

## Action of the disaster prevention education in Kochi~development and practice of the Kochi safety education program~

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In 2013, the Kochi prefectural Board of Education created teacher's instructional documents for disaster prevention education called "the Kochi Safety Education Program (for earthquakes)" and handed it out to all the teachers in Kochi. It explains the outline of the program and introduces some specific efforts to promote disaster prevention education in Kochi.

Keywords: Disaster prevention education, the Kochi Safety Education Program (for earthquakes), Nankai trough quake, Instruction ten items

## Advancing disaster preparedness in Okinawa Prefecture

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Okinawa Prefecture located in the south-westernmost part of Japanese Islands and in the subtropical area is often attacked by characteristic natural disasters which are different from the other areas in Japan, such as, destructive typhoons after passing the Western Pacific Warm Pool, high tide due to typhoons and warm water eddies, many earthquakes of both plate convergent type and due to active across-arc fault slip, most of them may induce tsunamis because their hypocentres are mostly sub-seafloor. Disaster preparedness, especially in Okinawa Prefecture is to be taught at the school education. Currently, 'Home Economics' is the only subject in which disaster preparedness is taught in junior and senior high schools in Japan. Therefore the articles on disaster preparedness in the current official textbooks on 'Home Economics' for junior and senior high school education were investigated in order to search if they contain descriptions enough to fulfil the disaster preparedness education in these schools. The results, however, show that the description in all the official textbooks was poor and that the volume of the description was half page in the minimum case and two pages even in the maximum case. The authors therefore started the following practice to fulfil the disaster preparedness education at schools.

A brochure to explain the nature of these natural disasters characteristic of Okinawa Prefecture and to teach how to prepare for the natural disasters was printed for auxiliary materials for school education. It includes the aspects of both natural science (earth science) and home economics, such as preparedness in the viewpoint of food clothing and shelter.

Japanese government established the system for renewing educational personnel certificates in 2007 and mandated the adoption of it in April 2009. The new system shows that only persons who have attended the certificate renewal courses over 30 hours and passed the examination before the expiration of the valid period can renew their certificate which is valid for next ten years. The purpose of this system is for teachers to acquire the latest knowledge and skills. Since 2012, the author has offered a 6-hour certificate renewal course titled by 'Disaster preparedness in Okinawa ? practicing development of teaching materials for school pupils'. This course was targeted mainly for science and home economics teachers of junior and senior high schools to tell the school pupils how to save their lives in case of devastated natural disasters.

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## Lesson from the great east earthquake and future education for safety

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Keywords: Safety education

## Urban Disaster

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Disasters in urban area have evolved with urbanization such as urbanizing disaster, urbanized disaster, urban disaster and Super-urban disaster. These changes of the disasters are discontinuous due to phase tradition. The condition will be proposed by the worst damage scenario. The disaster vulnerability depends on several conditions such as rapid urbanization and inadequate land use management, over-population and its density, imbalance of natural environment, over-dependence on social infrastructure and public service. Disaster resilience was proposed in Hyogo Framework of Action (HFA), the 3rd United Nation Conference on Disaster Reduction in 2005. Japanese government will promote the disaster resilient policy, but it does not include community based projects which is also supported by people in any community. In the case of retrofit of houses, community based promotion is necessary because the cause of a fire is an earthquake vulnerable old house in the community.

