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# Handling disaster risks with the community-based approach

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**Abstract.** The concept of disaster management experiences a paradigm shift from conventional to holistic. Conventional views consider disaster to be an inevitable event and the victim must immediately get help, so the focus of disaster management is emergency. The purpose of disaster management based on this view is to reduce the level of losses, damage and quickly restore the situation: mitigation and preventive paradigm which initially the emergency paradigm has changed into a development paradigm because every effort of prevention and mitigation to rehabilitation and reconstruction has been integrated into development programs in various sectors. The community certainly needs to understand the characteristics of the disaster in its own area, so that it can be avoided or at least reduce the risk so that it becomes a disaster resilient society [1]. The research method used in this research is survey method. Sampling in this study uses a total sampling technique, namely all disaster-prone areas in Southeast Sulawesi. To realize the synergy in achieving disaster risk reduction goals, the program implementation needs to strengthen the role (participation) and commitment of all components. To achieve the stated goals, each component is expected to take a role in accordance with the authority, main tasks and functions, and responsibilities to create a resilient and resilient society.

## 1. Introduction

Even though disasters have become more frequent and costlier regarding economic losses throughout the world, most governments have yet to make a clear priority of addressing and managing risk reduction before disasters strike [2][3]. In Indonesia alone, disaster management efforts go through mechanisms that are fully controlled by the central government. As a result of the domination of the central government in disaster management efforts, the perceived impact is: The first, regional dependence on the central government is very high, so that whenever a disaster occurs, however small it is, the area always asks for assistance from the center. The second, the ability of regions to cope with disasters does not increase, as a result of these dependencies. And the last, delays in handling disasters, increasing the extent of the territory of the Republic of Indonesia and all relying on central capabilities [4].



In the Southeast Sulawesi region is one of the areas that are prone to disasters, disaster is the handling of social problems that are cross-sectoral, so it must involve many stakeholders. A lot of experience proves that the capacity of government in reducing disaster risk can run smoothly if there is sufficient space for the participation of other stakeholders, including the community as objects and subject of perpetrators. Majority of the population considers that disaster is a destiny. This is an illustration that the conventional paradigm is still strong and rooted in society. In general, they believe that disaster is a curse of sin and wrongdoing that has been done so that one must accept that it is destiny due to his actions. So there is no need to try to take preventive measures or handle them. Empowerment of local communities in the process of disaster risk reduction makes them able to play a role and act (for themselves) in each stage or level of disaster [4][3].

## 2. Methods

The research method is a survey method. Sampling in this study uses a total sampling technique, namely all disaster-prone areas in Southeast Sulawesi. The primary data used in this study are knowledge of flood disaster mitigation and community identity. Secondary data used in this study was obtained from the Disaster Hazard Index Map data in Southeast Sulawesi, BPBD or Regional Disaster Management Agency [5][6]. Data collection techniques using observation and interviews. The data collected through observation and interviews were analyzed with qualitative data analysis techniques, namely: these data are grouped into certain categories based on the type equation of the data and then between the data and other data connected or compared so that the intact about the problem being examined [7][8].

## 3. Results and Discussion

### 3.1 Geographical location

Southeast Sulawesi has 38,140 km square and area of sea is estimated at 110,000 Km square with a population density of 53 people per square km. The land conditions generally are mountainous, hilly and bumpy. The condition of the rock consists of sedimentary rocks, metamorphic rocks, and igneous rocks. Several rivers are also found in this province, namely: Konoha River, Labandia River, Lalindu River, Lasolo River, Matarombeo River, Peleang River, Sampolawa River, and Watumakale River. These rivers, most of which originate at Mongkok Mountain and Watuwila Mountain. Talking about a natural disaster, Southeast Sulawesi is included in Hazardous Areas for Natural Disasters such as Floods, Earthquakes, Settlement Fires, Drought, Extreme Weather, Landslides, Abrasion [4][9].

