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The Extent of Public Participation in Disaster Risk Reduction and Management of Cotabato City, Mindanao, Philippines

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Abstract: *This study was conducted to determine the extent of participation among citizens of Cotabato City, Philippines in terms of disaster risk reduction and management (DRRM) based on the IAP2 Spectrum of Public Participation's five participation goals: inform, consult, involve, collaborate, and empower. The study utilized a non-probabilistic snowball sampling method and gathered a total of 50 responses from survey questionnaires administered via Google Forms platform. Majority of the respondents have lived in Cotabato City for more than 20 years, are 25-34 years of age, female, college graduates, and government employees, but not working under offices with influences on disaster risk reduction and management. Results from the survey statistically imply that existing measures are calling for the dynamic participation of the local community members on disaster management needed to shape community risk-mappings to provide a publicly validated, recognized, and credible baseline data for disaster response – a foundation in the formulation of effective DRR-CCA strategies and action plans. Determining the extent of participation of the citizen in each of the 5 participation goals helps researchers in disaster management, government institutions, and public officials identify the gaps and lapses in including the public to create better policies which are inclusive, equitable, and sustainable.*

Keywords: *Cotabato City, disaster response, extent of public participation, IAP2 spectrum*

1. INTRODUCTION

Cotabato City is home to diverse socio-cultural and religious backgrounds, a metropolis situated along the coast of the Moro Gulf, bordered by Rio Grande de Mindanao and Tamontaka River, next to the towns of Maguindanao province. Its geographical location and unique landscape make it distinctively exposed to an array of natural hazards.

The precedent of the 8.1 magnitude quake that happened in 1976 known as the Moro Gulf Earthquake engendered a tsunami that left the city and the adjacent provinces shattered. The Department of Science and Technology affirmed that the offshore catastrophe generated by the Cotabato trench was the greatest tsunamigenic earthquake to have materialized in the history of Mindanao that stemmed to massive destruction of properties and loss of lives. The natural tragedy was accounted for 85% of deaths and 65% of injuries and roughly 95% of missing [1].

Today, the city is reeling from the effects of heavy precipitation set off by the southwest monsoon and often instigated by the tails of typhoons in most calendar months. In most suburbs, flood is frequent; the geographical position and characteristics of the city as the catching basin of central Mindanao corroborate the repeated occurrence of floods. In 2020, the City Disaster Risk Reduction and Management Office (CDRRMO) reported that 17 of thirty-seven city's villages were affected by the heavy downpour brought by the tail end of Typhoon Quinta, with some plunged to waist-deep floods [2].

With climate change, sea-level rise inclines to be an add-on to this inbred challenge, affecting more than 90% of the city's landmass and other nearby towns of Maguindanao as estimated by Climate Central, Inc. [3]. About 70% of its land area is calculated below sea level, and Pedro Colina Hill and Timako Hill are the only existing high areas in the city with an elevation of 90 and 150 feet, respectively [4]. Levermann et al. (2013) elaborated that as the world grows warmer by a degree, the sea level is predicted to rise at about 2.3 meters in turn [5].

According to the Asian Development Bank (ADB), national and local governments in the regions of Asia and the Pacific are encouraged to give special attention on developing strategies for capacity building, comprehensive disaster risk reduction and response initiatives, comprehensive planning for the built environment, a solidly interconnected local and national security structure, pre-emptive migration, and environmentally sound security policies, among others [6]. The need to establish a sound and comprehensive action plan is central in disaster management as it intends to reduce disaster-related insecurities for exposed people and communities.

In risk reduction and disaster management, public participation is a viable tool to determine the vulnerability of a population alongside the socio-economic and political concerns calling for solicited policies and strategies. Disasters have a boundless range of impacts to populations, hence the need for an intervention to mitigate and prevent further possibilities through disaster risk management.

Public participation is the direct or indirect involvement of stakeholders in decision-making concerning policies, plans, or programs in which they have an interest [7]. Allowing citizens to participate in the decision-making process is a wise investment and a key component of successful government. It enables governments to access a broader range of information, viewpoints, and prospective solutions, therefore improving the quality of decisions made. It also contributes to increasing public trust in government, improving democratic quality, and boosting civic ability [8]. The possibility that actions performed or services supplied by public entities effectively represent the needs of the people and that the benefits of development are shared equally increases with public participation [9]. The 90's saw the growing body of research demonstrating that increasing community involvement may be extremely successful in assisting communities in overcoming the flaws of a variety of economic and political systems [10]. This concept of capitalizing on the society is gaining more recognition in disaster risk and reduction management (DRRM), and its most important contribution comes with the utilization of its benefits: sharing of resources and expertise [11], and the availability of raw but useful information necessary to support DRRM policies and measures [12].

Disaster preparedness, response, and recovery is a multidimensional collaboration, and communities play an important role in ensuring a successful response. Mitigating risks associated with disasters is an effort that necessitates social networks, with particular emphasis on community engagement and empowerment to allow support on community-driven processes that consequently promotes local resilience and effective response against disasters [13]. Public participation raises public knowledge about the need of community and individual preparation in general, as well as the need for local disaster preparedness plans and activities [14].

There is, however, a question as to whether the avenues for public participation are representative of the principle of the process or a means for the government to manipulate the outcome of decision-making in an inclusive manner. This problem was popularly raised by Sherry Arnstein in her 1969 article titled "A Ladder of Citizen Participation" where she articulated how participation might be a pointless and disappointing process for people who are powerless or underprivileged, particularly ordinary citizens, without transfer of power, and that it appears the development processes based on participation merely sustain the status quo in this sense [15]. Arnstein enumerated a typology of eight levels of participation to assist in deciphering this ambiguity and comprehend peoples' influence in influencing the outcome of the development process.

