

## Effectiveness of Health Promotion to Community-Based Total Sanitation Outcomes in Nunsaen, Kupang, Indonesia

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**Abstract** The Community-Based Total Sanitation Program has reached 94.95% of villages in Indonesia. However, not all villages implement the four pillars of community-based total sanitation, including the village of Nunsaen. The low outcomes of community-based total sanitation in Nunsaen village in 2016 reached 76% of 542, impacting on average 63% of the population, who suffer from infectious diseases every year. The non-implementation of health promotion strategies through advocacy, and lack of empowerment of working groups to improve community-based total sanitation outcomes in Nunsaen village. A retrospective study with Case Control approach with triggers through advocacy and empowerment to a sample of 134 family heads. Health promotion strategies through effective advocacy affect community-based total sanitation outcomes (Pvalue = 0,0001; and OR = 8,444), meaning that the effectiveness of advocacy effects is more than three times as likely to improve community-based sanitation outcomes by 8.44 times than if advocacy conducted less than three times. If in terms of OR scale, the effectiveness of community empowerment has greater opportunity (OR = 46,943) than advocacy (OR = 8,444) towards the total community-based sanitation outcome in Nunsaen village. The conclusion are Improving the effectiveness of community-based sanitation implementation requires advocacy and community empowerment by types and techniques determined by the program to achieve healthy and hygienic behavioural changes as the goal of community-based sanitation programs.

**Keywords: Sanitation; Advocacy; Empowerment; Healthy Living.**

**Abstrak** Program Sanitasi Total Berbasis Masyarakat telah mencapai 94,95% desa di Indonesia. Namun, tidak semua desa menerapkan empat pilar sanitasi total berbasis masyarakat, termasuk desa Nunsaen. Rendahnya hasil sanitasi total berbasis masyarakat di desa Nunsaen pada tahun 2016 mencapai 76% dari 542, berdampak pada rata-rata 63% penduduk, yang menderita penyakit menular setiap tahun. Non-implementasi strategi promosi kesehatan melalui advokasi, dan kurangnya pemberdayaan kelompok kerja untuk memperbaiki hasil sanitasi total berbasis masyarakat di desa Nunsaen. Studi retrospektif dengan pendekatan Case Control

*dengan pemicu melalui advokasi dan pemberdayaan sampel 134 kepala keluarga. Strategi promosi kesehatan melalui advokasi yang efektif mempengaruhi hasil sanitasi total berbasis masyarakat (Pvalue = 0,0001; dan OR = 8,444), yang berarti bahwa efektivitas efek advokasi lebih dari tiga kali lebih mungkin untuk memperbaiki hasil sanitasi berbasis masyarakat sebesar 8,44 kali daripada jika advokasi dilakukan kurang dari tiga kali. Jika dalam hal skala OR, efektivitas pemberdayaan masyarakat memiliki peluang lebih besar (OR = 46,943) daripada advokasi (OR = 8,444) terhadap total hasil sanitasi berbasis masyarakat di desa Nunsanen. Kesimpulannya adalah Meningkatkan efektivitas pelaksanaan sanitasi berbasis masyarakat memerlukan advokasi dan pemberdayaan masyarakat berdasarkan jenis dan teknik yang ditentukan oleh program untuk mencapai perubahan perilaku sehat dan higienis sebagai tujuan program sanitasi berbasis masyarakat.*

**Kata Kunci: Sanitasi; Advokasi; Pemberdayaan; Hidup Sehat.**

## **INTRODUCTION**

Community-based total sanitation program is a public health development approach to transform public attitudes about hygiene and total sanitation through several indicators; not defecating carelessly, washing hands with soap, managing safe drinking water and food, managing waste safely; and safely manage household wastewater (Ministry of Health of the Republic of Indonesia, 2014). In its development, the outcome of Community-Based Total Sanitation development has reached 99.02% of districts, 94.89% sub-districts and 94.95% of villages [2,3]. However, nationally households with decent sanitation only reached 62.14%, and those with uninhabitable houses ( $\leq 7.20$  M per person) reaching 9.36%. According to the Ministry of Health of the Republic of Indonesia (2016), 62.14% of households do not have clean drinking water access, 44.02% have access to permanent healthy latrines, 17.15% have access to semi-permanent healthy latrines, 7.70% have access to public latrines and defecated 31.37%. According to the same source, the progress of the community-based total sanitation development in East Nusa Tenggara has reached 100% of districts, Sub-districts and 100 of villages. The outcomes are not followed by proper sanitation ownership. Households owning (1) proper sanitation in East Nusa Tenggara 29.03%; (2) having uninhabitable houses ( $\leq 7.20$  M per person) of 20.62%; (3) having access to clean drinking water 37.08%; and (4) had access to a permanent healthy latrine 34.62%, had access to a semi-permanent healthy latrine 33.82%, had

access to a public latrine 10.92%, and a defective urinary behaviour- 20.64%.

