While these were first eyed suspiciously by slum leaders, once the results became apparent, several slums and low-income areas in Mysore and Tumkur were added at the local communities' request. The Project was able to construct a total of 17,500 low-cost sanitation units, out of a planned 23,000.

14. Under the Project, 20 local NGOs were involved in a range of community-based interventions in public health, hygiene and child care, vocational training, women's empowerment through entrepreneurial training, community awareness of the Project, low-cost sanitation, legal literacy, self-employment, and microcredit. These were based on demands arising from the community needs assessment, baseline survey, social mapping, community organization, formation of self-help groups, training courses, awareness camps, and

construction of low-cost sanitation units. More than 750 self-help groups were initiated in the project towns, which have been linked to town federations to help ensure their sustainability, improving the lives of 15,000–20,000 women (and their 100,000 family and household members).

15. The Project provided for developing 2,520,000 square meters in the four project towns for new residential sites complete with roads, water supply, drainage and sanitation, and electrical services. Nearly 5,600 plots were completed in Channapatnam. Mysore, and Ramanagaram. While all the new lots in Mysore have been sold, those in Channapatnam and Ramanagaram have not, though KUIDFC is discussing the use of these lots with the Rajiv Gandhi Rural Housing Development Ltd. In Tumkur, work on the new development was stopped when the remaining land could not be acquired.

16. **Part D—Development of Industrial Sites and Services**. Ninety industrial sites and services were developed in Tumkur on 873,936 square meters provided with roads, drains, water supply, sewerage, and electricity. These are selling and will increase economic activity.

17. **Part E—Implementation Assistance and Institutional Strengthening**. KUIDFC established project management, project implementation, community development, and training and capacity-building units. One international project management consultant and two domestic design and supervision consultants were recruited to help KUIDFC implement the Project. A domestic consultant was also engaged for benefit monitoring and evaluation (BME). Local NGOs were engaged in each town to assist community participation and poverty reduction interventions.

18. The various implementation consultants and units conducted extensive training programs in quality control and implementation of works, public awareness, and building of towns' capacity and efficiencies. Specific programs included (i) management action plans, (ii) computerization of records and accounts, (iii) billing and collection, (iv) review of organization, and (v) staffing and O&M of the new facilities. KUIDFC and the director of the municipal administration interacted extensively with the elected town councils and municipal staff to encourage and support these new initiatives.

19. In summary, the major changes to the project were the following:

(i) inclusion of two towns—Mandya and Maddur—for $6 million, approved in November 2002;
(ii) addition of public toilets, lake improvement, and rainwater-harvesting works;
(iii) change in sewage treatment technology from an oxidation pond to an aerated lagoon in Ramanagaram because land was not available;
(iv) change in the alignment of the outer ring road in Mysore in accordance with the recommendations of the EIA and public consultations, and cancellation of the Mysore truck terminal;
(v) provision for water and sewer house service connections in Ramanagaram and water connections in Channapatnam to improve use of the new assets;
(vi) inclusion of water supply and sewerage interconnections in Mysore to improve the impact of the bulk water supply system and sewage trunk mains and treatment plant;
(vii) cancellation of the electrification component of residential sites and service areas in all project towns, as such service needs to be acquired directly by the owners;

(viii) cancellation of the industrial sites and services in Ramanagaram because land was not acquired; and
(ix) cancellation of the sites and service project in Tumkur because land could not be acquired.

C. Project Costs

20. The total cost of the Project, including physical and price contingencies, interest, and other charges related to the loan, was $112 million equivalent. The base project cost on completion was $103 million, including the two additional towns. The total savings from the original estimation were $8.6 million because of (i) the increase in the dollar–rupee exchange rate; (ii) overestimated contingencies resulting from ADB's standard formula; and (iii) cancellation of some components such as (a) residential sites and services in Tumkur, (b) the truck terminal in Mysore, and (c) electrification of new sites. There were no major shifts in foreign and local currency costs. The summary of use of the ADB loan in foreign and local cost is in Appendix 2, and of the allocation or reallocation for actual disbursements in Appendix 3. The project cost, financing plan, and cost breakdown at appraisal and at project completion are in the basic data section.

D. Disbursements

21. Annual contract award and disbursement details are in Appendix 4. Since the Report and Recommendation of the President (RRP) did not include any contract award or disbursement targets, the contract award and disbursement targets in Appendix 4 are provided by KUIDFC for each year. Except during the first year (1996) and the final year (2004), the award and disbursement targets given by KUIDFC were not achieved. During the first year, the targets were met because consultants were appointed, and, during the last year, because the balance of payments had to be completed. In all other years, the contract award and disbursement targets were not achieved because they had been overestimated.

E. Project Schedule

22. The loan was made effective on 8 July 1996, with completion expected in 5.5 years, by 31 December 2001. Project implementation was completed on 30 June 2004, 2.5 years later. Most of the work was completed during project implementation, except for the outer ring road works in Mysore, which took more time because the change in the alignment required more land. The project implementation schedule as envisaged, at appraisal and actual, is in Appendix 5.

23. The implementation delays were primarily caused by contractors' slow execution of works. Most contractors had never worked on externally financed works and did not understand (i) the tender documents; (ii) the complexities of scheduling and implementing urban infrastructure works; or (iii) contract specifications, quality control, and general conditions. Lack of planning and scheduling, inexperience, and poor equipment compounded the delays that plagued most contracts. The contractors often had cash flow problems partly because of KUIDFC's elaborate claim procedures, which led to late payment to contractors. Appendix 6 gives details of contract schedules, actual completion, and brief details of all the contracts. Slow processing of decisions and variations by KUIDFC and the implementing agencies (IAs), and inadequate monitoring by project consultants were other reasons for delays.

24. Delays were also caused by (i) difficulties in land acquisition; (ii) changes in designs owing to inadequate surveys and investigation by consultants; (iii) poor contract administration by the IAs; (iv) lack of coordinated efforts by the IAs wherever external agency clearances or actions were required; (v) release of payments[9] to contractors by the state as no second-generation imprest account was in place; (vi) late provision of electrical connections; and (vii) unanticipated intervention by public groups, NGOs, and community-based organizations, which led to a major EIA for the ring road in Mysore.

25. The Project was the first ADB-funded integrated urban infrastructure development project in India, and also the first such project in Karnataka. KUIDFC was at first hampered by the inexperience of the various project consultants who initially did not properly support the IAs. However, despite these constraints, the Project was completed within 8 years, which is not unusual in most countries, and is proving to be the norm for urban projects in India.

F. Implementation Arrangements

26. Implementation arrangements were generally satisfactory. KUIDFC was the EA while the state line agencies and towns were the IAs for various project components. Some implementation arrangements, however, were changed to adjust to some towns' weak capacity (Appendix 7). Because the loan covenants supported India's 74th constitutional amendment, the towns were the IAs for road improvements within the municipal area, which had been the responsibility of public works departments. Channapatnam and Ramanagaram then authorized KUIDFC to implement the works, as their capacity to do so was inadequate. New IAs such as the Maddur, Mandya, University of Mysore, and Zoo Authority of Karnataka had to be trained.

G. Conditions and Covenants

27. Most loan covenants have been complied with, some partially complied with, and some delayed (Appendix 8). The major reasons for noncompliance included the impracticality of the state implementing reforms town by town. Rather, the state decided to initiate reforms in all its towns, which required amending relevant acts and regulations. This has taken time, but the reforms originally envisaged for only the project towns are now being implemented in 63 cities.

28. Under the related program, Nirmal Nagar, property tax reforms, involving a shift to self-assessment based on the capital-value method, have shown good results. Information technology, including management information system and geographical information system, are being introduced along with fund-based accounting, computerization, and audits. The related project loan covenants have resulted in these changes, though more slowly than envisaged during project appraisal. Nirmal Nagar is being financed from the follow-on ADB-financed Karnataka Urban Development and Coastal Environmental Management Project (Loan 1704-IND).[10]

H. Consultant Recruitment and Procurement

29. KUIDFC selected and recruited consultants according to *Guidelines on the Use of Consultants by Asian Development Bank and Its Borrowers*. One project management

[9] Payments were released from the state treasury to KUIDFC to different IAs, for onward release to the contractors.
[10] ADB. 1999. *RRP to the Board of Directors on a Proposed Loan to India for the Karnataka Urban Development and Coastal Management Project*. Manila (Loan 1704-IND, for $175 million, approved on 26 October).

consultant and two design and supervision consultants were appointed in September 1996 and worked through project completion in June 2004. The consultants' appointments were first for 4 years, then extended, along with the loan closing dates.

30. The project management consultants developed standard bid documents for procurement of goods, materials, and civil works, which, upon approval by ADB, were used throughout the Project. A contract numbering system was also developed. Universal standard specifications for civil works were compiled using national codes, practices, and guidelines for various works and materials, and were incorporated into the standard bid documents. This led to the standardization of all the project works and a quality control system, which will be used for future ADB-financed projects.

I. Performance of Consultants, Contractors, and Suppliers

31. The performance of the consultants was generally satisfactory, though many were changed during the Project, which delayed planning and design and put pressure on the KUIDFC staff. The consultants' delay in finalizing and issuing technical drawings, frequent changes in the design, and lack of proper pre-design investigations led to problems during construction and to numerous variation orders. This was worsened by a lack of familiarity with and understanding of ADB's procurement procedures, guidelines, and quality control requirements. However, the domestic consultants improved their performance over time and built their capacity.

32. Contractors generally did not understand the works' requirements for quality, methodology, cash flow, and management in an urban environment, which involves inconveniences to the public and coordination with various other service providers and utility departments. However, irrespective of the challenges of an urban infrastructure project, the contractors generally lacked works and financial planning, and most contracts ran more than 200% over their completion time. The contractors did not understand the contract provisions, which delayed settlement of variations and bills for payments. However, toward the Project's end, the contractors' quality and performance improved.

J. Performance of the Borrower and the Executing Agency

33. India, the Borrower, represented by the Department of Economic Affairs, chaired regular tripartite meetings and reviews involving KUIDFC and ADB. The reviews helped identify bottlenecks and were used to monitor the project progress vis-à-vis targets for disbursement and contract awards. KUIDFC was a new nodal agency at the start of the Project. However, KUIDFC quickly established project implementation procedures for planning and implementation. KUIDFC also established effective monitoring and implementing mechanisms through independent offices in each project town, headed by deputy project directors. This helped with interagency coordination, monitoring, and progress reporting from the field, and strengthened the interaction with the client and project towns.

34. Frequent change of KUIDFC's project director, the state's centralized approach in the Project's early days, and inadequate consultation with project towns worsened implementation problems and towns' lack of ownership. In retrospect, the state could have requested a second-generation imprest account to reduce KUIDFC's dependence on state finances, which led to delays in payment in the early years. The contractors' progress claim review and payment mechanisms were cumbersome and time-consuming, leading to delays and dependence on the state treasury for payments.

35. KUIDFC, however, has now become an independent organization with adequate staff and authority. The hands-on capacity that its staff gained during the Project resulted in better implementation of the second, and ongoing, ADB-assisted project, Karnataka Urban Development and Coastal Environmental Project. KUIDFC has prepared a third ADB-assisted project on its own, which is expected to be approved in early 2006. KUIDFC has established itself as a nodal agency for all externally aided projects in the state, through active support from and continuous engagement with ADB, the World Bank, and other external agencies. Successful completion of this complicated Project, involving six towns and many subsectors, has been commendable. KUIDFC's overall performance was highly satisfactory.

K. Performance of the Asian Development Bank

36. The loan was declared effective in July 1996. ADB regularly undertook review missions and closely monitored the Project's progress, provided advice, and facilitated discussions with KUIDFC to hasten disbursements. While project administration was delegated to the India Resident Mission in January 1996, KUIDFC would have benefited from workshops and more support from ADB during consultant recruitment, which saw major delays. The Project was also discussed at bilateral review meetings with ADB, and at tripartite portfolio review meetings chaired by the Ministry of Finance and attended by KUIDFC and ADB. KUIDFC found these meetings useful in addressing major constraints and in agreeing on steps and targets for effective implementation.

37. ADB approved evaluation reports and contract awards within a few days, but cases requiring review by ADB's Procurement Committee required up to 3 months for approval. ADB did organize training workshops on (i) recruitment of consultants, (ii) procurement of contractors, and (iii) project implementation, which, over time, increased the capacity of all project personnel and improved their performance. ADB's performance was satisfactory.

III. EVALUATION OF PERFORMANCE

A. Relevance

38. The Project was rated highly relevant in meeting the immediate and long-term objectives of the Government, state, and participating towns, and also in promoting ADB's country strategy. The project objective and scope to address the infrastructure deficiencies in the six project towns were relevant. Changes in the scope of components and outputs enhanced the Project's social, environmental, and operational impact.

B. Effectiveness in Achieving Outcome

39. The Project achieved the immediate objective of providing missing infrastructure or upgrading inadequate infrastructure in the project towns, and has helped improve life significantly for most people in the project towns. The maximum impact was in the improved water supply and sanitary conditions of the towns' low-income and slum areas. The slum improvement component, coupled with the low-cost sanitation, was successful and has directly benefited the poor and vulnerable. The road improvement component not only made travel convenient, safe, and much more efficient, but also improved the project towns' aesthetics and environment.

40. A BME program was commissioned in 1999. It comprised baseline and project completion surveys to assess the benefits and impacts of the various project interventions. Targeted beneficiaries' attitudes and awareness changed perceivably in all the towns. Quality infrastructure—improved water supply, low-cost sanitation toilets, and drains for sewerage and storm water—has benefited all the project slums. Improved water supply has enhanced the beneficiaries' health, social status, and economic opportunities by reducing the time for and drudgery of collecting water. The development of 750 self-help groups benefiting 15,000–20,000 women was a major achievement, with a spill-over effect on their more than 100,000 family or household members. The community buildings provided under the Project act as catalysts for the community, women's groups, self-help groups, and NGOs. The BME surveys measured people's perceptions of the Project's improvements: (i) water supply (access, pressure, quality); (ii) sewerage and drainage (adequacy, maintenance); (iii) solid waste (collection); (iv) road improvement; and (v) slum improvement. The BME study (Appendix 9) confirms an increased perception about the basic services and the benefits of the infrastructure improvements, and shows satisfaction with the project works. Most beneficiaries also confirmed that property values across all economic sectors had increased more in the project areas. The BME helped make real-time adjustments in scope, based on perceived demand and immediate need, particularly in slums.

C. Efficiency in Achieving Outcome and Outputs

41. The most significant project impact has been in Mysore, which is the second-largest city in the Bangalore subregion after Bangalore, with a population of 900,000. In the other towns, the impacts have been moderate and less financially sustainable.[11] The investments in Mysore are financially and operationally sustainable. The capacity-building and training component has also had more effect in Mysore as the urban local body and other agencies had enough people who could be trained. A detailed analysis of financial sustainability for each project component is in Appendix 10.

D. Preliminary Assessment of Sustainability

42. The water supply, sewerage, and solid waste are the most critical components in terms of sustainability, as they need constant O&M funding. Other components such as drainage, roads, and slum upgrading, though requiring much less O&M, contribute to total liability and overall impact on municipal finances. The financial internal rate of return (FIRR) for the water supply component in Mysore is estimated at 4.3%, higher than the weighted average cost of capital but lower than the 15.5% calculated during appraisal. The FIRR for the Ramanagaram and Channapatna water system is –5.1% against 7.6% during the appraisal. This substantial reduction in FIRR is attributed to the less-than-estimated increase in the water tariff[12] during the Project. A 30% sewerage assessment could not be added, and nonrevenue water could not be reduced from 30% to 20%. Institutional reforms and service cost recovery have not been as successful as envisaged. However, the state's argument that tariff revision and inclusion of sewerage assessment can politically be carried out only after services are improved is logical. This aspect will need to be examined under ADB's water policy[13] and during future project designs. In Channapatna and Ramanagaram, the new scheme's O&M is high as the water is pumped from about 40 km, with a high pumping head.

[11] See Appendix 5 for details of financial and economic analyses of project components.
[12] The assumption at appraisal was that water tariffs would increase at 13% per annum, totaling 251% during the Project.
[13] ADB. 2001. *Water for all: The Water Policy of the ADB.* Manila.

43. Household water tariffs were increased from Rs20/month before the Project, to Rs45/month in 1999, to Rs100/month after the new works began. Water tariff collection has improved markedly in all towns through sustained efforts of the towns, KUIDFC, and the state. The O&M of the water systems in Channapatna and Ramanagaram, including collection of revenues by the Karnataka Urban Water Supply and Drainage Board, has significantly improved service. Though the level of collected revenue is not in full concurrence with the project objectives, it is needed in the medium term in order to support the 74th constitutional amendment on decentralization until the towns gain technical experience and financial capacity.

44. The 2002 property tax reforms[14] in Karnataka have significantly improved most project towns' tax receipts. However, project appraisal projections were too high. In most cases, the realized revenues are about 20% of projected revenues, suggesting that more attention needs to be given to the financial projection exercise during project preparation.

45. The state will repay the ADB loan following the payment schedule in the loan agreement. The state has decided that loan repayments from the towns should accrue to KUIDFC, to build a revolving fund. The financial arrangements between KUIDFC and the participating towns involved repayment of funds for revenue-earning facilities such as water, sewerage, solid waste, and new building sites. The debt repayment obligations of the project towns range from 43% of the operating revenue for Mysore, to nearly 115% for Ramanagaram. This is not sustainable under the project towns' revenue base. As a result, most of these debts will be paid by retaining state-to-town fiscal transfers. Future ADB projects should take these lessons into account so that participating towns will not experience fiscal stress as a result of loan-based assistance.

E. Environmental, Sociocultural, and Other Impacts

46. The Project was under environmental category B, and incorporated good environmental practices. Better quality, quantity, and reliability of supply, sewerage, drainage, and low-cost sanitation have improved sanitary conditions, particularly in slums (Appendix 11).

47. For all the landfill sites, composting plants, and sewage treatment plants, the requisite statutory clearances for sites and construction have been obtained from the State Pollution Control Board. However, operation of the facilities requires a second stage of approvals and clearances from the Pollution Control Board, which have not yet been obtained. KUIDFC has been reminded to request the IAs to obtain these post facto.

48. Appendix 12 identifies several procedural inadequacies in the O&M of water, wastewater, and solid waste management facilities, which should be corrected by training. However, since the project facilities have been handed over to the towns, KUIDFC will need to build the agencies' capacity further. Future projects need to incorporate operating guidelines for all constructed facilities and continued engagement of the EA after the projects are completed.

49. The long-term plan for the outer ring road in Mysore had the alignment abutting a lake. However, this lake is a nesting and feeding ground for migratory birds, including several endangered species. At the request of local residents, led by an NGO, ADB encouraged KUIDFC to carry out an initial environmental examination, which led to a full EIA. Subsequently, the EIA recommended that the alignment be changed or that the road bypass the lake, requiring more land acquisition, about $3 million of extra costs, and an 18-month extension of the loan

[14] The property tax reforms introduced by the state in 2002 conform to Loan Agreement, schedule 6, para. 21.

closing date. The EIA, however, was NGO and citizen-driven and (i) led to extensive public consultations, which were healthy for the Project; (ii) improved people's perception of the Project; and (iii) led to several more lake improvements, which have been well received.

50. The project authorities acquired land and compensated project-affected people following the ADB guidelines and resettlement plans, with prior approval of ADB. Broadly, the resettlement plans and the guidelines were followed and project-affected people are satisfied with the market-rate compensation provided, which included serviced residential plots, and which they received quickly, "unlike in other projects". The resettlement plan did not identify any specific vulnerable groups, even though the project-affected people included scheduled castes and tribes and households headed by women, mostly in slums. They were treated in the same way as other beneficiaries and have enjoyed similar benefits.

IV OVERALL ASSESSMENT AND RECOMMENDATIONS

A. Overall Assessment

51. The Project was broadly implemented as formulated during appraisal, with some deviations, implementation delays, several minor changes in scope of work, and one major change in scope, as required by ground realities. Creation of physical infrastructure was more successful than capacity building and policy reform. The major changes in implementation were the following:

(i) extension of the project by 2.5 years, primarily because of (a) slowness of most contractors, (b) difficulties with land acquisitions, (c) change of alignment of the outer ring road in Mysore, and (d) addition of two towns;
(ii) change of waste treatment technology from a stabilization pond to an aerated lagoon for the Ramanagaram sewage treatment plant; and
(iii) cancellation of $8.6 million of loan funds, $5.0 million after the midterm review, and the remainder after completion.

52. Overall, the Project was successful. Since the original and additional scope were achieved, (i) there were no cost overruns, (ii) social and environmental safeguards requirements were followed, (iii) the project towns' environmental and sanitary conditions were significantly improved, and (iv) performance on financial- and governance-related loan covenants was broadly satisfactory (Appendix 12). Although some of the loan covenants are not yet fully complied with, the following are steps in the right direction: (i) the state's initiatives on property tax; (ii) the revenue-enhancing Nirmal Nagar program; and (iii) other reforms, even though delayed. A substantial positive impact on municipal finances is already apparent, including computerization and modern accounting practices in all 63 towns of the state, not just in the 6 project towns.

53. The 2002 property tax reforms (footnote 12) have significantly improved the tax receipts of most project towns. However, the projections incorporated into the RRP were not realistic, as the actual revenues are only 20% of those projected at appraisal. Similarly, the RRP unrealistically envisaged a 250% increase in water tariff during project implementation, and reduction of nonrevenue water to 15%. This suggests that more attention needs to be given to the financial projection exercise during project preparation.

