

# DIFFERENCES OF COMMUNITY LED TOTAL SANITATION (CLTS) IN VILLAGES OF CIKUPA AND VILLAGE OF TELUKNAGA IN TANGERANG DISTRICT

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## **Background**

According to WHO data of waterborne diseases which were caused death reach 3,400,000 people per year and for diarrhea make 1,400,000 people per year. The root cause of that problem are poor sanitations and obnoxious water quality. In 2015, Indonesia got high mortality rate from diarrhea scattered on 18 provinces with sufferer by 1213 peoples and 30 decease (CFR 2.44%). Ministry of Health says (in 2015), the lowest percentage of implemented CLTS is Banten province 24,44%. Because of that, diarrhea case has been raise to 51,34% in Tangerang city of Banten province. The increasing cases of diarrhea in a region may be controlled through sanitation approach. One of Ministry of health program in order to improve health status of Indonesia people is CLTS. This research took place in Teluknaga and Cikupa village of Tangerang City. Teluknaga and Cikupa have difference number of diarrhea case and policy. In addition, it is also seen from the geographical conditions where the Cikupa village is an administrative area located on the side of the road in a dense condition while Teluknaga village is an area where the majority of livelihoods are fishermen and are located on the coast and have areas surrounded by fishponds.

## **Methods**

This research method is a quantitative research with cross sectional design. Sample of 200 respondents with randomly. Data analysis using independent t-test.

## **Results**

The result of research shows that there is difference of CLTS in Teluknaga village with Cikupa village of Tangerang district (p-value 0,000).

## **Conclusions**

Community and the government more attention to environmental conditions with Community Led Total Sanitation (CLTS) in the form of behavior change approaches..

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**Keywords:** CLTS, Diarrhea, SDGs, Environmental Sanitation

## INTRODUCTION

Sanitation development challenges in Indonesia are community social culture and behavior. They are accustomed to defecating in any place, especially to water bodies which are also used for washing, bathing and drinking water. In addition poor hygiene and sanitation have been still much. Study by The Indonesia Sanitation Sector Development Program (ISSDP) in 2006 showed that 47% of people behave defecation into rivers, fields, ponds, gardens and outdoors.

WHO states that waterborne disease deaths reach 3,400,000 people per year, and diarrhea is the biggest cause of death, 1,400,000 people per year. The cause of death are poor sanitation and water quality. Diarrhea incidence in Indonesia is high, which is 423 per 1000 population in 2006. Diarrhea is an endemic disease in Indonesia and is also a potential outbreak disease that often causes death. In 2015 there were 18 outbreaks of diarrhea that spread in 11 provinces, 18 districts/ cities with a total sufferers was 1,213 people and 30 deaths (CFR 2.447%), seen that the CFR at KLB was still quite high with the target of CFR at KLB was expected <1% (Tangerang District Health Office, 2015).

Based on cumulative data from 43 Primary Health Care (Puskesmas) in Tangerang District, 2014, it was found that the percentage of diarrhea cases of all ages

increased since 2011 to 2014. The highest cases of diarrhea in 2011 were 40.19%, in 2012 cases increased to be 42.67%, in 2013 increased to 43.72 cases and in 2014 also increased to be 51.34% cases (Profile of Tangerang District Health Office, 2014).

Increased diarrhea cases in one area can be controlled by sanitation approach. One of the Ministry of Health programs to improve Indonesian health status is Community Led Total Sanitation (STBM). STBM is a government program to strengthen efforts to accostume clean and healthy lives, prevent the spread of environment-based diseases, improve community capacity, and implement government commitments to improve access of drinking water and basic sanitation sustainably to achieve SDGs. Sanitation efforts based on Permenkes No. 3, 2014 about STBM, namely not defecation at any place, washing hands with soap, managing safe drinking water and food, managing waste properly and managing household waste water safely (MOH, 2008).

STBM is an approach with a simple facilitation process that can change old attitudes, where sanitation obligations are community responsibility, with one belief that clean, comfortable and healthy conditions are natural human needs. The approach taken in STBM is expected to

emerge awareness that sanitation is a common problem because it affects to all communities, thus problem solving must be done together.

