

Disaster Vulnerability And Preparedness In The Impelmentation Of RA 10121 (Philippine Disaster Risk Reduction And Management Act Of 2010) Of The Province Of Sultan Kudarat

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ABSTRACT:

This study aimed to determine the disaster vulnerability and preparedness in the implementation of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) of the Province of Sultan Kudarat. The researcher used a quantitative non-experimental descriptive research design using survey questionnaires. The respondents of the study were residents of the seven (7) municipality of the Province of Sultan Kudarat, who are prone to calamities or those areas identified to have a 40% or higher rate of poverty namely: Lambayong, Columbio, Lutayan, Bagumbayan, Palimbang, Senator Ninoy Aquino, and Kalamansig, and the personnel of Municipal Disaster Risk Reduction and Management Council of every municipality. The sample size was determined using Sloven's formula and further with the use of simple random sampling.

The findings revealed a lack of mainstreaming and institutionalization of Disaster Risk Reduction Management (DRRM) structures mandated by law. Particularly in Sultan Kudarat province, residents in hazard-prone areas face heightened social and economic vulnerabilities, often relying solely on a single source of livelihood. While some elements of RA 10121 have been implemented in the province, it has been done so only to a moderate extent, potentially due to various constraints such as budgetary limitations. Despite the prevalence of hazards and vulnerabilities in the area, there appears to be insufficient emphasis on preparedness, possibly due to inadequate budget allocation for comprehensive disaster preparation.

KEYWORDS: Disaster Vulnerability, Preparedness, RA 10121 "Philippine Disaster Risk Reduction and Management Act of 2010", Sultan Kudarat Province.

Introduction

Chapter I INTRODUCTION

Background of the Study

Vulnerability is a set of prevailing or consequential conditions arising from various physical, social, economic and environmental factors which increase the susceptibility of a community to the impact of hazards (UNISDR, 2002). It can also comprise physical, socio-economic and political factors that adversely affect the ability of communities to respond to events (Jegillos, 1999). Blaikie, P., Cannon, T., Davis, I. & Wisner, B. (1994) think that vulnerability is constituted by the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a hazard. The vulnerability can be expressed as the degree of loss resulting from a potentially damaging phenomenon or risk. It is, therefore, the extent to which a community will degrade when subjected to a specified set of hazardous conditions.

Moreover, Disaster remains one of the main challenges facing the nations of the developing world. It does not only cause high mortality and suffering, but it also damages local economies in its process of formation and thwarts development achievements (Al-Nammari&Alzaghah, 2015). Hence, the Philippines is one of the countries around the world, often experiencing disasters such as earthquake, volcanic eruption, typhoon, tsunami, drought, and flooding, among others. Over the past two decades, the Philippines endured a total of 274 natural calamities, making it the fourth most disaster-prone country in the world (Santos, 2015).

Indeed, no country is immune from natural disasters. There may be differences in terms of disaster management strategies, but no one and no are place exempted from catastrophe. Typhoons, earthquakes, floods, landslides, tsunamis and volcanic eruptions are natural disasters commonly experienced not only by the Philippines but also by other countries in the world (World Conference on Disaster Reduction, 2005).

In lieu with the above scenario, Republic Act (RA) No. 10121 otherwise known as “Philippine Disaster Risk Reduction and Management Act of 2010” (PDRRM-2010) was enacted on May 27, 2010, to strengthen the Philippine disaster risk reduction system. It specifically provides for the development of policies and plans, and the implementation of actions and measures about all aspects of disaster risk reduction and management including good governance, risk assessment and early warning, building, and awareness-raising, reducing underlying factors, and preparedness for effective response and rapid recovery. Included in this law is a mandate to create a separate office that will principally be responsible for the implementation of DRRM programs (Commission on Audit, 2014).

The Province of Sultan Kudarat that composed of eleven (11) municipalities adheres with the principles of good governance within the context of poverty alleviation and environmental protection. Expected that partnerships and active involvement of the community are most probably necessitate to achieve the goal and vision of the agency. For the researcher, it is imperative and tantamount to engage and collaborate to its objective. Thus, stakeholder, implementer and the Local Government Unit (LGU), volunteers and the community must work harmoniously to attain the Disaster Risk Reduction and Management DRRM programs towards complementation of resources and effective delivery of services to the latter. However, the researcher looked that there are impediment and challenges faced, among mentioned is the poor cooperation of the community towards the problem within veracity. Indeed this research will be of much helped to the Province for their baseline data as to the preparedness and vulnerability of its populace and to assess the effort of the Disaster Risk Reduction Management Council (DRRMC) at all times.

Statement of the Problem

This study aims to determine the disaster vulnerability and preparedness in the implementation of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) of the Province of Sultan Kudarat.

Specifically, it sought to answer the following:

1. What is the profile of LDRRM office in terms of :
 - 1.1 position; and
 - 1.2 status of employment
 - 1.3. number of employees?
2. What are the natural hazard type experienced and or can be experienced by the respondent municipality in terms of:
 - 2.1 hazard type;
 - 2.1.1 scale;
 - 2.1.2. description of occurrence; and
 - 2.1.5 possible reason?
3. What is the extent of vulnerability in the province of Sultan Kudarat in terms of:
 - 3.1 social;
 - 3.2 economic;
 - 3.3 physical; and
 - 3.4 environmental?
4. What is the extent of implementation of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) of the Province of Sultan Kudarat in terms of:
 - 4.1 disaster prevention and mitigation;
 - 4.2 disaster preparedness;

- 4.3 disaster response; and
- 4.4 disaster rehabilitation and recovery?
- 5. What is the level of preparedness of the Local Government Unit for disaster risk reduction and management in the province of Sultan Kudarat in terms of:
 - 5.1 dissemination;
 - 5.2 implementation; and
 - 5.3 resource utilization and operation?

Significance of the Study

This study will be of great help to the citizens of Sultan Kudarat Province, being sometimes known as prone to disasters in the Region XII, for them to be more prepared with the onslaught of a natural or man-made disaster. Such preparedness will lead them to be more secure for themselves, families, loves ones and properties as well.

Hence, with the changing climatic condition of the world today, disaster preparedness and risk reduction are essential. Many places today are strike by the different calamity which once not being experienced. Disaster, although inevitable, risk reduction and preparedness could mitigate the damages caused by the various risk factors through anticipation and readiness.

