



Research Paper

Managing Local Disasters: Capacity Needs for Disaster Risk Reduction Management (DRRM) in Bukidnon, Philippines

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ABSTRACT

Disaster risk reduction and management (DRRM) has become a national and global concern due to the impacts of climate change that increase exposure to disaster risks. The Philippines anchored its DRRM actions on RA 10121 enacted in 2010. This study looks into the capacities, needs, and constraints of local DRRM Councils (DRRMC) in Bukidnon, with priority to four municipalities, one city and eleven barangays with high vulnerability to climate change impacts. The data were then evaluated in terms of compliance with Hyogo and Sendai frameworks of action. Findings of this study revealed that DRRMCs have “moderate” to “high” need for institutional capacity for DRRM; “moderate” for IEC/advocacy capacity and “moderate” to “low” for financial capacity. DRRMCs have effective and functional resources and programs for DRRM. However, barangay DRRMC has no or lacking emergency/rescue equipment and facilities and less access to basic services. Compliance with Hyogo and Sendai frameworks are constrained due to budget, technical capacity, tasks of DRRMC members and political support. The findings of this study are crucial entry points and inputs to extension programs of agencies and scientific/technical communities needed to build resilience to disaster risks.

Keywords: DRRM capacity, Hyogo Framework, Philippine DRRM Act of 2010

INTRODUCTION

The Philippines is one of the hotspots in terms of climate change impact, particularly for natural disasters such as flooding that could trigger landslides. Impact of disasters can damage lives and properties as well as disrupt the economic activities, especially those that are highly dependent on natural resources. For instance, the Province of Bukidnon is dominantly agricultural with an economy that is dependent on crop and livestock production. The agro-industrialization and urbanization continue to sprawl on its landscape endangering the capacity of its ecosystems and natural resources which are essential in re-

ducing impact of climate change such as water scarcity, drought, flooding, erosion, runoff, the prevalence of diseases, among others. Indeed, it is a challenge for Local Government Units (LGUs) to address localized impact of natural disasters.

Literature shows a number of approaches to disaster risk reduction and management (DRRM). First, there is an emphasis on the role of local governments in coming up with the needed guidelines and clear-cut procedures for an effective response to emergencies (Henstra, 2010). Somers and Svara (2009) also argued that in managing disasters or handling emergencies, leaders need to have a “blend of traditional management skills and improvisation.” (p.1). Along with

with this, a major problem in disaster management relates to local government's role within both the "intergovernmental system and the local power structure" (Wolensky & Wolensky, 2005, p.1). More so, it is contended that a holistic approach to disaster response is employed, particularly in disaster management planning which includes "locally-led" response (Perry, 2007).

Responding to natural disasters is embedded in RA 10121, known as the Philippine Disaster and Risk Reduction Management Act of 2010. RA 10121 highlights the role of LGUs in DRRM "which has the primary responsibility as first disaster responders" (p. 21). In fact, RA 10121 is a "tort mechanism which could compel public officials to do their DRRM functions" (Pantiño, 2015). As such, LGUs are empowered to implement and institutionalize DRRM in its development plans and programs, particularly its critical role in developing resilience of communities to disasters. RA 10121 also guides government agencies, including LGUs, to craft their respective DRRM plans focused on: disaster preparedness; disaster response; disaster prevention and mitigation; and disaster rehabilitation and recovery. Furthermore, RA 10121 mandates the institutionalization of DRRM Council/Committee (DRRMC) at the provincial, municipal, city, and barangay levels respectively. DRRMC consists of members representing the various units/divisions in the LGU such as Health, Education, Environment, Social Welfare, and Development, etc. The Chief Executive such as the Mayor acts as the Chairperson of the Council. The DRRMC shall be "responsible for setting the direction, development, implementation, and coordination of disaster risk management programs within their territorial jurisdiction" (p.15). However, the implementation of DRRM initiatives and actions are subject to the capacity of the councils to implement DRRM programs in their respective areas of jurisdiction. In a study of Mendoza, Toledo-Bruno, and Olpenda, (2016), the "interplay of socio-political issues and geophysical conditions hamper the implementation of DRRM policies and programs" (p. 155) LGUs whose areas are not constantly exposed to risks and disasters lack the need to respond to their DRRM plans proactively.

In 2013, NEDA Region 10 assisted the Bukidnon LGU in the preparation of its Vulnerability Assessment report under the Integrating Disaster Risk Reduction- Climate Change Ad-

aptation (DRR-CCA) in Local Development and Decision-Making Processes program. The report presented the vulnerabilities of the province to disasters using Cabrido et al methodology for Vulnerability Assessment (2012, cited in Bukidnon LGU, 2013) under Millennium Development Goal Fund (MDGF) Project. The vulnerabilities per municipality to flooding, erosion, and drought were rated as high, moderate, or low. However, the identified natural disasters are themselves localized in specific areas such as at the barangay, sitio or purok (village) level. Consequently, response to such vulnerabilities or disasters has to be contextualized at the local level. Thus, it is important to assess the capacity of local DRRMCs to respond to disasters.

