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| Country Name | Study on the Strategic Planning for Water Supply and Sewerage Sector in Ulaanbaatar City |
| Mongolia | |

I. Project Outline

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| Background | <p>In accordance with the continuous population growth and the rapid water demand growth thereby, “Ulaanbaatar City Water Supply Plan”, which targeted only the water supply sector was formulated as a master plan of the water supply and sewerage sector in 1995 with the support of JICA. Then, the “Ulaanbaatar City Master Plan 2020” (UBMP2020) which targeted both water supply and sewerage was formulated in 2006 with the assistance of the French Agency of Development (Agence Française de Développement: AFD) and approved by the Cabinet. In 2009, the “Preparatory Study on Ulaanbaatar City Master Plan Urban Development Program” (UBMPS) was conducted which included a review of UBMP 2020. Nonetheless, due to a rapid increase in population and expansion of the city's urban area, it was necessary to review the existing master plans for water supply and sewerage sector including UBMPS. On the other hand, sewage system had a problem of poor quality of treated water due to the aged facilities and the problem of operation ability.</p> <p>In order to improve this situation, the Government of Mongolia made a request to the Government of Japan to implement a development planning project which includes analysis of the current situation, including a review of the UBMPS, system planning and a feasibility study (F/S) of priority projects.</p> | | | | |
| Objectives of the Project | <ol style="list-style-type: none"> Expected Goals through the proposed plan¹: Water supply and sewerage environment in Ulaanbaatar improves. Expected utilization of the proposed plan: (1) Proposed plan is added/modified to the existing master plans. (2) Implementation of priority projects is approved by the cabinet. | | | | |
| Activities of the Project | <ol style="list-style-type: none"> Project Site: Ulaanbaatar city Main Activities: (1) To review the planning frame of the existing master plan for water and sanitation improvement at Ulaanbaatar city based on UBMPS, (2) To conduct feasibility study on priority projects to be identified in the Study, and (3) To enhance capacity of Mongolian side through the study Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>Japanese Side</p> <p>1) Mission members: 14 persons</p> <p>2) Trainees Received: 7 persons</p> </td> <td style="width: 50%; vertical-align: top;"> <p>Mongolian Side</p> <p>1. Staff Allocated: 10 persons</p> <p>2. Provision of Project office</p> </td> </tr> </table> | | | <p>Japanese Side</p> <p>1) Mission members: 14 persons</p> <p>2) Trainees Received: 7 persons</p> | <p>Mongolian Side</p> <p>1. Staff Allocated: 10 persons</p> <p>2. Provision of Project office</p> |
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| Project Period | April 2012 – July 2013 | Project Cost | (ex-ante) 197 million yen, (actual) 208 million yen | | |
| Implementing Agency | Municipality of Ulaanbaatar, Ulaanbaatar Water Supply and Sewerage Authority (USUG) | | | | |
| Cooperation Agency in Japan | NJS.Co., Ltd., Tokyo Metropolitan Sewerage Service Corporation, Bureau of Waterworks Tokyo Metropolitan Government | | | | |

II. Result of the Evaluation

< Special Perspectives Considered in the Ex-Post Evaluation >

· Since the ex-ante evaluation sheet was not prepared for this project, it was not defined how to measure the "utilization of the proposed plan". Therefore, in this ex-post evaluation, we evaluated "utilization of proposed plan" from the following viewpoint. (1) whether the proposal plan was added/modified to existing master plans, (2) whether the progress such as project formulation and budgeting of the proposed plan is being made, (3) whether the implementation of priority projects is decided by the Cabinet.

1 Relevance

<Consistency with the Development Policy of Mongolia at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with development policy of Mongolia both at the times of ex-ante evaluation and project completion. At the time of ex-ante evaluation, one of the strategic goals in Mongolia's "Water National Program" that came into effect in 2010 was "proper use of water resources, water saving, reuse of sewage, introduction of the latest water treatment technology". The program continued to be effective even at the time of project completion. Regarding to water supply, the basic direction of development policy of the “Ulaanbaatar City Master Plan 2020, Development Trend for 2030” which is the succeeding master plan of UBMP-2020 and UBMPS is to improve water source and water supply, improving appropriate facility scale in accordance with future water demand in the capital, improvement of legal environment and administrative management, strengthening of management and implementation system and introduction of advanced technology, etc.