The condition of decent sanitation in Kupang District is one of the lowest in the province of East Nusa Tenggara. The District Health Office of Kupang District (2016) reported that until 2015, decent sanitation outcome in Kupang District reached 76%, but has not reached the minimum service standard set in 2015, which is 80%. Fatuleu Tengah Sub-district as one of the Sub-districts in Kupang district has the lowest access to household sanitation in Kupang District, which is only 56%. Particularly in Nunsauen Village, which is one of four villages in Fatuleu Tengah Sub-district, households' outcome of total community-based sanitation in 2016 reached 76% of 542 households. The low environmental sanitation in Nunsauen village has an impact on the high prevalence of diseases such as Acute Respiratory Infection, Pulmonary Tuberculosis, diarrhoea, Dengue Fever and Malaria on average by 63% of the total population per year. (Kupang District Health Office, 2017).

The low outcome of households with community-based total sanitation is probably due to the ineffectiveness of advocacy and socialisation initiatives and community empowerment. According to Notoatmodjo (2012), advocacy and socialisation of health messages to the community as a trigger for behaviour change, impact the success of the health program. Research in Senuro Timur Village of Ogan Ilir District reported that the aspect of triggers through socialisation that is easily understood by the community, was done repeatedly to improve the behaviour about stop defecating indiscriminately (Fajar NA, et al, 2010).

Unhealthy living behaviours of the environment such as defecation, littering, lack of ownership of septic tanks and so on result in diseases such as diarrhoea, Typhus, Hepatitis A, Cholera and similar diseases. Basic Health Research in 2013 revealed that diarrheal diseases accounted for 42% of the cause of death of infants aged 0-11 months in Indonesia. The risk of death from typhoid that is transmitted through food and drink contaminated with human faeces reaches an average of 1.25 percent of the population per year in

Indonesia. In the provinces of Aceh, Bengkulu, West Java, West Papua, Gorontalo, West Nusa Tenggara, East Nusa Tenggara and East Kalimantan, the figure is 1.60% of the population.

In this study, it examines the effectiveness of health promotion strategies through advocacy and empowerment of working groups in the community towards community-based total outcomes in Nunsauen village - Fatuleu Tengah sub-district, Kupang district of East Nusa Tenggara Province, Indonesia.

Promotion by William J Stanton (Saladin Djaslim, 2006) is one of the elements in the marketing mix to tell, persuade and remind about a company's product. A promotion is a communication about the products offered to convince potential customers. Communication steps (Kotler, 2005) include; (1) identifying consumer targets including potential buyers, current users, individuals influencing buying decisions, individuals, groups, special and public societies; (2) determining the objectives of communication; when the marketer starts to set the target of the consumer, he / she should start predicting the consumer's response to the purchase of the offered product; (3) designing messages; after having an idea related to the target consumer response, the marketer begins to develop an effective message. Ideally, messages should attract attention, generate interest, increase desires and encourage action; (4) having communication media in the form of personal and non-personal communication channels. Personal communication channels are media that carry messages between product providers and consumers like neighbours, friends, family members and associates. Non-personal communication channels are media that carry messages without personal contact including the use of media, the creation of the environment and events or events related to the product; (5) Collecting feedback as input to improve the overall promotion program.

Health promotion is seen as the art of applying a trigger strategy for successful implementation of health programs in the community, such as disease eradication, community nutrition improvement, environmental sanitation, maternal

and child health and others. WHO in 1980 (Ministry of Health of the Republic of Indonesia, 2014) formulated that health promotion is an effort to improve the ability of the community through learning from, by and with the community so that they can help themselves, and develop activities that are sourced by the community, according to local social culture and supported by sound public policy. According to Green, L (2005), health promotion is any combination of health education and economic, political and organizational-related interventions designed to facilitate behavioural and environmental changes conducive to health.

Based on the above description, it is concluded that the promotion of health as a trigger in the implementation of health programs is designed in such a way to change the behaviour of the community towards a healthy life. This is supported by a healthy physical and nonphysical environment as well.

Community-based total sanitation is an approach to change hygiene and sanitation behaviours through community empowerment using trigger methods. Community-based Total Sanitation Organizers are communities, consisting of individuals, households and community groups. The five pillars of Total Sanitation include: (a) not defecating carelessly; (b) washing hands with soap in running water; (c) managing safe drinking water and food; (d) managing waste safely; and (e) managing household wastewater safely (Ministry of Health of the Republic of Indonesia, 2014).

The target community in Community-Based Total Sanitation, is expected to participate in every stage; (a) the public receives information; community involvement is informed (e.g. through announcement) and how the information is provided is determined by the informer; (b) the community is invited to negotiate. At this stage, there is already two-way communication, where people are invited to discuss in the decision-making process; (c) make decisions jointly between the community and the facilitator. At this stage, the community is invited to make decisions jointly for the activities undertaken; and (d) the public gains authority

over the control of resources and decisions. Subsequently, the community not only makes decisions, but has participated in the program implementation control activities.