These eight types are organized in a ladder structure for illustration, with each rung referring to the level of citizens' authority in deciding the final outcome. The lowest rungs of the ladder are (1) Manipulation and (2) Therapy, which characterize the practice of non-participation, because the primary goal is to allow powerholders to teach participants what to do or choose, rather than enabling them to participate in the planning and execution process. Following these are the rungs of (3) Informing and (4) Consultation which are identified as forms of tokenism. This approach allows people to hear and speak, but they have little control over whether the authorities will take their ideas into account. The next rung is (5) Placation, which is simply a higher degree of tokenism, wherein people are allowed to advise, but the decision-making rights are retained by the authorities.

Degrees of citizen power increase as the highest level of the ladder is approached. In the rung of (6) Partnership, citizens may collaborate with established powerholders, allowing them to bargain and engage in trade-offs. In the uppermost rungs, (7) Delegated Power and (8) Citizen Control, citizens attain most decision-making seats or complete managerial control.

Most practitioners and scholars now recognize that the varying levels of participation are appropriate in various situations [16]. The essential takeaway from Arnstein today is the need of knowing which level is being attempted in any activity. To aid in the selection of the level of participation that defines the role of the public in every public participation process, the International Association for Public Participation (IAP2) developed a modern version of Arnstein's Ladder illustration - the *Spectrum of Public Participation*. It is now internationally recognized and can be observed in many public participation plans across the world [17].

The Spectrum identifies five public participation goal: (1) Inform, wherein the public is provided information that will aid them in comprehending the problems at hand, the considered alternatives, opportunities and/or solutions; (2) Consult, wherein the authorities listen to the public's concerns and expectations, and in turn provide feedback on how the public has affected the decision; (3) Involve, wherein the authorities interact closely with the public all through the process to ensure that public concerns and goals are consistently acknowledged and considered carefully; (4) Collaborate, wherein the authorities work with the public on every stage of the decision, from developing options to determining the best solution, and (5) Empower, wherein the public is given the right to decide which path to take on.

The basic goal of public participation is to encourage citizens to participate in the decision-making process in meaningful ways. It allows for communication between decision-making agencies and the general population. This communication can serve as an early warning system for public concerns, as well as a way of disseminating accurate and timely information and contributing to long-term decision-making [18]. By determining the public's extent of participation in Cotabato City's disaster management efforts, we get insights as to whether the citizens and the decision-making agencies have a good line of communication with each other, and whether it can still be improved and identify whether there are still gaps that need to be addressed particularly on the creation of disaster management-related policies, strategies, and programs.

2. Research Objectives

To determine the extent of public participation among citizens of Cotabato City in terms of disaster risk reduction and management initiatives of the local government. Specifically, this study aimed to ascertain the extent of public participation in DRRM based on the spectrum of public participation of the International Association of Public Participation or the IAP2, which are as follows:

a) Extent of public information and awareness.

b) Extent of consultation with the public.

c) Extent of involvement of the public.

d) Extent of collaboration between the government and the public; and

e) Extent of citizen/public empowerment.

3. Materials and Methods

3.1. Research Design

This study employed a descriptive and quantitative research design which aimed to ascertain extent of public participation in terms of the disaster risk reduction and response initiatives of the local government of Cotabato City. The descriptive design was used in describing the subject population of the research study and for the descriptive statistical analysis and interpretation of the results of the survey. The quantitative data needed was obtained through a survey, with extent of public participation being measured using a 5-point Likert Scale.

3.2. Research Instrument

The study used a structured survey instrument administered online via the Google Forms platform. The survey instrument was divided into three (3) main sections, categorically collecting the respondents' socio-demographic profile, their general awareness on disasters, and lastly their level of participation in the DRRM initiatives of the local government of Cotabato City. Based on the Spectrum of Public Participation of the IAP2, public participation has five (5) indicators in the order of increasing impact on decision-making, namely: Inform, Consult, Involve, Collaborate, and Empower. Each indicator has its sub-indicators in a form of a statement which were based on reviewed existing literatures, by which the respondents were asked to respond by rating based on a 5-point Likert Scale, with (1): strongly disagree; (2): disagree; (3): neutral; (4): agree, and (5): strongly agree. Thirty-one items make up the last section of the survey instrument, each being respectively categorized to the 5 indicators of the spectrum of public participation.

3.3. Sampling Technique

With the administration of the survey instrument online via the Google Forms platform, non-probabilistic sampling was employed. Snowball sampling method was utilized. With the inclusion and exclusion criteria set forth in this study (in this case, respondents must be residents of Cotabato City), along with the restrictions put in place in response to the current Covid-19 pandemic, snowball sampling best fits the technique to solicit substantial quantitative data needed from the public from the study area.

