# KNOWLEDGE ON NATURAL AND ANTHROPOGENIC DISASTERS OF THE VARIOUS SECTORS IN THE THIRD DISTRICT OFZAMBOANGA DEL NORTE

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***Abstract***

*The role of knowledge on the occurrence of natural and anthropogenic disasters is crucial in disaster management. For this reason, this study was conducted to determine the knowledge on natural and anthropogenic disasters of the various sectors in the third district of Zamboanga del Norte. Seven municipalities which were prone to hazards in the first district of Zamboanga del Norte, namely: Liloy, Labason, Kalawit, Tampilisan, Salug, Godod, and Gutalac with 344 respondents from various sectors were involved in the study. The findings of the study revealed that various sectors, namely: farmers, fisher folks, business sector, and the professional sector were equally in need of educating themselves on the eventualities of natural and anthropogenic disasters and their negative impact to lives and properties. Thus, knowledge systems attributing to the understanding of natural and anthropogenic disasters should be given importance by all concerns to develop preparedness systems to prevent, mitigate, response, and manage the incidence of disasters for the benefit of the province. Most importantly, knowledge of the various sectors on natural and anthropogenic disasters in Zamboanga del Norte is tantamount to withstand the hazards of various intensities.*

***Key Words and Phrases:*** *knowledge, sectors, natural disasters, anthropogenic hazards*

## Introduction

The Philippines today faces high levels of risks due to natural and anthropogenic disasters. Various types of hazards struck the nation resulting to huge losses of life, property as well as damage to people's mental, physical, and social well being. However, conditions can be prevented if knowledge hovers among its constituents. Thus, every Filipino must be made knowledgeable on the nature and eventualities of these disasters.

Griffin (2014) asserted that one way of improving the people's ability to explore the social context of natural disasters is to incorporating greater local knowledge. Parker and Handmer (1998) averred that people's own experiences and understandings of previous disasters often influence their uptake of expert knowledge and may lead to issues of trust with the scientific and policy communities. Integrating technical information with real-community perceptions certainly adds to the useful capacity of knowledge in disaster management (Griffin, 2014). This necessitates that various sectors must learn to mitigate natural disasters and must gain a comprehension of the social context of natural disasters that go beyond the empirical, beyond technological fixes, and predictive capacity(Rodriguez, Diaz, and Aguiree 2004).

However, Padua (2014) in his lecture on "Disaster-Risk-Reduction Program" posited that data limitations may lead to the analysis of susceptibility rather than the hazard itself. He added that the analysis of susceptibility results in the identification of areas that are prone to the impact of hazards. Armed with information on natural and anthropogenic disasters, prevention, mitigation, and preparedness proceed surely in the direction of identifying the least susceptible and vulnerable areas. Hence, knowledge of the various sectors such as farmers, fisher folks, business sector, and professional sector that an area is likely to experience hazards is a valuable starting point and relatively more important for hazard management and risk reduction.

For this reason, the role of knowledge on the occurrence of natural disasters is deemed necessary. Thus, this study was conducted to determine the knowledge on natural and anthropogenic disasters of the various sectors in the third district of Zamboanga del Norte. A plurality of knowledge systems contributing to the understanding of natural disasters is believed to improve disaster management to the benefit of the province. Most importantly, knowledge of the various sectors on natural and anthropogenic disasters is tantamount to withstand calamities of various intensities.

## Methods and Materials

This study employed the descriptive-survey method of research with the aid of the newly standardized disaster instruments. It surveyed 344 respondents in which 40 were from the Municipality of Liloy, 68 were from the Municipality of Labason, 37 were from Kalawit, 52 were from Tampilisan, 42 were from Salug, 62 were from Godod, and 43 were from the Municipality of Gutalac. The instrument primarily measured the knowledge of the respondents on natural and anthropogenic disasters. Frequency count and percent were used to quantify the various sectors involved in the study and their knowledge on natural and anthropogenic disasters. Moreover, single factor analysis of variance was utilized to determine whether the knowledge on natural and anthropogenic disasters differed significantly by sectors.

## Results

***The Various Sectors of the Study.*** Figure 1 shows the four sectors involved in the study, namely: farmers, fisher folks, business sector, and the group of professionals. It can be seen in the figure that majority of the respondents represented the indigent sectors comprising of 58 percent of the distribution (farmers and fisher folks). The figure also presents that about one-fourth of the respondents belonged to professionals. Professional sector pertains to individuals who are engaged in professional services such as teachers, lawyers, doctors, etc. On the other hand, business sector included those who obtained a degree but did not practice of what profession they completed and those with low level of education but ventured in business activities.

