Internal Ex-Post Evaluation for Grant Aid Project

conducted by India office: March, 2013

Country Name	The Project for the Development of Groundwater in the State of Uttar Pradesh
India	

I. Project Outline

Project Cost	E/N Grant Limit: 603 million yen		Contract Amount: 544 million yen
E/N Date	January, 2006		
Completion Date	March, 2007		
Implementing Agency	Uttar Pradesh Jal Nigam (Uttar Pradesh Water Resource Corporation)		
Related Studies	Basic Design Study: March – December, 2005 Detailed Design Study: February, 2006 – March, 2007		
Contracted Agencies	Consultant	Nihon Techno	
	Contractor	-	
	Supplier	Mitsubishi Corporation	
Related Projects (if any)	-		
Background	In the state of Uttar Pradesh, potable water supply depends on groundwater, but the supply condition was worsening in urban areas following population growth. The pollution from surface layer and over pumping of 40-350m-deep aquifers caused the deteriorating quality of water. Consequently, water from a half of shallow wells did not suffice the quality standard, and the poverty group that accounted for 30% of the urban population had to use water that was not suitable for drinking. In response to such situation, Uttar Pradesh Jal Nigam planned to develop 350-500m-deep aquifers. However, the implementation of the plan was difficult as Jal Nigam did not have drilling equipment for deep wells.		
Project Objectives	Outcome To have 50 deep wells constructed in Uttar Pradesh by 2012 by procurement of equipment for construction of deep wells with depths of 350-500m.		
	Outputs Japanese Side Procurement of equipment for construction of 350-500m-deep wells (drilling equipment and support equipment) India Side Storage for procured equipment, securement of two sites for excavation upon commissioning		

II. Result of the Evaluation

Summary of the Evaluation

The state of Uttar Pradesh, where potable water supply depended on groundwater, was suffering from deterioration of water supply conditions due to population growth. However, development of new water resources was difficult without necessary equipment for it. Therefore, this project aimed to realize water supply in good quality and adequate quantity through procurement of drilling- and related equipment that would enable development of deep aquifers, thereby contributing to the improvement of water supply conditions of the state.

This project has achieved its objective of water supply through construction of wells due to the faster progress of the construction by the state of Uttar Pradesh than expected. As for sustainability, there was no problem observed in terms of structural, technical and financial aspects of the implementing agency in operation and maintenance, though some problems have been observed in the current status of operation and management due to breakdown of some equipment and a risk of prolonged procurement of spare parts when repair of such equipment becomes necessary in the future.

For relevance, the project has been highly relevant with India's development policy, development needs as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. For efficiency as well, both the project cost and project period were within the plan.

In the light of above, this project is evaluated to be highly satisfactory.

1 Relevance

This project has been highly relevant with India's development policy such as the Eleventh Five-Year Plan, development needs for deep wells in Uttar Pradesh, as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, its relevance is high.

2 Efficiency

Both project cost and project period were within the plan (ratio against plan: 90%, 100%). Therefore, efficiency of this project is high.

3 Effectiveness/Impact

This project has largely achieved its objective of water supply through construction of wells at a faster pace than the planned pace of around four wells per drilling machine per year using 2 machines built by the project. During the four years since the project was completed, a total 72 wells has been constructed, meaning the actual pace to be eight wells per drilling

machine per year. While the original plan was to construct 350-500m-deep wells in all locations, some of the constructed wells have fewer depths as it was found that they could supply the adequate amount of safe water. Also, the project equipment has been used for the construction of wells in other locations than originally-planned as the Indian side changed its plan after the project. According to Uttar Pradesh Jal Nigam, wells were constructed preferentially in Lucknow District where there are large population and demand for water, and the gradual expansion to other districts is being planned.

Although quantitative data to verify the current water supply situation in the state of Uttar Pradesh was not available, it is considered based on interviewing with Uttar Pradesh Jal Nigam that water supply to state's population has improved after efforts including the National Rural Water Supply Program: their use of unsanitary water from shallow wells and other sources decreased, and the supply of potable water has improved in terms of both quantity and quality. This project is considered to have contributed to such improvement.

Therefore, effectiveness/ impact of this project is high.

Quantitative Effects

Number of deep wells with depths of 350-400m in Uttar Pradesh	Actual value (2004: Basic Design Year)	Target Value (2012)	Actual value* (2011: Ex-post Evaluation Year)
Lucknow, Lucknow District	0	24	56
Kanpur, Kanpur District	0	17	0
Janpur, Janpur District	0	2	0
Kunda, Pratapgarh District	0	1	0
Raebarelli, Raebarelli District	0	2	5
Unnao, Unnao District	0	3	9
Lakhimpur, Lakhimpur District	0	0	2
Total	0	50	72

Source: Uttar Pradesh Jal Nigam

Note: * including the number of wells less deep than 350m

A well being drilled by project equipment

A well constructed by project equipment

A well constructed by project equipment

4 Sustainability

The project has some problems in operation and maintenance aspects due to breakdown of equipment and a risk of prolonged procurement of spare parts. However, no problem has been observed in structural, technical and financial aspects of the implementing agency.

In the technical aspect, technical staffs of Uttar Pradesh Jal Nigam are capable enough to act flexibly according to given circumstances in terms of decision on the timing for replacement of spare parts, identification of failure part of equipment, choice of parts for replacement, temporary use of similar parts until spare parts are procured, etc. In the financial aspect, Jal Nigam ensures budget for maintenance and spare parts. As for the current status of operation and maintenance, one of the two drilling machines procured by this project had not been operating as of March 2011 due to breakdown of the hydraulic pump. As the construction of wells has progressed at a faster pace than planned, the repair is not an urgent matter: Uttar Pradesh Jal Nigam is planning to repair it as soon as it becomes necessary in terms of work volume and funding priority. As such, the broken equipment would not affect the continuity of the project effectiveness in short-term, while there is a risk that the complex and time-consuming process of procurement of spare parts might affect timely response to future needs for construction of additional wells that requires repair of the broken equipment becomes necessary. Therefore, sustainability of the project is fair.

Using a drilling machine procured by the project

Using related equipment procured by the project

III. Recommendations & Lessons Learned

Recommendations for the implementing agency:

Uttar Pradesh Jal Nigam is appreciated for its maximum utilization of the project equipment through maintenance. For further enhancement of the effectiveness of the project, Jal Nagam is recommended to repair the broken hydraulic pump, and to optimize the spare parts procurement process.