The STBM National Strategy is a reference for planning, implementation, monitoring and evaluation related to STBM. Health sanitation is closely related to community culture. In an effort to foster community participation must be considered also the community socio-cultural conditions. To involve the community in development efforts, especially in the health sector that will bring better results is if the process use educative approach that is trying to raise awareness in the community through increasing knowledge by considering local social culture.

Ministry of Health Indonesia (2015) stated that the lowest percentage who implemented STBM was DKI Jakarta Province 1.87% and Banten Province 24.44%, while the highest percentage who implemented STBM were Special Region of Yogyakarta Province 93.84%.

To achieve these, there have been still some obstacles such as the process of increasing behavior change that could not be done instantly, require a relatively long time, and the adequacy of mentoring officers for community to implement healthier behaviors in daily life continuously. There was disparity for

village achievements in implementing STBM because not all health staff reported their activities. From 9,738 enrolled environmental health workers there were 4,285 environmental health workers (44%) who monitored STBM activities until 2015 (Indonesian Health Profile 2015).

Teluknaga and Cikupa Primary Health Care (Puskesmas) are located in Tangerang District, Banten Province. Puskesmas Teluknaga is a primary health care that has an ISO certificate and has been cases of diarrhea that fall into the top 10 diseases in the Puskesmas area, while the Puskesmas Cikupa is a primary health care that did not have an ISO certificate and for cases of diarrhea does not fall into the top 10 diseases. In addition, based on geographical conditions, Cikupa Village is an administrative area, close to industries, factories, shops and roadside resident, the condition is crowded and has sufficient facilities and infrastructure. Meanwhile, Teluk Naga Village has a population whose livelihoods are mostly fishermen, located on the coast, and the area has many fish ponds. This differences is predicted due to the house and surrounding environment has not been health requirements, no sewerage, and littering behavior and communities PHBS has been still lacking (Tangerang District Health Office, 2014). Based on these problems, important to study about Community Led

Total Sanitation (STBM) Differences between Cikupa and Teluknaga, Tangerang District.

**METHOD**

This study was used observational quantitative study with cross sectional study design. In this study, there was no intervention. Study sample consisted of 200 respondents, 100 respondents in Cikupa village and 100 respondents in Teluk Naga village. Sample collected used random sampling. Each family head who was recorded at the RT where the data was collected will be chosen one respondent.

The respondent criteria were sought as a family decision maker, a husband or wife. Then, the respondent will be given a questionnaire on community led total sanitation that will cover five pillars. Data analysis used an independent t-test analysis to determine STBM differences between Cikupa and Teluk Naga village.

**RESULT**

Description of 5 pillars STBM implementation in Cikupa and Teluk Naga Village as bellow:

Table 1.1 Description of STBM in Cikupa dan Teluk Naga Village, Tangerang District

STBM Implementation	Dwelling			
	Cikupa		Teluk Naga	
	Good	Poor	Good	Poor
Stop to defecate at any place	50	50	9	91
Hand washing with soap	79	21	24	76
Household drinking water and food management	42	58	26	74
Safekeeping of household waste	33	67	16	84
Safekeeping of household liquid waste	7	93	3	97

Based on the table 1.1 showed that the highest proportion of pillars 1 about stop to defecate at any place in Cikupa sub-district was equal, 50 respondents have carried out stop to defecate at any place. While, the highest proportion to stop defecate at any place in the teluk Naga sub-district was less, which was 91 respondents who have not conducted stop to defecate at any place properly.

Pillar 2 about handwashing with soap, the highest proportion in Cikupa sub-district was good, 79 respondents have carried out Handwashing with Soap. While, the highest proportion of in Teluk Naga sub-district was less, 76 respondents have not carried out Hand Washing with Soap properly.

Pillar 3 about household drinking water and food management, the highest proportion in Cikupa Sub-district was less, 58 respondents who have not carried out household drinking water and food management properly. While, in the Teluk Naga Sub-district was less which

was 76 respondents have not carried out household drinking water and food management properly

Pillar 4 about safekeeping of household waste, in Cikupa Sub-district was less which was 67 respondents have not implemented household waste management properly. While, the highest proportion of household waste management in Teluk Naga Sub-district was less, 84 respondents have not carried out it.

Pillar 5 about the safekeeping of household liquid waste, in Cikupa Sub-district was less which was 93 respondents have not carried out it properly. While, the highest proportion of household liquid waste management in Teluk Naga Sub-district was less, 97 respondents have not carried out it properly.