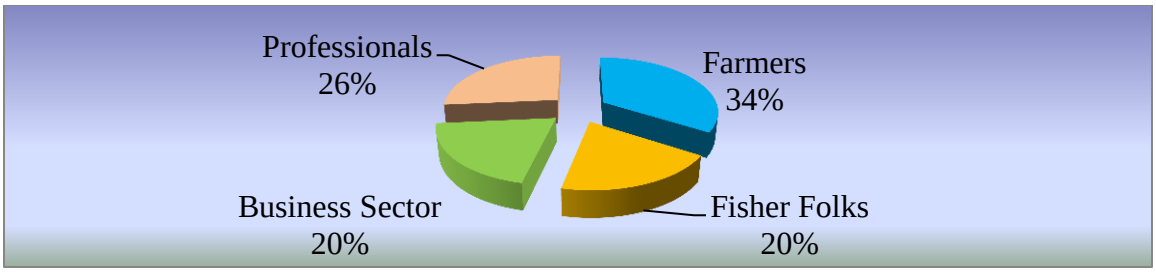


**Figure 1 The Various Sectors of the Study**

***Knowledge on Natural and Anthropogenic Disasters of the Farmers in the Third District in Zamboanga del Norte.*** It can be gleaned in Figure 2 that the farmer-respondents were unknowledgeable on the occurrence of tsunami hazard but almost all of them signified that they were knowledgeable on extreme climatic variability. Farmers are commonly resided in mountain places where tsunami is least experienced while extreme climatic variability is the affair of most farmers. In totality, almost 90 percent of the respondents indicated that they were not knowledgeable on natural and anthropogenic disasters. Only a negligible percentage of the respondents (about 10 percent) confirmed that they possessed the knowledge on natural and anthropogenic disasters. This means that there is really a need to educate the farmers regarding the occurrence of the natural and anthropogenic disasters including their effects to lives and damage to properties.

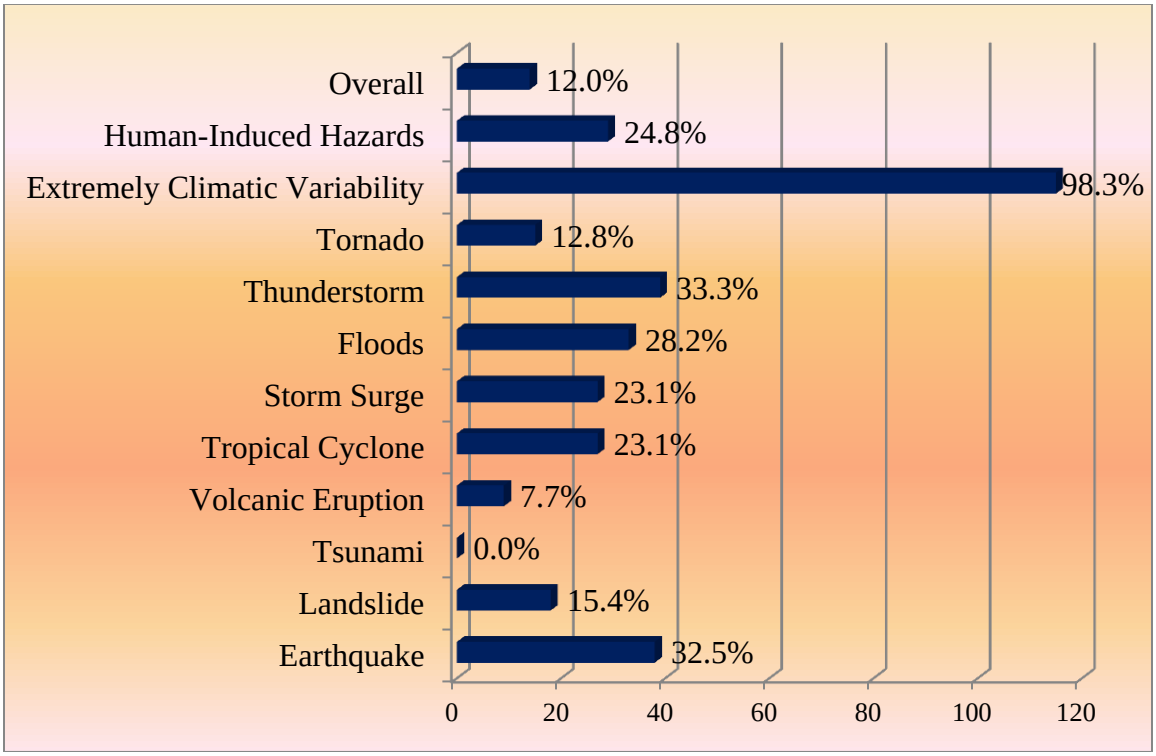


**Figure 2 Knowledge on Natural and Anthropogenic Disasters of the Farmers in the Third District in Zamboanga del Norte**

***Knowledge on Natural and Anthropogenic Disasters of the Fisher Folks in the Third District in Zamboanga del Norte.*** Similar to farmers, tsunami was the least

understood among fisher folks as shown in Figure 3. The result is alarming on the part of the fisher folks since most of them are residing near the seashore and spend most of their time in the sea. Extreme climatic variability, however, headed on the understanding among the fisher folks. This means that fisher folks are knowledgeable on the danger and effect of extreme climatic hazards. In general, less than 10 percent of the respondents declared natural and anthropogenic disasters well understood. This also means that there is a necessity to educate the fisher folks on the occurrence of natural and anthropogenic disasters including their danger and effect to lives and property.