Disaster when arise always comes in an unexpected time and in a least expected ways. That is why disaster preparedness is a continuous and integral process. Increasing the efficiency, effectiveness, and impact of disaster response mechanisms of the government could help save property and lives when disaster would arise.

Disaster preparedness is everybody's responsibility. Although, essential for local governments and jurisdictions to implement such program, but the collaboration of community and help of the academe is likewise needed.

The Province of Sultan Kudarat will be able to know the necessary adjustments they must perform on their disaster preparedness measures and techniques so that it will be more effective and responsive to the needs of the community through the result of this study. It is for the above reason that the researchers proposed this research.

Scope and Delimitation of the Study

The study is limited to the determination of the level of disaster vulnerability in the Province of Sultan Kudarat, especially on the social, economic, physical, and environmental factors. Moreover, the researcher also aims to determine the implementation of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) of the Province of Sultan Kudarat on the following aspects such as disaster prevention and mitigation, disaster preparedness, disaster response, and disaster rehabilitation and recovery.

Concerning this, the researcher will also gather an information on the level of preparedness of the Local Government Unit for Disaster Risk Reduction Management in terms of dissemination, implementation, and resource utilization and operation. Finally, this study will be conducted in the Sultan Kudarat Province.

Definition of Terms

For a better understanding of the study, the following terms are defined operationally, as used in this research.

Disaster Risk – as used in this study, it pertains to the potential losses in lives, health status, livelihood, assets, and services.

Disaster Risk Reduction – as used in this study, it refers to the reduction of damage caused by natural hazards like earthquakes, floods, droughts, and cyclones.

Disaster Risk Reduction and Management – as used in this study, it refers to the systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capabilities to lessen the adverse impacts of hazards and the possibility of disaster.

Disaster Preparedness – as used in this study, it refers to a state in which individuals and groups of a community, barangay and Local Disaster Risk and Reduction Office have developed plans, allocated resources, and established procedures for an efficient and effective implementation of the programs for saving lives and preventing further damage to property in the event of the occurrence of any disaster in the locality.

Disaster Vulnerability - refers to the inability of the community in a given municipality to resist a hazard or to respond when a disaster has occurred.

Natural Hazards - refers to naturally occurring physical phenomena caused either by rapid or slow onset events which such as forest fire, human induced fire (accident), earthquake, scouring of riverbanks, storm surge, floods, flashfloods, volcanic eruption, tsunamis, inland inundation, strong wind, infectious disease (human and animal), El nino and La Nina,

Vulnerability – as used in this study this refers to social, physical, economic and environmental factors or processes which increase the susceptibility of individual, family, barangay and municipality to the impact of hazards.

Chapter II REVIEW OF RELATED LITERATURE AND STUDIES

The Philippine Disaster Risk Reduction and Management Act of 2010 (DRRM Act) is a new law which transforms the Philippines' disaster management system from disaster relief and response towards disaster risk reduction (DRR). It was approved on May 27, 2010. It repealed Presidential Decree No. 1566 which was enacted way back in 1978.

Under the old law (P.D. 1566), disaster management centered only on the hazard and the impacts of a disaster. It assumed that disasters cannot be avoided. Most of the plans were on the provision of relief goods and infrastructures like dikes a flood control system. The government's response to disaster was focused on disaster response. The national and local governments were reactive to disasters.

Development will remain backwards if this continued. The DRRM Act comes at a time when the Philippines grapples for answers to the ever increasing risk of its people to disasters, particularly in the face of intensified global climate change. The DRRM Act transforms and reforms the way disasters are being dealt. The government recognized that the impact of disasters can be reduced by addressing the root cause of disaster risks. This puts more emphasis on strengthening people's capacity to absorb stress, maintain basic functions during disaster and bounce back better from disasters.

The National Disaster Risk Reduction and Management Plan (NDRRMP) fulfills the requirement of RA No. 10121 of 2010, which provides the legal basis for policies, plans and programs to deal with disasters. The NDRRMP covers four thematic areas, namely, (1) Disaster Prevention and Mitigation; (2) Disaster Preparedness; (3) Disaster Response; and (4) Disaster Rehabilitation and Recovery, which correspond to the structure of the National Disaster Risk Reduction and Management Council (NDRRMC). By law, the Office of Civil Defense formulates and implements the NDRRMP and ensures that the physical framework, social, economic and environmental plans of communities, cities, municipalities and provinces are consistent with such plan. The NDRRMP is consistent with the National Disaster Risk Reduction and Management Framework (NDRRMF), which serves as “the principal guide to disaster risk reduction and management (DRRM) efforts to the country” The

Framework envisions a country of “safer, adaptive and disaster salient Filipino communities toward sustainable development.” It conveys a paradigm shift from reactive to proactive DRRM wherein men and women have increased their awareness and understanding of DRRM, with the end in view of increasing people’s resilience and decreasing their vulnerabilities (Ligaya, 2008).

Furthermore, the Philippine government has improved knowledge and capacity in handling disasters through the institutionalization. The yearly award (national and regional) is given to the municipality, province or city which has developed the best contingency plan and disaster preparedness or disaster risk reduction management program.

Vulnerability Disaster Risk

The characteristics determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards. Vulnerability is one of the defining components of disaster risk.

Analysts often use experiments with animals or bacteria to determine whether such activities or substances are hazardous under controlled conditions, but not all potential hazards are studied, even in the laboratory. Data are frequently inadequate on exposures to hazards (Natural Academy of Sciences, 1989).

Vulnerability in this context can be defined as the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. The concept is relative and dynamic. Vulnerability is most often associated with [poverty](#), but it can also arise when people are isolated, insecure and defenceless in the face of risk, shock or stress.

Hazard

Hazards become disasters when vulnerable conditions exist among people, resources and other elements are exposed to risk, and capacity/measures to cope with consequences are insufficient. People who live in poverty and adverse socio-economic conditions are highly vulnerable to disasters. This explains why some parts of the country are more prone to specific hazards than others; some parts are exposed to more hazards than others. In an analysis of natural disaster hotspots by the Hazard Management Unit of the World Bank in 2005, the Philippines is among the countries where large percentages of population reside in disaster prone areas. In the 2011 World Risk Report published by United Nations University and the Institute of Environment and Human Security, looking into the four components of risk (exposure, susceptibility, coping and adaptive capacities), the Philippines is the third most disaster risk country worldwide.

