

# **Community Empowerment Through The River School Program For Flood Mitigation From A National Security Perspective**

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#### **ABSTRACT**

The Sitiarjo area is a disaster-prone area that is always hit by flash floods every year, becoming an interesting thing for researchers when the community carries out disaster impact reduction activities or known as disaster mitigation using the concept of community empowerment through the River School Program. The research objective is to analyze community empowerment through the River School Program for banjir bandang mitigation. The research uses qualitative methods. The research location is in Sitiarjo Village, Sumber Manjing Wetan District, South Malang Regency. Data were obtained from designated informants which were then analyzed using qualitative analysis techniques. The results of the study show that the disaster mitigation that has been carried out includes structural and non-structural mitigation with a community empowerment approach through the River School Program. According to Deepa Narayan, community empowerment includes four aspects, namely access to information, involvement and participation, accountability, and the organizing capacity of local communities. However, the absence of sustainability of the River School Program in Sitiarjo Village has resulted in Sitiarjo Village being still vulnerable to the threat of flash floods because disaster mitigation is only limited to planting seeds along rivers, not in denuded forest areas. In addition, there is no sustainability in the River School Program because this program is not included in the Regional Medium-Term Development Plan (RPJMND) of Sitiarjo Village.

Keywords: Community Empowerment, Disaster Mitigation, River School Program

#### **INTRODUCTION**

Indonesia is one of the countries that has a position as a disaster-prone area. The geographical condition of Indonesia, which is located in the ring of fire, or in other words, the archipelago is surrounded by tectonic plate encounters that lie with rows of volcanoes and active earthquake faults. Not to mention the hydrometeorological hazards such as floods, droughts, tides, big waves, and so on. These things then lead to a logical consequence that Indonesia is a disaster-prone area.

This is in accordance with data published by the Indonesian Disaster Data and Information (DIBI) National Disaster Management Agency (BNPB) that the number of disaster events recorded until June 2017 was 1,368 events. The death toll and missing were 227 people. The victims were injured, suffered, and displaced as many as 434 people and 1,710,539 people. Damage to settlements was 18,983 units. Referring to DIBI 2013 data that the increase in the number of disasters including Malang Regency increased from 2016 to mid-2017. Records to the Regional Disaster Management Agency (BPBD) Malang Regency there were 104 incidents, ranging from landslides, flash floods, fires, and tornadoes to fallen trees.

Of the various types of disasters that occurred in Malang Regency, flooding is a disaster that ranks the highest which has resulted in losses in many areas in Malang Regency. This condition caused the disaster in Sitiarjo Village. Simultaneously the construction of the Southern Cross Line (JLS) mega project also contributed to the impact of the worsening flood disaster in Sitiarjo Village. In addition, when it rains heavily and river water cannot flow due to high tides, it is certain that the overflowing river will flow and hit Sitiarjo village.

Sitiarjo Village is one of the settlements that is often hit by floods during the rainy season. This is because geographically, this village is located near a water catchment area, namely the Watershed, which empties into the southern coast of Java. In addition, this area is in the lowlands and almost parallel to the sea. It should be noted that the influence of tidal forces is also the most influential factor when flash floods occur. This tidal force of seawater causes the flood water to stay longer in the area of the Sitiarjo population. Another factor causing flooding is deforestation in the highlands of Sitiarjo, such as Sumber Agung, Panggul Gunung, Pager Gunung, Panjul Sari, and Tegal Rejo which have been denuded (Sitiarjo Village Profile, 2015).

The flash flood disaster in Sitiarjo Village was included in a periodic disaster with an annual cycle (Putuhuru, 2015), and the worst flood event occurred in 2013. At that time, the flash flood disaster in Sitiarjo quickly hit people's houses so several houses were damaged to the point of consuming victims. The cause of flooding in Sitiarjo is closely related to the condition of the ecosystem. The greater the intensity of the flood, the worse the ecosystem quality of an area (Anwar, 2013). Although this area depicts a beautiful panoramic impression, the appearance of bare hills, steep cliffs, and steep terrain suggests this area is prone to disasters.