B. Lessons Learned

54. As this was the first integrated urban development project in India, and since neither KUIDFC nor the towns had any experience with externally financed projects, KUIDFC, the IAs, their consultants, and contractors had to go through a steep learning curve. Major lessons learned include the following:

(i) The capacity of smaller cities and towns is not adequate to plan, design, or implement major projects or to operate new facilities. Though mandated by the 74th constitutional amendment, small towns have not yet developed sufficient human capital or the financial wherewithal, and require extensive capacity building.
(ii) The participating towns need to be fully engaged and consulted during loan formulation, including discussions on the details of capital and O&M costs and the impact on their budgets, revenues, taxes, and tariffs.
(iii) Project implementation arrangements need to be clearly defined, and detailed procedures established at the Project's start.
(iv) A good financial and physical project performance monitoring system is essential to avoid ad hoc or delayed decisions.
(v) Policy and reform aspects need to be realistic and politically doable.
(vi) Contract monitoring procedures and training must be provided to EAs, IAs, project consultants, and contractors.
(vii) Changes in EAs, IAs, and consulting staff must be minimized by planning long-term assignments from the beginning. When prolonged engagement of consulting services is envisaged, as in the urban sector, procedures for extending services and changing personnel need to be incorporated into the consulting service contracts.
(viii) Project components must undergo detailed planning and appraisal to confirm demand and sustainability.
(ix) New water and sewerage schemes should include house service connections, installed at the same time as street lines are constructed.
(x) Focus must be shifted from creation of assets to provision of improved service, taking into account the O&M of the constructed facility, its pricing, and revenue collection.
(xi) Smaller towns must receive O&M support for the first few years after implementation is completed. The field work conducted for this report found that many of the new facilities were not used for up to 18 months after the works contracts were completed.

C. Recommendations

55. **Project Design.** Based on the findings of this project completion report, combined with further lessons learned from other ongoing urban projects in India, the following are recommended:

(i) Project components need to be demand-driven and well defined. Mere intention of the political leadership is no guarantee that needs will be properly identified and the project will be accepted after completion. Extensive public consultation is essential for the success of any project.

(ii) More comprehensive planning by integrating existing and proposed infrastructure is required during planning, investigation, and design. Priority should be given to upgrade, improve, and build upon existing components rather than build new ones.

(iii) Focus should change from merely creating assets to ensuring the provision and delivery of better-designed services.

(iv) Implementation arrangements and roles and responsibilities must be clearly defined from the start of the project. The EA, IAs, and urban local bodies must be consulted on, and trained by ADB in, recruitment of consultants and other implementation requirements.

(v) A sense of project ownership and, therefore, commitment to execute the work must be instilled among the staff members of various stakeholders, including consultants and contractors. Incentives for good performance and penalties for poor performance must be clear.

(vi) The involved agencies, including external agencies such as railway, electricity, pollution control, and highway authorities, must improve coordination among themselves.

(vii) End users of the proposed facilities should be made aware of the actual cost of the related new works, both capital and O&M, to help decide the level of service they want.

(viii) The EA or state agency should have a formal agreement with participating towns as to the scope of the project, and responsibility for O&M.

56. **Future Monitoring**. In the absence of a strong EA such as KUIDFC, continued engagement of the senior authority, including ADB, in completed projects is recommended to provide advisory services, monitoring of O&M, and use of assets. Fielding of follow-up missions for at least the first year after completion would help sustainability. The EA may also need to be advised to send quarterly updates. ADB may also think of providing an advisory TA to provide technical and managerial expertise in O&M of assets, especially water supply, sewerage, and solid waste management components.

57. **Covenants.** Most of the loan covenants have now been complied with, though some only partially. Since ADB is engaged with KUIDFC for the ongoing Karnataka Urban Development Coastal Environmental Management Project and for the proposed North Karnataka Urban Sector Investment Project,[15] which have similar covenants, covenants will be monitored continuously.

58. **Further Action or Follow-Up**. The loan account has been closed, all disbursements have been completed, and there are no pending claims, so further monitoring or follow-up on the Project's financial closure is not needed. Some additional works financed by the state have been completed, including road works in Channapatna. Follow-up action to determine the status

[15] ADB. 2005. *Report and Recommendation of the President (RRP) to the Board of Directors on a Proposed Loan to India for the North Karnataka Urban Infrastructure Sector Development Program*. Manila (Project No. 38254-01, for $270 million, under approval).

of O&M of new facilities is recommended, as part of the appraisal for the proposed third urban sector project.

59. **Timing of the Project Performance Audit Report**. The report has been initiated.

PROJECT COMPONENTS AND OUTPUTS[1]

A. Project Objectives and Scope

1. The Project's objective was to promote decentralization of population growth and economic activity away from Bangalore by making nearby urban centers more attractive centers by improving their basic infrastructure, environment, and quality of life. The Project improved and expanded urban infrastructure in Channapatna, Maddur, Mandya, Mysore, Ramanagaram, and Tumkur. The project scope included (i) part A—environmental sanitation (water supply, sewage, drainage, and solid waste); (ii) part B—urban transportation; (iii) part C—poverty reduction; (iv) part D—sites and services; and (v) part E—implementation assistance and institutional strengthening. Each part is described in more detail below.

B. Scope

1. Part A—Environmental Sanitation

2. The component included all the water supply, storm water drainage, sewerage, solid waste management, low-cost sanitation, public toilets,[2] lake improvement, and rainwater harvesting works. Major components and achievement in the project towns are discussed below:

3. **Mysore.** The water supply improvement program comprised a new supply system, designed for an initial supply of 50 million liters per day (mld), adequate to meet the estimated demand through 2011, and capable of being upgraded to 150 mld to meet the estimated demand in 2026, without substantial additional civil works. The related works were carried out through four contract packages. However, additional contracts were added to link the new supply system to ground-level reservoirs and new distribution mains to the existing distribution system, to ensure a more effective and efficient system.

4. The sewerage system included trunk sewers and sewage treatment plants (STP) for each of three separate drainage districts, including connections to existing laterals and tributaries to the trunk sewer systems and to interlink with the storm drainage systems. All systems have been designed with capacity to meet the forecasted demands up to 2011, and for easy expansion to meet the design capacity for 2026 by incremental expansions of the mechanical equipment, along with some civil works. The works were divided into seven main contract packages.

5. The solid waste management program was divided into two packages. The first contract was for construction of 211 community bins, which was expanded to provide additional bins in response to public demand. Construction of a 200-ton/day composting plant under a build-and-operate scheme was also completed. The plant continues to be operated by the private sector contractor that built it, and he pays the city a leasing fee plus a share of profits.

6. **Tumkur.** Expansion of the water supply system included improvements and upgrading of 128 kilometers (km) of the existing water distribution system and construction of a new reservoir at the water treatment plant site, under a single contract. Despite advice from the

[1] Maddur and Mandya were added later in the Project, when loan savings became apparent.
[2] Included as change in scope.

Asian Development Bank (ADB), the city did not want to expand the water supply so, with the increased distribution and new consumers, the per capita supply has been reduced. The corrective steps to decrease leakage and improve the efficiency of the water system included in the Project have not resulted in the savings predicted. By the time the Tumkur municipal corporation decided to expand the supply system, the Project was almost complete and there were no remaining funds. The state has advised Tumkur to seek funds under other programs.

7. A new sewage collection system to serve the core areas of the town and high-density residential areas was constructed, along with a treatment plant. The work was divided into four contract packages (i) sewage collection system for districts 5 and 6B (65 km); (ii) sewage collection system for districts 6A, 7, and 9 (85 km); (iii) sewage collection system for district 10 and the treated effluent outfall (40 km); and (iv) a STP and pump station (24.57 mld) which have all been completed[3] Since the house service connections were not provided as part of the sewage collection component, the sewage flow was initially zero. However, the city implemented a public information campaign and households eventually made their own connections.

8. The solid waste management program included improvements to collection efficiencies and development of a new solid waste disposal site. A single contract was awarded for construction of the disposal site and the work is completed. However, the residents along and near the haulage route and landfill site have not allowed this site to be used, as they fear it would degrade the environment and reduce property values. This objective has not yet been achieved, but the municipal corporation is doing an information campaign.

9. **Channapatna and Ramanagaram.** A new water supply system was constructed to service both Channapatna and Ramanagaram with an initial combined supply of 15 mld, which is adequate to meet the projected demands up to 2011, and capable of being upgraded to 25 mld to meet the demands in 2026, without additional civil works. The work completed through five contract packages included, (i) intake works and water treatment plant (15 mld), (ii) clear water supply main (45 km), (iii) intermediate pump stations and reservoirs, (iv) Channapatna distribution system (66.6 km), and (v) Ramanagaram distribution system (63 km). The contract for Ramanagaram included construction of that town's sewer system. The raw water source is the Bangalore Water Supply and Sewerage Board intake 40 km away. The long distance adds hydraulic losses to the natural elevation, resulting in multistage pumping with high electricity costs.

10. Ramanagaram also improved and extended its existing sewage collection system and constructed a new STP. There were two contract packages, one for the 51 km sewage collection system, including the water system, and the second for construction of a STP and pump stations with 7.56 mld capacity. A public information campaign led to five small contracts to install house connections. About 6,000 connections, out of a possible 10,000, have been completed.

11. The solid waste management programs for Channapatna and Ramanagaram improve operational efficiencies and develop new disposal sites. A single contract was awarded for construction of the two disposal sites. The site is not being operated as a modern sanitary landfill, despite the state's best efforts to train the operators.

[3] The Sewage Treatment Plant was completed in 57 months against the scheduled 18 months.

2. Part B—Road Improvement and Truck and Bus Terminals

12. This component included (i) improvement of city roads, (ii) construction of bypass and ring roads, (iii) widening of intercity connecting roads, and (iv) construction of bus and truck terminals. Major components in each project town are discussed below.

13. **Mysore**. This component included six contracts: one contact each for upgrading and improvement of city roads (48 roads for a total of 58 km), widening and strengthening of Mysore inner ring road (19 km), construction of a bus terminal, and three contracts for the outer ring road. The National Railways implemented a contract to construct an underpass on the ring road. All the works have been completed and are being used. The ring roads, in particular, have eased traffic as heavy trucks now bypass the city. The alignment of the outer ring road was changed in response to the outcome of an environmental impact assessment (EIA), done to evaluate the impact of a stretch the road abutting a lake, which is used by migratory birds. The EIA resulted from pressure by nongovernment organization (NGOs) and citizen groups, and the road alignment was changed. While this did cause a 1-year delay, the exercise in civic responsibility gained the Mysore City Corporation a lot of respect and goodwill. To strengthen community participation, a society, chaired by the divisional commissioner of Mysore, was formed to implement the rehabilitation works for three other lakes in Mysore. Representatives of all stakeholder agencies and prominent citizens of Mysore were made members of the society, leading to improvements to several city parks and the Mysore Zoo.

14. **Tumkur.** The road component originally included four contracts for construction of (i) municipal roads and drains (18 roads for a total of 24.0 km), (ii) southern bypass road (10.5 km), (iii) Tumkur truck terminal [89,012 square meter (m^2)] and (iv) railway crossing for the southern bypass. An additional package for the improvement of road works was included because of additional demand from the town, and availability of loan funds.

15. **Ramanagaram and Channapatna.** The road component included five contracts: (i) improvement of municipal roads and drains for Ramanagaram (23 km), (ii) widening and strengthening the Bangalore–Mysore SH-17 at Ramanagaram and Channapatna (9 km), (iii) construction of a new two-lane bridge on SH 17 at Ramanagaram, (iv) construction of a new bus terminal at Ramanagaram (8,538.88 m^2), and (v) improvement of municipal roads and drains for Channapatna (29 km). An additional package to improve road works was included because of additional demand from the towns and availability of loan funds. But the new package could not be completed because of land acquisition problems, and the contract was cancelled.

16. **Maddur and Mandya.** There were three contracts to improve the roads: (i) municipal road and related works in Mandya (30 km), (ii) municipal road and related works in Maddur (12 km), and (iii) storm water drains in Mandya. All the works have been completed.

3. Part C – Poverty Reduction

17. This component included a number of initiatives to improve life in low-income areas: slum upgrading, low-cost sanitation, residential sites and services, a cultural center, women's a training center, and a municipal building. The main components are described below:

18. **Slum Upgrading.** Slum areas were improved through provision of basic urban services such as water supply, sanitation, roads, drains, solid waste collection, street lighting, and social

facilities such as community and women's training centers. All facilities included in the programs were identified with the full participation of the communities, using local NGOs and community-based organizations as key facilitators. Six contracts were awarded for improvements: (i) seven slums in Channapatna, (ii) three each in Maddur and Mandya and (iii) six in Mysore—phase II, (iv) eight in Mysore—phase I, (v) six in Ramanagaram, and (vi) six in Tumkur. There are also two contracts for improvement of a low-income area in Gousianagar and Mysore. Works on all these packages have been completed, and quality of life in these slums has improved substantially.

19. **Low-Cost Sanitation.** The Project included 23,700 low-cost sanitation units for low-income houses in the four project towns to be provided through local NGOs for beneficiary identification and community participation aspects of the program. Emphasis was placed on using the NGOs to motivate and educate women beneficiaries in using the facilities. Based on actual demand, 17,328 units were completed in the four project towns. The details are as in the following table:

Table A1.1: Details of Low-Cost Sanitation Units in Four Towns

Items	MCC, Mysore	CMC, Tumkur	CMC, Ramanagaram	CMC, Channapatna
Original Program Targets	8,750	8,710	2,770	3,470
Revised Targets	8,750	3,300	1,910	3,368
Number of Units Completed	8,184 (94%)	3,020 (92%)	1,910 (100%)	2,864 (85%)

CMC = City Municipal Corporation; MCC = Mysore City Corporation
Sources: Asian Development Bank review missions aide memoires and quarterly progress report of the executing agency.

20. During the last phase of works, 163 units were constructed in Mandya, and 13 in Maddur.

21. As part of planning the physical improvements, community participation and awareness activities were carried out. The Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC) identified a number of NGOs in each town that implemented the agreed social action programs under the three broad categories: (i) health education; (ii) skills training; and (iii) income generation, focusing on women and children in the project slum areas. These works were supervised by community development officers who worked for KUIDFC. More than 750 women's self-help groups were established. KUIDFC also decided to integrate development of these groups with training programs of other government agencies such as the departments of industry, mass education, and information technology, broadly following the social action plan. Hundreds of young people, both male and female, from the participating slums were given vocational training and helped to find jobs. Several of these efforts continue even 2 years after the Project was completed in Mysore and Tumkur.

4. Part D—Development of Industrial Sites and Services

22. Ninety industrial sites and services, developed to attract highway services, were developed in Tumkur, where about 8,74,121.8 m^2 of land were provided roads, drainage, water supply, sewerage, and electricity. However, because the state road from Bangalore was realigned, the development was reorganized into a housing development.

5. Part E—Implementation Assistance and Institutional Strengthening

23. KUIDFC was responsible for project administration and institutional strengthening under the Project, and established (i) a project management unit, headed by the managing director of KUIDFC; (ii) three project implementation units in Mysore and Tumkur, and a combined one for Ramnagaram and Channapatna headed by executive engineers; (iii) a community development unit; and (iv) a training and capacity-building cell. Consultants were recruited under the Project to help KUIDFC implement the programs: (i) an international consulting firm, Louis Berger International Inc., to assist the project management consultant; (ii) two domestic consulting firms, Dalal Mott MacDonald Consultants (formerly Dalal Consultants and Engineers Limited) and STUP Consultants to supervise design and construction; and (iii) an international consulting firm associated with domestic consultants for preparing the Bangalore subregional plan, which was the genesis of the Project. KUIDFC also recruited a national consultant, M/s Intervention India, to conduct a benefit monitoring and evaluation study of the project impact, based on the input of the local NGOs in each town, which assisted with community participation and poverty reduction.

6. Part F—Low-Income Housing Finance

24. The Project included provision for developing new sites and services in the four original project towns for residential purposes with roads, water supply, and drainage and sanitation facilities. At least 60% of the developed sites were to be allocated to low-income groups at affordable prices, and the balance to middle-income groups. Three contracts were completed for (i) 3,800 sites at Mysore, (ii) 935 sites at Ramanagaram, and (iii) 931 sites at Channapatna. In Mysore, all the lots were sold while none of the lots in Ramanagaram and Channapatna have been sold or allotted. In Tumkur, works for 1,831 sites were initiated but later had to be abandoned and the contract closed, after an initial expenditure of about $300,000, as all the necessary land could not be obtained, and there were problems with court interference. Ancillary works for providing electricity to Channapatna, Mysore, and Ramanagaram sites were scheduled under separate contract packages. Out of these only one package for Mysore was tendered, though later terminated. As a result, Channapatna and Ramanagaram decided to drop electrical works from this component because the State Electricity Board refused to provide additional power until the towns paid their outstanding electrical bills. Lack of electrical power is a reason for delay of construction in Mysore by the plot owners.

C. Project Outcomes

25. **What Worked.** The basic infrastructure construction is successful. The road, and related drainage improvements in all towns have greatly improved traffic, the environment, economic opportunities, and all-around quality of life. The sewerage and solid waste collection systems have resulted in a major cleanup and visual improvement in the towns. The increased water supply has benefited all residents, especially those with low incomes and the poor. Before the Project, wealthy and middle-class dwellers already had access to water and sanitation, but

many slums were only served by tankers and had no sanitation. This has improved in participating slums. The internal slum works were also successful as were the (i) related development of public health awareness, (ii) vocational skills and job creation, and (iii) empowerment of the poor, especially among the 20,000 poor women involved in the self-help groups.

26. **What Continues to Require Support.** The development of trained administration and operational personnel of the town departments was difficult, partly because the senior town administrators such as the municipal commissioners were changed every year or two. Many of the technical staff members are not professionals; there are no chartered accountants to run the town administration and no professional engineers to manage the physical facilities. This meant that non technical people had to be trained in tasks that were unfamiliar to them and this has proved difficult. Concurrently, the revenue enhancements that were to result from the policy reforms included in the loan covenants did not all materialize, as water tariff increases and property tax reforms lag behind schedule. While the related covenants remain partially completed, there has been a major increase in public awareness and a growing realization and agreement that revenues have to increase, but not until services are improved.

27. However, the director, municipal administration, Urban Development Department, and KUIDFC have decided to implement the municipal administrative reforms begun under this Project to all 62 major cities and towns in the state, including the 6 in this Project. This has resulted in a $7.5 million 3-year capacity-building program, financed from the second ADB loan to the state, which will help mainstream the initial training provided under the Project. The lesson learned is that new ideas, systems, and procedures take substantial hands-on training over several years to ensure sustainability.

28. **What Still Requires Support by KUIDFC to Ensure Full Use**. This was the first such urban project in modern India. The attempt to introduce a commercial aspect to help the towns grow and encourage investments has been a mixed success. Fortunately, the investments were relatively minor and most have been or will be recovered. A detailed description of the works found to have suffered from under or suboptimal use, or that were not used at all is provided below.

29. **Residential Sites and Services at Ramanagaram and Channapatna.**[4] After-the-fact analysis of the situation indicates the following:

(i) The real estate markets of Ramanagaram and Channapatna have not graduated or matured to good-quality residential. In the current market, speculative buyers can purchase vacant plots at much lower price.
(ii) At the time of project planning, the price sensitivity of the real estate market was not understood.
(iii) The sites and services are unacceptably far from the towns.
(iv) One of the major requirements for building on the lots—electrical power—was not available because the State Electricity Board refused to provide additional services.
(v) The serviced lots in Ramanagaram were in rocky terrain and, since the rocks were cut to level the area, the sale price shot up. This was caused by the consulting engineers' and planners' inflexible thinking, as the development should have followed the land's contours.

[4] The facility continues to remain unsold and KUIDFC has not indicated any concrete plan for use.

30. **Private Bus Terminal in Ramanagaram.**[5] The reasons for the failure of the city municipal corporation to use this facility include the following:

(i) The facility is unreasonably far for bus riders.
(ii) Private operators to shift away from the existing location which is near to the Karnataka State Road Transport Corporation terminal, showing the strong operational synergies between the two.

31. **Truck Terminal in Tumkur.**[6] The reasons for not using it include the following:

(i) It is near Bangalore, the regional transportation hub, meaning that Tumkur is neither a destination nor the origin of major goods and services.
(ii) During construction of the terminal, the four-laning of the old highway was begun, shortening the travel time from Bangalore to Tumkur by half and eliminating the need for a rest stop.
(iii) Though there is truck parking at various locations in Tumkur, parking or entry regulations are not enforced, so there is no legal reason for the trucks to shift parking to a designated truck terminal area.

32. **STP for Ramanagaram**[7] **and Channapatna.** The main reason for their not being fully used was that the original scope of work did not include the plot and/or house connections. Owners were assumed to connect on their own, once the system was built. The reluctance of house owners to pay for (i) connection fee, (ii) the line to his/her house, and (iii) the recurring monthly user charges was underestimated. In subsequent projects, house connections are encouraged to be part of the collection system works. This has the added benefit of less damage to roads.

