

Study of Changes in the Community Quality of Life after the Slum Upgrading: A Case Study in Tirta Urban Village, Pekalongan City

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Abstract: Tirta Urban Village is one of the urban villages which became location for slum upgrading by government. The types of upgrading covered upgrading to clean water, drainage, roads, street lighting and open spaces. All upgrading are made to improve community quality of life, but this was not seen in the Tirta Urban Village. The purpose of this research is to examine changes in community quality of life after slum upgrading. This study took place in 4 RW Tirta Urban Village with sample of 94 households. The results of the study indicate an increase in community quality of life. This occurs in four sub-variables of quality of life. Although, there is one sub-variable that has decreased namely recreational and playing opportunities. The decrease in the aspect is closely related to the decrease in open space conditions. Decrease in condition is caused by road with a high enough intensity. There needs to be improvement in open space, in the following ways: improving soil surface quality, adding vegetation and increasing physical attributes.

Keywords: quality of life; slum; upgrading

1 Introduction

The growth of slums occurred due to un-organized urbanization. The increase in population, availability of land for housing that does not meet the requirements and the number of low-income residents, is a trigger for slum licensing (Uzun & Simsek, 2015). The rapid growth of slums in urban areas also contributes to social, economic and environmental issues which in this case are closely related to quality of life (Jha & Tripathi, 2000). Meanwhile, according to Emmanuel (2012), one of the biggest problems in urban areas is the quality of life that is synonymous with poverty and settlements. The first request issued stated that the slums were very helpful with the agreement of quality of life.

The problem of the quality of life of the community, especially those in slums is a big problem that is of concern to the world. This is in line with the international agenda of the United Nations (UN) regarding the goal of achieving sustainable development, also called sustainable development goals (SDGs). At the SDG's goal, one of the targets to be achieved is to make improvements to the slums which later became a national target for structuring slum settlements to create livable settlements for low-income communities.

Various programs to overcome the problems of slums and urban poor in Indonesia are being intensively implemented by the government. The program aims to improve the quality of life (Savitri, 2017) which is part of the national program 100 0 100. Tirta Urban Village is one of the urban villages that is the location for slum upgrading. Located in the western part of Pekalongan City, this urban village is an area dominated by land use in the form of settlements. The development of dense slums in Tirta Urban Village is also a result of cheaper land prices compared to other locations.

There are several physical improvements carried out in the slums of Tirta Urban Village. The program implemented in there since 2014 includes the replication of the Community Based Settlement Program (PLPBK) Program and the second phase of the Neighborhood Upgrading Settlement Project (NUSP) Program. Although a slum upgrading program has been carried out, there is no data that explains the changes in the quality of life of the community, according to the initial objectives behind the emergence of these programs.

Slum upgrading which carried out by the government is indeed aimed at the welfare of the community, especially those who live in slums, but it is necessary to know whether the program has an impact on the quality of life of the community or not. This is what attracts the interest of researchers to conduct research in the form of a study of changes in the quality of life of the community after slum upgrading in Tirta Urban Village. The scope of the research is in RW I, III, IV and VIII in Tirta Urban Village, Pekalongan City (see figure 1). Determination of this

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location is based on the Mayor's Decree regarding the slum area in Tirta Urban Village and the similarity of environmental conditions in the four RW research locations.

