

Original scientific paper

The Impact of MCK+ Prangkuti Luhur towards the Improvement of Community Life Quality in Bustaman Village

* Dr. Mila Karmilah ¹, Dr. Ardiana Yuli Puspitasari ²

¹ and ² Urban and Regional Planning Department, Engineering Faculty, Sultan Agung Islamic University Semarang, Indonesia

¹ Email: mila.k@unissula.ac.id , ² Email: ardianayulipuspitasari@gmail.com



ARTICLE INFO:

Article history:

Received 5th June 2019
Accepted 15 August 2019
Available online 8 September 2019

Keywords:

Impact;
Community Based Sanitation (MCK+);
Improvement;
Life Quality.

ABSTRACT

At the global level, many efforts to fulfil the availability and access to sanitation have always been the main focus of human development goals and framework at every level of government. In the city level (Semarang), access to sanitation has already started since 2005 when the city government launched a community-based sanitation program in Bustaman Village. There are four locations become pilot project Bustaman village, Plombokan village, Bandarharjo district and Kebonharjo district, and till now only Bustaman village are still running and successful. Based on management in sanitation, this study aims to know the impact of community-based sanitation and how a community in self-reliance manage MCK+. The method used is a qualitative approach. The analysis conducted is an analysis of knowledge on the impact and how the community manage the sanitation facilities. Research findings showed that the impact of MCK+ are the improved public awareness for healthy and clean living, conscious effort to manage MCK+, making wastes into renewable energy becoming biogas. The existence of an institution named Prangkuti Luhur, which overshadowed the existence of MCK+, continuously form strong social ties, besides cohesion, due to the similarity of fortune. It also strengthened the framework of communal MCK+ institutions in Bustaman Village.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2020), 4(2), 59-66.

<https://doi.org/10.25034/jjcu.2020.v4n2-6>

www.ijcu.com

Copyright © 2019 Journal of Contemporary Urban Affairs. All rights reserved.

This work is licensed under a Creative Commons Attribution - NonCommercial - NoDerivs 4.0.

"CC-BY-NC-ND"



This article is published with Open Access at www.ijcu.com

1. Introduction

The *Sanimas* program has been implemented from 2003 to 2008 wherein that period there were 323 points / *Sanimas* project locations distributed in 124 cities/regencies, 24 provinces in Indonesia. According to the data collected, of the 323 points/project locations that have been implemented, there were several points of *Sanimas* development implemented in the densely populated, slum, poor and sanitation prone areas of Semarang City. In the early development of the *Sanimas* program in Semarang City *Jaya and I.K.D (2014)*, it was carried out in Bustaman Village (RT 04-05 RW 03),

Purwodinatan Village, Central Semarang Sub-district with the construction of MCK+ which was projected to serve approximately 124 families or 307 people.

*Corresponding Author:

Urban and Regional Planning Department, Engineering Faculty, Sultan Agung Islamic University Semarang, Indonesia

Email address: mila.k@unissula.ac.id

How to Cite this Article:

Karmilah, M and Puspitasari, A. Y. (2020). The Impact of MCK+ Prangkuti Luhur towards the Improvement of Community Life Quality in Bustaman Village. *Journal of Contemporary Urban Affairs*, 4(2), 59-66. <https://doi.org/10.25034/jjcu.2020.v4n2-6>

As with the progress of *Sanimas* program in Semarang City, only *Sanimas* in Bustaman Village was successfully implemented. This success could be seen in the increasing level of public health, the increasing environmental quality around the location of program development, and of course the improved community welfare. Thus, the MCK+ of *Prangkuti Luhur* becomes one of the pilot projects in Indonesia that has succeeded in developing community-based sanitation and one of the environmentally conscious examples for other communities.

