Developing Disaster Mitigation Education with Local Wisdom: Exemplified in Indonesia Schools

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Abstract. In vulnerable disaster-geographical condition in ring of fire, schools in Indonesia have conducted innovation of disaster mitigation education recent years. A disaster mitigation model in Indonesia is the use of local wisdom. Local wisdom-based disaster education aims as grand design during learning process and it supports the formation of student resilience. Therefore, to revive the value of local wisdom, it needs reinterpretation through adaptation of local knowledge and revitalization of contemporary conditions as innovations in disaster risk reduction. Through the integration of local wisdom based on disaster mitigation curriculum in the learning process, it is expected to be able to take fast, precise and accurate steps in dealing with disasters that occur in every region in Indonesia.

1. Introduction
Indonesia is a disaster-prone country located in Southeast Asia. Based on data released by the United Nations Agency for the International Strategy for Disaster Risk Reduction (UNISDR), geographically Indonesia is an archipelago located at the junction of four tectonic plates, namely the Asian Continent plate, the Australian Continent, the Indian Ocean plate and the Pacific Ocean and it is nicknamed as the Ring of fire. In the southern and eastern parts of Indonesia there is a volcanic belt (volcanic arc) that extends from the island of Sumatra-Java-Nusa Tenggara-Sulawesi, whose sides are old volcanic mountains and lowlands which are partly dominated by swamps. This condition is very potential and prone to disasters such as volcanic eruptions, earthquakes, tsunamis, floods and landslides [1]. Based on BNPB data in the past 20 years, 28,671 disasters have occurred in Indonesia, both natural disasters and social disasters [2]. Almost every region has experienced a disaster, even some areas have a high level of risk of disaster affected. Each region also has different risks and types of disasters. Since the beginning of 2020 until the end of February 2020, 13 disasters had been recorded in 12 districts/cities in Indonesia [2]. To reduce the risk of increasing number of victims, it is necessary to increase mitigation efforts. Disaster preparedness is defined as actions that aim to improve safety in the event of a disaster. One of the efforts carried out by the government is the existence of a vision of national development in the National Long-Term Development Plan (RPJPN) that is reducing the risk of loss of life, potential
damage and loss through increasing and understanding public awareness and building a culture of awareness and security in the people of Indonesia from disasters.

School is an effective place to instill disaster mitigation education. Based on the Education and Culture Data and Statistics Center (PDPS) in 2018/2019 the target number of disaster mitigation and preparedness education programs in the Education unit is 441,024 [3]. Students are as information delivery agents in terms of disaster mitigation. In addition, schools are a high-risk place to cause casualties in the event of a disaster. Over the past 10 years (2009-2018), more than 62,687 education units and 12 million students were affected by disaster. Considering the number of fatalities caused by the disaster, vigilance is very important. On the other hand, school buildings are also often places of evacuation and refuge after a disaster occurs. Thus, it is appropriate if the school/education unit becomes the target of mitigation education.

Indonesia's National Disaster Management Agency (BNPB) indicates that 75% of schools in Indonesia are located in disaster areas (medium or high risk) [4]. Because it is important to provide knowledge related to disaster education to students through formal school education. In addition, most children or adolescents spend more time in school. Apart from being an object of safety, especially at the secondary school level, another thing that needs to be developed is the existence of a knowledge center and facilities before, during, and after a disaster. Thus, disaster education activities in schools are considered as a concrete, effective, dynamic, and sustainable strategy in efforts to reduce disaster risk and disseminate disaster education.

In realizing these objectives, the first step is to prepare quality human resources starting from the field of Education (school). Schools are considered to be a field of growth in the quality of reliable human resources in the future. In addition to student competencies that must be global in the modern era, it is time for literacy education to involve local wisdom. In the National Education System Law a new paradigm has been born in which education based on local wisdom has the task of encouraging accelerating development in accordance with the potential of local communities in the area. This is in line with the local content in the curriculum (article 27: 1) which must prepare students to know the local area. Thus, they can work together according to their local needs, that is leading to local wisdom. In dealing with disaster risk reduction in schools, many researchers, workers in NGOs, UN agencies, and other organizations have shown that school construction with attention to building structures and disaster education is an important factor for the development of school safety, especially in the case of earthquake disasters. Earth that often happens in Indonesia [5].

