

Tirupur Water Supply Project

Innovation Report

I. The Context

- (1) Tirupur is a major center of knitwear industry in South India situated at about 56 km from Coimbatore. Tirupur town has a population of a little over 5 lakh within the municipal jurisdiction of about 50 sq. km. There are about 1900 industries spread in the town and surrounding village panchayats, involved in manufacture of knitwear, which form part of the larger industrial cluster
- (2) Tirupur has attained worldwide recognition due to this knitwear industry, which manufactures products for leading brands like Walt Disney. Currently the town contributes about USD 1 billion annually to the export earnings of the country. Exports from this area have been growing at a rapid pace of over 15% per annum in the last decade
- (3) Shortage of water supply and inadequate infrastructure for collection, treatment and disposal of industrial / domestic wastewater were the major bottlenecks for the growth of the industries. Significant improvements in the existing infrastructure was considered imperative for maintaining its competitiveness in the sector
- (4) Quality water is a critical input for its dyeing and bleaching processes in the knitwear industry. With the rapid growth of industry over the last two decades, the available sources of water supply in and around Tirupur were constrained. As a result need for water was being met by accessing ground water from 50 kilometers and beyond from Tirupur in an ever increasing radius and transporting it by tankers to the city
- (5) The project was conceived by the Government of Tamil Nadu (GoTN) as a water supply project to Tirupur town at an estimated cost of about Rs.400 crores. The industry did not have sufficient resources to put up a project of this magnitude. Due to budgetary constraints, the State Government proposed to implement the project on a commercial format on Public Private Partnership basis along with IL&FS. An MoU was signed between GoTN, IL&FS and Tirupur Exporters Association (TEA) in August 1994, for formulation and development of the project and its implementation
- (6) IL&FS was responsible for undertaking project development, undertaking studies and preparing necessary documentation, putting in place appropriate frameworks & procedures, identifying private sector partners for implementation, achieving financial closure as well as managing the construction and operations

- (7) The project was the first integrated water supply proposed to be undertaken in India in the water sector on PPP basis. IL&FS, GoTN and TEA formed a Steering committee to facilitate project development and take necessary decisions and actions in this regard. At an appropriate time during the project development process, GoTN, IL&FS and TEA promoted the New Tirupur Area Development Corporation Ltd. (NTADCL) as the vehicle for project implementation
- (8) The Project
- (a) The scope of the project ("the Project") covers the water and wastewater treatment components. The project also includes provision of low cost sanitation facilities at 100 slums in Tirupur
- (b) The Water Supply component includes construction of facilities to provide water supply to the Tirupur Local Planning Area (TLPA) comprising the Tirupur Municipality (TM), 14 villages Panchayats, 2 Town Panchayats. In addition, water supply is proposed to be provided to five wayside unions which lie enroute on the water transmission system corridor (collectively called the "Service Area")
- The initial project demand at the start of operations is 185 Mld, which would gradually increase to 250 Mld linked to increase in demand of the Service Area. The project also includes the provision of a tertiary treatment facility for treating domestic sewage for reuse/recycle by the industry. These facilities would cater to the additional water demand for industries in the Service Area in the near future. The investments that are required for augmenting system capacity would be provided in phases
- (c) The scope of specific services under the project include:
- (i) Treated piped water supply to TM. (Presently households get water supply for only two hours on alternate days)
- (ii) Treated water supply to dyeing and bleaching industries within the TLPA. (Presently, the Municipal system does not provide water to these industries and thus, they have to depend on water from private sources)
- (iii) Sewerage system for TM, which neither has a sewerage system nor a planned organized open drainage system
- (iv) Onsite sanitation facilities for about 100 slums within TM, which presently do not have access to such facilities
- (9) As per the project schedule the construction of proposed facilities has been completed and the project would start commercial operations by April 2005

