Internal Ex-Post Evaluation for Grant Aid Project

conducted by Pakistan Office: February 2019

Country Name	The Project for Upgrading of Mechanical System for Sewerage and Drainage Service in Faisalabad
Islamic Republic of Pakistan	

I. Project Outline

Background	Faisalabad City was the third urban center of Pakistan and, due to rapid population inflow, strengthening of its socioeconomic infrastructure was indispensable. Although construction and replacement of water supply facilities were conducted in the past, improvement of mechanical system for sewerage and drainage services was relatively delayed. As a result of aged deterioration of cleaning equipment for sewers and pump facilities, flood damage caused by overflowing sewage became chronic in the city center, which adversely affected sanitary environment and local socio- economic activities. (Figures at the time of ex-ante evaluation)			
Objectives of the Project	The project aims to upgrade mechanical system for sewerage and drainage service in Faisalabad City in Province of Punjab by procuring cleaning equipment for sewers and channels and pumps for disposal stations and implementing technical assistance to prepare a cleaning work plan and cleaning equipment management plan as well as an inspection manual, thereby contributing to reduction of damages from chronic flooding.			
Contents of the Project	1. Project Site: Faisalabad City, Province of Punjab 2. Japanese side: (1) Provision of grant necessary for procurement of cleaning equipment (8 jet machines, 2 suction machines, 2 wheel backhoes, 2 mini-backhoes, 7 dump trucks, 2 crane cargo trucks, 17 dewatering sets) and disposal station equipment (9 pumps and 4 generators); (2) Technical assistance (soft component of Grant Aid) to Water and Sanitation Agency (WASA) Faisalabad 3. Pakistani side: Demolition/Removal of Existing Disposal Station Facilities, etc.			
Project Period	E/N Date	August 13, 2012	Completion Date	February 8, 2015 (completion of soft-component activities)
	G/A Date	August13, 2012		
Project Cost	E/N Grant Limit / G/A Grant Limit: 683 million yen, Actual Grant Amount: 453 million yen			
Executing Agency	Water and Sanitation Agency (WASA) Faisalabad			
Contracted Agencies	Main Consultant: Japan Techno Co., Ltd. Main Contractors: Future Bud International Co., Ltd. (for cleaning equipment); Torishima Pump Mfg. Co., Ltd (for disposal station equipment)			

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

- In the Ex-ante Evaluation Sheet, the target year for Indicators of Quantitative effects is set to be 2015 that is one year after project completion (the project was planned to be completed in August 2014). Although the project was completed in February 2015, handing over of the equipment procured under the project was completed in July 2014 and activities of the soft component other than school awareness were completed by October 2014. Accordingly, the target year is not changed in this ex-post evaluation.
- As to quantitative effects, utilization level of the procured equipment is examined in addition to 5 Indicators set at the time of ex-ante evaluation. Regarding qualitative effects, the following supplementary information is used to verify the effects of the soft component of the project: preparation of a cleaning work plan; preparation of a management plan of the cleaning equipment procured under the project; inspection of the procured equipment according to the inspection manual developed through the project; continuation of public awareness activities introduced by the project.

1 Relevance

<Consistency with the Development Policy of Pakistan at the Time of Ex-Ante and Ex-Post Evaluation>

The project has been consistent with development policy of Pakistan to prioritize safe water supply and improvement of sanitation, as set forth in Poverty Reduction Strategy Paper II (2007), National Sanitation Policy (2006), and National Water Policy (2018).

<Consistency with the Development Needs of Pakistan at the Time of Ex-Ante and Ex-Post Evaluation >

This project has been consistent with development needs of Pakistan for upgrading of mechanical system for sewerage and drainage service in Faisalabad City as described in “Background”. The needs were also confirmed by the Implementing Agency at the time of ex-post evaluation.

<Consistency with Japan’s ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Country Assistance Policy for Islamic Republic of Pakistan (April 2012), which includes assistance to “contribute to improving the poor conditions of water and sanitation especially in the urban areas” under one of the three Priority Areas, “Ensuring human security and improvement of social infrastructure”.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

<Effectiveness>

The project achieved its objective of upgrading mechanical system for sewerage and drainage service in Faisalabad City. As for quantitative effects, all the equipment procured under the project has been utilized as originally intended, and all of the 8 items under 5 Indicators have achieved at least 80% of the respective targets since the target year (i.e. 2015). With respect to qualitative effects, effects of soft-component of the project have been produced and continued. WASA Faisalabad (WASA-F) has been preparing a cleaning working plan and a management plan of the cleaning equipment procured under the project, utilizing the skills and knowledge acquired through the soft-component. Inspection of the procured equipment has been conducted based on the inspection manual and other concerned monitoring and tracking plans developed through the soft component. In addition, some of the public awareness activities introduced by the soft-component have been implemented, including a school campaign in 2016.According to WASA-F, it has a plan to organize more public awareness activities in the future.