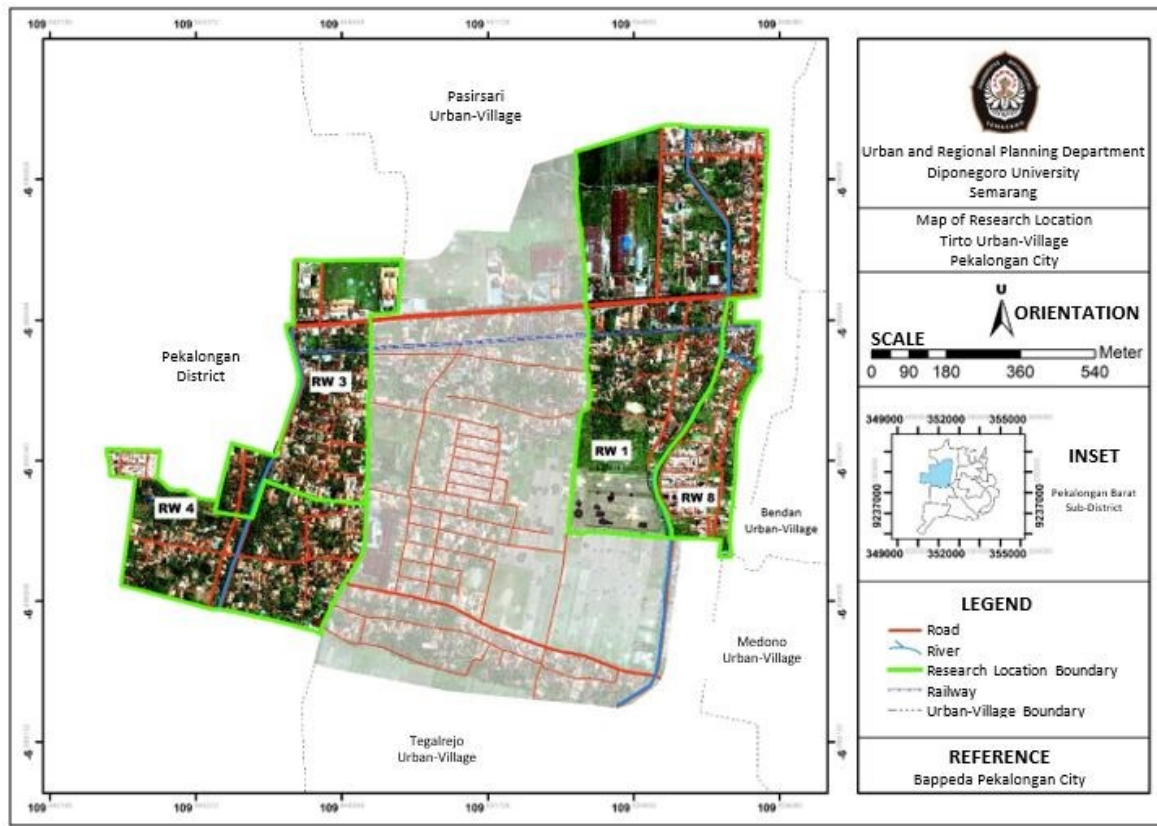


Figure 1. Map of Research Location (RW I, III, IV and VIII) of Tirta Urban Village
Source: Researcher's Analysis, 2018

2 Research Methods

The research approach used is quantitative research. This study uses a non-random sampling technique with a purposive sampling method and proportional sampling. The purposive sampling technique produced a sample of 94 households that were distributed proportionally in each RW at the research location. The reason for choosing a non-random sampling technique is because the respondents chosen are residents who have lived in Tirta Urban Village for approximately 10 years.

The data analysis technique used in this study is scoring analysis. Scoring analysis was used to describe the research findings based on the assessment scores formulated by the researcher. This analysis is done by comparing the results of the assessment (score) of the answers to the questionnaires that have been distributed to respondents at the research location. Scoring analysis is carried out by providing explanations in the form of numbers that can describe the condition of quality of life at the time before and after slum upgrading are carried out.

Scoring is based on multilevel answer choices from the questionnaire prepared by the researcher. The score has a score of 1 to 4 to assess changes in the quality of life aspects of the community in the slums of Tirta Urban Village. The final score will be grouped into four classes, which are very bad, bad, good and very good. The classifications of classes are as follows.

Based on literature reviews, there are five sub-variables of quality of life used in this study. The sub-variables are: (1) access to infrastructure; (2) recreational and play opportunities; (3) environmental hygiene; (4) public health; and (5) community safety and security.

Table 1: Class Determination in Scoring Analysis

Quality of Life sub-variables	Class	Information	Scor
1. Infrastructure access	I	Very Good	1.527,5 – 1880
	II	Good	1.175 - 1.527,4
	III	Bad	822,5 - 1.174
	IV	Very Bad	470 - 822,4

Quality of Life sub-variables	Class	Information	Scor
2. Recreation and playing opportunities	I	Very Good	611 – 752
3. Environmental cleanliness	II	Good	470 – 610
4. Public health	III	Bad	329 – 469
5. Community safety and security	IV	Very Bad	188 – 328

Source: Authors' Analysis, 2019

3. Result and Discussion

Quality of life is related to human satisfaction with urban attributes and social attributes in the area where they live (Serag El Din, Shalaby, Farouh, & Elariane, 2013). Quality of life can be assessed from the quality and availability of physical infrastructure in the living environment. Measurement of quality of life becomes very important to be a picture of the life of the people in a city or environment. Besides that, the condition of the quality of life of the people in Tirta Urban Village can at the same time show the success of the government program in reducing slums. The government's efforts to deal with slum settlements aim to improve the quality of life of people living in these neighborhoods.

