



THE DISASTER RISK REDUCTION AND MANAGEMENT OF SULTAN SA BARONGIS MAGUINDANAO

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Abstract

Generally, this study aims to assess the effectiveness of the implementation of the Disaster Risk Reduction and Management Plan of Sultan sa Barongis, Maguindanao. To assess the Effectiveness of the Implementation of the Disaster Risk Reduction and Management of Sultan sa Barongis, Maguindanao in responding to calamities particularly during flooding. Specifically, it was aimed at answering the following question: 1. How effective is the Implementation of DRRM of Sultan sa Barongis in terms of the following: Awareness, Response and Rehabilitation and Recovery. 2. What are the contribution of other agencies to the DRRM of the Sultan sa Barongis, Maguindanao in addressing the Disaster? 3. What are the problems encountered by the Municipality in addressing the needs and problems of the people affected by calamity? 4. What policy implications on disaster management can be drawn from the findings of this study? There are two sets of respondent from which data will be collected; the first set will be from the official/LGU of Sultan sa Barongis namely; the Municipal Administrator, Municipal Planning and Development Officer, Disaster Risk Reduction and Management Council Officer, Social Welfare Officer. The other group of respondents under the first set was one from each supporting agencies such as OCD, DA, DOH, PNP, DepEd, DSWD. They were selected as key informants. The second sets were the family heads, or family representative from the Six (6) low lying Barangays of Sultan sa Barongis.

Keywords: Disaster Risk Reduction and Management, Management Plan, Sultan sa Barongis, Maguindanao

INTRODUCTION

The Philippines is Famous for its rich culture, hospitable people and blessed with tropical climate, great beaches, vast lands, agricultural soil, mountains, and coral reef among others. But amidst these positive traits of our country we could not deny the fact that there are events and circumstances that had tried the firmness of the Philippine and its people.

Throughout the recorded history of the Philippine, disaster in various parts of the country have been reported. Unmistakably, floods and storms have been the most frequently occurring hazards. This confirms the high level of exposure to hazards due to its geography. Tropical storms or typhoons accompanied by heavy rain and/or strong winds that may result in flood, landslides and storm surge are the most prevalent types of hydro-meteorological hazards in the country, also, Man's activities in the upper watersheds caused forest denudation thus aggravating flood risk to the low lying communities in the country, recent rainfall events show that the annual monsoon season in the country has brought severe flooding in the most areas.

Heavy rainfall that results to flooding effects greatly the normal activities of the people in the community, river and flash flooding usually from abnormally high rainfall over a relatively short period, sedimentation of riverbed and deforestation of water catchments areas can exuberate conditions leading to river valley flood. Buildings in

the flood plains or in environmentally degraded area or changing the natural drainage system can significantly increase the risk of flood damage.

In Sultan sa Barongis Maguindanao which one of the Municipality that belongs to the “people of the plains” occupying the basin of the Pulangi River. Located next to the Liguasan Marsh, the drainage basin of the Mindanao River, heavy rainfall on the Mountains of South Cotabato and Sultan Kudarat during rainy season can easily cause the raising of the water at the river surrounding the municipality of Sultan sa Barongis thus it damages the houses and farming areas of the resident, in some cases if the rain continues for several days it become risky and caused the resident of evacuate their community.

Further, the irregularities of the flood control project of the Banana Plantation on the adjacent municipality seems to create problem on the waterways of the Ala River the tail end of the dike triggered more water toward Sultan sa Barongis, Because the water that used to be passing through Baranggay Tinu-migues of Municipality of Lambayong goes directly to the villages of Sultan sa Barongis Maguindanao.

NDRRMC reported that persistent rain on early weeks of May of this year has caused several rivers to overflow, in particular the Pulangi River, Mindanao River and Ligawasan Marsh. More than 22,000 individuals from the 12 Baranggays of the Municipality of Sultan sa Barongis were greatly affected and displaced by the unexpected overflowing of the Ala River the flooding continue until June 8, 2017, Schools and Health Facilities have been Submerge this impaired their operation, Properties, Rise fields, Roads and Houses of the residents were damaged by the flood.

