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# Policy Monitoring and Governance: The Cost-Effectiveness of Community-Based Sanitation Programs in Indonesia

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# Policy Monitoring and Governance: The Cost-Effectiveness of Community-Based Sanitation Programs in Indonesia

#### **Cover Page Footnote**

The authors would like to thank the anonymous reviewer for this article's valuable reviews and comments. We would also like to thank Professor Bruce Gilley for mentoring this article writing process and our colleague Listumbinang Halengkara from Geographic Program at Lampung University for assisting us in providing research location data by applying the geographic information system.

### Policy Monitoring and Governance: The Cost-Effectiveness of Community-Based Sanitation Programs in Indonesia

#### INTRODUCTION

The World Health Organization in 2016 estimated that 12.6 million deaths yearly were attributable to an unhealthy environment (World Health Organization 2017). To this report, open defecation practices worldwide placed the 6<sup>th</sup> of 10<sup>th</sup> contributors to death, causing diarrhea diseases due to traditional practices in specific communities lacking sanitation facilities. Community-Led Total Sanitation (CLTS) is a program widely implemented in more than 60 countries to address sanitation issues (Wells and Sijbesma 2012), including Indonesia. Yet in 2017, Indonesia had the second worst ranking for sanitation quality, falling only behind India. Open Defecation Free  $(ODF)^1$  leads to poor sanitation. This dangerous practice has been widely discovered in certain places in rural India (Clasen 2014). ODF practice was also found among communities in various villages in Indonesia, as our investigation of the UNICEF report in 2022 informed the lack of toilet facilities. As the target group of the community-based sanitation program, the community could be encouraged to prevent health problems from open defecation (Sigler et al 2015; Venkataramanan et al 2018) and be equipped with standardized facilities for human secretion (Bartram et al 2012; Bateman and Engel 2018) to promote the healthy environment.

This study responds to the research question on how policy monitoring and governance affect community-based sanitation program delivery through a costeffectiveness analysis of international funding in local government administration pertaining to the program's delivery to the local community. Besides, institutional and governance arrangements for planning, financing, and making decisions about the delivery of sanitation services within and across levels of government play a significant role in inhibiting the effective delivery of sanitation services by local governments. To this end, the authors consider the monitoring purpose and governance of this social program will be beneficial in reflecting the policies implemented in line with sanitation objectives. Good governance is an approach to help incorporate the roles of governments, international agencies, and society to pursue more effective program implementation. Implicating effectivity in our study comprises the foundation when deciding budget allocation according to necessity.

<sup>&</sup>lt;sup>1</sup> Open defecation is the human practice of defecating in the open or outdoors because they do not have accessible toilets or the practice of traditional culture. People may choose the open spaces, such as bushes, forests, canals, ditches, forests or streets for defecation.

Then, we argue that effective distribution is essential for specific cost elements after structuring financial attributes when operating a program (Dunn 2018) through a list of activities, equipment, and supplies that require the expenditure of funds. Building upon a qualitative paradigm, this paper will contribute evidence and insight into the effectiveness of sanitation management and funding in several urban villages<sup>2</sup> in Bandar Lampung, Indonesia, from a policy study. Also, we order this article into different sections to insert all critical aspects from background and phenomenon to introduce the readers to the crucial sanitation issues worldwide. The authors reviewed a cohesive topic in the research on policy monitoring, governance, cost-effectiveness analysis, community-based sanitation in Indonesia, and the Islamic Development Bank program. We included an overall explanation of our research in the fieldwork. Eventually, our field study compared data and information adhering to the concepts to accomplish the research goal.