At the global level, the Hyogo and Sendai Frameworks of action laid down the foundation for countries and global cooperation for disaster management. All these national and global initiatives dovetail to a common concern for actions on risk assessments and capacity building of all actors to undertake a holistic approach to DRRM. However, it is interesting to know what aspects of capacity are deemed needed by DRRMC members. The basic questions then would be: First, how capacitated are municipal/city and barangay in responding to DRRM concerns?; second, what are their perceived needs to implement DRRM?; third, what capacities are needed to implement the DRRM at the municipal/city and barangay levels? and lastly, what are the challenges of local DRRMCs to conform to Hyogo and Sendai Frameworks of Action?

RA 10121 emphasized that DRRMCs, particularly at the local levels, have to be capacitated to implement DRRM in their respective areas effectively. Section 3 of the RA 10121 defines capacity as: "a combination of all strengths and resources available to a community, society or organization that can reduce the level of risk, or effects of a disaster. Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership, and management" (p. 3).

As such, DRRMCs are exposed to various forms of capacity building such as seminars and workshops including hands-on rescue operations and disaster drills.

At the global level, the Hyogo and Sendai Frameworks become the agenda of action for di-

sasters management. In January 2005, World Conference on Disaster Reduction adopted the Hyogo Framework for Action: 2005-2015. The conference is a "strategic and systematic approach to reducing vulnerabilities and risks to hazards... building the resilience of nations and communities to disasters." In the next 10 years, the expected outcome is "the substantial reduction of disaster losses, in lives and the social, economic and environmental assets of communities and countries" (pp. 1 & 3). Thus, this requires the "full commitment and involvement" of governments, organizations, civil societies, private sectors and scientific community. Key activities in the identification, assessment, and monitoring of disasters include: national and local risk assessments; early warning; capacity; regional; and emerging risks.

The Sendai Framework succeeds the Hyogo Framework, which already expires in 2015. The Sendai Framework ensures continuity of the Hyogo Framework, and at the same time, encompasses a broader understanding of disaster risk, with emphasis on "build back better." Thus, disaster risk has to be dealt with multi-management across all levels and sectors in a "conducive and enabling environment." Actions to undertake Priority 2 (Strengthening disaster risk governance to manage disaster risk) is "To carry out an assessment of the technical, financial and administrative disaster risk management capacity to deal with the identified risks at the local and national levels."

This study sought to assess the capacity of municipal LGUs to respond to an identified natural disaster. This will then be related to the capacity needs at the barangay levels to be able to assess the gaps in the DRRM initiatives at the city/municipal to the barangay levels. Specifically, this study sought to address the following objectives. First, to assess the capacity needs of Bukidnon LGUS in terms of institutional, database management, IEC/advocacy, financial and resources needs. Second, to analyze the constraints and limitations on the capacity of LGUs in the implementation of DRRM, and lastly, identify the challenges of local DRRMCs to conform to the Hyogo Framework for form with the Hyogo Framework for Action 2005-2015/Sendai Framework of Action 2015-2030.

The findings of this study are valuable inputs to assess, and hopefully, enhance the DRRM initiatives of the LGUs in Bukidnon. The outputs of

this study were disseminated to the local DRRM councils of the study sites as a basis for discussion for possible extension activities.

METHODOLOGY

Study Sites

This study was conducted in four municipalities and one city in the province of Bukidnon as shown in Figure 1. These sites were purposely selected based on their high vulnerability to flooding, landslide, drought, and forest fire as indicated in the Vulnerability Assessment (VA) Report of Bukidnon LGU in 2013. This study focused on natural disasters only as mentioned based on the said Vulnerability Assessment Report (2013) Peace and order, fire, disease prevalence, and other human-caused disasters are excluded.

Although the VA report specifically indicates vulnerability to climate change impacts, this research uses such impacts as bases for the identification of disasters per municipality/city. However, these were validated through discussions with DRRMC heads of respective municipalities/city. The selection of sites was then based on the results of the VA, specifically on where these impacts will significantly occur:

Flooding (agriculture sector) – Valencia City;
Landslide (forestry sector) – Cabanglasan (VA report provides no assessment of landslide in the agriculture sector);
Drought (agriculture sector) - Maramag;
Forest fire (forestry sector) – Quezon; and
Pests and diseases (biodiversity sector) - Kitaotao.

The municipality of Kitaotao is identified as highly vulnerable to pests and diseases as reflected in the VA report but based on discussions with local DRRM officials; erosion is more prevalent in the area. Consequently, the identified disaster for this area was changed from pests and diseases to erosion. From the city/municipality, the study was downscaled to the barangay levels, where the identified natural disaster actually occurred. In this way, a realistic assessment can be drawn out. Table 1 indicates the selected sites and LGUs.