Village or *kampung* is a large part of urban areas in Indonesian big cities such as Semarang. It is understood as an urban burden on the urban modernization process. It shows a negative 'stereotype', meaning that it does not have the ability to drive changes in urban modernization. It shows a negative impact on the changing process of urban modernization. It represents chaos and slum condition as a residential environment in urban areas. The Village has its complexity of problems as a part of the urban modernization process. Settlements with poor sanitation will affect the environmental sustainability of these settlements. Considering the serious condition of improper settlement sanitation, various efforts are carried out to improve environmental quality. One option to deal with the problem is through the Community-Based Sanitation program or what is popularly known as *Sanimas*. *Sanimas* is a program specially focused on the management of wastewater in areas prone to sanitation, buildings and densely populated populations, and poor population with a purpose to improve the quality of settlements (Jaya & I.K.D, 2014). A clean and healthy residential environment is one of the basic human needs. National sanitation services and public awareness to improve the quality of environmental sanitation are still low. Especially in densely populated areas, which are slum and poor in urban and rural areas, are not supported by good sanitation facilities. Population access towards infrastructure and facilities of residential wastewater management is closely related to aspects of health, environment, education, and social culture. If the understanding of cleanliness and population access towards facilities and infrastructure of residential wastewater is getting better, the cases of waterborne diseases will be less likely to spread (Saraswati. R, 2015)

In general, the coverage of sanitation services in Semarang City is only around 49% or as many as 680.814 people from the total population of 1.389.416 people (Central Bureau of Statistics, 2010). In fact, population access towards wastewater infrastructure and facilities is closely

related to health, environmental, education and socio-culture aspects. Sanitation in Semarang City get a second-worst rank in Central Java. From a total of 177 villages, 36 percent of them or about 60 villages are poorly sanitized. Most of the poorly sanitized villages are located in areas prone to flood and rob. It also mostly found in slum areas such as North Semarang, East Semarang, and Tugu Sub-districts. From 177 *kelurahan*, 36 percent of them or around 60 are poorly sanitized villages (Radar Semarang, 11-08-2010).

2. Methodology

This research was conducted using a deductive rationalistic approach. Descriptively researchers tried to explore issues in details, like experience inhabitant using community-based sanitation in natural context by adopting a qualitative approach. In particular, the author visited Bustaman Village several times. No formal preparation was made at that time since the visit was not conducted for research purposes. Only when arrived at Bustaman Village, the author started observing with more professional observation, participating in several activities, and venturing to talk about how people feel about community-based sanitation and what the impact of community-based sanitation to the inhabitant lives and health. Visiting Bustaman Village gave an opportunity to gain clarity from the inhabitant to the author's preconditions and to design the methodology. Intensively with limited contemporary systems or various limited systems by using several data collection procedures (Sarwono, 2006). The data collection was conducted by using observational, behavioural mapping and direct interviews with the snowball method. The analysis was taken descriptively based on the results of interviews and observations that have been made. The methods used comprised of a survey, observation, focus group discussion (FGD) and case study, to get reliable as well as in-depth information.

3. Literature Review

3.1. SANIMAS Concept and Program

According to the Ministry of Settlement and Regional Infrastructure (2003), SANIMAS is a solution for providing sanitation facilities with a participatory paradigm. *Sanimas* Focuses on handling household wastewater, especially human faeces. Through SANIMAS program, the community chosen the appropriate settlement

wastewater infrastructure and facilities participates actively arrange action plans, form groups and carry out physical development including manage operations and maintenance activities, even if necessary develop it. The SANIMAS program plays an important role in providing sanitation facilities handling residential wastewater for low-income people in slums and squatter area, and sanitation prone area with a sustainable responsive approach.

In the SANIMAS program, there are three options offered to communities for sanitation system improvement: (i) Communal or shared septic tanks, normally applied for a group of four to five households. In this option, households have to build their toilets and connect it to the shared septic tank, (ii) Enhanced communal septic tanks quality, completed with bathing, washing, and toilet block facilities (also known as MCK + facilities) including a communal sewage treatment facility which processes sewage into usable biogas, (iii) Simplified sewer system with a communal sewage treatment facility. For the treatment facilities, there are three choices of technology used: (i) Anaerobic Baffled Reactor (ABR): (ii) Anaerobic Filter: (iii) Aerobic Reactor: A chamber equipped with oxygen supply. All these three facilities are equipped with biodigester, which can produce methane (CH₄) usable as alternative energy for household activities such as cooking, lighting, water heating, and so on. These facilities are known as MCK + and can serve 50–150 households (NGOC BAO Pham & Kuyama, 2013)

3.2. Empowerment

Community participation in national development is one of the main prerequisites for successful development in Indonesia. However, many efforts to bring participatory development into reality are still challenged by various obstacles, including those caused by a lack of understanding regarding the meaning of the concept of participation. Sutrisno (1995) concluded that community participation in development is not a people mobilization in the development. Community participation in development is a collaboration between people and the government in planning, implementing, and financing development.