Sitiarjo village is fed by two rivers, namely the Mbambangan River and the Panguluran River. This river is used by the community to irrigate rice fields and fields. Sitiarjo village is likened by the community to a "bowl container", because this village is surrounded by hills, and cliffs, and includes lowland areas. When viewed from higher ground, this village forms a basin that is ready to hold water. That's how the residents of Sitiarjo Village interpret the condition of their ecological space. The phenomenon of flash floods in Sitiarjo Village is felt to be getting worse because of the less rainwater infiltration due to deforestation in the mountains, as well as the conversion of forest land into rice fields that are used by the community as a livelihood.

Deforestation in the upstream area of the watershed system will prevent rainwater from getting a chance to seep into the ground. Most of it will be a runoff with puddles. This is also supported by rivers that are getting shallower and narrower (Suprayogi, 2013). Watershed management activities are a shared responsibility. Therefore, in its management, it must also involve all interested parties, both the Government of the Natural Resources Management Agency, related agencies, and the community.

The form of community participation can be realized in the implementation process which includes providing information, advice, direction, and considerations as well as the contribution of time, energy, material, and funds (Suprayogi, 2015). This activity is part of community empowerment (Usman, 2015). Community empowerment is one of the assets that play an important role in disaster management activities. Therefore, the community needs to be nurtured and empowered as well as possible, so that it is expected to be able to play a role in disaster management efforts. Empowerment is a process, method, and series of activities to overcome something with all power. The community empowerment approach is a disaster management effort that helps create a more proactive attitude among the community. Therefore, community empowerment requires greater involvement of local government officials, as well as various parties to provide opportunities and ensure the sustainability of the various results achieved.

The impact of damage and losses due to flash floods in Sitiarjo became the forerunner of the Malang Regency Regional Disaster Management Agency (BPBD) to hold a program that leads to community empowerment activities with the aim of managing the Mbambangan and Panguluran rivers. Therefore, strengthening non-structural mitigation through the empowerment of the River School program is an effort to overcome these problems. The goal is to revitalize the river by restoring the hydrological function of the watershed. The activities of the River School program aim to make the community appreciate the river, and maintain and protect the river. Referring to the things that have been described, this problem becomes an interesting thing to research and analyze more deeply.

The 2017 flash flood disaster in Sitiarjo Village brought material losses. Material losses are clear evidence of the magnitude of the severity caused by the disaster. Although there were no fatalities from the flash flood. However, material losses can result in economic vulnerability for the community (Nurjannah, 2011). Economic vulnerability describes a condition of the level of economic fragility in facing the threat of

danger. Several indicators of economic vulnerability are the percentage of households working in the vulnerable sector (a sector prone to disasters) and the percentage of job losses (Nurjannah, 2011).

Based on these conditions, the importance of watershed management is a logical consequence to maintain the utilization of forest, land, and water resources. Law Number 26 of 2009 concerning Spatial Planning requires that at least 30% of a watershed is in the form of vegetated land. Therefore, efforts are needed to restore watershed functions with a mitigation paradigm to reduce the risk of flash floods in Sitiarjo Village. Although the River School program has been initiated by the Regional Disaster Management Agency (BPBD) of Malang Regency. However, this statement has not been scientifically confirmed, so further research is needed to determine community empowerment through the river school program for banjir bandang mitigation. Based on the description above, the research question to be answered in this study is how to empower the community through the River School Program to deal with flash floods in Sitiarjo Village.

## **RESEARCH METHODS**

This study uses a qualitative method which is a method for exploring and understanding the meaning that a number of individuals or groups of people consider to be derived from social or humanitarian problems (Creswell, 2016). The social problem in question is exploring community empowerment through the River School program for banjir bandang mitigation in Sitiarjo Village, Sumbermanjing Wetan District, South Malang Regency. The research data was obtained based on observations regarding banjir bandang mitigation and in-depth interviews with informants involved in the River School program. The type of research used is descriptive research, namely research that describes or describes a certain situation based on the data obtained in detail according to the problems set out in this study (Moleong, 2007).