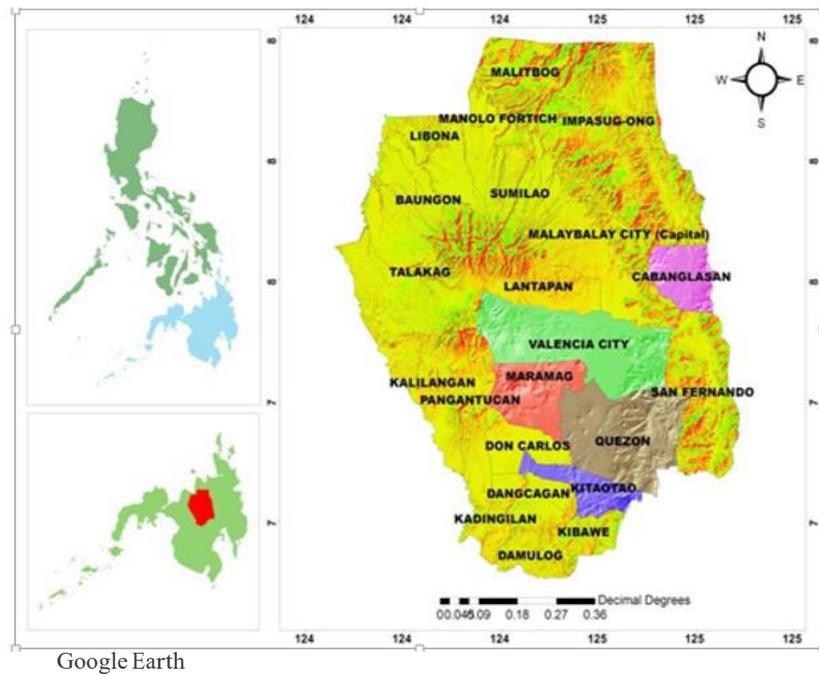


Figure 1. Location of Municipalities/City with High Vulnerability Index for Identified Natural Disaster

Table 1

Selected Sites and Respondents

Disaster	Municipal/City	LGU		Total	
		Barangay	No. of Respondents		
			Municipal/ City	Barangay	
Landslide	Cabanglasan	Jasaan	5	3	12
		Freedom		2	
		Lambagan		2	
Flooding	Valencia City	Batangan	6	2	16
		Sugod		6	
		Poblacion		2	
Drought	Maramag	Dologon	7	2	12
		Danggawan		3	
Forest Fire	Quezon	No specific site; areas prone to fire include grassland and sugarcane farms	10	Interviews were limited to MDRRMC since accordingly, all farm and grasslands are prone to flooding. There was no mention of forest fire in the area	
Kitaotao	Erosion	Metebagao	4	4	13
		Balocbocan			
		Kitubo			
		Total	32	32	

The selection of barangays is solicited from the Municipal/City DRRM Council (DRRMC), particularly its head. This is based on the experienced disaster and response that the Council has extended. From the Municipal/City DRRMC, the Barangay DRRMC provided information on the specific sites, i.e., at the sitio or purok (village) where disasters occurred.

For erosion, landslide, and flooding, actual sites of disasters at the barangays were geo-tagged using handheld GPS. Geo-tagging was done with the help of BDRRMC members and residents who are either affected or has experienced the disaster. GPS points were converted into shapefiles and overlaid in a base map accessed from PhilGIS using ArcGIS 10.1

This study employed both qualitative and quantitative approaches. Survey questionnaires were developed and pre-tested to respondents who are not members of local DRRMC. Questionnaires were then revised to ensure that respondents understood the questions. Surveys using the revised questionnaires were conducted among members of the Municipal/City DRRMC and Barangay DRRMC of the selected LGUs. Quantitative data gathered from questionnaires were analyzed using basic statistical tools (e.g., frequency, percentage, means). Qualitative data generated from interviews were transcribed and analyzed thematically to form part of the discussion.

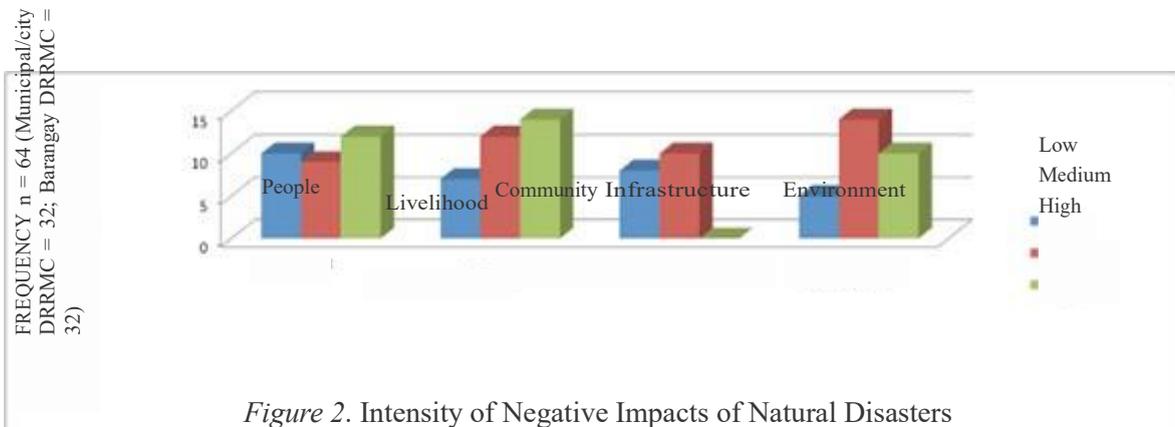
Respondents of this study are local DRRMC members who are dominantly male with age of