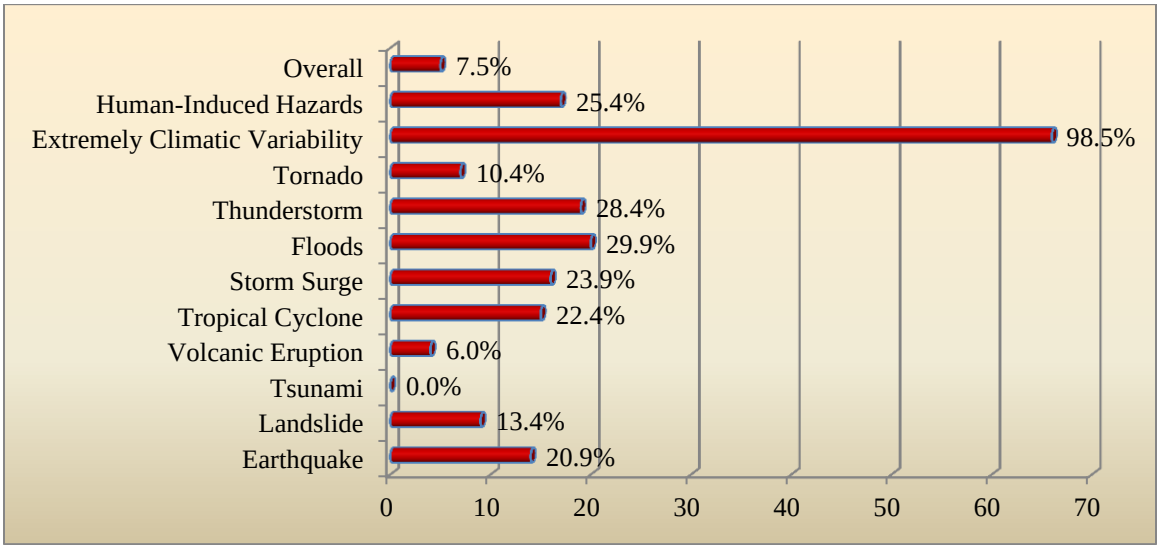


**Figure 3 Knowledge on Natural and Anthropogenic Disasters of the Fisher Folks in the Third District in Zamboanga del Norte**

***Knowledge on Natural and Anthropogenic Disasters of the Business Sector in the Third District in Zamboanga del Norte.*** Respondents from the business sector revealed that the eventuality of tsunami as a disaster was not understood as presented in Table 3. This construes that, like farmers and fisher folks, business sector was uneducated on the occurrence of tsunami. Conversely, extreme climatic variability was familiar among individuals in the business sector. It is clear that the presence of extreme climatic variability and its effect to human and property is familiar to people in the business sector. However, in totality, natural and anthropogenic disasters were not implicit by people in the business sector. This means that people in the business sector need also of educating themselves in the eventualities of disasters in the first district of Zamboanga del Norte.

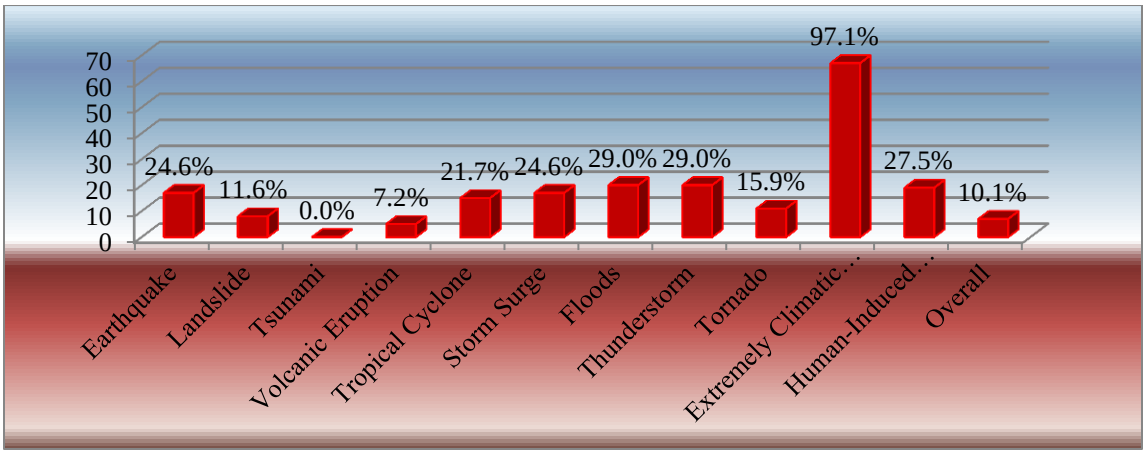


**Figure 4 Knowledge on Natural and Anthropogenic Disasters of the Business Sector in the Third District in Zamboanga del Norte**