Aside from natural hazards, the country also experiences human-induced disasters brought about or influenced by political and socio-economic factors, among others. Violence continues to plague the country, with most of the fighting occurring in the South. Many are forced to evacuate during times of conflict.

Thus, at the heart of disaster risk reduction is addressing the underlying causes of people’s vulnerabilities – social, economic, physical and environmental. More efforts are needed in identifying hazard prone areas and factors which contribute to people’s exposure to disasters, incorporating risk analysis in development plans, building people’s capacities towards sustainable livelihood options, to name a few. Although Disaster Risk Reduction (DRR) has been gaining attention in various sectors of the society, more resources and initiatives must be given to disaster risk assessments, mainstreaming DRR into development plans by incorporating Disaster Risk Reduction and Management (DRRM) and Climate Change Adaption (CCA) activities and priority areas to address the underlying causes of people’s vulnerabilities, and provision of different sustainable livelihood options for vulnerable sectors of society.

Along with, vulnerability is defined as danger rooted in conditions of physical, social, economic and environmental exposure that needs to be assessed and managed on a continuing basis. The interaction

of vulnerability factors in a community is a key to understand risk reduction and should be addressed according to the balance of factors coming into play. The following should be considered when we estimate the vulnerability of a community: Physical factors are usually materially oriented, and come from the field of land use and planning, engineering and architecture. Vulnerability from a physical perspective, even though continually being broadened in scope, still refers mainly to consideration and susceptibilities of location and building environment. Physical vulnerability is often determined by aspects such as population density level, the remoteness of a settlement and the site, design and materials used for critical infrastructure and for housing (PCC, 2007).

Social vulnerability is normally linked to the level of well-being of individuals, communities and societies. It includes level of literacy, education, the existence of peace and security, access to basic human rights, participate/good governance, social equity, positive traditional values, customs and ideological beliefs and overall collective organizational systems. Some groups are more vulnerable than others, and people less privileged because of their class or ethnic minority affiliations or young or old age might be worse off. Public health, including physical, mental and psychological. Traditional knowledge systems, as well as cultural aspects such as indigenous beliefs, traditions and ways of coping are important determinants in risk perception. Extreme religious belief in destiny might present a challenge in moving forward towards the acceptance of a culture of prevention and protection.

Economic factors including the economic status of individuals, communities and nations related both to the possibility of higher proportional losses among the poor when a disaster strikes and to their generally more limited capacity to recover from disasters. An economy lacking in diversity is generally more vulnerable. Equally, inadequate access to basic socio-economic infrastructure such as communication networks, transport, water, healthcare facilities increases people's exposure to risk.

Environmental vulnerability includes the extent of natural resource depletion and damage on resource degradation. Reduced access to clean air, safe water and sanitation and inappropriate forms of waste management, especially in heavily populated and urban environments, can aggravate socio-economic vulnerability. Poorer environmental conditions such as diminished biodiversity, soil degradation or growing food scarcity can easily threaten food security for people dependent on the products of land, forests, pastures and marine environment for their livelihoods. As natural resources become scarcer, the range of options available to communities become more limited, reducing the availability of coping solutions and reducing local resilience to hazards or capacity to recover from disasters. Over a period of time, environmental factors can further increase vulnerability by creating new and undesirable patterns of social discord, economic destitution and eventually forced migration of entire communities.

Four Thematic Areas

According to the Sendai Framework for Disaster Risk Reduction 2015 – 2030, the priorities of action are: understanding the disaster risk; strengthening disaster governance to manage disaster risk, investing in disaster risk reduction for resilience; enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction (United Nations - Sendai Framework for Disaster Risk Reduction, 2015). The Philippines follows the four thematic areas identified in the NDRRM Plan which are disaster prevention and mitigation, disaster preparedness, disaster response, as well as recovery and rehabilitation.

The PDRRMO, Provincial Engineering Office, are the lead departments in implementing the disaster prevention and mitigation plan of the city. Identified partner agencies are DILG, CENRO, CHED and DepED. Some of the identified activities in the plan are: conduct of orientation for the barangay officials and residents, teachers and students (elementary, secondary and tertiary level), city officials and employees; inventory of canals, waterways and river as well as the conduct of dredging, declogging, repairs, repair and desilting, and construction or rehabilitation of structures; construction and enhancement of the disaster risks maps or hazard maps for barangays as well as the development of database of information on all hazards; development and establishment of an early warning system.

(EWS) for hazard prone areas; and establishment of communication and coordination protocols between PDRRMO and partner agencies as well as barangay officials.

However, Disaster Risk Reduction (DRR) crosses multidisciplinary boundaries such as health, urban planning, public policy, education and emergency management, and a range of inter-governmental and non-government organizations (NGOs). School-based DRR programs seek to raise awareness and knowledge of DRR activities (Tatebe&Mutch, 2015). One cited activity as to disaster preparedness is the conduct of trainings on disaster preparedness and response as well as on search, rescue, and retrieval operations to barangay officials with basic/intermediate incident command system. The conduct of simulation exercises as well as the organization of emergency response team and volunteers at the barangay level are among the activities of the city. The development of standard manual of operations for the operation center as well as the development and implementation of standard operating procedures for deployment and coordination are proposed. Purchase of emergency response equipment, supplies, materials, and vehicles is also included in the disaster preparedness plan of the city.

Disaster management requires good leadership (Akaiso, 2013), the PDRRMO and Provincial Engineering Office are the leadoffices for the city disaster response. Some of the identified activities are the issuance of situationalreports/EWS/press releases as basis for action of concerned agencies as well as for the conduct of actual search, rescue, retrieval and relief operations. The City provides food or relief goods, provides temporary shelter, conducts rapid health assessment, sets up child and women friendly spaces, as well as makes provisions for medicines and emergency kits to the victims.