As our research topic, sanitation is a social issue that degrades human wellbeing and social development. Today, safe sanitation may include substantive human rights essential for fulfilling child rights and achieving reasonable physical, mental, and social well-being (Roaf et al 2018; Biggeri and Cuesta 2021). On the one hand, sanitation suffers from chronic under-prioritization, lack of leadership, under-investment, and lack of capacity. Whereas most countries have national policies and plan to support sanitation, some have allocated adequate human and financial resources to implement them. Donors do prioritize sanitation as a health issue (World Health Organization 2017) and promote many countries with significant progress output in sanitation coverage with less attention to specific outcomes. Some examples came across countries, i.e., Malaysia, the Republic of Korea, Singapore, and Thailand, which produced rapid and remarkable achievements in total sanitation coverage between the 1960s and 1970s. At the same time, India has created a mass movement to eliminate ODF's dangerous practice in its rural poor. Since 2000, Cambodia and Ethiopia have decreased defecation by over 50 percentage points. In comparison, Indonesia, the Lao People's Democratic Republic, monitors the use of basic essential services by more than 40 percentage points. This might mean governments in many countries are helping the communities move up the sanitation ladder towards universal access by mobilizing communities and deploying a range of funding and financing mechanisms to build resilient sanitation services for environmental benefit (United Nations Children's Funds and World Health Organization 2020).

In Indonesia, community-based sanitation is called 'Sanitasi Berbasis Masyarakat' (SANIMAS). This is a sanitation service option with technical and

<sup>&</sup>lt;sup>2</sup> Urban villages include the native villages located and demarcated within town and city boundaries, plus unplanned village-like settlements defined by social relationships based on local sociocultural orders tied to a common and shared identity.

institutional assistance for poor urban communities to develop sanitation infrastructure that targets 50 to 200 households in urban areas to join treating domestic wastewater programs with a combination of small-scale sanitation systems and toilet blocks building infrastructures. Many local governments in Indonesia cooperate with broad financial institutions for substantial support of achieving universal access targets to sanitation, one of which is through the Islamic Development Bank program that assists the member countries in realizing SDGs.

To give a clear view of the urban villages studied, we provide a map of the research location in Figure 1. This map has two research locations: Batuputuk urban village in the Teluk Betung Barat sub-district and Langkapura Baru urban village in the sub-district Langkapura. Both sites are in Bandar Lampung City.



**Figure 1. Map of Research Location** *Source: Produced by authors 2023.* 

#### LITERATURE REVIEW Policy Monitoring

Policy monitoring is a key step in policy implementation where actors identify possible improvements to the original policy intervention (Hardee et al 2012). Various actors and stakeholders could do this monitoring activity to influence policy movement from the formulation level to implementation by well documentation and review (Harry 2011). In addition, monitoring policy implementation is an integral component of the policy cycle, helpful in improving information among stakeholders. The action monitors the bureaucratic agents who implement policies (Waterman and Wood 1993) to help link policies to a specific outcome and identify policy impacts, such as specific changes in behavior or other social indicators. Policy monitoring includes the identification of operational policy barriers that can be addressed through policy and program reform, and these findings can support the improved implementation of existing policies.

The authors monitor problems in community-based sanitation programs by providing documentation and review analysis. We investigate the activities of bureaucratic agents, community behavior, and barriers in program implementation that could assist in giving factual information to better future policy implementation.

#### Governance

The word 'governance' derives from the Greek verb 'kubernan,' which means to steer a ship, and today mainly absorbed in some languages, e.g., French language 'gouverner' and English words 'government and governance' (Plattner 2013). Governance has been applied to various activities involving steering or regulating social behavior. Still, the widespread application has led to some term vagueness (Offe 2009).

Our review analysis of governance found that there were three meanings of governance following Fukuyama's (2016) explanation: governance as international cooperation (international governance), governance as public administration (good governance), and governance as the regulation of social behavior through networks without a hierarchical mechanism (governing without government). In this research, we employ the second meaning of governance to help incorporate the roles of governments, international agencies, and society to pursue more effective program implementation (good governance). We highlight the role of local government, community-based organizations, and international organizations by asserting collaboration, management, and participation in community-based sanitation program implementation.