Because of the country’s susceptibility to natural and human-induced disaster, efforts have been made to build people’s capacities and resilience to disaster, the Disaster Risk Reduction and Management Plan serves as the national guide on how sustainable development can be achieved through inclusive growth while building the adaptive capacities of communities; increasing the resilience of vulnerable sectors; and optimizing disaster mitigation opportunities with the end in view of promoting people’s welfare and security towards gender-responsive and right-based sustainable development.

The Municipality Provided Fund intended for relief operation assistance to all 12 Barangays affected by the flood, also the Provincial Government of Maguindanao had given food packs to the 22,000 individuals, the Department of Social Welfare and Development, the ARMM Heart also given relief.

However, despite of these series of services made by the Municipality of Sultan sa Barongis and Line agencies, the problem still continue some of the low-lying and remote areas of Sultan sa Barongis still at high risk of overflowing of the Ala River and Kapingkong River.

These community need to be monitored to secure their safety and response to their need. In general, smaller, insidious, and environmental events affecting the poor and remote communities are less likely to be officially recognized as Disaster. These remote areas should be properly represented in order for the government to respond more appropriately to their needs.

It is in this context that a research on disaster risk reduction and management of the municipality and other concerned agencies/organizations is conducted in order to determine the effectiveness and strategies adopted to reduce risk and damages and danger. Thus, this study was conducted.

METHODS

The descriptive evaluation design was adopted. The data and information gathered were described to determine the effectiveness of the disaster risk reduction and management plan and implementation of Sultan sa Barongis and other supporting line agencies. The analysis and interpretation of the data will be done using appropriate statistical tools. The corresponding evaluation will be based on the result of the computation and its corresponding description in the scale specified in the research instrument.

The study was conducted in Sultan sa Barongis Maguindanao in its Six (6) Barangays, which have high risk and vulnerable to flooding, Namely; Barangay Darampua, Barangay Papakan, Barangay Tugal, Barangay Masulot, Barangay Barurao, Barangay Tukanakuden.

This study had two groups of respondent from which data were collected; the first group was the official/LGU of Sultan sa Barongis namely; the Municipal Administrator, Municipal Planning and Development Officer, Disaster Risk Reduction and Management Council Officer, and Social Welfare Officer. The other group of respondents under the first set were one from each supporting agencies such as OCD, DA, DOH, PNP, DepEd, and DSWD. They were selected as the key informants. The second set were the family heads, or family representative from the Six (6) Low lying Barangays of Sultan sa Barongis.

The simple random sampling was applied in choosing the second set of respondent. The selection for the household heads was purposive, wherein, the respondents were purposely chosen from the twelve barangays. The main listing of affected barangays and household heads was acquired from the LGU of Sultan sa Barongis and among the poorest of the poor resident wherein they were the most vulnerable in disaster. Each Barangays have 20 household head representative totalled of 120 respondents.

RESULTS AND DISCUSSIONS

How Effective is the Disaster Risk Reduction and Management of Sultan sa Barongis Maguindanao?

The First objective of the study is to assess the effectiveness of the Disaster Risk Reduction and Management of Sultan sa Barongis, Maguindanao. The ratings of these particular areas indicate that the Municipality of Sultan sa Barongis in cooperating with the supporting line agencies has somehow addressed the problems of the flood victims.

As shown in the Table, the Effectiveness of the Disaster Risk Reduction and Management of Sultan sa Barongis on the First component namely Awareness which got and overall mean of 3.50 or Fairly Effective.