The health promotion strategy; (1) advocacy as a planned effort to gain commitment and support from related parties. Indicators of advocacy activities are facilities and infrastructure, community-based sanitation promotion officers, socialisation and basic data of beneficiaries; (2) building the atmosphere as an effort to create a social environment for active community members to attend meetings, competitions and counselling; (3) community empowerment as a process of activation of community members to change from not knowing to being aware (knowledge aspect), from their behaviour (attitude aspect) and from being willing to carry out behaviour introduced (aspect of practice) village groups, health cadres and community organisations; and (4) partnership as a place of formal cooperation between individuals, groups or organisations to achieve a certain task or purpose.

This type of "retrospective" analytical research involves Case Control using the chi Square analysis tool. Two sets of testing groups were established: the treatment group was advocated more than three times and the community empowerment involved five pillars, while the control group was given only twice. The nominal measurement scale was also used. Ineffective = 0, if advocacy and community empowerment is less than three times; effective = 1 if advocacy and community empowerment is done the same amount or more than three times.

The population in this study consists of as many as 542 Heads of Family. The sampling technique used is the Purposive Sampling technique. The large sampling included 134 Heads of Families with details; 67 Family Heads of the treatment group and a control group of 67 -The Family Heads.

The research variable are: (1) Independent Variables; advocacy and empowerment of working groups. Advocacy is a planned effort of the project facilitator and is tasked with providing extension of the community-based total sanitation program in Nunsanen Village. The activities include persuasive

communication including awareness of beneficiary groups, rationalisation of hygienic behaviour patterns and environmental sanitation and recommendations for follow-up of the community-based total sanitation program in Nunsauen Village. Nominal measurement scale. Ineffective = 0, if the advocacy is less than three times; and effective = 1, if advocacy is done equal to or more than three times. Empowerment of working groups in the community is an effort to raise awareness, willingness and ability of the community in maintaining and improving environmental health conditions in the village followed by concrete actions such as making healthy latrines, handwashing with soap, drinking water cooking techniques and healthy food management and sewage treatment channels. Nominal measurement scale. Not effective = 0, if community empowerment is less than three pillars; and effective = 1, if the public's cultivation is done equal to or more than three pillars. (2) Dependent Variables; Outcomes of community-based total sanitation program. The outcome of community-based total sanitation is a change in the behaviour of target household members by applying the five pillars; (1) stop defecation indiscriminately; (2) wash hands with soap; (3) management of drinking water and household food; (4) security of waste; and (5) safeguarding household wastewater. Nominal measurement scale. Unsuccessful = 0, if outcome is less than three pillars and succeed = 1, if outcome reaches five pillars.

The Research Sites are at Nunsauen Village, Fatuleu Tengah Sub-district, Kupang District, East Nusa Tenggara Province, Indonesia. The Data Analysis Techniques used The chi square is the analysis technique used to measure the influence of advocacy variables and empowerment to the total community-based sanitation outcome in Nunsauen Village. To determine the chance of influence of independent variable to dependent variable, the Odd Ratio analysis is used.

## DISCUSSION

### Characteristics of Respondents

The characteristics of respondents analysed involve the level of respondents' education. Education is a means of improving one's knowledge. Low education leads to a lack of one's knowledge of environmental health and its impact on the emergence of various diseases in society. In accordance with the opinion of Notoatmodjo (2010), education will affect a person's cognitive in increasing knowledge. Accuracy and quality of information submitted by respondents who have a particular education will determine the quality of research data. In this study, the level of education was obtained from respondents in the treated group (table 1.1) and control group (table 1.2).

Table 1. Education Respondents Treatment Group in Nunsanen Village Year 2017

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Never attended school / did not finish school	20	29.9	29.9	29.9
Graduated from elementary school	17	25.4	25.4	55.2
Graduated from junior high school	30	44.8	44.8	100.0
Total	67	100.0	100.0	

Source: Research Result

Table 1 shows the education of respondents in the treatment group, where the respondents who: had never attended school or did not finish school were 20 people (29.90%), graduated from elementary school were 17



(25.40%) and those graduated from junior high school sum up to 30 people (44.80%). The education of respondents in the control group is shown in table 2 below.

Table 2. Education of Respondent of Control Group in Nunsauen Village Year 2017

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Never attended school / did not finish school	12	17.9	17.9	17.9
Graduated from elementary school	27	40.3	40.3	58.2
Graduated from junior high school	28	41.8	41.8	100.0
Total	67	100.0	100.0	

Source: Research Result

Table 2 shows the respondents' education in the control group, where the respondents who: had never attended school or did not finish school were 12 (17.90%), graduated from elementary school were 27 (40.30%) and graduated from junior high school were 28 people (41.80%).