Moreover, Infrastructure damage, traffic disruption, shortage of foods due to the interruption in the supply chain and other economic challenges are the possible outcomes of a disaster. The conduct of: quick validation of areas and structures affected, post disaster needs analysis as well as provisions for livelihood assistance to the affectedresidents are some of the recovery and rehabilitation plans of the city.The communities, local government officials, civil society organizations and scientists could usefully form teams to co-develop local hazard event and effect scenarios, around which the teams can develop realistic long-term plans for building local resilience (Davies et al., 2013).Despite improvements in bridging some aspects of disaster resilience work, obstructions remain in the form of separation of responsibilities between NGOs doing response and risk reduction work and government doing development and environmental planning work.

The studies and articles presented have helped shape the present study. As experienced in various parts of the Philippines disaster preparedness is a key for the communities to better cope with disastrous calamities through their plans and strategies most especially through their implemented actions. In this way they became disaster-resilient communities (Loise, 1999).

Disaster Preparedness

Disaster preparedness, in general, refers to the preparation prior to any disaster. Disaster preparedness refers to the capacity and knowledge to anticipate and respond to the impact of likely or imminent hazard event or condition (Vordzorgbe, 2006). Preparedness includes actions taken in anticipation of the event and special activities both during and immediately after the event. Emergency response plan is one of adjustment (White, 1945). Conceptually, preparedness is one of the component of disaster risk management among: Prevention, Mitigation, Preparedness and Response (FAO, 2008). Preparedness is crucial for effective response and recovery at all levels (WCDR, 2005). Earthquake is one of the most destructive natural hazards, which occur at any time causing disaster. Most of the human death and casualties are caused by falling down of built structures during an earthquake or triggered events like landslides and flood which are unavoidable.

Emergency preparedness is one of the approaches to reduce or avoid effect of natural disaster. It aimed at minimizing the loss of life and property during a natural disaster. Preparedness includes actions taken in anticipation of the event and special activities both during and after the event. Degree of disaster and losses from earthquake hazard depends on factors like population density, construction

standards, and emergency preparedness Emergency response plan is one of such preparedness strategies (White, 1945).

Number of studies show that several factors affect preparedness such as risk perception, available resources, societal norms, sense of community, previous experiences etc. (Najafiet. al., 2017). Russell, Goltz, and Bourque (1995) have defined major components of preparedness (readiness) as structural (e.g. securing building foundations), survival (e.g.ensuring water supply, securing emergency kit) and planning (e.g. household hazard plan, self-protection knowledge, saving).

Disaster Preparedness provides for the key strategic actions that give importance to activities revolving around community awareness and understanding; contingency planning; conduct of local drills and the development of a national disaster response plan. Risk-related information coming from the prevention and mitigation aspect is necessary in order for the preparedness activities to be responsive to the needs of the people and situation on the ground. Also, the policies, budget and institutional mechanisms established under the prevention and mitigation priority area will be further enhanced through capacity building activities, development of coordination mechanisms.

Finally, it is imperative for the country to have a national plan that will serve a road map on how disaster risk reduction and management will contribute to the attainment of sustainable development through inclusive growth and build the adaptive capacities of communities, increase the resilience of vulnerable sectors and optimize disaster mitigation opportunities with the end in view of promoting people's welfare and security towards gender-responsive and rights-based sustainable development.

Chapter III METHODOLOGY

This chapter presents the methodology used for collecting the data of the study.

Research Design

The research study on disaster vulnerability and preparedness in the Province of Sultan Kudarat employed a quantitative non-experimental descriptive research design (Creswell & Creswell, 2017). This design focused on systematically collecting and analyzing numerical data to gain insights into the state of disaster readiness in the region. By its nature, this non-experimental approach does not involve interventions or controlled variables but rather seeks to describe and understand the existing conditions related to disaster management in Sultan Kudarat. It emphasizes the use of surveys, questionnaires, and structured data collection methods to gather information from local government officials, disaster management agencies, and community members. This approach is well-suited for providing a clear and detailed snapshot of the current disaster vulnerability and preparedness situation in the province, forming a crucial foundation for potential policy recommendations and improvements.

Respondents of the Study

The respondents of the study will be the residents of the Sultan Kudarat Province, who are prone to calamities or those areas identified to have a 40% or higher rate of poverty namely:Cumbio, Lambayong, Lutayan, Bagumbayan, Kalamansig, Palimbang, and Senator Ninoy Aquino and the personnel of Municipal Disaster Risk Reduction and Management Council of every municipality.

The sample size will be determined using the Sloven's formula. Moreover, the respondents in the actual survey will be selected through simple random sampling.

Data Gathering Procedure

Prior to the actual conduct of the survey, the researcher will ask permission from the different offices concerned to conduct this study in their jurisdiction. The letter stated among others that the data obtained will be used for research purposes only and will be treated with utmost confidentiality. Upon approval of such request the researcher will start the gathering of the data for the study. The

researcher will personally administer the questionnaires with the aid of enumerators and retrieve the accomplished forms from the respondents.

Data Gathering Instrument

The questionnaire will be constructed by the researcher and shall be based on the RA 10121 as the basis and be validated by the expert. Moreover, the rating scale below will be used by the respondents in evaluating each statement in the questionnaire:

Rating	Description
5	Always
4	Oftentimes
3	Sometimes
2	Rarely
1	Never

The mean will be computed and the obtained rating will be interpreted using the scale that follows:

Mean Interval	Description
4.21 – 5.00	Very high
3.41 – 4.20	High
2.61 – 3.40	Moderate
1.81 – 2.60	Low
1.00 – 1.80	Very low

Statistical Treatment

The data gathered for the study was subjected to a computer processed statistics using percentage for hazard and mean. determine the respondents' assessment on the disaster vulnerability and preparedness of Sultan Kudarat province.

