Country Name	
Former Yugoslav	The Project for Improvement of Water Supply in Skopje Outskirts
Republic of Macedonia	

I. Project Outline

	E/N Grant Limit:	750 million Yen	Contract Amount: 745 million Yen				
Project Cost	(1)53 million Yen (2)697 million Yen (1)53 million Yen (2)692 million Yen						
	*(1)Detailed Desi	*(1)Detailed Design (2) Implementation					
E/N Date	(1) January, 20	04 (2) June, 2004					
Completion Date	June, 2006						
Implementing Agency	Ministry of Transport and Communication (MTC)						
Related Studies	Basic Design Study : March, 2003 – August, 2003 Detailed Design Study : February, 2004 – June, 2004						
Contracted	Consultant	Pacific Consultants International					
Agencies	Contractor	Taisei Corporation					
Ageneico	Supplier	-					
Related Projects (if any)	Japan's cooperation The Study of Integrated Water Resources Development and Management Master Plan in the former Yugoslav Republic of Macedonia1997-1998, Technical Cooperation) Other donors' cooperation Support for Public Communal Enterprise by Austria Commercialization of Municipality Public Enterprises by GTZ 						
Background	In Macedonia, the rate of population served by public water supply in 2000 was 100% in urban areas and 28% in rural areas. In non-piped-water served rural areas, water supply was poor condition in quantity and quality, since the shallow wells as their water source for domestic use was prone to be contaminated by sewer water, etc. Under the circumstances, the Government of Macedonia put high priority on water supply and wastewater treatment sector to improve living conditions. In the short-term investment plan formulated in 2002, "Public Investment Program of the Republic of Macedonia, 2002-2004" (PIP), the water resources development and construction of water supply facilities based on the proposition of "Water Resources Development and Management Master Plan" which was carried out with the support from Japan in 1999 were presented as investment items. 46 water supply and sewerage projects were proposed in PIP. The Government of Macedonia requested a grant aid cooperation project to the Japanese government in rural areas outside Skopje where the water volume was insufficient due to the deterioration of the water supply facilities and the rate of water served population were lower than the other areas						
Project Objectives	 Outcome To ensure safe and stable water supply in 20 villages in seven municipalities in Skopjie outskirts (Cucer Sandevo, Butel, Gazi Babe, Petrovec, Ilinden, Studenicani, Zelenikovo) by constructing water supply facilities Output (s) Japanese side Development of 8 water supply facilities in 20 villages in seven municipalities (Water intake facilities, Disinfection facilities, Transmission Pump facilities, Distribution reservoir, and Transmission/distribution pipes) Macedonian side Installing primary wiring to supply electric power, and constructing fences around reservoirs, pump facilities Individual house connection facilities (diversion cocks, water supply pipes, water meters, and etc.) (the cost is borne by residents) Training of staff of Public Communal Enterprises (PE), which are responsible for the operation and maintenance of the water supply facilities 						

II. Result of the Evaluation

Summary of the Evaluation

Macedonia needed rehabilitation of infrastructures after the conflict. Development of water supply infrastructure in rural areas of outskirt Skopje was urgently needed where the water supply facilities were in poor conditions. Especially, the rate of population served by public water supply in the target areas was extremely low with 7%. In addition, the water source for domestic use was prone to be contaminated by sewer water in those areas.

This project has somewhat achieved its objectives "To ensure safe and stable water supply in 20 villages in seven

municipalities in Skopjie outskirts (Cucer Sandevo, Butel, Gazi Babe, Petrovec, Ilinden, Studenicani, Zelenikovo) by constructing water supply facilities". The project did not reach the targets of served population, the rate of population served and water volume, however, impact on the decrease in the workload of collecting water, improvement of the living environment, and hygiene awareness/behavior and the quality of water was observed. As for sustainability, some PEs have problems in the current situation of operation and maintenance, however, most of the facilities are in good condition and operational. Some PEs have problems in their financial aspect.

For relevance, the project has been relevant with Macedonia'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, the project period exceeded the plan. In the light of above, this project is evaluated to be partially satisfactory.