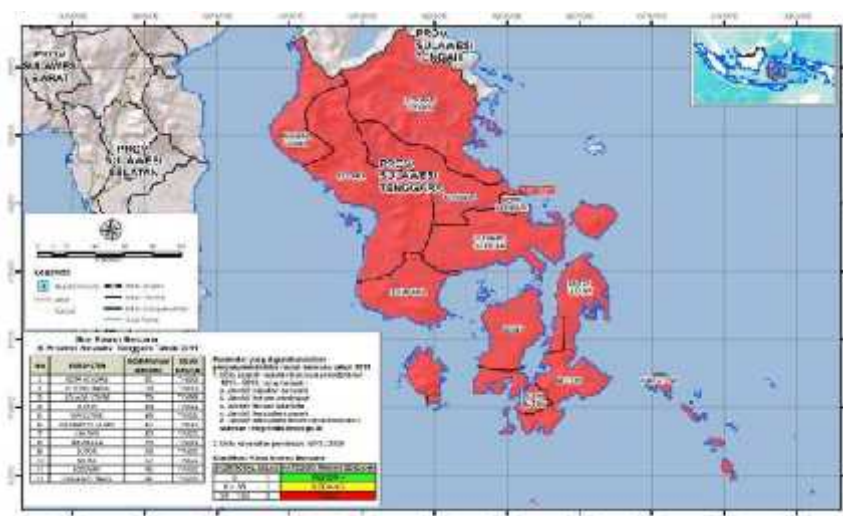


Figure 1. Map of Disaster Risk in Southeast Sulawesi [4]

Disaster Risk Map is presented in the form of images with colors and symbols. Explanations are contained in the form of side information. Hazard map is a map of the zoning level of danger of one type of disaster threat to an area at a certain time. Vulnerability map is a map of zoning instructions on the level of vulnerability of one type of disaster threat to an area at a certain time. There are 18 provinces in Indonesia which have the potential to suffer natural disasters, South East Sulawesi in one of them. Two kinds of disasters that are most prone to occur in Southeast Sulawesi are floods and cyclones. These two types of disasters were almost evenly distributed in all districts/cities [4].

Table 1 shows that the floods itself often occurred in Kendari, Konawe, North Konawe, Kolaka, North Kolaka, Bombana, and South Konawe. While the cyclone disaster often occurred in Baubau, South Konawe, Muna and Kendari. The earthquake disaster was also prone to occur in this area, but the average scale was not large, not as damaging as the earthquake that occurred in several provinces in Indonesia [3].

**Table 1.** Disaster Prone Index [4]

District	Score	Prone Class	National Ranking
Kendari	81	High	81
North Buton	78	High	99
North Kolaka	75	High	122
Buton	69	High	155
Wakatobi	68	High	159
South Konawe	62	High	194
Kolaka	60	High	206
Bombana	58	High	219
Muna	52	High	278
Konawe	45	High	331
North Konawe	42	High	354

### 3.2. Handling Risk Disaster in Southeast Sulawesi

Having a consideration that Southeast Sulawesi's topographic conditions are archipelagic provinces, it means this province has the potential for catastrophic sea transportation accidents, especially during the east monsoon, which threatens the safety of inter-island shipping in this area, including threatening the safety of fishers. The warnings and information conveyed by the Head of the Southeast Sulawesi BNPBD should be followed up by the local government. Socialization by the government to the wider community will be very beneficial because early warnings about disasters are very helpful for people facing disasters. Also, Ray hopes the government can immediately make a disaster map of other areas that have a disaster hazard.

Having a concern towards Disaster Management, the government (governor, regent/mayor or regional apparatus as an organizer of regional government) is tasked with carrying out disaster management. The earliest thing about this task and responsibility is the reduction or minimization of disaster risk. This risk reduction includes prevention of disaster-prone efforts. In the event of a flood disaster that breaks down a river embankment, periodic and thorough monitoring of embankments along the river is part of disaster prevention. Meanwhile, the growth of residential areas along the riverbanks is another vulnerability parameter. Also, the people there may never be warned of the dangers that lurk them. The community also never prepared a solid building. Early warning systems are usually very minimal. These are all parameters that add to their high level of vulnerability to disasters [6].

In disaster risk management, disasters are being related to the risks of the community; and appropriate actions are taken against the known risks. Two important things: How wide a disaster

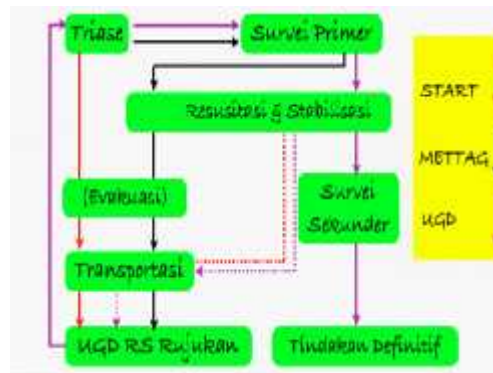
Observation and review must be a continuous process in risk management, and all systems depend on communication and consultation. This has become a systematic, logical and practical decision-making tool for disaster managers. The point is to get basic uses for disaster managers to reduce the impact of disasters. Disaster managers can do: Identity what might happen; Analysis of possible final results; Estimating Assessing impact; Managing risks (prevention/mitigation, preparing, responding and recovering); Monitor process. All hazards that is rules that are approved in designing to overcome all hazards, nature and human behavior. Instead of developing different plans and procedures for each hazard, a single management plan must be created and used in the face of all the hazards faced by the community [11].