45 years old and below. Highest educational attainment of Municipal/City DRRMC is college graduate, understandably because they occupy positions in the government. Contrastingly, Barangay DRRMC members are elementary level/ graduates although considerable number attained college level or degrees. Municipal/city DRRMC members occupied their respective positions in the LGU from one to two years while Barangay DRRMC members have been in the service for eight (8) years. These data established their knowledge on the matters pertaining to the identified disasters in their respective areas.

RESULTS AND DISCUSSION

Overview of disasters

Table 1 shows that the identified disasters have high to medium frequency of occurrence, i.e., 1-2 to 3-5 years, respectively. The perceived intensity is based on the extent of damage to people, livelihood, infrastructure, and environment. Low intensity means that the damage can be recovered in weeks while high intensity means recovery may take a year. Interestingly, the perceived intensity of negative impacts of natural disasters differs at the municipal/city and barangay DRRMC members as shown in Figure 2. Generally, the intensity of negative impacts is only moderate for municipal/city DRRMC but for barangay DRRMC, the impacts are moderate to high, especially for people and livelihood.



This is understandable since the latter are the ones exposed and have experienced the disasters, which commonly occur in farms, riverbanks, and residential areas. Farms are mostly affected by any disaster, i.e., flooding, drought or erosion. As such, the people and crops are correspondingly those affected by disasters.

In both the municipal/city and barangay DRRMCs, common concerns in the implementation of DRRM are financial, technical skills, local support and the availability of data/information on disasters as presented in Figure 3. This means that DRRMCs see the need for the bigger budget through financial support, the technical skills to implement the DRRM programs, the support of local leaders, organizations and groups, and the lack or limited data. In addition, barangay DRRMC emphasized capacity needs with regards to DRRM. Barangay DRRMC members and even officials expressed that, in general, they lack the capacity to take on the role to manage the disaster since this is usually done by the municipal/city DRRMC.

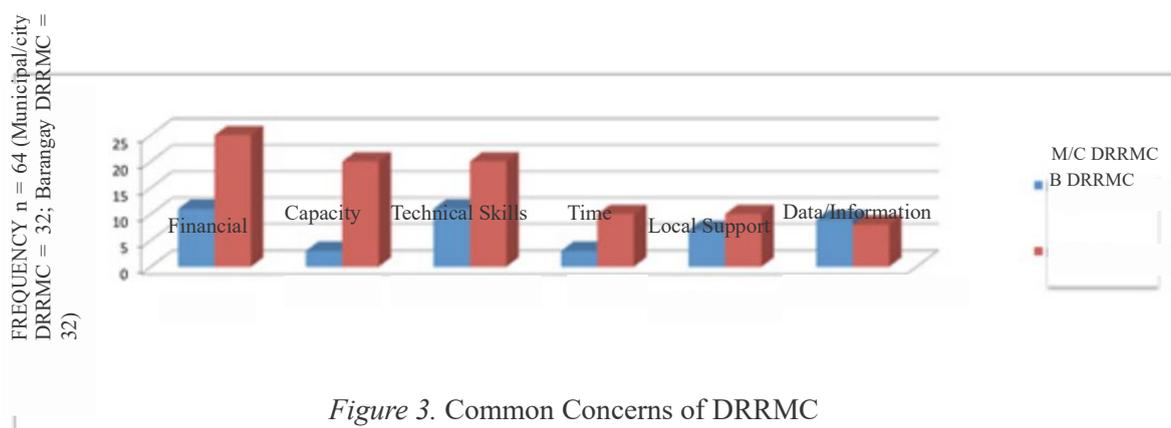
The Local DRRM Fund (LDRRMF) mandated in RA 10121 ensures that LGUs have the budget for DRRM. But, results of surveys indicate that financial resource is still a priority concern at both municipal/city and barangay levels. Although 5% of the Internal Revenue Allotment (IRA) is the mandated budget for DRRM, barangays with less IRA has a meager amount of funds

for DRRM. Financial constraint is a serious concern for barangays with low revenue allotment, particularly those located in upland barangays. For instance, barangay DRRMCs admitted they do not know how to utilize DRRM fund because it is not even sufficient for affected households. In some cases, the budget is already allocated, but the release of the money takes some time due to accounting protocols and procedures.