Ife and Tesoriero (2005) stated that a community-based approach is a natural result of an agreement towards decentralization and participatory democracy. Participatory democracy is required to create a powerful structure at a certain level that encourages the

community to participate effectively in decision-making that can influence their life. A community needs to feel a sense of belonging and agreeing so that finally the expected form of participation can succeed.

Arnstein (1969) argued that community participation is a matter of how people can engage in social change that allows them to get a share of the benefits of the influential groups. Based on the correlation and mutual substitution of *community development* and *community empowerment* notions, a few key essences can be summarized to empower the community. "Community empowerment is a deliberate effort to facilitate local communities in planning, deciding, and managing the local resources owned through collective action and networking so that ultimately they have an economic, ecological, and social capability and independence" (Karmilah et al., 2014).

4. Findings and Discussion

4.1. Sosio Economic Conditions

The socio-economic condition of the Purwodinatan district shown that large of people are labor worker and *srabutan*¹ worker, entrepreneurship, informal worker (goat cuisine) and civil servant (80%), retired (2%), homemaker (15%) and unemployed (3%).

Bustaman Village, population 366 people or 114 families with a total population of 189 men and 177 women in two RW² (RW 04 and RW 05). The average number of people per family in Bustaman Village is 3-4 people/household with the number of households that occupy each housing unit an average of 2-4 households/house. The density of Bustaman village reaches 610 people/ha and is classified as a very high-density settlement. Bustaman village is still dominated by productive age residents, ie between 15-60 years old, around 65% of the total population. Most of the residents of Bustaman Village (56.8%) have an income of Rp. 500,000, - Rp. 1,500,000, - per month. The income of Bustaman Village inhabitant is lower than the regional minimum payment/UMR (Upah Minimum Regional) of Semarang city, which is Rp. 1,909,000. Bustaman famous as goat village, because, 50% of people in Bustaman not only become a goat trader, but also the derivative work from like goat slaughter, goat skinning, made goat soup (Gule Bustaman), and satay that made from goat.

There is a daily form of economic activity related to goats and is used as a superior culinary in Busataman village. Related to these activities in

¹ *Srabutan worker is, someone that make a living with many kind of job that depend on situation, and their skill*

² *Non-governmental bodies that consist of inhabitant and families that live together in one neighborhood*

the village are very diverse, some become bosses, butchers/goats cutters, scrapers, cleaning goats' heads, *gule* spice makers, satay and *tengkleng*. This economic activity has been carried out since the Dutch era. Although not all

residents process goat ingredients produced into cooking, the diversity of activities related to goats are diverse.



Figure 1. The activity of Bustaman People.

1. Goat Processing, 2. Goat Cage in the village, 3. interaction of inhabitant, 4. Housewife staller

Source: Researcher documentation (2017)

4.2. Profile of Prangkuti Luhur

In order to promote the community self-reliance in managing and educating the public, KSM was formed which would later plan the MCK*until its operation. For this reason, a community organization named KSM *Prangkuti Luhur* was formed. *Prangkuti Luhur* is a sanitation institution built-in 2005 since the development of the MCK*in Bustaman Village. Members of *Prangkuti Luhur* are all residents in RT 05 and RT 04 or approximately 366 people (114 families). The organization of *Prangkuti Luhur* currently consists of a chairperson, treasurer, secretary, and several divisions. (see diagram below).