As a case study, namely Tirta Urban Village in RW I, III, IV and VIII, which is then referred to as the Tirta Urban Village slum area. In this area efforts have been made to deal with slums in the form of physical improvements to the environment, such as upgrading to clean water, drainages roads, street lighting and open spaces. For the analysis of quality of life carried out taken from five sub-variables of quality of life. Assessment of quality of life is carried out by taking time before (pre) and after (post) slum upgrading are carried out. The aim is to find out the changes in quality of life resulting from the existence of a slum upgrading program. Overall, the results of the study show that there is an increase in the quality of life formed after the improvement of slums. This increase is indicated by changes in the score from 3.331 to 3.593. If viewed in depth in each sub-variable there are different changes that indicate the magnitude of the contribution of improving the quality of life of the community in the Tirta Urban Village of Pekalongan City. The results of the analysis for each sub-variables of quality of life are as follows.

Table 2: Conditions for Quality of Community Life During and After the Slum Upgrading

No.	Quality of Life Sub-Variables	Condition	Score	Information	Percentage Change
1.	Access infrastructure	Before Upgrading	1164	Good	15,1% (Increasing)
		After Upgrading	1340	Good	
2.	Recreation and playing opportunities	Before Upgrading	646	Very Good	28,3% (Increasing)
		After Upgrading	463	Bad	
3.	Environmental Cleanliness	Before Upgrading	370	Bad	60,2% (Increasing)
		After Upgrading	593	Good	
4.	Public health	Before Upgrading	641	Very Good	5,9% (Increasing)
		After Upgrading	679	Very Good	
5.	Community safety and security	Before Upgrading	510	Good	1,5% (Increasing)
		After Upgrading	518	Good	

Source: Authors' Analysis, 2019

The results of the analysis of each sub-variable indicate different percentage changes as seen in table 2. There are four sub-variables that are increasing and one sub-variable have reduction conditions. The discussion for each sub-variable is as follows.

3.1 Infrastructure Access

One aspect of people's quality of life is access to infrastructure. The good condition of the quality of life for one of them is supported by the ease of the community to access infrastructure in their neighborhood. The ease of access to infrastructure can be measured by people's perceptions of access to some infrastructure that was asked by researchers. The infrastructure which is a measure of quality of life is adjusted to aspects of improvements that have been made in the slums of Tirta Urban Village. The infrastructure is clean water, drainage, roads, street lighting and open space. The public's perception of access to each of these infrastructures certainly differs according to the range of individuals.

The community generally has good access to clean water and open space. This condition is due to the availability of clean water and open space in the community's living environment. The availability of clean water used by the community comes from groundwater wells in their homes. Most of the water conditions have been contaminated with *batik* waste so that people are hesitant in using it for consumption purposes. The community proposes that upgrading be made to renew the sources of clean water used. Based on the clean water problem, improvements were made in the form of PAMSIMAS clean water procurement. PAMSIMAS is a source of clean water managed by the community. The source of clean water is then used as the main water source used by the community.

In its development, PAMSIMAS water has been disrupted in its management and maintenance. This situation resulted in 38.3% experiencing difficult access and 13.8% experiencing very difficult access to get clean water. From the conditions after improvement it can be seen that access to clean water is far more difficult.

Difficult access to clean water is due to engine failure which results in the distribution of water becoming scarce and uneven. This shows the lack of management of the improvements to clean water that have been carried out. The management is also constrained by financial constraints which are limited to repairing water pumping machines. As a result, water only flows at certain hours and the distribution of water is not evenly distributed to all people who subscribe to PAMSIMAS.

Access to open space in the slum area of Tirta Urban Village has decreased in the period after upgrading. Difficult access is due to open space damage caused by *rob*. Overall access at the time after upgrading is 54% difficult and 45% very difficult. Open spaces in the slum areas of the Tirta Urban Village that have been upgraded are found in RW III. This condition makes some respondents consider access to open space quite difficult because it is far from where they live. The conditions at the time before upgrading were better, because the difficulty of access to open space was very small at 12%. Decreasing access to open space has resulted in a lack of means of socialization for people in the slums of Tirta Urban Village. The existence of open spaces in dense residential areas is needed by the community. This is because the importance of open space is one of them as a center of interaction for community activities. The absence of coordinated maintenance of open space causes no repairs made after damage. This is also due to the lack of public attention to open space.