Disaster response

LGUs at the province, municipal and barangay levels are those who immediately respond to disasters. Membership in the province and municipal/city DRRMC is multi-sectoral in accordance with the provisions of RA 10121. At the barangay level, the council is composed of officials, health workers, and sitio/purok leaders. However, the barangay DRRMC sees other government agencies and private sectors as their partners in DRRM. Meetings are the basic means of collaboration and communication among DRRMC members, which are commonly done “as the needs arises.”

Figure 4 shows that tree planting and the installation of early warning devices are the common strategies for local DRRMC.



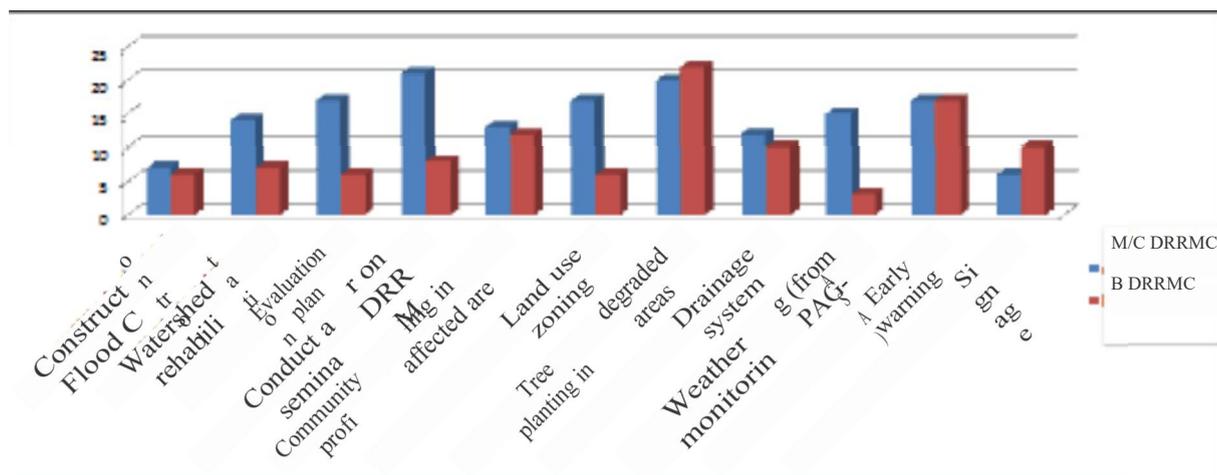


Figure 4. Existing Strategies to Reduce the Impacts of Disaster

Initiatives for early warning and disaster response are commonly done through training, seminars, posting of signages, as well as the organization of respective DRRMCs. Barangay DRRMC highlighted on the mapping of disaster-prone areas and the profiling of affected households.

In the event of disasters, the immediate response of municipal and barangay DRRMCs is the provision of basic services such as food, water, medicines and agricultural inputs. The latter are considered basic considering that disasters damage farms affecting crops and livelihood as already stated. Municipal LGUs provide agricultural inputs, such as seeds and fertilizers. Evacuation and rescue operations are provided when needed. In the aftermath of the recent drought due to El Niño, households received sacks of rice as aid from the Provincial LGU.

Capacity Needs of Bukidnon LGUs for DRRM

Section 2 of RA 10121 stipulates the policy of the state to "... strengthen the capacities of LGUs and communities in mitigating and preparing for, responding to, and recovering from the impact of disasters" (p. 2). It is for this very reason that the government intensifies efforts in capacity building activities of DRRMCs. However, it is equally important to understand that capacities are needed at the local DRRMCs considering that they are the first responders of disasters. This study categorizes

capacity needs in terms of institutional, database management, IEC/advocacy, financial and resources needs. The data are collated in a form that facilitates easy reference to the perceived needs to match with the needed DRRM interventions to enhance capacity for disaster response of DRRMCs.

Respondents assessed the capacity needs as listed in the questionnaire. Generally, M/C DRRMC and B DRRMC have the same need for knowledge, skills, and application per identified capacity, except in few instances where knowledge and application have a higher need as compared to skills. Respondents admitted that they still lack the knowledge, particularly on rapid assessment and disaster-responsive land-use zoning and infrastructure design. There are also cases wherein respondents already know the concept, e.g., land use zoning and networking, but they lack the capacity to apply it in the context of DRRM. Table 2 summarizes the results of the survey for institutional capacity needs of local DRRMCs.

