

# Evaluation of Waste Recycle Center (PDU) in Jambangan Subdistrict Based on TPS3R Technical Guidance

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**Abstract**— Recycle Center (PDU) of Jambangan Sub-district is waste management system based on technological advanced system. Facilitation of waste management in PDU consist of conveyor belt which moved all type of preidential waste those employee in separating waste. In addition there were also organic waste cutter, plastic, paper and copper presser machine. Based on PDU activity, the study was desained to review whether waste management system is based on TPS3R technical guidance. This study observe waste management activity in PDU. Result was analysed descriptively. The funding of the study was that waste management system in PDU was not base on TPS3R technical guidance specifically in operation waste management.

**Keywords**—waste, management

## I. Introduction

TPS3R program (reduce, reuse, recycling) is aimed to lower quantity and improve waste characteristic, to be further process in waste final processing center (TPA). TPS3R anticipates low land availability for waste TPA in urban area [2]. This activity highlight community and local government involvement, community development and supervision of local government for sustainability of TPS3R. Technical guidance of TPS3R is continuation of public works and housing ministry regulation number 24/PRT/M/2016 on mechanism of governmental supporting fund in Direktorat Jenderal Cipta Karya in addition of revision from TPS3R of technical guidance book 2016. This technical guideline regulate mechanism of TPS3R program which consisted of TPS3R procedure, planning, evaluation, and monitoring as reference for employee in center, province, distric/city and community in conducting TPS3R program. Recycle center of Jambangan subdistrict is TPS3R aimed to reduce waste volume in TPA, Benowo.

## II. Purpose

The purpose of the study was to know waste management system in PDU.

## III. Methods

The method this study was observation of daily waste management process in PDU. Observation date was analyzed descriptively. Parameters recorded were various aspects of waste processing system including general implementation principle, general approach, operational/basic, monitoring and evaluation of TPS3R.

## IV. Result and Discussion

### 4.1 General Implementation Principle of TPS3R

Based on Ministry of public works and housing 2013 on implementation of waste facility for domestic and domesticlike waste management, emphasize on waste reduction from its source, is responsibility off all party involved, both government and community. In the current condition, waste separation and reduction from its source, is still low, thus various activity must be enhance by community figures, community independent group or government. Implementation of TPS3R is directed to 3R concept, to serve community group in low-income area, consisting of 400 houses. In actualization waste management is a series of placing, collection, transporting, managing, and final processing subsystems, in where TPS3R infrastructure plays role in managing subsystem (at communal scale, based on community).

The main concept of waste management in TPS3R is to reduce quantity and or improve waste characteristic, to be further process in TPA. TPS3R is expected to contribute in answering critical land demand for TPA availability in urban area. This is in-line with national policy, to put waste TPA in the lowest hierarchy minimizing recidu to be buried in thus TPA. Implementation TPS3R should be conducted in synergy and continuity via

- 1) involvement community and local government,
- 2) community development and local government,
- 3) supervision from local government for TPS3R continuation.

Until now, waste management procession in TPS3R is conducted with separation of organic and non-organic. Organic waste is process biologically, while non-organic waste is recycled to valorise or manage via waste bank at least recidu is transported to TPA.

### Approach of TPS3R General Information

TPS3R implementation is aimed to reduce waste that will be process in TPA. Product of waste processing such as recycle, solid and liquid compost, and bio-gas, are additional products from TPS3R. Compost is organic material decomposed in a place void of sunray and rain with controlled humidity [4]. Benefit of TPS3R is determined from residue that transported TPA so lower land demand for TPA.

### 4.3 Operational Basic of TPS3R

Conservation of TPS3R facilities in highly dependent on community willingness and ability to operate, utilize and maintain it. General concerning aspect in conservation

are facility management, socialization and guideline. Fundamentally management is the main aspect of conserving physical built. To successfully manage it, community self-help group should do the following step such as

- 1) routine monitoring to determine facilities in good condition;
- 2) to identify damage at the earliest time thus maintenance plan can be composed;
- 3) on time rehabilitation;
- 4) routine evaluation of service performance;
- 5) management based on standard operating procedure,
- 6) inform operational and maintenance cost in village information board.

Community self-help grup is expected to be able to follow up operation and maintenance directly [1]. Through operation and maintenance, it was expected that facilities could reach technical age according to planning target and standard. During facilities conservation, local government is expected to actively giving supervision and technical support to community (supervision, development), thus people can operate and utilize available facilities well.[3]

Private corporations are expected to be able to realize social responsibility funding through Corporate Social Responsibility (CSR) for society as long as it is not mandatory.

Assistance of private corporation for community via management on facilities maintenance can be technical assistance of maintenance, operational funding, and network development.

#### 4.4 Monitoring and Evaluation

Advantage of TPS3R implementation is the routinely-conducted processes, starting from preparation, planning, socialization, execution, follow-up program, until development and replication. Results of monitoring are used for improvement of execution quality and planning. Results can also used as input for evaluation of program execution and base for program continuation, development, and replication. Monitoring of TPS3R execution is performed as following.

- 1) Internally conducted by all executor units in TPS 3R implementation system.
- 2) Externally conducted by units outside of executors, such as LSM, university.

Indicators and evaluation parameters are used to assess functioning TPS3R. Evaluation is performed to measure success rate of TPS3R programs conducted for over 1 year. This evaluation will group locations of TPS3R management at areal and domestic scale in several functioning levels; implementation is in accord with planning, implementation of management is less than optimal, management is not functioning at all. To obtain success rate of TPS3R program previously conducted,

monitoring and evaluation are performed to pre-construction, construction, and post-construction aspects.

#### IV. Conclusion

Based on observation of waste management activities, the implementation of it in PDU of Jambangan subdistrict, Surabaya did not base on technical guidelines of TPS3R. In TPS3R, community or LSM acted as subject in conducting continuous waste management..

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