#### **Cost-Effectiveness Analysis Overview**

Selection in the policy process relies on the prescription for a policy to be revised, determined to be successful, or terminated. Prescription focuses on policy choice as the basis of policy analysis. The essence of policy choice is the consideration of reasons to make rational choices with normative economic reasoning using one of the two most important approaches to policy prescription. These approaches are Cost-Benefit Analysis (CBA) and Cost-Effectiveness Analysis (CEA). Public policy development assumes alignment with the public interest as an outcome of the conflict and negotiation process between groups in its development. This would lead to a trade-off among values offered to assist in getting an accommodative public policy through a process involving different stakeholders with many interests.

Cost-effectiveness analysis is a form of economic analysis that compares the specific benefits of any policy or program to its direct costs. This allows for simple comparisons across policies or programs. In a limited situation, it is necessary to conduct a cost-effectiveness analysis to compare and find alternative programs considered the most cost-effective. A program is considered better and more cost-effective if the program can produce the same outcome at a lower cost or if the same cost produces a higher yield. Therefore, the cost-effectiveness analysis will include a cost analysis and an analysis of program effectiveness. Costeffectiveness analysis is used when benefits are challenging to transform into money. Thus CEA is an excellent way to measure efficiency in the social sector. Moreover, Dunn (2018) discusses cost element structuring as a procedure for classifying and describing costs incurred by adopting and operating a program with the products of a list of activities, equipment, and supplies that require the expenditure of funds. The list should be exhaustive, with mutually exclusive categories. No essential costs will be overlooked if the list is detailed. A cost element structure contains two main divisions of primary (direct) and secondary (indirect) costs. Then, primary costs are subdivided into several categories: onetime fixed costs, investment costs, and recurrent (operating and maintenance).

#### **SANIMAS Overview**

The Indonesian government has implemented critical policy interventions and investments to upgrade sanitation access nationwide since the early 2000s. The SANIMAS, or community-based sanitation approach, offered the Indonesian government a sanitation service option that still needed to be used on a small scale elsewhere. The system provides technical and institutional assistance to poor urban communities to develop sanitation infrastructure. In constructing SANIMAS facilities, community empowerment is a way to place the community as the actor in planning, building, and maintaining communal sanitation facilities to ensure that the facilities built can provide sustainable benefits. The mandate of SANIMAS is

stipulated in Indonesian Government Regulation 122/2015 concerning wastewater management system procurement with the funding source from soft loans provided by the Islamic Development Bank with the legal document recorded in the Ministry of Finance of the Republic of Indonesia (Ministry of Finance of Republic of Indonesia 2018).

Many urban residents in Indonesia still need to use more standardized septic tanks with safely-managed access to sanitation facilities illustrated by the spectrum of sanitation access levels, which may decrease the possibility of disease contamination. The authors display the level of access to sanitation facilities to illustrate the progress of safe sanitation attainment from WHO and UNICEF joining monitoring programs for water supply and sanitation.



Figure 2. The Spectrum of Sanitation Access

#### Source: Adapted from WHO/UNICEF Joint Monitoring Program for Water Supply and Sanitation 2017.

Open defecation is the disposal of human feces in fields, forests, bushes, or other open spaces. An unimproved level means using pit latrines without a platform. Limited access to sanitation facilities implies using improved facilities shared with other households. The next level of access to sanitation facilities is basic when using improved facilities not shared with households. The safetymanaged goals will be achieved using improved facilities without sharing these with other households and excrete safely transported for treatment off-site.

Since 2013, the SANIMAS program has responded to this problem by adopting a Centralized Domestic Wastewater Management System or 'Sistem Pengelolaan Air Limbah Domestik-Tersentral' (SPALD-T), and Clean and Healthy Behavior or 'Pola Hidup Bersih dan Sehat' (PHBS) as several strategies to achieve universal access to drinking water and sanitation. The local governments and the donors started to improve domestic wastewater management under the supervision of the Ministry of Public Works and Housing (MoPWH) of the Republic of Indonesia. SANIMAS IsDB has been implemented in 13 provinces and 58 districts/cities, with more than 1,800 outputs built (SANIMAS Report 2021).