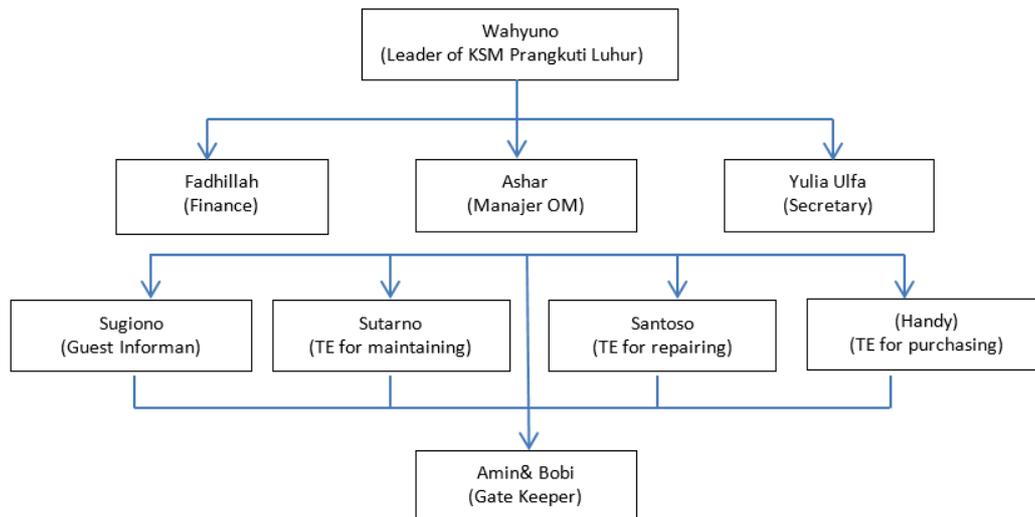


Figure 2. KSM Prangkuti Luhur Organization Structure
Source: research informant 2017

Prangkuti Luhur was created to educate the community regarding healthy and clean living behaviour. *Prangkuti Luhur* must independently empower the community related to sanitation issues. At its early establishment, this KSM was supported by the Semarang City government and other parties (BORDA). The partnership built between the community through *KSM Prangkuti Luhur*, Government and NGOs is an equal relationship. With the progress in terms of management, there was an offer from BORDA to further develop the MCK+, i.e. create a new division to manage waste into biogas, so that the MCK+ becomes MCK+, due to the additional function. The following is an illustration of the position of *KSM Prangkuti Luhur* in encouraging community independence to manage MCK+.

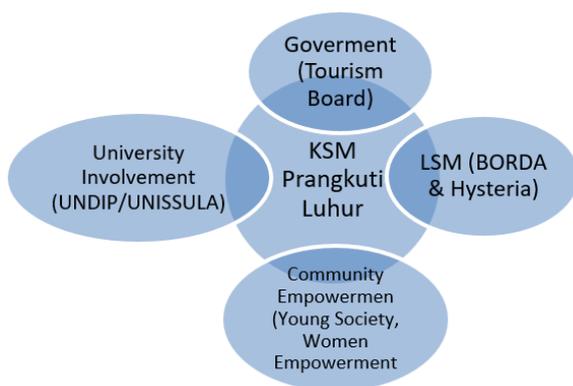


Figure 3. The Networking of Bustaman Village

The study suggests that the participation level was very low during its early phase of inception. However, along with KSM maturity, they can conduct an accurate analysis of water and sanitation conditions to know the communal needs. This analysis was conducted to prepare action and implementation through community empowerment

KSM capability to prepare plans, implement, monitor, and evaluate the prepared programs based on their needs is a representation of KSM Prangkuti Luhur which is independent and progressive. The entire processes started from planning to controlling phases prove that Bustaman people are aware and understand the importance of community participation in every stage of planning. It can be seen in Figure 3.

4.2. Networking in the *Sanimas* of Bustaman Village.

In this *Sanimas* program, three actors play a role and carry out their duties together with the same goals and authority, they are the local government collaborated with the Semarang City Planning and Housing Agency, Community Self-Supporting Groups, and organizations focused on environmental sanitation, namely LSM BORDA from Germany. The professional relationships formed through this networking will facilitate the taking of joint actions.

The community surely has an important role. In the planning process, the community / KSM conducts a sanitation mapping to collect data and describe sanitation conditions in Bustaman Village. In the implementation to management phases, community / KSM participation is given in the form of energy, especially in the development process of physical sanitation and infrastructure as well as mutual cooperation regularly. While participation in the form of material is shown at the stage of development, maintenance, and management through contributions, both contributions for the operation and maintenance of facilities.

In this *Sanimas* program, the government acts as the main controller for the sustainability of the program. The government has a role in the

preparation phase, such as determining the location, forming KSM, determining parties who will cooperate, and coordinate all program requirements, as well as contribute part of the required budget and cost plan (RAB). However, even though the authority was delegated to the community, the government still has to monitor and evaluate the sustainability of the *Sanimas* program in Bustaman Village.

On the non-government side, BORDA as an NGO that has the same concern and interests also plays a role in the sustainability of the

Sanimas program in Bustaman Village. In addition to providing funds, BORDA also renders ideas on the concept of sanitation construction to be offered to the government and the community. BORDA gives training to KSM who will execute the *Sanimas* program. BORDA's role is similar to the government's role, which is to monitor the sustainability of the program, also besides, to provide an understanding of good management and maintenance of communal WWTP systems to the community.