1 Relevance

This project has been highly consistent with Macedonia's development policies (Developing water supply facilities as set in PIP 2002-2004, and 2009-2010), development needs (improving water supply in rural areas, especially in Skopje outskirts where the facilities are less developed), as well as Japan's ODA policy at the time of both ex-ante and ex-post evaluation. Therefore, relevance of this project is high.

2 Effectiveness/Impact

This project has somewhat achieved its objectives of "To ensure safe and stable water supply in 20 villages in seven municipalities in Skopjie outskirts (Cucer Sandevo, Butel, Gazi Babe, Petrovec, Ilinden, Studenicani, Zelenikovo) by constructing water supply facilities". The project did not reach the targets of served population, the rate of population served and water volume. Among the targeted 18 villages¹, the individual pipe connection in one village (Ognjanci in Petrovec), is being implemented at the time of ex-post evaluation. The targets of water service population and the rate of population served were not attained partly because individual house connection delayed, which is to be carried out by the responsibility of the Macedonian side. In addition, according to PEs, there are people who prefer existing wells or existing water supply facilities because people themselves operate and maintain those wells and facilities, and senior citizens are relatively conservative and do not try new systems easily. Moreover, the actual population growth has been below the forecast due to the young population's migration to urban areas, which might affect the actual results of the quantitative effects. Quantity of water supply volume per person per day in the part of the village is calculated based on the annual water supply volume, however, we were not able to obtain a clearer explanation of the figures from the implementing agency. With respect to the water quality and the hours of water supply, the target have been achieved in the villages which provided the data.

As to impact, according to interviews with residents, the workload of collecting water has decreased, the living environment has improved, and hygiene awareness/behavior including an increase of number of bathing and washing has improved. In addition, people perceive that the quality of water has improved. On the other hand, development of sewage systems in accordance with the increase of water supply has not progressed in some target areas².

Therefore, effectiveness/impact of this project is fair.

Quant	titative	Effects

	Actual value in 2002 (BD)	Target value in 2008	Actual value in target year (2008)	Actual value in 2012 (The year of Ex-post evaluation) (Part of values is in 2011)
Indicator 1: Served population and the rate of population served	2,274 (7%)	31,920*1 (100%)	12,106*2	17,254 (67%) (Data of 14 villages is available among the target 18 villages)
Indicator 2	30 - 10 0	60 - 150	50-150	38 liters/person/day in average
Water supply volume	liters/person/day	liters/person/day	liters/person/day	(Data of 5 villages is available)
Indicator 3 Water quality	17 villages do not meet the standard	20 villages meet the standard	The standard is met	All 11 villages which answered the questionnaires meet the standard.
Indicator 4	24 hours in part	24 hours	24 hours (No water	24 hour water supply in all 15
Number of hours for water supply	of the target areas (with many no water period)		period in the part of the target areas in summer. *3)	villages which answered the questionnaires.
(Source) PEs	· · · ·			·

¹ Although the project targeted 20 villages, it was found out before the detailed design study that the Government of Macedonia already developed water supply facilities in two villages, and there these two villages were excluded from this project.

² Among five municipalities which answered the questions, one municipality answered environment impact assessment is required, but whether any measure is taken is not answered. There is no resettlement in five municipalities.

- *1 In accordance with the changes in the number of target villages (from 20 to 18 villages), the target of total number of the population supplied has changed accordingly.
- *2 Among the target villages, individual house connection to 5,467 people (target number) in four villages in Petrovec did not start as of 2008 due to the delay in the construction. The water supply started officially in January 2011 except one village. Due to the delay in the construction of a reservoir to lowland in Butel (Former Cair), the water supply in Butel started in January, 2011. However, the individual house connection was still in progress.
- *3 There was a water supply restriction in Kucevistein in summer. The amount was not sufficient partly because water leaked consistently from the common faucet (no tap), and partly because more than anticipated amount of water was used as people used the water for vegetable fields. During the defect inspection, consultants instructed to take measures, and at the time of ex-post evaluation, it was found that the situation has improved as the PE has taken measures for water leakages, carried out awareness activities and fines residents for unintended usage of water.





