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**THE IMPLEMENTATION OPTIMIZATION OF SCHOOL DEVELOPMENT PLAN IN
FLOOD DISASTER MITIGATION POLICY IN TROPICAL RAIN FOREST
(Case Study at State Junior High School 5 Samarinda)**

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ABSTRACT

The purpose of this study is to describe: 1) Optimizing the conceptualization of School Development Plan, 2) Optimizing the implementation of School Development Plan, on flood disaster mitigation policies in a tropical rain forest at State Junior High School 5 Samarinda.

This research is a case study type with qualitative-descriptive analysis. Data collection techniques using in-depth interviews, observation and documentation. Data analysis was performed using the Miles and Huberman model.

The results of the study are as follows: 1) Optimizing the conceptualization of the School Development Plan in flood disaster mitigation policies in a tropical rain forest at State Junior High School 5 Samarinda through environmental data analysis, stakeholder participation, accommodating the tropical school concept has not run optimally. 2) Optimization of the implementation of the School Development Plan in flood disaster mitigation policies in a tropical rain forest at State Junior High School 5 Samarinda has not been optimal because it has not gone through three basic mitigation programs and periodic evaluations

Keywords: Optimization, plan, development, school.

INTRODUCTION

Indonesia is in a tropical rain forest with a geographical location that is rich in natural potential but is also prone to disasters. Hydrological disaster is a potential disaster with the highest ratio of affected people in Indonesia (SPAB 2019). Therefore, education planning and development are faced not only with the problem of learning concepts but also on the problem of school readiness to face disasters. Regarding the preparation of schools to face potential disasters, various comprehensive studies have been carried out from time to time both domestically and abroad.

At the Bangkok conference it was recommended that the draft education

development be implemented in Asian countries. The draft was then known as the Model for Asian Educational Development or abbreviated as the Asian Model. In 1978 this model later became the basis for the PLPTK, the Director General of the Ministry of Education and Culture, to formulate the basics of planning and developing education. There are three main topics in educational planning that are still used today and are in line with the theory of educational planning and development stages according to Banghart & Trull (1973) and according to Johnson (1974). The subject matter is conceptualization, implementation and how to respond

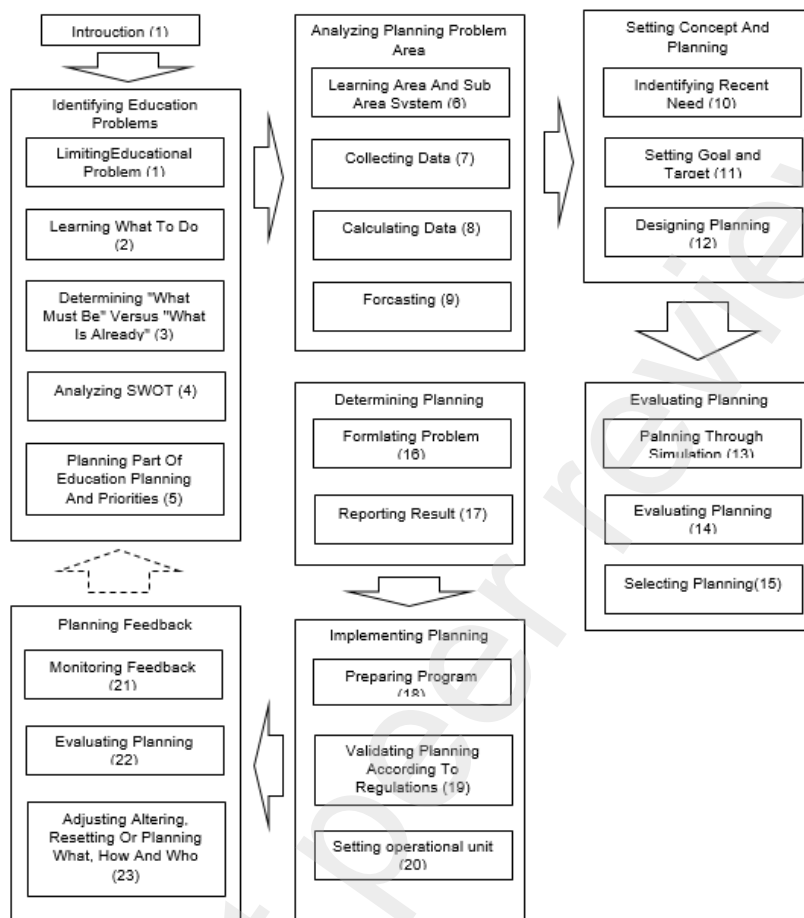


Figure 1. Process of Educational Planning (Banghart & Trull, 1973)