Based on what was conveyed by Lofland and Lofland 1984 (in Moleong, 2013) the main data sources in qualitative research are words and actions, the rest are additional data such as documents and others. Sources of data also express precisely and clearly the research subject and research object. In this study, the research subjects that Spradley put forward were people who were directly involved as sources of understanding data, including those who were interviewed or who became participants in the study (Basrowi, 2008). Data obtained from research subjects are usually documented in the form of transcripts or field observations. In qualitative research, the term sample is not commonly used because each subject is an informant who will be seen at a certain event (Salim, 2006). These informants become research subjects who will provide various information needed during the research process.

The object of research can be abstract, such as institutions or systems (eg certain agencies or entities, triangulation and scanning systems, actual work mechanisms in organizations, and others). Data obtained directly, both from the subject and the object of research, are generally used as primary data in research. Data that is not obtained directly from the field, for example, raw data from previous research or the results of case analysis conducted by other researchers, can be classified as secondary data. The objects of research related to this research are the facilities and infrastructure that support the river school program, the river school curriculum, the map of the banjir bandang disaster-prone area (KRB), and the Implementation Operational Standard (SOP) for the banjir bandang and the Sitiarjo Village Profile.

Data collection techniques used by researchers (Creswell, 2009) are observation, interviews, and documentation. The data analysis method used in this research is an interactive model. The interactive model data analysis proposed by Miles & Huberman (2013) consists of data collection, data reduction, data presentation, and drawing conclusions or verification. In qualitative research, the instrument or research tool is the researcher himself (Sugiyono, 2016). This is done because, if you use non-human tools and prepare yourself in advance as those commonly used in classical research, it is impossible to make adjustments to the realities in the field. However, after the focus of the research becomes clear, it is possible to develop a simple research instrument, which is expected to complement the data and compare it with the data that has been found. The research location is in Sitiarjo Village, Sumbermanjing Wetan District, South Malang Regency, Malang City. The selection of Sitiarjo Village as the research location is based on the history of disasters that have occurred in Sitiarjo Village which is included in the flood emergency area. In

addition, the location of Sitiarjo Village which is like a bowl surrounded by forest makes this location interesting to study.

## **RESULTS AND DISCUSSION**

# **Disaster Mitigation That Has Been Done**

The concept of disaster management has developed from a conventional view to a holistic view (Suprayogi, 2013). The conventional view considers that a disaster is an event or occurrence that is inevitable and victims must immediately get help so that the focus of disaster management is on aid and emergency. Therefore, this kind of view is called the relief paradigm or emergency assistance-oriented toward meeting emergency needs in the form of food, emergency shelter, health, and crisis resolution. The purpose of disaster management based on this view is to reduce the level of loss, and damage and quickly recover the situation (Suprayogi, 2013).

The paradigm of disaster then developed into a mitigation paradigm. In this paradigm, the goal is more directed at hazard studies including identifying disaster-prone areas, recognizing patterns that can cause vulnerability, and carrying out mitigation activities (Suprayogi, 2013). This paradigm was later applied to Sitiarjo Village. The goal is historical and empirical data that can be used to determine the level of vulnerability and flood anticipation efforts in Sitiarjo Village.

Disaster mitigation includes both planning and implementing actions to reduce the risks of the impact of a disaster that is carried out before the disaster occurs, including preparedness and long-term risk reduction actions. However, from the results of this study, it is known that the idea for the River School program was carried out after the disaster occurred. That is, before the River School program was implemented, the mitigation that had been carried out by the people of Sitiarjo Village to deal with banjir bandang was only limited to structural mitigation, namely raising houses and reforestation.

