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# BEST PRACTICE

## Bina Ekonomi Sosial Terpadu (BEST)

### Community-based Solid Waste Management in Tangerang

#### Learning the process of community-based solid waste management



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“Mobile solid waste pick up service” with a capacity of 1,2 m<sup>3</sup> collects waste from its source at household level using “cash and carry” method in Jatiuwung subdistrict, Tangerang district.

**CHALLENGE** In 2001, BEST set up solid waste related activities in response to demands of residents, who lived around a previous project site of BEST in Tangerang. A preliminary study of BEST in October 2003 on the feasibility of a solid waste program in Tangerang showed that solid waste management program was not feasible because each household could only afford monthly solid waste pick up fee of Rp. 500 – Rp. 2,000. BEST had calculated that such program would have ran well if the community could afford monthly solid waste fee of more than Rp. 2,000.

In April 2004, BEST carried out an in-depth study on solid waste disposal from the household to temporary disposal site (*Tempat Pembuangan Sampah Sementara - TPS*), in order to be in accordance with District Regulation. The regulation stated that the government is responsible to carry waste from the TPS to the TPA, while it is the responsibility of community members to carry garbage from their houses to the TPS. 84 RTs (*rukun tetangga - neighborhood unit*) out of 100 RTs surveyed do not have a solid waste management system. The second survey showed that 64 percent of those 84 RTs were willing to take part in the “cash and carry” solid waste management method offered by BEST which requires each household to pay a transport fee for every solid waste disposal.

As a result of those surveys, a pilot program on solid waste management was established in Jatiuwung subdistrict, Tangerang. Jatiuwung was chosen due to the following reasons: greater number of population, greater amount of waste scattered in the area, strong-willed community who wanted BEST to help managing their solid waste problems.

**INITIATIVE** It took three months for BEST to approach the community in RW 06 and 07 (*rukun warga - community unit*) and also the local Sanitation Department to adjust the solid waste pick up schedule from the TPS to the TPA. BEST picked up the solid waste from the source using “mobile solid waste disposal service”, which is a regular two-wheel motorbike modified into three-wheel motorbike with a 1.2 m square meter waste container in the back. Using this vehicle, BEST picks up the waste three times a day and charges Rp. 400 to each household for each trip. In order to save money and time, the community members manage their own solid waste disposal schedule.

Due to increasing amount and frequency of solid waste pick up, each household had to invest more. In order to embark more people into

the service and to allow mobile service operator to be familiar with the pick up route, a promotion package of two-week free “mobile solid waste disposal service” was offered to interested residents. The initial BEST investment was Rp. 30 million, which was used to buy a motorbike and to cover its operational and maintenance costs of Rp. 4 million per month.

BEST put up their address and telephone number at the mobile waste container, which eventually caught the attention of Mr. Abas, who lived in Mustika Tiga Raksa Real Estate. Mr. Abas needed help to manage solid waste problem in his community of 1,600 families. BEST held a discussion with the residents and carried out a field study. Besides, several approaches were made to the real estate developer, who managed the housing area. As a result, the developer allocated an area of 1,000 square meter to be used free of charge as a TPS for five years period. In line with this effort, BEST sought financial support from BORDA (Bremen Overseas Research and Development Agency) to build and maintain a TPS in the area, as well as to purchase a modified motorbike for “mobile solid waste disposal service”. The cooperation with BORDA required community contribution, which outcome was 1,000 households had agreed to pay monthly solid waste pick up fee of Rp. 4,000 per households. Each head of neighborhood unit (*rukun tetangga* - RT) would collect the money, which was then passed on to the head of community unit (*rukun warga* - RW) and finally the money was handed to BEST.

With the support from BORDA, BEST built a TPS made of steel construction with office facilities at Mustika Tiga Raksa Real Estate. The solid waste was collected from the source at the households and brought to the TPS twice a week. At the TPS, the waste was sorted into organic and non-organic types. Organic solid waste was processed into compost, while non-organic solid waste was sold to recyclables middlemen in Tangerang. The community was able to gain as much as Rp. 600 thousand per month from the sale of non-organic solid waste, which was used to improve the welfare of five TPS operators who received monthly payment from BEST. The solid waste management system acquired Rp. 10 million per month, which includes operators’ payment.

**RESULTS** BEST noted that the collective payment system is a subject to financial loss, a part from that, local Sanitation Department did not provide solid waste pick up service from the TPS to the TPA. Therefore, the neighborhood had to pay as much as Rp. 150 thousand for each trip of dump truck that brought the waste from local TPS to the district TPA.

In relation to Millennium Development Goals of the UN (United Nations), BEST believes that solid waste management should be carried out at TPS, since managing the waste at TPA is considered as less strategic from a programmatic point of view, while managing waste at household source is considered as difficult. Nevertheless, managing solid waste at TPS level will extend the TPA life span and will slow down the TPA from filling up. In addition, the solid waste pick up system from the source to the TPS with tight schedule and fixed fee has also improved the discipline of the community members in solid waste disposal.

As a result, 45 monthly trips of dump truck carrying waste from the TPS to the TPA were reduced to eight monthly trips only. BEST predicts that by 2010 the solid waste fee will increase up to Rp. 8,000 – Rp. 12,000 per month per household along with the increase in the number of inhabitants in Mustika Tiga Raksa Real Estate.

BEST experiences show that in addition to financial supports from external party, the managing organization that introduced solid waste management system also had to gain trust from the community members as the source of the waste, as well as supports from other stakeholders to ensure a sound management and implementation.