

# Mapping of Environmental Conditions and Non- Governmental Organizations in the Implementation of Community-Based Total Sanitation Program (STBM) in Siak River Side Settlement in Pekanbaru City

---

**Submission date:** 16-Mar-2023 02:14PM (UTC+0700)  
by Rany Y Yy

**Submission ID:** 2038404718

**File name:** publish\_scopus\_Q2\_ARTIKEL.pdf (1.1M)

**Word count:** 7128

**Character count:** 37981

# Mapping of Environmental Conditions and Non-Governmental Organizations in the Implementation of Community-Based Total Sanitation Program (STBM) in Siak River Side Settlement in Pekanbaru City

\*Novita Rany, Sukendi, Zulkarnain, Dedi Afandi

Public Health Division, Hangtuah High School of Health Sciences Pekanbaru, Environmental Science, Universitas Riau, Indonesia

Correspondence Author: Novita Rany Email: [novitaar11@gmail.com](mailto:novitaar11@gmail.com)

## ABSTRACT

**Background and Objectives:** Based on STBM Data in Indonesia in 2018 Implementation of the 5 Pillars of Community-Based Total Sanitation Program (STBM) has not yet implemented 100% of the 5 STBM pillars. While the STBM data in Pekanbaru City in 2018 for the Stop BABS pillar has not reached the 100% target. The purpose of this study was to analyze the application of STBM, Non-Governmental Organizations and find an educational model in the application of Community-Based Total Sanitation Program (STBM) to the sustainable environment in the Siak riverbanks of Pekanbaru City. **Material and Methods:** Results: Implementation of the 5 Pillars of Community-Based Total Sanitation (STBM) showed that most of the districts had not implemented these 5 STBM pillars. However, the implementation of the 3 STBM pillars has been fully implemented by Payung Sekaki District well, the non-governmental organizations in implementing the STBM program have not been implemented optimally and the community education model was found to be a module used for reference learning to the community in implementing the STBM program. **Conclusion:** Model The result of this research is in the form of scenarios and modules that can be used by health educators as a guide or guideline in implementing STBM education that is true to the community so that a sustainable environment is implemented.

**Keywords:** 5 STBM Pillars, Non-Governmental Organizations, Educational Models

## Correspondence:

Novita Rany  
Public health division, Hangtuah High School of Health Sciences Pekanbaru  
Environmental Science, Universitas Riau, Indonesia  
Email: [novitaar11@gmail.com](mailto:novitaar11@gmail.com)

## INTRODUCTION

Indonesia as a developing country is faced with serious problems in sanitation, in this era of development sanitation problems are no longer a matter of the central government, but also a matter of obligation for regency / city governments. Until now, sanitation problems have not been resolved properly due to the low awareness of the community towards the surrounding environment. In 2006, the Ministry of Health launched the CLTS (Community-Led Total Sanitation) approach as a national strategy for sanitation programs. July 2007 became a very important period for the development of CLTS in Indonesia, as the government worked together with the World Bank to implement a project that adopted a total sanitation approach called Total Sanitation and Total Sanitation and Sanitation Marketing (SToPS).

Community-based Total Sanitation (STBM) is an approach to change sanitation hygiene behavior through triggering activities and is also an adoption of the success of total sanitation development by applying the CLTS model. The content contained in the STBM program consists of community-based Total Sanitation pillars, hereinafter referred to as STBM Pillars namely behavior hygiene and sanitarier used as a reference in the implementation of Community-Based Total Sanitation. STBM consists of five pillars, namely open defecation (BABS), Hand Washing with Soap (CTPS), Household Drinking and Food Management (PAMM-RT), Household Waste Management (PSRT), and Household Waste Water Management (PALRT).

Basically, the implementation of STBM aims to realize the hygienic and sanitary behavior of the community independently in order to improve the degree of public health. The benefits of implementing this STBM are

increasing public awareness about the importance of maintaining personal health both individuals and groups and through this program means that Indonesia is participating in realizing a healthy Indonesia free from disease. The STBM National Strategy in each of the 5 STBM pillars per district or city is said to have been verified if it meets the achievement standards of 100% every five pillars at once or runs one particular pillar and reaches 100%. (RI Ministry of Health, 2014)

Research result Mukti, et al (2016) shows that there is a relationship between the application of Community-Based Total Sanitation (STBM) in the aspect of open defecation (BABS) and the incidence of diarrhea because feces that are removed openly can invite flies and become a source of diarrhea transmission. In addition, faeces discharged in rivers or irrigation channels can pollute river water or irrigation channels, while river water or irrigation channels are also used for cleansing and washing hands after defecation.

The high incidence of diarrhea can be controlled through integrated interventions through a total sanitation approach. This is proven by the results of a 2007 WHO study, where the incidence of diarrhea decreased 32% by increasing public access to basic sanitation, 45% by hand washing with soap, and 39% by household safe drinking water management behavior. Meanwhile, by integrating the three intervention behaviors, the incidence of diarrhea decreased by 94%. (PERMENKES, 2010)

According to the report on the achievement of the Millennium Development Goals (MDGs) in Indonesia in 2014 the proportion of households with sustainable access to rural drinking water was only 56.09% and the proportion of households with sustainable access to rural decent sanitation was only 45.45%. research result

(Pickering, Djebbari, Lopez, Coulibaly, & Alzua, 2015) it was found that the incidence of diarrhea and child development growth was influenced by the Led Sanitation program in Rural Mali.