- 0 / black / deceased is fatal / dead.
- I / red / immediate is need immediate action & transport to stay alive.
- II / yellow/delayed it won't die soon.
- III / green/minor is walking wounded.

- Figure 3 shows that triage is classified into three types; the first is METTAG namely tagging, resuscitation in place (field / ER). The second START is RPM 30 ", tagging, resuscitation in an ambulance. And finally, the combination of both: RPM 30 ", tagging, resuscitation in an ambulance or field, according to available facilities and personnel. Primary surveys are carried out to get rid of danger first, such as Airway and C-spine control, Breathing, Circulation and hemorrhage control, Disability, Exposure/environment. Resuscitation is done by stabilizing the airway. RJP - similar actions. Crystalloid - transfusion - stop bleeding. This works if: vital signs are normal, no more blood loss, normal urine output: 0.5-1 cc/kg/ hour, no evidence of end-organ dysfunction. Secondary surveys are carried out at hospitals or health centers where the patient's condition is stable, and doing AMPLE

History like Checking the head to the toes, preventing hypothermia — sequential physical examination. Insert the finger / tube in each hole, Lab or radiology, do not disturb resuscitation. Definitive Action or Transportation is carried out only after the patient is stable (except for a complete START + Ambulance system), to the hospital as needed. Definitive action after diagnosis: HCU / ICU / Operation / Conservative / refer to class C hospital, health care center if necessary [12].



**Figure 3.** Triage Groove [12]

### 3.3 Comprehensive Approach

Four basic management in alleviating emergencies and disasters that really need in South East Sulawesi is: The first is Prevention and mitigation, regulations and physical requirements to prevent disasters, or to reduce their impact. The second is Preparation, as planning and programs, systems and procedures, training and education to ensure that when disasters occur, resources and personnel can be mobilized and empowered with the best results. Includes the development of alert and alert systems, organizational planning, training and testing of officers, equipment, planning and procedures, and public education.

Then is Response, as Activities taken precede or immediately after the impact of a disaster to minimize the consequences, and to aid immediately, restore and support the community, including rescue, recovery, and support for victims, public information, feeding, clothing and shelter. And the last is Recovery, as recovery and long-term improvement of affected communities is a complicated and long process.

### 3.4 Integrated approach

Effective disaster management requires active collaboration between various stakeholders. This means that all organizations with their respective duties work together in disaster management. Relationships in the form of cooperation are very important. Community ready. It is a society where each is aware of hazards and knows how to protect himself, his family and his house from the effects of harm. If each of them can take action to protect against the impact of hazards, it will reduce the threat to disasters and emergencies.

Prevention or mitigation, preparation, response and recovery activities that must be carried out: Prevention and mitigation: Building standards and PMK capabilities; Disease immunization; Sanitation design; waste disposal; Community education program; Media information; Warning to the community. Resource and institutional capacity are one of the supporting factors so that disaster management planning can be taken into consideration or integrated in regional development planning, namely by increasing public commitment through increasing the capacity of resources and institutions [13].

#### 4. Conclusion

- The Community-Based Disaster Risk Management Program Principally Seeks to Improve the Knowledge and Ability of Local Communities in Implementing Disaster Management Procedures Through 3 Important Components of the CBDRR (Community Based Disaster Risk Reduction) Program are: 1) Knowledge of Natural Disasters. What is called disaster; Any disasters that threaten their territory; Any sign of a disaster will occur; What should be done if a disaster occurs and how the implementation of the device (kit) for effective disaster management. 2) Increasing Community Preparedness in Facing Disaster Risks: History, Stories or Disaster Experience in Local Areas; Community Asset Assessment and Disaster Risk; List of Medical Services/ First Aid Facilities; Key Figure/ Social Authority or Social Figure; Preparation of Action Plans in Disaster-Affected Areas; Development Plan for Disaster Risk Maps and Evacuation Routes. And 3) Emergency Response. How to technically guide and guide victims when a disaster occurs; Basic Evacuation Training and First Aid for Victims [13].
- To realize the synergy in achieving disaster risk reduction goals, the program implementation needs to strengthen the role (participation) and commitment of all components [14]. To achieve the stated goals, each component is expected to take a role in accordance with the authority, main tasks and functions and responsibilities to create a resilient and resilient society.

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