In the smallest unit, educational institutions (schools) process school planning and development with periodic school development plans, hereinafter referred to as School Development Plans.

School Development Plans are a manifestation of one of the most important school management functions, which schools must have to serve as a guide in providing education in schools, both for the long, medium and short term.

Based on the Regulation of the Minister of Education and Culture number 33 of 2019 concerning the implementation of disaster safe school programs, schools should pay attention to the principles that must be applied in the preparation of the School

Development Plan. School Development Plans should be prepared jointly between the school, with stakeholders (interested parties), school committees, community leaders, and other parties who care about education around the school.

According to data from the Ministry of Education in 2020 based on education level, junior high school was the most affected school with 17 schools followed by schools with other levels. A total of 4,824 students are affected by floods every time it rains with medium and high intensity. Because schools are a vital tool in the development of human resources, efforts must be made to mitigate disaster.

Based on these conditions, the researcher wants to discuss optimizing

the implementation of the School Development Plan in flood disaster mitigation policies in tropical rain forest at State Junior High School 5 Samarinda.

Table 1 below describes the researchers' efforts to take a theoretical approach as a benchmark for measuring

the optimization of the school's development plan. The stages are starting from conceptualization to the implications that accompany it.

This approach then becomes a measuring tool to measure the optimization of the School Development Plan for flood mitigation.

Table 1 Theoretical concepts of optimizing School Development Plans in flood disaster mitigation policies

No.	Category	Topic	Basic of Theory
1	Optimization of RPS Conceptualization in flood disaster mitigation policies in the tropical rain forest climate at SMP Negeri Samarinda	The common perception of flooding is a threat so that all school stakeholders are moved to prepare fundamental data in flood mitigation.	In-depth environmental analysis - Preamble of 1945 Constitution - Government Regulation No. 19 of 2005 - Alimuddin (2021) - Sutiman & Setya (2002)
		All parties are involved and involve themselves in the preparation of RPS.	Participatory - Permendikbud No. 33 of 2019 - Budi Satria (2018)
		Accommodating suggestions, opinions, concepts from related research results.	Aommodating to suggestions and concepts - Government Regulation No.19 of 2005 - Nurkolis (2002)
		Filling it into RPS	Consistent - Government Regulation No.19 of 2005 - Nurkolis (2002)
2	Optimizing the application of RPS in flood disaster mitigation policies in the tropical rain forest at SMP Negeri Samarinda	Socialization of RPS program related to flood disaster mitigation.	Communicative - Hepi, et al. (2018) - Dewi (2019)
		Efforts to implement RPS program related to flood disaster mitigation.	Safety Instructions - PERKA BNPB No. 07 of 2015 - Gotoh, Takezawa (2016) Mitigation Education - Fong S Lam, Yuk FH (2018) Environmental Adaptation - Greogrio (2015)
		Inviting stakeholders	Team Work - Georio, et al. (2015) - Permendikbud No. 33 of 2019
		Evaluating	Evaluation - Hariati Nunuk (2013) - Syafarudin (2015)

Based on this theoretical approach, this research is focused on optimizing the implementation of school development plans in flood disaster mitigation policies in a tropical rain forest in state junior high school 5 Samarinda.

The focus of the research above is then translated into three research sub-focuses as follows: 1) Optimizing the conceptualization of the School Development Plan in the flood disaster mitigation policy in a tropical rain forest

in state junior high school 5 Samarinda.
2) Optimizing the implementation of the School Development Plan in the flood disaster mitigation policy in a tropical rain forest at state junior high school 5 Samarinda.