Chapter IV RESULTS AND DISCUSSION

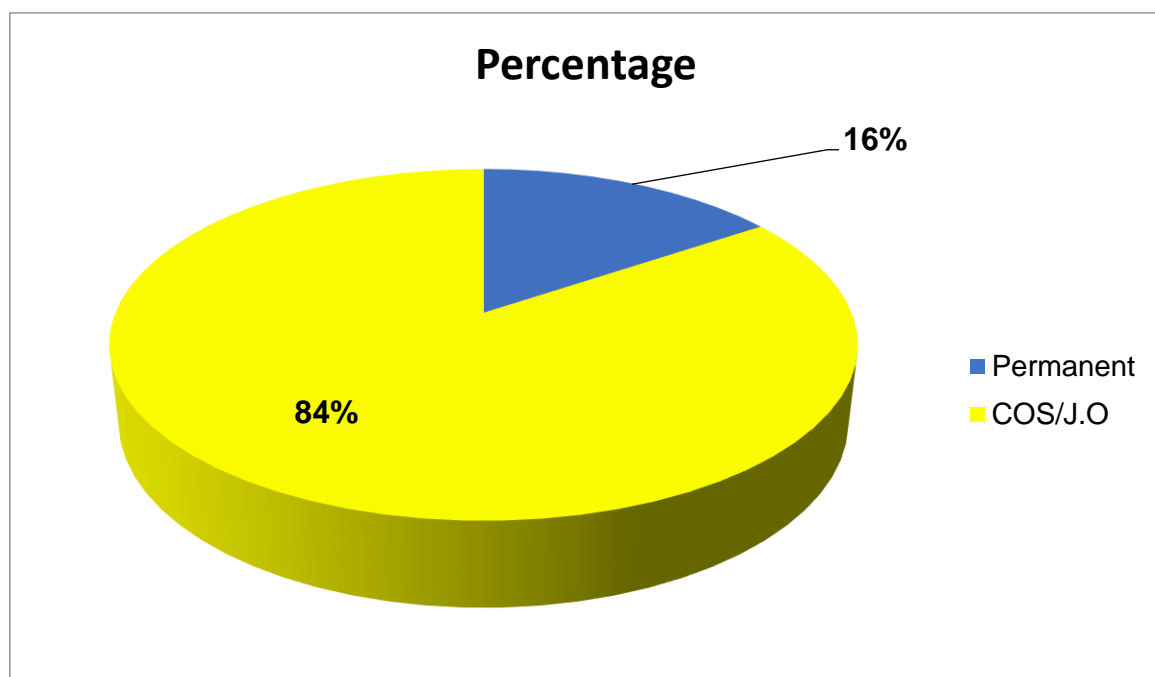


Figure 1. Local Disaster Risk Reduction and Management Office Personnel Profile.

Figure 1 shows that Office of the Local Disaster Risk Reduction and Mitigation Office only 16% permanent appointed employees occupying a position of head and other highly technical job while the rest or 84% is with a status of Contract of Service (COS) or Job Order. Most of the Offices are not yet created based on the on the mandate of the Sec. 12 of RA 10121 as a mandatory office since budget is based on the Local Government Unit Internal Revenue Allotment (IRA) at 45% for Personnel Services. Such new creation of office with positions depend on the 45% of IRA for Personnel Services if there is an excess budget. Likewise, most of the offices are now working for creation and separation of such office upon availability of budget.

This indicate that most of the employees are in non regular status and despite the years that had passed since the law was enacted, much less priority is given to LDRRMO Office.

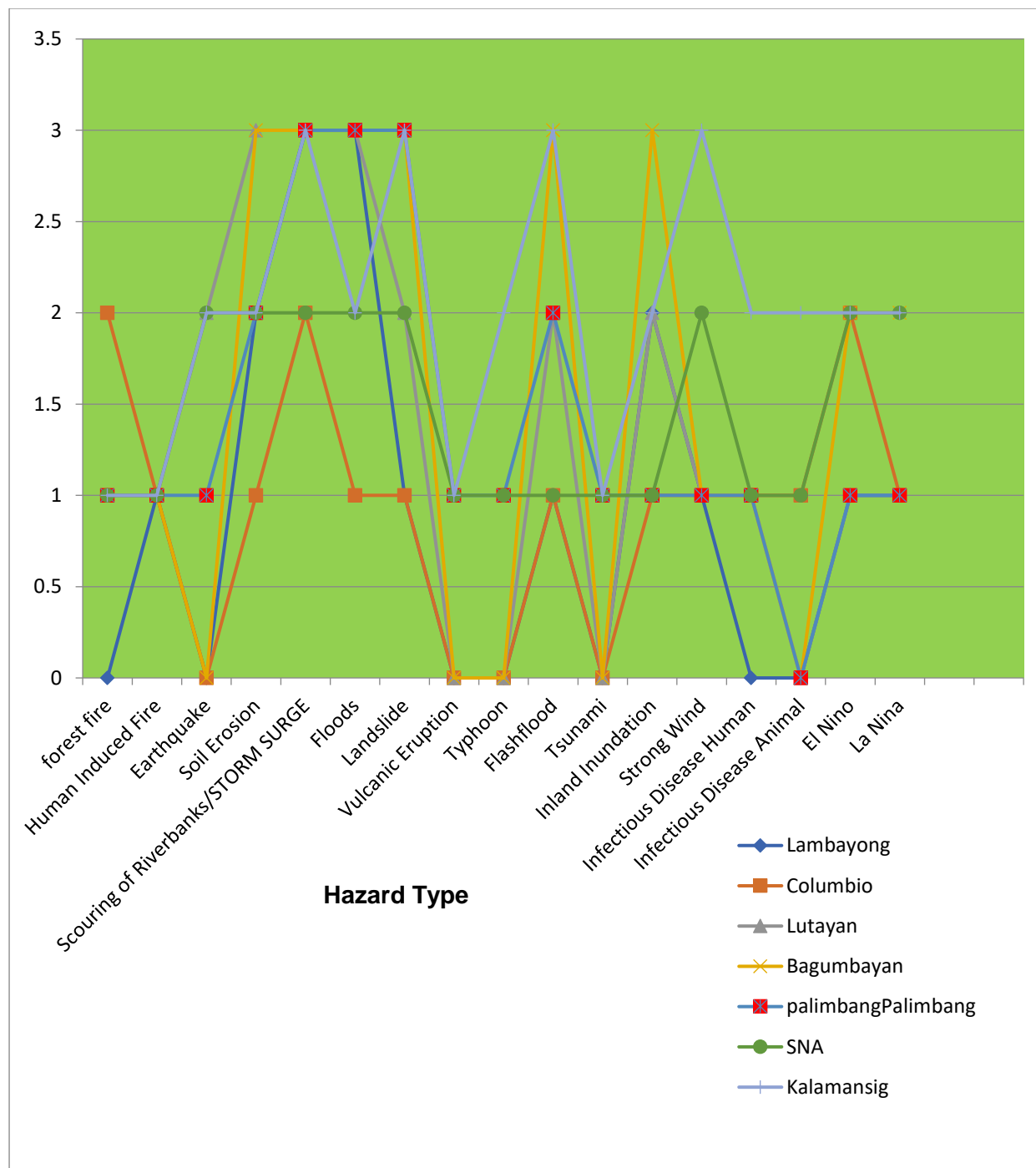


Figure 2. Hazard Type and Scale of Occurrence.

