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Research Article

Disaster Risk Governance in Coastal Community for A Better Normal: The Philippine Experience

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ABSTRACT

This study aims to: assess how local community stakeholders perceive disaster risk governance; determine the level of appreciation toward nature and environmental protection; train the local community stakeholders in climate change adaptation, disaster resilience and mitigation toward a cleaner, more productive, and better future through innovation and; identify the multi-stakeholders' cooperation and their level of support to achieve sustainable lifestyles in coastal communities. Participatory action research was conducted in Malolos, Bulacan, Philippines with 155 respondents, while secondary data was reflected in this study. Survey instruments were patterned from Kaizer and Hartig (2011). The study views that nature and environmental protection as divergent manners turned out to be statistically associated. Gardening of various vegetables was introduced to women-residents to encourage them in engaging in nature and environment protection. The training on climate risk reduction, adaptation, and mitigation for barangay officials was conducted to protect coastal areas, preserving, and bringing back the beauty of nature was the contributory factor for multi-stakeholders' cooperation for a better normal. The success of partnership among university, government, and barangay was manifested to community-based action research which can be seen as a paradigm of achieving sustainable lifestyles in responsive community engagement.

Keywords: *disaster risk governance, stakeholders' cooperation, attitudes toward nature, coastal communities, environmental protection, community engagement*

Introduction

One of the lessons and gaps learned in the Hyogo Framework Disasters Risk Reduction is

disasters have continued to shake the wellbeing and safety of persons, the world as a whole have been disturbed. Lossing the lives that have

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been injured, homeless victims as a result of calamity. More people were affected by adversity in diverse ways, especially women, children, and older persons in vulnerable locations. Disasters were worsened by climate change and increasingly felt the strength and significantly deter development towards sustainable coastal communities. The impact of disasters in economic, political, social, health, cultural, and environment at the local and community levels enormously observed.

Disaster risk governance provides insights on how the governance is rethink, re-imagine in the new normal. The role of local government units (LGUs) in shaping the reduction practices needs to be accessible, efficient and effective. LGUs must engage business sectors and other stakeholders in disaster risk governance. Programs and projects between public and private sectors should be developed. The role of various leaders, volunteers, practitioners, and older persons in the planning, designing, and implementing of policies to deliver capability building as well as bringing empowerment for a better normal. Civil society organizations, universities nearby local community through research and extension services to work intently, produce more opportunities for collaboration, livelihood programs, and businesses to participate in disaster risk training programs into their continuous practices. Addressing the gaps that need to create a framework that government and different stakeholders can apply in an encouraging and helpful way, classify disaster risks to be able to recover and guide investment to develop resilience to reduce disaster risk in a meaningful and consistent way throughout the intergovernmental practices.

In the case of Malolos, one of the most concerns of people in the coastal communities in the context of disaster risk governance is the collective effort of stakeholders to address the challenges and opportunities such as: livelihood programs, capacity building, and community empowerment. The future of vulnerable coastal communities lies on evidence-based risk governance by focusing on understanding disaster risk and preparedness, sharing more information through online platforms for meaningful participation of relevant

stakeholders at appropriate levels. Aka et.al. (2017) emphasized that organizing and action are the last stages in a community-centered resilience approach because they lead to concrete actions at the frontline. The actions may build capacity and reduce the level of vulnerability to disaster risk. According to Kusumasar, and Alam (2011) the implementation of integrated and inclusive economic, and environmental practices measures through preventing and reducing hazard exposure and vulnerability to disaster.

In view of the above reason, this paper focuses on the activities such as develop awareness on disaster risk governance and enhance the stakeholders' cooperation based on climate change as an education issue, collaborative capabilities, and knowledge exchanges that distinguish the appreciation of nature and environmental protection.

Objectives of the Study

The purpose of the study is to enhance the participation and equal access to opportunities and benefits among men and women in the local communities on disaster risk governance and stakeholders' cooperation on climate change through collaborative capabilities.

Specifically, to address the following objectives:

1. Understand how local community stakeholders perceive disaster risk governance;
2. Determine the level of appreciation toward nature and environmental protection;
3. Train the local community stakeholders in climate change adaptation, disaster resilience and mitigation toward a cleaner, more productive, and better future through innovation;
4. Identify the multi-stakeholders' cooperation and their level of support to achieve sustainable lifestyles in coastal communities.

Materials and Methods

The study was conducted in Malolos, Bulacan province, with 6,725 hectares land areas. Barangay Pamarawan was chosen for participatory action research to strengthen and enhance the capacity of communities and change for the betterment. The study implemented the

following; gave orientation to establish trust, understand and determine people's living experiences on appreciating nature, and to assess their needs. To administer a questionnaire regarding their appreciation of nature and environmental protection, first, the researcher asked permission to Dr. Florian Kaiser to use their instruments; second, mother-leaders assisted their groupmates to accomplish the survey and record their comments as part of the learning process. This study then assisted the participants and mother leaders to form a group, introduced backyard gardening, and providing them with garden soils and vegetable seeds. After a month, the vegetable seeds from the Bureau of Plant Industry were already available for distribution. One of the successful residents in Barangay Pamarawan who is now the President of Montessori School in the City of Malolos Bulacan donated garden soil for her ka barangay as a sign of giving back and helping them to improve their lives. Each group that participated in the project brought their own jars/containers for the garden soil.