By the end of 2019, the Indonesian government, the World Bank, the Asian Development Bank (ADB), and the Islamic Development Bank (IsDB) have

invested in six essential SANIMAS programs that consist of the building of communal wastewater management systems with and without the combination of toilet blocks, public toilet blocks, water pumps, and the joint pipes among households for water treatment systems. Our study focuses on the building of the SPALD-T infrastructure. The vast increases in SANIMAS investment were only sometimes accompanied by sufficient skilled staff to manage and implement projects at the local level. The systems have been built based on the assumption that most communities will manage and undertake the operation and maintenance of the system alone.

#### **Islamic Development Bank Program**

The rapid and unplanned urbanization issues in connection with urban sanitation have escalated in many cities in IsDB member countries. The IsDB's commitment to supporting member countries in realizing SDGs has been well articulated in the IsDB agenda of policy documents. As a result, IsDB has been collaborating with governments and sector stakeholders to implement several urban initiatives. It acknowledges that development objectives vary from one country to another. Its work is, therefore, initiated and motivated by understanding the real needs of its member countries. The IsDB supports the implementation of this transformative agenda according to the priorities of its member countries through a collaborative approach and in partnership with bilateral and multilateral development financing institutions, the private sector, and civil society. IsDB joined assistance with the Indonesian Government to implement the SANIMAS project in more than 1,800 poor urban communities was successful with a particular focus on decentralized sanitation. This commitment then will be moving along to favor the attainment of SDG 6 by its most prominent member countries (SANIMAS Report 2021).

#### FIELDWORK

This study uses a qualitative research design with a case study-based project. We employ descriptive case study-based research (Yin 2011) by reason of answering the 'how' question and covering the contextual condition of the effectiveness of community-based sanitation programs to understand this social program operationalized in two urban villages of Bandar Lampung City. The authors did the research in 2019. We did the field study to collect the interview and observation data from February to September 2019. Many documents from relative sources were used as secondary data, e.g., SANIMAS reports, journal articles, working papers, books, international organization news from websites, and government legal to present much information. A conventional approach in content analysis is established with this study design, which aims to describe a phenomenon (Hsieh

and Shannon 2005). Through this approach, the authors could compare and contrast the findings to finally display a summary of the results that contribute to knowledge and future research. Furthermore, with a conventional approach to content analysis, relevant theories or research findings can be addressed in the study's discussion. The advantage of the conventional approach to content analysis is gaining direct information from study participants. The method used in our study design is triangulation. It is done by combining theory, data, and techniques as a research method that can control bias (Mathison 1988) and increase the credibility or trustworthiness of research findings which reflects the concepts being investigated. The authors applied methodological triangulation, which promotes using several data collections such as documentation related to community-based sanitation from journals, books, working papers, institutional websites, interviews data from government officials, the community-based organization opinion, and field observation analysis. In sum, the authors display the elements of this qualitative research in Table 1:

Elements	Qualitative Research
Data collection techniques	1. Observation
	2. In-depth interview
	3. Documentation
Research instruments	1. Notes
	2. Camera
	3. Researchers
Data analysis	Conventional content analysis
Research method	Triangulation

 Table 1. Various Elements of Qualitative Research in the Study

Observation is one of the most critical research techniques in social sciences (Ciesielska et al 2018). Observation can be carried out purposefully and systematically. Indirect observation, in a narrow sense, means using a hidden camera or voice recorder to observe events in which the researcher does not participate. In the broader sense, indirect observation is also a set of techniques that allows one to get information from written materials. In our study, we applied indirect observation by field study to collect information on various types of documentation and recordings, e.g., the photograph and data of the construction of SANIMAS output, the campaign to promote healthy lifestyle data, and the documents of planning costs for operating the programs.

Despite the observation field study data, the authors present the summary of interview data to reflect on the program implementation in Table 2 pertaining to objectives, budget sources, coordination, controlling mechanism, and program barriers.