Curriculum of natural disaster is important in disaster-prone countries including Indonesia to be taught from an early age. Thus, children are given knowledge about disaster. Disaster curricula are considered more effective if they are applied in primary and secondary school education curricula than practices that are easily forgotten [6]. It is realized that knowledge about disasters should be owned by all people, a concrete solution is needed in overcoming natural conditions. Education is a means that is quite effective as an effort to reduce the risk of disasters by including disaster learning materials as a compulsory lesson for students at all levels, especially schools that are located in disaster prone areas. The curriculum is integrated into local wisdom, it is expected that this effort is easily accepted and understood by students because it comes from local values of local culture [7].

This paper discusses the local wisdom-based disaster mitigation curriculum in the effort of Disaster Risk Reduction (DRR). Empowerment in the school environment is the first step to instilling student resilience in responding to a disaster. Students are expected to be able to carry out cultural values in their environment that are integrated in the learning curriculum. Thus, they are able to be precise, fast, and accurate when disasters occur in their area.

2. Methods
This research uses literature and library studies. Library research is studies related to library data collection methods, or research where the object of research is explored through a variety of library information, a list of references from all types of references such as books, journal papers, articles,
dissertations, theses, handouts, laboratory manuals, and other scientific works [8]. Literature study is carried out using data which is a review of gathering various references that are appropriate to the problem and research objectives. The technique used aims to find theories that are in accordance with the problem being studied in research to be used as reference material for discussion of research results.

3. Result and Discussion

In law number 24 Year 2007 about Disaster Management, disaster is a series of events that threaten and disrupt the life and livelihood of the community caused by natural factors, non-natural factors and human factors, resulting in human casualties, environmental damage, property loss, and psychological impacts [9]. Disasters referred to in this Law consists of natural disasters, non-natural disasters, and social disasters. In 2014, Indonesia received criticism from the UNISDR (United Nations Secretariat for International Strategy for Disaster Reduction) regarding policies on prevention and protection of natural disasters which were considered very weak in coordination between ministries. Coupled with a budget for countermeasures that are considered very small valued at 0.699% of the overall Indonesian national budget. Based on the classification from UNISDR (United Nations Secretariat for International Strategy for Disaster Reduction) divides disasters into two types of groups namely technological disasters and natural disasters. As a prone-disaster country, Indonesia is still struggling with the main problems of the low effort to deal with disasters, the low focus of attention on a disaster, and the weak role of schools in introducing disaster mitigation education.

Disaster mitigation is a strategic step in reducing disaster risk, both through physical development and awareness and increase ability to face the threat of disaster. The number of disasters experience by the people of Indonesia, knowledge needs to be given to the main community who reside in areas that are very risky. Disaster mitigation includes protective actions and activities that have taken place since preparation before the disaster, the disaster danger, prevention of rescue, rehabilitation and relocation efforts. Disaster mitigation includes all initiatives and actions aimed at minimizing the adverse effects of a disaster before it occurs. Within its scope, disaster preparedness encompasses the overall sweeping of activities, both structural and non-structural. Structural mitigation involves steps such as strengthening buildings and infrastructure. Nonstructural mitigation involves measures such as disaster education, disaster policy planning, forecasting, and early warning. The scope of disaster mitigation is not limited to saving lives and property, it also includes reducing the negative impact of hazards on economic development, biodiversity, and social institutions [10].

3.1. Education Disaster Mitigation Model in Indonesia

Non-stop disaster occurs in Indonesia. This should be accompanied by effort to continue disaster management such as through the education sector. Education is one of the determining factors in disaster risk reduction. Various types of integration models for disaster mitigation education are carried out in subjects. Learning model Disaster education is designed integrated in the teaching and learning process in schools without reducing the learning burden of students. Learning models are designed creatively, innovatively. Thus, the learning process does not cause rejection but instead increases resilience and objective awareness of disaster events [11].

3.1.1. Establishing Partnership Network Between Parties To Support PRB (Disaster Risk Reduction) at Schools

In supporting disaster risk reduction, disaster education conducted is through Training and Simulation methods [12]. The training is carried out by certain professional groups that have a background in community service. Besides being done in the community, it is also done in the school environment. Training activities begin with pre-disaster training, when a disaster occurs, and after a disaster. [13] Training conducted in the community is an effort to build preparedness at the pre-disaster stage. While
the simulation method in disaster management is a way to be able to assess someone’s readiness to face a disaster [14]. Other findings show that simulation methods that use games can lead to disaster preparedness better than not using simulation methods.