Research result Irmalasari, et al (2011) shows that the STBM program that has been implemented, namely the first pillar program of Open Defecation (SBS), has not achieved the indicator of success (100%) as expected in the 2011 STBM Implementation Guidelines. In this study it was found that the majority of respondents did not have a toilet at home namely as many as 78 people (85.7%).

Apart from that research (Ganing & Chairani, 2016) It was also found that there was a tendency for knowledge, attitudes and community actions towards the success of the STBM program in Majane. Problems in this study included 3 aspects, namely Ecological Aspects, Social Aspects and Economic Aspects. Seen from the Ecological Aspect, it discusses Hygiene, environmental sanitation on a sustainable environment, whereby STBM can prevent water pollution in rivers and in the soil. Social Aspects we focus on public health by educating the community, involving the community and community empowerment. And lastly viewed from the Economic Aspect by paying attention to public health, this can reduce the burden of treatment costs because STBM is based on preventive activities (disease prevention) and community self-help. From the observation results in the Pekanbaru City area, there are still households that have not been 100 percent (%) implementing STBM, especially as seen from several Sub-Districts that are fed by the Siak River. There are still people who defecate carelessly on the river banks. This is certainly a source of disease transmission for the community and very disturbing in terms of aesthetics due to the odor that is caused, besides that it is still found houses and the surrounding environment that do not meet health requirements, no sewerage and sewage disposal behavior. In this case seen from the indicators that a village has STBM, namely: 1). First Pillar: If the entire community already has access and uses a latrine; 2). Second Pillar: If all houses have CTPS facilities; 3). Third Pillar: If the whole family has treated water before drinking and kept it in a clean and safe place; 4). Fourth Pillar: If the entire house already has a place / solid waste; 5). Fifth Pillar: If the entire house has drained wastewater in a drain / absorption hole.

STBM triggering by the Pekanbaru City Health Office is still the first pillar, namely Open Defecation, but in this study the researchers also discussed four other pillars namely Handwashing with Soap, Drinking Water and Food Management in Households, Safekeeping of Household Waste, and Safeguarding Household Liquid Waste. It is hoped that the monitoring of these five pillars will find out the Implementation of Community-Based Total Sanitation Program (STBM) in the Community.

In the STBM program, it does not focus on building latrines but rather making people aware of their behavior to live clean and healthy and then with this awareness they take the initiative to build latrines according to their abilities. Next is the behavior of washing hands by using soap and running water at 5 critical times. The five critical times include before eating, after eating, after defecation or defecation, after changing baby diapers, and before giving baby food. The long-term goal of the second pillar is to contribute to the reduction of diarrhea cases in children under five in Indonesia (Ministry of Health, 2008)

The third pillar is the Manager of Household Drinking Water and Healthy Food (PAMM-RT). A process of managing, storing, and utilizing drinking water and water used for the production of food and other oral purposes, as well as safe food management in the household which includes the 6 principles of Food Sanitation Hygiene in the form of food selection, food storage, food management, food storage, food transportation, food serving. The aim of the third pillar is to reduce the incidence of diseases transmitted through drinking water and food (Ministry of Health, 2008) and Management of Household Waste through collection, transportation, processing, recycling, or disposal of waste materials in a way that does not endanger the health of the community and the environment (Ministry of Health, 2008)

#### METHOD

This research uses survey research (quantitative-qualitative mix) which aims to obtain in-depth information about educational trends towards the implementation of the STBM Program in Pekanbaru City in 2018.

The sampling technique is done by purposive sampling, which is sampling based on considerations of the population living on the edge of the Siak River. The sample criteria in this study are:

1. Village located on the edge of Siak River
2. The house where people live on the edge of the Siak river.
3. Distance between 200-300 meters from the edge of the Siak river.

Sample size:

To obtain a sample based on calculations using the formula (Slovin):

$$n = \frac{N}{(1 + (Ne^2))}$$

Information:

N = Total population

e = 5% or 0.05

$$n = \frac{N}{(1 + (Ne^2))}$$

$$n = \frac{10801}{(1 + (10801 \times 0,0025))}$$

$$n = \frac{10801}{(1 + (27,0025))}$$

$$n = \frac{10801}{28,0025}$$

$$n = 385,71$$

Based on the calculation results from the formula above, a total sample of 386 respondents was obtained.

Sampling Technique:

Sampling technique is a way or techniques used to take research samples so that these samples can represent the population. For the sample size of each discharge taken using the formula:

$$ni = \frac{Ni}{n} \times xn$$

Information:

$n_i$  = Sample Size

$n$  = Total Population

$N_i$  = Many populations of each group

$n$  = Number of samples as a whole

In determining the number of research samples, the authors used a sampling technique to represent the population of each village, which obtained a total sampling of 10,801 households consisting of 386 samples. For more details, can be seen in table 2 below.