### **Interpretation of research results: Effect of Advocacy on Community-Based Total Sanitation Outcomes**

The analysis of advocacy effect on total community-based sanitation outcome in Nunsauen village can be seen in the following table 3

Table 3 Effect of Advocacy on TCBS Outcome of Total Community Based Sanitation Outcome in Nunsanen Village 2017

Advocacy	STBM Outcome		P value	OR	95% CI	
	Not successful	Successful			Lower	Upper
Ineffective	58 (86.6%)	0 (0.0%)	0,0001	8,444	4,573	15,595
Effective	9 (13.4%)	67 (100.0%)				
Total	67 (100%)	67 (100)				

Source: Analysis Result

Table 3 shows that there is an advocacy effect on community-based total sanitation outcome with Pvalue = 0,0001. Table 3 also shows that advocacy is more than three times as likely to increase community-based total sanitation outcomes by 8.444 times, than if advocacy is less than three times.

### **Effect of Community Empowerment on Community-Based Total Sanitation Outcome**

The analysis of the effect of community empowerment on the outcome of community-based total sanitation in Nunsanen village can be seen in table 4 below.

Table 4 Effect of Community Empowerment on STBM Outcome of Total Community-Based Sanitation Outcome in Nunsauen Village 2017

Empowerment	STBM Outcome		Pvalue	OR	95% CI	
	Not Successful	Successful			Lower	Upper
Ineffective	53 (79.1%)	5 (7,5%)	0,0001	46,943	15,863	138,918
Effective	14 (20,9%)	62 (92,5%)				
Total	67 (100%)	67 (100)				

Source: Analysis Result

Table 4 shows that community empowerment significantly affects the outcome of community-based total sanitation with Pvalue = 0,0001. Table 1.4 also shows that community empowerment followed by technical examples of more than three pillars has the opportunity to achieve total community-based sanitation outcomes of 46.94 times compared to community empowerment if less than three pillars are implemented.

Health Promotion is a process of planning changes in healthy living behaviour of the community from the previous condition towards changes in healthy behaviour desired by the owner of the health program. Promotional instruments in the form of advocacy and community empowerment are strategic, planned and integrated actions held in the form of oral communication and / or use of media to generate public perception about the importance of healthy life behaviour and healthy environment in society. The change of public perception is followed by changes in clean and healthy life behaviour as the objective of the community-based sanitation program. However, the perceptions of the target community

differ from one community to another. In rural communities that tend to be static and difficult to accept changes designed by outsiders, the changes must be modified in accordance with the reasoning of the target community. The pattern of advocacy is done repeatedly with simple language and is easily understood by the target group. The results of this study indicate that advocacy conducted more than three times affected the outcome of five pillars of community-based sanitation in the household (Pvalue = 0.0001). In accordance with research, Rezeki, S, (2013), states that advocacy has a significant relationship to the improvement of clean and healthy life behaviour of individuals and communities with significance level  $p = 0.007$ . Research results from Heart, Saints (2008) also state that advocacy strategies can achieve optimal results if there is an active role of the community, relevant agencies and health policy holders within a region.

The pattern of empowerment of rural community groups should be done practically in accordance with the ability of their thinking power, followed by concrete examples of the technical. Make healthy latrines in order to defecate carefully, technically washing hands with soap before meals and after defecating, technical management of drinking water and food, which are hygienic and the technique of managing waste and liquid waste through drainage channels has a significant effect (Pvalue = 0.0001). The results of Sinaga's et al's research (2004) showed that low clean and healthy life behaviour in Bantul district was caused by the lack of community empowerment, the low role of puskesmas in the extension activities to the community and the low support from stakeholders to support the clean and healthy life.

The results of this study indicate that community empowerment followed by concrete examples of all five pillars has a chance of reaching 46.943 times the total community-based sanitation program than if community empowerment if less than three pillars. Likewise, if advocacy is submitted more than three times, the opportunity is 8,444 times than if advocacy is done less than three times. From the aspect of the outcome of five community-based total sanitation pillars, community empowerment activities have greater jack-up

power than advocacy. Value OR community empowerment = 46,943; and the OR advocacy value = 8.444.

## **CONCLUSION**

Advocacy and empowerment of working groups' beneficiaries of community-based total sanitation programs is a health promotion strategy to improve clean and healthy living behaviour in the community. In its implementation, it is necessary to consider the cultural background of the community. In rural communities, community groups' advocacy and empowerment strategies are repeated and followed by concrete actions concerning specific aspects and techniques of community-based total sanitation programs. The results of this study conclude from two premium strategies, empowerment activities have a stronger power jack compared with advocacy activities for the outcome of five pillars of community-based sanitation.

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