

Implementing Community-Based Disaster Risk Reduction in Indonesia:

The role of research institutions and religious-based organizations

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Abstract

One of many benefits of community based disaster risk reduction (CBDRR) addressed by the United Nations International Decade for Disaster Reduction (UN-IDNDR) is that community participation will positively address the local socio-economic concerns in disaster reduction, by empowering the community with knowledge and skills and develop the leadership capability of the community members and further strengthen their capacity to contribute to development initiatives. The process is more about capacity building and community empowerment for improving the community capacity in reducing their vulnerability against natural hazard. During the CBDRR process, it is important to develop and enhance the collaborative mechanism between the local authorities, the local communities and other stakeholders, and to build up the vulnerability reduction measures while capitalizing on the already existing indigenous capacity and wisdoms.

Research institutions such as academic institutions and religious-based organizations that are respected by the communities are considered as in an ideal position to provide the leadership in promoting disaster awareness and disaster risk reduction efforts by implementing the community-based disaster risk reduction activities. Bringing them together in collaboration will produce a synergy with an enormous power for developing the community capacity in reducing disaster risk.

The Center for Disaster Mitigation Institute Technology Bandung as a research institution and two national religious organizations in Indonesia are collaborating to build disaster awareness by organizing and providing community trainings and planning facilitation, bridging hazards phenomenon knowledge gaps and building common sense for culture of safety. It is expected that by building the knowledge and capitalizing on indigenous one, they will be able to protect themselves and even can help others in reducing the disaster by implementing mitigation activities.

Keywords: *community, disaster, mitigation, risk reduction*

1. INTRODUCTION

Indonesia is an archipelago located at the conjunction of four tectonic plates (Eurasia, Pacific, Philippines and Indo-Australian). The topography varies from mountainous to long coastal zones. The country is exposed to considerable threats from natural hazards such as earthquake, landslides, volcanoes, floods and tsunamis. Communities are mostly at risk because of the lack of awareness and capacity to cope with the disasters. On the other hand, government capacity to protect the population from natural disasters is limited. As the communities can not depend solely on government actions to protect their life, there is a need to improve their awareness and capacity in order to make them safer from disaster. The Jakarta big flood event in 2002 and the catastrophic tsunami event of 26th December 2004 which strike the coastal areas in

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Aceh Province and Nias Island had been one of the driving forces for enhancing this practice. The tsunami had devastated large parts of the coastal areas, destroyed settlements and social and economic infrastructure (schools, health centers, public buildings, lifelines), caused 200,000 human lives losses and loss of livelihoods. Strengthening the local community capacity for preparing them to face various hazards and reducing its impact is considered as one of the strategic moves needed to reduce the risk.

Taking the advantage of the momentum created by the series of disasters and efforts from various donors and government to support disaster reduction efforts, the enhancement of the community based practices is promoted to gather the people power and to empower themselves against disaster. It is important to develop the capacity of the people itself to improve their resilience to disaster, through the process to impart the knowledge, skill, and ability to do something to reduce the disaster risk in their area, in accordance with the Hyogo Framework of Action of the 2005 World Disaster Reduction Conference and the new paradigm shift of bottom-up process in disaster management. In enhancing community awareness, there are some roles that can be carried out by some related stakeholders, i.e. research institutions, academic institutions and various non-government organizations, which includes also large religious organizations. Large or national religious-based organizations and its leaders in Indonesia are usually respected by the communities and were always seek for directions and information concerning social life. Therefore, these organizations are considered as in an ideal position to provide the leadership in promoting disaster awareness and disaster risk reduction efforts.

There have been perceived needs in the past to develop the capacity of these religious-based organizations in order to be able to implement community-based disaster risk reduction processes and for that, in the first place, it is important to establish a clear objective of the capacity building program, determine who will be the targets and who will be the main actors, formulate and chalk out the outcomes in terms of tangible, accountable and realizable indicators. The profiling of the project's target in order to assess the needs, i.e. what kind of knowledge do they need, what kind of skill they should have, and what capacity in the first place they already have, could be the next step. Then after the needs are being analyzed the transferring process could be started.

