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Visualization of tsunami disasters and hearts in affected areas

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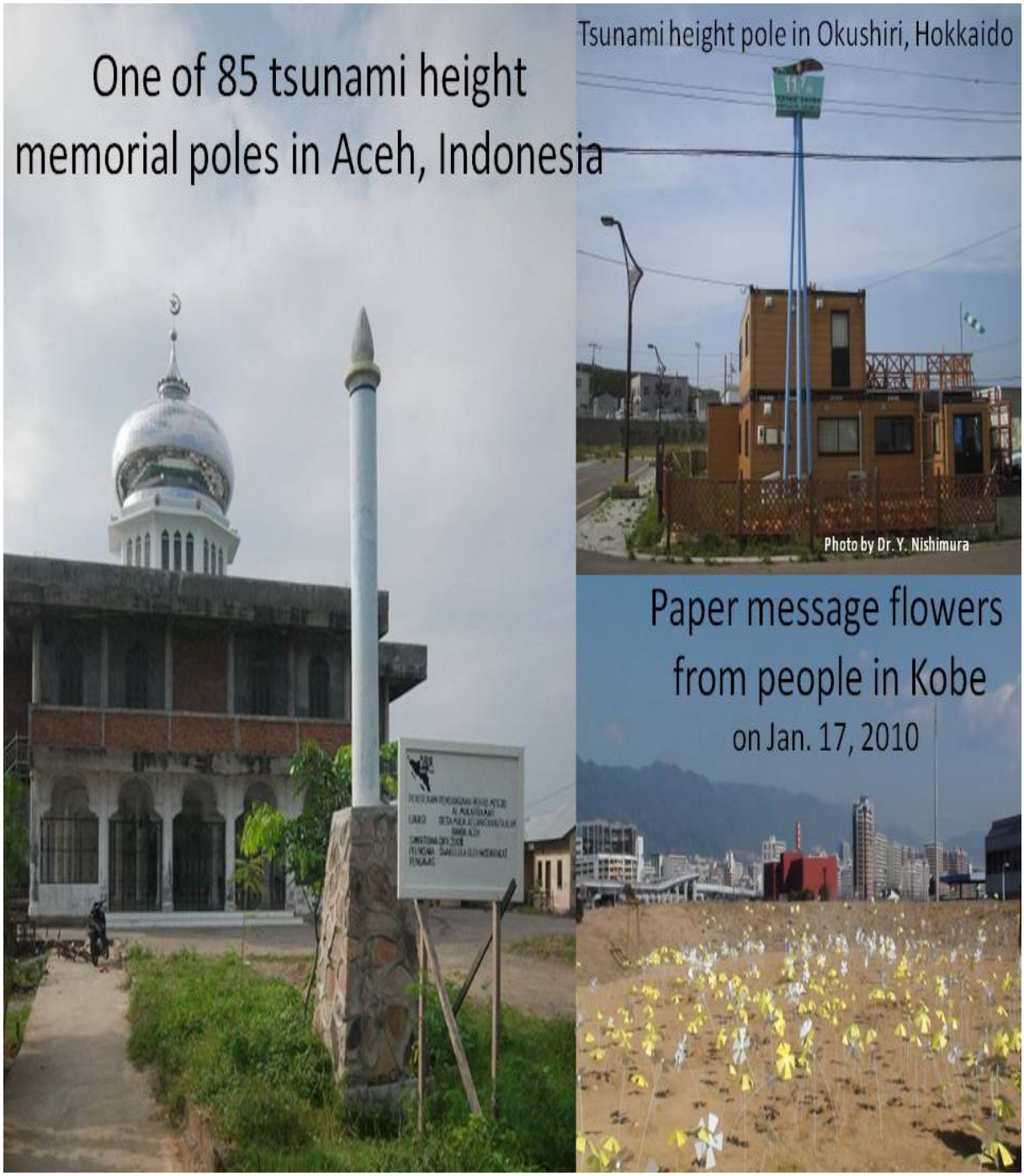

1. Emargency situation in Padang

Earthquakes happened in west Sumatra in Mar. and Sep. in the 2007 and Sep. 2009. Earthquake with tsunami near future is still predicted in Padang. Especially candidate tsunami evacuation buildings were collapsed due to the last earthquake in 2009. It is time not only to reconstruct earthquake-proof tsunami evacuation buildings but also to prepare for community-driven mitigation.
Indian Ocean Tsunami attacked in Indonesia in 2004. There are few cases to adaptive tsunami living lesson in Aceh to preparation for future disaster in Padang. We constructed 85 tsunami height memorial poles to keep memory and awareness for disaster in Aceh in 2006 (Figure). People understand tsunami height at each point.

2 Poles to visualize past and future disasters and new approach

Tsunami is a disaster with lower frequency, occurring once for several decades or hundreds years. In addition to this, tsunami often causes serious and wide damage. Though people keep disaster experience and awareness just after the disaster, they gradually lose their disaster memory, lessons and awareness as time passes. Whenever preparedness for tsunami decreases in people's low awareness, people have repeatedly experienced damages by huge disaster again and again. This shows that it is difficult for people to keep awareness of tsunami disaster. Therefore it is important to build social system to keep disaster awareness and transfer lesson to not only next generation but also other areas. Tsunami statues or tsunami memorial poles are devices to prevent disaster memory from fading with time. There are lots of tsunami height markings all over the world (Figure).
The questionnaires survey about tsunami height poles was conducted in Banda Aceh on Dec. 26, 2 009. Objects were 40 residents who attended the 5th year ceremony at mosque near sea port Uleleh in Banda Aceh. They answered excluding one person gives that it is easy for children who were born after the tsunami to understand height of tsunami.
This time we plan to construct the estimated inundation tsunami heights poles to visualize disaster for grassroots people in Padang where tsunami is predicted near future. The estimated inundation tsunami height is scientifically circulated. One of planed construction site is earthquake-proof elementary school building close to seaside. Such poles will be constructed for disaster preparation and mitigation for grassroots people with researchers from Padang, Aceh, Jakarta and Japan.
In case of Japan, Japanese government informs the tsunami estimated height to Kochi prefecture however, it is still hard for people to feel reality. It is necessary for people to understand detailed tsunami risk. These poles as devises help everyone to easier understand lessons of tsunami disasters from past disaster areas (Oike, 2008).Poles become devices to visualize both past and future disaster for community-driven mitigation in Padang.

3. Visualiztion of people's hearts from Kobe, to Aceh, to Padang

There are more than 120 memorial statues in Kobe.These statues are donated from poeple.
Paper message flower was proposed by university student in Kobe. Students collect messages from afected area in Kobe. There is possiblities to show the people.These are approach to visualize peoples's hearts.Both constructions of poles and also comunication with people are necessary not only in Aceh but also in Padang.

4. Conclusions

This research and plan are to adapt living lesson of "Aceh Tsunami" to Padang. Tsunami height poles are devises to visualize both past and future disasters. We pursue additional research how to show grassroots people about plural scenario of estimated inundation tsunami heights for this new

plan to construct the poles in Padang. Therefore we gather informative data, photos of past tsunami memorial statues all over the world.

Keywords: visualization of disasters and hearts, tsunami poles, estimated inundation tsunami height, adaptive management