Graph reveals that the Lambayong experienced scouring of riverbanks and flood with a scale of 3 or most of the time, Lutayan experienced scouring of riverbanks, and floods at scale of 3 also, Bagumbayan experienced soil erosion, scouring of riverbanks, landslides, flashflood and inland inundation also in a scale of 3. On the other hand Palimbang experienced scouring of riverbanks and storm surge at scale of 3 while municipality of Kalamansig likewise experienced the occurrence of scouring of riverbanks, storm surge, landslides, flashfloods and strong winds at a scale the same scale mentioned.

Municipality that experienced specific hazard at a scale of 2 for the past three years are Lambayong for soil erosion and inland inundation. Columbio for forest fire, earthquakes, scouring of riverbanks, and El Nino. Lutayan, earthquake, soil erosion, landslides and flashfloods. Bagumbayan El Nino and La Nina, Palimbang for scouring of riverbanks, flashfloods and soil erosion. Senator Ninoy Aquino for a hazard such as earthquakes, soil erosion, scouring of riverbanks, floods, landslides, strong wind, La Nina and El Nino. Kalamansig earthquakes, soil erosion, floods, typhoon, inland inundation, Infected Human Disease, Infected Animal Disease, El Nino and La Nina. The rest of the hazard type are likely to occur at a scale of 1 or rare and or none at all.

Data shows that municipality that is partly mountainous mostly experienced soil erosion, landslides, scouring of riverbanks, floods and flashfloods. Floods occurs in the lower part of the place where water from higher area goes to the valley. Also when flood and flashflood occurs it will result to scouring of riverbanks. While those municipality facing the sea or called coastal areas like Kalamansig and Palimbang aside from the mentioned hazard they further experienced storm surge.

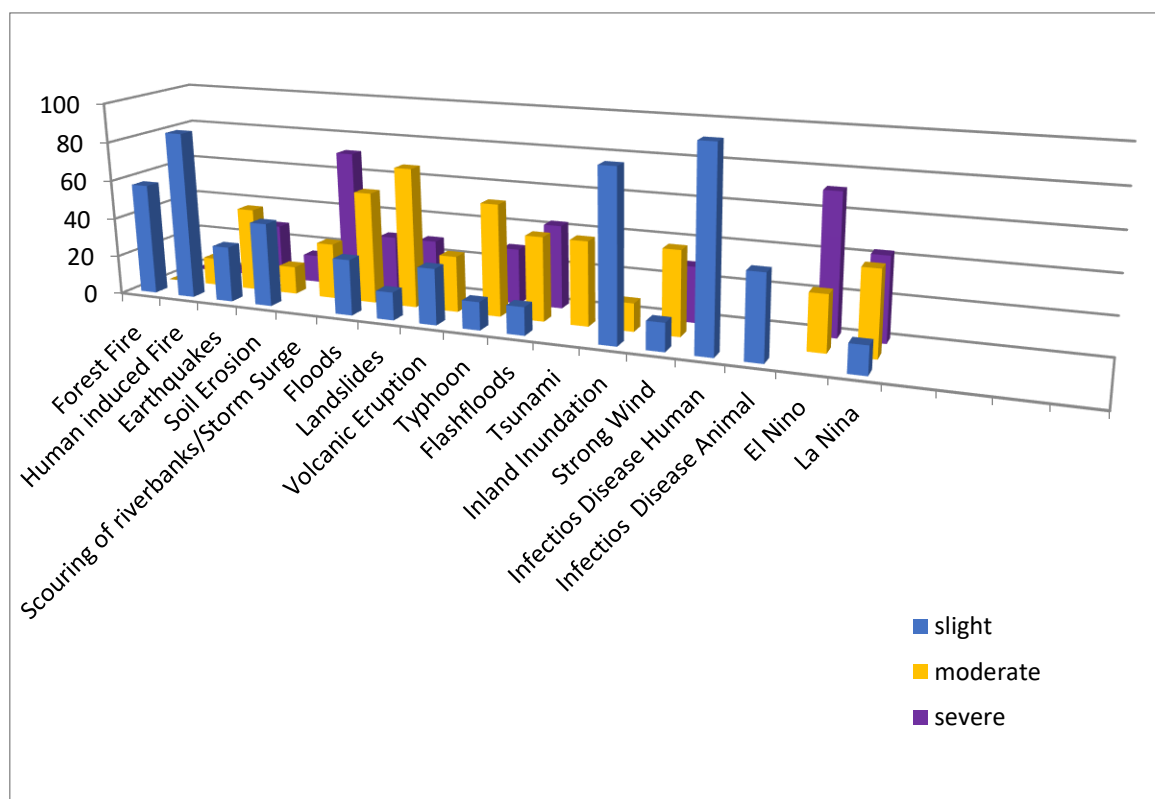


Figure 3. Description of the Occurrence of Hazard.

Figure 3, describe the hazard that occurs in different respondent municipalities. Most of them experienced different hazard at slight and moderate extent with some areas who experienced severe occurrence.

Data imply that although for recent years respondent municipality experienced different hazards which described as slight and or moderate with a few experienced severe, however, It is sometimes difficult even to determine whether a hazard exists. Analysts often use experiments with animals or bacteria to determine whether such activities or substances are hazardous under controlled conditions, but not all potential hazards are studied, even in the laboratory. Data are frequently inadequate on exposures to hazards, (Natural Academy of Sciences, 1989).