2. THE ROLE OF RESEARCH INSTITUTIONS

Research institutions are important in developing the knowledge in implementing the community-based disaster risk reduction (CBDRR) programs. The Center for Disaster Mitigation of Institute Technology Bandung (CDM-ITB) as a research institution has been implementing a CBDRR pilot-project in five case study areas within administrative area of Nanggroe Aceh Darusalam (NAD) and West Sumatera Provinces. The aim of this pilot-project is to develop knowledge base on how to develop a realistic, comprehensive and sustainable CBDRR programs in Indonesia to reduce vulnerabilities and increase capacities of households and communities to withstand damaging effects of disasters. CBDRR is expected to contribute to people's participation and empowerment in achieving sustainable development and sharing its benefits. One of many benefits of CBDRR addressed in the United Nations International Decade for Disaster Reduction (UN-IDNDR) is that community participation will positively address the local socio-economic concerns in disaster reduction, by empowering them with knowledge and skills and develop the community's leadership capability and further strengthen their capacity to contribute to development initiatives. The process is more about capacity building and community empowerment process for improving the community capacity in reducing their vulnerability against natural hazard.

For the purpose of the pilot-project, CDM-ITB had developed an implementation framework, which provide a reference to the CBDRR implementation (See Fig.1). Tools used within the framework were taken from various best practice guidelines, such as Ref. [1]. First, the CBDRR implementing agency should get the appropriate approach to the community to build the trust from the targetted community and open their mind in accepting new information, knowledge, and skill that is given by the CBDRR agency. Different methods were proposed to be used in approaching the community in order to enhance their awareness in disaster risk reduction. Participatory process through participatory learning and action and focus group discussion is implemented in order to assess the capacity, vulnerability, and hazard in their own area. This assessment is needed in order to develop the community risk awareness toward the hazard faced by the community. Risk reduction alternatives and appropriate mitigation effort to reduce future disaster risk are identified in a participatory process by the community itself. In implementing the CBDRR activities

and in approaching the wider community, local facilitators that know better the condition of the area as well as local wisdoms are needed [2].

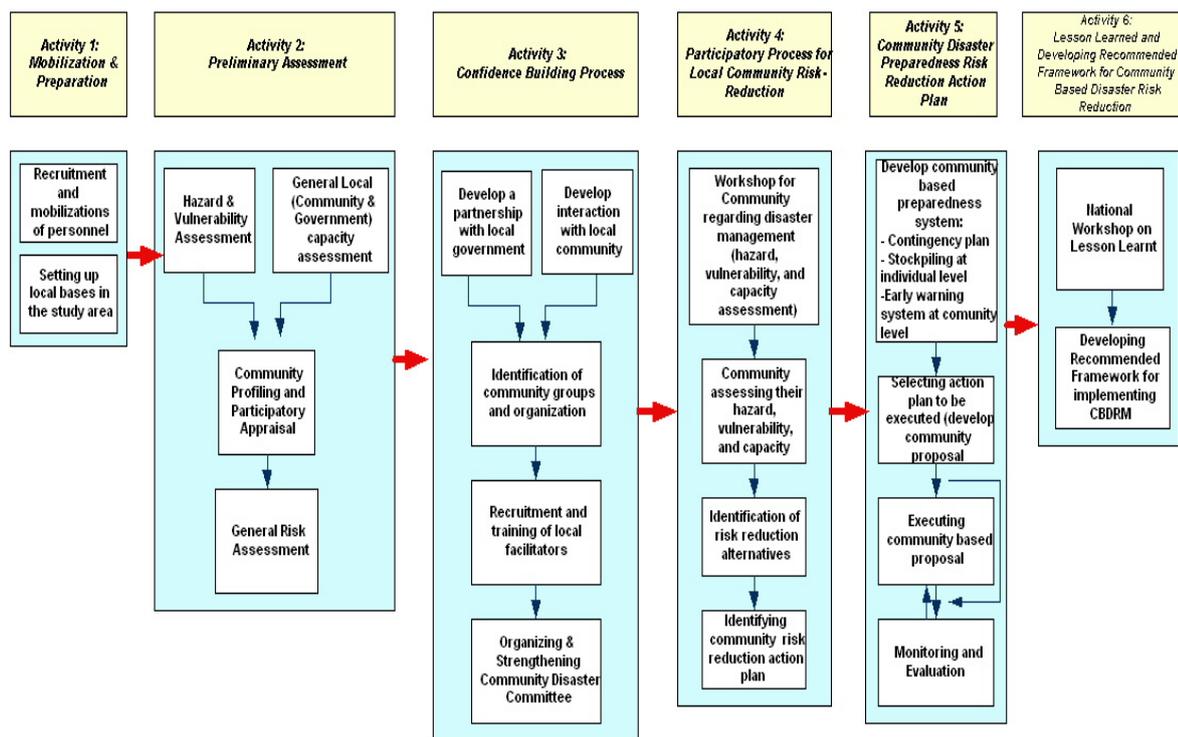


Fig. 1 Framework for CBDRR Implementation

With the agency facilitating, the community could propose their list of risk reduction alternatives. For effective implementation, the community is also suggested to establish disaster committee for managing their disaster risk reduction activities and also to disseminate the knowledge and information regarding disaster to the wider community member.