Elevating houses in Sitiarjo Village is one form of mitigation carried out by the people of Sitiarjo Village. The architecture of the houses in Sitiarjo Village is permanently built and the walls have been built with tile roofs. While some people still use wood and bamboo as house walls. Differences can also be seen in the base of each house, some houses have cement floors, some have soil and other houses have floors. However, if observed, almost some houses that have a position or are located on low land are deliberately raised using a gravel foundation mixed with cement. The foundation height is about 0.5-1 meter.

This is done, so that water does not quickly enter the house in the event of a flood. Structurally, the disaster mitigation efforts that have been carried out based on the information of Mr. Andika Johan, people who are not affected by flash floods are raising their houses up to 1.5 meters. This effort is made so that when the flood rains water does not enter the house. Mr. Andika Johan, one of the residents in Palung Hamlet, Sitiarjo Village, which was not affected by the flood, said that efforts to elevate the house had been carried out for a long time because the people of Sitiarjo Village had realized that their residence was included in a disaster-prone area. Sih Winagen, one of the residents who was not affected by the disaster, said that some residents living on the banks of the Panguluran river would still survive when the flood occurred. This means that people are aware that their place of residence is at risk of being prone to disasters, so they take mitigation efforts by elevating their houses. Meanwhile, if the water has entered the residents' houses, the residents will take shelter in the plenggrongan which is located above the roof of the house. This is quite effective in emergency response efforts when flash floods occur in Sitiarjo Village.

# Community Empowerment through the River School Program against Flash Floods

The researcher saw that the forest scenery that surrounded Sitiarjo Village, although it looked dense from the outside, entering the forest a little deep, it could be seen that the forest had turned into settlements and land-use changes. In addition, what is worse in riverbanks is that trees that are weak in restraining the flow of water, such as bananas and corn, have been planted, so what happens is that many places on the riverbanks experience landslides, which when the soil falls into the river it causes silting of the river even though there is a flood. efforts to reduce the planting of trees whose roots are not strong enough to hold water, but these efforts are still not optimal.

The description of the state of the ecological space in Sitiarjo Village shows that Sitiarjo Village is a village that is prone to disasters. Geographical conditions and the environment around Sitiarjo Village make this village vulnerable to hydrometeorological hazards, especially flash floods. Flash floods in Sitiarjo Village have often occurred even almost every year, and the losses and impacts experienced by the community are also unavoidable.

The large number of losses experienced by the people of Sitiarjo Village due to flash floods does not necessarily make people look for safer places to live. In addition to causing losses in the agricultural aspect, some people in Sitiarjo Village consider that there are positive impacts arising from the flood incident. Mud material carried by flash floods is considered to bring fertility to the soil in which they live. So that after the disaster, the people of Sitiarjo Village replanted their crops that were damaged by the flood. The assumption that mud brings fertility to the soil in Sitiarjo Village is one of the strong bonds between the people of Sitiarjo Village and their homes.

Access to information between the people of Sitiarjo Village and their living environment which is a disaster-prone area is a means for intervention from the Government in accordance with what the community wants and what the community has so as not to harm the community. In this study, the Government provided assistance with the Sungai Sungai program to the people of Sitiarjo Village in order to reduce disaster risk. In this study, the flash flood in Sitiarjo Village was accompanied by the threat of further landslides accompanied by mud and rocks from the forest. Therefore, the implementation of the River School program by the government provided 10,000 seeds for planting by the community around the river.

Empowerment is a process based on the bottom-up concept, where groups, communities, or individuals actively participate and are fully involved in empowerment programs to create sustainable independence. The empowerment program in this research is the River School program which involves the people of Sitiarjo Village, Sitiarjo Village Officials, the Malang Regency Regional Disaster Management Agency (BPBD), and related agencies, such as the Transportation Service, Water Service, Human Settlements Service, Employment General, TNI/POLRI, and the Business World. All these elements, both the community and the government, are actively involved and work together in the implementation of the River School program.