**Table 2.** Research Samples

1	2	3	4	5	6
No	subdistrict	Kelurahan	Popul	Information	Sample
1	Sekaki Umbrella	Handsome	1857	$\frac{1857 \times 386}{10801} = 66,37$	66
2	Fifty	TanjungRhu	1780	$\frac{1780 \times 386}{10801} = 63,62$	64
		The coast	1800	$\frac{1800 \times 386}{10801} = 64,33$	64
3	Coastal Tassel	The waste	1890	$\frac{1890 \times 386}{10801} = 67,55$	68
		Merantiandak	1934	$\frac{1934 \times 386}{10801} = 69,12$	69
		Okura High Cliffs	1540	$\frac{1540 \times 386}{10801} = 55,04$	55
Total Sampling			10,801	households 36	

In addition to determining the sample of researchers, due to the type of survey research (qualitative-quantitative mix). Which sources of qualitative require informants in

interviews, for more details can be seen from the following table 3.

**Table 3.** Indepth Interview Informants

1 No	2 Informant	3 Subdistrict / Kelurahan	4 total
1	Puskesmas staff	Sekaki Umbrella Fifty Coastal Tassel	1 person 1 person 1 person
2	Village Officer	Sekaki Umbrella Fifty Coastal Tassel	1 person 1 person 1 person
3	RT	Sekaki Umbrella Fifty Coastal Tassel	1 person 1 person 1 person
4	Janitor	Sekaki Umbrella Fifty Coastal Tassel	1 person 1 person 1 person
Total Informants			person

**RESULT AND DISCUSSION**

Frequency Distribution of Respondents Community Education Model and Community-Based Total Sanitation Program (STBM) towards a sustainable environment in

the settlements of Siak River in Pekanbaru City, Payung Sekaki District, Lima Puluh Kota District, and Rumbai Pesisir District.

**Table 6.** Results of BABS Stop Pillars

No	sub-district	Stop BABS	F	(%)	Category
1	Sekaki Umbrella	Success, if you have a toilet at home and all family members defecate in the toilet	66	100	Fully applied
		It doesn't work, if you don't have a toilet at home and the whole family doesn't defecate in the toilet	0	0	
	Total		66	100	
2	Fifty Cities	Success, if you have a toilet at home and all family members defecate in the toilet	107	83.6	Not yet implemented
		It doesn't work, if you don't have a toilet at home and the whole family doesn't defecate in the toilet	21	16.4	
	Total		128	100	
3	Coastal Tassel	Success, if you have a toilet at home and all family members defecate in the toilet	167	87.0	Not yet implemented
		It doesn't work, if you don't have a toilet at home and the whole family doesn't defecate in the toilet	26	13.0	
	Total		192	100	Not yet implemented

Table 6 results of the frequency of BABS pillars showing that in some sub-districts they have not fully implemented Stop BABS, meaning that there are still residents who defecate in the river. However, the application of Stop Defecation in Payung Sekaki District has been fully implemented, this is because most people already have toilets at home. Overall it can be said that the success rate of BABS has not yet reached the national target. Based on the results of the study showed that the implementation of STBM as a whole is still not

implemented and not fully implemented properly. This is in line with the expression of supporting informants who said the STBM program had not been running in accordance with the expected target, meanwhile activities were maximally and routinely carried out in support of the implementation of the STBM program. This research is certainly in line with research conducted by Salesman (2018) who concluded that to achieve a community-based sanitation program requires advocacy and community empowerment through various types and techniques created by a program.



**Table 7.** Results of the Pillars oo Handwashing with Soap (CTPS)

No	sub-district	Wash Hands With Soap (CTPS)	F	(%)	Category
1	Sekaki Umbrella	It doesn't work, if you don't wash your hands with soap at five important times.	55	83.3	Not yet implemented
		It works if you wash your hands with soap at five important times.	11	16.7	
	Total		66	100	
2	Fifty Cities	It doesn't work, if you don't wash your hands with soap at five important times.	123	96.1	Not yet implemented
		It works if you wash your hands with soap at five important times.	5	3,9	
	Total		128	100	
3	Coastal Tassel	It doesn't work, if you don't wash your hands with soap at five important times.	169	88.0	Not yet implemented
		It works if you wash your hands with soap at five important times.	23	12.0	

Table 7 results of the pillars of hand washing with soap (CTPS) show the results that none of the sub-districts applied CTPS. However, Lima Puluh Kota sub-district has almost implemented CTPS. Overall it can be said that the success rate of CTPS is still far below the national target. Some of the pillars that have not been implemented well are the hand washing pillars using soap. The results of observations show that children have not washed their hands with soap before eating, but only with water and this has become a habit of the residents. This research is in line with research conducted by Reddy Research (2017) concluding that around three-fifths of households use water and soap to clean dirty hands and one third use water and soap after defecating, this is generally done by the poor population of the Sugali Tribe in India .