3.4. The Study Area and Respondents

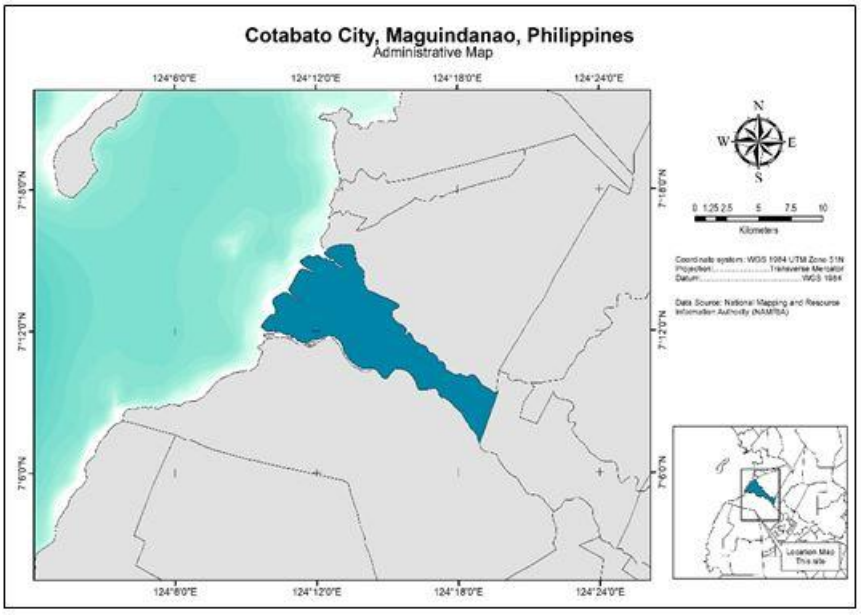

Figure1. *Map showing the location of the study.*

The study was conducted in Cotabato City, Mindanao, Philippines. Survey questionnaires were administered among its residents online via the Google Forms platform. A total of 50 participants responded in the survey from which the primary data used in this study were drawn. The socio-demographic profile of the respondents are as follows:

a. ***Length of stay in Cotabato City*****.** Figure 2 shows that 60% of the respondents have been living in Cotabato City for more than 20 years while the second largest percentage came from 18% of the respondents who have been staying in the city for only 1 to 5 years. Eight percent of the respondents have been in the city for less than one year; another 8% have been in the city for 10 to 20 years; and the remaining 6% have been in the city for 5 to 10 years.

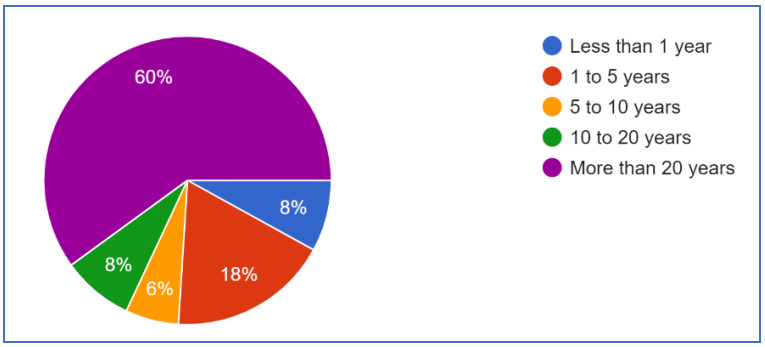

Figure2. *Respondent's length of stay in Cotabato City.*

b. ***Age.*** Figure 3 shows the age distribution of respondents, where 50% are aged 25 to 34 years old, followed by 24% who are aged from 35 to 44 years old, 14% aged 18 to 24 years old, and 12% from the 45 to 54 years old age bracket. No senior citizens were recorded.

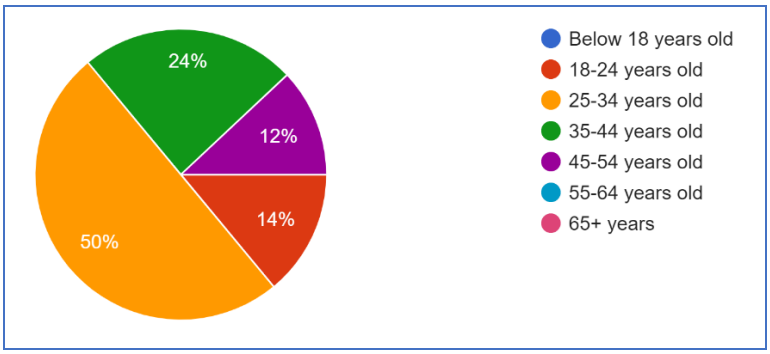

Figure3. *Age distribution of respondents.*

c. ***Sex.*** An almost even distribution between two sexes is observed from the respondents as seen in figure 4, where 52% are female, and 46% are male. Two percent, which is equal to one individual preferred not to identify himself/herself to either of the two sexes.

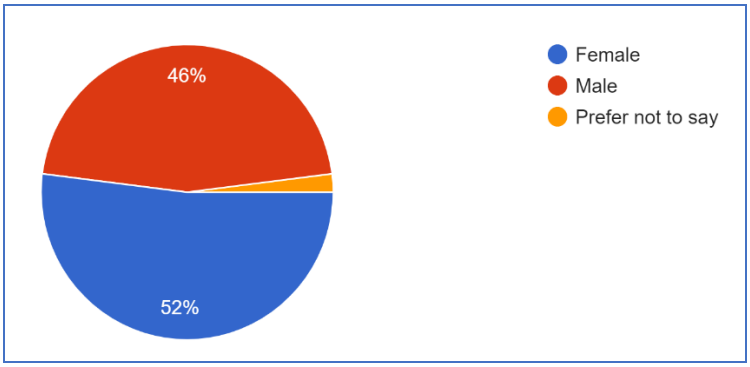

Figure4. *Sex distribution of respondents.*

d. ***Educational attainment.*** Majority of the respondents are college graduate with a percentage 62, while 30% are postgraduate, and 8% are college undergraduates, as shown in figure 5.

