

# Living in the red zone of tsunami: perception, action and recommendation of community of Katapiang and Ulakan – Padang Pariaman, West Sumatra - Indonesia

Suhatri Isra, Madonna

Building Disaster and Climate Change Resilience in Padang Pariaman Farming Communities West Sumatera (Bumi Ceria), FIELD-Indonesia Foundation

Jl. Rohana Kudus No. 128 Kampung Ladang, Lubuk Alung, Padang Pariaman, Sumatera Barat, Indonesia

E-mail: fieldind@indosat.net.id

## Abstract-

Community of Nagari Katapiang and Ulakan lives in the shore of Indian Ocean. Living in the tsunami red zone for generations is a given for them and they understand that they live in high risk of tsunami and earth quake zone. They never thought to move to other areas since they belong to these nagari. However, they determine to become community with tsunami preparedness. Participatory vulnerability and capacity assessment, simulation, first aid training, strengthen the exist community preparedness team and advocacy at nagari and sub-district level have been taken to achieve this goal. They understand the importance of education for every level of community members on disaster management. Hence, coordination and distribution of roles between government, community, private sector, NGOs in building resilience on disaster is important agenda to address.

**Keyword:** tsunami community preparedness, tsunami risk reduction, education towards tsunami resilience.

## INTRODUCTION

The Siberut segment is predicted to induce a 8.9 magnitude earth quake which potentially generate tsunami. Seven districts in West Sumatra are areas that will suffer from severe damage including hundred thousand of lives due to this. Ever since Aceh tsunami in 2004, earth quake on September 30 2009 and Mentawai tsunami in 2010 took place, many parties pay more attention to West Sumatra. Many efforts have been done by government, private sector, NGO and community that take forms in rehabilitation, mitigation and preparedness against tsunami hazard activities.

Therefore, tsunami becomes daily issue rather than threatening and caused panic issue among community. The awareness of community to become familiar with their natural condition gradually built. It can be seen from the economic activities. They keep on sailing and farming their lands. Besides, they have done efforts to increase preparedness in terms of disaster risk reduction.

Amongst highly risk areas, nagari that are located near Indian Ocean face higher risk than others. Therefore, two nagari were chosen as reference in this paper. The nagari are Nagari Katapiang, Batang Anai sub-district and Nagari Ulakan, Ulakan Tapakis sub-district. Both are part of Padang Pariaman district.

The paper itself focus more on the current situation of community of two nagari mentioned above, their perception on earthquake and tsunami, efforts that have been conducted and recommendation for government and related parties in terms of disaster risk reduction particularly the tsunami hazard.

## LIVING IN TSUNAMI RED ZONE

Population of Nagari Katapiang and Ulakan as population of other nagari located in the western coast of Sumatra have been spending their life and develop the livelihood for many generations in the shore. They make living as fishermen and farmers. The population fulfills their needs for food by planting rice. Katapiang has irrigation for paddy fields while Ulakan relies to rain fall to irrigate their paddy fields.

There are many people come and go to these nagari for its uniqueness. Nagari Kataping is the air gate since it has international airport that serve domestic and international passengers. Nagari Ulakan is visited by many pilgrims for the renowned tomb of Syech Burhanuddin. Thousands of people come to visit the tomb especially on Syafar, prior Ramadhan and after Ied Fitri.

Nagari Katapiang has 12.293 lives consist of 6.197 female and 6.096 male and spread on 64.25 km<sup>2</sup> area while Nagari Ulakan has 14.244 lives and 21.50 km<sup>2</sup> wide. It's population consists of 6.549 male and 7.695 female.

The topography of these nagari are flat and situated on 0 – 6 meter from the Indian Ocean level. There is no hilly area that can function as evacuating location when tsunami occurs. The main roads are parallel to the sea and the numbers of roads that are vertical to the sea are limited. Besides, it also has many estuaries of many big rivers that

flow across the nagari. Batang Kasang flows over Nagari Katapiang and Batang Ulakan and Batang Tapakis flow over Nagari Ulakan.

There are fewer varieties of large plants growing here. Coconut tree is the common large plant found with scarce vegetation. Therefore, there are many empty spaces between plants and it is filled with bush. In addition to abrasion erodes the sea shore slowly but surely, flood comes once a year and storm happens occasionally.

#### PERCEPTION OF COMMUNITY ON TSUNAMI

All community members of these two nagari are aware that they are living in the tsunami red zone. However, according to the results of participatory vulnerability assessment conducted on May 2011 it found that efforts to anticipate the disaster are not optimal yet including distribution of roles among community and other related parties.

The assessment aims to assess capacity and vulnerability in 5 resources which are human, natural, social, financial and physical. The results show the main vulnerability lays on human and physical resources followed by social, financial and natural aspect.

The vulnerability on human aspects are 1) uneven understanding of community on anticipation efforts to be taken when tsunami occurs in household, nagari and district level. There is no evacuation SOP for family, agreement of meeting point for family members and emergency bag has not prepared yet. Community assumes that it is better to use motor cycle and car to run from tsunami. In fact, the capacity of evacuation road is inadequate. For nagari level, simulation of disaster preparedness has been conducted once and there is no early warning system for tsunami. This is not enough to build nagari resilience on disaster management. The belief saying that as long as the tomb of Syech Burhanuddin exist in Nagari Ulakan tsunami will not occur make the effort to build community resilience slowing down.