33. **Leak Detection Equipment.** The leak detection equipment procured for Mysore City Corporation was to be used to reduce the physical loss of water in the existing distribution system. But, for various reasons, Mysore did not use this equipment and it was transferred to the Karnataka Urban Water Supply and Drainage Board, where these equipment remain underused. Karnataka Urban Water Supply and Drainage Board and Mysore City Corporation did not understand the benefits of spending modest funds on leakage detection, or perhaps the city's inadequate budget for operation and maintenance of the water system rendered detection pointless.

[5] The facility has now been taken up by Karnataka State Road Transport Corporation for creation of a bus depot- money may be recovered but objective not achieved.
[6] It has now been decided and approved by the government of Karnataka that the truck terminal will be converted to residential sites- money will be recovered but objective not achieved.
[7] It is now reported that approximately 20% of the design capacity sewage flow has started coming into the treatment plant.

BREAKUP OF FOREIGN AND LOCAL COSTS OF ADB FINANCING

($ million)

Item	Foreign Exchange	Local Currency	Total Cost
A. Environmental Sanitation			
1. Water Supply	8.75	4.41	13.16
2. Solid Waste Management	1.13	0.19	1.32
3. Sewerage	8.08	3.90	11.98
4. Storm Water Drainage	0.63	0.32	0.95
5. Lake Improvements	0.19	0.15	0.34
6. Public Toilets	0.04	0.02	0.06
7. Rainwater Harvesting	0.02	0.02	0.04
B. Road Improvement and Truck Terminal			
1. Road Improvements	10.22	6.07	16.29
2. Truck and Bus Terminal	0.40	0.20	0.60
C. Poverty Reduction			
1 . Slum Upgrading	1.11	0.85	1.96
2. Low-Income Sanitation	0.71	0.36	1.08
3. Residential Sites and Services	2.32	1.19	3.51
4. Cultural and/or Women's Training Centers	0.18	0.09	0.27
5. Municipal Building	0.04	0.04	0.08
D. Industrial Sites and Services	0.71	0.36	1.07
E. Implementation Assistance and Institutional Strengthening			
1. Consulting Services	3.86	2.22	6.08
2. Administration and Incremental O&M	4.49	0.05	4.54
3. Institutional Support	0.26	0.07	0.33
Contingencies	0.00	0.00	0.00
Interest During Construction	0.00	12.44	12.44
Partial Repayment of Cost of TA 1977-IND[a]	0.29	0.00	0.29
Total	**43.43**	**33.24**	**76.30**

O&M= operation and maintenance

[a] ADB. 1993. *Technical Assistance to India for Urban Infrastructure Development Project*. Manila (TA 1977-IND, for $646,000, approved on 12 November).

Sources: Loan Financial Information System of Asian Development Bank, aide memoires of review missions, and quarterly progress reports of the executing agency.

ALLOCATION AND/OR REALLOCATION AND ACTUAL DISBURSEMENT OF ADB FINANCING BY CATEGORY
($ million)

Loan Category	Category Name	Bank Financing (%)	Original Bank Allocation (per loan agreement)	Revised Allocation (1) (March 99)	Revised Allocation (2) (March 02)	Revised Allocation (3) (Nov 02)	Actual
1.	Civil Works	74	39.92	40.45	51.00	51.00	46.9
2.	Equipment	95	7.24	11.73	8.00	6.00	5.77
3.	Administration and O&M	95	1.98	2.82	4.00	4.00	4.54
4.	Institutional Support	95	1.42	2.57	1.00	0.50	0.90
5.	Consulting Services	95	4.55	4.55	5.00	5.50	5.54
6.	Prior TA Financing	100	0.35	0.35	0.35	0.35	0.29
7.	Interest and Commitment Charges	100	12.50	12.50	14.65	12.65	12.44
8.	Unallocated	as per use	17.04	10.03	1.00	0.00	0.00
	Total		**85.00**	**85.00**	**85.00**	**80.00**	**76.38**

O&M = Operation and Maintenance, TA = technical assistance
Source(s): Report and Recommendation of the President, Loan Agreement, Loan Financial Information System of Asian Development Bank, aide memoires of review missions, and quarterly progress reports of the executing agency.

CONTRACT AWARDS AND DISBURSEMENTS

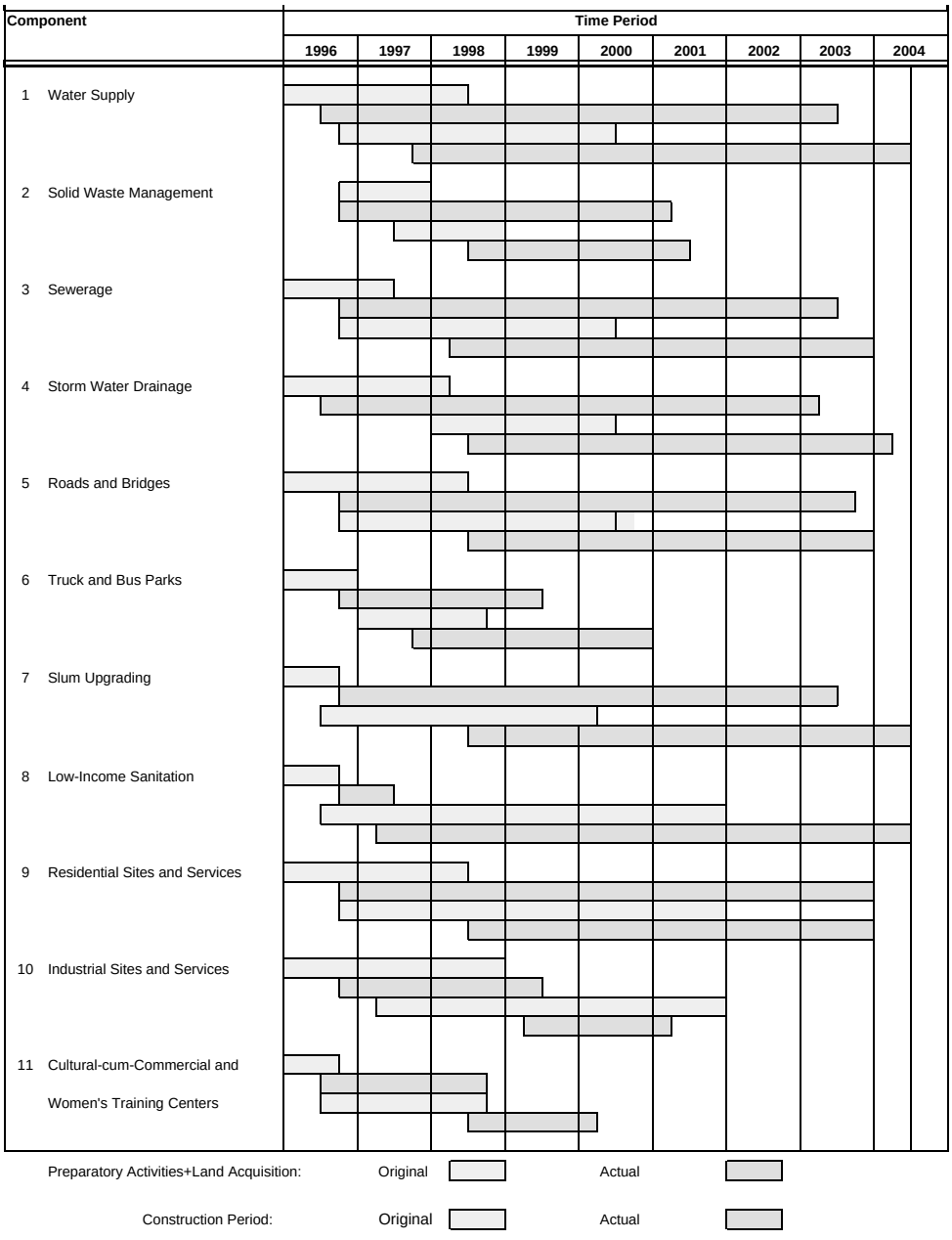
($ million)

Year		Contract Awards					Disbursement				
		Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Total
1996	Projection	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Actual	0.0	0.0	4.9	0.0	4.9	0.0	0.0	0.0	3.4	3.4
1997	Projection	0.4	0.0	0.2	3.4	4.0	0.5	0.5	1.5	1.5	4.0
	Actual	0.8	4.3	0.0	0.0	5.1	0.3	0.6	0.6	0.5	2.0
1998	Projection	3.8	16.8	25.4	4.2	50.2	1.2	3.0	7.2	9.1	20.5
	Actual	3.2	6.0	4.6	10.3	24.1	1.1	0.5	0.5	3.7	5.8
1999	Projection	8.6	9.3	0.9	1.1	19.9	3.2	3.8	6.2	6.5	19.7
	Actual	0.5	9.5	5.2	0.6	15.8	0.8	2.0	2.2	10.3	15.3
2000	Projection	0.0	3.0	3.3	4.2	10.5	6.0	6.8	2.5	2.0	17.3
	Actual	0.0	2.0	0.0	0.0	2.0	0.9	5.1	1.7	8.4	16.1
2001	Projection	0.0	4.0	2.0	0.0	6.0	2.0	2.7	3.5	3.8	12.0
	Actual	0.0	0.2	0.0	0.1	0.3	3.1	3.4	0.8	3.0	10.3
2002	Projection	2.9	9.9	2.4	0.5	15.7	0.0	0.0	11.5	1.7	13.2
	Actual	0.0	0.1	5.6	0.3	6.0	0.0	1.8	0.0	4.3	6.1
2003	Projection	1.0	2.0	0.0	0.0	3.0	2.0	2.0	2.0	3.0	9.0
	Actual	0.0	0.2	2.6	1.7	4.5	0.7	1.2	0.0	4.1	6.0
2004	Projection	1.2	0.0	0.0	0.0	1.2	3.0	4.0	3.0	0.0	10.0
	Actual	0.4	0.1	0.7	0.0	1.2	1.8	2.8	3.1	3.6	11.3

Qtr = quarter.

Source(s): Loan Financial Information System of Asian Development Bank.

IMPLEMENTATION SCHEDULE: ORIGINAL ¾ ACTUAL



SUMMARY OF CONTRACT DETAILS

	Contract Description/ *Contract Number*	Pkg. No./ Type	Loan Ctgy.	Estimated Cost (Rs Lakhs)	Contract Value (Rs Lakhs)	Employer (Agency)	Milestone Dates							Name of Contractor/ Status
							Invitation	Bid Opening (T-Technical F-Financial)	Letter of Acceptance (Date of Award)	Contract Signing	Notice to Proceed *(Contract Start)*	Sch'd. Duration Months	Actual Duration Months	
1.	150 mld Raw Water Pump Station with Intake Well in River Cauvery for Mysore *Contract No. 007/A01a/CW/LCB/98*	WSS01M Turnkey	C.W./ Equip.	365.72 + Spare Parts	389.09 21.04 "410.13	KUWSDB	26 Aug 1997	27 October 1997 (T) 12 February 1998 (F)	20 Feb 1998	16 Mar 1998	27 Mar 1998	*23.00*	*67.00*	M/s Larsen and Toubro Bangalore, Karnataka Completed
2.	46 km Rising Main from TK Hally to Ramanagaram for Ramanagaram/ Channapatna Water Supply *Contract No. 005/A03a/CW/LCB/97*	WSS02C Item Rate	C.W.	1,090.00	1,162.96	KUWSDB	29 Aug 1997	15 Oct 1997	6 Dec 1997	1 Jan 1998	16 Jan 1998	*22.00*	*59.00*	M/s Taher Ali Hyderabad, A.P. Completed
3.	1,100 mm Raw Water Rising Main for Mysore, 6.3km *Contract No. 006/A01a/CW/LCB/97*	WSS03M Item Rate	C.W.	847.50	730.01	KUWSDB	17 Sep 1997	28 Oct 1997	6 Dec 1997	31 Dec 1997	16 Jan 1998	*23.00*	*58.50*	M/s Taher Ali Hyderabad, A.P. Completed
4.	Outfall Sewers and Appurtenances for District B, Mysore, 6.5 km *Contract No. 008/B01a/CW/LCB/98*	UGD05M Item Rate	C.W.	322.00	365.99	KUWSDB	29 Oct 1997	22 Dec 1997	21 Feb 1998	17 Mar 1998	27 Mar 1998	*22.00*	*56.00*	M/s Arun Engineering Enterprises Bangalore, Karnataka Completed
5.	Improvement of Bangalore-Mysore Road at Ramanagaram and Channapatna, 9 km *Contract No. 009/E03d/CW/LCB/98*	URI02R Item Rate	C.W.	880.00	907.39	PWD	3 Nov 1997	18 Dec 1997	6 Mar 1998	20 Apr 1998	11 May 1998	*15.00*	*59.00*	M/s B. Balaiah & B. Shivaprasad Ongole, A.P. Completed
6.	Solid Waste Disposal Site at Tumkur *Contract No. 028/C02h/CW/LCB/98*	SWMCW01T LCB	C.W.	32.00	31.64	CMC-T	7 Feb 1998	28 Mar 1998	14 May 1998	22 May 1998	1 July 1998	*9.00*	*14.00*	M/s Ramky Engineers Pvt. Ltd. Bangalore, Karnataka Completed
7.	Intermediate Ring Road for Mysore 19.5 km *Contract No. 018/E01g/CW/LCB/98*	URI02M Item Rate	C.W.	600.21	628.30	MCC	16 Dec 1997	31 Jan 1998	14 May 1998	21 Jul 1998	25 Jul 1998	*18.00*	*53.20*	M/s Nagarjuna Const. Co. Ltd. Bangalore, Karnataka Completed
8.	Improvement of Mysore City Roads 58km *Contract No. 019/E01g/CW/LCB/98*	URI03M Item Rate	C.W.	549.85	668.32	MCC	12 Jan 1998	26 Feb 1998	14 May 1998	21 Jul 1998	25 Jul 1998	*18.00*	*53.20*	M/s Nagarjuna Const. Co. Ltd. Bangalore, Karnataka Completed
9.	Slum Improvement Works for Tumkur *Contract No. 030/K02C/CW/LCB/98*	SLI01T LCB	C.W.	6.99	6.64	KSCB	12 Dec 1997	12 Jan 1998	18 May 1998	22 Jun 1998	27 Jun 1998			Sri. K. Rajashakar Tumkur, Karnataka Work partially completed and Contract Closed
10.	Procurement of Loader Backhoes *Contract No. 013/C01k/EM/IS/98*	SWM02C Int'l. Shpg.	Equip.	32.00 + Spare Parts	26.40 2.52 "28.92	KUIDFC	28 Jan 1998	15 Apr 1998	25 May 1998	24 Jun 1998	24 Jun 1998			Escorts JCB Limited Bangalore, Karnataka Supply Completed
11.	1,100 mm Clear Water Main and GLSR for Mysore, 5.4km *Contract No. 011/A01a/CW/LCB/98*	WSS04M Item Rate	C.W.	461.35	459.09	KUWSDB	29 Dec 1997	19 Feb 1998	27 May 1998	24 Jun 1998	30 Jun1998	*20.00*	*54.00*	M/s Subhash Projects & Marketing Ltd. Calcutta, W.B. Completed
12.	Municipal Roads and Stormwater Drains for Channapatna, 29 km *Contract No. 012/E04m/CW/LCB/98*	URI01C Item Rate	C.W.	359.00	452.33	KUIDFC for CMC-C	6 Feb 1998	26 Mar 1998	2 Jun 1998	6 Aug 1998	12 Aug 1998	*18.00*	*30.00*	Sri. B. Balaiah & B. Shivaprasad Ongole, A.P. Completed
13.	Intermediate Pump Stations and Reservoirs for Ramanagaram and Channapatna *Contract No. 010/A04a/CW/LCB/98*	WSS03C Item Rate	C.W./ Equip.	335.00 + Spare Parts	429.11 15.55 "444.66	KUWSDB	31 Dec 1997	2 Mar 1998	25 Jun 1998	21 Jul 1998	5 Sep 1998	*18.00*	*54.00*	M/s Subhash Projects & Marketing Ltd. Calcutta, W.B. Completed
	Procurement of Garbage Collection Vehicles and Accessories:	SWM02A Int'l. Shpg.		170.50 + Spare Parts		KUIDFC	28 Jan 1998	15 Apr 1998						
14.	Vehicles *Contract No. 025/C01k/EM/IS/98*	Part 1	Equip.		88.95 8.22 "97.17				6 Jul 1998	25 Sep 1998	25 Sep 1998			M/s Bangalore Mopeds Sales & Services Bangalore, Karnataka Supply Completed

	Contract Description/ *Contract Number*	Pkg. No./ Type	Loan Ctgy.	Estimated Cost (Rs Lakhs)	Contract Value (Rs Lakhs)	Employer (Agency)	Milestone Dates							Name of Contractor/ Status
							Invitation	Bid Opening (T-Technical F-Financial)	Letter of Acceptance (Date of Award)	Contract Signing	Notice to Proceed *(Contract Start)*	Sch'd. Duration Months	Actual Duration Months	
15.	Dumper Placer Hoists/Containers *Contract No. 025/C01k/EM/IS/98*	Part 2	Equip.		42.61 2.26 "44.87				6 Jul 1998	12 Apr 1999	5 May 1999			M/s Swaraj Mazda Ltd. Chennai, Tamil Nadu Supply Completed
16.	Water Distribution System at Tumkur *Contract No. 020/A02a/CW/LCB/98*	WSS02T Item Rate	C.W.	387.39	425.90	KUWSDB	4 Mar 1998	16 Jun 1998	29 Jul 1998	17 Aug 1998	5 Sep 1998	*15.00*	*45.00*	M/s Bhoorathnam & Co. Secunderabad, A.P. Completed
17.	67.5 mld STP, SPS and Rising Main for District B in Mysore *Contract No. 032/B01a/CW/LCB/98*	UGD02M Turnkey	C.W./ Equip.	914.80 + Spare Parts	1,031.57 33.41 "1,064.98	KUWSDB	31 Dec 1997	16/03/98 (T) 26/06/98 (F)	01/08/1998	24 Aug 1998	26 Aug 1998	*18.00*	*57.50*	M/s Batliboi Ltd. Bangalore, Karnataka Completed
18.	Residential Sites and Services at Channapatna *Contract No. 016/M04m/CW/LCB/98*	RSS01C Item Rate	C.W.	148.35 + Spare Parts	165.63 0.35 "165.98	KUIDFC for CMC-C	22 Apr 1998	12 Jun 1998	5 Aug 1998	4 Sep 1998	16 Sep 1998 *(16 Dec 1998)*	*15.00*	*21.00*	Sri. K. Damodar Bangalore, Karnataka Completed
19.	Bus Park at Ramanagaram *Contract No. 017/J03m/CW/LCB/98*	MIS02R Item Rate	C.W.	74.88	81.45	KUIDFC for CMC-R	18 May 1998	13 Jul 1998	5 Aug 1998	21 Aug 1998	21 Aug 1998	*12.00*	*26.00*	M/s. Balaji & Company Bangalore, Karnataka Completed
20.	Cultural cum Commercial Center at Ramanagaram *Contract No. 015/N03m/CW/LCB/98*	MIS01R Item Rate	C.W.	97.92	100.11	KUIDFC for CMC-R	27 Apr 1998	12 Jun 1998	31 Jul 1998	4 Sep 1998	4 Sep 1998	*15.00*	*18.00*	M/s Jansons Architectural & Interior Consultants Bangalore, Karnataka Completed
21.	Procurement of Tractors, Trailers, and Accessories *Contract No. 027/C01k/EM/IS/98*	SWM02B Int'l. Shpg.	Equip.	40.50 + Spare Parts	41.47 3.96 "45.43	KUIDFC	28 Jan 1998	15 Apr 1998	7 Aug 1998	22 Aug 1998	25 Sep 1998			HMT Limited & M/s Shantinath Motors Bangalore, Karnataka Supply Completed
22.	Construction of Storm Water Drains at Mysore *Contract No. 039/D01g/CW/LCB/99*	SWD01M Item Rate	C.W.	309.14	366.90	MCC	27 Feb 1998	30 Apr 1998	14 Aug 1998	10 Sep 1998	7 Oct 1998	*18.00*	*30.80*	Sri. Padmanabha Constructions Nellore, A.P. Completed
23.	Construction of Community Bins at Mysore *Contract No. 052/C01g/CW/LCB/98*	SWM01M LCB	C.W.	18.01	22.14	MCC	3 Mar 1998	16 Apr 1998	14 Aug 1998	21 Sep 1998	7 Oct 1998	*12.00*	*17.00*	Sri. B.N. Prassana Tumkur, Karnataka Completed
24.	Water Distribution System for Channapatna, 85 km *Contract No. 021/A04a/CW/LCB/98*	WSS05C Item Rate	C.W.	258.63	369.60	KUWSDB	17 Dec 1997	9 Feb 1998	20 Aug 1998	7 Sep 1998	9 Sep 1998	*15.00*	*50.00*	M/s Meera & Cieko Pumps Pvt. Ltd. Hyderabad, A.P. Completed
25.	Women's Training Centre, Tumkur *Contract No. 014/O02h/CW/LCB/98*	MIS01T Item Rate	C.W.	49.70	57.12	CMC-T	18 May 1998	14 Jul 1998	10 Aug 1998	9 Sep 1998	11 Sep 1998	*12.00*	*16.00*	Sri. G S Ramakrishna Completed
26.	Residential Sites and Services at Tumkur *Contract No. 016/M04m/CW/LCB/98*	RSS01T Item Rate	C.W.	464.45 +Spare Parts	464.87 1.20 "466.07	TUDA	23 Apr 1998	15 Jun 1998	03/08/1998	31/08/1998	31 Aug 1998	*20.00*	*38.00*	Sri. K. Damodar Bangalore, Karnataka Partially completed and contract closed
27.	Sewer Systems for Districts 5 and 6B at Tumkur, 60 km *Contract No. 022/B02a/CW/LCB/98*	UGD02T Item Rate	C.W.	374.38	535.36	KUWSDB	3 Jun 1998	4 Jul 1998	7 Sep 1998	03/10/1998	9 Oct 1998	*18.00*	*59.00*	M/s Arun Engineering Enterprises Bangalore, Karnataka Completed
28.	Sewer Systems for Districts 6A, 7 and 9 at Tumkur, 86 km *Contract No. 023/B02a/CW/LCB/98*	UGD03T Item Rate	C.W.	522.48	747.15	KUWSDB	3 Jun 1998	4 Jul 1998	7 Sep 1998	03/10/1998	9 Oct 1998	*18.00*	*60.00*	M/s Arun Engineering Enterprises Bangalore, Karnataka Completed
29.	Sewer Systems for District 10 & Outfall sewers at Tumkur, 42 km *Contract No. 024/B02a/CW/LCB/98*	UGD04T Item Rate	C.W.	396.70	549.30	KUWSDB	3 Jun 1998	4 Jul 1998	7 Sep 1998	03/10/1998	9 Oct 1998	*18.00*	*46.00*	M/s Larsen and Toubro Bangalore, Karnataka Completed
30.	Water Supply and Sewer Network for Ramanagaram, 97 km ws and 91 km sew *Contract No. 033/A03a/CW/LCB/98*	WSD01R Item Rate	C.W.	592.48	875.00	KUWSDB	27 Jan 1998	30 Mar 1998	3 Oct 1998	22/10/1998	31 Oct 1998	*28.00*	*67.00*	M/s Larsen and Toubro Bangalore, Karnataka Completed
31.	Trunk Sewers in Districts A and D, Mysore, 14.5 km *Contract No. 031/D01a/CW/LCB/98*	UGD04M Item Rate	C.W.	818.00	725.85	KUWSDB	10 Jun 1998	31 Jul 1998	3 Oct 1998	30/10/1998	2 Nov 1998	*20.00*	*49.00*	M/s Taher Ali Hyderabad, A.P. Completed