Table 2.2 Description of Average STBM in Cikupa dan Teluk Naga Village, Tangerang District

	Dwelling	N	Mean ± SD
STBM	Teluk Naga Village	100	32,50 ± 0,383
	Cikupa Village	100	44,14 ± 0,398

Based on the table 1.2 showed that the mean of STBM for the Teluk Naga village variable was -32.50 with a standard deviation was 0.383. While, the mean of STBM for Cikupa village was 44.14 with a standard deviation was 0.398.

Furthermore, it was conducted normality test first for bivariate analysis. Results of the normality test showed that distribution was not normal with  $p$ -value  $0.000 < \alpha = 0.05$ . Then, non-parametric statistical tests were used using Mann-Whitney U.

Table 3.3 STBM Differences in Cikupa dan Teluk Naga Village, Tangerang District

	Dwelling	N	Mean	p-value	95% CI
STBM	Teluk Naga Village	100	-11,640	0,000	-12,729 - -10,551
	Cikupa Village	100			

According to Mann Whitney test above showed that  $p$ -value was  $0,000 < \alpha = 0,05$ . It meant that there was a difference in STBM between Cikupa and Teluk Naga village, Tangerang District.

## DISCUSSION

Incident cases of diarrhea in Cikupa Village were lower than Teluk Naga village. In Cikupa Village, diarrhea cases were not included in the top 10 diseases however in Teluk Naga Village, cases of diarrhea had been still in the top 10 diseases. Then, study result

showed that there were differences in STBM between Cikupa Village (low diarrhea cases) and Teluk Naga village (high diarrhea cases). This was consistent with Makotsi, et al. study, (2016) which showed that there were differences in the incidence of diseases between areas that applying STBM and non-STBM. Meanwhile, according to Othero, et.al. study, (2003) determined that the overall prevalence of diarrhea for two weeks in the study area was 17.4%. Comparison of the prevalence of diarrhea between STBM and Non-STBM showed that households that applying STBM experienced fewer diarrhea than non-STBM households. According to Makotsi, et al. study, (2016), a study was conducted in Nyando in 2008, where diarrheal disease was found to be a major cause of morbidity and mortality among children under five, especially in rural and suburban communities in the district. Thus, diarrhea contributes 87% and 48% for child morbidity and mortality.

Access to proper sanitation is one of the main foundations for healthy society. Good sanitation is an important element for supports human health. Sanitation is related to environmental health which affects to community health status. Poor sanitation conditions will have a negative impact on many aspects of life such as declining quality of community living environment, pollution of community drinking water sources, increasing diarrhea incidents, and emergence of several diseases (Ministry of Health, 2014).

Based on this study showed that the proportion of lack behaviors for stopping defecation at any place was much more in Teluk Naga village (91%). Teluk Naga Village was an area close to the coast and river, this environmental condition affected to most people that was not aware of behavior to stop defecate at any place. Contrary with Cikupa village which was located on a side street, close to settlements, industry and shops.

Requirement of sewage disposal that met to health rules were not polluting the soil surface, do not contaminate surface water, do not pollute soil water, dirt could not be open so that it could be used as a vector for laying eggs and breeding (Notoatmodjo, 2003).

According to observations, there has been still many respondents who behave less for pillars 1 to stop defecate at any place. It was because the community behavior was difficult to change, it seen from the community who already have latrines but still have defecation behavior in the river. This was in line with Sah's (2008) study stated that STBM was an approach for long-term problems for a sustainable national planning framework with the implementation of STBM promotion in schools, preparing cadres who follow STBM, the implementing STBM's cost included facilitation and installation of latrines cost by own resources, STBM advocacy in churches and mosques, motivating children as a key role in using latrines in their homes.

According to Conant (2005) study, removing human waste (feces and urine) properly and maintaining personal hygiene could maintain health. If waste was not maintained and disposed incorrectly and unsafe, it could be affected to human health and caused serious diseases such as diarrhea, dysentery, typhoid, cholera and other types of infectious diseases. These health problems could be prevented if more effort was conducted for changes personal hygiene behaviors, such as handwashing properly, waste disposed properly, and using clean toilets with easy access to clean water sources.