Access to other infrastructure such as drainage, roads and street lighting is better. 59.5% of respondents thought that access to drainage was difficult before upgrading. This is because most people do not have drainage in front of their houses. This condition causes the secondary drainage channel not to connect to the primary drainage (river). Lack of primary drainage channels is overcome by making improvements to drainage. After upgrading are carried out, people who do not have drainage are reduced. People who still have difficulty accessing drainage are 27%. This number has been greatly reduced when compared to the time before repairs. Even so, the drainage channel is still not fully connected so that drainage upgrading is still needed for years to come.

Access to roads also changes for the better. At the time before repairs, access to roads 61.7% is considered difficult and 17% is very difficult. This happens because the pavement on the road is made of land and residential areas that are often affected by *rob*. Both of these conditions caused the road to become difficult to pass through and made the residential area seem slum. Conditions after repairs, access to roads has increased and there are no more people who argue that road access is difficult.

The condition of access to street lighting is much better after upgrading. At the time before upgrading, street lighting becomes very difficult to find. Street lighting is only sourced from the community's terrace. This is certainly not sufficient to become street lighting; therefore, additional street lighting is needed. Especially on roads that are not close to the community's home environment, street lighting is needed. Conditions after repairs indicate that there are no more problems regarding access to street lighting. People can pass the road easily and safely because there is lighting on the road they usually pass.

Overall, access to infrastructure has increased after upgrading. Before upgrading, the score of access to infrastructure was 1.207 and after repairs increased to 1.340. After grouping, both scores were still in the same condition, namely in "good" condition. Even though they are still in the same condition, the comparison of scores has increased by 11.1% from the initial score. This is in line with the goal of improving slum settlements, namely to increase access to infrastructure.

One type of slum upgrading done in Indonesia is the Kampung Improvement Program (KIP). The program has increased basic services, including drainage, clean water and sanitation. Based on the evaluation that has been conducted, the improvement in basic services has a positive impact on improving the quality of life of the community (Sugiri, 2009). This is in line with what was done in the slum area of Tirta Urban Village. Improvement of settlements carried out has an impact on increasing the ease of access to infrastructure. Even so, it is not yet known how much influence the improvement in settlements can have on increasing access to infrastructure.

3.2 Recreation and Play Opportunities

The low quality of life is indicated by the low recreational opportunities owned by the community, especially low-income communities (Bakar, Malek, & Mansor, 2016). In this case the role of open space to increase outdoor activities is very important to note. The slum area of Tirta Urban Village is a densely populated area, so it is necessary to gather together for the community to meet their social needs. The existence of open spaces in slums can affect community development and improve quality of life (Andersson & others, 2016). For this reason, indicators of recreational and play opportunities will be linked to the availability and use of open space in the communities living in the slums of Tirta Urban Village.

Recreation and play opportunities can be seen from the use of open space as a means of recreation and play. The availability of open space as a means of recreation can be seen from its use as a stress reliever, sports and community gathering. Meanwhile, the availability of open space as a means of playing shows the intensity of open space to be visited by the community. If aspects of the opportunity for recreation and community play can be fulfilled, then there will be an increase in the quality of life of the community. The assumptions about whether or not there is an increase in quality of life on aspects of recreational and play opportunities can be seen from the comparison of scores at the time before and after the settlement improvement.

Open space can have double function for the community. Open space can be a means of recreation and play facilities. Both aim to meet the socialization needs of the people who live in a settlement. The results of the calculation of the score can be seen in Table 4. The score on the condition after the improvement has decreased. The number of scores at the time before repairs was 646, while the score at the time of repairs decreased to 463.

The decline in the condition was 28.3% when compared to conditions before the improvement. Open space has been used by the community since before upgrading.

Conditions at the time before repairs were in very good condition because open space was still frequently visited and used by the community. Open spaces located in RW III function as a place to play, gather and celebrate certain events. But at this time, the condition of open space is no longer suitable for use by the community. This decrease in condition was caused by *rob* which hit the slum area of Tirta Urban Village. *Rob* that occurs causes damage to open space. The community no longer carries out activities in the open space because the conditions are inundated by *rob* water. As a result of the *rob*, open space is damaged in plants and their physical attributes (figure 2).

