A COMPARATIVE STUDY OF DISASTER PREPAREDNESS KNOWLEDGE OF THE ELEMENTARY STUDENT IN INDONESIA AND JAPAN

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ABSTRACT

Indonesia and Japan have a similar demographic background, i.e. their regions have a high risk of disaster. Since children are one of the groups who become the victim of natural disaster, as a prevention effort, the natural disaster preparedness material must be taught early on. The purpose of this research is to conduct a comparative survey of the degree of knowledge of the elementary school student in Indonesia and Japan about the natural disaster, especially earthquake and tsunami preparedness.

Keyword: Disaster Preparedness., Elementary School Students

JEL,classification: D_{83}, H_{52}, I_{121},I_{126}

I. BACKGROUND

Indonesia is an archipelago surrounded by three plates which can move at any time and cause faults, including the Eurasian plate, the Indo-Australian plate, and the Pacific plate. In addition, Indonesia is the path of the Pacific Ring Of Fire, which is the active volcano chain in the world, so there are approximately 240 volcanoes, and 70 of them are still active. As a result of this geographical location, Indonesia is a country that has the greatest potential for earthquakes in the world.[1]

Children are a group at risk of disaster. At the time of the disaster, many children were victims such as injuries and deaths. Therefore it is important to give the knowledge of disaster preparedness to them. The education system for primary schools in Indonesia focuses on science so that lessons on disasters are relatively few and are considered less important. On the other hand in Japan children are supposed to learned early how to protect themselves from danger, which is caused directly from humans and by the environment such as natural disasters.[2]

Disaster is a serious disruption of the functioning in the community at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts. The number of disasters around the world is increasing, and disasters remain a major drawback to sustainable development. Reducing vulnerabilities to natural hazards and damage caused by them is an inevitable challenge in the international community. Every year, disasters hit worldwide and many people were killed.

[1] Wahyuni, Elida. (2011) *Tingkat PengetahuanSiswatentangBencana di SMAN 1 Pariaman Sumatera Barat dan SMAN 2 Depok Jawa Barat*. FKM UI Jurnal, Vol. V No. 1 2011

[2] Yulianto. (2013) *The effect using instructional media on student preparedness in the face of floods and earthquakes in junior high schools 01 Gatak, Indonesia.*FKIP UMS Journal Vol, VII No.1 2013.

Huge damage on the local and world economies was experienced. In the past 30 years, (1984 – 2013), more than 247 million people were killed and more than US$2.4 trillion was lost in damages. In Asia in particular, many disasters occurred, including the Indian Ocean tsunami disaster in December 2004, the Sichuan, China earthquake in 2008, Great East Japan Earthquake in 2011, Typhoon Haiyan, the Philippines in 2013 and so forth.[3]

Natural disasters in Indonesia are still considered destiny by the community so that they do not increase the alertness of the disaster whenever possible and the government is not quick to handle disasters so there are many casualties when a disaster occurs, such as the earthquake and tsunami in September 28, 2018, with an earthquake magnitude is 7.5 and followed by tsunami with total deaths 2,045, missing 100 and injured 632 people and still in the same year the Sunda Strait tsunami incident on December 22, 2018 in Banten and Lampung Indonesia with total deaths 426, missing 25 and injured 7,202 people. in this incident, it can be concluded that the Indonesian community and government awareness of disaster in Indonesia is low because the number of victims is high.[4]

As a developed country Japan is a role model in the face of disasters for the world. In the second half of the 1950s, largescale typhoons with earthquakes caused extensive damage and thousands of casualties. Thereafter, with the progress of society's capabilities to developing management systems, promoting national land conservation, improving weather forecasting technologies, and upgrading disaster information communications systems therefore damage is reduced. In 1995, more than 6,400 people died of the Great Hanshin-Awaji Earthquake. Also, in 2011, more than 18,000 people died or went missing due to the Great East Japan Earthquake. As such, natural disasters remain a menacing threat to the safety and security of the country.[5]

Based on research conducted by Febi Lulu Nadia and Budi Satria with the title "the students perception of disaster preparedness schools" with the results all students were ready to face of the disaster. However, the implementation of disaster preparedness has not been maximized, such as there is no school evacuation route and UKS (school health unit) facilities have not been used properly. Therefore, in addition to getting material about disasters, childrens also need direct training how to save themselves. [6]

The knowledge about disaster preparedness is important for the community and individuals especially at schools, to anticipate the impacts imminent or current disasters. The risk of disaster victims in expected can be minimized. Firstly, needs support from the government and the national education department makes a system for students to learn about disasters as a compulsory subject in elementary school. Secondly, from the public sector can provide socialization and simulation how to save the children from disasters. And third, family roles are also important to support and teach their children from disaster hazards such as swimming ability.