Identical school environment with the knowledge uses books. Thus, literacy becomes something appropriate in disaster management. Research on the role of geography lessons in developing disaster literacy curricula concludes that disaster literacy can play a role in building disaster literacy through setting disaster literacy curricula and the use of disaster contextual methods in classroom learning [15]. Knowledge literacy is implemented through printed books and non-printed documents. This output produces a product that can be consumed by all students and has access to the network. Books are produced by individuals, communities, certain organizations. The role of various organizations and communities supports the fulfillment of goals and needs in reducing the impact of disaster risk.

Other effort is through games. Games are widely applied in learning media. This game is interactive. Just as what has done by Rahadian created a disaster education game for autistic children that is developed using the MDA framework [16]. The games provide information on the signs of disaster, mitigation procedures and rescue bag for each individual.

In improving students’ abilities to outside activities, every school provides extracurricular activities. In some disaster-prone countries such as Japan, Nepal and the Philippines, extracurricular activities are effort to reduce disaster risks as well as in Indonesia. Through extracurricular disaster mitigation education, it can provide supporting information related to safety education in schools. In the Philippines, there is a scientific science club for students to channel ideas and ideas related to the guidance given from the school [17]. Findings of other research on school-age survey preparedness to deal with flooding are concluded that school-age children can be agents of reformers to understand the importance of disaster preparedness, for parents who have children after school set a good example in maintaining environmental conditions, and children’s readiness school activities for flood disasters can be taught independently in extracurricular activities [15]. Extracurricular activities can be used to facilitate students’ talents and interests outside academic abilities such as sports, scouts, arts, crafts, and others. Another extracurricular can be chosen is disaster mitigation simulation training. The exercise begins with theory and simulation in the classroom and then is practiced in the field with disaster equipment. Training in schools can involve local government residents and the Local Disaster Management Agency (LDMA) [14]

3.1.2. Disaster Resilient School
In 2006, The Indonesian Institute of Sciences (LIPI) carried out research in 3 regions, such as Bengkulu City, Padang City, and Aceh Regency. From those findings, they state that school is ‘public spaces’ with a high level of vulnerability. On the field, there are many areas that are vulnerable to disasters. School facilities and infrastructure, school buildings are the main targets of disasters occurring mainly in school hours [18]. The description of events in China during the earthquake on May 12, 2008 had a big impact because it occurred during school hours. The disaster killed 87,000 people and 5,335 students with a magnitude 7.9 earthquake. School children who died around 6%. Chinese state media reports have launched more than 7,000 school buildings that collapsed and led to teachers and students. Due to the poor quality of building materials, many school buildings collapsed during the earthquake. That fact made Indonesia realize efforts to manage disaster preparedness in schools.

One of efforts in developing disaster preparedness in schools is through disaster preparedness school programs. Disaster prepared school is a school that is able to manage disaster risk and has the ability in disaster management planning (before and after a disaster), the availability of logistics, environmental safety Education, infrastructure, and emergency systems supported by the presence of knowledge and preparedness skills, fixed procedures (standard operational procedure), and early warning systems. The UNISDR handbook explains Safer School Construction, (Guidance Notes on Safer School Construction). It states that preparedness is the knowledge and capacity developed by the government, professional organizations that organize emergency response and post-disaster recovery, communities
and individuals are expected to effectively anticipate and respond to the impact of events or conditions that can occur and will occur.

Endeavoring school disaster preparedness are a manifestation of the National Action Plan for Disaster Risk Reduction (RAN PRB) 2010-2012, namely using knowledge, innovation and education to build a culture of safety and disaster resilience. Thus, the concept of disaster preparedness school/school of disaster alert consists of efforts to develop innovative minds to produce a culture of safety, resilience, and security for all school residents, school community preparedness and a safe learning environment are part of the main elements of disaster preparedness schools.

School of disaster alert aims to: 1) Build a culture of alertness and a culture of safety in schools by developing networks among stakeholders in the field of disaster management; 2) Increase the capacity of school institutions and individuals in realizing safer learning places for students, teachers, and all residents around the school; 3) Disseminate and develop disaster knowledge to the wider community through education in schools. The Disaster Preparedness School Program (SSB) is part of the BNPB program through the disaster safe school campaign in collaboration with the Ministry of National Education. The disaster preparedness school (SSB) program is part of the BNPB program through a safe school campaign in collaboration with the Ministry of National Education.