Data revealed that barangay DRRMCs (B DRRMC) have a high need for institutional capacity as compared to municipal/city DRRMC (M/C DRRMC). This is true to M/C DRRMC where training, seminars, and workshops were conducted by national and regional agencies for DRRM. For both M/C DRRMC and B DRRMC, the establishment of the early warning system

Table 2

Institutional Capacity Needs of M/CDRRMC and BDRRMC (based on the highest frequency)

Capacity	High		Moderate		Low	
	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC	M / CDRRMC	BDRRMC
Community organizing			/	/		
DRRM plan formulation			/	/		
Strategic planning			/	/		
Conduct of training and seminars on DRRM		/	/			
Rapid assessment	/(Knowledge)	/	/			
EIA of post-disaster		/	/			
Establishment of early warning system and devices	/(Knowledge)	/				
Disaster responsive infrastructure design	/(Knowledge)	/	/			
Disaster responsive land use zoning	/(Knowledge)	/	/(Application)			
Climate change ready-plans, programs and policies		/	/			
Natural resources management		/	/			
Maintenance of early warning devices			/	/		
Networking	/(Application)	/(Application)	/	/	/	
Monitoring and evaluation			/	/		

and devices, disaster-responsive infrastructure, and land use zoning and the application of networking for disaster-related concerns are rated high. Installation and monitoring of automatic weather stations (AWS) is the primary task of PAGASA, but DRRMCs do not access such data. Weather data are usually accessed from radio or television programs. On the other hand, it is normally the M/CDRRMCs who do training and seminars, infrastructure design and land use zoning. Thus, BDRRMCs perceived these as their need for disaster response.

The availability and management of data are important because these provide the bases in responding to disasters, i.e., how many households in which areas should assistance be directed to. At the same time, these data are important in the calculation of damage, assistance (money, materials or inputs), and in planning for rehabilitation/restoration efforts.

Interviews with BDRRMC members revealed that municipal/city and provincial LGUs normally gather data such as the number of households, extent of damage area, etc. These

are the basis for the assistance extended as part of DRRM. However, BDRRMC has no copy of the data. At the M/CDRRMC levels, these data are used in reports. Information on disasters is usually accessed via television, internet or radio. Collaboration with national and regional agencies on DRRM seems to be lacking at the M/CDRRMC levels. In the same way, BDRRMC accessed information from television, radio or from city/municipal and provincial LGU offices. It is not clear how such information is utilized for DRRM plans and strategies.

The above situation explains why capacity needs for database management are generally rated high as shown in Table 3. As such, interventions for database management capacity should be able to encourage collaboration, collection, processing, and presentation of DRRM

data to be effectively utilized for DRRM plans and strategies.

Advocacy is an important component of DRRM not only to make people aware and be prepared for disasters but also to understand more about disasters. Disasters should not create panic or fear but develop resiliency, which comes only if people do understand more about a disaster. In the various DRRMC offices visited, most of the advocacy comes in the form of posters and signage, which are distributed by national and regional DRRM offices. M/CDRRMC shared that they also conduct training and seminars as well as drills as mandated under DRRM. DRRM plans are formulated at the city/municipal levels, which become the basis for the crafting of barangay DRRM plan.

Table 3

Database Management Capacity Needs of M/CDRRMC and BDRRMC

Capacity	High		Moderate		Low	
	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC
Data collection	/	/				
Database establishment	/	/				
Data access	/	/				
Data storage	/	/				
Map interpretation		/	/			
Management information system (MIS)	/	/				
Geographic information system (GIS)	/	/				
Use of statistical software for data analysis	/	/				
Data presentation	/	/		/		
Community mapping	/	/				
Integrating data into local policy formulation		/	/			
Information sharing	/(Application)	/	/	/		
Networking	/			/		

Table 4

Advocacy Capacity Needs of M/CDRRMC and BDRRMC

Capacity	High		Moderate		Low	
	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC
DRRM plant dissemination			/	/		
Integration of DRRm in school curricula	/		/			
Formulation of IEC materials			/			/
Production of culture-sensitive IEC materials	/		/			
Early warning system		/(knowledge)	/			
Documentation			/	/		

Table 4 reveals that capacity for advocacy in DRRM is only perceived as a moderate need for M/CDRRMC but high and moderate for BDRRMC. The reason for “low” need for IEC materials is because these are available at the municipal levels. However, their preference is the “culture-sensitive” materials. BDRRMC recognizes the relevance of this capacity since they are the ones who experience disaster. In fact, the aftermath of disasters, which includes damage and loss of livelihood or personal belongings could be felt even weeks after disasters. In such case, culturally-sensitive advocacy campaigns are more meaningful rather than the generic IEC material.

The financial resource is a common concern for both M/CDRRMC and BDRRMC. However, capacity needs on this aspect is only rated as “moderate” or “low” as shown in Table 5. This is because members of DRRMC are also personnel of other offices, who compose the DRRM Council in respective municipality/city and barangay. This is in accordance with the provisions under Sections 11 and 12 of RA 10121 on the composition of local DRRMC. Financial operations are already performed and experienced by members

of DRRMC. Thus the “moderate” or “low” capacity need.