	Contract Description/ *Contract Number*	Pkg. No./ Type	Loan Ctgy.	Estimated Cost (Rs Lakhs)	Contract Value (Rs Lakhs)	Employer (Agency)	Milestone Dates							Name of Contractor/ Status
							Invitation	Bid Opening (T-Technical F-Financial)	Letter of Acceptance (Date of Award)	Contract Signing	Notice to Proceed *(Contract Start)*	Sch'd. Duration Months	Actual Duration Months	
32.	15 mld Water Treatment Plant at TK Hally for Ram./Chan WS *Contract No. 037/A04a/CW/LCB/98*	WSS01C Turnkey	C.W./ Equip.	213.80 + Spare Parts	316.80 16.13 "332.93	KUWSDB	20/09/1997	26 November 1997 (T) 07 April 1998 (F)	20 Oct 1998	09/11/1998	25 Nov 1998	*15.00*	*57.00*	M/s Arun Engineering Enterprises Bangalore, Karnataka Completed
33.	50 mld Water Treatment Plant for Mysore Water Supply *Contract No. 035/A01a/CW/LCB/98*	WSS02M Turnkey	C.W./ Equip.	526.87 + Spare Parts	575.00 28.17 "603.17	KUWSDB	20/11/1997	27 January 1998 (T) 20 April 1998 (F)	20 Oct 1998	07/11/1998	7 Nov 1998	*22.00*	*53.00*	M/s Batliboi Ltd. Bangalore, Karnataka Completed
34.	Southern Bypass Road, Tumkur 9.5 km *Contract No. 036/E02f/CW/LCB/98*	URI03T Item Rate	C.W.	450.23	574.30	TUDA	25 May 1998	20 Jul 1998	27 Oct 1998	12/11/1998	13 Nov 1998	*18.00*	*45.00*	Sri. P.B. Ibrahim Bhatkal, Karnataka Completed
35.	Solid Waste Management: Civil Works for Ram'ngrm. and Chan'ptna. *Contract No. 038/C03k/EM/LCB/99*	SWM01R+C Item Rate	C.W.	30.40	32.86	PIU	28 Oct 1998	16 Dec 1998	22 Jan 1999	22 Jan 1999	1 Feb 1999	*8.00*	*16.00*	Sri Ganesham Dayakar Reddy Bangalore, Karnataka Completed
36.	Procurement Of Minor SWM Equipment *Contract No. 043/C01k/EM/LCB/99*	SWM03K Item Rate	Equip.	28.20	29.54	KUIDFC	31 Oct 1998	5 Dec 1998	27 Jan 1999	10 Mar 1999	17 Mar 1999			M/s Shivon India Bangalore, Karnataka Supply completed
37.	Outfall Sewers and Appurtenances for District C, Mysore, 6.5 km *Contract No. 041/B01a/CW/LCB/99*	UGD06M Item Rate	C.W.	168.00	234.88	KUWSDB	28 Oct 1998	31 Dec 1998	4 Feb 1999	26 Feb 1999	27 Feb 1999	*18.00*	*45.00*	M/s Bhoorathnam & Company Secunderabad, Andhra Pradesh Completed
38.	60 mld STP, SPS and RM, Dr. Dist. A & D, Mysore *Contract No. 042/A01a/CW/LCB/99*	UGD01M Turnkey	C.W./ Equip.	837.66 + Spare Parts	1,130.50 44.00 "1,174.50	KUWSDB	14 Aug 1998	13 Oct 1998	4 Feb 1999	17 Feb 1999	19 Feb 1999	*20.00*	*58.50*	M/s Subhash Projects & Marketing Ltd. Calcutta, West Bengal Completed
39.	Staff Quarters for Water Supply Works, Mysore *Contract No. 040/A01a/CW/LCB/99*	WSS05M Item Rate	C.W.	152.02	211.37	KUWSDB	15 Oct 1998	5 Dec 1998	4 Feb 1999	3 Mar 1999	4 Mar 1999	*15.00*	*45.00*	M/s K. Damodar Bangalore, Karnataka Completed
40.	Industrial Sites and Services, Tumkur 108 number *Contract No. 044/P02b/CW/LCB/99*	ISS01T Item Rate	C.W.	501.50	648.31	KIADB	14 Sep 1998	27 Oct 1998	6 Mar 1999	31 Mar 1999	6 Apr 1999 *(16 Apr 1999)*	12.00	22.00	M/s The Mysore Construction Co. Bangalore, Karnataka Completed
41.	Development of Sites and Services for Truck Terminal, Tumkur *Contract No. 045/J02f/CW/LCB/99*	MIS02T Item Rate	C.W.	187.41	269.35	TUDA	17 Oct 1998	18 Dec 1998	13 Apr 1999	3 May 1999	4 May 1999 *(16 Jun 1999)*	*10.00*	*17.00*	M/s. P Ibrahim, Bhatkal Bhatkal, Karnataka Completed
42.	24mld STP, SPS and RM for Tumkur *Contract No. 048/B02a/CW/LCB/99*	UGD01T Turnkey	C.W./ Equip.	563.00 + Spare Parts	702.11 28.42 "730.53	KUWSDB	7 Sep 1998	05 November 1998 (T) 25 February 1999 (F)	20 Apr 1999	7 May 1999	14 May 1999	*18.00*	*57.00*	M/s. Batliboi Ltd. Bangalore, Karnataka Completed
43.	Residential Sites and Services, Mysore 3800 sites *Contract No. 046/M01e/CW/LCB/99*	RSS01M Item Rate	C.W.	1,358.31	1,580.21	MUDA	20 Oct 1998	30 Dec 1998	23 Apr 1999	20 May 1999	27 May 1999	20.00	30.80	M/s The Mysore Construction Co. Bangalore, Karnataka Completed
44.	Procurement of Leak Detection Equipment, Mysore *Contract No. 061/A01g/EM/LCB/99*	WSS06M L.P.	Equip.	30.00 + Spare Parts	22.86	MCC	29 Dec 1998	11 Feb 1999	11 May 1999	25 May 1999	26 May 1999 *(3 Jul 1999)*	*4.30*	*9.00*	M/s WindMill Sales, New Delhi Supply completed
45.	Municipal Roads & Construction of Storm Water Drains, Ramanagaram, 29km *Contract No. 053/F03m/CW/LCB/99*	URI01R Item Rate	C.W.	388.69	435.50	KUIDFC	30 Dec 1998	20 February 1999 (PQ) 14 May 1999 (F)	31 May 1999	24 Jun 1999	13 Aug 1999	*15.00*	*35.00*	Sri Bamdev Nayak Bangalore, Karnataka Completed
46.	Slum Improvement Program in Channapatna *Contract No. 056/K04c/CW/LCB/99*	SLI01C Item Rate	C.W.	26.20	31.54	KSCB	31 Dec 1998	3 Mar 1999	24 May 1999	9 Jun 1999	9 Jun 1999	*6.00*	*14.00*	Sri Jagadeesha Bangalore, Karnataka Completed
47.	Slum Improvement Program in Ramanagaram *Contract No. 055/K04c/CW/LCB/99*	SLI01R SCW	C.W.	51.00	52.95	KSCB	22 Jan 1999	8 Mar 1999	24 May 1999	9 Jun 1999	9 Jun 1999	12.00	28.00	R Lingappa Bangalore, Karnataka Completed
48.	Residential Sites and Services in Ramanagaram, 930 sites *Contract No. 047/M03m/CW/LCB/99*	RSS01R Item Rate	C.W.	356.50	466.71	KUIDFC for CMC-R	25 Jan 1999	24 Mar 1999	11 Jun 1999	30 Jun 1999	2 Aug 1999	*15.00*	*22.00*	M/s. Ray Constructions Ltd. Mumbai, Maharashtra Completed

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							Invitation	Bid Opening (T-Technical F-Financial)	Letter of Acceptance (Date of Award)	Contract Signing	Notice to Proceed *(Contract Start)*	Sch'd. Duration Months	Actual Duration Months	
49.	Construction of Bus Terminals in Mysore *Contract No. 058/D01g/CS/LCB/99*	URI05M Item Rate	C.W.	80.00	108.15	MCC	26 Dec 1998	15 March 1999 (PQ) 06 May 1999 (F)	26 Jun 1999	9 Jul 1999	12 Jul 1999	15.00	15.00	Sri J Bapuji Mysore, Karnataka Completed
50.	2 Lane Bridge over River Arkavati, Ramanagaram *Contract No. 054/E03d/CW/LCB/99*	URI03R Item Rate	C.W.	104.76	116.74	PWD	15 Dec 1998	22 March 1999 (PQ) 29 April 1999 (F)	30 Jun 1999	17 Jul 1999	17 Jul 1999	*21.00*	*36.00*	M/s. The Mysore Construction Co. Bangalore, Karnataka Completed
51.	30mld STP, SPS and Rising Main for Drainage District C, Mysore *Contract No. 049/B01a/CW/LCB/99*	UGD03M Turnkey	C.W./ Equip.	375.24 + Spare Parts	519.73 22.89 "542.62	KUWSDB	28 Nov 1998	15 February 1999 (T) 17 May 99 (F)	13 Jul 1999	28 Jul 1999	30 Jul 1999 *(15 Dec 1999)*	*18.00*	*38.50*	M/s. Petron Civil Engineering Ltd. Mumbai, Maharashtra Completed
52.	200 TPD Solid Waste Composting Plant, Mysore *Contract No. 057/C01g/CW/LCB/99*	SWM02M Turnkey	C.W./ Equip.	315.00	369.71	MCC	31 Dec 1998	27 February 1999 (T) 05 May 99 (F)	21 Jul 1999	6 Aug 1999	10 Aug 1999 *(3 Sep 1999)*	*15.00*	*20.50*	M/s. Excel Industries Ltd. Mumbai, Maharashtra Completed
53.	7.56mld STP and SPS for Ramanagaram *Contract No. 050/B03a/CW/LCB/99*	UGD01R Turnkey	C.W./ Equip.	495.00 + Spare Parts	828.00 52.31 "880.31	KUWSDB	28 Oct 1998	08 January 1999 (T) 17 April 1999 (F)	30 Jul 1999	18 Aug 1999	28 Aug 1999	*18.00*	*36.00*	M/s. L & T Ltd. Bangalore, Karnataka Completed
54.	Slum Improvement Program in Mysore *Contract No. 059/K01C/CW/LCB/99*	SLI01M Item Rate	C.W.	125.29	147.69	KSCB	31 Dec 1998	03 March 1999 (PQ)	27 Aug 1999	8 Sep 1999	8 Sep 1999	*15.00*	*24.50*	Sri G Chandregowda Bangalore, Karnataka Completed
55.	Improvement of Roads and Construction of Storm Water Drains, Tumkur, 21km *Contract No. 060/F02h/CW/LCB/99*	URI01-2T Item Rate	C.W.	553.30	638.89	CMC-T	30 Dec 1998	17 February 1999 (PQ) 27 May 1999 (F)	20 Aug 1999	16 Sep 1999	7 Oct 1999	15.00	34.00	M/s. Bamdev Nayak Bangalore, Karnataka Completed
56.	Water and Sewer Branch Connections, Mysore Water Supply, 35 km water lines 37 km sewer lines	WSD01M Item Rate	C.W.	1,200.00	1,267.07	KUWSDB	22 Nov 1999	12 Jan 2000	29 Mar 2000	17 Apr 2000	18 Apr 2000	*18.00*	*40.40*	M/s. Jaihind Projects Ltd. Pune, Maharashtra Completed
57.	Slum Upgrading (Phase 2), Tumkur	SLI02T LCB	C.W.	50.00	56.48	KSCB	28 Aug 1999	26 October 1999 (PQ) 31 December 1999 (F)	15 Apr 2000	29 May 2000	29 May 2000	*9.00*	*13.00*	M/s. Veera Swamy Reddy & Sons Bangalore, Karnataka Completed
58.	Railway Crossings, Sewer, Mysore	UGD07M Item Rate	C.W.	170.00	170.00	Southern Railways for KUWSDB		14 Jul 1999						Completed
59.	Electricity Supply, Water and Sewer, Mysore	WSE01M Item Rate	C.W.	65.00	73.80	KUWSDB	2 Jan 2001	9 Feb 2001	7 May 2001	16 May 2001	16 May 2001	6.00	28.50	M/s. Reunion Engineering Company Ltd. Bangalore Completed
60.	Electricity Supply, Water Supply and Sewer, Channapatna & Ramanagaram	WSE01C Item Rate	C.W.	40.00	52.59	KUWSDB	2 Jan 2001	16 Feb 2001	14 Mar 2002	28 Mar 2002	2 Apr 2002	3.00	22.00	M/s. Reunion Engineering Company Ltd. Bangalore Completed
61.	Loader Backhoes for Composting Plant	SWM02D Part 1	Equip.	30.00	26.05	KUIDFC for MCC	26 Feb 2001	12 Apr 2001	17 May 2001	19 Jun 2001	21 Jun 2001			M/s. Escorts JCB Limited Bangalore Supply Completed
62.	Skid Steer Loader for Composting Plant	SWM02D Part 2	Equip.	10.00	10.82	KUIDFC for MCC	26 Feb 2001	12 Apr 2001	17 May 2001	25 Jun 2001	26 Jun 2001			M/s. Ingersoll-Rand India Limited Bangalore Supply Completed
63.	Railway Crossing Southern Bypass, Tumkur	URI04T Item Rate	C.W.	163.36	300.00	Southern Railways for TUDA	2 Jan 2001	1 Feb 2001						Reportedly awarded to M/s. Capco Ltd. but KUIDFC has not received any award Completed
64.	Railway Crossing Sewer Crossing, Tumkur	URI04T Item Rate	C.W.	100.00	100.00	Southern Railways for KUWS&DB	2 Jan 2001	1 Feb 2001						Reportedly awarded to M/s. Capco Ltd. but KUIDFC has not received any information Completed
65.	Slum Improvement, Mysore Phase II	SLI02M Item rate	C.W.	152.00	198.07	KSCB	18 Mar 2002	8 May 2002 6 Jul 2002	4 Sep 2002	19 Sep 2002	19 Sep 2002	15.00	18.40	Sri B Malla Reddy Completed

Contract Description/ *Contract Number*		Pkg. No./ Type	Loan Ctgy.	Estimated Cost (Rs Lakhs)	Contract Value (Rs Lakhs)	Employer (Agency)	Milestone Dates							Name of Contractor/ Status
							Invitation	Bid Opening (T-Technical F-Financial)	Letter of Acceptance (Date of Award)	Contract Signing	Notice to Proceed *(Contract Start)*	Sch'd. Duration Months	Actual Duration Months	
66.	Outer Ring Road Mysore, 15.8 km	URI01M-A Item Rate	C.W.	1,003.00	1,253.74	MUDA	24 Apr 2002	3 Jun 2002	29 Aug 2002	20 Sep 2002	8 Oct 2002	12.00	18.50	ECI Engineering and Construction Co, Ltd. Completed
67.	Outer Ring Road and Truck Terminal, Mysore, 9.3 km	URI01M-B Item Rate	C.W.	983.00	1,227.90	MUDA	24 Apr 2002	3 Jun 2002	29 Aug 2002	20 Sep 2002	8 Oct 2002	12.00	19.50	ECI Engineering and Construction Co, Ltd. Completed
68.	Improvement of Town Roads and Allied Works in Mandya, 30 km	URI01MN Item Rate	C.W.	585.00	741.70	PIU	29 Aug 2002	17 Oct 2002 (F)	26 Dec 2002	14 Feb 2003	19 Feb 2003	12.00	16.00	Sri PB Ibrahim, Bhatkal Completed
69.	Improvement of Town Roads, Construction of Private Bus Terminal, Retaining Wall and Allied Works in Maddur	URI01MD Item Rate	C.W.	310.00	402.07	PIU	29 Aug 2002	17 Oct 2002 (F)	26 Dec 2002	14 Feb 2003	19 Feb 2003	12.00	16.00	Sri PB Ibrahim, Bhatkal Completed
70.	Construction of Municipal Building at Maddur	BLD01MD Item rate	C.W.	38.00	39.94	PIU	4 Sep 2002	21 Oct 2002 (T) 07 December 02 (F)	13 Jan 2003	31 Feb 2003	13 Feb 2003	12.00	16.00	Sri K Lakshman Reddy Completed
71.	Storm Water Drainage	SWD01MN Item Rate	C.W.	158.00	172.74	PIU	12 Nov 2002	23 Dec 2002 (T) 15 February 2003 (F)	27 Mar 2003	23 Apr 2003	24 Apr 2003	10.00	12.00	M/s Mysore Construction Co. Bangalore Completed
72.	Lake Improvement Works--Karanji Mysore	ULI01M (A) Item Rate	C.W.	73.00	85.61	Zoo Authority	13 Jan 2003	3 Mar 2003 (T) 31 March 2003 (F)	17 Apr 2003	23 Apr 2003	23 Apr 2003	10.00	14.00	Sri M.C. Nagendra
73.	Slum Imp works in Mandya and Maddur	SLI01MN +MD Item rate	C.W.	220.00	287.73	KSCB	23 Aug 2002	10 Oct 2002 (T) 07 December 2002 (F)	25 Apr 2003	8 May 2003	08 May 2003	12.00	13.00	Sri G Chandregowda Completed
74.	Special Area Developemnt Scheme Gousianagar, SWD Works	SAD02M Item rate	C.W.	65.00	66.68	MCC	2 Dec 2002	23 Jan 2003 (T)	26 Apr 2003	2 May 2003	12 May 2003	8.00	9.60	B. H. Ravani Prasad Work substantially completed Completed
75.	Lake Improvement Works—Kukrahalli Mysore	ULI01M (B) Item Rate	C.W.	80.00	90.91	Mysore University	11 Nov 2002	2 Jan 2003 (T) 11 February 2003 (F)	29 May 2003	4 Jun 2003	7 Jun 2003	10.00	11.80	Sri M.C. Nagendra Completed
76.	Special Area Developemnt Scheme Gousianagar, Roads, and other Works	SAD01M Item rate	C.W.	288.00	344.59	MCC	2 Dec 2002	23 Jan 2003 (T) 28 February 2003 (F)	17 May 2003	2 Jun 2003	4 Jun 2003	10.00	12.00	Sri Narayan Redddy
77.	Construction of Public Toilets	LCS01MN Item Rate	C.W.	38.00	43.21	PIU Mandya				23 Jun 2003	25 Jun 2003	6.00	11.00	Nirmiti Kendra Mandya
78.	Rain Water Harvesting Work in Mysore	RWH01M Item Rate	C.W.	14.56	14.56	PIU				1 Aug 2003	1 Aug 2003	4.00	10.00	M/s Technology Informatics Design Endeavour (TIDE), Bangalore Completed
79.	RSS Electricity Supply, Mysore	RSS02M Item Rate	C.W.	172.00	227.08	MUDA	14 Jan 2003	7 Mar 2003 (T)	10 Sep 2003	8 Oct 2004	1 Jan 2004			M/s Venu Electricals Scheduled completion is beyond project completion Termiated
80.	Railway Crossings, Outer Ring Road, Mysore	URI06M Item Rate	C.W.	1,000.00	577.65	Southern Railways for MUDA	8 May 2003	19 Jun 2003 (T) 08 September2003 (F)	6 Oct 2003					Awarded to Sri P.J. Baby & Co., Bangalore by Railways Completed
81.	Additional Town Roads in Tumkur 26 km	URI05T Item Rate	C.W.	235.00	283.87	CMC-T	17 May 2003	5 Jul 2003 (T) 04 August 2003 (F)	16 Sep 2003	17 Sep 2003	17 Sep 2003	8.00		Sri K Krishna Spillover
82.	Additional Town Roads for Channapatna 35 km	URI02C Itenm rate	C.W.	224.00	290.23	PIU Mandya	12 May 2003	1 Jul 2003 (T) 14 July 2003 (F)	17 Sep 2003	17 Sep 2003	17 Sep 2003	8.00		Sri BM Range Gowda Spill Over
83.	Water Connections and Meter Installations in Ramanagaram	WSS01R to WSS05R Direct Proc.	C.W.	129.74	153.24	KUWSDB	20 Aug 2003	6 Sep 2003						Various
84.	Water Connections and Meter Installations in Channapatna	WSS06C to WSS10C Direct Proc.	C.W.	153.14	173.87	KUWSDB	20 Aug 2003	6 Sep 2003						Various Spillover