<Consistency with the Development Needs of Mongolia at the Time of Ex-Ante Evaluation and Project Completion >

The project was consistent with development needs for improvement of water supply and sewage of Mongolia both at the times of ex-ante evaluation and project completion. At the time of ex-ante evaluation, expansion of the urban area of Ulaanbaatar city and the sharp increase in population required review of the existing master plans. At the time of project completion, the population growth rate of Ulaanbaatar city as well as the average daily supply of water were continuously growing. Problems of the sewage system included aged sewage pipes, aged sewage treatment plants and deterioration of discharged water quality.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with Japan's ODA policy strengthening of urban function of Ulaanbaatar was one of the prioritized areas for support to Mongolia².

¹ The degree of achievement of expected goals is not to be assessed in principle at the time of ex-post evaluation, since it is defined as the medium-to-long-term goals which will be attained as a result of crystallizing the proposed plan (“output” of the project).

² Source: ODA country databook 2012

<Evaluation Result>

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

2 Effectiveness/Impact

<Status of Achievement for the Objectives at the time of Project Completion>

At the time of project completion, the planning frame of the existing master plan for water and sanitation improvement at Ulaanbaatar city based on UBMP was reviewed, "improvement and expansion of Central Wastewater Treatment Plant" was selected as a priority project, and F/S was implemented. Regarding the capacity building of the implementing agencies through this project, under the guidance of two Japanese experts, technical capacity of staff in the sewage treatment plant, i.e. priority project, (17 staff members) was strengthened. The project conducted on-site training and technical guidance for concentration measurement of pollution level of drainage by using portable equipment (COD meter etc.). Training lectures and seminars were also conducted on the analysis and utilization of measurement results. The staff has continued to utilize the skills and knowledge acquired in the training for daily work.

< Utilization Status of the Proposed Plan at the time of Ex-post Evaluation>

The proposed plan by this project has been highly utilized. Proposal from the project and improvement items such as securing new upstream water sources, improvement of water supply system facilities (renewal of water pipes, increase of water supply facilities), development and dissemination of use of surface water, reuse of treated regenerated water, improvement and expansion of the Central Wastewater Treatment Plant, introduction of advanced technology, etc. were reflected in the "Ulaanbaatar City Master Plan 2020, Development Trend for 2030" which was approved by Great Khural Decree (Parliament Decree) No. 23 on February 8, 2013.

In addition, project formulation and budgeting are progressing in many measures and projects under the proposed plan. In the water supply system development, the proposed water distribution management measures, replacement of water pipes, water supply facilities improvement project are being implemented. Regarding sewerage system development, sewage treatment facility construction and factory improvement of sewer culvert is in progress, and improvements of sanitation facilities in the ger districts are also being considered and implemented. Regarding "improvement and expansion of the Central Wastewater Treatment Plant" proposed as a priority project in this project, it was included in the "National Property Concession Item List" approved by the Cabinet Decree No. 317 in 2013. However, , Cabinet decision on soft loan from China was decided at the Cabinet No. 311 on November 15, 2017³, and thus implementation of the project is decided.

Regarding strengthening of operational capacity, although the improvement of the treatment process of the Central Wastewater Treatment Plant is being gradually implemented, concrete measures have not been taken concerning improvement of the operation and management capacity of the wastewater treatment plant. With respect to the water supply, USUG's management improvement is being made by taking measures against non-revenue water and setting appropriate water charges.