CTPS has not been implemented in most of the Districts due to the lack of public knowledge about the prevention of diseases caused by the environment and personal hygiene. However, seeing the attitude of people who want to change their behavior and not apathetic socialization can certainly change people's behavior to lead to good personal hygiene. This study is in line with the research of Veerapu et al (2016) which states that health education as an intervention can significantly increase the level of knowledge, attitudes, and practices (KAP) in sanitary latrines, footwear, and washing hands with soap among rural communities. Therefore, educational intervention is needed to bring or maintain positive change.

**Table 8.** Results of Pillars for Drinking Water and Food Management in Households

No	sub-district	Drinking Water and Food Management in Households	F	(%)	Category
1	Sekaki Umbrella	It does not work if it does not manage drinking water and food safely	53	80.3	Not yet implemented
		It works if you do safe drinking water and food	13	19.7	
	Total		66	100	
2	Fifty Cities	It does not work if it does not manage drinking water and food safely.	70	54.7	Not yet implemented
		It works if you do safe drinking water and food	58	45.3	
	Total		128	100	
3	Coastal Tassel	It does not work if it does not manage drinking water and food safely.	50	26.0	Not yet implemented
		It works if you do safe drinking water and food	142	74.0	

Table 8 shows that in each sub-district the majority had not yet implemented the pillar of safe drinking water and

food management in the household. However, in the umbrella district, Sekaki has begun to implement it.

Overall it can be said that the success rate of this pillar has not yet reached the national target. Based on the results of researchers' observations that indicate the Management of Household Food and Beverage has not been done safely. This is certainly due to the lack of public knowledge about food and beverage management sanitation that will affect food processing hygiene, the safety of the processing process, and the quality of food produced. Community activities in food and beverage

management can be seen in Figure 6 below in Appendix 1. Based on observations, most housewives manage food and drinks in the open. Meanwhile cleanliness and safety are strongly emphasized in Islam which covers every aspect of personal hygiene, clothing, equipment, and the premise on which food is processed or prepared. Therefore, food hygiene has become a major problem in the community.

**Table 9.** Results of Household Waste Management Pillars

No.	sub-district	Household Waste Management	F	(%)	Category
1	Sekaki Umbrella	Success if you have a trash bin	66	100	Already applied fully
		It does not work if the sewer is not connected to a sewer or other reservoir	0	0	
	Total	66	100		
2	Fifty Cities	Success if you have a trash bin	49	38.3	Not yet implemented
		It does not work if the sewer is not connected to a sewer or other reservoir	79	61.7	
	Total	128	100		
3	Coastal Tassel	Success if you have a trash bin	82	42.7	Not yet implemented
		It does not work if the sewer is not connected to a sewer or other reservoir	110	57.3	

Table 9 shows that the implementation of the Household Waste Management Pillar in each district is mostly not implemented properly. However, in the Payung Sekaki Pilar District, this has been fully implemented because the community already has a garbage collection facility. Overall it can be said that the success rate of this pillar has not yet reached the national target. The researchers' observations show that there is a clean and healthy environment without rubbish heaps, as well as the existence of garbage collection tanks in every house without having to throw garbage into the river. The river

condition looks clean and not polluted, this is because the community alternates every evening to clean up if there is rubbish in the river. This is in line with the supporting informant's statement which says the STBM program is running routinely and the community also has full responsibility for sustainability its environment. This is also due to the commitment and attitude of the community and stakeholders who are concerned about the surrounding environment and care for their health so that regular socialization from community leaders continues to be implemented to implement STBM.

**Table 10.** Results of Household Liquid Waste Management Pillars

No	sub-district	Household Liquid Waste Managemnt	F	(%)	Category
1	Sekaki Umbrella	Not successful if the sewer is not connected to the sewer or other reservoir	0	0	Fully applied
		Success if the sewer is connected to a sewer or other reservoir	66	100	
	Total	66	100		
2	Fifty Cities	Not successful if the sewer is not connected to the sewer or other reservoir	13	10.2	Not yet implemented
		Success if the sewer is connected to a sewer or other reservoir	115	89.8	
	Total	128	100		
3	Coastal Tassel	Not successful if the sewer is not connected to the sewer or other reservoir	66	34.4	Not yet implemented
		Success if the sewer is connected to a sewer or other reservoir	126	65.6	

Table 10 shows that only Payung Sekaki District has fully implemented the Household Liquid Waste Management Pillar. But not in other conditions this is due to community sewage disposal channels not connected to the sewers or other reservoirs. Overall it can be said that the success rate of this pillar is still far from achieving national targets.

Based on observations, it appears that the community has not managed household waste well, all food waste,

drinking water and household food are not treated in advance by the community. So that the waste makes the flow of water that leads to the river becomes unstable to work as it should be seen also the presence of feces in the gutters around residential areas. As shown in Figure 11 in Appendix 1. Meanwhile, observations also show the condition of river water that has been polluted by factory waste. polluted this.

