

SWOT Analysis of Domestic Wastewater in Tembalang Sub District

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Abstract:

Tembalang area is the new build up area. This area is started to develop since several campuses of UNDIP moved to Tembalang. The movement not only gives positive aspect but also negative aspect for environment especially related to domestic wastewater. In the context of this research, SWOT analysis is used as a way to make strategy to overcome domestic wastewater in Tembalang. Based on the calculation of SWOT, the strategy that will be conducted is located in Quadrant III, it means that the domestic wastewater management is already exist in Tembalang but there are many weakness on the implementation. Therefore, the result for this research is the need of regulation about housing and business in Tembalang.

Keywords: domestic wastewater, SWOT analysis

I. INTRODUCTION

Nowadays, Tembalang Sub District becomes crowded area since several campus of UNDIP move to Tembalang area. The movement of several campus of UNDIP gives positif and negative impact to society. The positive impact, economic condition of people around Tembalang will be increase in line with the opening of new business for UNDIP students such as restaurant, stores, computer rental, café, house rent and so on. On the other hand, the movement of UNDIP also has negative impact such as there are many domestic waste water problem which is not correctly handled, polluted area, and crowded (Jauharicahyo, 2009).

Since the movement of several campuses of Diponegoro University in Tembalang, this area becomes built up area. According to BartuskaT.andG.Young(1994), built environment(built up area) is all things in an area that already made, compiled and maintained by humans to meet human needs for the over all environment mediate the outcome affect the environmental context (Sudharto, 2005).

In the context of built environment (built up area)includes buildings, roads, public facilities and other facilities. Moreover, inline with the built up area, the people also build a settlement to live. Settlements defined asaphysical container(housing) with supporting infrastructure and a mix between the container and its contents, namely people who live in a society and within it settlements of culture(Sudharto, 2005).

Based on that problem, the researcher should conduct a research in terms of a solution for Tembalang Sub District for managing domestic waste water. Then the researcher will use SWOT analysis with quantitative approach with respondents

from decision maker or officer in Tembalang Sub District office to make a decision to overcome domestic waste water.¹

Wastewater comprises a mixture of domestic sewage (waste from household toilets, sinks, showers and washing machines), industrial effluent, occasional run-off of surface water and ground water which has infiltrated into the sewers. Wastewater is 99.99% water, with a small amount of dissolved or suspended solid matter. At our treatment plants the wastewater undergoes a multi-stage treatment process to clean it before discharge or reuse (www.sawater.com.au).

Domestic wastewater treatment should be sustainable because the sustainability of wastewater treatment will relates to the environment condition. When sustainability is considered in relation to domestic wastewater treatment in developing countries, the following issues are relevant:

- 1) low cost – both in terms of capital and of operation and maintenance,• simplicity of operation and maintenance,
- 2) low, preferably zero, energy usage – essential for low operational costs,

II. Research Method

In the context of this research, the researcher will use quantitative approach with questionnaire as a tool to collect data. Then in terms of data collection, the researcher will use primary data and secondary data that can support the research.

III. Result and Discussion

Based on SWOT calculation, the highest ratings of strength are the support from district government and the regulation that can be used to manage domestic wastewater. Those statement for strength factor have 4 for rating. It means that the strength that can be used for managing domestic wastewater were come from the government aspect.

Moreover, based on the weakness factor, the highest ratings was 4 and were obtained from the health awareness of people around Tembalang and economic centrist. Based on the interview and observation in Tembalang area, people in Tembalang especially who have business, not aware about health. They throw the garbage; both liquid and non-liquid to any space as long as easy for them.

Then, many people in Tembalang who have business only think about their benefit and income. They use all spaces of for business but do not think about sanitation and space to throw garbage.

In terms of external factor, especially opportunity, the score of rating were similar between one to another. The point which had similar rating (3 rating) are as follow: health increase,

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clean environment, customers' satisfaction, managed domestic wastewater, invite many investors, and cheap domestic management wastewater.

Based on the SWOT calculation and the strategy that can be obtained, the researcher will make IFAS and EFAS as guidance of decision making of domestic wastewater in Tembalang area.

IFAS and EFAS are the strategy which can be used for decision maker in conducting the strategy. IFAS is internal factors alternative strategy and EFAS is external factors alternative strategy. IFAS consist of internal

EFAS is external factors that consists of opportunity and threat. The external factors are factors that can be used as a warning of the unmanaged domestic wastewater in Tembalang area.

In SWOT analysis, the decision maker is not only use internal strategy or external strategy to solve the problem, but the decision maker use combination between internal factors and external factor which can be determined by IFAS and EFAS table.

Table 1. Weighting SWOT Questionnaire Result Summary

| | | |
|--------------------|-----------------|-----------------|
| | Strength = 1.67 | Weakness = 1.51 |
| Opportunity = 1.42 | SO = 3.09 | WO = 2.93 |
| Threat = 1.53 | ST = 3.2 | WT = 3.04 |

Source : SWOT Calculation in 2014

The above column is the summary of IFAS and EFAS calculation. The above column is written by the research

Table 2. SWOT Alternative Strategy

| Priority | Strategy | Weight |
|----------|----------------------|--------|
| I | Strength-threat | 3.2 |
| II | Strength-opportunity | 3.09 |
| III | Weakness-threat | 3.04 |
| IV | Weakness-opportunity | 2.93 |

Source : SWOT Calculation in 2014

Based on the calculation above it can be concluded that the highest number is strength-threat. It means that the strategy will be used in domestic management process is strategy to minimize threat to get the opportunity.

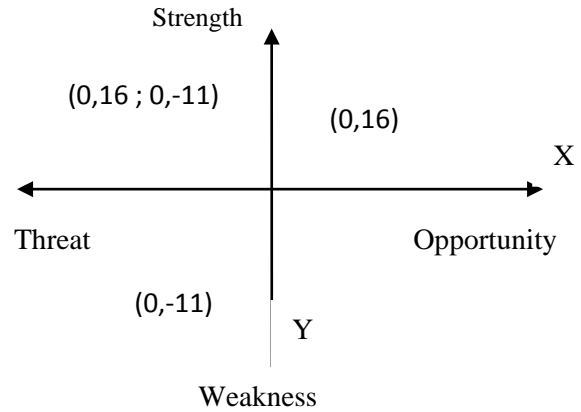


Figure 1. SWOT Quadrant

Source: Weighting SWOT Questionnaire Result Summary

SWOT Quadrant is used for knowing the place of strategy that will be made on the quadrant. Based on the summary on Figure 1, the researcher should conduct the following steps to put the strategy on the quadrant:

- a. Tembalang area already has system of domestic wastewater but it is not managed correctly. Nowadays, Tembalang area has on site treatment, it means that the people in Tembalang use their own sewerage system. People in Tembalang already differentiate between housing and industry of sewerage system, but in line with the development of business industry in Tembalang.

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