<Impact>

According to WASA-F, damages from chronic flooding in Faisalabad City have been reduced through the project because time required for rectification of public complaints has been reduced from 6 to 2 hours and major inundations have not occurred since the project completion. In addition, the project has contributed to improvement of sanitary environment in Faisalabad City because conditions of uncollected wastes and chronic flooding have been improved. The project is assumed to have promoted revitalization of socio-economic activities impeded by the chronic flooding; however, related information was not available. As for impacts on gender, according to WASA-F, key persons in the service area (both men and women) actively participated in public awareness activities on proper use of service of WASA-F. No negative impacts have been observed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is high.

Quantitative Effects

	Baseline (2011)	Target (2015) 1 year after project completion	Actual Result			
			2015 1 year after project completion	2016 2years after project completion	2017 3 years after project completion	2018 (as of August 2018)
Indicator 1: Possible number of emergency dispatches (times/day)						
(a) Jet Machine (Average Dispatch Request:40.3/day)	18.9	40.5	42.0**	44.0**	43.5**	55**
(b) Suction Machine (Average Dispatch Request:10.1/day))	6.0	12.0	14**	11**	12**	22**
(c) Dewatering Pump Set (Average Dispatch Request: 69.9/day)	53	70 or more	62**	58**	61**	72**
Indicator 2: Minimum time required to reach site (minutes) (Dewatering Pump Set and Transport Vehicles)	25-60	20 or less	22 or less	18 or less	17 or less	10
Indicator 3: Emergency drainage capacity (Dewatering Pump Set) (cfs)	26.5	43.5	45.9	46.8	48	52
Indicator 4: Amount of sludge and waste removal (m3/day)						
(a) Desludging capacity (Excavator)	570	936	936	936	936	936
(b)Transport capacity (Dump Truck)[1]	9.1	63.7	54.6	54.6	54.6	54.6
Indicator 5: Capacity of 4 target disposal stations* which discharge into final drains (cfs)	246	376	437	437	437	437

* PS-3 Chokera, PS-31 Station Road, PS-36 Ahmed Nagar, PS-30 Bawa Cha

** Data for Indicator 1 is the maximum number of emergency dispatches (times/day) in the year

Source: Ex-ante Evaluation Sheet; WASA-F

3 Efficiency

While the project cost was within the plan, the project period exceeded the plan (ratio against plan: 66% and 123% respectively). Although major component of the project was completed within the planned period, the project period was extended because implementation of school awareness activities under the soft component, was delayed due to the schedule conflict of WASA-F and an incident of school attacks by extremists occurred in Pakistan. The outputs of the project were produced as planned. Therefore, the efficiency of the project is fair.

4 Sustainability

<Institutional Aspect>

WASA-F is responsible for sewerage and drainage service in Faisalabad City. Under its O&M Directorate, Deputy Director (O&M) East, Deputy Director (O&M) West, and Deputy Director (Drainage), supervised by Deputy Managing Director (Service), are in charge of cleaning of sewers and channels and O&M of 4 target disposal stations, including O&M of the equipment procured under the project. Under the Deputy Directors, total of 878 staff members are allocated, including 836 for cleaning of swearers and channels, and 42 for O&M of 4 target disposal stations. WASA-F considers that allocated number of staff members is sufficient because the activities in the service area have been implemented without a serious problem and the procured equipment is in good condition.

<Technical Aspect>

WASA-F has necessary technical capacity to sustain the effects of the project. Staff members trained by the soft-component of the project still work for WASA-F and prepare clearing working plans and equipment management plans, utilizing the acquired skills and knowledge. Cleaning of sewers and drainage and O&M of the procured equipment are conducted according to the Standard Operational Procedures (SOPs) prepared through the soft-component of the project without a serious problem. In addition, training on O&M is available at Punjab WATSAN (Water and Sanitation) Academy[2], established under a technical cooperation project of JICA "Project for Improving the Capacity of WASAs in Punjab Province" (2015-2018). So far, 32 staff members of WASA-F, including Deputy Directors, participated in various training courses, including O&M, at the Academy through the JICA project. The technical level of WASA-F is expected to be maintained through training of O&M staff at the Academy.