**Table 11.** Results of Implementing 5 Community-Based Total Sanitation Pillars

No	sub-district	Implementation of the 5 Pillars of Community-Based Total Sanitation	F	(%)	Category
1	Sekaki Umbrella	Good, if the informant applies the 3 STBM pillars	66	100	Fully applied
		Not Good, if the informant applies <3 STBM pillars	0	0	
		Total	66	100	
2	Fifty Cities	Good, if the informant applies the 3 STBM pillars	58	45.3	Not yet implemented
		Not Good, if the informant applies <3 STBM pillars	70	54.7	
		Total	128	100	
3	Coastal Tassel	Good, if the informant applies the 3 STBM pillars	108	56.3	Not yet implemented
		Not Good, if the informant applies <3 STBM pillars	84	43.8	

Table 11 results of the Implementation of the 5 Pillars of Community-Based Total Sanitation (STBM) concluded that the majority of sub-districts have not implemented these 5 STBM pillars. However, the application of these 3 STBM pillars has been fully implemented by Payung Sekaki District well. Overall it can be said that the success rate of implementing the 5 pillars (STBM) is still not able to reach the national target. Based on the results of the study showed that the 5 pillars of the STBM program in each district as a whole have not been implemented properly, so that they are still far reaching national targets. This can be influenced by community behavioral factors and can also be caused by not yet maximizing the sectors involved in implementing the STBM program.

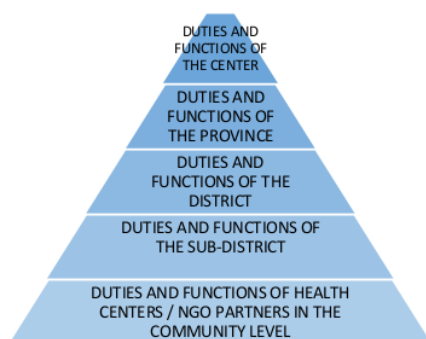
Based on the results of in-depth interviews stated that the STBM program is absolutely from non-governmental organizations, where the STBM program was not given any funds but by community empowerment. This research shows that, 5 STBM pillars are carried out by way of independence of the community.

Most people are also reluctant to implement the STBM pillar. Many factors influence, among others, negative attitudes and perceptions of the community that will preserve the environment and health so that the awareness of local residents who do not want to follow the direction of community leaders and stake holder, meanwhile socialization and appeals for the implementation of the STBM program have been routinely carried out, besides that banners have also been seen which contain appeals to implement the STBM pillars. This is also in line with the expression of supporting informants who say the STBM program has not been running according to the expected target. Due to

community habits and community attitudes that are still apathetic and lack of regular socialization from related sectors. Community behavior greatly affects the environmental sustainability in the riverbanks, including the application of the 5 pillars that have not run optimally due to community behavior that has a perception still comfortable despite the current environmental conditions.

Basically, the duties and functions of the government are clearly summarized for the main tasks and functions of the STBM program, such as inverted pyramid form ranging from the central government to the provincial tupoksi and to the tupoksi at the district level to the sub-district level until finally at the puskesmas or NGO level. Basically the main tasks and functions of each level of the program holder are well organized and have the same portion from policy, funding, coordination and provision of technical assistance, advocacy to the monitoring and evaluation system stage, which means the current problem is only how to educate the community in order to be willing and able to implement this STBM. The main tasks and functions of the STBM program holder are as shown in the following picture.





**Figure 3:** Diagram of the Auth of STBM Program Holder

1. Duties and Functions of the Center
  - a. Program policy advocacy, fundraising, coordination and providing technical assistance.
  - b. NSPK preparation, monitoring and evaluation system.
2. Duties and Functions of the Province
  - a. Program advocacy, funding and coordination
  - b. Setting up the provincial STBM master trainer panel
  - c. Monitoring and learning facilities
  - d. Collaborate with market research institutes to develop marketing and communication strategies for behavior change.
3. Duties and Functions of the Regency
  - a. Triggering the community and providing follow-up assistance after triggering
4. Duties and Functions of Sub-Districts & Duties and Functions of Puskesmas / NGO Partners at the Community Level
  - a. Manage and monitor programs
  - b. Advocacy and communication to the Regent of DPRD for program funding and support
  - c. Organizing STBM facilitator training
  - d. Facilitating sanitation entrepreneurs serving low-income consumers.

**Table 12.** Conclusion Results of the Implementation of each STBM Pillar

sub-district	STBM pillar	Conclusion
Sekaki Umbrella	Stop BABS	Already done
	CTPS	Not done
	Food and Beverage management	Not done
	Waste Management	It is already done
	Liquid Waste Management	It is already done
Fifty Cities	Stop BABS	Not done
	CTPS	Not done
	Food and Beverage management	Not done
	Waste management	Not done
	Liquid Waste Management	Not done
Coastal Tassel	Stop BABS	Not done
	CTPS	Not done
	Food and Beverage management	Not done
	Waste management	Not done
	Liquid Waste Management	Not done

### Community Self-Help in Implementing CBTS

Based on the results of in-depth interviews stating that the STBM program is absolute from non-governmental organizations, where the STBM program is not given any funds but by empowering the community. This research shows that, the 5 pillars of STBM are carried out by means of self-reliant communities, in accordance with the STBM Principle, that is, eliminating subsidies for the provision of facilities basic sanitation, where the main activity explores the potential of the community to build their own sanitation facilities, develop social solidarity (mutual cooperation), and provide allowed subsidies for communal sanitation facilities.