Interview Data	Comment		
Program objectives	1. The SANIMAS IsDB program was intended to increase the number of proper sanitation in Bandar Lampung City.		
	<ol> <li>Lampung Province was chosen as one of the recipient provinces of the program because the proportion of sanitation feasibility was relatively low compared to other provinces.</li> <li>This program empowered the people in the Langkapura Baru and Batuputuk.</li> </ol>		
Program budget	The funds for the program came from IsDB soft loans.		
Program coordination	The program involved many parties in its management structure led by government officials, with several representations from the local community to communicate community interests to meet the program's objectives.		
Program control	<ol> <li>The community-based organization representative's board discussed with local community members and government officials the budget allocation and costs needed for financing the work progress.</li> <li>Periodically, the community reported the work progress and maintenance condition of the SANIMAS output.</li> </ol>		
Program barriers	<ol> <li>The contour of the land affected the work progress in building a communal wastewater management system.</li> <li>The difficulty in searching the volunteer's local community to perform the work to build the sewage system.</li> </ol>		

**Table 2. Summary of Interview Data** 

We interviewed the local government officials and community-based organization members in urban villages and households as the program's target group from official government reports by using in-depth interviews in the form of semi-structured interviews. In this interview model, interviewers tended to prepare a list of predestined questions. In-depth, semi-structured interviews are usually conducted through conversation (Halcomb and Davidson 2006). In-depth, semistructured help investigate complex opinions and gather information about various experiences.

The participants involved in the research and the information are set in Table 3. Three groups of research participants engaged in the study: (1)

government officials of public works and housing of Bandar Lampung City, (2) the urban village community as the target group in the program, and (3) communitybased organizations involved in the program implementation. Regarding the matter, we retrieve information on policy monitoring of community-based sanitation programs and their governance. The data from government officials is significant for further service, management, coordination, and collaboration to implement the sanitation program better. It is inadequate to interview a single party without support from other stakeholders; for instance, the urban village community-based organization is essential as the source of information related to the program implementation and process. Similarly, the urban village community informs the program's performance.

Research Participants	Information Provided
Government officials of public works and	1. Program objectives
housing of Bandar Lampung City	2. Program coordination
	3. Budget and financial attributes
	4. Barriers to program
	implementation
	5. Legal document
Urban villages community	1. Access to vital sanitation
	2. Cost allocation
	3. Program maintenance
	4. Healthy and clean behavior
Community-based organization	1. Program implementation
	2. Program coordination
	3. Program management

 Table 3. Research Participants and Information Provided

#### **PROGRAM EFFECTIVENESS**

Our data conveyed some sanitation problems discovered in both urban villages: ODF behavior, poor drainage system, improper domestic wastewater management, the land contour due to the topography situation, and the volunteers to perform the works to build the sewage system infrastructures. Furthermore, community participation is represented by community contribution to the construction of building communal wastewater management systems and the maintenance purpose. However, getting cheap fees in both two urban villages. We observed that the community members aid the process of implementing this program. The organizational skills in this research related to explaining the program implementation aspects to the whole community, working in a team with local government and society, paying attention to the report's details, controlling the program implementation timeline finishing specific work reports. The IsDB SANIMAS program involved many parties in its management structure led by government officials, with several representations from the local community to communicate community interests to meet the program's objectives. To control the program objectives and outcomes, the community reported the works periodically and discussed the budget allocation and costs required for financing the works.

We also found no health promotion action in Batuputuk urban village. Conversely, the health promotion program was done at the elementary school level in Langkapura Baru, as displayed in Figure 3. The documentation of health promotion in primary schools was carried out as a part of the SANIMAS IsDB program, PHBS (Healthy and Clean Behaviors), and the socialization of caring for environmental sanitation.



**Figures 3. Promoting SANIMAS IsDB to Schools** Source: Fieldwork document 2019.

The authors display the study's findings on observation data to help explain the program implementation in Table 4 below.