The community reformation and action plans were identified through action research method. The study increased participants' abilities to participate in this undertaking and document the activity. They have learned the needs of the community, participants undergo observation, in-depth interviews, and group dynamics.

Group discussions were utilized to enable to explore new things, and discover more approaches for action. Community activities were implemented by the participants through observations, feedbacks were documented. Several meetings were managed with the barangay officials, mother-leaders, and other stakeholders such as: youth, middle-age group, and senior citizens. All the participants are required to listen and apply what they have learned. They were trained to plant vegetable seeds and even men or their husbands were encouraged to join them. The data gathered were based on their experiences such as taking care of their growing plants, where to place, and how they used to harvest the fruits of their labor.

Results and Discussion

The data were analyzed based on the participants' experiences per group. Discussions and implemented actions were monitored and evaluated. The analysis of data was presented based on group consultation.

Attitude Toward Environmental Protection and Nature

This study utilized a survey questionnaire to assess the respondent's attitude toward environmental protection with 50 behavioral self-reports from Kaiser and Wilson (2004). In this study, the same behaviors were used and grouped into 6 domains: recycling, waste avoidance, consumerism, mobility and transportation, energy conservation, and vicarious behaviors toward environmental protection. The answers to the set of behaviors were stated by fusing never, seldom, and occasionally into an undependable environmental arrangement. Often and very often were joined as dependable environmental arrangement. It was found out that the majority of the 32 behaviors were viewed as "undependable environmental arrangement". Only buying convenience foods and seasonal produce was registered as "dependable environmental arrangement as perceived by the respondents. On the other hand, the reuse of shopping bags, fabric softener used, and dead batteries from the garbage are positive responses of the respondents, yes and others exhibited No in their attitudes toward environmental protection. The attitude towards nature was measured with 40 items which the 9 items answered in yes-no format, 14 items were presented with approving and disapprove evaluative statements. The 17 items utilized the never-seldom-occasionally format. The findings revealed that nature and environmental protection as divergent manners and turned out to be statistically associated. Families under investigation were visited, heard their thoughts, and listened each story not only to make rapport, but also to develop cooperation and commitment for a better normal.

Training of Barangay Officials on Disaster Risk Reduction and Mitigation

While women were concentrating on their backyard gardening, men were engaged in basic training on Disaster Risk preparedness. They have learned disaster preparedness, disaster resiliency, and mitigation. Barangay officials and counselors together with the barangay captain in an interview, this study discovered that most of them don't have any disaster preparedness, risk reduction, and mitigation basic training. They had spent much of their time in their routine work fishing and doing their task as barangay officials.

The women-residents on the other hand, enjoyed in doing their gardening, which reveals that the time they spent in gardening reflect as productive one. The participants agreed they wanted to learn by themselves how to make their environment filled with vegetables rather than buying them. They explained that backyard gardening could be a source of income. The 100 women-participants had joined with their husbands helping them out making some planting, watering, and arranging their backyards. Thus, the idea of this study informing women's backyard gardening group was to protect their environment which is more conducive to living as well as combining a healthy diet with lots of veggies in their backyards with their available kinds of seafood at the coastal areas. There is nothing more engaging than seeing women develop into something better and occupying their time with hard work and accomplished at the end of the day.

Multi-stakeholders' cooperation and their level of support to achieve sustainable lifestyles in coastal communities.

This intervention made the barangay sustainable with enhanced cooperation among families towards capacity and capability building for a better normal. At the start of the plan, the organizers and facilitators, were implemented. The women-participants' capacities helped them to achieve a common goal, help each other improve their backyard gardening, empower them with more inspiring thoughts, self-reliance in sustaining their environment full of veggies, and share their harvested products with other neighbors so that it will serve

as in inspiration to them. They make things happen and be a model to others. These achievements were all based on the cooperation between barangay officials and the mother leaders and their members. This means that participants' actions, big or small, were contributed to the success of this study, and everyone was accountable to their action.

The residents engaged in watering, making fences, and replant more veggie seeds aside from being the housewives doing their obligations such as household chores, taking care of their children, and assisting their husbands' fishing routine. Also, generating knowledge and producing community solidarity and teamwork made a difference. Throughout the process, the barangay's main concern their livelihood to growing vegetables or store farming tools had been seriously considered or addressed. Although they live in coastal areas, they spend most of their time planting. The transformation from an intervention becomes our long-term development as part of the BulSU community engagement.

Conclusions and Recommendations

Integration of the disaster intervention and resiliency through economic, social, and environmental dimensions of sustainability is realized. Economic and environmental support from the city government, provincial government, Congress, and other stakeholders were evident. Interventions that focus on what people go about doing it will likewise develop the capabilities and capacities of the residents with full cooperation and co-production scheme. It is also concluded that the stakeholders provide funds and support for backyard gardening aside from fishing and demonstrate understanding of disaster risk resiliency of the community. Thus, to further strengthen this study, the following recommendation will be drawn : In time of pandemic, collaboration and creative partnerships among government/non-government agencies for a better normal should be realized; The university-government partnership should be part of the intervention program to further capacitate and take initiatives in doing coastal communities innovation, monitoring, and learning mechanisms that impacts the micro and macro levels to support co-production

smarter of public services should be strengthened; The Bulacan State University and its networking organizations, including professional accreditation bodies, should be developed broader networks, strategic partnerships, and programs to further localize the sustainable development goals and; Other stakeholders should provide funds and support for future research on organic farming and demonstrate an understanding of disaster-affected communities, vulnerabilities, and resiliency.

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