Vulnerability in physical aspect shows by lack of numbers of evacuation route, the capacity of evacuation routes is not adequate to accommodate people of nagari, no evacuating shelter, and the health center located by the sea shore. In social aspect, the vulnerabilities are disaster preparedness team is not capable enough, community have certain attitude such as indifferent, surrender to fate, lack of trust for the leader and organization management, diminishing gotong royong tradition, low rate of self reliance, and there is no common agreement on distribution of roles when tsunami occurs. In financial aspect the vulnerability is lack of habit to have saving in form of immovable property such as gold and food security. With respect to natural aspect, the utilization of productive lands including yard have not been optimal yet. Types and numbers of plants that can function as coastal barrier are less while yards are not utilized as area to provide food security at household level.

All vulnerabilities mentioned above are related one another. Consequently, community needs to increase their capacity and make action plan to reduce its vulnerability towards disaster resilience. There are many efforts aiming at increasing capacity such as training and socialization of disaster risk reduction at schools, mosques and community, strengthening capacity of disaster preparedness team (KSB), nursery of multi purposes trees, planting trees along coastline and encouraging all parties (government, midwives, teachers, customary leaders, religious leaders, bundo kanduang / women leaders, farmers' leader, head of korong, PKK and cadres) to live tsunami alert life style.

#### ACTION TAKEN

Actions toward nagari disaster resilience have been taken gradually by the community of Nagari Katapiang and Ulakan. It has been started post Aceh tsunami in 2004, September 2009 earthquake and Mentawai tsunami in 2010. The actions are increasing ever since Japan tsunami took place on March 2011. The following are actions that has been and will be taken by the community:

1. Community of Katapiang and Ulakan have been trained on disaster risk reduction and have conducted tsunami evacuating simulation. It was held in the schools. Now, they are planning to conduct simulation in regular basis.
2. In addition to simulation, community held field school on participatory vulnerability and capacity assessment and presented the results in nagari and sub-district level.
3. Rebuilding the existed disaster preparedness team (KSB) is also important move taken aside establish new team at korong level.
4. First aid and training participated by community members, midwives, teachers, member of disaster preparedness team and cadres also became part of action to increase community preparedness.
5. As mitigation action a group of farmer is making nursery for multi purpose trees to be planted on tsunami red zone.
6. Advocacy to convince local government on the important of disaster education and providing adequate evacuating routes and shelters. These issues have been delivered to governor of West Sumatra written and verbally in farmers' camp called Galanggang Alam Petani Organik which was held on July 21 – 23, 2011. The camp was attended by 400 farmers from West Sumatra and other provinces holding workshops with 5 different themes which one of it are disaster risk reduction.

#### RECOMMENDATION

This is community recommendation gathered through several events held including 1) Field school on participatory vulnerability and capacity assessment on May 2011, 2) Farmers' camp: Galanggang Alam Petani Organik on July 2011, 3) Multi stake holders workshop on August 2011, and 4) Training on Disaster Risk Reduction

in Nagari Katapiang and Ulakan on September and October 2011.

1. Given geographically located on area with high vulnerability against disaster force government and community to be prepared in dealing with disaster.
2. Forming and providing support to achieve nagari with disaster preparedness is an obligation of government.
3. Government obligation to protect its community from disaster should be written in government development planning and budgetting by providing access to community to participate in planning process and to monitor its implementation through Musrenbang Nagari (nagari consultation in generating development plan) to district level. The budget should cover activities to educate community on disaster risk reduction, establishing evacuating routes, and increasing capacity of disaster preparedness team. Indicators of the implementation are disaster preparedness teams are active in community, government is aware to conduct efforts with regards to disaster risk reduction, teachers and students are prepared as well as health providers and cadres.
4. Build evacuating shelter for community to escape from tsunami and produce an easy to understand evacuating map.
5. District development plan should have disaster risk reduction insight.
6. Conduct field school on participatory vulnerability and capacity assessment.
7. *Ninik mamak* (customary leaders) , *alim ulama* (religious leaders), *cadiak pandai* (scholars) become *Suluh Bendang*, people in nagari who promote disaster risk reduction issue in nagari.
8. Develop program to plan and preserve trees in coastal, hill and river bank area.
9. House hold should be able to reduce disaster risk.

#### CONCLUSION

All parties have roles in reducing vulnerability and building disaster resilience. It takes long time to rely on government to achieve it. Therefore, community living in the red tsunami zone has to take action to accelerate the process. Indifferent, surrender to fate, lack of trust for the leader and organization management, diminishing gotong royong tradition, low rate of self reliance, and there is no common agreement on distribution of roles when tsunami occurs are weaknesses found in community lives in tsunami red zone. In addition to human aspect, lacks of evacuating infrastructure make the condition worse. Hence, these weaknesses should be address to build community resilience in managing disaster. The main points to be addressed by governments and community are the provision of evacuating routes and conducting efforts to increase capacity of community in disaster risk reduction.

#### ACKNOWLEDGMENT

This project is supported financially by the USAID under project titled Building Disaster and Climate Change Resilience in Padang Pariaman Farming Communities West Sumatera (Bumi Ceria). We thank the director of

FIELD – Indonesia Foundation for the support and the project manager of FIELD – Bumi Ceria for the suggestion and critical reviews of the paper.

#### REFERENCES

- [1] Galanggang Petani Organik (GAPO), Recommendation of Workshop 5 – Disaster Risk Reduction, July, 2011.
- [2] FIELD – Bumi Ceria, Nagari Profile – Katapiang and Ulakan, January, 2011.
- [3] FIELD – Bumi Ceria, Participatory Vulnerability and Capacity Assessment Results, July, 2011.
- [3] FIELD – Bumi Ceria, Progress Report, October 2011 – June 2011.
- [4] FIELD – Bumi Ceria, Proceeding of Multi Stakeholder Workshop, Padang Pariaman, August, 2011.
- [5] Statistic of Padang Pariaman, 2009.