- (10) Needs and Objectives of the Innovation: Water is an essential commodity in the cotton knitwear production process. The existing municipal water supply system does not provide water to most of the dyeing & bleaching industries. Consequently, the industries have largely relied on their own resources to access water required to meet the process requirements. Almost all the industries are tapping the groundwater sources and transporting water over a long distance through tankers. Lack of reliable water supply has inhibited the growth of industries and has slowed down the flow of new investments into the area

Further, the exploitation of ground water resources has severely depleted this natural resource. Water is sourced through tankers from about 50 kilometers and beyond from Tirupur in an ever increasing radius. The industries have been discharging effluents without proper treatment. The municipal area lacked facilities for sewage collection, treatment and disposal. The lack of proper environmental management resulted in contamination of water bodies and aquifers. The resultant poor quality of water had become a threat to households and industry

The survival of the knitwear industry is linked to the availability of water. Moreover, with the end of the quota regime from January 2005 the industry needs to be competitive globally and availability of quality water supply is one of the key requirements. The provision of good quality and reliable water supply would significantly benefit in the growth and competitiveness of the knitwear industry at Tirupur

Households in Tirupur Municipality receive municipal water supply for about two hours on alternate days. People in Tirupur spend considerable time and money every day for getting water

The need for a reliable and adequate water supply is urgent and to address this objective, the project was conceived and implemented based on Cauvery as the most reliable source for the project

- (11) Objectives of the Innovation: The main objective of the project was to provide reliable and quality water supply to the industries and households in the TLPA. As the first project of its kind in the water supply sector being implemented on a PPP format, the project also proposed to meet the following objectives in order to meet the concerns of the lenders and attract interests of private sector contractors:
- (a) Develop a technically sound, environmentally and socially acceptable option for meeting the long-term water demand of the TLPA
 - (b) Dovetail strategies for minimizing environmental and social impacts due to the project in the planning process
 - (c) Enhance the environmental quality of the region
 - (d) Evolve appropriate, procedures as benchmark practices in the sector for design, financing, construction and operations management

- (e) Address the needs of the region from poverty alleviation perspective and improved access to good sanitation practices
 - (f) Evolve and implement a strategy for institutional strengthening of Tirupur Municipality
 - (g) Put in place a participatory framework that would invite active participation and commitment from all the stakeholders
 - (h) Leverage Government resources to the maximum to attract private sector investments without recourse to Government guarantee
 - (i) Demonstrate private sector efficiencies in the sector
- (12) Benefits of the Project: The project has several direct and indirect benefits to the region, industries and the community at large. Importantly the project would improve the lives of the people by providing adequate water at the door-steps, without having to resort to waiting in long queues and storing water for domestic purposes. The industry would also benefit substantially through savings in input cost and without having to devote considerable time and resources for sourcing water
- (a) **Provide reliable and quality water to communities and industries** in the TLPA
 - (b) **Improve hygienic conditions** of the communities
 - (c) **Minimize groundwater contamination and curtail groundwater abstraction**, which would result in improving groundwater quality and recharge
 - (d) **Prevent environmental pollution due to discharge of municipal effluents** by providing an integrated collection, treatment and disposal facilities for management of sewage generated within Tirupur
- (13) The implementation of the project has already attracted substantial investments in the region, it is estimated that **the project could catalyze investments of the order of about Rs.20,000 crores while the exports turnover would be about Rs.10,000 crores**. The accelerated investments and growth in the industrial sector would enhance employment potential of the region and would increase the per capita income of the region. It is estimated that **the project would create employment for about 2 lakh people**
- (14) **Most significantly for the Government, implementation of this project has leveraged its investment by about 100 times. Accelerated investments due to multiplier effect would further this leveraging to about 5000**