Keywords: Urban disaster, Disaster evolution, Phase tradition

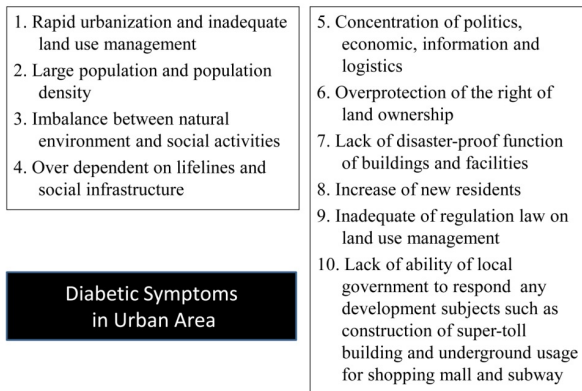


Fig. 1 Factors of acceleration of vulnerability in urban area

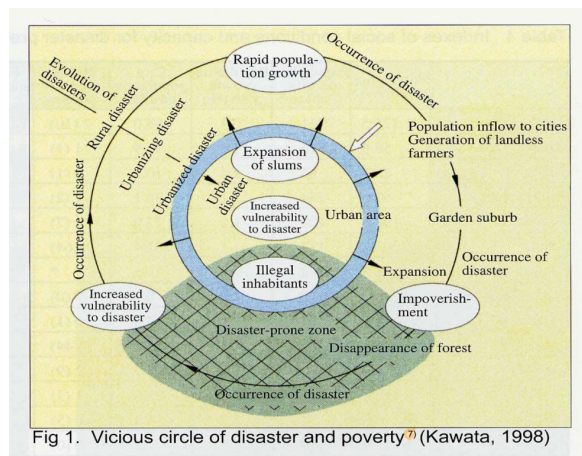
## Natural Disaster in The World

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Natural disasters have two characteristics. The former is that disaster history repeats itself and the latter is locality. In Istanbul, Turkey, plate boundary earthquakes have occurred 27 times since 438. Mayon Volcano, Philippines had erupted 50 times in 400 years since 17th century, therefore average time interval is 8 years. In Asia, natural disasters hold a certain percent of the world such as number of occurrences : 36%, property damage : 47%, death toll : 62% and number of injured : 89%. The last two has increased due to rapid growth of population in urban area. The combination with gigantic earthquake and tsunami and volcano eruption had occurred in Japan as 1) 864 to 887 with Mt. Fuji eruption, Jogan earthquake and tsunami and Nankai-trough earthquake and 2) 1703 to 1707 with Genroku earthquake in Tokyo, Nankai-trough earthquake and Mt. Fuji eruption. We are now under clear effect of global warming. For example, in South Asia, the number of flooding has increased nearly twice in next ten years. Since 1995 in China, river flood disasters occurred five time with the victims of more than one hundred million. In 2005, hurricane Katrina with category 5 hit New Orleans and just three weeks after hurricane Rita also hit the damaged area. She was also category 5 and they made compound disaster. Finally, we proposed vicious cycle among population increase, disaster occurrence and poverty in rural area and urban area. The pair of two vortexes is very stable, therefore it is necessary to become economic growth to break the vortexes.

Keywords: Natural disaster, Global warming, Vicious cycle



## Support by the health care providers in the reconstruction phase of disaster

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In the reconstruction phase, health care providers should pay particular attention to vulnerable groups which include the poor, women, children, elderly, handicapped and people with preexisting mental disorders.

Japanese people have experienced two severe natural disasters for the last two decades. The Hanshin-Awaji Earthquake occurred in the early morning of the January 17, 1995. Approximately 6,433 people perished and more than 43,792 people were injured. Homes of more than 300,000 people were totally or partially destroyed. Citizens not directly affected by the earthquake had to endure extreme disruption and confusion in their daily lives due to the long time disruption of daily activities resulting from the severely damaged infrastructure.

The Great East Japan Earthquake measuring a magnitude of 9.0 created a devastating tsunami that resulted in the destruction of a nuclear power station with the release of radioactive materials into the environment. The disaster occurred on March 11, 2011, and created one of the most severe humanitarian disasters in modern day Japan. According to the most recent estimates, 15,870 people perished during the disaster, with an additional 2,814 missing, and more than 329,777 being internally displaced. Some statistical models estimated that 727 of those who perished were children.

Three aspects were focused in this paper. The first is the data of psychological reactions in the small children and their mothers following the Hanshin-Awaji Disaster, and the second is the data obtained of children with intellectual or physical disabilities. Thirdly, I would like to introduce our activities in Indonesia and Tohoku based on our experiences gained after the Hanshin-Awaji Earthquake.

Keywords: reconstruction phase, support, PTSD, disability, family