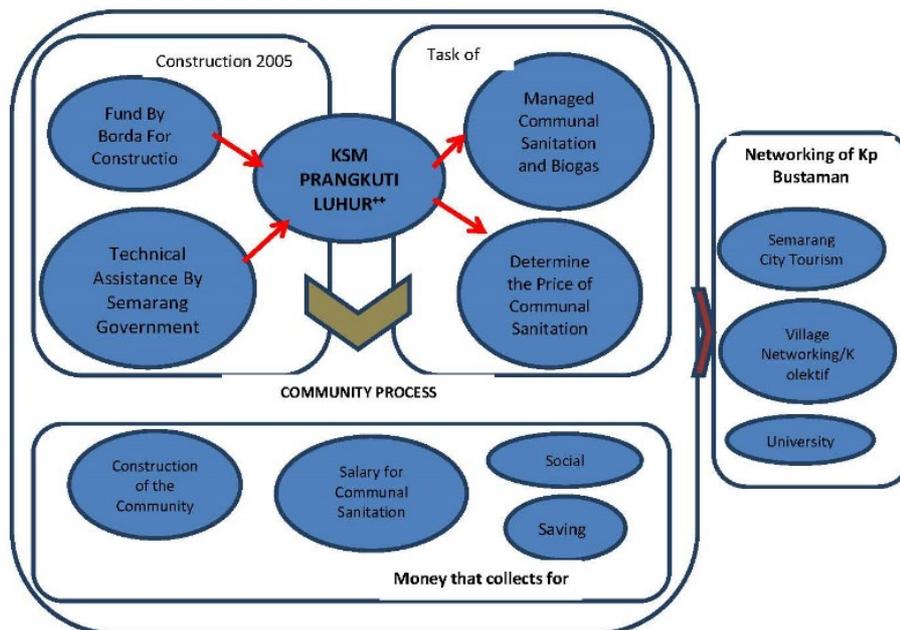


Figure 4. Community Process and Partnership Network Model. Source: Researcher Analyzed, 2017.

Mobilization of local resources is the main fundraising strategy for the KSM Prangkuti Luhur. The main sources of resource KSM Prangkuti Luhur are membership fee and indirect support of partner NGOs. The facilitators try to motivate the members of the KSM Prangkuti Luhur to raise funds which may help to meet their crisis in times of need or situations like installation of latrine, water reservoir and so on. It has been reported that the membership fee is increasing gradually and become regular.

4.3. Impacts KSM Prangkuti Luhur on the Community

One of the impacts that resulted regarding the existence of Prangkuti Luhur for the community is community becomes more aware to live healthy and clean. This can be seen from the use of MCK⁺ by 124 families in Bustaman Village, not only Bustaman Village that use the MCK⁺ but also other Village near Bustaman like Bustaman Village Gedong, Begog, Village Pekojan, and Village Pekojan Tengah, see the map below (Figure 5)