Contract Description/ *Contract Number*		Pkg. No./ Type	Loan Ctgy.	Estimated Cost (Rs Lakhs)	Contract Value (Rs Lakhs)	Employer (Agency)	Milestone Dates							Name of Contractor/ Status
							Invitation	Bid Opening (T-Technical F-Financial)	Letter of Acceptance (Date of Award)	Contract Signing	Notice to Proceed *(Contract Start)*	Sch'd. Duration Months	Actual Duration Months	
85	HH UGD Connections in Ramanagaram	UGD02R to UGD08R Direct Proc.	C.W.	260.17	303.03	KUWSDB	20 Aug 2003	8 Sep 2003						Various Spillover
86.	Fencing of Water Supply and Sewerage Installations in Mysore	WSD02M Direct Proc.	C.W.	29.86	35.83	KUWSDB	16 Aug 2003	3 Sep 2003	13 Oct 2003	23 Oct 2003	28 Oct 2003	4.00	7.00	Sri B Malla Reddy Completed
87.	Fencing of Water Supply and Sewerage Installations in Mysore	WSD03M Direct Proc.	C.W.	31.70	38.03	KUWSDB	16 Aug 2003	3 Sep 2003	13 Oct 2003	23 Oct 2003	28 Oct 2003	4.00	7.00	Sri B Malla Reddy Completed
88.	Fencing of Water Supply and Sewerage Installations in Ramanagaram, Channapatna and Tumkur	WSD02RCT Direct Proc.	C.W.	13.70	16.22	KUWSDB	16 Aug 2003	3 Sep 2003	13 Oct 2003					Sri G Gidde Gowda Completed
89.	Procurement of Water Meters for Ramanagaram and Channapatna	WSS01RC International Shopping	Equip.	120.00	118.50	KUWSDB	12 Aug 2003	15 Sep 2003	21 Oct 2003					M/s Deccan Power Projects Ltd. Spillover

CMC= City Municipal Corporation, CW= civil works, KUIDFC= Karnataka Urban Infrastructure Development and Finance Corporation, KSCB= Karnataka Slum Clearance Board, KUWSDB= Karnataka Urban Water Supply and Drainage Board, MCC = Mysore City Corporation, MUDA= Mysore Urban Development Authority, PIU= project implementation unit, PWD = public works department, TUDA= Tumkur Urban Development Auhority

Source: Asian Development Bank's Loan Financial Information System

PROJECT IMPLEMENTATION ARRANGEMENTS

The Executive Agency for the Project was the Karnataka Department of Urban Development, through the Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC), which was established by the state and urban local bodies as the nodal agency for all externally aided projects. At field level, however, various state line agencies implemented the works, as detailed below, including the changes that were made during the implementation of the Project.

Table A7.1: Componentwise Implementing Agencies

S/No.	Component	Implementation Arrangement		Change/No Change	Remarks
		RRP	Actual		
1.	All water supply and sewerage schemes	KUWSDB	KUWSDB	No change	All works were implemented by KUWSDB on behalf of the urban local bodies.
2.	All industrial sites and services	Karnataka Industrial Area Development Board	Karnataka Industrial Area Development Board	No change	
3.	All slum upgrading work	Karnataka Slum Clearance Board	Karnataka Slum Clearance Board	No change	
4.	All project roads under PWD	PWD	PWD and respective municipalities	Change	Road improvements within the municipal area, even where these belonged to PWD or any other agency, were carried out by the urban local bodies.
5.	Outer ring road, residential sites and services, and truck terminal in Mysore	Mysore Urban Development Authority	Mysore Urban Development Authority	No change	

S/No.	Component	Implementation Arrangement		Change/No Change	Remarks
		RRP	Actual		
6.	Southern bypass, truck terminal, and residential sites and services in Tumkur	Tumkur Urban Development Authority	Tumkur Urban Development Authority	No change	
7.	Solid waste management, storm water drainage, road improvements, and low-income sanitation in Mysore	Mysore City Corporation	Mysore City Corporation	No change	
8.	Solid waste management, storm water drainage, road improvement, low-income sanitation, and women's training center in Tumkur	Tumkur Municipality	Tumkur Municipality	No change	
9.	Solid waste management, storm water drainage, road improvement, bus stand, low-income sanitation, residential sites and services, and cultural and commercial complex in Ramanagaram	Ramanagaram Municipality	PIU, KUIDFC Ramanagaram and Channapatna on behalf of Ramanagaram Municipality	Change	Ramanagaram Municipality authorized KUIDFC to implement the works as their implementation capacity was inadequate.

S/No.	Component	Implementation Arrangement		Change/No Change	Remarks
		RRP	Actual		
10.	Solid waste management, storm water drainage, road improvement, bus stand, low-income sanitation, and residential sites and services in Channapatna	Channapatna Municipality	PIU, KUIDFC Ramanagaram and Channapatna on behalf of Channapatna Municipality	Change	Channapatna Municipality authorized the KUIDFC to implement the works, as their implementation capacity was inadequate.

KUIDFC = Karnataka Urban Infrastructure Development and Finance Corporation, KUWSDB = Karnataka Urban Water Supply and Drainage Board, PIU = Project Implementation Unit, PWD = Public Works Department, RRP = Report and Recommendation of the President.

Note: New implementing agencies such as University of Mysore, Zoo Authority of Karnataka, PIU-Mandya, etc. were added on account of addition of new works in the Project.

Sources: Report and Recommendation of the President and quarterly progress reports of the executing agency.

STATUS OF MAJOR LOAN COVENANTS

Covenants	Status
I. Project Implementation	
A. Project Execution and Coordination	
1. The state and KUIDFC shall ensure that the PMU established within KUIDFC and its Project Director (the Managing Director of KUIDFC) are supported by full-time qualified and experienced staff who will be appointed as required throughout the Project Implementation period. The PMU shall be responsible for coordinating and managing all Project Implementation activities. [LA, Schedule 6, para.2(a)]	**Complied with.** Managing director, supported by full-time qualified and experienced staff, was appointed for the project implementation period. The PMU has been in position since July 1996.
2. The State and KUIDFC shall cause project implementation units (PIUs) with adequate number of full-time experienced staff, to be established as follows: one each in Mysore and Tumkur and one at Ramanagaram for Channapatna and Ramanagaram. [LA, Schedule 6, para. 2 (b)]	**Complied with.** PIUs with adequate staff were established at Mysore, Tumkur, and Ramanagaram. For Maddur and Mandya Ramanagaram PIU was shifted to Mandya, which was headed by an executive engineer supported by adequate staff. PIU Mandya is executed the works of Maddur and Mandya towns besides balance works of Channapatna and Ramanagaram towns.
3. The Borrower shall establish a national level Project Steering Committee in MUAE in New Delhi within 3 months of the Effective Date under the chair of the Joint Secretary of MUAE and consisting of representative of departments and agencies of the Borrower and the State involved in Project implementation as well as KUIDFC and Housing Development and Finance Corporation. The Project Steering Committee shall periodically review the progress of, and provide guidance for orderly Project implementation and monitor policy reforms, and shall meet at least semi-annually or oftener as required.	**Complied with.** The Steering Committee was constituted vide MUAE Order No. K-14011/21/93-UDIII dated 13 December 1995. In view of the requirement of frequent meetings, the Empowered Committee which, inter alia, also performed all the functions of the Steering Committee meet as and when needed and not necessarily at least semiannually.

Covenants	Status
[LA, Schedule 6, para. 3]	
4. The State shall provide the Empowered Committee to be established by the State appropriate authority for efficient and effective decision-making in respect of all project implementation activities. The Committee which will meet at least quarterly or as often as required, and will be chaired by the Additional Chief Secretary of the State. [LA, Schedule 6, para.4]	**Complied with.** The Empowered Committee was constituted per Order No. HUD 33, dated 30 November 1995. The Committee meets regularly.
B. Land Acquisition	
5. The Borrower and the State shall acquire all lands, rights in land and rights of way in accordance with a time-bound land-acquisition program to avoid delay in Project Implementation. The State shall ensure that adequate funds are made available in its annual budgets to cover the costs of acquisition, compensation and resettlement to meet the requirements of such land-acquisition program; and shall provide the required funds to the ULGs for this purpose. [LA, Schedule 6, para. 5]	**Complied with.** Lands required for the project were acquired.
6. The Borrower and the State shall ensure that households from whom property is acquired are fully compensated in accordance with established land acquisition procedures and requirements of the Borrower and the Bank. [LA, Schedule 6, para. 6]	**Complied with.** A draft resettlement plan was submitted to ADB in January 1997, and approved. Resettlement was carried out in accordance with the approved plan.

Covenants	Status
II. Other Project-Related Matters	
A. Community Involvement	
7. The State shall ensure that community consultation, including women, is carried out through the period of Project Implementation. The State shall ensure that a social action plan is prepared by the State and concurred in by the Bank, and is carried out to maximise Project benefits for intended beneficiaries. [LA, Schedule 6, para.8	**Complied with.** KUIDFC established a community development unit and recruited one CDO for the PMU and three SDOs for the PIUs. The Midterm Review Mission approved the Social Action Plan in January 1998 and was subsequently approved and/or ratified by the Empowered Committee at its 14th meeting held on 11 February 1999. The draft time-bound action plan for its implementation was prepared by June 2000, and submitted to ADB in August 2000.
B. Benefit Monitoring and Evaluation	
8. The State shall undertake BME for the Project to ensure that Project facilities are managed efficiently and that benefits are maximized. PMU shall develop a comprehensive BME system with the assistance of the Project Management Consultants. The PMU shall submit a detailed implementation plan for BME for the Bank's review and concurrence within 6 months of the Effective Date. [LA, Schedule 6, para. 10]	**Complied with.** Baseline study of Maddur and Mandya was also carried out. The final BME reports in respect of 4 towns have been submitted.
C. Environment	
9. The Borrower and the State shall carry out the following: community involvement, education programs for beneficiaries (particularly in relation to environmental sanitation), training programs for staff of the State's departments and agencies concerned to improve their awareness of the need for improved	**Complied with.** The staff of ULBs were trained on various subjects by the training organizations and the State Institute for Urban Development, Mysore. Two rounds of training programs covering 1,996 employees in the first round and 1,754 employees of six towns have were conducted.

Covenants	Status
O&M of Project facilities and, through appropriate regulation and control, of measures to implement environmental sanitation. DHUD shall widely disseminate information about the Project and consult with community user groups to ensure that their views are taken into account in Project implementation. [LA, Schedule 6, para.11]	
D. Industrial Sites	
10. The State shall ensure that industrial land is utilized within one year of allocation. [LA, Schedule 6, para 12]	KIADB has already allotted 21 plots out of total 92 plots and remaining are being allotted.
E. Operation and Maintenance	
11. The State shall cause the Project Implementing agencies to carry out O&M of their respective Project facilities in a satisfactory and cost-efficient manner. The State shall ensure that necessary guidelines for O&M of the Project facilities, particularly the water supply and sewerage systems, are prepared by the Project Management Consultants and adhered to by the implementing agencies. [LA, Schedule 6, para. 13]	A MAP was prepared which incorporated indicative budgets for O&M of the project facilities. Follow-up meetings on implementation of map are being held on 15th of each month under the direction of director of municipal administration. O&M of water and sewer system at Channapatna and Ramanagaram is being done by KUWSDB and at Mysore a separate O&M division has been created at MCC with staff deputed from KUWSDB. Action is being taken in respect of other towns. (TA component under the World Bank-assisted KUWASIP will address the O&M issues of water and UGD assets of the state. It is envisaged that the outcome of the study will form the basis for the proposed state policy on O&M.)
12. The State shall cause ULGs to make and implement decisions affecting their routine operations, including setting charges for water supply and other levies, in order to improve their resource base in respect of O&M no later than 31 March 1996. [LA, Schedule 6, para. 14]	**Partially complied with.** The MAP includes recommended actions by the state (section E of MAP). UDD is to initiating necessary actions to achieve Section E.

Covenants	Status
III. Financial Matters	
A. Cost Recovery	
13. The State shall ensure that appropriate water tariffs and sewerage charges, including the increases prescribed in DHUD's notification of 22 April 1995 as modified, are levied in the Project towns. [LA, Schedule 6, para. 15]	**Complied with.** The government of Karnataka issued Government Order (GO) No. UDD 204 UMS dated 15 November 1996. All the project towns have implemented the said GO relating to increase in water tariff to a minimum of Rs45 per month. Revisions were affected in Mysore in 1996, in Ramanagaram and Tumkur w.e.f. 1 April 2000 and in Channapatna w.e.f. 1 March 1999. Further increase in water tariff to Rs100 per month was made in Ramanagaram and Channapatna and in Tumkur to Rs150 per month in year 2004.
B. Collection Efficiency	
14. The State shall ensure that all revenue due to ULGs are promptly collected and a collection efficiency ratio of 90 days' arrears is achieved and maintained from 1 January 1997. The State shall ensure that the ULGs make a concerted effort to collect all arrears; that the ULGs impose penalties on defaulters, including discontinuation of services; and that the ULGs determine their un-collectable arrears due and write them off. [LA, Schedule 6, para. 16]	**Partly complied with.** Directorate of Muncipal Affairs (DMA) and KUIDFC together have compiled a reporting format for the ULB's called the monthly information booklet. Data is compiled from this monthly information into a management information system (MIS) to enable director of municipal administration to review the performance of all project towns mainly on three financial aspects, viz. revenue from municipal assets, property tax (ARV arrears as well as SAS), and water charges. This meeting is held every 15th of each month. These meetings are going on since January 2005 The collection efficiencies are expected to increase to the desired levels.
C. Property Tax	
15. Within 3 months of the Effective Date but pending finalization of the recommendations under the First Technical Assistance, the State shall ensure that the project towns carry out reassessment	**Delayed compliance**. Property tax reassessment completed by MCC and CMC, Tumkur on 1 April 2000 and on 1 April 1999 by CMC Ramanagaram and Channapatna.

Covenants	Status
values from 1 April 1996. The State shall cause MCC to complete its property reassessment by 31 December 1995 to enable it to base its property tax for 1996 on such reassessment. [LA, Schedule 6, para. 17 (a)]	
16. Within 3 months of the Effective Date, the State shall extend urban boundaries of towns to include residents outside such towns who currently receive urban services but do not pay property taxes. The State shall also expedite regularization of unauthorized construction within the municipal limits and levy municipal taxes on all such properties no later than 30 June 1996. [LA, Schedule 6, para. 17 (b)]	**Complied.** The boundaries of all the project towns have been extended vide Government Order No: Channapatna: HUD333MLR95 dt. 11 Oct 1995. Mysore: HUD444MLR95 dt. 18 Oct 1995. Ramanagaram: HUD331MLR95 dt. 11 Oct 1995. Tumkur: HUD474MLR95 dt. 11 Oct 1995.
17. The State shall cause all such policy reforms and revenue-enhancement programs to be undertaken in accordance with an institutional, financial and operational action plan agreed upon by the Bank and the State. [LA, Schedule 6, para. 17(c); PAM, Annex 1 (see attached]	Status of compliance with the action plan is given separately.
18. In carrying out the obligations of para.17, Schedule 6 of the LA, the State shall take into account the recommendations of the consultants engaged under the Resource Mobilization technical assistance and adjust appropriately, if necessary, its carrying out such obligations, including the property reassessment and action plan referred to. [LA, Schedule 6, para. 17(d)]	**Being complied with.** Recommendations were formulated in May 1997 and the state government is considering these as part of the ongoing review of the existing legislation and proposed revision to acts. This is also generally covered under the MAP and this covenant is being implemented as a part of the MAP activities.

Covenants	Status
IV. Institutional Strengthening	
A. Staffing Training	
19. With the assistance of the Project management consultants, the State shall develop a comprehensive training program for staff of KUIDFC, KUWSDB and ULGs in all aspects of administration and O&M, which shall be submitted to the Bank for its approval within 9 months of the Effective Date. [LA, Schedule 6, para. 18]	**Being complied with.** The project management consultants prepared a detailed staff-training program in October 1997, and a copy was provided to ADB. The PMU established a training and capacity-building cell within KUIDFC. Training program started in March 1999. Two rounds of training were completed. In the first round, 1,754 employees and, in the second round, 1,409 employees were trained.
B. Strengthening of the Town Coordination Committees	
20. The State shall cause each town coordination commit tee, established or to be established in the project town and responsible for overall coordination of urban development activities, to advise its respective ULGs on capital development programs and activities. Each town coordination committee shall include the elected major or head of the town and representative of communities and NGOs. The State shall cause a joint town coordination committee to be established for Ramanagaram and Channapatna no later than 30 June 1996.	**Complied with.** Town coordination committees were formed and made operational in all four towns. Divisional commissioners were conducting regular review meetings.
V. Bangalore Subregional Plan	
21. The Borrower and the State shall prepare a conceptual Bangalore Subregional Plan within two years of the Effective Date. In developing the Plan, the recommendation of the national workshop on Master Plan Approach, held in February 1994 shall be taken into account.	Complied with. International consultants completed the plan in July 1998, which has been approved by the state government. BMRDA has prepared a detailed implementation plan, which is under consideration by the state.

Covenants	Status
[LA, Schedule 6, para. 20((a)]	
22. The State shall establish a temporary unit within BMRDA to prepare the Subregional Plan. The unit will be comprised of senior staff seconded from the State departments and agencies concerned and will be assisted by the consultants to be engaged for his purpose. [LA, Schedule 6, para. 20(b)]	**Complied with.** A temporary unit was established for this purpose within the BMRDA.
23. Following preparation of the Subregional Plan, the State shall prepare a more detailed plan, consistent with the Subregional Plan, for urban and rural Bangalore and for Malur Taluq in Kolur. [LA, Schedule 6, para. 20 (c)]	**Being complied with.** Preparation of the detailed plan for urban and rural Bangalore was undertaken as a part of the subregional plan. As per the study recommendations, Malur Taluq is being deleted from the jurisdiction of BMRDA and will be in the Kolar district. The government is considering further actions on the recommendations.

ADB = Asian Development Bank, ARV =, annual rental value, BME = benefit monitoring evaluation, BMRDA = Bangalore Metropolitan Regional Development Authority, CDO = community development officer , CMC = City Municipal Corporation, DHUD = Department of Housing and Urban Development, DMA = Directorate of Municipal Affairs, HUD = Housing and Urban Development, KUIDFC = Karnataka Urban Infrastructure Development and Finance Corporation, KIADB = Karnataka, KUWSDB = Karnataka Urban Water Supply and Drainage Board, KUWASIP = Karnataka Urban Water Sector Improvement Project, LA = Loan Agreement, MAP = management action plan, MCC = Mysore City Corporation, MUAE = Ministry of Urban Affairs and Employment, NGO = nongovernment organization, O&M = operation and maintenance, PAM = project administration memorandum, PIU = Project Implementation Unit, PMU = Project Management Unit, SAS **=** self assessment scheme**,** SDO = social development officer, ULB = urban local bodies, ULG = urban local government

Sources: Asian Development Bank Report and Recommendation of the President and Progress Reports.

Table A8.1: Institutional, Financial, and Operational Action Plan

Objective and/or Task	Completion Date	Status
A. Institutional		
1. ULGs to rationalize tariff structure	31 March 1996	**Partly complied with.** Further action by state and urban local bodies initiated.
2. Address the overall shortage of skilled personnel in the ULGs, develop a comprehensive training program with assistance of consultants provided under the Project.	30 Sept. 1996	**Being complied with**. Training needs assessment completed and draft ?strategy paper for training of ULG personnel was prepared by the project management consultant and submitted to ADB. Based on this, the PMU established a training and capacity-building Cell within the KUIDFC to develop and undertake the programs. Training activities commenced during the first quarter of 1999 and are ongoing. (CENA study under KMRP is addressing the issue now.)
3. Strengthen the TCCs which play a vital role in guiding and coordinating Project Implementation through expanding the Committee to include the elected Mayor or Chairman; also in the smaller towns (Channapatna and Ramanagaram) a TCC must be appointed to guide their development.	30 June 1996	**Complied with.** TCCs have been constituted for Channapatna, Mysore, Ramanagaram, and Tumkur, per HUD Order No. 33 dated 30 November 1995. The Ramanagaram Channapatna Development Authority was also constituted per HUD Order No. 380 dated 30 November 1995.