3.2 Local Wisdom-based Disaster Mitigation Education
Indonesia is an archipelago with a very diverse culture. The cultures are assets in the field of tourism and the identity of a nation. However, along with the development of modernization and globalization, many of these cultures begin to fade and cultural assimilation ensued. This diversity brings up the local identity of each region. Thus, they are able to contribute to the issue of disaster development as one of the issues raised in sustainable development (Sustainable Development Goals) [19]. With the focus on disaster management, it is expected that disaster risk can be minimized in each region/area. Almost every region in Indonesia is categorized as disaster prone. Regions in Indonesia have a varied nature conditions. This is affected by geographical, geological, and climatological factors that cause each region to need adaptation to various types of disasters [20] [21] [1]. Based on research conducted by Simon Sujanjoyo in 21 regions in Indonesia, He states that the dominant disaster management efforts use technology or system applications. The second sequence is local wisdom and the rest is in the form of Education related to disaster [22]. The focus of this research is about education-based disaster mitigation local wisdom. Culturally, Indonesia is a culturally diverse country and it should be preserved as the identity of the Indonesian nation. Some studies say that a culture can survive in society if that culture is integrated into formal educational institutions[23].

Various forms of culture for disaster mitigation have begun to be applied in various regions in Indonesia, including in Central Java which is called Jogo Tonggo. Jogo Tonggo is a concept of disaster mitigation in Central Java. Furthermore, it becomes movements that contain local wisdom. The local wisdom side can be seen from the first, the use of phrases in Javanese that are easily understood by the wider community. Second, open space for community participation based on habits, norms, and local values in the community such as social associations at the RT, RW level, and other social communities such as the Islamic study groups, and others. As meaning in words chosen using Javanese language, this concept is applied in order to, first, the power of information and education about the dangers of Covid-19 is easily and quickly understood by local residents. Second, each member of the community in Central Java at the RW / RT level takes care of each other's neighbors and environment from the spread of the Covid-19 outbreak and the effects caused by the pandemic. [24]

Baduy people also have local wisdom. In Baduy society, there are several rules in the order of life related to nature, as follow: they are not allowed to enter the forbidden forest and take products from the forest even if they are only dry leaves. They are not allowed to change the flow of the river for some people. They are not allowed to manage the land with pesticides, use hoes and make terraces to grow rice. [25] Baduy local wisdom is related to disaster mitigation in earthquakes, landslides, floods, and fires. This is reflected in: (1) the farming tradition with the rules for selecting the location of the field when farming, the procedures for opening and burning land, and the equipment that is allowed to be
used. The farming tradition avoids the danger of landslides and fires. (2) Rules and *pikukuh* is for making building houses, bridges, granaries, etc. with bamboo, fibers and kirey materials without spile. Buildings made on the ground adjust the contour of the land, erected on the base are not allowed to change the contour of the land. This is a mitigation against earthquake, landslides, floods and fires. (3) Dividing the forest zone into three areas is an effort to mitigate landslides, floods, erosion, and other disasters also as an effort to conserve the ecosystem.

In Kalimantan, the Dayak tribe also has local wisdom. As a local farmer has local wisdom in farming and opening fields. The Dayaks do not burn forests except for farming, and this is also conducted through traditional calculations that have been taught for generations. In the Dayak community as a child, they have been planted to not leave the fire alive because leaving the fire alive will have an impact on something undesirable such as a fire. [26]

In Aceh, there is a local wisdom called Smong. Local wisdom precisely on the island of Simeulue in reading disasters that occur on the beach. Adopting this custom has been proven to save lives when a tsunami occurs. Smong is a simple local wisdom concept that functions as an information tool when a tsunami occurs. Shouts of a "smong" sound signal an early warning to the surrounding community that the water is receding and they must immediately run to the hills. This knowledge comes from their ancestors who learned from previous disasters. Smong is also defined as sea water that rises after an earthquake [27]

In West Java, Sundanese people also have local wisdom. Every indigenous people in Sundanese culture has a form of local wisdom that is very significant in mitigating disasters. In general, indigenous peoples have realized that if the environment is damaged, disaster will be overtaken, even though the way to maintain it is through myths and customary rules. However, this belief has been very effective in preventing disasters until now, especially erosion, floods and landslides. The forms of interpretation of local wisdom include three, as follow (1) Bamboo House Building; (2) Spatial Planning & Zoning of Land Use in Micro Scale; (3) Environmental Friendly Land Management. [28]

In Sulawesi, an indigenous Karampuang people have local wisdom in managing forests. They have their own ways and become part of their cultural system. The forest is an inseparable part of nature itself to maintain the balance of the ecosystem. There are separate rules or norms that must be obeyed by all members of the community. The Karampuang community is still very bound and obedient to its customary rules, which are full of cosmological beliefs, knowledge and views, related to environmental management and maintenance. In order to stay awake. The Karampuang Indigenous Council as a symbol of the traditional ruler, agreed to manage the existing customary forest by using knowledge sourced from the local wisdom they possessed. As it is known that these indigenous people still hold myths and ancestral messages that contain prohibitions, invitations, sanctions in managing their forests [7].