Table 4. Summary of Observation Data					
Observation DataBatuputukLangkapura Baru					
SANIMAS program attainment report from	43.70%	73.20%			

official government		
record		
Large area	3.13 km <sup>2</sup>	1.10 km <sup>2</sup>
Topography situation	Hill region,	Flat with undulating
	plains and coast	hills and hilly mountains
Total population	6,930 people	6,938 people
Number of government officials	Eight officials	511 officials
Public sanitation	No public toilets and	No public toilets, four
facilities	water pumps	water pumps
Sanitation problems	Drainage, domestic sewage, and ODF	Drainage, domestic sewage, and ODF
Budget (Rupiah)	425 million	425 million
Community	Joining the discussion	Joining the discussion
participation	held by the	held by the community-
	community-based	based organization and
	organization and	government officials,
	government officials,	volunteering to take part
	volunteering to take	in building communal
	part in building	wastewater management
	communal wastewater	system, and helping
	management system,	maintain the output of
	and helping maintain	the SANIMAS program
	the output of the	
Health promotion	No boolth promotion	Conducting health
	No health promotion	promotion in elementary
campaign	campaign	school
Community based	Explaining the program	Explaining the program
organization support	implementation aspects	implementation aspects
organization support	to the whole	to the whole
	community working in	community working in
	a team with local	a team with local
	government and	government and society.
	society, and paying	and paying attention to
	attention to the	the program
	program	implementation timeline
	implementation	when finishing specific
	timeline when finishing	work reports.
	specific work reports.	_

According to the data, the total area of Batuputuk is 3.13 km<sup>2</sup>. There are eight civil servants in the Batuputuk administration. The total population is 6,930

people. Most of the population use piped water sources and private toilets for sanitation. We found one public pump and spring in this area. There are no shared and public toilet facilities data from the statistics document of 2022 despite being included in community-based sanitation programs. In contrast, Langkapura Baru is the narrowest urban village in the Langkapura sub-district, with a total area of 1.10 km<sup>2</sup>. The number of civil servants in this area is 511. Meantime, Langkapura Baru has a total population of 6,938 people. Our document analysis found that most residents used private toilets. We noticed that no public and shared toilets were available in the region. Opposite Batuputuk, Langkapura Baru has four pump water sources for public use.

#### **PROGRAM COSTS**

It is urgent to provide and distribute specific cost elements divided into primary and secondary costs. Cost element structuring is a procedure for classifying and describing costs incurred by adopting and operating a program. As Dunn's (2018) describes, the product of cost element structuring is a list of activities, equipment, and supplies that require the expenditure of funds. Then, we offer several types of work in a lump sum, for instance, administration and documentation. Yield in units of length  $- m^1$ , e.g., project fence and pipe installation. Work in the unit area  $- m^2$ , e.g., pair of ceramics on construction. Yield in unit volume  $- m^3$ , e.g., excavation for land contour. In short, the allocation of the possible cost could be adjusted as shown in Table 5 below.

Primary (direct) Costs	1. One-time fixed cost	Planning and
		Evaluation
	2. Investment cost	Land
		Facilities
		Equipment
		Initiating training
	3. Recurring (maintenance and	Wages
	operating) cost	Maintenance of
	1	equipment
		Recurring training
		Payment for extended
		service
Secondary (indirect) Costs	1. Costs to other agencies	
	2. Disruption of social	
	institutions	

<b>Fable 5. Possible C</b>	ost Element	Structures for	the SANIMAS	IsDB
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Source: Adapted from Dunn 2018.

For the program budget, the government allocated 425 million Rupiahs to each region to build and manage a Centralized Domestic Wastewater Management System with specific cost allocation displayed in Tables 6 and 7.

