



Completion Report

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Technical Assistance Number: 8566
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Mainstreaming Integrated Solid Waste Management in Asia

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TA Number, Country, and Name:		Amount Approved: US\$1,400,000.00	
TA 8566-REG: Mainstreaming Integrated Solid Waste Management in Asia		Revised Amount: Not applicable	
Executing Agency: Asian Development Bank	Source of Funding: TASF-V/UEIF	Amount Undisbursed: US\$332,401.88	Amount Utilized: US\$1,067,598.12
TA Approval Date: 9 December 2013	TA Signing Date: 9 December 2013	Fielding of First Consultant(s): 30 March 2015	TA Completion Date Original: 31 December 2016 Actual: 31 March 2017 Account Closing Date Original: 31 December 2016 Actual: 30 June 2017
<p>Description. Solid waste management (SWM), one of the most neglected areas of municipal services and infrastructure in Asia, is a pressing need in most developing member countries (DMCs) to help attain environmental sustainability and improve the quality of life for their citizens. For SWM, ADB has funded only a few projects with more than 1,000 tons/day treatment and/or disposal capacity, a common quantum of daily generation of municipal solid waste in many cities in Asia. These projects largely are waste-to-energy applications in the People's Republic of China, funded through the Private Sector Operations Department. Even these projects do not provide a long-term holistic management of municipal solid waste on a citywide scale. It is thus evident that ADB needs to raise its effort to help DMCs develop holistic, citywide SWM strategies and translate those into technically feasible and commercially viable projects.</p> <p>Expected Impact, Outcome, and Output. Several DMC's have identified sanitation and waste management in their country partnership strategy as a key area of assistance for their urban renewal, hence this TA was considered highly relevant. The TA aimed to develop long-term strategies for integrated SWM for two large and two medium-sized cities, and one small city—the case study cities (CSCs)—in Asia, translate each city strategy into an action plan that provides basic project structure and bidding procedures, and recommend regulatory and policy reforms to attract investments in SWM. The expected impact was more Asian cities implementing sustainable SWM strategies. The expected outcome was that city governments in CSCs adopt sustainable SWM strategies. The TA has 3 outputs: (i) 5 CSCs selected based on criteria prepared and applied for such selection, (ii) a 20–25-year strategy prepared for sustainable SWM practice in the 5 CSCs and (iii) action plans prepared for SWM projects in the CSCs.</p> <p>Delivery of Inputs and Conduct of Activities. The scope of work under the TA covers collation of information, analyses, and presentation of the current status of municipal SWM—e.g., waste generation trends and estimates; waste characteristics; gaps in collection, treatment, and safe disposal; financing and capacity constraints—in five selected CSCs in Asia, and formulation of a long-term holistic SWM strategy for each city. The TA was to undertake in depth assessment of the current status of SWM in 5 CSCs in Asia from originally selected countries (i.e. Azerbaijan, Indonesia, Philippines, Sri Lanka and Thailand) covering institutional, partnership (PPP) aspects. From this, recommendations were developed for each city, including outline strategic objectives and milestones, likely investment levels and modalities (including PPPs), and sector support initiatives necessary to incrementally improve SWM service provision and effectively attract private investments.</p> <p>AECOM Asia Co. Ltd. was engaged to undertake this TA for a total of 30.17 person months with total contract amounting to \$1.035 million. Although the consultant mobilized very quickly, in undertaking the required rapid country and city assessments, non-response from the countries delayed the project implementation. Major changes were addressed such as the replacement of Azerbaijan and Indonesia due to duplication of the nature of the TA with initiatives of other international organization and changes in sector priorities, respectively. The project management was also transferred from SDES to SDSC-URB and a new project implementation specialist was assigned. In September 2015, country consultant teams were re-mobilized and re-engagement with national and city governments occurred by October 2015. The project countries were visited utilizing the ADB Resident Missions and national consultants to facilitate meetings and workshops with key stakeholders. The TA was to deliver 3 outputs and the time frame was accelerated to meet the initial completion date, subsequently a three-month extension of the TA completion date from 31 December 2016 to 31 March 2017 was requested to allow the consulting firm to complete TA outputs. Despite the aforementioned delays and changes, a satisfactory performance was delivered by both AECOM and ADB as an executing agency. The TA can be considered efficient. Expected output were delivered by utilizing 76% of the of the TA resources. Savings were generated from budget allocated for travel; studies, surveys and reports; and seminars, workshop, training. The changes in project countries and selected CSCs limited the extent of consultant travel, workshops/trainings and surveys conducted were minimized to 3 countries instead of the original 5 countries across the region.</p> <p>Evaluation of Outputs and Achievement of Outcome. The TA has 3 leading outputs. Output 1 is the selection of CSCs based on criteria prepared and applied for such selection. Inception workshops were held in the Philippines,</p>			

