

SUDAN, KHARTOUM STATE



POPULATION
7,000,000
(2017)

Introduction of Fixed – Time Fixed – Place Waste Collection

The capital of Sudan, Khartoum State, home to approximately 7 million people, grappled with a daily production of roughly 6,000 tonnes of municipal solid waste. However, in 2013, the city faced significant challenges with its waste management infrastructure. Collection services proved inadequate, with only 65% of the generated waste being effectively collected while collection vehicles were insufficient and poorly maintained. Consequently, streets became strewn with uncollected waste, exacerbating sanitary issues, particularly in low-income residential areas. Furthermore, there existed a concerning lack of awareness among residents regarding proper solid waste management practices.

In an effort to enhance solid waste management (MSWM) in Khartoum, the city enlisted support from JICA for the Japanese Grant Aid Project from 2014 to 2017. One key initiative under this project was the introduction of Fixed-Time Fixed-Place Waste Collection Services, aimed at improving waste collection efficiency. Residents were encouraged to bring their waste to designated locations at specified times, facilitated by the distribution of 65-liter plastic waste bins.

The pilot project targeted two areas, each with approximately 7,000 residents, providing collection services twice a week at set times. A total of 1,000 bins were distributed in each area. Community engagement was prioritized through informative meetings organized by the Local Cleaning Department, explaining the solid waste management strategies, pilot project objectives, and the new collection system.

Furthermore, collaborative clean-up campaigns were conducted in the target areas alongside residents. Through consultation, suitable collection points were identified and marked with signboards for clarity, at 60 meters each. Continuous monitoring through site visits, time-motion surveys, and questionnaire surveys were employed to enhance public awareness and tailor the system to community needs.

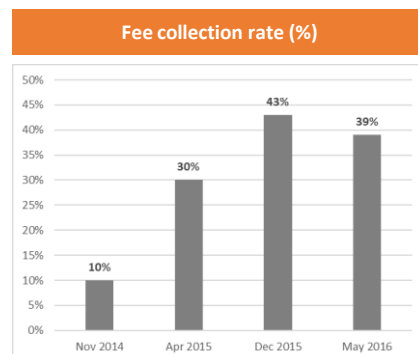
This pilot project spanned two years, serving as a proactive step towards sustainable waste management practices in Khartoum.





IMPACTS TO ACHIEVE SDG 11.6.1

- Collection time has decreased before and after the pilot project with a ratio between 13% - 24%.
- Collection vehicles keeping schedule: 33% (Oct 2014) – 88% (Mar 2016).
- Residents putting waste at collection points: 57% (Oct 2014) – 89% (Mar 2016).
- Satisfaction level of residents towards waste collection services increased: 50% (before) – 80% (after).
- Residents got accustomed to use different types of containers to bring waste to collection points and avoid scattering waste on the roads.



Source: JICA-Net Library

INSTITUTIONAL SUSTAINABILITY



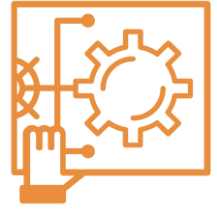
Despite the Local Cleaning Department's commitment, challenges arose as collection vehicles sometimes failed to arrive punctually, leading to waning resident interest and adherence to the schedule. Consequently, some zones reverted to the previous house-to-house collection method. To address this setback, local authorities and JICA initiated measures such as weekly project meetings to identify issues and devise solutions, ongoing monitoring efforts, and sustained awareness-raising activities. These collaborative endeavors aimed to rectify the situation and ensure the effectiveness of the waste management project.

PLANNING & MONITORING



The project has instituted weekly meetings to facilitate information exchange and strategize actions. Each target area underwent monthly monitoring to identify issues, which were subsequently addressed in the project's weekly meetings. These gatherings served as valuable platforms for deliberating on the direction and approach of awareness-raising initiatives tailored to residents in the pilot areas. Additionally, monitoring of the pilot project encompassed tracking metrics such as total collection time, utilization of collection points, and encountered challenges, ensuring a comprehensive assessment of its effectiveness.

APPROPRIATE TECHNOLOGY



Source: JICA-Net Library

FINANCIAL SUSTAINABILITY



The pilot project has resulted in notable improvements in both the total amount of waste collected and the rate of fee collection in the targeted areas compared to pre-project data. Prior to the project (Nov 2014), only 10% of households had paid the waste collection fee, whereas approximately 40% had done so within a year of the project's commencement (Dec 2015). However, it's worth noting that the fee collection rate experienced a decline in one area during 2016, most probably because the monthly collection fee increased significantly. These findings underscore the correlation between improved waste collection services and residents' willingness to pay the associated fees.

STAKEHOLDER INVOLVEMENT



The pilot project focused on implementing a tailored waste collection system in designated target areas, spearheaded by local authorities in partnership with JICA. Close collaboration ensued with the Cleaning Departments and waste collection personnel of the target areas, alongside active engagement with residents. Through extensive information dissemination and awareness-raising activities, residents were actively involved to guarantee the pilot project's successful execution.

Information and awareness-raising initiatives encompassed a range of activities, including training sessions for local authority staff to enhance public awareness, study tours for resident representatives, community meetings highlighting the benefits of the collection system and stressing the importance of resident cooperation, workshops for local authorities to develop the new collection system, field visits, house-to-house outreach, distribution of informative brochures, and ongoing monitoring efforts.



SOURCES

- JICA-Net Library – https://www.youtube.com/watch?v=R-SzuD4jEGl&ab_channel=JICA-NetLibrary
- The Republic of the Sudan, Ministry of Environment, Natural Resources and Physical Development, PROJECT FOR STRENGTHENING SOLID WASTE MANAGEMENT IN KHARTOUM STATE – <https://libopac.jica.go.jp/images/report/12284964.pdf>



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