This is in line with the results of observations which show that in some areas communities make their own garbage bins to make their own household wastewater discharges, but this is carried out by only a small portion of the community on the edge of the Siak river. The STBM Advocacy Strategy includes policies, public disposition, commitments, funds, and infrastructure facilities in the Siak Riverbank not yet maximized. In the field of policy there is no written policy support related to efforts to foster community in realizing BABS free villages. STBM counseling conducted by the Puskesmas has not been able to improve community response because STOP BABS has not reached the 100% target at. This achievement was also influenced by the commitment of the government that did not yet have the commitment to realize the ODF kelurahan. This happens because there is no follow up to the people who do not have healthy latrines. In accordance with the following interview excerpts: "We acknowledge that there has not been a good commitment to this problem. But still we try to embrace the community ". The absence of this commitment has caused some people not to want to build healthy latrines. In addition there are residents who build houses on illegal land so they feel no need to build healthy toilets. In this illegal land issue, the village government has also not yet provided further action so that the community wants to build a healthy latrine with a septic tank. The following is an excerpt from an interview with the main informant: "those who don't have latrines are houses that are illegal, so they don't want to install latrines." the kelurahan government has also not yet provided further action so that the community wants to build a healthy latrine with a septic tank. The following is an excerpt from an interview with the main informant: "those who don't have latrines are houses that are illegal, so they don't want to install latrines."

The infrastructure facilities that have been realized in several RTs are communal latrines. but based on observation, the condition of this latrine is very dirty and people rarely use it. In realizing BABS free village, the village in cooperation with the private sector has built 14 communal latrines. Communal latrines are family toilets (5-6 families) that use a septic tank and are built outside the house so that they can be used together (STBM Indonesia 2017). In the beginning, many people used this toilet. However, due to dirty and untreated conditions, people do not use and return to defecate in unhealthy latrines.

The results of this study also illustrate the culture and knowledge of the community greatly influences the willingness of the community to independently facilitate the family in implementing the 5 pillars of STBM, this was revealed during the interview where most of the community revealed that although their STDs remained healthy and there were also some communities who revealed their culture down declining defecation in rivers. Based on the expression of the sub-district apparatus, most of them said that subsidies from the government did not exist for the STBM program but had used the Health Operational Assistance (BOK) fund to make shared toilets and to make a shared waste collection but still the community still defecated and disposed of waste carelessly, and the community apparatus also revealed not following up on this problem again.

Housing environmental conditions that exist on the banks of the Siak river tend to be slum, grow sporadically / not patterned, less supported by environmental infrastructure (public and social facilities), spatial patterns in residential areas are also unplanned (do not have public / open spaces ) and are linearly patterned towards the river. the physical condition of the housing is mostly non-permanent or semi-permanent buildings, materials / materials that are used a lot using wood / boards as walls and floors of the house and many of its foundations use balesok wooden beams (stilt houses). The livelihoods / businesses of the residents living in the riverside are mostly not directly related to the existence of the Siak river (fishermen, fishers) except for laborers / services related to stevedoring activities. Most of the population is engaged in trade and services related to downtown activities.

If analyzed from an economic perspective, one of the causes of people in the Siak riverbank settlements is that there is still BABS because they say they are not yet able to make latrines because the price of the closet is not yet affordable considering that this STBM is a non-governmental organization that is the triggering movement without being funded by the government.

### CONCLUSION

Based on the results of this study concluded that

#### Application of STBM

- a. Payung Sekaki District has implemented 3 STBM pillars, namely Stop Open Defecation, waste management and liquid waste management.
- b. Lima Puluh District has not implemented the 5 STBM pillars
- c. Coastal District of Rumbai has not implemented the 5 STBM pillars

Based on the results of the study showed that the 5 pillars of the STBM program in each district as a whole have not been implemented properly, so that they are still far reaching national targets. This can be influenced by community behavioral factors and can also be caused by not yet maximizing the sectors involved in implementing the STBM program. And all sub-districts have not implemented self-help in funding STBM implementation, this is due to the behavior of the community who do not consider the STBM program important.