Objective and/or Task	Completion Date	Status
4. Develop mechanisms to encourage increased involvement of the private sectors, NGOs and community-based organizations in urban development efforts	30 June 1996	**Complied with.** Principles for participatory community development program were agreed by the Empowered Committee. Community Development Unit has been established in KUIDFC; CDO and three SDOs recruited and fielded. Verification of slum upgradation components completed in all four towns using participatory approach and NGO assistance. Liaison with NGOs established and pilot program for low-income sanitation being implemented with NGO participation. Many programs in the social action plan developed for the project are based on community participatory approach and are being implemented. Community development cell to be strengthened again.
B. Financial		
5. Strengthen resource mobilization to adequately fund the provision of efficient urban services through a combination of new charges, rationalization of existing charges and improvements in collection efficiencies. Specifically undertake the following tasks:		

Objective and/or Task	Completion Date	Status
(i) Improve collection efficiencies of water supply charges and property taxes to no more than 90 days arrears.	01 April 1997	**Not complied with.** None of the cities achieved 75% collection efficiency.
(ii) Extend ULG boundary in project towns to include household on the periphery of the boundary, which currently receive urban services but are not included in the tax net.	31 March 1996	**Complied with.**
6. After due consultation with the Bank, implement the recommendations of the Bank-financed advisory TA on Resource Mobilization.	31 March 1996	**Complied with.**
C. Operational		
7. Appoint other essential PMU staff.	31 Dec. 1995	**Complied with.**
8. Establish PIUs in Mysore, Tumkur and Ramanagaram and appoint appropriate staff.	8 Sep. 1996 (2 months after affectivity)	**Complied with.**
9. Appoint Project Management and Design and Supervision Consultants.	31 March 1996	**Complied with.**
10. Set up Project Accounting System.	31 March 1996	**Complied with.**

Objective and/or Task	Completion Date	Status
11. Provide adequate funds in the budget for project execution.	31 March 1996	**Complied with.**
12. Acquire all land requirements for the project.	30 June 1996	**Complied with.**
13. Draw up a detailed resettlement plan and forward to Bank for review and approval.	30 June 1996	**Complied with.**

ADB = Asian Development Bank, CENA = capacity enhancement need assessment, CDO = community development officer, HUD = housing and urban development, KUIDFC =, Karnataka Urban Infrastructure Development and Finance Corporation, KMRP = Karnataka Municipal Reforms Project, NGO = non government organization, PIU = project implementation unit, PMU = project management unit, SDO = social development officer, TCC = Town Coordination Committee, TA = Technical Assistance, ULG = urban local bodies

Sources: Asian Development Bank Report and Recommendation of the President and Progress Reports.

Table A8.2: Project-Specific Covenants

Covenants	Status
A. Environmental	
1. The Borrower and the State shall carry out the following: community involvement, education programs for beneficiaries (particularly in relation to environmental sanitation), training programs for staff of the State's departments and agencies concerned to improve their awareness of the need for improved O&M of project facilities and, through appropriate regulation and control, of measures to implement environmental sanitation. DEHUD shall widely disseminate information about the Project and consult with community user groups that their views are taken into account in Project implementation.	**Complied with.** The report on Strategy for Community Development and Slum Up-gradation, including training plans for the community and staff, was developed and used as a guideline by the CDU of the PMU. Local NGOs were engaged in each project town to assist in developing and implementing the low-cost sanitation and slum improvement programs. A permanent training and capacity-building cell in KUIDFC was established in KUIDFC.
B. Social	
2. (I) Households to be fully compensated in accordance with established land acquisition procedures and requirements of the borrower and the Bank [LA, Schedule6, para 6]	**Complied with.**
3. The State shall ensure that community consultation, including with women, is carried out through the Period of Project Implementation. The State shall ensure that a social action plan is prepared by the State and concurred in by the Bank, and is carried out to maximise Project benefits for intended beneficiaries.	**Complied with.** KUIDFC established a CDU and recruited a community development officer for the PMU and slum improvement officers for the PIUs. The social action plan was prepared and approved by MTRM in January 1998 and subsequently ratified by Empowered Committee at its 14th meeting held on 11 February 1999.

Covenants	Status
C. Financial	
4. Appropriate water tariff to be levied in the Project [LA, Schedule6, para 15]	**Complied.** The revised water tariffs were levied in all project towns.
5. Collection efficiency of 90 days arrears due by 1 January 1997. MTR revised target date to December 1999 [LA, Schedule 6, para 16]	**Water revenue .** Only Mysore and Tumkur complied during FY1999/00 and none of the towns are complying at the end of project. **Property tax.** Only Mysore and Tumkur complied during FY1999/00, and Mysore and Ramanagaram at the end of FY2001/02. None complying at the end of the project.
6. Property Tax reassessment from 1 April [LA, schedule 6, para 17(a)]	**Delayed compliance.** The property tax reassessment has been made effective in all project towns. Mysore modified and implemented the property tax assessment procedure from ARV to a capital base system effective 1 April 2000. SAS is implemented in all project towns from 2001–2002.
7. Urban boundaries of towns to be extended and municipal taxes to be levied on unauthorised construction of properties no later that 30 June 1996	**Complied with.** Urban boundaries extended. Levying of municipal taxes on unauthorized constructions in progress. Unauthorized construction being demolished in Mysore and Tumkur.
8. State Government to consider recommendations of the consultants under the Resource Mobilisation TA [LA, Schedule 6, para 17 (d)]	**Complied with.** State government implemented the recommendations, as part of making amendments to the Corporation Act and the Karnataka Municipality Act, and has agreed on the MAPs. Amendments for property tax calculation made.

Covenants	Status
9. Institutional, Financial and Operational Action Plan	
- ULGs to exercise full-delegated authority to improve operational efficiency wit regard to imposition of financial charges and discontinuation of urban services.	The house passed the Karnataka Municipalities (Amendment) Bill 2000 and Karnataka Municipal Corporations (Amendment) Bill 2000 to levy infrastructure and solid waste management cesses.
- Streamline property tax appeal by 31 March 1996	**Delayed compliance.**
- Establish aggressive policy in dealing with defaulters of water tariffs and property tax payments by 31 March 1996	**Partly complied with.**
- Introduce user charges for solid waste management by 31 March 1996.	Act has been amended to include under property tax assessment, as specified. Actual application has however not yet been made.
A. Others	
1. Established, Staffed and Operating PMU / PIU	**Complied with.**
2. Fielding of Consultants	**Complied with.**
3. (i) Households to be fully compensated in accordance with established land acquisition procedures and requirements of the Borrower and the Bank [LA, schedule 6, para 6]	**Complied with.**
4. (ii) Appropriate water tariff to be levied in the Project [LA, schedule 6, para 15]	**Complied with.** The revised water tariff has been levied in all project towns.
5. (iii) Collection efficiency of 90 days arrears due by 1 January 1997. MTR revised target date to December 1999. [LA, Schedule 6, para 16]	**Not complied with.** Only Mysore and Tumkur complied during FY1999/00 and none of the towns are complying at the end of project.

Covenants	Status
6. (iv) Property tax reassessment from 1 April 1996 [la, schedule 6, para 17(a)	Only Mysore and Tumkur complied during FY1999/00 and Mysore and Ramanagaram at the end of FY2001/02. None complying at the end of the project.
7. (v) State Government to consider recommendations of the Consultants under the Resource Mobilization TA [LA, Schedule 6, para 17 (d)]	**Complied with.** State government implemented the recommendations, as part of making amendments to the Corporation Act and the Karnataka Municipality Act, and has agreed on the MAPs. Amendments for property tax calculation made.
8. (vi) Institutional, Financial and Operational Action Plan - ULGs to exercise full delegated authority to improve operational efficiency with regard to imposition of financial charges and discontinuation of urban services	MAPs accepted by state and urban local bodies. Detailed actions being implemented and being closely monitored.
- Streamline property tax appeal by 31 March 1996	**Delayed compliance.**
- Establish aggressive policy in dealing with defaulters of water tariffs and property tax payments by 31 March 1996.	**Complied with.**
- Introduce user charges for solid waste management by 31 March 1996.	Act has been amended to include user charges but actual application not yet made.

ARV = annual rental value, CDU = community development unit, DEHUD = department of Housing and Urban Development, KUIDFC = Karnataka Urban Infrastructure Development and Finance Corporation, LA = Loan Agreement, MAP= management action plan, MTRM = mid term review mission, MTR = mid term review„ NGO = non government organization, O&M = operation and maintenance, PIU = project implementation unit, PMU = project management unit, PIU = project implementation unit, SAS = self assessment scheme, TA = technical assistance, TCC = Town Coordination Committees, ULG = urban local government
Sources: Asian Development Bank Report and Recommendation of the President and Progress Reports

BENEFIT MONITORING AND EVALUATION

1. The Karnataka Urban Infrastructure Development Project included a benefit monitoring and evaluation (BME) program to measure conditions before and after the Project, to ensure that the anticipated benefits reach the targeted beneficiary groups and to make changes in the scope based on the real-time feedback from the annual updates under the BME. The BME program monitored the delivery of anticipated services and measured the benefits as they accrued. It also assessed the level of awareness of the Project among the project beneficiaries, and the community as a whole, their satisfaction with the manner in which the Project was implemented and with the results achieved, and any changes which may have occurred in their perception of the urban local bodies.

2. The baseline sample survey was carried out in May–June 1999. It covered three aspects: (i) customer satisfaction with the major civil works, (ii) slum services baseline, and (iii) capacity of the municipalities to deliver services. Twenty-five slums were covered in the four original project towns: Channapatna, Mysore, Ramnagaram, and Tumkur. In Mysore, the largest city, where the municipal corporation includes 65 wards, special studies were done to monitor the capacity-building efforts. The baseline survey established the "benchmark" database against which the impact of future project interventions were measured and assessed. The final sample survey was carried out in January–March 2003, when most of the physical works were complete. Periodic surveys were also carried out to determine the changes in key social indicators, including health, welfare, economic, and physical conditions. The BME study helped the Project in making midterm corrections, especially in the slum development component, on the basis of people's perceptions and needs.

3. The final BME survey of January–March 2003 preceded the loan completion by 18 months, and was carried out before all the infrastructure and assets created by the Project were fully operational. As a result, several crucial project benefits related to (i) increased water availability, (ii) increased sewerage connectivity, and (iii) reduced flooding were not reflected in the findings of the final BME survey. The remaining project facilities have been commissioned and put into service since the BME survey.

4. Public awareness about the Project, commonly identified as "the Asian Development Bank Project," and its infrastructure and community development works, increased significantly over the project period. Most of the survey respondents were satisfied that the Project was beneficial to the public. In the final survey, there was a clustering of opinion towards "somewhat beneficial" category, which was the middle-of-the-road choice on the 5-point scale. The number of respondents perceiving the Project as beneficial increased from 80% to about 93% in Mysore over the project period. However, in Channapatna, Ramnagaram, and Tumkur, this proportion was lower due to (i) no sewage collection system in Channapatnam, (ii) delays in commissioning of the water supply system and in making domestic connections for the sewage collection system in Ramanagaram, and (iii) dissatisfaction with the sewage system and the solid waste management program in Tumkur.

5. Improvements in roads and water supply were generally ranked as the most significant infrastructure benefits in all the towns. In Tumkur roads and the drainage components were considered most important followed by low-cost sanitation. In Mysore and Channapatnam, infrastructure improvements were perceived to be maximum for roads, followed by water and drainage. In Ramanagaram, water ranked highest in terms of improvement, followed by roads and drainage.

6. The Project has resulted in an overall positive impact from the water supply interventions. Consumers expressed satisfaction both with the quantity as well as the quality of water. The proportion of respondents with municipal piped water supply in 2003 is significantly higher than in 1999 in all the project towns. Mysore, which showed the highest proportion of piped water supply to homes in the 1999 survey at 63%, reports 87% after the Project, an increase of 24%. In Channapatnam, where only 17% of respondents had piped water supply in the 1999 survey, there was an increase of 40% to 57% in the 2003 survey. In Ramanagaram, the proportion of users with piped water supply increased from 25% in 1999 to 44% by 2003. The domestic water supply connection program started in 2003 had just begun when the final BME survey was done in 2003. However, the state's campaign to attract more households has resulted in more than 70% of the households being connected at the time of this report. In Tumkur, the proportion of piped water supply users increased from 35% to 62% by 2003. There has been a marked decrease in the proportion of people accessing supplemental water from outside their homes in all project towns, as more and more people fully utilize the piped water supply, basically because of an increase in water availability.

7. The water supply reliability in terms of number of days per week and hours per day of water supply increased most in Tumkur, followed by Mysore. Initially, there were problems with the electrical supply in the Ramnagaram and Channapatna water system due to outstanding bills to the Karnataka State Electricity Board. The operation and maintenance of the water supply scheme including distribution has now been handed over to the Karnataka Urban Water Supply and Drainage Board which has resulted in significant improvement in water quantity and time of availability. However, these measures were taken after the BME survey in October 2003 and were therefore not captured in the BME report. Considerable increase is seen in the number of people reporting water supply of more than 4 hours per day, particularly in Ramnagaram and Channapatna where service hours have doubled. Most respondents also reported satisfactory water pressure.

8. Most respondents reported satisfaction with the water quality in all the project towns. Respondents from Mysore expressed a high degree of satisfaction with the uniformity of the quality of their water. Ramanagaram showed the greatest improvement in customer perception of drinking water quality, while in Channapatnam, 13% still said that the quality was "bad", though this may mean that they do not like the taste of chlorine.

9. A reduction is reported in the mean distance traveled to the nearest public water point and the mean time spent on collection water for household use. In 1999, those residents of Mysore who had to fetch water from outside their house had to travel a distance of 128 feet (39 meters [m]). This was reduced to 33 m in 2003. The data for Channapatnam, Ramanagaram, and Tumkur also shows a reduction in mean distance, as well. Similarly, there has been a decrease in the estimated mean time spent on collecting water for household use. Project interventions have resulted in substantial time savings, especially for women. The main benefit is that women have more time for their families and potential economic pursuits.

10. The Project constructed or improved sewerage infrastructure in Mysore, Ramanagaram, and Tumkur. In Channapatna, which did not want a sewage collection system, satisfaction was expressed with the improved drainage system which came with the new roads. Many of the toilets empty into storm water drains and the improved water supply has increased the water flow in these drains. As a result, there is no accumulation of unhygienic waste material in the drains. Respondents from Ramanagaram appear to be particularly satisfied with their sewerage system, while Tumkur showed considerable dissatisfaction, mostly related to irritation at the levying of a sewerage surcharge on the water bills. The relatively lower perception of

improvement in Mysore is likely because the city was already served with a network of sewer lines, and while the Project improved these, and constructed waste water treatment plants, such improvements are not readily apparent to citizens. In Mysore, even low-cost sanitation units were connected to sewer pipes, reducing the chance of local contamination from the pits. Although a sewerage system has been constructed in Tumkur, household connections are still lagging due to the residents' resistance to pay for the connection, and to have their monthly water bills increased.

11. Considerable improvement in surface drainage is reported in all project towns. But the state is working on correcting the elevations in some specific areas where temporary flooding is caused because the roads were raised above the level of the houses on either side.

12. The solid waste management programs in the four towns included provision of garbage collection vehicles (trucks and containers, tipper trucks, and tractors), community bins and solid waste disposal sites for Channapatnam, Ramanagaram, and Tumkur and a modern composting plant in Mysore. The BME survey shows increased satisfaction with the solid waste initiatives in Mysore, Channapatna, and Tumkur, but less so in Ramanagaram. Improved waste collection and disposal is most evident in Mysore, with less change in Channapatnam, Ramanagaram, and Tumkur.

13. Overall, good-quality infrastructure has been provided in the project slums. A combination of low-cost sanitation toilets and drains for sewage and storm water has made considerable impact in all the participating slums. Before the Project, slum dwellers experienced difficulty during the dry months when they either had to go a long away, or resort to illegal means, to obtain water. Extension of water points to the slums has resulted in improved health and pays dividends in terms of time saved in collecting water. Many slums had community and women's centers built under the Project which have provided a focal point for the 750 new self-help groups, and continue to provide space and sustainability for various community programs.

FINANCIAL AND ECONOMIC EVALUATION

A. Background

1. The scope of the economic and financial analyses of projects is mainly focused on the issue of financial sustainability of urban investments in the context of the loan covenants related to the institutional reforms (Loan Agreement (LA), schedule 6, para. 13), enhancement of revenue generation (LA, schedule 6, paras. 14 and 15) and cost recovery (LA, schedule 6, paras. 16–18), as well as the loan covenants related to property tax reforms (LA, schedule, para. 21). The post project assessment is done to provide insights on the financial and economic performance of the investments under the Project.

B. Scope of the Analysis

2. Financial sustainability of a project is determined in part by the investment, cost recovery, and asset management reforms achieved by the implementation agencies, for revenue-generating components. Financial analysis in this assessment is limited to the revenue-generating subprojects of water supply, residential sites and services, and truck terminals. The post appraisal broadly followed the framework provided in the Asian Development Bank's (ADB) *Guidelines for Economic Analysis of Projects* (1997), *Guidelines for the Economic Analysis of Water Projects* (1998), and *Financial Management and Governance Guidelines for Investments* 2002.

C. Subprojects Identified for Financial Analysis[1]

3. During project preparation, (i) financial viability of water supply subprojects in Channapatana, Mysore and Ramanagaram, (ii) the truck terminal in Mysore; (iii) residential and industrial sites and services in Channapatana, Ramanagaram, and Tumkur; and (iv) a cultural-cum-community center in Ramanagaram were analyzed and reported to be financially viable "footnote 1". The financial internal rate of return (FIRR) estimates vary from 15.5% in the case of the Mysore water supply project to 2.6% in the case of the cultural-cum-community center in Ramanagaram.

4. Since the residential sites and services in Channapatana, Ramanagaram, and Tumkur have not yet been sold to recoup the investments, these have not been assessed. Similarly, the truck terminal in Tumkur has not yet generated any revenue. Hence, the financial viability analysis is undertaken only for the water supply schemes in Mysore and Ramanagaram and Channapatana.

D. Methodology of Financial Analysis

5. The financial cash flow statement include all base costs including price and physical contingencies and interest during construction and the operation and maintenance (O&M) cost which includes personnel, administrative overheads, power charges, chemicals, repairs and maintenance, and miscellaneous expenses. In the absence of project-specific O&M accounting,

[1] Financial analysis is done only for those projects that have been assessed during the project preparation and ADB. 1995. *Report and Recommendation of the President (RRP) to the Board of Directors on a Proposed Loan to India for the Karnataka Urban Infrastructure Project*. Manila (Loan 1415-IND, for $85 million, approved on 14 December).

a nominal rate of 4% of the capital investment cost is taken as the O&M cost for the financial cash flow analysis and no contingency and price fluctuation for foreign investment component was considered. The financial projections are done at constant prices 2005.

6. The financial analysis was conducted using incremental capital cost and operating expenses for estimating the incremental cost stream. Incremental revenue from the project is estimated based on the water sold as per the estimated incremental and non-incremental water demand from the existing and new consumers and connection charges. The benefit stream is estimated for 25 years. Revenue streams are calibrated for various levels of nonrevenue water, serviceability, and tariff revisions. These are tested as sensitivity indicators in the analysis. Since these investments are already completed, the sensitivity of the net revenue and rate of return to the changes in the O&M costs is also done to test the robustness of the model.

E. Project Costing and Cost of Capital

7. The total base capital expenditure of the Project is Rs4,194.2 million, including consultancy and interest during construction costs. Out of the $80 million ADB loan allocation, the Project has disbursed only $76.38 million. The Project includes two additional towns in the investment program, added at a later stage, to use savings from the original scope loan to fund road and drainage subprojects in these towns. The actual financing plan suggests that the weighted average cost of capital (WACC) is 2.1% in real terms.

F. Financial Internal Rate of Return of Water Supply Subprojects

8. The average incremental financial cost (AIFC) of water in the Mysore subproject is Rs2.43/cubic meter (m^3) compared with the average financial revenue of Rs2.94/m^3, yielding marginal net revenue of Rs0.5/m^3 of water sold. In comparison, the AIFC of Ramanagaram and Channapatana subproject is high at Rs9.8/m^3. The high capital investments and low service coverage is one of the main reasons for this high AIFC. The results of the financial analysis for water supply projects are available upon request.

Table A10.1: FIRR Analysis
(%)

Water Supply Subproject	Appraisal Analysis: FIRR	Present Analysis: FIRR
Mysore Water Supply	15.5	4.3
Ramanagaram and Channapatana Water Supply	7.6	(5.1)

FIRR = financial internal rate of return.
Source: Asian Development Bank's Report and Recommendation of the President

9. It is thus observed that while the Mysore water supply project seems financially viable in comparison with the 2.1% WACC in real terms, the Ramanagaram and Channapatana water supply subproject does not seem viable, even though, during the project appraisal, the project is estimated to have 7.6% FIRR. The main reasons for these varied financial rates of returns are the non-implementation of some of the important institutional and service cost recovery measures assumed at appraisal, which have reduced cash flow. For example, at appraisal, the water tariff was assumed to increase annually at an average of 13% over the project period (251% in aggregate), the city was expected to introduce a sewerage assessment on property tax of 30% in 1999, the nonrevenue water is assumed to be reduced from 30% in 1995 to 20% by 2001. A majority of these policy measures have not been implemented during 1995–2004. It

is also observed that nearly 40–45% of the connections in these towns are illegal, though during the latter part of the 2004, the urban local bodies have taken steps to audit the illegal connections and initiated the process of regularization. These initiatives are yet to show results in these towns.