Based on the background and focus of the research above, the formulation of the problem in this study is as follows:

1. How is the optimization of the conceptualization of the School Development Plan in the flood disaster mitigation policy in a tropical rain forest in the state junior high school 5 Samarinda?
2. How is the optimization of the implementation of the School Development Plan in the flood disaster mitigation policy in a tropical rain forest in state junior high school 5 Samarinda?

METHOD

This research was conducted at state junior high school 5 Samarinda. This school is located at Jalan Juanda No. 18, Air Putih Village, Samarinda Ulu District, Samarinda City. This school was chosen as a place of research, for several basic reasons, namely:

- a) The research site is the first opening junior high school that has been around for a long time in Samarinda City (since 1979).
- b) The existence of this school is right in the center of Samarinda City and in the middle of residential areas.
- c) The research site is one of the schools most affected by floods and occurs regularly every time it rains.
- d) State Junior High School 5 Samarinda has an A accreditation score and runs a standard education quality management program, thus it is hoped that researchers will find it easier and faster to obtain data related to this research.

Overall, this research was carried out for two semesters, namely in semester 1 (odd) and semester 2 (even).

In terms of the nature of the data, this research is included in the category of qualitative research. The research that the researcher conducts includes case study research, namely research that aims to study intensively about certain social units, which include individuals, groups, institutions and society.

This research, when viewed from the location of the data source, belongs to the category of field research. According to Lincoln (1995) it was stated that, field research is research that aims to find truth values, where the events that become the object of research take place, so as to get direct and up-to-date information about the problem in question, as well as cross checking of materials that already exists.

The data collection techniques used in this study were: (1) interviews, (2) observations, (3) documentation studies, (4) field notes. The results of the interviews were matched (cross check) with the results of observations, and vice versa. The results of observations and interviews were matched with the documentation. Field notes are used to record important points during the observation and interview process.

Based on the proposition of the concept, it can be arranged a concept chart of the optimization of the School Development Plan which theoretically is as follows based on the focus and objectives of the research as described in the previous explanation, the researcher describes the scheme (flow chart) of the research process. The scheme is used as the basis for the flow of thinking in conducting research. The schematic is shown in Figure 2 below:

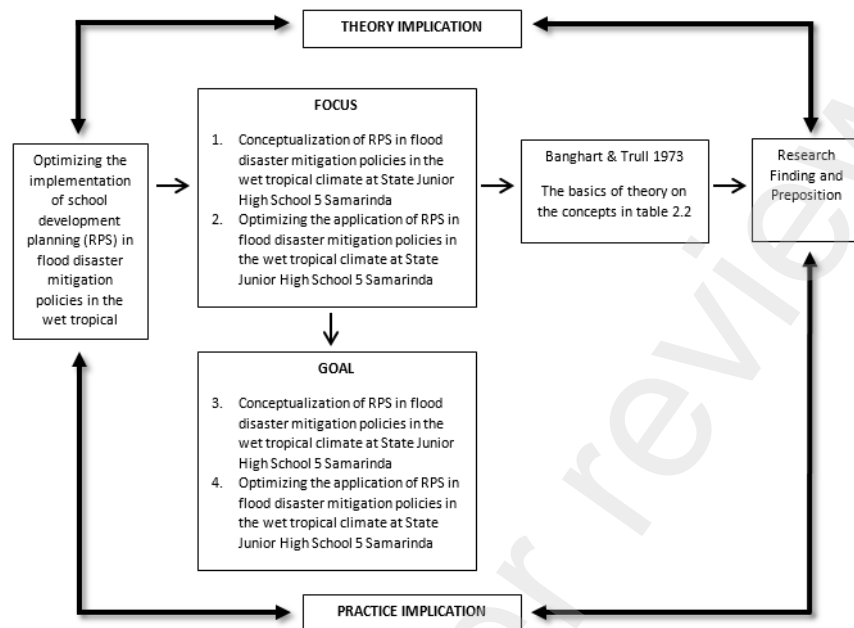


Figure 2. Scheme of Research Framework

RESEARCH RESULTS AND DISCUSSION

Based on observations, results of in-depth interviews and analysis of data and documents, the data obtained from the research are as follows:

1. Conceptualization of school development plans in flood disaster mitigation policies in tropical climates in the State Junior High School 5 Samarinda.