Various types of local wisdom above manifested in the form of adaptive behavior to the environment has an important role in seeking disaster risk reduction. The original knowledge that has been applied in the community has a positive impact while facing and responding to a disaster that comes. The original knowledge that people have is extraction from a variety of experiences that are hereditary from their ancestors when practicing disaster [7]. Education based on local wisdom is an education model that has high relevance for life skills by relying on the local potential of each region. This education teaches students to absorb and even manage culture that comes from within or outside their area. With local wisdom, students will adjust to the view of life around them. Through local wisdom disaster mitigation is an example of education that has a strong connection to disaster risk reduction skills [23]. The purpose of education is to be able to educate and prepare students who are able to contribute to society, the nation, and the country. Therefore every student needs to know the characteristics of their area and their needs. Geographically, disasters have different patterns and characteristics in dealing with disasters, so it requires different patterns of management. This forms the attachment of the power of local wisdom to encourage the importance of local wisdom in an area.
Table 1. The Importance of Local Wisdom for Disaster Mitigation

| No | Identification of the Foundation of the Importance of Local Wisdom |
|----|-------------------------------------------------------------------|
| 1  | The practices and strategies of natives contained in local wisdom, that have proven to be very valuable in dealing with natural disasters can be transferred and adapted by other communities facing similar situations |
| 2  | The integration of local wisdom into existing policies will encourage community participation to mutually empower existing capacities as the main step in disaster risk reduction activities |
| 3  | Information on local wisdom of an area can help provide knowledge regarding the cultural values of disaster management in the area. |
| 4  | Provision of policy information in direct practice can be a good example as a step in socializing disaster risk reduction |

Source: Data Analyzed, 2020 [6]

In Indonesia, exploring local wisdom to minimize disaster has occurred in some regions. Each region has a variety of local knowledge with names and traditions that the use is not the same. According to local communities, local wisdom is more effective in shaping resilience about disasters compared to appeals from the government especially if education is carried out by community leaders. With various examples of forms of local wisdom in disaster mitigation above, before it is applied in classroom learning it is necessary to identify the forms of local wisdom according to the area or location of the student located. Furthermore, teachers and students together identify local wisdom to minimize disaster mitigation.

3.3 Disaster Mitigation Curriculum

Disaster mitigation is an effort to reduce disaster, both through physical development as well as awareness and capacity building to face the threat of disaster (Article 1 paragraph 6 of PP No 21 of 2008 concerning the Implementation of Disaster Management). So far, the disaster mitigation efforts undertaken by Indonesia, in terms of legislation is to have a Disaster Management Act namely Law Number 24 Year 2007 and Government Regulation Number 21 Year 2008, Regarding Disaster Management Arrangement.

Disaster mitigation in the environment Education has its own challenges. The challenge is how disaster education programs can encourage people to update information, increase risk, maintain awareness, and prepare appropriately for future disasters. As a step to develop various teaching and learning approaches, it is hoped that they can achieve the main goal of disaster risk reduction by making people have a culture of disaster preparedness [29]. To reach beyond the role of academics is also needed. Academics as one of the main stakeholders in disaster risk reduction, play a more proactive role in disaster risk reduction engagement programs and the wider community. [30]

School in Indonesia has not been fully applied disaster education besides integration with other subjects. This condition is also carried out when the material is taught. The importance of disaster education is a necessity for disaster mitigation involving educational institutions. Children who are also likely students to be the individuals who feel the most impact after a disaster. Crisis will occur in children, so that it becomes the focus in disaster management.