II. Implementation of Innovation

- (1) The system used for developing the project was based on a participatory approach addressing the needs of all the stakeholders. A competitive bidding process was also used to ensure transparency
- (2) Due to lack of experience in operation and maintenance of water supply projects in India, and prevailing doubts in the international water sector about Government's commitment towards the project, legal and political risks associated with such projects, it was expected that the project may not attract adequate response. In this respect the marketing strategies put in place by IL&FS helped the process. When the project was bid out in 1996 it attracted 40 expression of interest from both domestic and international firms. About ten firms were short-listed, of which eight firms finally participated in the bidding process. Of these, four firms were finally qualified for bid submission
- (3) The consortium of Bechtel, United Utilities and Mahindra & Mahindra finally emerged as the qualifying consortium. At the time despite cynicism about the viability of this project, apprehensions of the private sector about support of the government and conducive framework for PPP project in this sector, this achievement was remarkable
- (4) Negotiations were held with the qualifying consortium to arrive at a bid price that was affordable. This involved minimizing the risk contingencies priced in the bid through appropriate studies and provision of specific data, which facilitated a better understanding for construction and operations management. Specifically, as time had elapsed between the completion of feasibility study and selection of the private sector consortium, the data governing the underlying assumptions had to be validated and substantiated. The negotiations continued for a period of about one and a half year, however due to change in political situation, the consortium was finally appointed in 2001
- (5) The process of finalisation of documents also went through a series of changes. This was necessary so as to balance the interests of the Government and the lenders to the project. The Concession Agreement for the project was finally executed in 2001
- (6) The process of financial closure and securitisation was initiated thereafter. This required completion of the process of land acquisition and execution of lease agreement, execution of drawal deed for abstraction of raw water, execution of water offtake agreements with industries. All this had to be achieved before the Letter of Intent could be issued by the lenders, and the financing agreements could be executed with the lenders consortium
- (7) The construction of the project commenced in 2002 and is slated to start commercial operations in April 2005. Despite the hurdles faced at every stage, the successful implementation of the project is an outstanding achievement in the sector and a benchmark project

- (8) Primary stakeholders involved are:
- (a) Government of Tamilnadu
 - (b) Infrastructure Leasing and Financial Services Ltd.
 - (c) Tirupur Exporters Association
 - (d) Equityholders – AIDQUA Mauritius Inc., LIC, GIC and
 - (e) Associates and the Contractor Consortium led by Bechtel, United Utilities and Mahindra & Mahindra
 - (f) Lenders Consortium led by IDBI
- (9) Despite support of the stakeholders for implementing the project, the challenges faced were cynicism on the feasibility of a high-risk project, which related to the political will for commercializing a socially sensitive sector. Also capacity for detailed structuring of the agreements had to be created. The reluctance of the stakeholders was essentially due to the risks involved and once appropriate risk mitigation and transparency in documentation and processes has been set up this problem was overcome
- (10) SPV as the platform for roleplay, risk mitigation and functional management: NTADCL as the Special Purpose Vehicle was the platform for the stakeholders to come together and manage the risks in the project. Stakeholder relationships were essentially managed by promoters of the project i.e. the Government of Tamil Nadu, TEA and IL&FS
- (11) In the process, the project has contributed significantly to the sector by being the precedent for future projects in the sector and setting up benchmark transaction documents that could be replicated. The project has also facilitated creation of new frameworks for transaction management. This demonstrates IL&FS's leadership and excellence for infrastructure development through PPP frameworks in the country
- (12) The project also established leveraging of limited budgetary resources for maximizing investments for infrastructure development

III. Impact Assessment

As a result of the innovative structuring and prudent allocation of risks, the project was implemented on a non-recourse basis without any guarantees. Its implementation while directly benefitting the households and industries, would also improve the environment and social conditions at Tirupur. The project has also helped in enhancing IL&FS strengths and leadership role in structuring PPP transactions

(1) Achievements within the Organisation:

The project is an illustration of the development of the PPP in water sector in India. It represents the sustained and committed efforts of IL&FS to steer a complex project to its successful completion. This required a dedicated team of professional across disciplines possessing skillsets in technical, financial, legal, social and environmental areas