1.1 Shared perception that flooding is a common threat.

The common perception about flooding is a big threat that will determine the flood disaster mitigation program to be included in the School Development Plan. Thus the school will seriously carry out the conceptualization stage on the basis of deep and adequate environmental analysis data. Even the optimization of the conceptualization of the School Development Plan can be inadequate if it is not supported by data and documentation related to environmental analysis.

In the triangulation of interviews related to the awareness that flooding is a threat, a

match was obtained between the principal, teachers, parents and guardians of students. This is illustrated by the following statement by the principal:

Sangat mengganggu, eeh sangat mengganggu banget ya, kita itu kalau beberapa kali hujan banjir masuk keruangan kelas. Jadi kita itu sangat terganggu proses belajar mengajar, karena pada akhirnya kalau curah hujan yang tinggi pada akhirnya kita di pulangkan. Proses mengajar mengajar terganggu sehingga tidak efisien. (Wawancara siswa: B 10-15)

(It's very disturbing, it's very disturbing, yes, we are flooded a few times when it rains into the classroom. So we are very disturbed by the teaching and learning process, because in the end, if there is high rainfall, we will be sent home. The teaching and learning process is disrupted so that it is not efficient. (Student interview: B 10-15))

However, awareness of the threat of flooding does not move all interested parties to seek and obtain environmental data analysis data. At the school, there is no Environmental Impact Analysis (AMDAL)

document, annual weather forecast data and Samarinda city disaster risk document. Even though these documents are fundamental in optimizing the conceptual optimization of the School Development Plan related to flood disaster mitigation policies.

The Environmental Impact Analysis document that is not in the hands of the school can be caused by regulatory obstacles in Presidential Regulation No. 27 of 2012 concerning environmental permits which are a substitute for PP 27 of 1999. In the Presidential Regulation the party who takes care of Environmental Impact Analysis is minimum land. 5 hectares or a total building area of 10,000 square meters. So schools that have the conditions below (including the State Junior High School 5 Samarinda) are not required to have an Environmental Impact Analysis. That is why currently managing the opening of new schools (Presidential Regulation N0.66 of 2010) does not explicitly require Environmental Impact Analysis. Buildings under the above limitations only require a permit for environmental management efforts.

If the environmental analysis documents are not owned, the optimization steps in the conceptualization of the School Development Plan in the flood disaster mitigation policy will be difficult to achieve. This is not in line with the participatory objective of Presidential Regulation No. 19 of 2005.

In addition, this is not in line with Mercer's (1991) research which requires environmental scanning in optimizing planning and development. According to Sutirman and Setya (2002) environmental scanning is the basic material for compiling a SWOT on the optimization of the School Development Plan.

Flood mitigation measures and policies must be based on complete environmental documents, integrated analysis and involvement of all parties, this is in line with the research of Gotoh, Takezawa, R Hanada, Yamamoto (2016) Flood Risk Management For Schools in the lowlands of Tokyo, Japan

1.2 There is a Participatory Effort and the involvement of all parties in the conceptualization of the School Development Plan. Thus all parties are involved and involved from the beginning. From triangulation of interviews and sources, it is obtained that the school is

actively communicating with all school planning and development. There are photos, absent documents in the attachments of each meeting. Regarding students (because the age of the informant is in an unstable position) the researcher tries to ask other informants to confirm the answers to the previous interview. It is known from these conditions that schools tend to view students as program objects. But in general the school tries to involve all parties. This can be seen in the following excerpts from parental interviews:

Iya Pak, kita selalu diajak diskusi, lewat paguyuban untuk menghadapi banjir. Saling Kerjasama aja. (Wawancara orang tua: B 61-62)

(Yes, sir, we are always invited to discuss through the association to deal with floods. Collaborating with each other. (Parental interview)

The school stated that the communication approach used was a formal and non-formal approach. The formal approach is carried out through the mechanism of school meetings, school committees, while non-formal through discussions with the associations formed independently by the parents of students. The principal communicates with teachers and parents for the implementation of school programs.