Open space is an environmental asset that contributes to quality of life (Roychowdhury, 2016). If open space cannot be used it will certainly have an impact on the quality of life of the community. Open space is a very important tool for the process of social interaction and helps people to get to know better (Roychowdhury, 2016). In connection with the two previous opinions, it can be concluded that the interaction between communities in open space can improve the quality of life. The conditions that occur in the slum area of Tirta Urban Village cause a lack of places of interaction owned by the community. This lack of opportunities to visit open spaces has caused the community to experience a decline in quality of life. This is reinforced by the score at the time after repairs carried out decreased by 28.3%. The damage to open space does not get attention from the public. Lack of maintenance from the community causes improvements to open space cannot take place on an ongoing basis. The absence of maintenance is due to a lack of community participation in maintaining improvements that have been made.

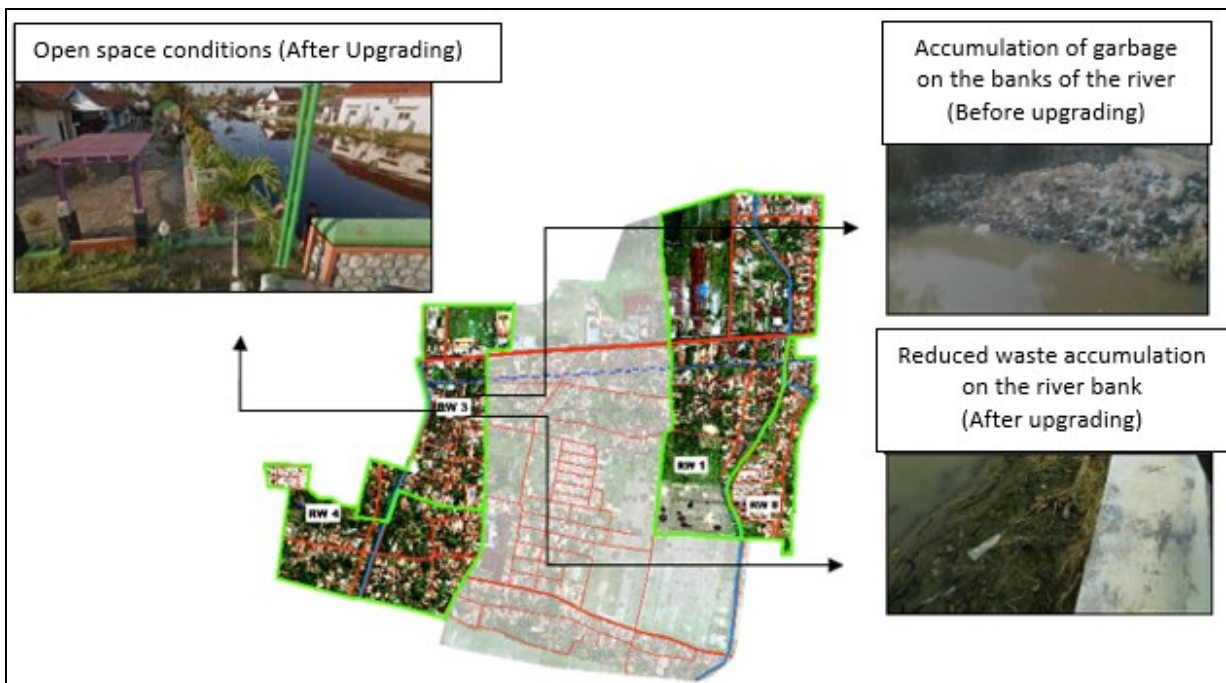


Figure 2. Changes that Occur due to Upgrading in Slums
Source: Authors' Analysis, 2019

3.3 Environmental Cleanliness

Environmental cleanliness is something that can be done and realized together by the community. Maintaining environmental cleanliness is the responsibility of the community as a whole, therefore every individual's awareness of environmental cleanliness is needed. Environmental cleanliness is one aspect of quality of life that needs to be considered. Cleanliness of the environment can also be a benchmark to see whether a residential area is slum or not. The level of cleanliness of the environment can be seen from the waste management carried out in an environment that lives.

