



## Disaster Response Team Preparedness in Al Madina Islamic Junior High School

Anik Setyo Wahyuningsih<sup>✉</sup>, Evi Widowati, Herry Koesyanto, Sugiharto, Ayu Dwi Haryati, Miranda

Universitas Negeri Semarang, Indonesia

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### Abstract

Indonesia is a disaster prone country since it is located in the most active disaster area in the world. In 2018, a total of 2.571 disasters occurred in Indonesia where the highest rate of disasters was in Central Java (22,5%) and it increased in the beginning of 2019 (34,9%). Semarang City as the center of provincial government is an area with multiple disaster threats which has a high class of Disaster Risks Index (DRI), has experienced an increasing disaster incidence over past 5 years. It was targeted to decrease the DRI by 30% in 2019, one of them is by conducting disaster awareness program in schools, including Al Madina Islamic Junior High School. However, the preparedness of the team has not been optimal. Therefore, a study was conducted to determine the effectiveness of emergency response skills as an effort to increase the capacity of disaster response team. This is a descriptive quantitative study, samples were 85 students. Data collection technique used instruments of observation sheets, test, and interview. Data were processed through editing, scoring, and tabulating, while data were analyzed with univariate analysis. The results showed that respondents' skills were increased and it was showed by faster emergency simulation and drill. The knowledge was also increased to 76% with the average score of pre-test was 39 and post-test was 66 after emergency response training. This study concluded that emergency response training is effective to increase skill and knowledge of disaster response team in Al Madina Islamic Junior High School.

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<sup>✉</sup> Correspondence Address:

Kampus Pascasarjana, Jl. Kelud Utara III, Semarang  
E-mail: [aniksetyo39@gmail.com](mailto:aniksetyo39@gmail.com)

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## INTRODUCTION

Indonesia is a disaster prone country since it is located in the most active disaster area in the world, which is at the confluence of 3 world plates of the Australasia, the Pacific, and the Eurasia. Those geographical position caused tectonic plates which are vulnerable to any geological changes and the formation of volcanic in Indonesia. There are 12 kind of disaster threats in Indonesia which are divided into 3 groups, they are geology disaster, hydrometeorology disaster, and anthropogenic disaster (Suharwoto, Gogot et al, 2015).

According to Data and Information for Disaster – National Disaster Management Authority, there were more than 1.800 disasters occurred during 2005-2015 and there were 2.571 disasters in 2018 (BNPB, 2018). Central Java is a province with the highest percentage of disasters in Indonesia, a total of 578 or 22,5% disasters happened in 2018 and 84 or 34,9% disasters happened in early 2019. Additionally, Central Java has a high population density, with a high risk of disaster exposure up to 32 million people (Amri, 2016).

Semarang City as the center of provincial government is the second most populous area with a high risk of disaster exposure up to 1.786.114 people (BPS, 2018). The high risk of disasters in Semarang City is shown by the fact that the number of disaster continued to increase in the last 5 years (2014-2018) with the average increase of 18,2% and caused a high material loss (BPBD, 2018).

Based on the preliminary study in Disaster Management Board in Semarang City, it was showed that Semarang is an area with multiple disaster threats which has a high class of Disaster Risks Index (DRI). Therefore, the Disaster Management Board in Semarang targeted to decrease the DRI by 30% in 2019, through capacity increase in the stage of pre-disaster management. In educational sector, it can be done by conducting a disaster awareness program in schools (Suhardjo, 2019). Since

disaster management education should be given mandatory in disaster prone country, such as Indonesia (Astuti, 2015).

The government has established a policy on disaster management through Regulation Number 24 of 2007 which emphasizes that disaster management efforts consist of pre-disaster stage, emergency response stage, and post-disaster stage, and it is everyone's right to get disaster management education and training. In reducing the disaster risks, it is needed to do integration with educational sector with the curriculum alignment, school empowerment, and training for teachers in schools (Arifa, 2018). It was also stated in the research of Wignyo Adiyoso dan Hidehiko Kanegge (2013), that the adoption of disaster issue which is based on curriculum is effective in increasing individual and school emergency preparedness.

Schools are effective and trusted way in building a culture of disaster preparedness (Qurniawan, 2014). Through these preparedness efforts, school resilience would be strengthened (Taufik, 2016). It was stated by Lilik Kurniawan (2016), that the efforts in mainstreaming a disaster risk reduction and increase a school capacity require a collaboration between many stakeholders. It was delivered in Sendai Framework that disaster risk management focus on risk prevention and reduction, and strengthening the resilience as the responsibility of the state and involve all institutions.

Disaster awareness program in Al Madina Islamic Junior High School is an effort to face the disaster management in Semarang, in collaboration with Semarang Red Cross and American Red Cross in 2017 (Djatismiko, 2019). However, the implementation has not been fully achieved since the disaster preparedness team has not been focused in disaster risk reduction. It is also known that school disaster preparedness team become an important component in school disaster management. Therefore, the researchers are interested to conduct a preparedness study in Al Madina

Islamic Junior High School which aims to know the effectiveness of emergency preparedness skills as an effort to increase the capacity of disaster preparedness team.