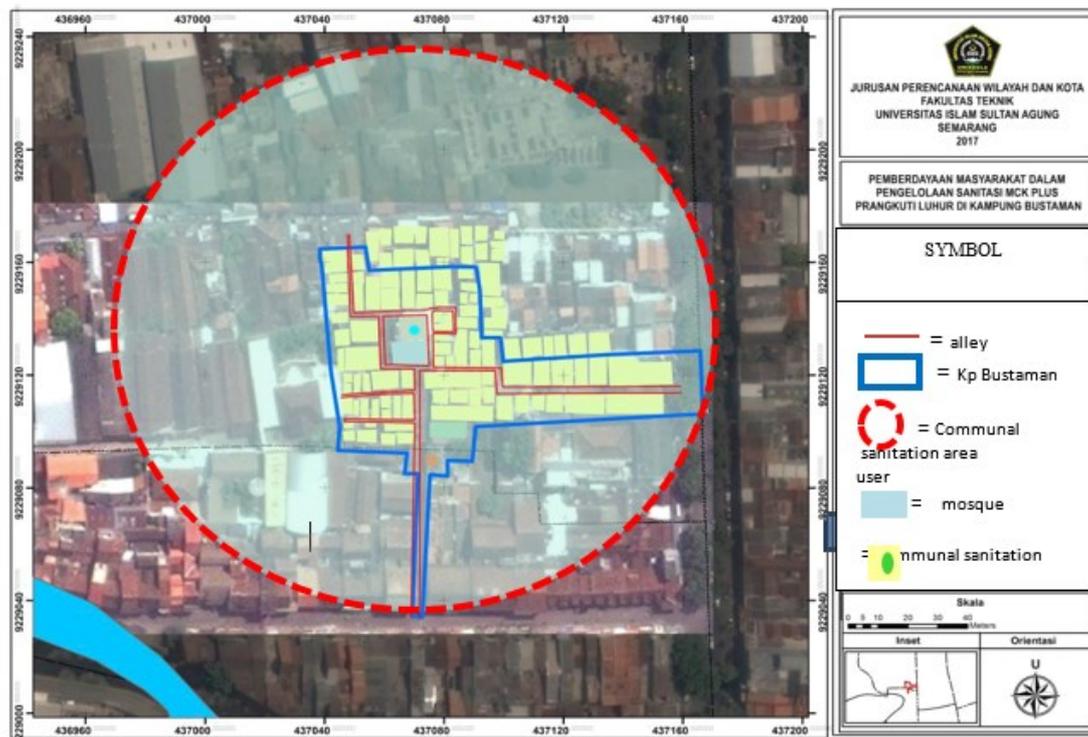


Figure 5. Coverage Area Communal Sanitation User.
Source: Masterplan Semarang City with Adjust 2017

In addition to awareness for using MCK⁺, the other impact resulted is the conscious effort to manage MCK⁺ wastes into renewable energy, becoming biogas which can be used by several households around the MCK⁺. Some households feel the benefits of having biogas even though they have to pay Rp. 500.00 each time using the biogas. However, the existence of biogas does not last long due to the introduction of the government's program on cheap gas (*melon gas*) subsidies which eventually replace the use of biogas in the communal MCK⁺.

The study also found that before the SANIMAS Program all the people were using Kali Semarang for defecation but after the SANIMAS Program running and built the communal sanitation, it is more than 75% use the sanitary latrine. Consequently, the intensity of waterborne diseases has reduced as a result of changes being practised in hygiene behaviour.

The study reported that people are well aware of the safe sources of water including health and sanitation practices. It should be mentioned that about 98% of people use safe water for drinking and cooking purposes to avoid waterborne diseases. People are now aware of the need for immunization which also reduces the infant and maternal.

5. Conclusion

The management of MCK⁺ Prangkuti Luhur has been very good and can be said to have

achieved self-sufficiency for the community of Bustaman Village. The MCK⁺ continues to operate until today and continues to realize the community's welfare in terms of sanitation health. Several factors make self-sufficiency to occur in the management of MCK⁺ in Bustaman Village:

- The community awareness and participation have shown that they are self-reliant, capable to set goals and can achieve the goals effectively and efficiently. Up to 12 years running, community participation remains high due to their awareness of a healthy life.
- In this case, potential and resources can be utilized optimally. However, there are still some resources that need to be explored further due to the limitations on the community side. This shows that in this case community becomes a self-reliant society because they are able to realize their capacity and develop it optimally without needing to force it to the maximum.
- Local understanding and wisdom among the community will be created from the existence of this MCK⁺, where the community has a clean and healthy lifestyle; there are no more people who defecate carelessly because they know it is an unhealthy lifestyle. Community expertise will also be created even though not all of them have it, at least the management has been able to introduce MCK⁺ Prangkuti Luhur to transmit its success to other communities.

- The social institutions in this matter are seen from the strength of institutions, networks they have, community services and information that is delivered smoothly. In this case, the trust between the community and the management must continue to be strengthened for the sustainability of the MCK⁺. The success of management to date relates to membership, financial management, independence from external parties, and good contributions are given to the environment.
- There is a strong social cohesion in Bustaman Village which is very rare today. With this modality, the community can manage MCK⁺ to be used together.
- Through the MCK⁺, the community can be regarded as to achieve self-sufficiency, to give a better life for society, to be able to independently solve their problems and to optimize the existing resources according to their abilities.
- The existence of a good cooperation network between the community, government, universities and, NGOs, thus greatly accelerate the change in mindset for maintaining environmental cleanliness, this is because Bustaman village became one of the tourist areas in the Semarang city tourism agenda (Gebyuran Bustaman and Tengok Bustaman);
- There is local leadership that is capable to invite the community to support and encourage the good implementation of SANIMAS program.
- The local wisdom found in Bustaman village must continue to be strengthened and assured because kinds of social network such as an *arisan*³, recitation, and other forms of it are effective means for delivering and disseminating programs and activities in sanitation management.
- The management of urban infrastructure which focused on the balanced division of roles between development actors (community, private sector, government and higher education) has been realized through the collaboration between planning and monitoring and clear organizational structures and community-based sanitation management in Bustaman village. Then the role of the community as a subject in this sanitation management activity has also been going well which has finally led to the

independence of the community in providing quality sanitation.