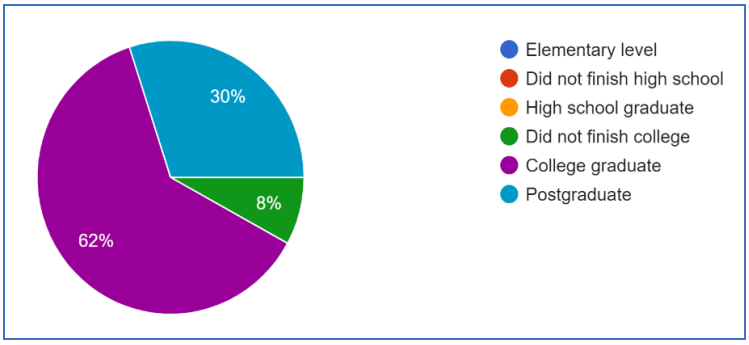

Figure5. *Highest educational attainment of respondents.*

e. ***Employment status.*** Most of the respondents are government employees, as illustrated by the 78% pie cut in figure 6, while 14% come from the private sector, and 6% are either unemployed or still a student, 2% or 1 individual is self-employed.

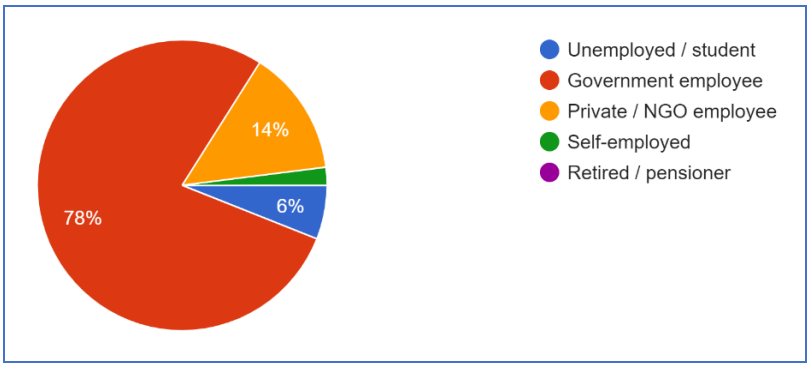

Figure6. *Distribution of employment status of participants.*

f. ***Affiliation to DRRM organizations.*** In figure 7, it is shown that 94% of the respondents do not identify with any of the listed agencies responsible with a huge influence in disaster risk reduction and management such as the National Disaster Risk Reduction and Management Council, the City Disaster Risk Reduction and Management Office, the City Planning and Development Office, the City Mayor's Office, or the Sangguniang Panlungsod (SP). Although about 4% or 2 respondents did register as affiliated with SP, and 2% or 1 individual works for the City Mayor's Office.

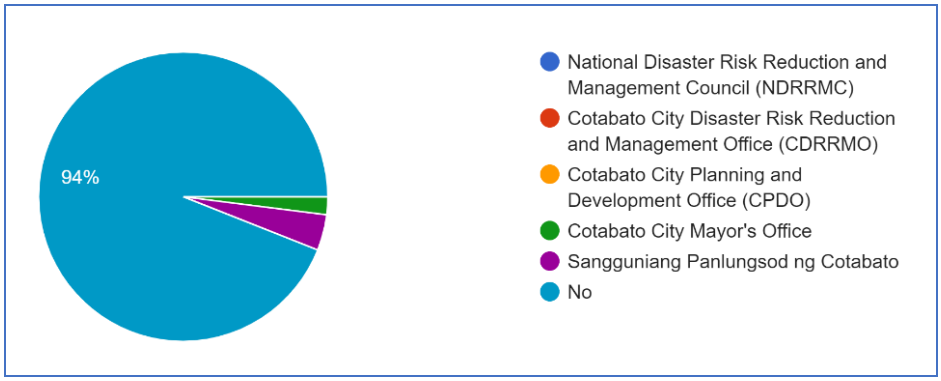

Figure7. *Affiliation of respondents to government offices with influence to disaster risk reduction and management.*

Several questions were also asked to ascertain the level of awareness of the respondents regarding issues and concerns related to disasters and disaster management such as disaster likelihood occurrence, disaster concerns and, and disaster management support from organizations:

a. ***Disaster likelihood occurrence.*** When asked about the likelihood of occurrence of several disasters (table 1), 70% of the respondents considered flood, with 34% recognizing it as very likely to occur. Likelihood is also high for earthquake with 62%, of which 20% perceiving it very likely to occur. Fifty-six percent of the respondents also see typhoon as likely to occur, of which 14% seeing its occurrence as very likely. Forty percent also believe the threat of terror attack or war, with 10% seeing it high likelihood. Twenty-six percent see the likelihood of the tsunami or storm surge, of which 4% believe it is very likely to occur. Forty percent are neutral about the occurrence of drought, but 22% believe at is likely to occur. On the other hand, 80% of the respondents believe that volcano eruption is not likely to occur. Sixty-six percent also do not believe that a wildfire or forest fire is likely to occur.

Table1. *Disaster likelihood perception of respondents.*

Disaster	Very unlikely	Not likely	Neutral	Likely	Very likely
Flood	6%	4%	20%	36%	34%
Earthquake	6%	10%	22%	42%	20%
Typhoon	6%	12%	26%	42%	14%
Terror attack / war	16%	20%	24%	30%	10%
Tsunami / storm surge	22%	30%	22%	22%	4%
Drought	12%	26%	40%	22%	0%
Volcano eruption	34%	46%	10%	10%	0%
Wildfire / forest fire	32%	34%	24%	8%	2%

b. Disaster concerns. When asked about how concerned the respondents were with regards specific disasters, 66% expressed that they were very concerned about flooding. Fifty-six percent were very concerned about typhoon, and 54% percent were very concerned about earthquake. Despite low likelihood vote, serious concern for terror attack or war reached 52%, 42% for tsunami, 34% for drought and volcano eruption, and 30% for forest wildfire (table 2).