At the time before upgrading, 56% of respondents said that there were garbage dumps in several places due to the absence of a Waste Disposal Site (TPS). This condition shows that public awareness to dispose of garbage in its place is still very lacking. Communities generally dispose of waste in empty land, causing waste dumps. The landfill during floods or *rob* will be flooded, giving rise to the impression of an unhealthy environment. In addition to disposing of garbage in empty land, the community also throws garbage into the river. There is a pile of garbage in the river that crosses the residential area. At the time after upgrading, the behavior of removing garbage in the river has not occurred again. This is because there is already a garbage transportation system in Tirta Urban Village. 93% of respondents said that there was no more garbage scattered because of the garbage transportation system. While the rest still think that there are still people who litter. People who are still littering are people who do not participate in waste management fees. Comparison of conditions between before and after the transport of garbage is shown in Figure 2.

The waste transportation system is carried out by garbage transport officers who are assigned to collect garbage from people's homes. The people who receive the service are those who pay a fee of Rp. 15.000 per month. Because of this, there are still people who prefer to produce trash in any place. In its implementation, the transportation of waste is coordinated by each RW head. With the garbage transportation system, environmental cleanliness is more maintained. But there are problems that arise with the passage of the garbage transport system. Problems faced by each RW can lead to non-running of garbage transportation in the following years. The problem faced was the lack of operational funds and maintenance of the garbage transportation system. This is because contributions from the community are limited. The fee is sometimes unable to meet the operational and maintenance costs of garbage transport vehicles. If this is not immediately addressed, the garbage transportation system can stop being carried out.

The results of the score calculation indicate that there is an increase in the score at the time after the upgrading are made. The number of scores at the time before upgrading was 370 while at the time after upgrading to 593. The increase in the number of scores showed a change in the condition of cleanliness of the environment, from bad conditions to very good. The percentage change in score is very large, which is equal to 60.2%. This can be seen from the changes in environmental conditions that were very significant at the time after the settlement improvements were made. The improvement of environmental hygiene conditions at the same time shows that there is an increase in the quality of life of people in the slums of Tirta Urban Village. The improvement in the quality of life conditions shows the contribution of the effects of the improvement of slums to aspects of environmental cleanliness. The change in environmental cleanliness is driven by improvements made. Among these improvements are road upgrading, drainage and open space.

3.4 Public Health

Health is a benchmark that can describe how much the quality of life of a person. The high and low level of public health will illustrate the condition of the quality of life of the community in an entire settlement. In this case, the health conditions measured can be seen on a family scale. Public health conditions are measured based on the number of family members affected by the disease outbreak and overall family health conditions. These health conditions will further illustrate the health condition of the community in the slums of Tirta Urban Village as a whole.

The results of the quantitative descriptive analysis show changes that are not too significant to the aspects of public health. This can be seen based on the results of the calculation of the questionnaire score which increased from 641 to 679. The increase was only 5.9% of the conditions before upgrading. Changes in scores that occur at the time of improvement do not change the condition of aspects of public health. Overall, it can be said that the health condition of the people in the slum areas of Tirta Urban Village can be said to be in very good condition. This right is because there are not many people who have contracted the disease outbreak. At the time before the repairs were carried out, there were 14 people who had been affected by an outbreak of 12 families who had been recorded. Meanwhile, there were 87% of respondents with family members who had never been exposed to an epidemic.

The conditions at the time after the repairs were carried out resulted in all positive answers, ie no family members were affected by the disease outbreak. For overall family health conditions, both before and after upgrading did not have a significant change. This is indicated by the majority of the community arguing that their family's health is at a good level. This means that no family member has a serious illness.

Apart from disease outbreaks, there are also allergic diseases caused by water sources that are used by the community prior to upgrade. At the time before the program, the water source used by the community came from *artesis* wells. The water quality of the *artesis* well is no longer suitable for reuse. The quality of well water in people's homes has generally been polluted by waste from *batik* making. The contamination of the water source causes water to be unsuitable for consumption and use. The water quality is a trigger for the upgrading of clean water so that there is also an improvement in aspects of public health. The results of the questionnaire scores indicate that there is an increase in quality of life due to improvements in settlements carried out.

This is in line with the research conducted by Truley, 2013. The study states that there is an effect of improving slum settlements to reduce parasitic infections and rates of infectious diseases. These results have similarities to those that occur in the slums of Tirta Urban Village. The condition after the improvement shows that there is an increase in public health, namely the reduced number of family members affected by the disease outbreak. The influence of improvements to environmental health is unknown. Therefore, this analysis will continue with further analysis to find out how much influence the improvement of slum areas has on public health aspects.

