

Udaipur sewerage project: Convergence with SCM and PPP model for implementation

Summary:

The domestic sewage generated by Udaipur city is a potential threat to the environment and the aesthetic look of the city lakes. Being a major national and international tourism destination, the city needed to streamline the sewage system which was becoming an area of concern for the administration. In this regard, an integrated and comprehensive sewerage treatment plan for entire city of Udaipur has been prepared by Udaipur Municipal Corporation under AMRUT and Smart Cities Mission. In line with the comprehensive plan, multiple projects have been approved under AMRUT Scheme (SAAP 1 & 2) with an estimated cost of approximately Rs. 160 crores. Another Rs. 229 crores of sewerage project have been approved under the Smart Cities Mission. Setting up decentralised sewerage treatments plants (STP) of total 40 MLD capacity with an estimated cost of Rs. 80 crores is among one of the major projects and the fund for the STP projects have been proposed through the smart city mission scheme.

This project has been converged with the AMRUT scheme as most of pipeline network, house connections and other sewerage related projects are being funded through the AMRUT programme. These components are required to complete the entire sewerage network plan. Therefore, entire sewage network, household connections, STPs have been proposed through the convergence of AMRUT and Smart Cities Mission funding.

Objective and rationale:

To improve the existing infrastructural facilities in the city, to clean and rehabilitate and remove obstructions in the existing facilities and to provide a proper waste management facility.

Implementation strategy:

Earlier, Udaipur had one 20 MLD capacity STP which had been constructed through PPP mode in a Hybrid Annuity Model (HAM) with a capital cost of INR 170 crore in the year 2014. M/s Hindustan Zinc Limited (HZL) was the private partner for development of existing STP project with 15 years O&M period.

Furthermore, considering the current and future demand, the Nagar Nigam had proposed to augment the existing sewage system capacity from 20 MLD to 60 MLD by introducing 3 more STPs at Eklingpura (25 MLD capacity), FCI Godown (10 MLD) and Kazrali House (5 MLD) in HAM model with 15 years concession period.

In July 2017, HZL signed an agreement with Udaipur Smart City Limited (USCL) for design, construction, supply, installation, testing, commissioning and operation of an STP of 40 MLD (25+10+5) capacity. This includes O&M for 15 years under HAM - 40% capital cost shall be borne by the Nagar Nigam and 60% capital cost shall be borne by M/s HZL during the construction period. HZL will have 75% of treated water from 25 MLD STP and 15 MLD STP output will remain with USCL. After commissioning of the STPs, INR 12.80 Crore as upfront and INR 1.28 crore as annuity shall be paid to HZL for period of 15 years. As on 30 June 2020, 25 MLD plant has started operations and 10 MLD plant under commissioning and 5 MLD plant under process.

Impact:

This project has resulted in improving the ecosystem of the lakes and freshwater consumption has correspondingly reduced in the city. Water quality of the Ahar River, Pichola and Udai Sagar lakes will be improved due to reduced volume of wastewater discharges from the city. The results and overall impact of this initiative has been appreciated by the State Government. With the completion of project, ULB will be able to treat 100% of Udaipur City's sewage and significant reduction of freshwater consumption at the operational site. At present, the sewerage plant covers 20.3% of the Udaipur city. But after the completion of the above projects, the coverage would be 62.5%. Further, substantial amount of treated wastewater will be used in Hindustan Zinc Industrial complexes and considerable amount would also be used in horticulture.

Key challenges and Lessons learnt:

With thoughtful planning and extremely well executed public private partnership model (PPP), HZL was able to transform the sewage condition of Udaipur city. They are expanding their capacities as per the need of the city and the funding for this is made available as and when required. Favourable policy such as Rajasthan's State Sewerage & Wastewater Policy 2016, funding arrangement through convergence of AMRUT and Smart City programme and successful HAM model are major success factors of the Udaipur STP project.

Source: (Sewerage Project, 2018), (Udaipur Smart City, 2017)