Natural hazards are part of the world around us, and their occurrence is inevitable. events are natural phenomena that we cannot control. These events can result in great changes to the natural environment:

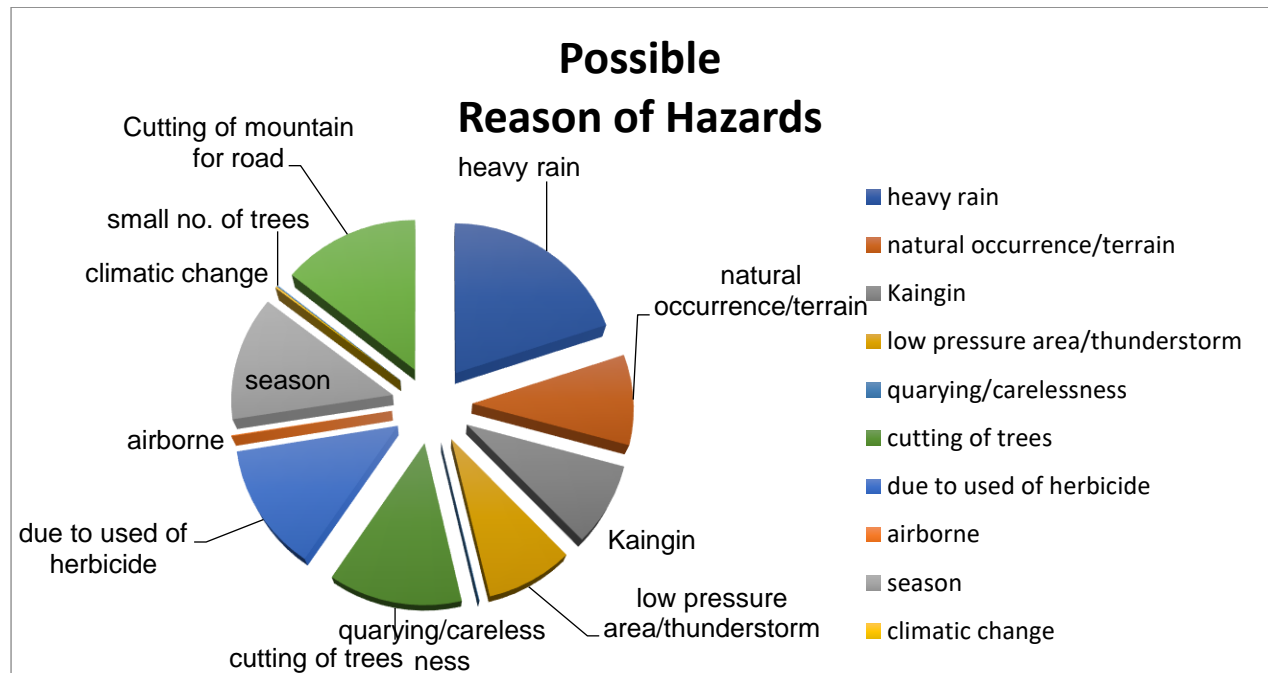


Figure 4. Possible Reasons for the Occurrence of Hazards.

Figure above shows that there are both natural and man- made reasons why hazard occur and result to disaster.

The data is supported by the insight in (USAID, 1997) which states that, when the man-made environment intersects with natural phenomena that “disasters” result. Disasters occur when human activity, such as buildings, infrastructure (roads, crops, and other land uses take place in the path of the forces of nature. nearly as indestructible nor as resilient as the natural one, and the occurrence of a natural hazard can result in the debilitation of an entire community for many years following the event.

Table 1. Extent of Vulnerability in the Province of Sultan Kudarat.

Indicators	Mean	SD	Description
1. Social	3.82	0.60	High
2. Economic	3.81	0.64	High
3. Physical	3.22	0.85	Moderate
4. Environmental	3.01	0.91	Moderate
Overall	3.46	0.65	High

Shown in Table 1 are the extent of vulnerabilities in the province of Sultan Kudarat. The table indicate the standard deviation, mean and verbal descriptions of the indicators in the research problem. The

overall result in the extent of vulnerability got a mean of 3.46 described as high, where both social and economic vulnerabilities are describe as high while physical and environmental describe as moderate.

This data imply that the province of Sultan Kudarat especially those living in an areas with hazards are more susceptible to social and economic vulnerabilities since most of them are relying on only one source of living, no land to build their house, and living only in subsistence or less than their subsistence.

With this, the frequency of disasters is rising at an alarming rate, not necessarily because natural hazards have become more frequent (although such phenomena do occur in cycles of more and less frequency), but because more and more people have chosen to live and work in locations that put them at risk. Often human development has taken place in areas of risk from coastal storms, repeated flooding and seismic activity, often with little or no attention to the need for sound building practices or land use policy. As a result, risk of disasters occurring in the wake of natural hazards has grown exponentially, (USAID,1997).

The idea is true in the municipalities that covered with this study, where people tend to live in an area classified as high risk of different hazard. However, because they have no land to build their home, no other source of income and if there is given area for them it is far away from their source of living that is why they chose to live with fear of occurrence of hazard.

Table 2.Extent of Implementation of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) of the Province of Sultan Kudarat.

Indicators	Mean	SD	Description
1. Disaster prevention and mitigation	3.44	0.74	High
2. Disaster preparedness	2.89	1.13	Moderate
3. Disaster response	2.90	1.06	Moderate
4. Disaster rehabilitation and recovery	2.90	1.05	Moderate
Overall	3.03	0.88	Moderate

Table 2 presents the extent of implementation of RA 10121 (Philippine Disaster Risk Reduction and Management Act of 2010) of the province of Sultan Kudarat. The table shows the standard deviation, mean and verbal description of the indicators of implementation of RA 10121. The overall result in the extent of implementation got a mean of 3.03 described as moderate. Thus, the indicator on disaster prevention and mitigation got the highest mean of 3.44, described as high. However, the lowest mean was from the disaster preparedness with 2.89 or moderate. Generally, the province of Sultan Kudarat implemented some of the thematic areas of RA 10121 but on moderate extent only may be due to a lot of factors that hinder its full implementation such as budgetary requirement.

Table 3.Level of Preparedness of the Local Government Unit for Disaster Risk Reduction and Management in the Province of Sultan Kudarat.

Indicators	Mean	SD	Description
1. Dissemination	2.86	1.13	Moderate
2. Implementation	2.91	1.09	Moderate
3. Resource utilization and operation	3.25	0.98	Moderate
Overall	3.00	1.01	Moderate

Presented in the Table 3 is the level of preparedness of the local government unit for disaster risk reduction and management in the province of Sultan Kudarat. The overall result of the level of preparedness of LGU got a mean of 3.00, described as moderate. The indicator for resource utilization and operation got the highest mean of 3.25, described as moderate. However, the lowest mean was from dissemination with 2.86 or moderate. Generally, the level of preparedness in the province of Sultan Kudarat were not seriously undertaken despite the occurrence of different hazards and vulnerabilities in the area may be because of the budget requirement for full preparation for whatever disaster that may occur. Also, it is understandably that many hazards can happen and is happening and high vulnerabilities of the community added to the challenges and problems for preparedness.