3.5 Community Safety and Security

The environment of a comfortable residence is certainly a place that can guarantee the security and safety of its people. With the fulfillment of good security and safety, people can stay without anxiety and fear. Meeting the needs of these aspects is included in improving the quality of life.

Scoring results showed almost no change between the conditions before and after the improvement in slum upgrading. This is because the percent changes that occur are only 1.5%. The score before upgrading is 510 while after upgrading is 518. Things that are taken into consideration in measuring security and safety aspects are the many incidents of crime and environmental security system conditions. The answers obtained are based on people's perceptions of the conditions of security and safety in their environment. Both before and after upgrading

are carried out, most people feel safe because there has never been a crime in their neighborhood. Changes that occur are in the intensity of crime that occurs within a month. Most people think that the environment they live in is a safe environment and rarely acts of crime. When viewed in comparison, more criminal acts are felt at the time before the slum upgrading are carried out.

Judging from the applied environmental security system, most people think that there is no night watch activity in their neighborhood. However, there were also 37% of respondents who argued that night patrols were routinely carried out in their neighborhoods. At the time before and after upgrading are carried out, there is no significant difference from the answers expressed by the community. From this security system, it can be seen that the decline in crime rates is likely not to depend on the security system in force. This is in line with the public's recognition that criminal acts occur not only at night, but also during the day. The conclusion that can be drawn is that there is no significant increase in the safety and security aspects of the community in the Tirta Urban Village slum area.

3.6 Overview of the Quality of Life of Communities in Slum Settlements of Tirta Urban Village

The following is the total number of questionnaire calculations in quantitative descriptive analysis that has been carried out on aspects of repairing slums. Table 8 describes the conditions of each aspect of quality of life at the time before and after the improvement of slums in Tirta Urban Village.

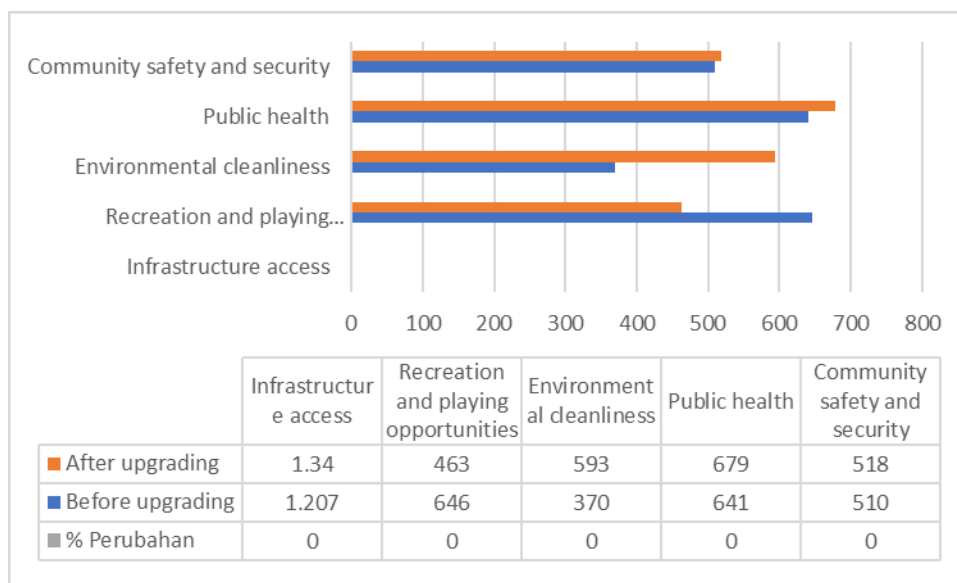


Figure 3. Changes in the Quality of Life Aspects Before and After Slum Upgrading
Source: Authors' Analysis, 2019

From the Figure 3, it can be seen the conditions in each aspect of quality of life at the time before and after the slum upgrading in the study area. When viewed in each aspect, the overall aspects of quality of life have increased at the time after upgrading have been made except for aspects of recreational and play opportunities. From the results of the quantitative descriptive analysis it can be concluded that the community experiences an increase in quality of life in all aspects, except the aspect of recreational and play opportunities. The most significant improvement in quality of life is in the aspect of environmental cleanliness, which is 60.2%. This is due to differences in cleanliness of the environment at the time before and after the upgrading have undergone very large changes. In contrast to the aspects of environmental cleanliness, the aspects of recreational and play opportunities have decreased significantly by 28.3%. This is related to the function of open space which decreases its function in its development after upgrading to slums are carried out. The aspects that have increased but are not significant are aspects of public safety and security. The changes experienced are only 1.5% and the conditions before and after upgrading are still in good condition.