According to Permenkes (2014) stated that the effective healthy latrines aimed to break the chain of transmission of disease. Healthy latrines must be built, owned, and used by families with placement (inside or outside the house) that was accessible for family member. The standard of health latrine were the roof was built to protect people from bad weather and other disturbances, a central latrine or sewerage hole with a goose neck construction or not a cover goose neck with the waterproof floor, non-slippery, and completed by SPAL, and container under the latrine as processor and decomposition of which served to prevent pollution or contamination from feces through disease-carrying vectors, either directly or indirectly.

Based on pillar 2 about handwashing with soap (CTPS) showed that behavior of handwashing with soap in Teluk Naga village was lower than Cikupa village. Based on the observations to the respondents who have lack behavior of handwashing with soap, they have only washing hands with water without soap and lacking of respondent's knowledge regarding to important times for washing hands.

According to the Ministry of Health (2015), hand washing with soap (CPTS) was an act of cleaning hands for removing soil, dirt, and/ or microorganisms. The main health objective of hand washing was to clean hands from pathogens (including bacteria or viruses) and chemicals that could cause bodily damage or disease. According to UNICEF (2008), washing hands with water was more less effective in removing diseased germs from the hands than washing hands with soap. Hand washing using soap was one of the most effective and inexpensive ways to prevent diarrheal disease which mostly causes death in children. Washing hands with soap after using the toilet or helping children with bowel movements and before handling food could reduce the level of diarrhea, cholera and dysentery about 48 - 59%.

Household drinking water and food management which was to be the pillar 3 of STBM showed that the proportion of poor behavior in Cikupa village was 58% and the in Teluk Naga village was 74%. The clean water source majority of respondents in Teluk Naga village

has been still using well water even though the PDAM already exists. Whereas, in Cikupa village there was no PDAM for drinking water management but used pump water and refill gallon water without management.

Food must be managed well and properly in order to prevented health problems and benefit for body. A good way to manage food was by applying the principles of food hygiene and sanitation. Household food management, although in small scale or on a household scale must also applying the food principles of sanitation. A good hygiene sanitation principles included sorted food ingredients, stored food ingredients, processed food, stored cooked food, transported food, served food (Ministry of health, 2014)

Safekeeping of household waste which was to be pillar 4 of STBM showed that the proportion of lack behavior in Cikupa village was 67% and in the Teluk Naga village was 84%. Based on observations, it showed that both of two villages there have not been sorting organic and inorganic waste and did not dispose of garbage every day. Still found trash around the river and gardens proved that people's awareness have been still lack for littering impact.

According to the Indonesian Ministry of Health (2011), waste was a source of disease and a breeding for disease vectors such as flies, mosquitoes, rats, cockroaches. Garbage could be pollute the soil also and caused comfort and aesthetic disturbances such as unpleasant odors and unsightly views. Therefore waste management was very important to prevent disease transmission. Trash must be available, trash must be collected every day and disposed of in temporary shelters. If it was not reached by the service of garbage disposal to the final shelter, it could be carried out by eliminating the waste by stockpiled or burned.

Household liquid waste management (pillar 5) showed that the proportion was poor in the Cikupa village (93%) and Teluk Naga village was 97%. Observations showed that in both village, it has been still poor for safekeeping household liquid waste. It seen from inundated and uncovered drains in almost these villages. Stagnant liquid waste could be a disease vectors source, including public faucets or lavatories. Domestic liquid waste must be disposed properly following to appropriate standards of waste disposal. Domestic liquid waste usually was not an extreme waste hazard to the environment except it was disposed incorrectly that could be impacted to surface water or shallow ground water.

The last and very important step in the waste management process was disposal that must be carried out in an eco-freindly. According to Alice's (2017) study, in Rwanda city that liquid waste management was company's responsibility, however the government was also developing guidelines on how disposal activities should be carried out. This study stated that

"Every liquid waste, especially from hospitals, clinics, industries and any other hazardous liquid waste must be collected, cared for and changed in a way that does not reduce the environment to prevent, eliminate or reduce adverse effects on human health, resources nature, flora and fauna.

## **CONCLUSION**

Implementation of STBM approaches in urban and rural areas has been still different. However although there were differences, it has been still a big and complex challenges. In addition, required varied methods, tools and approaches. Latrine subsidy in households was long-term production by government support. Thus, the problem of this study was people behavior who quite difficult to change in implementing STBM.

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