Table2. *Extent of concern of respondents with regards to specific disasters.*

Disaster	Not concerned	Not very concerned	Neutral	Somewhat concerned	Very concerned
Flood	0%	4%	14%	16%	66%
Typhoon	0%	6%	18%	20%	56%
Earthquake	0%	4%	18%	24%	54%
Terror attack / war	2%	8%	12%	26%	52%
Tsunami / storm surge	2%	18%	24%	14%	42%
Drought	2%	12%	26%	26%	34%
Volcano eruption	10%	24%	22%	10%	34%
Wildfire / forest fire	8%	16%	26%	20%	30%

c. Disaster management preparation support from organizations. When asked about which organization/s have helped their community prepare a disaster management plan, 60% answered Barangay, while 54% of the respondents have said that the city local government has helped them. Thirty-four percent have received support from the national government. Similarly, 34% have received support from non-government organizations. Twenty-six percent were helped by volunteer groups; 18% by international organizations; 2% claimed help coming from the Bangsamoro government, and 8% claimed they received no help from any of the organizations mentioned.

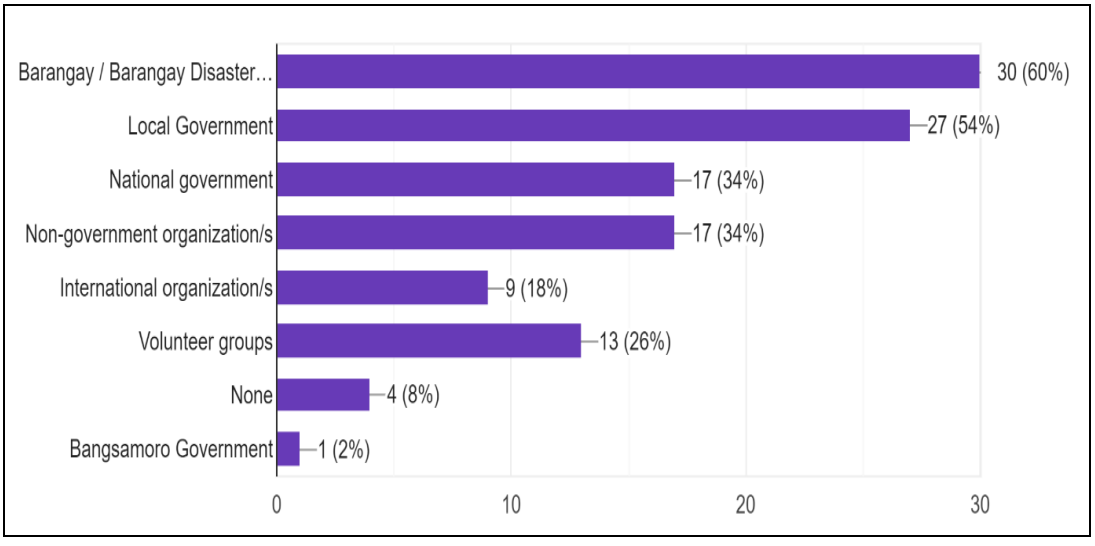

Figure8. *Respondents select which DRRM organization/s have helped their community prepare a disaster management plan.*

Statistical Analysis of Data

Descriptive statistics was used in the overall analysis of the data obtained from the survey. To measure the extent of participation of the citizens of Cotabato City in the DRRM initiatives of its local government with respect to the indicators of the spectrum of public participation of the IAP2, frequency distribution was utilized.

4. Results and Discussion

The Extent of Public Participation in Cotabato City's Disaster Risk Reduction and Management

Public Information Awareness. Results of the survey revealed that no one considered themselves as poorly informed, and majority of the respondents consider themselves as regularly informed to very well-informed about disasters-related information, which includes being informed about the plans and policies on DRRM of the LGU of Cotabato City; knowing what to do in the events of disaster and emergency situations; receiving notifications through different communication outlets and social media platforms; being able to understand hazard maps; as well as being presented with the opportunity to participate in the planning process of Cotabato City's DRRM. With this, it can be inferred that information, education, and communication (IEC) campaigns on DRRM are continuously being conducted and information materials are consistently being disseminated to the public. Constant information drives are preliminary to encouraging public participation, especially in the aspect of DRRM. Based on the National Disaster Risk Reduction and Management Plan 2011 [19], one of its priority areas include Disaster Preparedness, and one of its objectives is to increase the level of awareness of the local communities on the relevant risks and threats imposed by disasters, following the notion that this capacitates local communities to anticipate disasters and voluntarily take measures to mitigate its impacts, thus harnessing a culture of risk reduction [20]. As Sperry (2013) recommended, improving communication strategies during crisis such as providing information that are clear and complete before, during, and after specific disaster or hazard events moves people to act and prepare on it, and subsequently allows for them to manage their expectations [21]. With the many technological developments, it would be strategic to maximize its capacity to disseminate timely and relevant information regarding disasters, particularly in communicating warnings, such as through any social media platforms. But in still many cases, conventional communication channels are still useful such as the utilization of printed media and radio and television broadcasts, and if possible, the establishment of information centers within the community.