	Table 6. Costs Allocation of Sanitation Program in Batuputuk					
Works Types	Volume	Unit	t Price Total			
			(Rupiah)	(Rupiah)		
Operational Costs	1.00	Ls	20,000,000.00	20,000,000.00		
SPALD-T	56.98	M <sup>3</sup>	2,731,226.22	155,625,270.00		
Primary Pipes	696.00	M1	130,560.44	90,870,065.00		
Primary Basin	60.00	Unit	614,749.72	36,884,983.00		
Secondary Pipes	220.00	M1	149,455.39	32,880,186.00		
Grease Trap and	110.00	Unit	639,686.11	70,365,472.00		
Front Control of						
Toilet						
Other work	1.00	Ls	18,375,285.00	18,375,285.00		
	Works Types Operational Costs SPALD-T Primary Pipes Primary Basin Secondary Pipes Grease Trap and Front Control of Toilet Other work	Works TypesVolumeOperational Costs1.00SPALD-T56.98Primary Pipes696.00Primary Basin60.00Secondary Pipes220.00Grease Trap and110.00Front Control ofToiletOther work1.00	Works TypesVolumeUnitOperational Costs1.00LsSPALD-T56.98M³Primary Pipes696.00M1Primary Basin60.00UnitSecondary Pipes220.00M1Grease Trap and110.00UnitFront Control ofToiletOther work1.00Ls	Works Types         Volume         Unit         Price (Rupiah)           Operational Costs         1.00         Ls         20,000,000.00           SPALD-T         56.98         M³         2,731,226.22           Primary Pipes         696.00         M¹         130,560.44           Primary Basin         60.00         Unit         614,749.72           Secondary Pipes         220.00         M¹         149,455.39           Grease Trap and         110.00         Unit         639,686.11           Front Control of         Toilet         0         Unit         18,375,285.00		

Source: Budget and Costs of SANIMAS IsDB of Batuputuk 2018.

Table 7. Costs Allocation of Sanitation	Program in	1 Langkapura	Baru
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No	Works Types	Volume	Unit	Price	Total
				(Rupiah)	(Rupiah)
1	<b>Operational Costs</b>	1.00	Ls	20,000,000.00	20,000,000.00
2	SPALD-T	56.98	M <sup>3</sup>	2,648,510.46	150,913,714.88
3	Primary Pipes	484.00	M1	169,580.86	82,077,136.67
4	Primary Basin	2.31	M <sup>3</sup>	5,074,192.72	11,734,070.66
5	Secondary Pipes	440.00	M <sup>1</sup>	242,186.02	106,561,848.39
6	Grease Trap and Front	2.70	M <sup>3</sup>	8,667,453.74	23,402,125.10
	Control of Toilet				
7	Other work	25.00	M <sup>2</sup>	1,212,829.13	30,320,728.14

Source: Budget and Costs of SANIMAS IsDB of Langkapura Baru 2018.

Both tables exhibit the data related to the cost allocation of sanitation in Batuputuk and Langkapura Baru distinctions, e.g., the divergence in volume, unit, and price for particular works types. From the SANIMAS IsDB budget and costs allocation in Langkapura Baru, we monitor the dominant budget allocation for works to build the SPALD-T, a centralized domestic wastewater treatment system, because of the contour and land characteristics in that region. Furthermore, it may affect the progress of the work, as seen in figure 4.



## Figure 4. Wastewater Management Construction of Batuputuk and Langkapura Baru

Source: Fieldwork document 2019.

#### **COST-EFFECTIVENESS ANALYSIS**

Cost-effectiveness analysis in our study compares the specific benefits of sanitation programs to their direct costs as shown by simple comparisons in Table 8 that monitor specific programs. From our case, the sanitation program of Langkapura Baru is considered better and more cost-effective.