When viewed as a whole, only two aspects have changed. These aspects are opportunities for recreation and play and environmental cleanliness. The aspect of recreational and play opportunities has decreased from good to bad conditions. In this case the opportunity for recreation and play is closely related to open space. As previously discussed, this condition is a result of the rob which hit the slum area. But outside of the disaster, there was no active attitude from the community to maintain and repair damage to open space.

Meanwhile for aspects of environmental cleanliness is an aspect that has a significant change from what used to be bad to very good. This condition is inseparable from the garbage transport activities carried out in each RW. The activity of transporting waste is very helpful in reducing waste accumulation in various places in the slum area. Until 2018, this activity is still underway and almost all residents participate in the activity. However, there are financial constraints which can at any time stop the transportation of garbage in the slums of Tirta Urban Village. This is due to limited income funds from the community, so that they are unable to meet the technical requirements for carrying out garbage transportation activities.

4 Conclusion

There has been a change in the quality of life aspects of the community in the slums of Tirta Urban Village. These changes are measured from the conditions before and after upgrading to slums were carried out. The aspects of quality of life that have increased are access to infrastructure, environmental cleanliness, public health and community safety and security. In addition, there are aspects that have decreased, namely aspects of recreational and play opportunities.

Environmental cleanliness is the aspect of quality of life that has the greatest increase, which is 60.2%. The increase was very large so that it affected the image of residential areas. At the time before upgrading, waste disposal is carried out in any place. Meanwhile at the time after upgrading, transportation of garbage to residents' houses was carried out. The existence of garbage transportation activities greatly reduces waste disposal to any place.

In its development, problems began to occur regarding operational waste transportation. These problems are related to limited funds in the operation of garbage transportation. This condition resulted in the obstruction of garbage transportation activities. If these problems continue to be allowed, it will have an impact on reducing the level of cleanliness of the neighborhood.

The aspects of quality of life that have decreased is recreational and play opportunities aspect. Recreation and play opportunities are related to open space as a means of socializing the community. The rate of decline reached by 28.3%. At the time before upgrading, recreational and play opportunities are very good. But at the time after upgrading become worse. This condition was triggered by the presence of *rob* which hit the slum area. In addition, there were no maintenance efforts by the community which caused the condition of open space to be more damaged.

Repairing slum settlements is expected to change the quality of life of the community for the better. But what happened in Tirta Urban Village, there were aspects of quality of life that declined. This is due to unsustainable improvement activities. This is indicated by no maintenance effort from the community.

To shape a better quality of life, an increase in community capacity is needed. This certainly requires the role of the government to present more comprehensive improvements. Not only physical improvements, but also improvements to the capacity of the community in slums.

References

- Andersson, C., & others. (2016). Public space and the new urban agenda. *The Journal of Public Space*, 1(1), 5–10.
- Bakar, N. A., Malek, N. A., & Mansor, M. (2016). Access to parks and recreational opportunities in urban low-income neighbourhood. *Procedia-Social and Behavioral Sciences*, 234, 299–308.
- Emmanuel, A. A. (2012). Poverty alleviation strategies by non-profit organisations: Benefactors' experience in the riverine area of Ondo State, Nigeria. *International Journal of Developing Societies*, 1(2), 43–52.
- Jha, D., & Tripathi, V. (2000). Quality of life in slums of Varanasi city: a comparative study. *Transactions*, 36(2).
- Roychowdhury, K. (2016). Comparison between spectral, spatial and polarimetric classification of urban and periurban landcover using temporal sentinel-1 images. *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*, 41.
- Savitri, R. (2017). Program peningkatan permukiman kumuh (Slum Upgrading) dengan Kampung Improvement Program (KIP).
- Serag El Din, H., Shalaby, A., Farouh, H. E., & Elariane, S. A. (2013). Principles of urban quality of life for a neighborhood. *Hbrc Journal*, 9(1), 86–92.
- Sugiri, A. (2009). Financing slum upgrading in Indonesia: Can sustainability reinvestment help? *Santosa, H., W. Astuti and DW Astuti (Eds.)*.
- Uzun, B., & Simsek, N. C. (2015). Upgrading of illegal settlements in Turkey; the case of North Ankara entrance urban regeneration project. *Habitat International*, 49, 157–164.