Sri Lanka and Thailand with the possibility of adding other countries during the project implementation. Sri Lanka was eventually dropped as suitable candidate cities could not be identified. Myanmar was the final country ADB adopted following in-country meetings and presentations. Using questionnaires as well as agreed criteria, Buriram and Mahasarakham, Thailand along with Quezon City and Sorsogon, Philippines and Mandalay, Myanmar were the five CSCs selected.

Output 2 is a 20–25-year strategy prepared for sustainable solid waste management practice in the case study cities. In-country presentation and workshops were conducted to prepare Integrated Solid Waste Management Plans (ISWM) and developing the Project for each city as well as the associated privatization and contractual aspects. Apart from the 5 selected CSCs, Ulaanbaatar, Mongolia and Suva, Fiji were also investigated as possible additional cities but did not proceed as the priority development projects and programs of the city governments are not aligned with the TA objectives.

Output 3 is action plans prepared for solid waste management projects in the CSCs. Presentations were made in each city on the Action Plans, Pre-Feasibility Study and Policy and Regulatory issues together with market-testing workshops. These workshops ascertained the private sector interest and capability for the various projects. A series of practice briefs was also prepared consisting of 40 SWM topics as well as the 5 CSCs. The guide is available in ADB website. (<https://www.adb.org/sites/default/files/institutional-document/324101/tool-kit-solid-waste-management.pdf>)

The TA has been effective in achieving its desired outputs and outcomes. Five CSCs were selected, SWM shortcomings have been identified and action plans were developed for each CSC. ISWM Plans led to the selection of appropriate SWM projects interventions as follows; (i) Waste to Energy Plant of over 1,000 tonnes per day (Quezon City); (ii) Landfill private operation (Sorsogon); (iii) Refused Derived Fuel Facility (Buriram); (iv) Landfill private operation (Mahasarakham); and (v) Waste collection privatization in one township (Mandalay). The presentations and workshops made in each city discussed the Public-Private partnership issues, Action Plans, Commercial Term Sheet and Bid Parameters, Pre-feasibility Study and Policy Regulatory Reform issues. The workshops were participated by city governments, environment ministries, landfill operators, PPP centers.

Overall Assessment and Rating. The TA is rated as successful and likely sustainable. TA has determined approaches that would help achieve environmental sustainability. With its crosscutting focus on infrastructure and environment, the TA fits well with ADB's Strategy 2020 and the Urban Operational Plan, 2012–2020. The TA investigated SWM issues in a wide variety of cities and a number of countries, and confirmed that the approach of this TA was appropriate. The practice guide relating to most aspects of SWM developed under the TA will provide ADB staff and DMCs long-term mainstreaming information, education and communication activities that requires support.

Major Lessons. Candidate cities need to be identified early in the project to allow sufficient time for the cities to prepare their packages for submission, for consideration, and for support. It is also important to identify a focal person in the government to improve communication and responsiveness as well as to engage more actively with RM focals to support such follow-up and coordination on the ground.

Recommendations and Follow-Up Actions. It is now critical that the ADB supports implementation through a mainstreaming approach. The outputs of the TA can be up-scaled primarily through 2 ensuing loans on SWM development in Mandalay, Myanmar and towns of La Trinidad, Benguet; Del Carmen, Surigao del Norte; Malay, Aklan and Janiway, Iloilo, Philippines.¹

ADB needs to support the best available and economically achievable technology rather than the absolute best technology for aspect of SWM. Advising both the municipalities and government agencies that a more pragmatic approach will achieve far greater socio-environmental improvement and enhance sustainability is essential to successfully mainstreaming SWM.

PSOD needs to assist project packaging and consider a funding model where a cluster of local government units receives support rather than individual cities.

CSC = case study cities; DMC = developing member countries; ISWM = integrated solid waste management; PPP = public–private partnership; TA = technical assistance; SWM = solid waste management.

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¹ L3316-MYA: Mandalay Urban Services Improvement Project and PHI: Solid Waste Management Sector Project (45146-002).