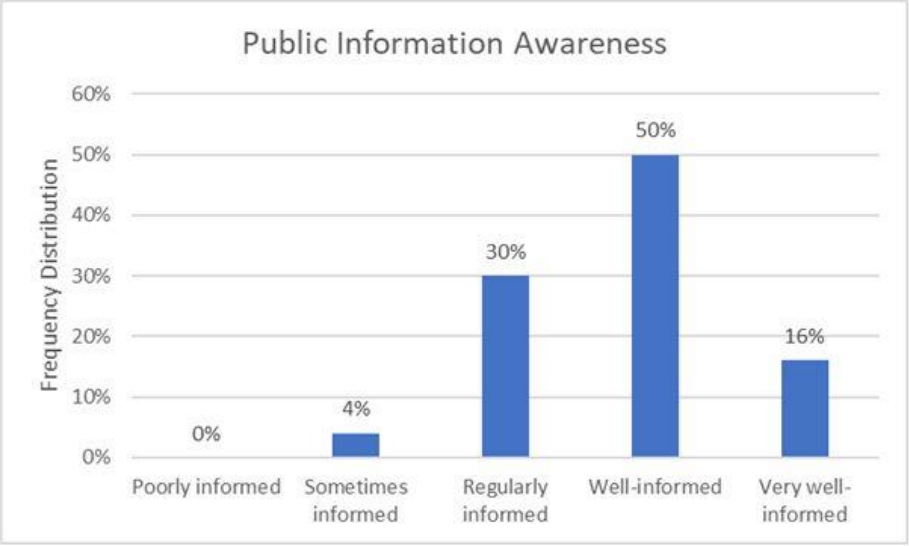

Figure9. *Extent of information awareness of the public with regards to the disaster response and management of Cotabato City.*

Public Consultation. As opposed to public information and awareness where there are no mechanisms to cater feedbacks from the public, public consultations are when information flows from the public up to the decision-makers [22]. This study considered that in the aspect of DRRM, public

consultations must constitute that local community members have attended public hearing/consultations on identifying problems, issues, and concerns, and its corresponding plans and strategies, as well as in policy formulations that address DRRM. It may also constitute that the public have responded to surveys concerning DRRM and are able to provide feedbacks/comments/ suggestions on DRRM plans, programs, activities, and strategies relating to DRRM initiatives. In the survey conducted, 14% of the respondents think that they are rarely consulted, 28% say that they are consulted at time yet, 20% puts that they are regularly consulted, 24% thinks that they are frequently consulted, and the remaining 14% asserts that they are very frequently consulted. This could imply that public consultations may not be as easily and equally accessible for most local community members in Cotabato City, or that public consultation forums or meetings may not be as extensive and as frequently executed, probably due to budgetary constraints, among others. In contrary, the possibility of the lack of interest of the public to take part in the consultation process and mechanisms employed by the local government must also be considered. In the latter case, it would be best for the local government of Cotabato City to strategize on dealing with the nonparticipation of community members in order to build and arrive at a proper and effective consensus that is representative of its constituents. It is important that the community members/citizens, vulnerable and/or disadvantaged groups, and groups with special needs and cares are consulted about their needs, views, and goals as well so that it may be mainstreamed into, and assure the sustainability of, the DRRM initiatives and arrangements of the local government.

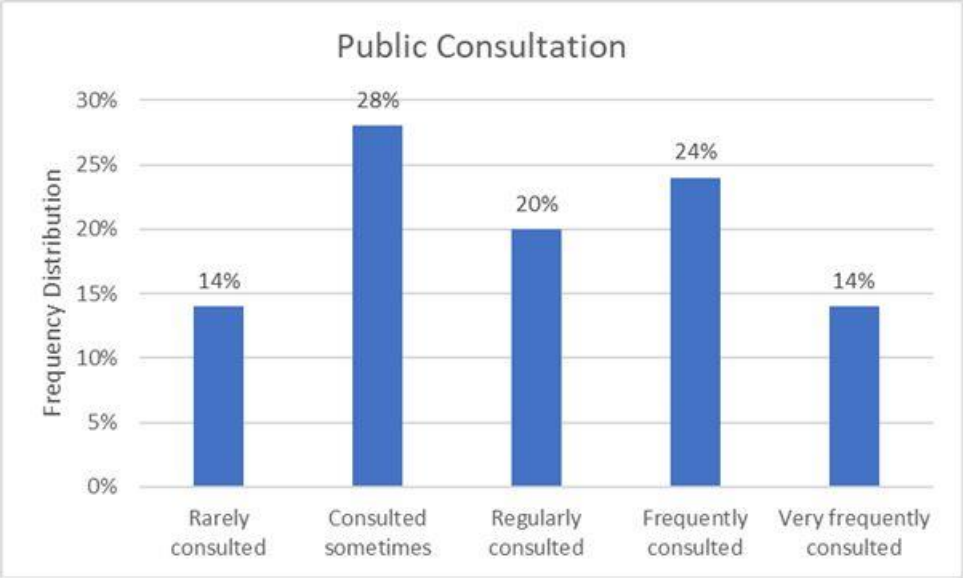

Figure10. *Extent of public consultation with regards to the disaster response and management of Cotabato City.*