[3]Cabinet Office, Government of Japan (2015). Disaster management in Japan

[4]BNPB (Badan Nasional Penanggulangan Bencana Indonesia)2019. Bencana alam Indonesia 2018 s/d 2019.

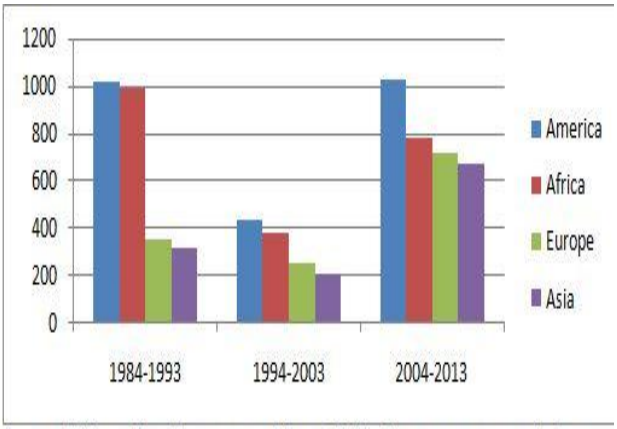
[5]Cabinet Office, Government of Japan (2018). White paper disaster management in Japan 2018.

[6]Satria, Budi. (2018) The students perception of disaster preparedness schools. *Idea nursing journal, ISSN:2087-2879,e-ISSN:2580-2445*.Vol. IX No. 1 2018.

II. DATA

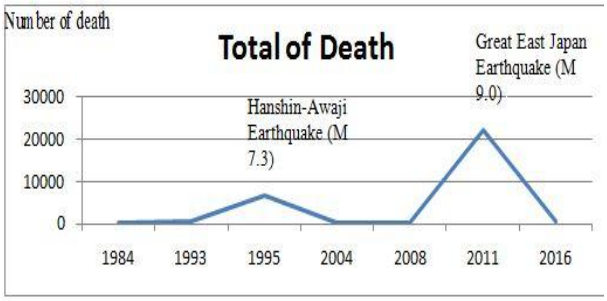
a. Changes in disasters worldwide (1984-2013)

Death toll (Persons in million)



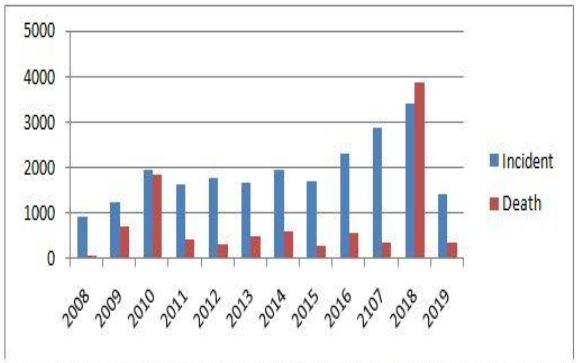
Source : Cabinet office, Government of Japan (2015). Disaster management in Japan.

b. Major earthquake damages in Japan for the last 30 years



Source : Cabinet Office, Government of Japan 2018. White paper disaster management in Japan 2018.

c. Natural Disasters in Indonesia 2008-2019



Source : BNPB (Badan Nasional Penanggulangan Bencana Indonesia) 2019. Bencana alam Indonesia 2018 s/d 2019. Web :http://bnpb.cloud/dibi//grafik3a.

III. METHODOLOGY

The research method is quantitative with a cross-sectional design to see the level of student knowledge about disaster preparedness. using the questionnaire with 5 parameters, that is: (1) knowledge and attitudes, (2) policies and guidelines, (3) emergency response plans, (4) early warning system, and (5) resource mobility aimed for the school, data analysis using univariate and bivariate with T-test to measure the level of comparison knowledge about disasters between elementary school students in Indonesia and Japan.[7]

IV. EXPECTED CONCLUSION

This research result shows a significant differences of the knowledge level on disaster preparedness between elementary school students in Indonesia and Japan. An example from a previous research (Wahyuni, 2011) to measures the level knowledge of students using the T-test, is shown below.

Table 1. The average distribution of knowledge between senior high school students of 01 Pariaman and 02 Depok on disaster preparedness in 2011.

The knowledge of senior high school students	mean	Deviation standard	Mean error standard	P Value
01 Pariaman	53,25	2,157	0,154	0,0001
02 Depok	51,24	2,532	0,187	

Source: Wahyuni,Elida. (2011) *Tingkat pengetahuan siswa tentang bencana di SMAN 1 pariaman sumatera barat dan SMAN 2 depok jawa barat*. FKM UI Journal, Vol. V No. 1 2011.

The results from the table P-value is 0,0001, that means the level knowledge of high school students 01 Pariaman is higher more than the high school students 02 Depok .

[7] Bungin, Burhan. 2011. Quantitative Research Methodology: Communication, Economics, and Public Policy and Other Social Sciences. Jakarta : Kencana Prenada Media Group.

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