This is in line with Budi Satria's research (2018) which states several principles that need to be followed so that planning can run smoothly, namely: 1) Everyone must be involved in the planning process in order to increase understanding and commitment to the plan to be made. 2) Ideas, goals, and objectives need to be clearly defined.

1.3 Accommodating the latest suggestions and concepts that can support flood disaster mitigation policies.

From the results of this study, it is known that the school has made efforts, although it is not optimal and is partial. As shown in the triangulation of interviews and sources (in the form of documents and photos).

In the verbal participatory aspect, what the school does is in line with the research points of Nurkolis (2002), where the success of educational planning is largely determined by directed development and providing technical

alternatives as a safe means. But what has been done is limited to "patching" the impact of the flood, it has not solved the root of the problem. In this context, stakeholders should always be open to more basic ideas, ideas, research results, including the shape, design and condition of flood-prone school buildings.

Based on the results of observations A.01 on May 10, 2021, it is known that all forms of buildings use foundations and the ground floor is parallel to the land. This caused the school to raise the floor several times. This is not in line with the results of Karyono's research (2013) with the title Architecture and the World's Tropical Cities: A Discussion About Indonesia.

Architecture and buildings in schools in a tropical rain forest are one of the solutions for disaster-safe schools in low-lying areas. School is an educational model that pays attention to nature and the environment.

The appearance of buildings in tropical climates is not only produced from the application of tropical architectural aspects in order to achieve thermal comfort in the building. But more than that, it can provide security against the threat of disasters in tropical climates, especially hydrological disasters. Seeing the condition of the building of the State Junior High School 5 Samarinda which continues to experience hoarding several times, it is also necessary to look at several alternative steps that are steps to take policies in the future:

a) School building with supporting pillars (House on stilts)

The concept of architecture and school buildings in the city of Samarinda which is located in the lowlands or swamps should have the concept of a house on stilts. For example, we can see the Teaching and Learning Center of Alaf Omega in Salemban Tangerang. The building was selected as one of the nominees for the World Architecture Festival in 2018. According to Lead Architect of RAW Architecture, Realich Sjarief, this school building was designed according to the surrounding environmental conditions. This then made Realich then decided to build a school building with a stage model. The height of the stage from the ground is about 2.1 meters because the area is often flooded. So that the stilt building model is suitable to make the building in harmony with environmental conditions.

It is time for the city of Samarinda to start thinking about schools on stilts. This is due to low topography, shallower riverbed conditions, water buffer forests and dwindling floods due to mining. If this is not done, there will forever be a "race" of burying the ground between the school and the surrounding area.

b) Integration of drainage with mains or aquapond.

In Observation A.01 on May 10, 2021, the researcher saw that the imbalance of waterways (drainage) was the main problem. Floods are one of the main problems, not only often in Samarinda City but in almost all big cities in Indonesia. Flood events, especially in the rainy season, are repeated every year, but this problem has not yet been properly resolved, in fact it tends to increase, both in frequency, extent, depth, and duration. One of the causes of flooding is a significant change in land cover function and poor arrangement of the drainage network system.

The volume of rainwater is no longer proportional to the capacity of the planned drainage system. As a solution to this problem, normalization and rehabilitation activities are often carried out by increasing the volume of drainage channels and cleaning channels due to sediment and garbage. However, in practice, the normalization activity is considered ineffective and difficult to carry out due to conditions such as low and flat ground.

What happened at the State Junior High School 5 Samarinda is different from the research of Marsha, et al (2020) which states that one of the drainage management strategies is a retention pond through the construction of a rainwater reservoir connected to the main canal. Underground water storage connected to the city drainage network is a reliable solution and is widely developed as an effective system in urban flood mitigation. For example, the construction of an underground rainwater retention pond facility called Aquapond in Fukuoka City, Kyushu, Japang.

c) Biopore

Based on the results of interviews with school principals, teachers, parents and students at State Junior High School 5 Samarinda, no biopore manufacturing program was found. The most dominant answer is mutual cooperation to clean the ditch or drainage. According to Kamir R.