Constraints and limitations of DRRMC to implement DRRM

Based on interviews with DRRMC heads, DRRM plan encompasses disaster preparedness; disaster response; disaster prevention and mitigation; and disaster rehabilitation and recovery. As such, the budget for DRRM as mandated under RA 10121 has to be allocated in the above categories. In any DRRM initiatives, the capacity of DRRM actors or implementers has to be matched with the available resources. These resources include people, programs, facilities and equipment to respond to disasters. The availability of these resources should also be assessed in terms of sufficiency, functionality, and effectiveness. Sufficiency assess means whether the number of these resources are available and can meet the demands; functional means these resources are working and utilized; and effectiveness means that these resources serve its purpose, i.e., for DRRM.

Table 5

Financial Capacity Needs of M/CDRRMC and BDRRMC

Capacity	High		Moderate		Low	
	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC
Budgetary allocation			/	/		
Formulation of mechanisms for contingency measures			/	/	/	
Financial monitoring					/	/
Fund sourcing			/			/

Table 6 shows a summary of the DRRM resources that are sufficient, functional, effective or lacking/none. Note that for clarity purposes, the data are based on a highest frequency only. For instance, some BDRRMCs have effective, functional, and sufficient DRRM resources but the majority of the BDRRMCs have none. For instance, the majority of the BDRRMCs have no early warning system, but some shared these are effective and sufficient in their respective barangays. Similarly, the majority of the M/CDRRMC revealed they have no rubber boats, but a considerable number expressed they have sufficient, functional and effective rubber boats. However, for barangays not exposed to flooding, rubber boat is not a need.

Both the M/CDRRMC and BDRRMC shared that most of the DRRM data, plans and maps are effective. However, both also see the lack of local experts on the disaster that could provide them with technical and advisory on DRRM concerns. Both also have functional programs for vulnerable groups as these are mandated and utilized during disasters. However, respondents agreed these could be enhanced for specific needs of vulnerable groups.

A striking contrast is observed in the emergency/rescue equipment and facilities for M/CDRRMC and BDRRMC. Majority of the M/CDRRMCs admit that the equipment and facilities are sufficient. In contrast, most of the BDRRMCs shared they have no or lack equipment and facilities for DRRM. This is consistent with what BDRRMC members revealed that

DRRM is normally initiated at the municipal/city levels because the latter have the resources. Barangays located in Poblacion or urban centers with higher internal revenue allotment (IRA) have correspondingly higher DRRM fund, thus their ability to provide themselves with the equipment and facilities. These barangays also have access to potable water, hospitals, fire trucks, ambulance and other basic services provided by municipal/city LGUs.

Although M/CDRRMCs are equipped with emergency/rescue equipment and facilities, these equipment and facilities are not necessarily used during disasters. M/C DRRMC members admitted that emergency and rescue equipment is mostly used to respond to vehicular accidents common along national highways. Some even revealed that rescue vehicles and ambulances are utilized for health-related emergency concerns. Consequently, funds are utilized for Quick Response but allocations for disaster preparedness, disaster prevention and mitigation, and disaster rehabilitation and recovery are not optimized. Section 21 of RA 10121 stipulates that:

“Unexpended LDRRMF shall accrue to a special trust fund solely for the purpose of supporting disaster risk reduction and management activities of the LDRRMCs within the next five (5) years. Any such amount still not fully utilized after five (5) years shall revert back to the general fund and will be available for other social services to be identified by the local Sanggunian”(p. 25)

Table 6

Needs of M/CDRRMC and BDRRMC for DRRM Implementation (based on Highest Frequency for Sufficient, Functional, Effective or none)

NEEDS	Sufficient		Functional		Effective		None	
	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC	M/CDRRMC	BDRRMC
		DRRM resouces						
Data on disaster		/		/	/			
Geohazard maps					/	/		
Land use maps				/	/			
Local DRRM council			/		/	/		
Local advisory council						/	/	
Local experts on DRRM							/	/
DRRM plan	/	/						
		Programs for vulnerable groups						
Children			/	/				
Elderly			/	/				
Persons with disabilities (PWD)			/	/				
Pregnant women			/	/		/		
Sick			/					
		DRRM programs						
Disaster response and rescue					/	/		

Compliance of Local DRRMCs with the Hyogo and Sendai Frameworks

Table 7 shows the highlights of the global actions for DRRM which are anchored on the Hyogo and Sendai Framework of Actions. These become the bases for international actions and cooperation in response to disasters. Hyogo Framework shares similarities with the provisions of RA 10121. As such, these are partly accomplished at the local DRRMCs. As a follow-up on of the Hyogo Framework, the Sendai Framework built its foundation and enhanced actions of the former. Highlights of the Sendai-

Framework are the concepts of building resilience and “Build Back Better” approach.

Although Hyogo Framework and RA 10121 share similarities for DRRM actions, it is a reality that these suggested actions meet difficulties and challenges for local DRRMCs, particularly with lower IRA and correspondingly meager fund for DRRM. The meager fund limits DRRMCs to purchase equipment and install facilities for disaster response operations. Some DRRMCs personnel admitted having difficulties in accessing fund due to some bureaucratic procedures and protocols that cause a delay in their response

Table 6 continued . . .