The River School Program also has a bottom-up concept in which the community plays an active role in voicing the necessary needs, such as gabions, excavators or heavy equipment, slurry or diesel engines, and other basic needs. The community was also involved in the planning meeting of the River School program by representing 5 people in each RT so that the result achieved was that the representatives of each RT were able to socialize the objectives of the River School program to other residents. This encourages residents' independence to be more creative when inviting other residents to be involved in the Sungai Sungai program.

The existence of community involvement and participation shows that the awareness of the people of Sitiarjo Village about their existence as individuals and members of the community and their environmental conditions (physical, social, cultural, economic, political) already exists. Community involvement and participation also analyze alternative problem solving and choose the best alternative in the Sungai Sungai program, which involves the people of Sitiarjo Village, not only youth and adults but children from an early age participating in the River School program. In addition, community involvement and participation are able to demonstrate the importance of change to improve the situation (formulating change priorities, required resources, and the role of required assistance).

Community involvement and participation can also be categorized into two aspects, namely the causal aspect and the participatory aspect. The causal aspect is that if several regulations that are very influential on the factors that cause flooding are implemented or obeyed, it will significantly reduce the magnitude of the impact of banjir bandang, while these factors are: a) Not throwing garbage into the river; b) do not build buildings that block or narrow the flow of the river; c) do not live on the riverbank and make it a settlement; d) stop deforestation in water catchment areas; e) stop agricultural and land-use practices that are contrary to water and soil conservation, and f) contribute to controlling the rate of urbanization and population growth.

Meanwhile, the participatory aspect of contribution from the community can reduce the impact of banjir bandang, including: a) participating and being active in simulations or exercises (rehearsals) for banjir bandang mitigation efforts through the River School program; b) participating and being active in the program of design and construction of flood-resistant houses, including high-rise houses, the use of water-resistant materials and water scouring; c) participate in public education related to banjir bandang mitigation efforts; d) participate in every stage of public consultation related to the construction of flood control infrastructures such as plengsengan and gabions; e) implementing cropping patterns and timings that adapt local flood patterns and conditions to reduce losses on businesses and agricultural land from flooding through reforestation, and f) holding mutual cooperation in cleaning rivers from the garbage in their respective environments.

Accountability is more directed at the agencies related to the implementation of the River School program in terms of accountability for funding, program implementation, and regulations in empowerment programs. Regarding the basis of the River School program, which is based on the MOU between the Malang Regency BPBD and the DRR Director in 2016, the Technical Guidelines for the Disaster Risk Reduction Movement (Sekolah Sungai Indonesia), and the DIPA for Institutional Strengthening for the Malang Regency BPBD in 2017.

Funds for this River School program come from the National Disaster Management Agency (BNPB), namely ready-to-use funds. This is in accordance with the disaster management law number 24 of 2007 concerning responsibilities and authorities in article 6e that the allocation of the disaster management budget in the State Revenue and Expenditure Budget is adequate and article 6f that the allocation of the disaster management budget is in the form of ready-to-use funds.

Accountability is also related to policy advocacy in which all empowerment requires policy support that is in the interests of the community (political support and legitimacy from parties (government, business people, Tomas, NGOs, academics). In addition, monitoring the Sungai Sungai program is also important. because it serves to provide information about the development of the Sungai Sungai program in the future, to identify weaknesses and obstacles and the form of services needed to meet the specified performance and to provide the information needed to improve the quality and achieve the next program target.

Accountability is also included in the evaluation of the River School program which includes reviewing developments or changes that occur as a result of the River School program being implemented, assessing what goals have been achieved and which have not been achieved as well as identifying why it happened and providing the information needed in the context of accountability for various stakeholders. This evaluation will later be used as material for consideration, input, and suggestions for the implementation of the next River School program.