Brata, from the Bogor Agricultural Institute (2008), biopores increase the soil's capacity for rainwater, reducing waterlogging, which in turn reduces the overflow of rainwater falling into rivers.

Biopore infiltration holes are cylindrical holes that are made vertically into the soil as a water absorption method aimed at overcoming waterlogging by increasing the water absorption capacity of the soil. Biopore depth varies between 50-100cm.

d) Injection well

In the triangulation of interview results and triangulation of sources, there were also no discussion and photo evidence or field conditions regarding alternative injection wells, likewise with 3 observations around the school (Observations A.01, A.02, A.03). Reflecting on what Muhammad Bisri (2014) did at Brawijaya University, Malang, he built injection wells around the campus. By calculating the volume of water that should be in Malang, thousands of injection wells were built to control flooding.

1.4 Consistently pouring the results of flood mitigation studies into the school development plan, school activity plan and RAPBS.

Organizational/school functions. These functions, among others: (a) Helping maintain the positive values of school quality culture. (b) The creation of a solid team work between teachers and school principals. (c) The school's vision and mission are realized more effectively and efficiently. (c) Increasing the participation of school residents, parents and students.

From the results of this study, it is known that the school has tried to do this. As shown in the results of triangulation of informant interviews. But the school has not submitted it to the RAPB, and continues to look for other sources. Sources of finance and school financing are grouped into three, namely (1) central and local governments that are intended for educational purposes; (2) parents or students; (3) society (Sutiman & Setya Raharja 2002).

2. Implementation of RPS in flood disaster mitigation policy

The implementation of the School Development Plan in flood disaster mitigation policies in a tropical rain forest at State Junior

High School 5 Samarinda includes four aspects, namely: Socialization of the School Development Plan program related to flood disaster mitigation, efforts to implement the School Development Plan program related to flood disaster mitigation, invites all parties to jointly succeed in the implementation of the School Development Plan and Evaluation.

2.1 Communicative

At the State Junior High School 5 Samarinda there have been efforts to do this. But it is more dominant in inward communication which is more on teachers and parents. And part of it is socialization and joint meetings. Meanwhile, students tend to be considered as program objects as shown in the results of student interviews in lines 33-35 and lines 45-49. This condition is not considered a nuisance; even students claim to feel a change for the better in their school (Student Interview-line 53-57).

The efforts of the State Junior High School 5 Samarinda to maintain communication with school residents, committees, and parents are in line with the research of Hepi aprialian, Setya Heksama, Makhfludi (2018) with the title School Preparedness against Potential Flood Hazards in the State Elementary School of Gebangmalang, Mojoanyar District, Mojokerto. This study describes the preparedness of schools to face disasters and the relationship between the preparedness of teachers and parents against potential flood disasters.

The ability of schools to maintain communication with teachers, committees and parents greatly determines the ease of delivering various programs in the School Development Plan related to flood mitigation policies. Thus the optimization of the implementation of the School Development Plan is also determined by the ability of the school to communicate its programs.

2.2 Implementation of basic efforts to implement the School Development Plan program related to flood disaster mitigation.

At State Junior High School 5 Samarinda most of the flood disaster mitigation efforts are more focused on infrastructure improvement. This can be seen in the principal's interview data, which was confirmed in teacher and student interviews. In observation A.03 on the nomenclature (c) there are signs that the

building has been elevated gradually and many times. In addition, drainage improvements are still being carried out on an ongoing basis at the time of observation.

Building elevation is the most practical option and is preferred by building owners, including schools. This is in line with what was conveyed by Lilik Kurniawan (2003) with the title *Rob Flood Study in Semarang*. In the study, it was stated that the owners of buildings in the lowlands did not think long and preferred the easy step of elevating the building by piling up the soil. According to the researchers, this is very worrying because it does not solve the root of the flood problem, it will even be involved in a "soil hoarding" competition to elevate the base of the building. And this is detrimental to the surrounding buildings that have not been able to stockpile.