### SUGGESTATION

This research provides a number of recommendations, especially in educating the community for the application

of STBM, that for the kecamatan government it is necessary to have intensive socialization about the STBM program in each Kecamatan, (cross-sectoral collaboration between the Puskesmas and the Sub-district office) and to non-governmental organizations accompanied by facilitators and sanitarian Puskesmas conducts independent activities from PKK and Kecamatan, so that community empowerment is not only from the Health Office, Puskesmas and Facilitators. Such as waste management with 3Rs (Reduce, Refuse and Recycle), the use of house yards, etc. and the need for module socialization to educate stakeholders and village officials so that it can more easily motivate the community so that the community can easily understand the aims, objectives,

#### REFERENCES

1. Ahsan, A., M. Alamgir, M. M. El-Sergany, S. Shams, M. K. Rowshon, and N. N. Nik Daud. 2014. Assessment of Municipal Solid Waste Management System in a Developing Country. *Chinese Journal of Engineering, Volume 2014*.
2. Alzúa, María Laura, Habiba Djebbari, Amy J. Pickering. 2018. A Community Based Program Promotes Sanitation. *IZA Institute of labor Economics. IZA DP No. 11446*
3. Bartram, J., Charles, K., Evans, B., O'hlanon, L., & Pedley, S. (2012). Commentary on community-led total sanitation and human rights: Should the right to community-wide health be won at the cost of individual rights? *Journal of Water and Health, 10*(4), 499–503. <https://doi.org/10.2166/wh.2012.205>
4. BPS. (2012). Indikator Kemiskinan. *Digital Times, Unknown(Unknown)*, No Pages. Retrieved from [http://www.dtco.kr/contents.html?article\\_no=2012071302010531749001](http://www.dtco.kr/contents.html?article_no=2012071302010531749001)
5. Chandra, B. (206AD). Pengantar Kesehatan Lingkungan. *Egc.* <https://doi.org/10.1016/j.cad.2012.04.004>
6. Crocker, J., Saywell, D., Shields, K. F., Kolsky, P., & Bartram, J. (2017). The true costs of participatory sanitation: Evidence from community-led total sanitation studies in Ghana and Ethiopia. *Science of the Total Environment, 601–602*, 1075–1083. <https://doi.org/10.1016/j.scitotenv.2017.05.279>
7. Departemen Kesehatan, R. I. (2008). Strategi Nasional Sanitasi Total Berbasis Masyarakat. In *Jakarta: Depkes RI*.
8. Ganing, A., & Chairani, M. (2016). Perilaku masyarakat terhadap sanitasi total berbasis masyarakat di Kabupaten Majene. *Jurnal Kesehatan Manarang, 2*(2), 66–71.
9. Indriyani, Yulis, Yuniarti, & Latif, R. V. N. (2016). Kajian Strategi Promosi Kesehatan Sanitasi Total Berbasis Masyarakat (STBM) Kelurahan Tirta Kota Pekalongan. *Unnes Journal of Public Health.* <https://doi.org/10.1177/1403494814549494>
10. Kemenkes RI. (2014). Peraturan Menteri Kesehatan Republik Indonesia Nomor 82 Tahun 2014 Tentang Penanggulangan Penyakit Menular. *Penanggulangan Penyakit Menular.* <https://doi.org/10.1007/s13398-014-0173-7.2>
11. MCA-Indonesia, & Kesehatan, K. R. I. (2015). Pedoman Pelaksanaan Sanitasi Total Berbasis Masyarakat. *Millennium Challenge A Ccount - Indonesia, (21)*, 16.
12. Mengistie, Bizatu and Negga Baraki. 2010. Community based assessment on household management of waste and hygiene practices in Kersa Woreda, Eastern Ethiopia. *Ethiop. J. Health Dev. 2010;24*(2).
13. Mondol, Ebna Forhad, Md. Rokon Hasan, Md. Sayed Rahman, Salma Alam, Sm. Arifur Rahman and Tanisa Tasmim Sinthia. 2013. Solid Waste Management Strategy & Improvement of Existing Scenario Based on Market Waste. *Global Journal of Researches in Engineering Civil And Structural Engineering Volume 13* (4).
14. Mukti, D. A., Raharjo, M., Astorina, N., & Dewanti, Y. (2016). Hubungan Antara Penerapan Program Sanitasi Total Berbasis Masyarakat (STBM) Dengan Kejadian Diare di Wilayah Kerja Puskesmas Jatibogor Kabupaten Tegal. *Jurnal Kesehatan Masyarakat (JKM), 4*(3), 767–775. <https://doi.org/ISSN2356-3346>
15. Nafisah, Hasna Atin, Sigid Sudaryanto, Naris Dyah Prasetyawati . 2018. Application Of The First Pillar Of Sanitasi Total Berbasis Masyarakat (Community-Based Total Sanitation) With The Incidence Of Diarrhea Of Temon Kulon Village, Temon District, Kulonprogo. *Jurnal Teknologi Kesehatan (Journal of Health Technology) Vol.14, No.1*.
16. Notoatmodjo, S. (2012). *Promosi Kesehatan dan Perilaku Kesehatan. Jakarta: Rineka Cipta.* <https://doi.org/10.1519/JSC.0000000000001247>
17. Permenkes. (2014). Peraturan Menteri Kesehata RI No. 3 Tahun 2014. *pp 8*(33), 44.
18. PERMENKES. (2010). Peraturan Menteri Kesehatan Republik Indonesia Nomor 492/Menkes/Per/IV/2010 tentang Persyaratan Kualitas Air Minum. *Depkes.* [https://doi.org/10.1016/0021-9924\(94\)90039-6](https://doi.org/10.1016/0021-9924(94)90039-6)
19. Pickering, A. J., Djebbari, H., Lopez, C., Coulibaly, M., & Alzua, M. L. (2015).
20. Effect of a community-led sanitation intervention on child diarrhoea and child growth in rural Mali: A cluster-randomised controlled trial. *The Lancet Global Health, 3*(11), e701–e711. [https://doi.org/10.1016/S2214-109X\(15\)00144-8](https://doi.org/10.1016/S2214-109X(15)00144-8)
21. Rahim, Syuhaida Idha Abd. 2018. FOOD SAFETY, SANITATION AND PERSONAL HYGIENE IN FOOD HANDLING: AN OVERVIEW FROM ISLAMIC PERSPECTIVE. *International Journal of Civil Engineering and Technology (IJCIET) Volume 9* (9).
22. Reddy, Venkateshiva, Yadlapalli S. Kusuma, Chandrakant S. Pandav, Anil Kumar Goswami, and Anand Krishnan. 2017. Water and Sanitation Hygiene Practices for Under-Five Children among Households of Sugali Tribe of Chittoor District, Andhra Pradesh, India. *Journal of Environmental and Public Health Volume 2017*.
23. Resti Irmalasari, Najmah, N. A. F. (2011). STUDI KOMPARATIF PERILAKU BUANG AIR BESAR PADA MASYARAKAT YANG TELAH DAN BELUM MENERAPKAN PROGRAM SANITASI TOTAL BERBASIS MASYARAKAT (STBM) DI KECAMATAN INDERALAYA. *Jurnal Ilmu Kesehatan Masyarakat*.
24. Salesman, Frans . (2018). Effectiveness of Health Promotion to Community-Based Total Sanitation Outcomes in Nunsanen, Kupang, Indonesia. *Jurnal Studi Komunikasi Volume 2* (1).
25. Sarasdiani W. (2012). Cuci Tangan Pakai Sabun Dengan Benar Dapat Mengurangi Penyakit Menular.