A water faucet in Petrovac



A reservoir in Radishani

A water faucet in Radisani

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 99%), the project period slightly exceeded the plan (ratio against the plan: 124%) because it took longer to negotiate the contract between contractors and manufacturers as a result of the sharp increase of the construction material price, and therefore, the construction delayed (approximately 3.5 months). Besides, the construction delayed because land owners in some areas did not consent, and therefore, the project had to change the rout design (approximately 2 months). Outputs by Japanese side were produced as planned. However, Macedonian side had problems in producing outputs as construction of reservoirs, primary pipes, and individual house connection delayed.

Therefore, efficiency of this project is fair.

4 Sustainability

The implementing agency of the project is the Ministry of Transport and Communication (MTC) who implements and manage water supply and sewage projects in Macedonia, however, the facilities after the construction are operated and maintained by 5 PEs of each municipality (Skopje, Ilinden Cucer, Sandevo, Studenicani, Zalenikov).

There are some problems in the institutional aspect of the project. 5 PEs were supposed to operate and maintain the water supply facilities. However, Studenicani PE does not carry out water supply services, and Skopje PE provides the services instead. The water facilities in Cvetova, Studenicani are maintained by the residents themselves, but the operation and maintenance activities are not fully carried out as planned. Other 4 PEs have no problem as the institutional structures is sustained what it was considered desirable at the time of ex-ante evaluation. Although the number of staff has not increased as planned, the current experienced staffs are able to carry out the operation and maintenance appropriately. Although the training for operation and maintenance is not carried out fully, the PEs have basically no problem in the technical aspect.

Financially, there is no maintenance budget in Studinicani PE. In addition, some PEs have problems as the revenue is not sufficient to cover the expenses and rate of revenue water is low. As to the current situation of operation and maintenance, facilities are maintained well and fully operational based on the questionnaires and interviews with PEs and direct observation. Among 4 PEs except Studenicani PE, 2 PEs carry out regular inspection and maintenance in accordance with the maintenance schedule, or manual and rule books, however, the other 2 do not carry out scheduled periodic maintenance.

As there are some problems in institutional, financial aspects as well as the current situation of operation and maintenance, sustainability of the project effect is fair.

III. Recommendations & Lessons Learned

Recommendations:

- · Petrovec PE should complete the individual house connection in Ognjanci as soon as possible.
- The water facilities of Cvetovo are maintained by the residents themselves, whereas they were supposed to be carried out by Studenicani PE at the time of ex-ante evaluation. Therefore, the institutional setup and technical support for maintenance of the water facilities of Cvetovo need to be strengthened. Studenicani Municipality is recommended to take measures such as strengthening the function of Studenicani PE or contracting out the maintenance activities to Skopje PE.

- As the population served by water supply as percent of total population did not reach the target of 2008, MTC, municipalities and PEs need to take measures for further promoting individual house connections including PR activities.
- Fences around the water reservoir have not been constructed. Since the construction was supposed to be carried out by the responsibility of the Macedonian side, MTC should construct the fences as soon as possible.
- PEs are recommended to equip various data, and utilize the data for making operation and maintenance plans, as well as monitoring and evaluation of the operation. As a result, the implementation capacity will be strengthened.

Lessons Learned :

- Delays in construction which should be carried out by the Macedonian side affected the achievement of the project objectives. In a case that there is a concern that the non-fulfillment of output by a recipient country may cause a problem in producing project objectives, thorough review of implementing capability of the recipient country is needed and the review should be incorporated in a project design at the time of ex-ante evaluation.
- At the planning stage, JICA needs to confirm whether or not the residents are willing to connect to a newly developed water supply system.
- When this project was implemented, decentralization was in progress in Macedonia, and the function of operation and maintenance of the facilities under the project was transferred to municipalities. It was difficult to monitor the project in case the implementing agency and the operation and maintenance institutions are different entities. Therefore, when JICA implements a project in a country where decentralization is in progress, JICA needs to pay attention to measures for decentralization such as establishing a monitoring mechanism at the planning stage.