## METHOD

The research was conducted by using a descriptive quantitative method. The population were the students in Al Madina Islamic Junior High School amounted to 276 person, while the samples in this study were as much as 85 students.

Data collection in this study was based on primary and secondary data. For primary data, it was done by observation, test, and interview. For secondary data, it was collected by literature study and documentation study. The instruments in this study used observation sheets, test sheets, and interview guidelines.

Data were processed through editing, scoring, and tabulating. Data were analyzed with univariate analysis that consist of a single variable, therefore it can show the effectiveness of emergency preparedness skills to increase the capacity of disaster preparedness team.

## RESULTS AND DISCUSSION

Al Madina Islamic Junior High School is geographically located at -7.0172280 latitude and 110.3853210 longitude. It is also administratively located on Menoreh Utara IX Street, Number 57, Sampangan, Gajah Mungkur District, Semarang City, Central Java 50234, precisely in the area of Kali Garang watershed area. According to Semarang disaster hazard map, this school is located in a flood prone area. There was a big flood disasters that happened periodically in 10 years, which happened in 1980 and 1990 in Sampangan, especially in that neighborhood.

Those neighborhood also has a high risk of fire because of the crowded housing, including the Al Madina Islamic Junior High

School. Therefore, they formed a disaster preparedness team in school.

In this research, there was an assessment of emergency skill effectiveness in order to increase the capacity of school's disaster preparedness team. This study involved 85 students with different gender as shown in the table:

**Table 1.** Characteristic of Respondents Based on Gender

Gender	Frequency	Percentage
Male	42	49
Female	43	51

From the result of emergency preparedness training, there was a knowledge increase among respondents as shown in the table:

**Table 2.** Percentage of Knowledge Increase in Disaster Preparedness Skills

Average of pre-test	Average of post-test	Average of Knowledge Increase
39	66	76

Furthermore, in the emergency simulation and drill, there was a faster evacuation time to the assembly point as shown in the table:

**Table 3.** Percentage of Evacuation Time Increase

Pre-Simulation Evacuation Time	Simulation Evacuation Time	Percentage of Increase
15'	5'	200

In this study, the skill training that was given to students include: (1) disaster understanding, (2) hazard recognition, vulnerabilities, risks, and capacities of school,

(3) emphasis on material emergency response quickly and accurately.

The knowledge increase among respondents were good, since the average score of pre-test was 39 and the average score of post-test was 66. This means that the knowledge increase was amounted to 76% after emergency response training. This will certainly affect the respondent's skills in responding the emergency at school. As mentioned in the research of Victoria A. Johnson, et al (2014) that disaster education can provide significant changes for children. Aligned with the opinion by Indawati (2015), that the knowledge can influence people attitudes and they can concern to be ready in anticipating disasters.

Those influences were shown in significant speed of evacuation time, because the respondents already received emergency response training, one of them was done by doing an evacuation quickly and efficiently in a proper way. Based on observation process, the evacuation mechanism which done by respondents before and after the training were different. After the training, the evacuation process looked neater and faster. While before the training, the evacuation was not conducive and it took a long time. From that learning process, it can be seen that emergency response training can improve respondent's skills. As what Suhardjo (2011) stated that the method and emergency response training affected the readiness of elementary school students to help themselves. Therefore, it can increase the independence of students in emergency situation.

As mentioned by Eny Supartini, et al (2017), in the Disaster Preparedness Training guidelines, that self-empowerment preparedness is the biggest opportunity to reduce and anticipate a victim in emergency.

The preparedness simulation methods can have a positive influence on disaster preparedness (Indriasari, 2016). The emergency response training is also a right for each residents, as stated in Regulation Number 24 of

2007 about Disaster Management chapter V article 26 paragraph (2) that every person has the right to receive education, training, and skills in organizing disaster management, and paragraph (3) obtain written and oral information about disaster management policies.

The training for emergency response skills for students is an important part of school disaster preparedness. Firmansyah (2014) stated that, the preparedness process especially evacuation and rescue to minimize the disaster victims is an important thing that must be prepared as an emergency response plan. Based on observation and interview at school, they already gave an emergency preparedness training for students, but in the latest simulation, not all students have understood the whole stage of emergency preparedness, including the right evacuation in proper way.

Therefore, the training for emergency preparedness in schools could not only rely on the internal parties, but the effort must be made to optimize the school resources in forming the school disaster preparedness. Disaster preparedness efforts which are not trained sustainably can be lost easily even the school already gave the training.