Item	Batuputuk	Langkapura Baru
Costs (Rupiah)	425 million	425 million
Public Toilets (#)	0	0
Water Pumps (#)	0	4
Drainage Installed (meters)	916	924
Wastewater Management (% treated)	43.70	73.20
Community mobilization (% of the population	3.90	1.88
involved)		

Table 8. The Comparison of the Effectiveness to the Respective Costs

As our focus, sanitation is a social issue influencing human well-being and social development. Sanitation problems are required monitoring by local

government to identify potential gaps for better policy implementation as our field interviews and observation data underlined the potential barriers such as the topography situation, the number of government officials, the provision of public sanitation facilities, the potential of sanitation problems, and the promotion activities to realize sanitation universal access outcome. The bureaucratic agents who implement the policies as a central element in local government are essential to lead the program's coordination, cooperation, management, and control of the cost allocation for optimum results. According to the research findings, the IsDB SANIMAS program involved many parties in its management structure led by government officials, with several representations from the local community to deliberate community interests to meet the program's objectives. The communitybased organization representative's board discussed with local community members and government officials the budget allocation and costs needed for financing the work progress at that deliberation forum.

Our field study revealed that the institution's support from communitybased organizations plays a role in sanitation program achievement. We observed that the community members aid the process of implementing this program. The organizational skills in this research related to explaining the program implementation aspects to the whole community, working in a team with local government and society, paying attention to the report's details, and controlling the program implementation timeline finishing specific work reports. Likewise, the national arrangement is inadequate to implement national policy without decentralizing and collaborating across government sectors and comprising the roles of civil society actors to pursue sanitation program objectives. This was presented in the finding section that community participation contributes to the community-based sanitation program implementation process, and this shows how governance in program implementation is used as the strategy for adequate progress following Fukuyama's (2016) theory that collaborating multi-actors as stakeholders in performing policy to provide basic service to citizens is necessary to actualize good governance in administering programs. Hence, the IsDB SANIMAS program involved many parties in its management structure. The information came from the SANIMAS overview report; the Indonesian government collaborated with bilateral and multilateral international parties to perform SANIMAS essential programs to assist the communities in moving up sanitation access by deploying a range of funding to build the resilient sanitation service for environmental benefits emphasizing community empowerment values to undertake the operation and maintenance of the system.

Other potential issues emerged in the progress of the SANIMAS program implementation retrieved from Table 2 that defined the program's objectives. Referring to that interview data and the SANIMAS overview report, we know that the community-based sanitation program was intended to increase the number of proper sanitation by mobilizing communities in the recipient provinces to manage communal sanitation systems. In addition to the interview data, Lampung Province has low feasibility of sanitation attainment. Thus, monitoring the implementation phases is required as it is a key step in policy implementation where stakeholders can identify the possible improvements to help links policy to a specific outcome (Hardee et al 2012). Our field study showed that the SANIMAS program involved multiple parties and placed community representatives from community-based organizations in several forum meetings to communicate the need to achieve the program's objective to local government officials. This is a way to develop policy with the alignment of public interest to bridge the negotiation process among groups in getting accommodative programs following different stakeholders' interests.

#### CONCLUSION

How do policy monitoring and governance affect the delivery of community-based sanitation programs through cost-effectiveness in a local government? Our study proposes the answers to this research question by conducting a descriptive casestudy-based project in several urban villages in Bandar Lampung City to help explain the program's effective implementation. Based on our research, sanitation problems are required monitoring by local government to identify potential gaps for better policy implementation. The research findings show that the IsDB SANIMAS program accommodates people's interests from the local community in a deliberative forum to control budget and cost allocation in financing the works progress even though lacking cost structuring elements to finance specific works that require the expenditure of funds, and mobilize the community to maintain the condition of SANIMAS output to meet the program's objectives. This deliberation represents the involvement of related actors in pursuing sanitation access and discloses governance in program implementation used as the approach in operationalizing basic sanitation services besides the collaboration in performing SANIMAS infrastructures funding from Islamic Development Bank soft loans.

This study case suggests that Bandar Lampung local government may perform program monitoring to gain the optimum outcome of universal access to sanitation, controlling the budget allocation and potential program barriers to each recipient's community areas to develop further policy implementation. For that reason, scholars could conduct community service through training and workshop for bureaucratic agents and community-based organization board members to create practical costs analysis.

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