Acknowledgement

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

- Arnstein, S. R. (1969). A Ladder Of Citizen Participation. *Journal of the American Institute of Planners*, 35(4), 216-224. <https://doi.org/10.1080/01944366908977225>
- Central Bureau of Statistics. (2010). *Central Semarang in Numbers of 2013*, Semarang. Central Bureau of Statistics. <https://semarangkota.bps.go.id/>
- Ife, J., & Tesoriero, F. (2005). Community Development: Alternative Community Development in the Globalization Era. *Yogyakarta: Publisher Pustaka Pelajar*. <https://www.slideshare.net/AlexanderDecker/a-model-of-environmental-harmony-towards-sustainable-walk-up-flats-community-in-kemayoranjakarta>
- Jaya, R. C. A., & I.K.D, D. (2014). Characteristics of Sanimas in Bustaman Village, Semarang City. *Ruang Journal* 2(1), 391-400. <http://ejournal-s1.undip.ac.id/index.php/ruang/article/view/5320>
- Karmilah, M., Nuryanti, W., Soewarno, N., & Setiawan, B. (2014). Community involvement in tourism development: As strategy for poverty alleviation after the earthquake (Case study: Kasongan Village Yogyakarta). *International Journal of Scientific and Research Publications*, 4(12), 1-7. <http://www.ijsrp.org/research-paper-1214/ijsrp-p3641.pdf>
- Ministry of Settelement and Regional Infrastructure. (2003). *Community Based Sanitation (SANIMAS) as an Alternative Solution on Sanitation Problem in slum, squatter and Urban area*. Jakarta BORDA. https://www.researchgate.net/publication/277623199_Keputusan_Siapa_Partisipasi_Komunal_pada_Pelaksanaan_Program_Sanimas_di_Kelurahan_Kadipiro_Kota_Surakarta
- NGOC BAO Pham, & Kuyama, T. (2013). Review of Community-Based Sanitation Lesson Learned from Sanimas Programme in Indonesia. *Water Environment Partnership in Asia*.

³ An *arisan* is a form of Rotating Savings and Credit Association in Indonesian culture, a form of Microfinance. Generally

the *arisan* is a social gathering that takes place at a fixed interval (this being an informal social network this may be variable), at each member's home in turn.

http://www.wepa-db.net/pdf/1403policy_brief/PolicyBrief_2013_2.pdf

Saraswati, R. (2015). *MCK Plus as a Solution for Environmental Sanitation, New Communal Space, and Alternative Fuel Producers in Pekalongan Urban Population Solid Settlements* Science and Engineering Nasional Seminar 1 (SENS 1) <http://www.proceedings.upgris.ac.id/index.php/sens/sens/paper/viewFile/811/763.pdf>

Sarwono, J. (2006). *Quantitative and Qualitative Research Methods*. Yogyakarta : Graha Ilmu. Jakarta. [http://www.pertanika.upm.edu.my/Pertanika%20PAPERS/JSSH%20Vol%2026%20\(T\)%20Apr%202018/20%20JSSH\(T\)-0724-2018-1stProof.pdf](http://www.pertanika.upm.edu.my/Pertanika%20PAPERS/JSSH%20Vol%2026%20(T)%20Apr%202018/20%20JSSH(T)-0724-2018-1stProof.pdf)

Sutrisno, L. (1995). *Towards Participatory Society*. Kanisius Yogyakarta. <https://jurnal.ugm.ac.id/jpkm/article/view/27512>



How to Cite this Article:

Karmilah, M and Puspitasari, A. Y. (2020). The Impact of MCK+ Prangkuti Luhur towards the Improvement of Community Life Quality in Bustaman Village. *Journal of Contemporary Urban Affairs*, 4(2), 59-66. <https://doi.org/10.25034/jcua.2020.v4n2-6>