Table 1. Frequency Distribution in terms of Awareness (n-120)

Indicator	Frequency Distribution					Mean	Description
	5	4	3	2	1		
1.Appropriateness and relevance of the training for the Personnel, Volunteers and Community.	21	20	75	2	2	3.50	Fairly Effective
2.The Municipality provides training for volunteers of what to do during disaster	10	15	55	33	5	3.99	Fairly Effective
3.communities are equipped with necessary skills and capability to cope with the impacts of disaster.	5	39	57	18	1	3.20	Fairly Effective
4.The Municipality maintains training regarding rescue operation for different calamities/disaster for the personnel.	17	17	63	8	15	3.10	Fairly Effective
5.The Far flung community is well inform of what to do during calamities.	10	27	63	16	4	3.20	Fairly Effective
6.The Municipality provides safety dikes to prevent the over flowing flood.	39	52	20	5	4	3.97	Effective
7.Each Barangay has their safety/rescue materials readily available.	23	14	57	3	23	3.10	Fairly Effective
8.The Municipality has water drainage system so the water will flow not directly enter the municipality area.	15	17	40	15	33	2.70	Fairly Effective
9.The Municipality can identify, assess, and manage hazard vulnerabilities and risk that may occur in the area.	36	40	24	18	2	3.80	Fairly Effective
10.The Municipality Disseminate information and raise public awareness about those hazards, vulnerabilities, and risk their nature, effects, early warning, and counter measures.	43	30	27	20	0	3.80	Fairly Effective
11.The Municipality has MDRRM Operation Centers.	78	14	20	5	3	4.30	Effective
12.Enhanced and effective community-based scientific assessment, mapping, analysis, and monitoring of the vulnerable areas.	45	35	20	8	12	3.80	Fairly Effective
13.provides Regulation and Mandatory evaluation of the affected family during disaster.	38	60	16	6	0	4.10	Effective
Overall Mean						3.50	Fairly Effective

As shown in the above-presented the effectiveness of the implementation of Disaster Risk Reduction and Management plan in terms of Awareness has a mean of 3.39, which means the Information Dissemination Trainings regarding disaster rescue is “Fairly Effective”.

The Source of information of the community regarding calamities was the informal lectures conducted to them, according to the respondents the DSWD-Pantawid Pamilya-through FDS they could able to learn some tips and do’s and don’ts regarding disaster.

According to the informants they were conducting a community based training and drill on disaster preparedness, they were also trained volunteers on various disaster related activity such as Water Search and Rescue training (WASAR) and the Search and Rescue training (SAR) these Training were conducted twice a year and is facilitated by the Municipal Disaster Risk Reduction and Management Office.

Insufficient communication, Inaccessibility of the roads and insufficient fund are some of the factors that obstruct the operation of disaster preparedness program.

In clarifying further, the respondents said that one of the reasons why they were not prepared during floods was because the level of their awareness is not enough.

Response is the Second component in the disaster response. This has to do with provision of emergency services and public assistance or immediately after a disaster in order to save lives, reduces health impacts, ensure public safety and meet the basic subsistence needs of the people affected. It includes also the provision of immediate response in evaluating the affected community.

Table 2. Frequency distribution in terms of Response
 n-120

Indicator	Frequency Distribution					Mean	Description
	5	4	3	2	1		
1. There are pre-determined evacuation centers of each community..	35	30	44	18	3	3.46	Effective
2. The signage put up in the danger zones to guide the community	10	18	45	37	10	2.84	Fairly Effective
3. There are established communication center/linkages for disaster risk reduction and emergency purpose.	32	39	45	4	0	3.82	Effective
4. The Municipality ensure that there is an efficient delivery of food, shelter, and medical supplies.	45	21	39	11	4	3.76	Effective

Overall Mean 3.47 Fairly Effective

As shown in Table 2 the effectiveness of Implementation of Disaster Risk Reduction and Management in terms of Response were rated “Fairly Effective” with an overall mean of 3.47. the First indicator that there are predetermined evacuation center for each community was rated with a mean of 3.46, which signify that in every community there are available safe evacuation center for the potential displaced people.