G. Financial Sustainability Rating of the Project Components

10. The financial viability analysis conducted for the revenue generating subprojects reflects the following performance rating.

Table A10.2: Financial Rating of Project Components

Component	Rating
Mysore Water Supply Subproject:	Satisfactory, sustainable
Ramanagaram and Channapatana Water Supply Subproject	Not Satisfactory, not financially sustainable

Source: Project Completion Report of Financial Consultant.

H. Economic Analysis

11. The economic analysis of the project components was conducted at 2005 prices. Economic costs are calculated from the actual financial costs; hence contingency cost is not considered. Economic cost of various project cost components includes base cost, but does not include any transfer payments such as taxes and custom duties. Economic costs are valued in domestic numeraire. Appropriate shadow pricing has been applied for tradable materials and unskilled labor to estimate their economic values. Tradable component of the capital costs and O&M costs are valued at a shadow exchange rate factor of 1.11 (0.9 of standard or average conversion factor**)**, assuming no foreign exchange fluctuation. Electricity charges paid by the city is not subsidized and hence the economic cost is taken as the same as its financial cost. The standard conversion factor of 0.9 has been used to convert financial estimates into economic terms.

12. In the economic analysis of water supply subprojects, the opportunity cost of water, Rs0.35/m^3, estimated during the project preparation, is used. The total economic cost estimate of the Project includes economic base and O&M costs and the opportunity cost of water.

13. The average incremental economic cost (AIEC) of water for the Mysore subproject is estimated as Rs2.35/m^3. In comparison, the AIEC of the Ramanagaram and Channapatana subproject is estimated as Rs8.6/m^3. Quantifiable benefits of the improved water supply include non-incremental water consumption valued at current average supply price of water from non-piped sources of Rs2/m^3 to Rs15/m^3 and incremental consumption valued at demand price of water from piped source from Rs5/m3[2]. Moderate increase in the willingness to pay is assumed until the design capacity is reached.

14. Economic analysis of the Mysore Outer Ring Road and Tumkur Southern Bypass Road was been carried out using incremental land value and resource savings approach. In both

[2] The economic benefit from the incremental demand for water is based on the willingness to pay analysis conducted by the project preparation team. The average willingness to pay of Rs5/m^3 is used as the demand price of water. It is assumed the demand price will increase at the rate of household income growth of 2% per year until Y2011 and the incremental connections will be provided through Y2011.

projects, the immediate impact areas have been taken as 250 meters on either sides of the road corridor.

15. The major indicators of the economic viability analysis for the various sub projects are summarized in Table 6. All new outer ring road projects and the Mysore water supply projects generate large economic benefits. But unlike the water supply projects, economic returns of the new road projects are not significantly affected by changes in the O&M cost or marginal changes in the land value.

Table A10.3: Economic Internal Rates of Return and Sensitivity Indicators

Projects	Base Estimate	- 10% in land value	+10% in O&M Cost	+10% Annual Tariff Revision
Water Supply				
Mysore				
EIRR	16.14%	Not applicable	16.62%	23.38%
Sensitivity Indicator			0.91	17.4
AIEC/m^3	2.35			
Ramanagaram and Channapatana				
EIRR	(0.75%)	Not applicable	(0.74%)	3.9%
Sensitivity Indicator			0.008	3.7
AIEC/m^3	8.66			
New Roads				
Mysore Ring Road				
EIRR	73%	71%	73%	
Sensitivity Indicator		0.33	Insignificant	Not applicable
ENPV (Rs million)	1,714			
Tumkur Bypass Road				
EIRR	96%	95%	96%	
Sensitivity Indicator		0.12	Insignificant	Not applicable
ENPV (Rs million)	1,153			
Discount Rate 12%				

AIEC = average incremental economic cost, EIRR = economic internal rates of return, ENPV = economic net present value, m^3 = cubic meter

Note: Sensitivity of annual revision in tariff is estimated in real term.

Source: Project Completion Report of Financial Consultant.

Table A10.4: Economic Impact Rating of Project Components

Component	Rating
Mysore Water Supply Subproject:	Satisfactory and sustainable
Ramanagaram and Channapatana Water Supply subproject	Less satisfactory
Mysore Outer Ring Road	Satisfactory
Tumkur Southern Bypass Road	Satisfactory

Source: Project Completion Report of Financial Consultant.

I. Fiscal and Financial Sustainability of Project Towns

16. As part of the financial sustainability analysis of the urban investments, the rationale is based on the projected financial positions of towns participating in the Project. The debt servicing capacity of the six project towns is determined by the projected net cash flow estimates derived during the project preparation process. Some of these projections are based on the institutional and service management reforms include as loan covenants. A comparison of the projected financial positions with the actual performance of the project towns over 1999–2005 suggests wide variations in these estimates.

Table A10.5: Comparison of Financial Projections and Actual Performance of Project Towns
(Rs million)

Municipal Financial Profile	2003–2004	Mysore	Tumkur	C'patana	R'nagaram
Tax Receipts	Appraisal	571.25	107.11	23.57	16.58
	Actual	122.3	51.33	5.83	5.59
Water Charges	Appraisal	179.07[a]	8.57	3.2	2.47
	Actual	107.2	4.07	0.84	1.68
Operating Revenue	Appraisal	843.08	146.33	72.37	44.63
(Excluding Fiscal Transfers)	Actual	343.12	66.7	29.03	25
Operating Expenditure	Appraisal	485.22	84.52	41.52	24.54
	Actual	564.65	87.69	19.83	6.72
Net Cash Flow	Appraisal	9.63	3.51	(21.05)	(38.47)
(Revenue +Capital)	Actual	(23.46)	(15.14)	8.96	16.4
Debt Servicing Capacity					
Debt Servicing as % of Operating Revenue	2003–2004	43.4%	58.5%	68.5%	115.8%
Project Related	2004–2005	390.4	104.4	61.2	86
Debt Servicing +Over Due					

C'patna = Chanapatna, R'nagaram = Ramanagaram

[a] The estimate includes both incremental water charges and revenue from truck terminal.

Source: Project Completion Report of Financial Consultant.

17. The property tax reforms introduced in the state of Karnataka during 2002 have significantly improved the tax receipts of most project towns.[3] Even though the transition from

[3] The property tax reforms introduced by the state in Y2002, meet the Loan Agreement, Schedule 6, para. 21.

the annual ratable value to the capital value under a self-assessment scheme format has not been easy, it has significantly improved the tax receipts of most urban local bodies in the state, including the project towns. However, the projections made during the project appraisal were not realistic. For example, while the projected tax receipt of Mysore for 2003–2004 was Rs571 million, the actual realization was only 21% of the projected estimate. This suggests that more modest financial projections should be used during future project preparation. One of the main reasons for these large variations is the untenable and impractical fiscal and financial management assumptions related to property tax, user charges, cost recovery, and debt repayment.

18. The above analysis indicates that the Project has resulted in a significant debt burden. While most of these debts will be paid by the state, as reduced fiscal transfers, the basic principle of transferring financial responsibility of municipal, debt has to be based on a realistic assessment of the debt servicing capacity of urban local bodies. The ongoing municipal reforms under the municipal management program (Nirmal Nagara) program are expected to streamline some of these institutional and service management initiatives.

Table A10.6: Performance Rating of Towns on Loan Covenants (LA Schedule 6)

Loan Covenants	Rating
Property Tax Reform and Enhancement	Satisfactory
Property Tax Collection	Less satisfactory
Municipal Revenue Enhancement	Less satisfactory
Cost Recovery in Revenue-Generating Subproject	Satisfactory in the case of Mysore Water Supply Subproject and less satisfactory in other cases
Financial Management of Project Investments	Poor
Municipal Expenditure Management	Poor
O&M management system of Subprojects	Poor
Municipal Institutional Reforms	Less satisfactory

FIRR = financial internal rate of return.
Source: Asian Development Bank's Project Performance Report

SOCIOCULTURAL, RESETTLEMENT, AND ENVIRONMENTAL IMPACTS[1]

A. Introduction

1. Karnataka Urban Infrastructure Development Project, a first-generation integrated urban development project, was developed and implemented by the government of Karnataka through the Karnataka Urban Infrastructure Development and Finance Corporation (KUIDFC) with assistance from the Asian Development Bank (ADB) during 1995–2005.

B. Approach and Methodology

2. The approach and methodology adopted is summarized below.

3. **Consultation and Documentation Review.** ADB officers and project authorities were consulted for a first-hand account of the project implementation, various sociocultural and environmental issues identified during project preparation and managed during implementation. The following documents were reviewed:

(i) resettlement plan,
(ii) summary of initial environmental examination,
(iii) benefit monitoring and evaluation, and
(iv) report and recommendation of the President (RRP).

4. **Rapid Reconnaissance and Sample Surveys.** A rapid reconnaissance of the area was conducted along with the ADB officers for familiarization and a first-hand assessment of the project's sociocultural and environmental impacts. Simultaneously a team jointly headed by a sociologist and environmental engineer went to the project sites and met officials, project beneficiaries, project-affected persons, etc. for focus groups and data collection. The reconnaissance, sample surveys, and focus groups were purely exploratory and qualitative.

5. **Analysis, Assessment, and Documentation.** The data and dialogue generated during the above two stages was analyzed comparing with what was planned. This was the basis for assessment of the sociocultural and environmental impacts and recommendations. The following facts have been kept in mind: (i) the sociocultural and environmental mitigation and management plans were made during first part of the last decade, and (ii) there were many changes in the ADB's safeguard policies and borrowers regulations during this period.

C. Assessment Based on Planning

6. The sociocultural and environmental requirements as stated in the RRP are quoted in italics followed by compliance.

D. Sociocultural

7. *Initially about 7,110,000 square meter (m^2) of land was needed for the project, out of which about 960,000 m^2 were acquired or already in possession of the implementing agencies.*

[1] This appendix is an abbreviated version of the consultant's report on the social, cultural and environmental impacts of KUIDP which was conducted as part of the project completion review. The qualitative assessment involved rapid reconnaissance and sample survey, field visits, review of project documentation, and stakeholder consultations involving ADB staff, project staff, consultants, partner NGOs, project beneficiaries and project affected persons.

The acquisition was to be completed by mid-1996. One of the main reasons for the delays in execution of almost all components of the project was delayed land acquisition. The individual project sheets confirm this.

8. *Resettlement plans should be prepared with appropriate time-bound actions and budgets. Resettlers should be provided sufficient resources and opportunities to reestablish their homes and livelihoods as soon as possible.* The implemented resettlement plan was approved by ADB. As per this plan, there were 52 (in Mysore Outer Ring Road) and 59 (Tumkur Southern Bypass Road) project-affected persons to be rehabilitated. The enquiries with Mysore Urban Development Authority and Tumkur Urban Development Authority reveal that 37 and 58 persons were resettled in Mysore and Tumkur, respectively.

9. *Appropriate land, housing, infrastructure and other compensation comparable to the without project situation should be provided to the adversely affected population including indigenous groups, ethnic minorities and pastoralists who may have usufruct or customary rights to the land or other resources taken for the project.* Land for land option was given to the project-affected persons (PAPs) who had lost homestead land. They were given alternate housing sites at the residential sites developed by the project. The sites developed are provided with infrastructure facilities like roads, drainage, water supply, street lighting, etc. People who lost land, structures, etc. were given compensation as per market rates. There are some PAPs especially from Tumkur who say that they were paid compensation at government rates. Nearly 50% of the PAPs who were given housing sites at Mysore have built houses except for a few. Where as in Tumkur, only three PAPs have built houses and the majority of the rest have sold the sites (reportedly at a higher rate!). The value of land around the facilities has appreciated considerably.

10. *The affected people should be fully informed and closely consulted on resettlement and compensation options.* The social action plan has a built in community participation component by way of participating in various project activities. The enquiries with the project authorities and PAPs reveal that the whole process of acquiring land and paying compensation took very little time. The PAPs are satisfied that they got the compensation within a very short period. There were no forced evictions, people were given sufficient time to shift on their own. This has generated a goodwill for the project among the PAPs.

11. *Appropriate patterns of social actions should be promoted and existing social and cultural institutions of resettlers and their hosts should be supported and used to the greatest extent possible. Resettlers should be integrated economically and socially into host communities so that adverse impacts on host communities are minimized.* This principle was followed well by the project. The alternate sites given to the PAPs were very much within the same town. These sites were developed by the respective urban development agencies. The plots in these sites were sold to the residents of the same town.

12. *Particular attention should be paid to the needs of the poorest affected persons including those without legal title to assets, female headed households and other vulnerable groups, such as indigenous peoples and appropriate assistance provided to help them improve their status.* The resettlement plan did not identify any vulnerable groups. The enquiries reveal that there were some vulnerable groups such as scheduled castes and scheduled tribes, households headed by women, etc. among the PAPs both at Mysore and Tumkur. They were treated on par with the rest of the PAPs without any special attention.

13. *Social impact assessments were prepared for each project town and for each project component during feasibility study. It was estimated that over 70 percent of the beneficiaries would be low income households. It was also estimated that it will promote community involvement and employment.* The project beneficiaries of slum improvement, water supply, and low cost sanitation are slum dwellers, road side squatters, and other low income groups. The project did create employment opportunities during construction and operation.

E. Environmental

14. *The project has been classified as Category B as per the Bank's guidelines for Environmental Assessment for project impacts. The initial environmental examination carried out for each project component showed that no significant adverse effects are anticipated and that a detailed environmental impact assessment is not required. The temporary adverse effects during construction will be controlled and minimized by good design and construction management in an environmentally sensitive manner.* There was no environmental management plan prepared for the project, but good practices were recommended for practice during construction.

15. *The major objective of the project is to ensure clean potable water which can, ultimately, only be delivered by a constant 24 hour and, preferably maintaining a minimum head of 10 meters in the pipeline. Community based water supply is planned to be provided in low income areas.* There are perceived improvements in water supply in the project towns in terms of quality, quantity, and reliability of supply. The BME report stands testimony to this. But the above objective of 24/7 (mentioned in RRP) water supply could not be achieved for several reasons. One of the reasons for this is that the design of water supply schemes has not taken 24/7 into account. The general practice in India is that the water supply is not designed for 24 hours supply. The enquiries reveal that the bulk water supply was designed for 20 hours and the distribution system for 4 hours. The present water supply in the project towns ranges from 1 to 2 hours either daily or on alternate days, which is a marked improvement from the before project situation. Community management of water supply in low-income areas is yet to take place. These areas are supplied from the same system with operation and maintenance (O&M) from either the urban local body or Karnataka Urban Water Supply and Drainage Board (KUWSDB). It is the same case with many other towns where water supply systems to peri-urban areas are getting integrated into the main water supply systems in the towns. The urban local bodies test water, rather randomly, for residual chlorine at the tap end. This was reported to be generally 2 parts per million (ppm). The slum dwellers feel that water supply and drainage situation has improved a lot when compared with earlier situation.

16. *The coverage and quality of solid waste collection services is also poor and it is estimated that over 50 percent lack access to a sanitary latrine.* Sanitation improvements could be seen in the slums and many parts of the project areas. This situation has greatly improved in the project towns. A number of latrines were built under the project. Solid waste collection efficiency has improved. The urban local bodies are provided with equipment and vehicles for solid waste collection and transportation. Landfill site has been constructed for Ramanagaram and Channapatna. A compost plant is built at Mysore. A landfill site at Tumkur is being taken up.

17. *The Initial Environmental Examination has envisaged community participation and information dissemination to user groups. Disclosure policy recommendation is to disclose all the test results, display the environmental clearance for construction and operation of the plants, details of operators, etc in the sewage treatment plant site offices and at the urban local body office.* The social action plan prepared by the project has a built in community participation

component by way of participating in various project activities. In particular the slum communities were consulted and encouraged to participate in the planning and implementation of the project components in low-income areas.

F. Field Visits

18. The following notes and observations are made based on the field visits and focus group discussions. Generally, water supply, water treatment plants, sewerage, sewage treatment plants, solid waste management facilities, storm water drains, road improvements, bus shelter, poverty reduction, slum upgrading, residential sites and services, and cultural and commercial complexes were visited. Interviews were held with livelihood advancement business school (LABS) beneficiaries and other self help groups too.

1. Ramanagaram

19. **Water Supply.** Presently, water is supplied thrice a week for a duration of 1 hour. About 95% of the households in the visited areas have house service connections. Many of these need to be regularized for realization of tariffs. The present operator KUWSDB is considering revision of tariff (Rs100 per month) by adding a sewerage surcharge of about 20%. The authorities report 2 parts per million residual chlorine at the consumer end based on random checks. However, recorded water quality data could not be seen. The residents are quite satisfied with the improvements in water supply. However, they request daily supply. The Nagannakatte slum has a mini water supply system with the storage tank located at an elevation where water does not reach. Low residual chlorine levels at Ramanagaram can be rectified by end point chlorination.

20. **Sewerage and the Sewage Treatment Plants.** The plant is operating at a capacity of 2 million litre per day (MLD). The pumps at the four pumping stations were found functioning properly. There is an immediate need to get all the properties connected to the sewerage system. As of now it should be running at about 3 MLD load. By regularly monitoring the DO (dissolved oxygen) levels, the number of aerators to be operated can be optimized. The laboratory at the plant is not operational. The flow in the valley receiving effluent needs to be regularly monitored. Groundwater around the plant is not monitored for quality. The quality of downstream water from the outfalls and sludge needs to be monitored. KUWSDB says that they do not have funds to operate the plant with no agency taking up the responsibility. The plant needs to be properly fenced. Proper indication and protection for the vehicles need to be provided near the plant, as the aeration tanks are abutting the road at a lower level. The clearances from Karnataka State Pollution Control Board and quality parameters of effluent need to be displayed at the plant.

21. **Solid Waste Management and Storm Water Drains**. The residents are littering waste in storm water drains and in abandoned areas, as there are few dust bins and no door to door collection. They report waste is lifted only when complained to municipality. According to health officer, waste is collected daily from the dustbins placed near main road and once in three to four days from areas having few dust bins. The vehicles used for the transportation of municipal solid waste (MSW) must be properly covered. The urban local body should encourage community participation through formation of resident welfare associations (RWAs). There is a common landfill site for Ramanagaram and Channapatna of 67,786.06 m^2 at Doddamannugudde. The landfill site is used like a dumping yard. It does not have liner and cover system facilities. During rainy season, rain water flows with solid waste due to sloping terrain. Formation of Leachate and its stagnation is very likely at the site due to haphazard

dumping. Segregation of waste is not practiced. Garbage is blocking an internal culvert built at landfill site. This could result in ground water pollution. A habitation, Rajiv Gandhi Pura of Archakarahalli, is close to the landfill site. The habitation is growing with pucca houses and other infrastructure. They complain of smell, flies, mosquitoes, rats, etc. due to the dumping operations. There is a need to properly design and operate the landfill. Drains are clogged due to dumping of waste into them by residents. The residents agree that drains have improved and request for more regular and frequent cleaning. This could be entrusted to the RWAs.

22. **Road Improvement and Bus Shelter**. The residents feel that roads have improved over the last five years.. The shop owners along the roads feel that their business has improved. The bus terminal at Ramanagaram has good infrastructure facilities like road, water supply, lighting, and concreted and sheltered platform. This has been sold to Karnataka State Road Transport Corporation and is yet to be put to use.

23. **Poverty Reduction and Slum Upgrading**. Slums are provided with main and lateral roads, storm water drains, water supply, and underground drainage (UGD). Around 90% households were found to have individual toilets constructed under Shakti scheme by Shakthi nongovernment organization group. These need to be connected to the UGD. The community halls, one at Aijuru Gudde and other at Kothipura, are used for meetings, social gatherings, as libraries and to house school. Residents say that land value near project area has appreciated by about 4.5 times when compared with 5 years ago, whereas land prices away from project area have appreciated by about three times.

24. **Residential Sites and Services.** The plots are yet to be sold and, hence, construction is yet to take place. The residents are not willing to buy the sites because the sites are far from the current developed areas and the rates are too high. The sites are yet to be fully provided with power supply. The housing provision under the Rajiv Gandhi Rural Housing Corporation in the area might have been one of the reasons for insufficient demand for the resident sites and services under the project.

25. **Cultural and Commercial Complex.** Three of these shops in the complex are yet to be occupied. The halls are used for marriages, social gatherings and other events. Municipality maintains the complex. Daily charges are Rs3,000 from scheduled caste and scheduled tribe and Rs6,000 from others for engaging the hall for marriages. There is no charge for cultural and welfare events. Residents have complained regarding the poor flooring, water stagnation, and lack of basic amenities. According to them, the facility remains locked except when engaged for events.

2. Channapatna

26. **Water Treatment Plant.** The backwash waters of the Bangalore Water Supply and Sewerage Board treatment plant join the source for this water works. For this reason, the raw water is turbid during peak discharges from the Bangalore Water Supply and Sewerage Board plant. Hence, the addition of alum for coagulation need to be controlled based on water quality. Treated water is disinfected by chlorination. The physical and chemical characteristics of both raw and treated water are monitored on daily basis and are reported to be complying with statutory requirements. The staff quarters have not been occupied. Treated water needs to be tested for biological parameters.