The organizing capacity of local communities changes from year to year. This is related to the difference between the previous floods and recent floods. The difference between the previous Sitiarjo village flood and the current Sitiarjo flood lies in the water level during the flood and the impact caused by the flood. Not too much material was carried by the flood, so when entering the post-disaster stage only a few materials such as mud or rocks were left in people's homes or around roads. Based on the results of interviews with informants, several factors that influence the difference between the previous flood and the current flood in Sitiarjo Village, are caused by changes in nature, the physical condition of the village environment and development carried out around the local area.

As you feel, the weather today is unpredictable. When it is still in the rainy season, what appears is sunny and hot weather or vice versa. Extreme weather is one of the climate changes that has become a fact and is accompanied by an increasing frequency. The impact of climate change is also felt by the people of Sitiarjo Village. Although it does not have a direct impact on the activities of people's lives, climate change that occurs can change the rainy season cycle in the region. As a result, the people of Sitiarjo Village can no longer predict when heavy rains will occur which can cause flooding.

The next difference which is considered to be the cause of the difference between the past and present Sitiarjo floods is the result of human behavior towards the environment. Seeing the natural state of Sitiarjo Village, it was agreed that this village was dominated by hills that were part of the Perhutani

area. Ironically, these forests are now starting to look bare because people use tree trunks in the forest to make wood as part of building materials.

The complexity of the relationship between humans and the environment, as described above, also occurs around the area of Sitiarjo Village. As explained by Teguh Sudjarwo in charge of the Head of Sitiarjo Village, the construction of the Southern Cross Line (JLS) as a national route that connects major roads between villages in the Sumbermanjing District is the cause of the increasingly extreme flood disaster in Sitiarjo Village. The construction of the Southern Cross Line which is being carried out in the Sumbermanjing Wetan area is still ongoing. The distance between JLS and the village is approximately 6 km. The JLS megaproject in Sumbermanjing Wetan sub-district actually has the aim of facilitating road access to several coastal tourist destinations in the area. This is done as an effort to grow economic income through tourism.

However, this development ultimately had an influence on the occurrence of floods in Sitiarjo Village. The lack of water infiltration is the main cause of the worsening of flooding in Sitiarjo Village. In accordance with its characteristics, the Sitiarjo flood is included in the characteristics of a banjir bandang, this is because the flood came suddenly and did not inundate for too long. From the stories of several residents, the Sitiarjo flood in the past was the longest inundated in residential areas with a time of 3 hours. After that, the water began to recede slowly. Unlike in the past, the Sitiarjo flood today can inundate for a very long time, up to 12 hours to recede.

# **River School Program Effectiveness**

Effectiveness (Flay et al, 2005) states that effectiveness focuses on the quality of implementation that will affect the outcome of a program. The quality of the implementation of this River School program can be determined by the achievement of the program. One of the achievements of this program is that this program will be held again in 2017. With different locations and series of activities. For 2017, the River School program will be implemented in Sitiarjo Village. The planning of the River School program in Sitiarjo Village has also carried out an initial survey so that it will be followed up for the implementation date, which is 18 November 2017.

The effectiveness of the Sungai Sungai program can be seen from two aspects (Zulkaidi in Sukmaniar, 2007) namely first, problem-solving ability. Based on interviews and research observations, the River School program has not been optimal in solving the flash flood problem in Sitiarjo Village. This is because the River School program in Sitiarjo Village is only carried out for a day and does not cover the entire river flow so that only some parts of the river are normalized. In addition, there was a dispute between residents and the organizers regarding the relocation of houses around the river, namely that there were residents who refused to relocate their houses to disaster-safe places for reasons of livelihood. Therefore, river normalization was not carried out thoroughly.

Second, is the achievement of goals. Based on the proposals submitted for the Sungai Sungai program, the goal of the River School program is to change people's behavior to care about rivers. The results of field observations show that the community without government assistance has a community service agenda to install gabions around the river independently and work together. Although there are still some residents who throw garbage in the river, the rivers in Sitiarjo Village are starting to be cared for properly. One of them is by planting bamboo around the riverbanks.