According to School Head their school facility in the barangays is readily available to accept the displaced people, when the calamity happens during school days they make sure that the classes may not be interfered and they could still accommodate the people affected by the calamities.

Secondary Indicator that there is signage put up in the danger zone to guide the community was rated “Fairly Effective” with the mean of 2.84 signifying that though there were some signage in the danger areas there was still danger zone that do not have signage. The third indicator, establishing communication/linkages for disaster risk reduction and emergency purposes has a mean of 3.86 rated “Effective”. According to the respondents, they have mode of communication to the far flung and low network coverage community using their Radio Communicator Device, the forth indicator that the Municipality ensure that there is an efficient mechanism for immediate delivery of food, shelter, and medical supplies got the mean of 3.76 which rated as “Effective”.

When calamities affected certain areas BLGU conducted immediately a partial validation and master listing of the evacuees in the evacuation centers, this activity is actually priority to ensure that assistance is given to the right person.

Rehabilitation and Recovery priority areas covers employment, livelihood, infrastructure, and lifeline facilities, housing and resettlement services.

Providing an easy and safe Access to the community.

Table 3. Frequency distribution in terms of Rehabilitation and Recovery n-120

Indicator	Frequency Distribution					Mean	Description
	5	4	3	2	1		
1.Damages, losses, and needs assed by the municipality.	22	20	43	26	9	3.16	Fairly Effective
2.Houses rebuild or repaired to be more resilient to hazard events ex. Safer site housing	6	9	45	40	20	2.5	Fairly Effective
3.Construction/Reconstruction of damage structures caused by calamities.	15	13	38	44	10	2.82	Fairly Effective
Overall Mean						2.82	Fairly Effective

As shown in the effectiveness of Implementation of the Disaster Risk Reduction and Management of Sultan sa Barongis in terms of Rehabilitation and Recovery was rated “Fairly Effective” with a mean of 2.82, which signified that the services in Rehabilitation and Recovery needs to be improved. The First Item Damages, losses, and needs assessed by the municipality was rated “Fairly Effective” with a mean of 3.16, according to the respondents, any damages are being documented, they do damage assessment to the areas that are affected by the calamity, The Second Item, Repair and Rebuilding houses, presently the DSWD-SLP gives 50 houses for the selected barangays in Sultan sa Barongis. The Third item which is the Construction/Reconstruction of damage structure by calamities were rated “Fairly Effective” with a mean of 2.82.

According to the respondents when calamity damages the road it is not immediately reconstructed so they have device some strategy to pass through in barangay Papakan the foot bridge that serve as the only way enter the Barangay was damaged by the flooding occurred in the area without it the community will have to use pump boat, riding pump boat is very risky because the water current is fast and the way was narrow and dangerous, they are still waiting for the local authorities to take action in reconstructing their bridges so they don't have to suffer.

According to the key informants, they are waiting for the allocation in constructing the bridge that connected the Barangay Papakan to their adjacent. Because there is an on-going road construction in some Barangays of Sultan sa Barongis.

Table 4. Summary of the Responses on the Level of Effectiveness of Disaster Risk Reduction and Management

Item	Mean	Description
1.Level of Effectiveness in terms of Awareness.	3.50	Fairly Effective
2.Level of Effectiveness in terms of Response	3.47	Fairly Effective
3.Level of Effectiveness in terms of rehabilitation and Recovery.	2.82	Fairly Effective
Overall Mean	3.26	Fairly Effective

As Shown in the Table above the Level of Effectiveness in terms of Awareness was has mean of 3.50 rated as “Fairly Effective”. It suggests that the activity and programs with regards to awareness needs to be improve and more responsive to the community needs.

Item number 2 which is the level of effectiveness in terms of Response got the mean of 3.47 which described as “Fairly Effective”. This suggests that more warning signage are needed to be put up to warn the community in dangerous area of the community.