It is because skills must always be trained to be culture and habit. Therefore, there should be further training provided by schools in collaboration with relevant stakeholders and facilitators, which is also part of mentoring effort. The mentoring efforts are useful for giving the further skills for students, referring to the Government Regulation Number 21 of 2008 about Disaster Management, especially in Chapter II article 14 paragraph (2), which stated that education and training for disaster management organized by the government and regional government in form of basic, advanced, technical, simulation and drill through formal, non-formal, and informal education.

## CONCLUSION

This research concluded that emergency response training is effective to increase skill and knowledge of disaster response team in Al Madina Islamic Junior High School.

## REFERENCES

- Adiyoso, Wignyo & Hidehiko Kanega. (2012). The Effect of Different Disaster Education Programso on Tsunami Preparedness Among Schoolchildren in Aceh, Indonesia. *Disaster Mitigation of Cultural Heritage and Historic Cities*, 6: 165-172
- Amri, Mohd. Robi, et al. (2016). *Risiko Bencana Indonesia*. Jakarta: BNPB.
- Arifa, Fieka N. (2018). Mitigasi Bencana Pada Sektor Pendidikan Formal. *Info Singkat*, pp. 13-18.
- Astuti, Ati. (2015). Pelaksanaan Program Sekolah Siaga Bencana di SMA Negeri 1 Karangnom Klaten Tahun 2015. *Skripsi*. Semarang: Universitas Negeri Semarang
- BNPB. (2018). BNPB.go.id. Retrieved 1 27, 2019, from website: [www.BNPB.go.id](http://www.BNPB.go.id): <https://bnpb.go.id>
- BPBD. (2018, Desember). [bpbd.semarangkota.go.id](http://bpbd.semarangkota.go.id). Retrieved June 1, 2018, from website: [www.bpbd.semarangkota.go.id](http://www.bpbd.semarangkota.go.id): <https://bpbd.semarangkota.go.id>
- BPS. (2018). BPS Provinsi Jawa Tengah. Retrieved February 4, 2019, from website: [www.bps.go.id](http://www.bps.go.id): <https://jateng.bps.go.id>
- Djarmiko. (2019, 1 24). Sekolah Siaga Bencana. (A. D. Haryati, Interviewer)
- Firmansyah, Iman. (2014). Hubungan Pengetahuan dengan Perilaku Kesiapsiagaan dalam Menghadapi Bencana Banjir dan Longsor pada Remaja Usia 15-18 tahun di SMA Al-Hasan Kemiri Kecamatan Panti Kabupaten Jember.
- Government Regulation Number 21 of 2008 about Disaster Management
- Indawati, L. (2015). Analisis Tingkat Kerawanan Banjir dan Persepsi Masyarakat terhadap Upaya Pengurangan Dampak banjir di Kecamatan Baureno Kabupaten Bojonegoro. *Surakarta: Universitas Sebelas Maret*.
- Indriasari, Fika Nur. (2016). Pengaruh Pemberian Metode Simulasi Siaga Bencana Gempa Bumi terhadap Kesiapsiagaan Anak di Yogyakarta. *Jurnal Keperawatan Soedirman (The Soedirman Journal of Nursing)*, 11(3): 1-7.
- Johnson, VictoriaA., KevinR.Ronan, DavidM.Johnston, & RobinPeace. (2014). Evaluations of Disaster Education Programs for Children: A Methodological Review. *International Journal of Disaster Risk Reduction*, 9: 107-123.
- Kurniawan, L., Lilis St. Muttmainnah, Aminudin Hamzah dan Elfina Rozita. (2016). Inisiasi Sekolah/Madrasah Aman Bencana. *Jurnal Riset Kebencanaan Indonesia*, 2(2): 106-116.
- Priyono, MM. 2016. *Metode Penelitian Kuantitatif*. Surabaya: Zifatama Publishing
- Qurniawan, Meril. (2014). Pengembangan Model Integrasi Pendidikan Siaga Bencana dalam Kurikulum Madrasah Ibtidaiyah. *An-Nuha*, 1(2): 1-21
- Regulation Number 24 of 2007 tentang Disaster Management
- Suhardjo. (2019, 1 22). Sekolah Siaga Bencana. (A. D. Haryati, Interviewer)
- Suharwoto, Gogot, dkk. (2015). *Modul 3- Pendidikan Pencegahan dan PRB*. Jakarta: Biro Perencanaan dan Kerjasama Luar Negeri, Sekretariat Jenderal Kemendikbud.

Supartini, Eny et al. 2017. Pedoman Latihan Kesiasiaagaan Bencana Nasional (Membangun Kesadaran, Kewasadaan dan Kesiasiaagaan dalam Menghadai Bencana). Jakarta: BNPB

Taufik, Ahmad. (2016). Implementasi Kebijakan Sekolah Siaga Bencana dalam Membangun Resiliensi Sekolah di SMP N 2 Cangkringan Kabupaten Sleman. Jurnal Kebijakan Pendidikan 4(5): 408-418