During the process, it is important to develop and enhance the collaborative mechanism between the local authorities, the local communities and other stakeholders, and to build up the vulnerability reduction measures while capitalizing on the already existing indigenous capacity and wisdoms. This is a process based initiative and learning process which is as (if not more) important as the project outcomes for both project and targeted communities. First, the necessary step for implementation is socializing the program to the local government and community in each concerned area of work. The discussions with the local community as well as local government officials take place in different places such as in public venue (government offices, schools, mosques, local church etc), the community leader's house, local coffee shops, open field and other places in the communities in order to cater to different groups of communities that will be involved.

One of initial and essential activity towards developing community-based risk reduction would be to conduct hazards and vulnerability assessment of the area. Information on local capacities (community and government) have to be collected to be combined with hazard and vulnerability to provide a picture of level of risk of the area and community toward potential/future disaster. Experts' input are necessary to the process of the general risk assessment. Participatory risk assessment is developed as part of the process. Participatory method is also used when dealing with the community in order to develop collaboration among community members in selection, design and implementation of community action plan.



Fig. 2 Discussing CBDRR Program with the community and the local government

A process to facilitate the organizing of the local community become a crucial part of the process. It is expected that at the end of this facilitation, a sustainable local committee on disaster reduction is formed. This committee will take the role in leading the local community in the process of developing a community action plan in disaster reduction.

In the implementation, the community is the one who will claim ownership over the process that is worked out in the area and take initiative lead to innovation among community members. As the process should also enhance the networking capacity of the community, we need also to involve the local government in the process to become partner of the community in reducing disaster risk in the area. Conducting workshops where local government and community representatives sit together to discuss their role in disaster reduction is also used in this process as a means to foster collaboration between them.



Fig. 3 Dissemination of disaster knowledge and participatory process in community hazard and vulnerability assessment

The local community committee will need a place which will function as a disaster information center as well as disaster committee's office. It may also cover the necessity for enhancing the preparedness system such as contingency planning, stockpiling (food, float, boat, etc) and early warning system at community level.

Technical expertise in multi hazard phenomena as well as in community based approach are needed to support the process. Training specialist support is needed for organizing various trainings, which are needed for forming the facilitators as well as to provide trainings to local government officials as well as community leaders. Both of them can come from individuals, universities and NGOs.

Trainings on emergency preparedness and response such as earthquake and tsunami drills at village level, first aid, emergency sheltering etc.can be conducted by involving other organizations such as Red Cross, Fire Brigade, SAR Unit, Health Department, local government Disaster Management Unit.



Fig. 4 Community members working together for village flood mitigation



Fig. 5 Workshops on CBDRR for local community Disaster Committee, Local authority, and NGOs

3. ROLE OF RELIGIOUS ORGANIZATION

Many religious organizations or groups are forming within the country, some of them have a strong and long historical background, dating from the old colonial time. Many of them were established as a means of promoting the social welfare as well as education of their members, as an alternative to those provided by the colonial ruler. Several of them have strong roots among the population spread in most parts of the country. In many cases they have charismatic, respected leaders, which represent informal leadership within the communities and often act as the counterpart of the government officials in the daily social and political activities. They are often considered as having a strong potential power to implement disaster reduction awareness programs among their followers. Implementing CBDRR activities among their communities can be considered as an attractive challenge, as many of them have been involved in many disaster relief and recovery activity during disaster situation. Partnered with an academic or research institution who can act as their technical support, these organization can develop a potential capacity for conducting and implementing CBDRR programs.

Nahdlatul Ulama and Muhammadiyah, two big moslem organizations with long history in Indonesia, have been implementing CBDRR activities involving school children and *pesantren*¹ students, youth muslim organizations and communities around *pesantren*. The CDM-ITB, under a collaboration scheme with the two organizations provided technical support to help build the capacity in developing, planing and implementing CBDRR programs [3].