The third item is the Level of Effectiveness in terms of Rehabilitation and Recovery got the mean of 2.82 rated as “Fairly Effective”. It suggests that a more

responsive and services for the repairing damages caused by calamity. Specially the flooding which is frequently affected the Municipality.

Table 5. Frequency distribution on the Contribution of other Agencies to the Implementation Disaster Risk Reduction and Management of Sultan sa Barongis. n-120

Contribution	Frequency	Percentage	Rank
1. Food Supply	51	42	1
2. Information	50	41	2
3. Rescue Operation	44	36	3
4. Securing the Community	42	35	4
5. Clothing	34	28	5
6. Health Services	30	25	6
7. Seedlings	29	24	7
8. Renovation	28	23	8
9. Medicine	27	22	9
10. Hygiene Kit	26	21	10
11. Temporary Shelter	25	20	11

The Fifth table shows the contribution of line agencies to the implementation of Disaster Risk Reduction and Management of Sultan sa Barongis. Out of 11 enumerated the Food Supply ranked 1 with a frequency of 51 or 42 percent as it is always available service that the community can avail during the disaster, while information dissemination got ranked 2 with a frequency of 50 or 41 percent it is vital component of Disaster Prevention to inform and inculcate in the mind of the community the possible consequences and what to do during disaster. The rescue operation ranked 3 with a frequency of 44 or 36 percent the main actor of this activity is the Philippine National Police (PNP), Arm Forces of the Philippine (AFP), Bureau of Fire Protection (BFP) according to the respondents during calamity the AFP immediately deploys men to rescue the affected community, clothing ranked 5 with a frequency of 34 or 28 percent LGU and other agencies also give goods that are vital in the survival of the individual affected by the calamity.

Ranked 6 with a frequency of 30 or 25 percent community got served by the DOH or are receiving services from the Department of Health (DOH), it is quite true because each Barangay have their own Barangay Health with Midwife and a Barangay Health worker that caters their community.

Ranked 7 with a frequency of 29 or 24 percent are the seedlings farmers that are affected by calamity can avail free seedlings subsidy for their damage crop. Ranked 8 with frequency of 28 or 23 percent is the renovation facilities that are damaged by the calamity is not immediately renovated, ranked 9 with a frequency of 27 or 22 percent Medicines some of the needed medicines are not available for the affected community.

Ranked 10 with a frequency of 26 or 21 percent is the Hygiene Kit this is the less served in the community, ranked 11 Temporary shelter with a frequency of 25 or 20 percent although it was the last in rank the school facilities are readily available for the community to be used as a temporary shelter for the family affected by the calamity. According to the Department of Education (DepEd) their school facilities and covered courts are open for every individual affected by calamity.

The third objective of the study is to determine the problems encountered by the Municipality of Sultan sa Barongis in addressing the needs of the calamity victims and are ranked according to the responses of the respondent.

Table 6. Problems Encountered by the Municipality of Sultan sa Barongis in addressing the needs and problem of the People affected by calamity. n-120

Problem	*Frequency	Rank
1. Accessibility of the areas	74	1
2. Intensity of a Calamity	71	2
3. Funding	70	3
4. Time Constraints	66	4
5. Available of Equipment/Materials	63	5
6. Peace and Order	61	6
7. Communication	56	7
8. Peoples' Participation	52	8
9. Skills and Competent	51	9
10. Security of the Implementers	50	10
11. Personal issues and problems	49	11
12. Local Official	47	12
13. Ineligible Beneficiaries	45	13
14. Cultural Orientation	44	14

Table 6 shows the order of the problems encountered in addressing the needs of the community that are affected by calamity. Accessibility of the areas got first ranked, Inaccessibility and deliverance of the service for the victims of calamity, second ranked is the intensity of the calamity the Municipality of Sultan sa Barongis still lacks the capability to face a supper typhoon or a high level of calamity, third ranked is the funding there are some activity and operation to be done but is still on process or being delayed because of insufficiency of the fund, forth ranked is the time constraints insufficiency of fund also contributes to the time line of the services for the affected community, the fifth ranked is the Availability of Equipment/Materials during times of disaster a Municipality needs to have complete equipment not just for rescue operation but also for the information dissemination/educating the community regarding calamities.