Needs	Sufficient		Functional		Effective		None	
	M/ CDRRMC	BDRRMC	M/ CDRRMC	BDRRMC	M/ CDRRMC	BDRRMC	M/ CDRRMC	BDRRMC
Disaster recovery			/			/		
Disaster rehabilitation					/			/
Volunteer for disaster response					/	/		
Emergency/rescue equipment and facilities								
Rubber boats							/	/
Life jackets	/						/	/
Hauling truck	/							/
Fire truck	/							/
Ambulance	/							/
Standby power generator							/	/
Portable water supply	/							/
Medical supplies	/							/
Food supplies	/							/
Communication devices (radio)	/							/
Alarm system			/					/
Early warning system	/		/					/
Evacuation center	/							/
Temporary shelter			/			/		
Relief distribution center							/	/
Hospital clinic			/					/
Fire department			/					/
Weather monitoring system							/	/
Internet access	/							/
Mobile phones	/					/		
Computer facilities			/		/	/		

Table 7

Priority Actions under the Hyogo and Sendai Framework

Hyogo Framework of Action	Sendai Framework of Action (National and local level)
1) Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation	Priority 1: Understanding disaster risk
2) Identify, assess and monitor disaster risks and enhance early warning	Priority 2: Strengthening disaster risk governance to manage disaster risk
3) Use knowledge, innovation and education to build a culture of safety and resilience at all levels	Priority 3: Investing in disaster risk reduction for resilience
4) Reduce the underlying risk factors	Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction

actions. On the other hand, the access to data and information on disasters, including weather and climate information, are constrained by no or intermittent internet connection and signal. DRRMC personnel also revealed that aside from their responsibility to DRRM, they are also assigned to other offices. This divides their time to focus on DRRM. In addition, the members of DRRMC are equally holding critical positions as also heads in their respective offices, e.g., unit heads of health, social welfare, agriculture, budget, etc. as stipulated in Section of RA 10121. Some are coming from other offices such as PNP, DepED, Red Cross, NGO, etc. This situation makes difficult to find a common schedule for DRRMC to meet and discuss DRRM initiatives in their respective areas. This is the reason why DRRMC members only meet “as the need arises.”

Based on interviews with DRRMC heads, constraints, and limitations in the implementation of RA 10121, including the Hyogo and Sendai Framework all boil down to budget, lack of technical capacity, the “other” tasks assigned to DRRMC members and strong political support.

CONCLUSIONS

DRRM is a crucial concern from the local to international levels. Beyond the legal basis for

DRRM, the people are already aware of the aftermath and impact of disasters at the various spatial scales. On the other hand, local officials are pressured to take concrete and immediate actions being the first responders of disasters. Thus, they are more accountable at the local level where disasters occur. However, the mandated local bodies for DRRM at the city/municipal and barangay lack the capacity and resources to perform their expected functions. The lack of capacity and resources are the challenges to implement the local DRRM, particularly in barangays that have less access to facilities and information as well as the insufficient budget for DRRM due to less IRA. This is crucial since barangays are the first responders when local disasters occur. As such barangay DRRMCs are dependent on municipal/city DRRMCs.

RA 10121 shares similarities with the priority actions of the Hyogo and Sendai Frameworks. However, the implementation is constrained by difficulties and challenges due to a limited budget, technical capacity, and political support. With the perceived needs of local DRRMCs, the initiatives, programs, and activities have to be re-assessed to effectively manage the impacts of disasters.

The assessment on the capacity and resources needs of the local DRRMCs as presented in this study can be the basis for prioritizing capacity building programs for DRRM. The output

of this study can be used as extension services programs of scientific and research communities in the academe and government agencies. Priorities of needs for capacity and resources are entry points of interventions for a collaborative and meaningful extension programs for DRRM.

RECOMMENDATIONS

The findings of the study are crucial entry points to enhance DRRM plans, policies and programs on DRRM for M/CDRRMC and BDRRMC. Specifically, DRRM can focus on the following recommended interventions:

- 1) Validate the findings of the study per M/CDRRMC and BDRRMC to build on the bases for area and disaster-specific DRRM interventions;
- 2) Focus on the “high” to “moderate” capacity needs of DRRMC and contextualize DRRM design specific to disaster risk, community and available resources for DRRM;
- 3) Strengthen linkage and collaboration of DRRMC with agencies involved in data collection, access, and management pertaining to disasters such as PAGASA DOST, Department of Agriculture, DENR, among others;
- 4) Initiate collaboration between M/CDRRMC and BDRRMC in the collection, analysis, access, and management of data related to DRRM such as area of disaster exposure, number of affected households, weather and climate monitoring and mapping;
- 5) Strengthen collaboration of M/CDRRMC and BDRRMC as partners in DRRM, creating a venue for learning on disaster preparedness; disaster response; disaster prevention and mitigation; and disaster rehabilitation and recovery.
- 6) Work out disaster-specific DRRM initiatives on preparedness; response; prevention and mitigation; and rehabilitation and recovery.

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