Public Involvement. As defined earlier, public involvement in terms of the spectrum of public participation of the IAP2 means the continuous interaction of the decision-makers/planners and the public/community members/end users all throughout the process to assure that the concerns and goals of the public are taken into account at all times. To further elaborate, it is considered in this study that public involvement allows community members to participate in discussions on DRRM-related issues and concerns, planning activities, community risk-mappings, disaster and evacuation drills, as well as community or volunteer activities related to disaster preparedness or prevention; also, local communities have a disaster response and/or emergency plan, and a committee or organized group that decides what to do in disasters or emergencies. The survey shows that the respondents range from being rarely involved (14%) to very frequently involved (10%), in between, some respondents think that they are sometimes (22%), occasionally (28%) and frequently (26%) involved in disaster preparations, response, and management initiatives of the local government. The results statistically implies that there are existing measures on involving local community members, although it may not be as sufficient. Facilitating local-level involvement in mitigation and preparedness, as well as

community participation in operational planning, education, and training, is the most important component in paving the way for a self-reliant community [22]. For instance, the involvement of the public during community risk-mappings, assessments, analyses, and the conduct of monitoring and evaluations in the aspect of DRRM provides the means for community members to define factors that increases their chances of exposure to hazards and vulnerability to disasters. Also, it would be efficient and effective when local communities have put in place a disaster response and/or emergency plan. From these, an already publicly validated, recognized, and credited baseline data may be drawn which would serve as a foundation in the formulation of an effective DRR-CCA strategies and action plans [19].

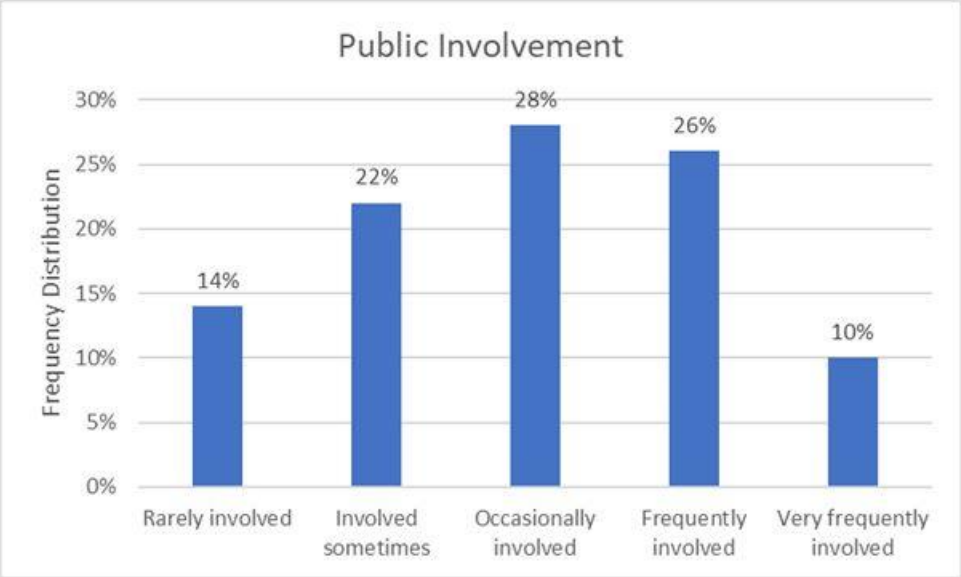

Figure11. *Extent of public involvement in matters regarding disaster response and management of Cotabato City.*

Public Collaboration. There is a collaboration between local community members and the local government when there exist a partnership or mutual service provided to aid in DRRM; when local community members and stakeholders are able to offer their resources and organize movements in aid of DRRM; when direct coordination between the local government and community members takes place in times of emergency situations; and when the local community members get to have a clear and established communication lines with local and/or national authorities in the events of disaster or emergency situations. From the survey, it showed that 10% of the respondents rarely collaborated with other local actors, 16% says that they get to collaborate at times, 34% of the respondent asserts that they occasionally collaborate with the local government in terms of disaster preparedness, response, and management, 30% does so frequently, and only the remaining 10% asserts that they very frequently collaborate with other local actors in terms of disaster risk reduction and management initiatives. Socio-economic status and social capital play a significant role in being able to engage in collaborative actions [23]. From the perspective of the public, to collaborate would partly mean to have the willingness to utilize one's personal resources to contribute to disaster preparation, response, and management, considering that doing so does not always mean receiving incentives from the local government in return. Efforts of the local government to collaborate with local community members is also significant in building trust among the public which is needed in encouraging community members to commit to and assume responsibilities in the collective efforts for disaster preparedness, response, and management. [23][24][25].

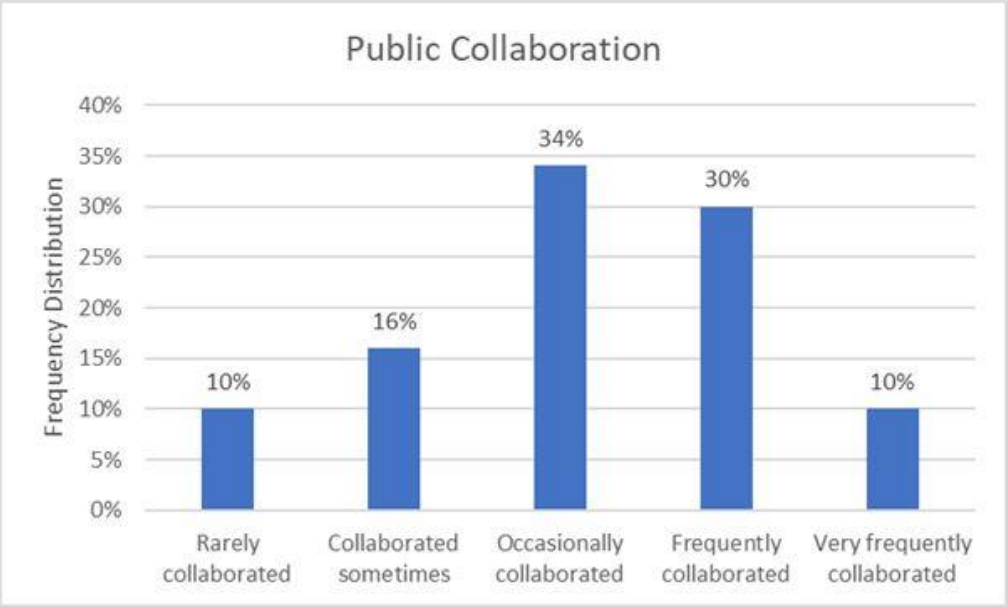

Figure12. *Extent of public collaboration in matters regarding the disaster response and management of Cotabato City.*