<Status of Achievement for Expected Goals through the Proposed Plan at the time of Ex-post Evaluation>

Any concrete effects of utilization of the proposed plan has not been produced yet, since the project is just being planned or shortly after its implementation. However, under this project, detailed surveys and evaluations on water supply and sewerage systems in Ulaanbaatar city were carried out, proposed measures and recommendations including various issues to be improved were submitted and they have been referred as documents for important measures for future policies and development plan. In Ulaanbaatar city, reduction of the non-revenue water rate and increase in capacity of water supply facility by water source development, etc. are being progressed, and this project contributes to some extent to improvement of water supply and sewerage environment of Ulaanbaatar city.

<Other Impacts at the time of Ex-post Evaluation>

No land acquisition and resettlement occurred under this project, and no negative impact on natural environment was observed.

<Evaluation Result>

In light of the above, as the objectives were attained both at the time of project completion and ex-post evaluation, the effectiveness/impact of the project is high.

3 Efficiency

Both the project cost and project period exceeded the plan (the ratio against plan: 106%, 145%) and the efficiency of the project is fair.

4 Sustainability

<Policy Aspect>

The continuation of the effect of this project is secured by the Mongolian government policy. 4.2.5.1 of the "Government Action Plan 2016-2020" includes the priority project "Implementation of renovation/renewal work of Central Sewage Treatment Plant" and so on. Also, "Ulaanbaatar City Master Plan 2020, Development Trend for 2030" reflects projects and activities aimed at developing and improving water and sanitation systems.

<Institutional Aspect>

An institutional system necessary for sustaining the effect of this project has been established. In Municipality of Ulaanbaatar, the Urban Development and Master plan Agency, the Ger Districts Infrastructure Agency, the Engineering Facilities Agency and the Procurement Agency are in charge of water supply planning and implementation, Ger Districts development planning and implementation, engineering and maintenance, and procurement respectively. The number of staff members satisfies the quota confirmed by the city council decision, and the number of people assigned to each agency is also appropriate.

Regarding the planning, construction and maintenance of water supply and sewage facilities, the role and responsibility sharing between Ulaanbaatar city and USUG is clear. The work performance agreement with the Head of USUG and the annual activity plan of the institution describes the construction plan of the water supply facility between Ulaanbaatar city and USUG, its use and maintenance, the division of work roles, the budget and securing funds, etc. Through the implementation of this activity plan, the work performance contract of the Head of USUG has been evaluated, and then, management, evaluation, conclusion, etc. on the business activities of the whole organization are made.

<Technical Aspect>

Regarding the departments concerned in Municipality of Ulaanbaatar, due to personnel change, dismissal etc., the knowledge and

³ Although initially it was planned to conduct the project in the concession system, negotiations were canceled because agreement on the terms and conditions was not reached.

understanding on the water and sanitation environment are insufficient, and strengthening of capacity on selection of priority project plans and on guidance and management skills for implementation etc. are necessary, according to staff concerned in Municipality of Ulaanbaatar. USUG wishes to improve the technical capacity of the staff at the Central Wastewater Treatment Plant and to participate in training on advanced technology.

<Financial Aspect>

As written in the Effectiveness/Impact, as for the priority project of "Improvement and expansion of Central Wastewater Treatment Plant", budget has already been secured and the implementation has been decided by the Cabinet. Implementation of some of the proposed projects have been decided, however, details such as budget and the date of start of the implementation are yet to be decided.

<Evaluation Result>

In light of the above, some problems have been observed in terms of the technical and financial aspects of the implementing agency; however, there are no major problems in the policy and institutional aspects. Therefore, the sustainability of the effectiveness through the project is fair.

5 Summary of the Evaluation

The project completed reviewing the plan frame of the existing master plan, selecting the priority project and implementation of F/S and capacity building of the implementing agencies at the time of project completion. At the time of ex-post evaluation, progress was made on the state of utilization of the proposed plan, and the implementation of the priority project was also decided by the Cabinet. As for the sustainability, slight problems have been observed in the technical and financial aspect, however, no problems have been observed in terms of policy and institutional aspects. As for the efficiency, both the project period and project cost exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.



Current situation of the Central Wastewater Treatment Plant
(at the time of ex-post evaluation)