Disaster management education is a long-term plan for sustainable development. Sustainability Education is a lifelong learning process that leads to citizens who are informed, have creative, scientific and socially literate problem-solving skills, and a commitment to engaging in responsible individual and cooperative action. On the other hand, disaster is one of the biggest obstacles to achieving development goals. Thus, reducing disaster risk and its impact has become an important development issue. DRR (disaster risk reduction) has a natural synergy especially for the Asia-Pacific region. DRR has shown that effective education is only possible when education is able to reach all aspects including the culture
Learning by connecting schools and communities is considered important and effective. [31]

One of the challenges in sustainable development which is currently receiving serious attention, is related to disaster management. Almost every region, especially in Indonesia, has the potential for disaster. Therefore, by incorporating subject matter into the curriculum and making it compulsory in schools, it can support the reduction of disaster risk. The curriculum designed is based on local wisdom. Thus, it is easily understood by students.

3.4 The Application of Local Wisdom Learning Through Curriculum Integration

In an effort to reduce disaster risk in schools, the Minister of National Education issued a letter with Number 70a / MPN / SE / 2010 which contains: 1) empowering the role of institutions and communities in schools, 2) integrating disaster risk reduction (DRR) into the school curriculum, 3) formed collaborations with various parties to support disaster risk reduction in schools. This potential disaster will later be included in the learning curriculum in schools (2013 Curriculum) which is called the disaster mitigation curriculum. The curriculum in Indonesia currently focuses on four core competencies, namely: 1) spiritual attitude; 2) social attitude; 3) knowledge; and 4) skills. Of the four competencies, the values of local wisdom about disaster mitigation are applied.

First, the teacher maps basic competencies in each meeting and indicator and looks at potential disasters in the area students live in and local wisdom in disaster mitigation. In disaster management, it is carried out using local wisdom using the KIDA model (Knowledge, Interest, Desire, Action). The knowledge is about the hazards and risks of disaster, interest (curiosity in the event of a disaster and pre-disaster preparedness, Desire (actively participating in disaster preparedness, action (concrete steps taken when a disaster occurs) [5].

There are some different approaches to integrate disaster risk reduction. Selby and Kagawa identified that 1) an approach is driven by textbooks, 2) project approach, 3) competency-based approach centrally, 4) special subjects developed centrally, 5) a symbiotic approach and a ‘special approach’[32].

![Figure 1. Disaster Mitigation Education Model Based On Local Wisdom](image)

Based on the findings of Aiyono and Kanegae, it proves that students can instill a spiritual attitude about local wisdom in disaster mitigation. From the two schools, the results show that the role of religion in a natural phenomenon is very important. For countries like Indonesia, in their efforts to develop disaster risk reduction materials, most of them believe that disasters that occur are caused by God's punishment and focus more on self-reflection. In fact, this belief is significant in efforts to reduce disaster risk (DRR) that are effective personally so as to build preparedness when a disaster occurs suddenly. It is therefore very important to develop disaster knowledge from a religious perspective [33]. With local wisdom, social attitudes are formed, students become more aware and concerned about the
importance of protecting the environment, disciplined behavior, and how to react and resilience that is built when a disaster occurs. From the value of knowledge, learning disaster mitigation through local wisdom is one form of contextual learning.

Local wisdom is a comprehensive lesson if it is integrated into the learning curriculum so that it can detect a region's disasters. In this effort, students, teachers, the community can be educated to recognize the disasters that occur around their area. Therefore, this kind of practice needs to be developed to increase understanding in disaster management efforts. The existence of a curriculum based on local wisdom can reduce the risk of disasters and people are aware of the relationship with nature and culture. Because a community that is resilient to disasters is a society that is tolerant of nature and understands the nature it occupies. [6] Teachers must be able to design learning by integrating various appropriate topics, one of which is the community environmental education approach. Teachers can use materials related to the environment or learning methods in accordance with the theme of disaster mitigation. [34]

4. Conclusion
In this article, I argue that the development of local wisdom-based disaster mitigation education in schools in Indonesia give alternative in efforts to build awareness and skills in dealing with disasters. Local wisdom in the form of local community habits that are developed in daily life such as Smong, Jogo tonggo, Dayak tribe, Karampuang custom, Baduy community, etc. are proven to play a role in minimizing the occurrence of a disaster. Furthermore, Local wisdom is integrated into the thematic-based disaster mitigation curriculum and scientific approach through the process of identifying competency standards in the 2013 curriculum, such as spiritual attitude, social attitude, knowledge, and skills. The form of curriculum integration is continued into the learning process with cooperative models, inquiry, and problem based learning to develop higher-order thinking skills (HOTS). Learning by emphasizing cultural values provides the benefit of forming strong students. Thus, they are able to behave quickly, precise, and accurate when facing disasters.

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