Public Empowerment. In the aspect of DRRM, the public obtains a sense of empowerment when they are allowed to define problems/issues/concerns and consequently gets to decide the best solutions to it; allowed to decide how a group or a community should respond to a disaster situation; take part in the implementation of activities to achieve the solutions to the problems and needs, and in turn, also evaluates the results of the activities implemented. In the spectrum of public participation of the IAP2, public empowerment serves as the pinnacle indicator of public participation, a stage by which the public greatly and significantly influences decision-making. Results of the survey revealed that only 8% feels completely empowered, 29% of the respondents each feel very and moderately empowered, 21% assessed that they are only slightly empowered, while 13% thinks they are not at all empowered. It can be ascertained from the results that there is still a discernable percentage of community members who perceives that they are in the position of being underrepresented in the aspect of DRRM. Pearce (2003)[25] cited Dorcey and McDaniels (1999, p. 31)[26] who argued that many of the challenges in implementing consensus-based mitigation strategies arise when participants expect to be empowered to make decisions and then be disappointed with them. In some cases, participation happens to become compulsory for other people, forcing ideas and opinions out of them, often neglecting the concept of actual listening, hence compromising the quality of alternative contributions the people can provide [27]. To empower citizens, Pearce (2003) elaborated the relative concepts of co-management or shared power perspective [25]. Moreover, the intention and sufficiency of support given by the government to encourage and/or induce participation reflects the motivation of the public to participate [27]. It would basically be useful to provide a platform for local community members to provide voluntarily and insightfully their inputs on the policy formulation and planning for DRRM, consequently establishing a feedback mechanism with which the public are able to access how their suggestions and inputs were utilized in the planning process and policy formulations.

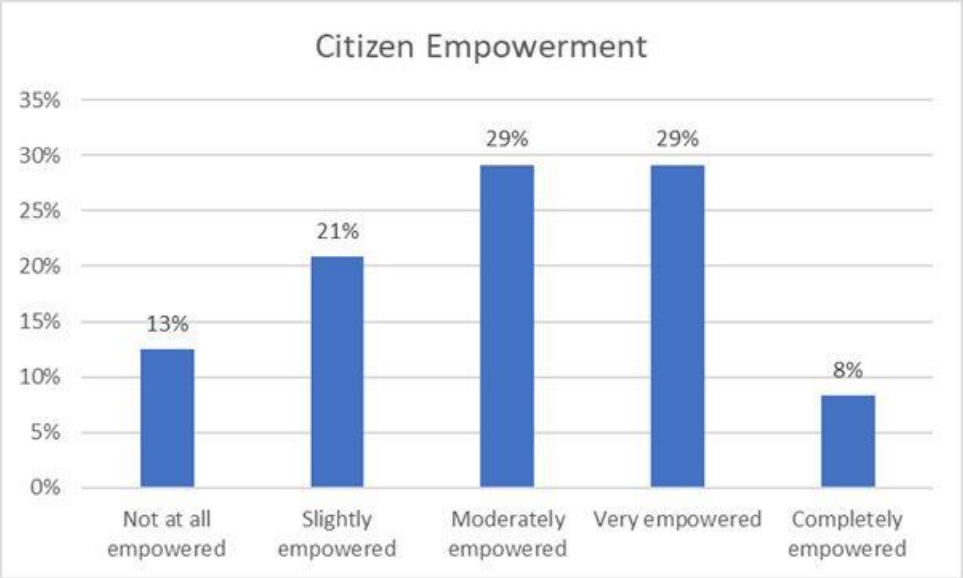

Figure 13. *Extent of citizen empowerment on matters regarding disaster response and management of Cotabato City.*

5. CONCLUSIONS

The five fundamentals of public participation seem to be in a good position in the city as far as the gathered and analyzed data is concerned. A fair turnout or the majority affirmed the disposition of the government in the facilitation of open discussions catering to the issues and concerns of the population on DRRM. This particular indication exhibits the efforts of the city government of Cotabato to come up with relevant assessments for apposite interventions, not to mention their satisfactory line-ups of public participation in the strands of collaboration, involvement; as well as the up to the mark accumulated inputs on empowerment. The results statistically imply that existing measures are calling for the dynamic participation of the local community members on disaster management needed to shape community risk-mappings to provide an already publicly validated, recognized, and credited baseline data, for disaster response; a foundation in the formulation of effective DRR-CCA strategies and action plans.

After the happenstance of the 1976 earthquake, the disaster readiness, preparedness, and management of the city have yet to put through its paces. Measuring the extent of participation of the citizen in the city would help researchers in disaster management, government institutions, and public officials to gauge appropriate methods in dealing with the emergence of any disasters while there is still time to work out plans. Postulated from the research findings, it is therefore insinuated to take a methodical analysis on the performance of city government institutions working on DRRM. This drive will pave the way to assess their implementation of DRRM programs, policies, and strategies which will be later be collated with the dispositions hauled up in this research to determine practices that need rectification and recalibration of better options in addressing any possible mishaps in disaster management.

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