That is what happened to the school building around the State Junior High School 5 Samarinda. The three schools that the researcher observed (A.03) on the nomenclature (d), which were around the State Junior High School 5 Samarinda had already been stockpiled. This makes the State Junior High School 5 Samarinda a crater where water circulates.

There are three fundamental things in optimizing the School Development Plan in disaster mitigation policies that must be immediately available in schools, namely:

a) Preparing flood disaster safety instructions.

Through interviews, observations and direct observations, researchers have not found any signs of flood safety instructions. There are no evacuation routes, signs of mitigation instructions and gathering points for emergencies (Muster points). This is contrary to what Gotoh Takezawa (2016) stated. Communities where children live must be made safe, and taking action to ensure their safety in the event of a disaster is the highest priority. Schools should be established in the safest areas and safe evacuation routes.

b) Second is education on flood disaster mitigation.

Based on the results of this study, there were no documents, photos and answers from informants related to flood disaster education. This is inconsistent with several studies, among others, which state that disaster mitigation education is the key to disaster

preparedness. These studies include Fong S lam, Yuk FH (2018) entitled *Enhancing Disaster Preparedness through Participatory Activities in a School In Malaysia*.

c) The third is environmental adaptation to flood disasters.

Based on the results of the research data, no adaptive symptoms have been found except for building backfill and drainage repairs. According to research by Preston 2012 and Setyowati 2007 stated that disaster adaptive activities are not only limited to physical facilities. This can be started by cultivating an attitude of caring for the environment starting from school. In several schools on the island of Java, to develop this adaptive ability, it can be done with posters of the Disaster Safe Education Unit (SPAB), educational comics, brochures, guide books, simulation videos in school media, game tools, etc.

2.3 Working together to deal with flooding

In the results of the study, it was found that the school had tried to invite all parties to carry out various school programs. But the problem of flooding is also related to the surrounding environment including schools around the area.

Researchers have field notes of visits (Field notes No. 1, 2 and 3) to State Junior High School 4 Samarinda, State High School 3 Samarinda and State High School 5 Samarinda. Meet directly with related parties and authorities at the school, including Mr. Principles, Mrs. SS, Mrs. BS and Mr. JY. These schools did not experience flooding like State Junior High School 5 Samarinda because they had already dredged and raised the buildings. Even the building of State High School 3 has partially increased in height to close to 1 meter.

Researchers found that there was no joint meeting to discuss flood management in inter-regional schools. So that the communication and coordination of their school development runs separately and is not integrated with each other. This is considered quite worrying, because partial development without regard to the condition of schools between regions can harm other schools.

In addition, this condition is also not in line with the spirit of Regulation of the Minister of Education and Culture number 33 of 2019 concerning the implementation of disaster safe school programs, schools should pay

attention to the principles of cooperation, schools (principals and teachers), between schools, and with stakeholders (interested parties), School committees, elements of the Government (Department/sub-district).

2.4 Evaluation

In the results of the study, it was found that the school, teachers, parents and students considered that the benchmark of the success of optimizing the School Development Plan in flood disaster mitigation policies was physically visible with buildings that were not flooded anymore. This is acceptable because school buildings and buildings are vital facilities where learning takes place, as well as the immediate results of a program. However, evaluation is not always an infrastructure problem but also a program issue and also includes other non-physical matters. This is in line with Hariati Nunuk (2013) and Syafarudin (2015) who stated that school development is not focused on physical and infrastructure problems.

CONCLUSION

Based on the results of research, data analysis, and discussion, the following conclusions can be drawn:

1. Optimizing the conceptualization of the School Development Plan in the flood disaster mitigation policy in a tropical rain forest at the State Junior High School 5 Samarinda through environmental data analysis, stakeholder participation, accommodating the concept of tropical schools has not been fully optimal.
2. Optimizing the implementation of the School Development Plan in flood disaster mitigation policies in a tropical rain forest at State Junior High School 5 Samarinda through three basic mitigation programs and periodic evaluations that have not been fully optimal.

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