- (a) Project Implementation Management: Success of the project implementation process featured on outlining a detailed program and a project development cycle, of tasks & responsibilities across the organization and outside it. The identification of an implementation programme resulted in ensuring successful implementation of the project
- (b) Innovative Structure/Platform for Implementation: Formation of the NTADCL upfront in the process served as the platform for information exchange, resolution of conflicts and facilitated decision-making in a transparent manner. IL&FS demonstrated the concept of financing and implementation of infrastructure projects through an SPV route, which has been adopted across the country for implementing similar projects
- (c) Innovative Financial Structuring of the Project: Innovative financial engineering techniques were used to create a suitable financial structure for funding the project. IL&FS structured the transaction to facilitate repayment of funds raised in international and domestic markets, while balancing the interests of the shareholders. The successful financial closure achieved by IL&FS with investments from national and international markets, established a "Benchmark" of innovative financing and structuring to implement infrastructure projects
- (d) Innovative Insurance Application for Risk Mitigation: The project paved the way for a role for insurance companies in project finance transactions, unlike government financed infrastructure projects which do not necessarily include insurance as a tool for risk mitigation. The structuring of this project was unique learning experience for the promoters of the project and innovations were required at every stage to take the project to the next stage of implementation. Enormous amounts of effort have been put into the project in working out innovative approaches acceptable to all stakeholders and thereby ensuring its successful implementation.

(2) Achievements Outside the Organisation:

The success of any infrastructure project can be realized through the benefits it yields to the society and the economics of the region at large. The successful implementation of the project also yielded potential benefits which are briefly summarized below

- (a) Improved R&R Management: While on one hand the implementation of a project could be largely beneficial, on the other it could also have socio-economic impacts that would result in potential risks if not addressed appropriately at the conceptualization stage. To mitigate such social risks, a detailed socio-economic assessment was undertaken which featured all such issues to be identified upfront.

The mitigation process was dovetailed into the project development cycle. A participatory process was set out to evolve an implementable and socially acceptable option. Innovative Resettlement and Rehabilitation (R&R) packages not only minimized such risks, but provided revenue generating livelihood options to result in a far better social and economic status due to the project. This was deviating from the usual approach followed in the country for R&R in the form of monetary compensation which could have a series of impacts on livelihoods of project affected families

- (b) Improved Water Supply to Industries and Households: The project would ensure good quality reliable water supply to about 1900 industrial units and 5 lakh households in the project influence area. This is also defined in terms of the standards of operation and realization of the project objectives in practical terms. The project implementation would result in input cost savings to the industry of about 20%-30%. The project would trigger industrial development in the Tirupur knitwear industry and would enhance its competitiveness in the global markets. The anticipated benefits of the industry are the survival and expansion of the knitwear industry. Also the industry will be able to move up the value chain with the provision of quality water which is the key ingredient in the production process

- (3) Specific Socio-Economic Impacts: The social economic impact of the project is enormous, has provision of potable water and sewerage which are fundamental to the health of the community. Also currently enormous amounts of time and money are spent by people to get adequate supply of water. This project met the poverty alleviation objectives and improved access to water supply and sanitation in line with the Millennium Development Goals (MDG)

- (a) Improved access to water supply: **About 16 lakh local population will benefit immensely from adequate supply of water at affordable prices.** The provision of the sewerage system will further enhance the health of the community and the environment of Tirupur

- (b) Provision of low cost sanitation facilities: **The project provided for construction of sanitation facilities in 100 slums** at Tirupur. This component was fully cross-subsidized by the Tirupur industries through the water supply component. The facilities are constructed free of cost for handing over to the Tirupur Municipality, **this component provides direct benefit to about 1 lakh people** who did not have such facilities and would improve their hygiene and standard of living
- (c) Investments generated: The implementation of the project has already attracted substantial investments in the region, it is estimated that the **project could catalyze investments of the order of about Rs.20,000 crores while the exports turnover would be about Rs.10,000 crores**
- (d) Employment generated/to be generated: It is estimated that the project would **create employment for about 2 lakh people**
- (e) Leveraging of Government Resources: Most significantly for the Government, implementation of this **project has leveraged its investment by about 100 times**. Accelerated investments due to multiplier effect would further this leveraging to about 5000 times