The two religious organizations are putting effort for building disaster risk awareness among the community as well as their members, by organizing community workshops and trainings and conducting participatory activities related to understanding hazard in the areas where they live. Facilitation are carried out to bridge the hazard knowledge gap of the people and to develop common sense for safety culture among the people. The programs are designed such as the beneficiaries will include people who lives in rural as well as urban area, as they are both vulnerable to various hazards due to lack of knowledge, lack of access to infrastructure and services, as well as lack of opportunity and resources which impede the

¹ Pesantren is a Moslem religious boarding school

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implementation of disaster risk reduction initiatives. Children are often considered as potential target for disaster awareness program, as they represent the future generation of the country, as well as the fact that they can act as ambassadors or media to communicate the information to their parents and older member of the families. Nahdlatul Ulama designed the program to include *pesantrens* (Islamic boarding schools), which count for more than several thousands spread out around Indonesia as their capacity building target, because these pesantren are expected to act as the local *center of excellence* in disaster information and as the development agent within their community. Muhammadiyah organization targets elementary schools and youth organizations under its jurisdiction for the disaster awareness programs, and expects that the two entities can act as agent of development in building the safety culture among their communities.

To develop the capacity of the religious organizations in implementing CBDRR processes, at the outset it is necessary for CDM-ITB as the technical support agency to establish a clear objective of their programs, who will be the targets and who will be the main actors. Expected output and outcomes as well as tangible, auditable and accountable performance indicators are identified. Need assessment is also done in order to gain the information regarding what kind of knowledge do they need, what kind of skill they should have, and what capacity in the first place they already have. Then after the needs have been analyzed the transferring process could be started. Training and trainings of trainers (ToT) are carried out as the first step necessary to strengthen the capacity of the religious organizations to develop and implement their own (CBDRR) programs as well as their own facilitators.

Relevant dissemination materials are developed to be used in the CBDRR implementation programs, such as the materials of introduction and concept of disaster management, knowledge of hazards (earthquake, flood, tsunami, landslides, volcanic eruption, tornado, and fire), methods on how to deliver disaster awareness materials to school children with special characteristic in Islamic teaching; and CBDRR techniques and tools (community participatory hazard and vulnerability assessment, community action planning, psychology, how to communicate with children and adults as well). Simulation, drill, exercise and experiment are used to enhance the training delivery.

Funding is always one of the crucial issues raised by the community organizations for sustaining CBDRR programs. Strategies to deal with the financial issue include building the capacity to develop sound proposals and developing networks with national, regional, and local government and non-government organizations, including international multilateral and bilateral aid agencies.



Fig. 6 National Training for Trainers (TOT) for multihazard risk reduction approach for Muhammadiyah elementary school teachers, 17th-21st November 2006 in Lembang, Bandung



Fig. 7 Training for Trainers Pesantren Based Disaster Risk Management of Nahdlatul Ulama that was held in Lembang, Bandung 11th-17th February 2007

Strong and well managed project organization within the implementing agencies (the religious organizations) with adequate human resources supported by appropriate leadership and good

communication are indispensable to the successful implementation of these programs. Strong commitment from related stakeholders will ensure the sustainability of the initiatives.

4. CONCLUSION

Indonesia as a country exposed to considerable threats from natural hazards such as earthquake, landslides, volcanoes, floods and tsunamis needs to develop disaster resilience within its communities. On the other hand, as the government capacity to protect the population from natural disasters is limited, the communities can not depend solely on government actions to protect their own life. Communities are mostly at risk because of the lack of awareness and capacity to cope with the disasters. Therefore it is important to develop the community disaster resilience, through the process to impart the knowledge, skill, and ability to mobilize own resources in reducing the disaster risk in a self-help mode.

Research and academic institutions can support large, well respected religious organizations within the country in mobilizing communities to building their disaster resilience through the implementation of community-based disaster risk reduction programs. The strength of these organizations lies in the existence of network of religious boarding schools (as informal Moslem education system) led by their charismatic teachers (in the case of Nahdlatul Ulama) and moslem formal education system schools (in case of Muhammadiyah schools), both of them are independent from government education system but recognized by the later as alternative education institution in the country. Disaster education with religious nuances can be disseminated within these institutions to build disaster awareness within the communities. The role of the research institution in this regard is to develop the knowledge and tools for the appropriate religious community based disaster risk reduction, in collaboration with the religious community leaders.

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