[1] The actual result has been lower than the target because the existing vehicles at the time of ex-ante evaluation have not been utilized.

[2] It is known as Al-Jazari Academy.

<Financial Aspect>

Budget for O&M of the procured equipment is prepared based on the equipment management plan developed by the soft-component of the project and provided by Punjab Government. Annual budget was about 147 million rupees (Rs) in Pakistan Fiscal year (PFY)[3] 2015/16, 83 million Rs, in PFY 2016/17 and 182 million Rs. in PFY 2017/18, and annual expenditure was within the budget in the said period. WASA-F considers that sufficient budget has been secured because the budget estimate has been made based on the above-mentioned equipment management plan and all of the procured equipment has been in good condition. From the past record, the budget necessary for O&M of the procured equipment is likely to be secured from the government fund in the future. It is noted that WASA-F is examining introduction of Public Private Partnership to encourage private investment in water and sanitation sector in order to enhance its financial capacity and reduce its dependency on the government fund.

<Budget and expenditure of WASA-F for O&M of the procured equipment at WASA> (Unit: million Rs.)

	2015/16	2016/17	2017/18
(1) Total budget for O&M of the procured equipment	146.949	83.294	182.279
(2) Total expenditures for O&M of the procured equipment	102.007	63.642	146.147

Source: WASA-F

<Current Status of Operation and Maintenance of the Procured Equipment>

From interview to WASA-F and field observation, it was confirmed that all of the equipment procured under this project is in good condition and necessary spare parts and consumables are properly managed at the time of the ex-post evaluation.

<Evaluation Result>

Therefore, the sustainability of the project effect is high.

5 Summary of the Evaluation

The project achieved its objective of upgrading mechanical system for sewerage and drainage service in Faisalabad City and the expected impact of reduction of damages from chronic flooding has been observed. Regarding the sustainability, no particular problems have been observed in terms of institutional, technical, and financial aspects of the executing agency. As for efficiency, the project period exceeded the plan. Considering all of the above points, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations to Executing Agency:

(1) The procured equipment should be continuously operated and maintained according to the SOPs so that life period of the equipment can be achieved.
(2) Trainings of O&M staff should be continuously arranged at Punjab WATSAN Academy.
(3) WASA-F should replicate the impacts of this project to the entire sewerage and drainages managed by Deputy Director (Drainage) by upgrading the existing equipment-so that the sewerage/drainage problems of entire city can be solved to facilitate benefit of the public.
(4) Close collaboration between WASA-F and communities in the service area should be promoted by implementing more public awareness activities.
(5) WASA-F should involve women in public awareness activities in the future as in the soft-component of this project.
(6) Through the project, WASA-F improved the mechanical system for sewerage and drainage services in its service area i.e. city center. As the next step, it should expand the service area and enhance its capacity to tackle sewerage issues of outskirt areas.

Lessons Learned for JICA:

The executing agency (WASA-F) had very competitive management and trained and professional staff enough for the implementation of this project with in its given timeframe and budget lines. The WASA concerned staffs regularly prepares cleaning plans to clean the sewer lines twice a year along with routine rectification of complaints. Due to improvements in conditions of uncollected waste and chronic inundations, the sanitary environment in the city is improved. The SOPs have been prepared & implemented accordingly by the trained staff. Vehicles tracking system is in place. In order to produce similar good results in a future project, it is desirable to start implementing measures to cleaning the sewers and channels and pumps for disposal stations and implementing technical assistance to prepare a cleaning work plan and cleaning equipment management plan as well as an inspection manual, thereby contributing to reduction of damages from chronic flooding and to ensuring their sustained effectiveness in the longer-term. In planning an assistance project including the provision of equipment, if certain post-completion supporting activities from the executing agency are expected to greatly influence the sustainability of the equipment's effective operation. JICA should encourage the executing agency in advance to actively implement the relevant measures. As an example, it may be desirable to first check whether the beneficiary country or the executing agency's medium-term activity plans include such necessary measures.

[3] PFY is from June to July.

（WASA-Project Machinery and Vehicle on Work）

（Project Machinery and Vehicles Parked in WASA Parking Yard）