Chapter V CONCLUSION AND RECOMMENDATION

Conclusion

Based on the result of the data it is concluded that, Disaster Risk Reduction Management failed to mainstream, unable to institutionalized and organized its structures in accordance with the mandate of the law. Mandatory positions required for the creation of such office was not implemented due to budgetary requirements and some other factors. The local government unit augment the manpower of the DRRM through hiring Contract of Service and or Job order.

Likewise, it is concluded that different hazards that could possibly posed disaster among majority of municipality of Sultan Kudarat which needs to be taken care with. Barangay that is classified as susceptible to any hazard were also highly vulnerable in terms of social and economic as they are living in poverty earning their sole source of living from the disaster prone area itself.

Although the law was enacted some years ago mandating priority to create and institutionalize Local Disaster Risk and Reduction Office in each municipalities of the country, many factors especially budget hinders it full implementation. Therefore it is concluded more that less priority were given to such an important office the reason why, whenever disaster strikes, people tend to become a victim and could possibly lost their meager property and even lives. Indeed most of the LDRRM Office lack the necessary manpower, technology, apparatus and tools. Evacuation areas reserved whenever any disaster strikes is not enough, and cannot accommodate a number of families that would likely to be affected.

It is further concluded indeed the area with higher poverty rate are likewise susceptible to different vulnerabilities which also lead to disaster. Hazards may be the effect of man-made and or natural occurrence.

Recommendation

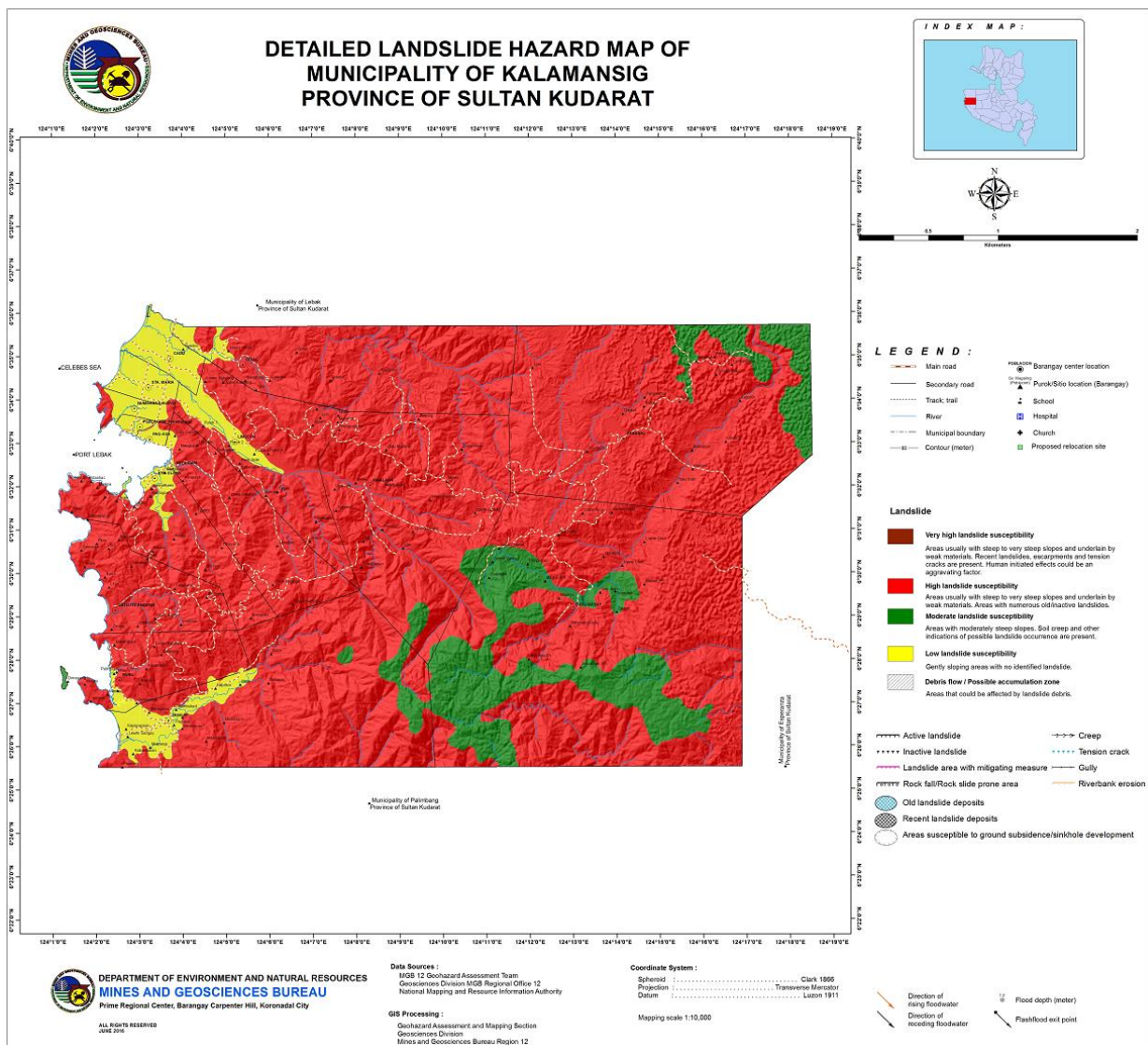
It is recommended that Local Government Unit should prioritize the institutionalization of DRMM in local units and organized its structures in accordance with the mandatory requirement of the RA 10121. Budgetary requirement should be given priority to such office not only in creation of positions as well as budget for their apparatus, tools and acquisition of technology.

It is further recommended that upon institutionalization of such office the three mandatory division such as administration and training, research and planning and operations and warning should be strengthen. Hence, most of the susceptible areas only relies on their own perception of the incoming disaster.

Training and planning should be undertaken together with the community so that they could fully understand the importance of such activity.



Municipality of kalamansig



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