27. **Water Supply and Sewerage.** About 95% households in visited areas have house service connections. Water is supplied thrice a week for 1 hour. There is no volumetric billing.

Each household is charged a fixed tariff of Rs100 per month. The residents are satisfied with the present water quantity and quality when compared with that of 5 years ago. They request for daily supply. Waste-not taps could be provided at public standposts to avoid wastage of water. There is a need to get all the properties connected to the sewerage system to increase the flow into the sewage treatment plant as much as possible for better asset use.

28. **Solid Waste Management and Storm Water Drains.** The residents are littering waste into storm water drains and in abandoned areas due to lack of dust bins and no door to door collection. According to Health Officer, MSW is collected daily from bins and once in 10–15 days from areas without bins. Residents report that waste is lifted only when they complain. The urban local body should encourage community participation through formation of RWAs. The dumper placer, which has been purchased, is not in use for last few months. The waste needs to be covered during transportation. The landfill site at Doddamannugudde is common for Ramanagaram and Channapatna. Drains are clogged due to dumping of waste into them. The residents complain that the drains are cleaned only once a month. However, they agree that the drains have improved compared with 5 years ago. This could be entrusted to the RWAs.

29. **Poverty Reduction,Slum Upgrading and Road Improvement**. About 90% households are having individual toilets. Residents say that land value near project area has appreciated by 2.5 times when compared with 5 years ago, where as land values away from project area have appreciated by 2 times. The residents feel that roads improved when compared with 5 years ago. The shop owners abutting the roads expressed that business is improved.

3. Maddur

30. **Solid Waste Management and Storm Water Drains.** The residents are littering waste into drains and abandoned areas as there are few dust bins and no door to door collection. Residents report that often waste is lifted once in 2 months, that too only when they complain. The urban local body should encourage community participation through formation of RWAs. As per the Health Officer, waste in four wards is collected by the municipal Pourakarmikas and in other 19 wards by a contractor. He says that once in 3 days, waste is cleared from the existing 74 bins. The waste should be covered during transportation. Currently, the waste is dumped in abandoned places. There is a need for a proper landfill. Drains are clogged due to dumping of waste leading to mosquito nuisance. The residents complain that drains are not frequently cleaned by the municipality. RWAs should maintain the storm water drains.

31. **Road Improvement, Bus Shelter, and Municipal building.** The residents feel that the roads are improved compared with 5 years ago. The shop owners abutting the road feel their business has improved. The municipal officials are satisfied with their new office building built by project. The bus shelter built by the project is in use. Trees should be planted on both sides of roads.

32. **Poverty Reduction and Slum Upgrading**. Most households in Siddarathnagar and Garibha town have individual toilets, whereas in Ramrahimnagar the coverage is about 10%. Water is supplied once in three days for one hour. The residents say that land prices near project area have appreciated by more than 2.5 times when compared with 5 years ago, where as prices away from project have appreciated by less than 2.5 times.

4. Mandya

33. **Solid Waste Management and Storm Water Drains**. The residents are littering waste in drains and abandoned areas as there is no door to door collection of waste. Residents complain that waste is lifted once in 15 days. According to Health Officer, waste is collected daily from the main roads having dustbins and congested areas and once in 2 days from areas not having dustbins. The urban local body should encourage community participation through RWAs. The municipal staff and residents need to be sensitized about MSW management. Adequate number of dust bins should be provided. The waste should be covered during transportation. Drains are clogged due to dumping of waste. The residents complain that drains are cleaned once in a month. However, they agree that drains have improved compared with 5 years ago. The maintenance of drains should be entrusted to RWAs.

34. **Poverty Reduction, Slum Upgrading, Public Toilets and Road Improvement.** Many households have individual toilets. Residents opine that land prices near project have appreciated by about three times when compared with 5 years ago, whereas land prices away from project have appreciated by less than three times. Pay and use-type public toilets were built at Narayanapura, M.C. Ranna road, and V.V. Ranna road. These are maintained by Sulabh Souchalaya. The residents opine that the roads are improved compared with the situation to 5 years ago. The shop owners abutting the road feel their business is improved. Trees should be planted on both sides of the roads.

5. Mysore

35. **Water Supply and Water Treatment Plant.** Service road from the plant to the head works (Ramanahalli to Melapur) need to be strengthened and trees need to be planted on both sides. Many of the staff quarters are not occupied. Physical, chemical and biological parameters of raw and treated water are monitored on a daily basis through analysis at Vani Vilas Water Works Laboratory. The water testing laboratory at the plant is not in use. The water-testing results are submitted to the commissioner, executive engineer and health officer and found to be complying with the treated water standards. The community seldom gets information about water quality.

36. **Rayanakere Sewage Treatment Plant.** There are 11 pumps at wet wells A and D which are feeding this plant. Out of these 11 pumps, only 2 are in working condition. This has resulted in the plant being not in use. This matter needs to be taken up with the manufacturer as well as the suppliers. Presently, untreated sewage is being let into natural streams which could harm down stream users. At the wet well D, the opening into the well needs to be covered properly. The ladders with sharp edges need to be covered along the edges or replaced. The seepage observed at the foot of plant bund and at places on the slopes of bund need to be arrested. As a first step, the ground water around the plant needs to be monitored for quality. Effluent is tested daily at the west and east part of the plant, and monthly from a bore well at the plant. The treated water from outfall sewers is disposed into Karanji kere. The results are reported to Commissioner, Executive Engineer, and Health Officer. The community seldom gets informed of these results.

37. **Sewerage and Vidyaranyapur Sewage Treatment Plant.** Present inflow is 25 MLD. The three pumps at JP Nagar wet well and five pumps at wet well at the plant premises are functioning properly. The aerators are operated as per DO values of waste water. The plant site laboratory monitors the effluent quality at north and south of the sedimentation basin. The

treated water is disposed into Dalvayikere and monitored for quality at different locations once a month. The results are reported to Commissioner, Executive Engineer, and Health Officer. The community seldom gets informed of these results.

38. **Sewerage and Kesare Sewage Treatment Plant**. All the five pumps at the wet well cum pump house located at the plant premises are functioning. Presently, as per the plant in charge, the aerators are operated based on the DO values obtained after testing the waste water. The effluent samples are collected at the east and west of sedimentation basin are monitored on daily basis. These samples are tested at the laboratory located at the plant site. Pisciculture is taken up in the maturation ponds and harvested and sold through auction.

39. **Solid Waste Management and Storm Water Drains.** A lot of garbage is found littered around the few dustbins provided in the slums. The residents report that waste is lifted only when they complain. According to the Health Officer, 16 RWAs have taken up solid waste management in seven wards. The 35th ward community is organizing door to door collection of solid waste under Nirmala Nagara program charging Rs10/- from each household. About 250 tons per day of waste reaches the Excel plant everyday. Collection and removal of leachate and dumping of waste needs, to be planned in the plant premises. Dry and wet waste needs to be segregated before dumping in the plant. The plant needs to introduce proper health and safety measures like usage of gloves and masks. Municipal officials must encourage community participation in MSW management through RWAs. There is a need to sensitize the residents on good MSW practices. The waste needs to be covered during transportation. A recent development is that the VENNAR and Excel contract is rescinded and alternate arrangements are being made for plant operation. Drains are clean and maintained well. The residents opine that the drains are better now compared with 5 years ago. This could also be entrusted to the RWAs.

40. **Road Improvement, Bus Shelter and Rain Water Harvesting.** The residents feel that roads are improved compared with 5 years ago. The shop owners abutting roads opine that their business improved. The shops in the bus shelter are yet to be occupied. Trees should be planted along both sides of roads. Rain water harvesting measures like collection pits, flow channels and percolation pits were constructed at Cheluvamba Garden and Corporation premises.

41. **Poverty Reduction.** Water supply ranges from 12 hours to 1 hours daily on alternate days. Some slums have house service connections. The residents are satisfied with the quality and quantity of water supply when compared with 5 years ago, but request daily water supply. Many households have individual toilets with UGD connections. The project has built community halls which are used for social gatherings and cultural functions. Slum Board has constructed houses for families who paid a deposit of Rs5,000 and rest at Rs350 per month.

42. **Slum Upgrading.** About 90% households have individual toilets. The community halls at Yeswanthnagar and Kudremala are used for cultural and social gatherings. Residents opine that land prices near project have appreciated by about nine times when compared with 5 years ago, whereas land prices away from project have appreciated by about seven times.

43. **Lake Development.** Karanji lake has been developed and restored with bird watchtower, India's largest walk through birds aviary, wetland, public toilets, bridge to butterfly park, entrance gate cum ticket counter and parking stand, boating jetty, dust bins, rest benches, drinking water points, culverts and improvement of roads, lawns and gardens, street lights, etc. An elephant ride facility for children and adults is being planned. Currently, the tank receives

good amount of surface run off from catchment areas. Large number of birds are nesting and roosting in the lake premises, especially on the beautiful habitats created on the islands. The rejuvenated lake looks beautiful and is currently maintained by the zoo authority. Entrance fee is charged. Kukrahalli Lake is developed and restored with bund around the tank, wetland, fencing, solar lighting, toilets, etc. Currently, it is maintained by Mysore University.

44. **Residential Sites and Services.** Metalled internal roads, street lights poles, water supply, and UGD lines are provided, but houses are yet to be constructed. The urban local body needs to encourage building of houses by adding infrastructure for recreational, and commercial purposes. Marketing schemes need to be developed to sell the plots.

6. Tumkur

45. **Sewerage and Sewage Treatment Plant.** The City Municipal Corporation could get 15,000 properties, out of 39,000, connected to the system. Presently, the inflow is 18 MLD. There is a need to get all the properties connected to the sewerage system. All the five pumps at intake well-cum-pump house are functioning. The open channels in the intake well compound needs to be barricaded for safety. The damage due to settlement at the intake well steps and flooring need to be corrected, though it is not affecting the structural safety. Aromatic plants need to be planted in the compounds to reduce smell. The effluent from the plant is let into Mellekota and Bhimasandra tanks. The local residents use this for irrigation, cattle washing, etc. but not for drinking. The laboratory at plant is not functional. There are no groundwater quality monitoring wells near the plant. Presently, Batliboi Ltd. Is operating the plant on contract basis. The quality of downstream water from the outfalls, sludge, and groundwater around plant needs to be monitored.

46. **Solid Waste and Storm Water Drains.** Out of the 60 tons per day waste generated, about 85% is collected and transported daily. The dustbins were found to be maintained properly. It is observed that garbage is dumped on the road side, along ring road, near the intake well and along the road to the plant. The land fill site is not operational. Municipalities need to encourage formation of RWAs and their participation in door to door collection of waste. The waste should be covered during transportation. A proper landfill site is required. The residents need to be sensitized about MSW management. The drains are filled with debris and garbage at some places. Growth of vegetation is also observed. Frequent cleaning and upkeep of drains is required. It is necessary to clean all the drains before monsoons. RWAs should maintain the storm water drains as these are getting clogged due to the disposal of household waste by residents.

47. **Road Improvement and Truck Terminal.** The outer ring (southern bypass) is built by project. The residents feel that roads have improved, compared with 5 years ago. The shop owners along road opine that the business is improved. Trees should be planted on both sides of roads. The truck terminal is not in use. One reason, cited is that police is not enforcing the orders that the trucks should not enter and be parked in the city. Another is that truck owners are not willing to use this facility as it would not add any value to their service. The Tumkur Urban Development Authority has converted the terminal into housing sites.

48. **Poverty Reduction, Residential Sites and Services, Water Supply, Drainage, etc.** At the Melekote and Veerasagar sites roads, UGD, and power connection works are in progress. The water is supplied for about half an hour daily. Residents opine that they have better water quality supply compared with 5 years ago. Many households have toilets. Residents opine that storm water drains and roads have improved compared with 5 years ago. The residents

informed that land prices near project have appreciated by above 1.5 times, whereas the land prices away from project have appreciated by less than 1.5 times.

49. In all the project towns, the citizens feel that internal roads and footpaths have improved after widening and strengthening. The citizens near the improved roads and ring roads perceive that the appreciation in land prices is partly due to project. The shop owners along these roads say that their business has considerably improved. The slum dwellers feel that water supply and drainage situation has improved a lot when compared with earlier situation. The community halls built by project are being used for social gatherings and cultural activities.

G. Livelihoods Advancement Business School (LABS)—Mysore and Tumkur

50. The training given under the LABS program has yielded mixed response from the beneficiaries. A majority of the beneficiaries (73%) were given information technology enabled services and 27% were given home care nursing attendant training. The beneficiaries had no formal training prior to availing the LABS training. About 13% of them were nurses while the rest had no significant primary occupational training. Most of the beneficiaries either have completed high school (46%) or PUC (47%), where as 7% were graduates. The satisfaction levels of the beneficiaries with regard to the training vary from average (27%) to highly satisfactory (20) through above average (53%). All the contacted beneficiaries say that they were provided with assistance to find employment after the training.

H. Self Help Groups

51. **Ramanagaram**. There are 37 self-help groups in Ramanagaram. Discussions were held with two groups; one active and other relatively inactive. The Kittur Chennamma Niranthara group is running well and financially sound. They request for training on income-generating activities and self-employment avenues. The other group Ashraya Nirantara is inactive due to the death of an active member in the group which lead to splitting of group.

Box A11.1: Typical Self Help Group

The Bismilla Niranthara Group in Mandya started during 2003 with the usual revolving fund. It has 20 members. This group meets once in 15 days. They maintain minutes of meeting, accounts, etc. This group gave loans to women to start saree business, tailoring, etc. In spite of their household chores, these women actively indulge in income generation activities and earn up to Rs1000 per month. They have repaid the loans along with interest. The group was given training in record and book keeping, office administration, etc. The group is running in profits. The group rewards well performing school children with prizes.

Source(s): Karnataka Municipal Corporation

52. **Mandya**. Two groups were met and their performance is satisfactory. These groups are given training on record and book keeping, fashion designing, tailoring, etc.

53. **Mysore.** Four groups were met in Mysore: 2 active and 2 inactive. The group members were given training in book keeping, jute articles preparation, fashion designing, tailoring, etc. The overall economic condition of the active groups' members has improved. The members are satisfied with their performance. Some groups are inactive due to non-cooperation and migration of the members.

Box A11.2: Typical Self Help Group

The Laxmi Stree Shakti was founded in the year 2000 at Mysore with 20 members. This group makes a profit of more than one lakh rupees per year. On seeing their performance, Banks offered loans. But, the group has not availed these loans. They conduct meetings once in 15 days. The records are maintained well. The activities include saree business, jute articles preparation, etc. The group has a policy to impose of a penalty of 4%, if a beneficiary delays payment of an installment. Many members complain of this.

Source(s): Karnataka Municipal Corporation

54. **Tumkur.** Two groups were met in Tumkur. Some members have obtained loans for purchase of sewing machines. They earn about Rs1,000 per month. They are looking forward to receive training on income-generation activities.

I. Lessons for Improvement

55. Important lessons learned are summarized as below:

(i) The urban local bodies could contract an agency for a 5-year O&M. This helps in optimal use of sewage treatment plants and in training the urban local body/KUWSDB staff in operation.
(ii) The urban local bodies should adopt a two pronged strategy for latrine connectivity to the UGD system. All the old pit latrines need to be converted and connected to the UGD. All new latrines should compulsorily be connected to the UGD.
(iii) Sensitization of the residents to form associations and to operate and maintain possible infrastructure components should be taken up for better asset utilization.
(iv) Though the project environmental categorization is B, an environmental management plan need to be prepared which should include a monitoring plan based on identified indicators (in view of the sewage treatment plants and land fills).
(v) Many of the self-help groups are functioning satisfactorily and need to be facilitated to federate locally.
(vi) Management action plans need to be prepared for implementing the recommendations, addressing the sustainability issues and to complete the unfinished agenda.

J. Lessons for Future Project Preparatory TA and Policy Change

55. The number of lessons learnt under this project will be incorporated in the future projects, including:

(i) The bus terminal and truck terminals are not put to use. Better asset utilization would result if participative demand driven planning process is used during project preparation involving all stakeholders. The project preparation should include a demand assessment study and some sort of capital contribution.
(ii) The resettlement and rehabilitation policies of the funding and borrower agencies need to be sector specific. Land acquisition for linear projects (like for roads under the Project), does not generally affect the livelihoods of the PAPs. Since the roads developed under the Project are new, the question of squatters does not arise. Where in sectors like irrigation, forestry and tourism, land acquisition would affect the livelihoods of the land losers and landless alike. Having clear project specific resettlement and rehabilitation policies will facilitate unambiguous implementation.
(iii) There is a need for a robust baseline data on the PAPs. This would help in monitoring the impacts. During the base line, the vulnerable, if any, need to be identified before land acquisition and during the preparation of the resettlement plan. A special package needs to be worked out to help these groups better in resettlement and rehabilitation.
(iv) The resettlement action plan need to be monitored independently while the requirement of internal monitoring of the project (and the resettlement action plan

along with it) is well established. External monitoring by independent agencies is required at the end of important phases (like at the end of completion of land acquisition, at the end of rehabilitations, at the end of provision of Income Generation Activities, etc.) of the project.

(v) Public consultation during the project preparation (including the resettlement plan and environmental management plan) need to be documented. The consultation process should aim at bringing out the interests and importance of those present (and also of those not present) at the consultation. This would help in negating vested interests and community participation during implementation.

(vi) A record of all the grievances and redressal of the PAPs and public need to be maintained for impact assessment of the project.

(vii) It could be noted that land acquisition was one of the factors that delayed the implementation of many components. Land acquisition should precede contract award.

(viii) The project objectives have to be in line with the interventions planned. It may not be realistic to plan for 24/7 water supply, 100% sanitation, etc. These objectives can be reviewed and updated during the project implementation.

(ix) O&M plans need to be prepared along with the project reports. Budgets for these activities need to be firmed up during the design stage itself.

PROJECT PERFORMANCE RATING ASSESSMENT

Cutoff	DO	IP	At Risk	PP	Override
29-Nov-1998					
30-Dec-1998	S	S			
30-Jan-1999	S	S			
27-Feb-1999	S	S			
30-Mar-1999	PS	PS			
29-Apr-1999	PS	PS			
30-May-1999	PS	PS			
29-Jun-1999	PS	PS			
30-Jul-1999	PS	PS			
30-Aug-1999	PS	PS			
29-Sep-1999	PS	S			
30-Oct-1999	PS	S			
29-Nov-1999	PS	S			
30-Dec-1999	PS	S			
30-Jan-2000	PS	S			
28-Feb-2000	PS	S			
30-Mar-2000	PS	S			
29-Apr-2000	PS	S			
30-May-2000	PS	S			
29-Jun-2000	PS	S			
30-Jul-2000	PS	S			
30-Aug-2000	PS	S			
29-Sep-2000	PS	S			
30-Oct-2000	PS	S			
29-Nov-2000	PS	S			
30-Dec-2000	PS	S			
30-Jan-2001	S	S			
27-Feb-2001	S	S	No	No	No
30-Mar-2001	S	HS	No	No	No
29-Apr-2001	S	S	No	No	No
30-May-2001	S	S	No	No	No
29-Jun-2001	S	S	No	No	No
30-Jul-2001	S	S	No	No	No
30-Aug-2001	S	S	No	No	No
29-Sep-2001	S	S	No	No	No
30-Oct-2001	S	S	No	No	No
29-Nov-2001	S	S	No	No	No
30-Dec-2001	S	S	No	No	No
30-Jan-2002	S	S	No	No	No
27-Feb-2002	S	S	No	No	No
30-Mar-2002	S	S	No	No	No
29-Apr-2002	S	S	No	No	No
30-May-2002	PS	S	Yes	No	No
29-Jun-2002	PS	S	Yes	No	No
30-Jul-2002	PS	S	Yes	No	No
30-Aug-2002	PS	S	Yes	No	No

Cutoff	DO	IP	At Risk	PP	Override
29-Sep-2002	PS	S	Yes	No	No
30-Oct-2002	PS	S	Yes	No	No
30-Nov-2002	PS	S	Yes	No	No
31-Dec-2002	PS	S	Yes	No	No
31-Jan-2003	PS	S	Yes	No	No
28-Feb-2003	PS	S	Yes	No	No
30-Mar-2003	PS	S	Yes	No	No
29-Apr-2003	PS	S	Yes	No	No
30-May-2003	PS	S	Yes	No	No
29-Jun-2003	PS	S	Yes	No	No
30-Jul-2003	S	S	No	No	No
30-Aug-2003	S	S	No	No	No
29-Sep-2003	S	S	No	No	No
30-Oct-2003	S	S	No	No	No
29-Nov-2003	S	S	No	No	No
30-Dec-2003	S	S	No	No	No
30-Jan-2004	S	S	No	No	No
28-Feb-2004	S	S	No	No	No
30-Mar-2004	S	S	No	No	No
29-Apr-2004	S	S	No	No	No
30-May-2004	S	S	No	No	No
29-Jun-2004	S	S	No	No	No
30-Jul-2004	S	S	No	No	No
30-Aug-2004	S	S	No	No	No
29-Sep-2004	S	S	No	No	No
30-Oct-2004	S	S	No	No	No
29-Nov-2004	S	S	No	No	No
30-Dec-2004	S	S	No	No	No

DO= development objective, HS= highly satisfactory, IP= implementation progress, PP= project performance, PS= partially satisfactory, S= satisfactory

Source: Asian Development Project Performance Report