The River School Program must be continued because it is a lesson for the people living around the river. The rivers in Sitiarjo Village are small rivers but the destructive power of the rivers is very large. In addition, the River School program will be effective in reducing the risk of banjir bandang if it is carried out consistently and continuously in one village, both downstream, namely the river, and upstream, namely the forest. Efforts are being made to plant perennials, such as coffee trees. Even though people grow bananas, there must be a buffer plant in the form of coffee trees. Therefore, the River School program cannot be carried out once but continuously until the rivers and forests of Sitiarjo Village are in good condition. This is because the River School program will not be optimal if the environment in the upstream area is not improved, namely the forest in Sitiarjo Village. Therefore, there must be continuity between upstream and downstream.

#### **CONCLUSION**

Structural and non-structural mitigation needs to be carried out by the people of Sitiarjo Village and the government, both the Sitiarjo village apparatus and the Malang Regency Regional Disaster Management Agency (BPBD). As for the structural mitigation that has been carried out in Sitiarjo Village, among others, strengthening the building by elevating the house up to 2 meters to prevent water from entering the house, building a plenggrongan for shelter for both valuables and people. In addition, mitigation efforts can also be carried out in non-structural forms, including avoiding disaster areas by way of development away from the disaster location, namely the Sitiarjo Village community who lives on the banks of the river, many move their houses away from the river, efforts to empower the community and local government through the School program. River.

Community empowerment both as individuals and the community as a whole can play a significant role in banjir bandang disaster management which in this study aims to mitigate the impact of banjir bandang disasters. This community empowerment is known through the River School program which was held in Sitiarjo Village on November 18, 2017. This community empowerment was analyzed using the Deepa Narayan community empowerment theory (2002) which has the following elements:

- Access to information that the people of Sitiarjo Village, both disaster-affected and non-disaster-affected communities as a whole already know that the Sungai Sungai program is being held in their village. The public knows information about the Sungai Sungai program through socialization activities that have been carried out by the Malang Regency Regional Disaster Management Agency (BPBD) and the village government.
- 2. Involvement and participation that people who take part in the River School program are not only residents whose houses were swept away by flash floods but also residents who are not victims of the River School program. In addition, the involvement and participation of the transportation service, irrigation service, creative works, and public works service also help provide needed assistance. Not only that, volunteers from various communities and PMI in Malang as well as the business world also helped the Sungai Sungai program.
- 3. Accountability that the responsibility for funding the River School program comes from the National Disaster Management Agency (BNPB) which is taken from the State Revenue and Expenditure Budget in the form of ready-to-use funds in accordance with Law Number 24 concerning Disaster Management in articles 6e and 6f. Meanwhile, the report on the implementation of the River School program has been prepared by the Regional Disaster Management Agency (BPBD) and the village government so that it can be accounted for by the center. In addition, the implementation of the River School program has also been approved by the central government, local government, and village governments as well as the Sitiarjo Village community so that it has legal and legal force because it is based on existing regulations.
- 4. Organizing capacity of the local community that the ability of the people of Sitiarjo Village in implementing the Sungai Sungai program is in accordance with the potential that exists in the community. The community has a very high sense of mutual cooperation and adequate disaster awareness so the organization of the Sitiarjo Village community is quite adequate. Although there are some residents who still don't want to be relocated and throw garbage in the river, the overall organizing capacity of the Sitiarjo Village community is very good.

The existence of the River School program in Sitiarjo Village has not been effective in reducing the risk of banjir bandang. This is because the implementation of the Sungai Sungai program is limited in tools and time. The limitation of heavy equipment in the implementation of the River School program is due to the location of Sitiarjo Village which is far from the district capital. In addition, the implementation time of the River School program is only limited to planting seeds around the river so it is not optimal. Therefore, there is a need for short-term and long-term River School programs. This means that the results of the River School program will be felt gradually and have a major impact on the environmental conditions of Sitiarjo Village.

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