26. Sastrawijaya, A.Tresna. (2009). *Pencemaran Lingkungan*. Jakarta: PT.Asdi Mahasatya
27. Sigler, R., Mahmoudi, L., & Graham, J. P. (2015). Analysis of behavioral change techniques in community-led total sanitation programs. *Health Promotion International*, 30(1), 16–28. <https://doi.org/10.1093/heapro/dau073>
28. Swain, P., & Pathela, S. (2016). Status of sanitation and hygiene practices in the context of " Swachh Bharat Abhiyan " in two districts of India, 3(11), 3140–3146.
29. Tambe, E.B., G.C. Ayongwaa,b , N.M. Ngwabieb, and G.T. Forbida. 2016. Characterisation of Municipal Solid Waste for Planning Sustainable Waste Management in Kumba Municipality – South Western Cameroon. *The Open Waste Management Journal*, 2016, Volume 9
30. U, D. N. M. (2013). Implementasi Sanitasi Total Berbasis Masyarakat ( STBM ). *Udayana Mengabdikan*, 12(1), 27–31.
31. Veerapu , Nagapraveen, P. Subramanian , B. A. Praveenkumar2 , G. Arun. Promotion of sanitation and hygiene in a rural area of South India: A community-based study. 2016 . Department of Community Medicine, Viswabharathi Medical College, Kurnool, Andhra Pradesh, India. *Volume 5 : Issue 3*.
32. Whittington, Dale , Donald T.Lauria, Kyeongae Choe, Jeffrey A.Hughes, Venkateswarlu Swarna, Albert M.Wright. 1993. Household sanitation in Kumasi, Ghana: A description of current practices, attitudes, and perceptions. *World Development volume 21 (5)*.
33. Yang, Dan, Yang He, Bo Wu, Yan Deng, Menglin Li, Qian Yang, Liting Huang, Yaming Cao, Yang Liu. 2019. Drinking water and sanitation conditions are associated with the risk of malaria among children under five years old in sub-Saharan Africa: A logistic regression model analysis of national survey data. *Journal Pre-proofs*.
34. Yusran, Y. (2015). Pelaksanaan Program Stbm Stop Babs Di Desa Lembur Timur Dan Desa Luba Kecamatan Lembur Kabupaten Alor Tahun 2015. *Jurnal Kesehatan Lingkungan*, 09, 163–171.

# Mapping of Environmental Conditions and Non-Governmental Organizations in the Implementation of Community-Based Total Sanitation Program (STBM) in Siak River Side Settlement in Pekanbaru City

---

## ORIGINALITY REPORT

---

9%

SIMILARITY INDEX

6%

INTERNET SOURCES

6%

PUBLICATIONS

4%

STUDENT PAPERS

---

## MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

---

3%

★ Ekasulistyawaty, Muhammad Syafar, Anwar Daud, Andi Arsunan Arsin, Anwar Mallongi, Endang Werdyaningsih. "Change of behavior of ODF through STBM Program in Cempaka Putih Village North Gorontalo Regency", Enfermería Clínica, 2020

Publication

---

Exclude quotes  On

Exclude matches  < 17 words

Exclude bibliography  On