Peace and Order, communication, Peoples' Participation, skills and competent, security of the implementers, personal issues and problems, local official, ineligible beneficiary and cultural orientation as shown in the table 5 is minor problem encountered by the Disaster Risk Reduction and Management Counsel.

Policy Implication

Based on the findings of the study the following can be draw;

Generally, the study found out that the Implementation Disaster Risk Reduction and Management of Sultan sa Barongis is "Fairly Effective". In other words, there are some services that need to be improved or re-plan in terms of disaster management. These are Awareness, Response, Rehabilitation, and Recovery.

The findings of the study imply that the Disaster Risk Reduction and Management should have to have a strong policy in the implementation on projects and programs. In other words, it draws implications to the policy or ordinances of the local Government, which are the following; first the policy on Rehabilitation and Recovery, the Municipality must view the long term effect of the project and services to the lives of the affected families, by providing livelihood assistance for the economic recovery, also their easy access to facilities and opportunity in their community.

Second the ordinance in providing flood levees or dikes in every low-lying barangays so as to lessen the impacts of flooding. Third the policy on allocation for every barangay intended for calamity fund, so as they use it in the Disaster preparedness. Fourth policy on putting up signage in the danger areas to warn the community, and lastly policy on training, additional training to the personnel and volunteers regarding Disaster Management.



Summary of Findings

Based on the data gathering, the following are presented.

1. Effectiveness of implementation of the Disaster Risk Reduction and Management Plan of Sultan sa Barongis in terms of effectiveness has a mean of 3.50 rated as "Fairly Effective", effectiveness in terms of response has a mean of 3.47 described as "Fairly Effective", effectiveness in terms of rehabilitation and recovery got the mean of 2.82 rated as "Fairly Effective".
2. The Contribution of other agencies to the implementation of Disaster Risk Reduction and Management of Sultan sa Barongis among the eleven enumerated contributions of the agencies the Food supply, Information, rescue operation, securing the community, clothing, and health services are the top six contribution from the supporting line agencies.
3. The problems encountered by the Municipality of Sultan sa Barongis in addressing the needs and problem of the affected barangays, among the fourteen enumerated problems encountered the most pressing problem is the accessibility of the areas ranked 1 with a frequency of **74**, Intensity of the calamity ranked 2 with a frequency of **71**, funding ranked 3 with a frequency of **70**, time constraint ranked 4 with a frequency of **66**, the availability of equipment/materials ranked 5 with a frequency of **63**.

Conclusion

Based on the finding of the study it is concluded that the Level of Effectiveness of Disaster Risk Reduction and Management of Sultan sa Barongis is "Fairly Effective" with minimal support from line agencies.

Recommendation

Based on the findings and conclusion of the study, the following are offered.

1. The Municipality must designate Funds to be used for the calamity victims and damages and must not be confined to the 5 percent calamity fund. The other sources outside the 20 percent development fund need to be utilized.
2. The Municipality must be prioritized the construction of bridges, Rehabilitation of the roads and drainage to the remote areas of Sultan sa Barongis.
3. The Municipality Disaster Risk Reduction and Management Council must have a strong policy in the implementation of projects and programs with regards to Disaster Risk Reduction and Management.
4. The Municipality Disaster Risk Reduction and Management Council should formulate a new strategic and participatory disaster management plan.
5. The Municipality of Sultan Sa Barongis must provide trained personnel to organized and manage evacuees in the evacuation centers.
6. Strong Support from LGU and commitment from Municipal Disaster Risk Reduction and Management Council (MDRRMC)

7. The communities in low lying barangay of Sultan Sa Barongis should at all times be prepared with appropriate communication facilities to warn people before the occurrence of disaster.

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