***Knowledge on Natural and Anthropogenic Disasters of the Professionals in the Third District in Zamboanga del Norte.*** Only a small number of professionals (less than 30 percent) indicated that they understood about natural and anthropogenic disasters except for extreme climatic variability (95.6 percent) as reflected in Figure 5. This means that more than 60 percent of the professionals were not also knowledgeable on the occurrence of natural and anthropogenic disasters. The overall responses of the professionals (more than 80 percent) showed that they were not knowledgeable along this line. It can be deduced that there is really a need to educate people of the third district in Zamboanga del Norte to enhance understanding on natural and anthropogenic disasters especially understanding of the disaster preparedness, resilience and recovery needs and capabilities of communities, and establish relationships, collaboration, and recovery among organizations in the province and other key stakeholders. Moreton (2013) posited that the emergence of community actions, activities, leaders and groups, is a significant factor in community resilience and recovery.

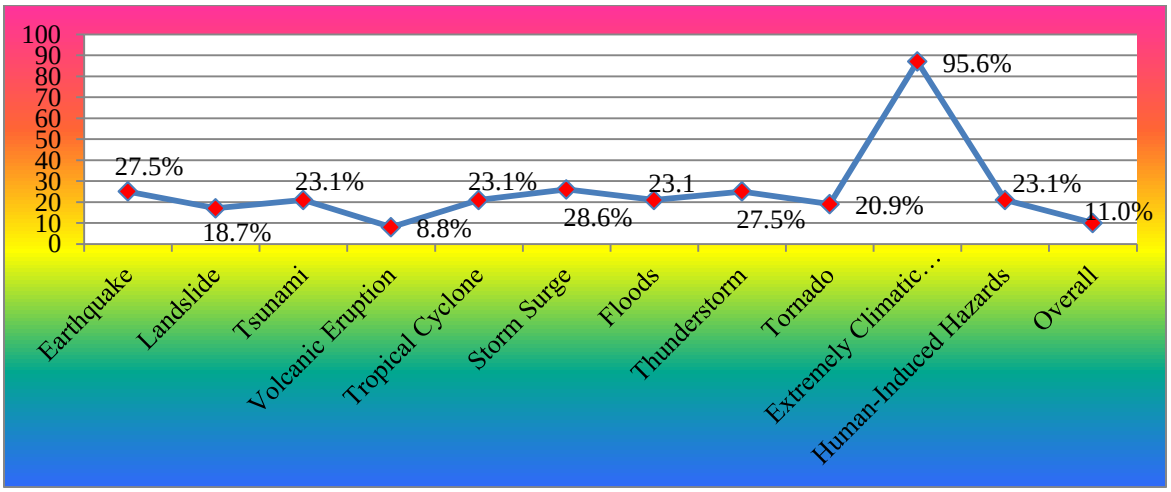


**Figure 5 Knowledge on Natural and Anthropogenic Disasters of the Professionals in the Third District in Zamboanga del Norte**

***Test of Difference in the Knowledge on Natural and Anthropogenic Disasters of the Various Sectors in the Third District in Zamboanga del Norte.*** Table 1 reveals that the knowledge of the various sectors, namely: farmers, fisher folks, business sector, and professionals on natural and anthropogenic disasters were not significant. This means that the various sectors possessed similar level of conceptualizing the occurrence of natural and anthropogenic disasters. It can be inferred that residents of the third district of Zamboanga del Norte regardless of sector affiliation should undergo education and training relevant to natural and anthropogenic events. The table shows further that the knowledge on tsunami significantly differ among farmers, fisher folks, business sector, and professionals. This means that what knowledge on tsunami the professionals possessed differed significantly from their counterparts.

**Table 1 Test of Difference in the Knowledge on Natural and Anthropogenic Disaster of the Various Sectors in the Third District in Zamboanga del Norte**

| Disasters | Computed F-Value | p-value | Interpretation |
|---|---|---|---|
| Earthquake | 1.068 | 0.363 | Not Significant |
| Landslide | 0.571 | 0.635 | Not Significant |
| Tsunami | 19.02 | 0.000 | Significant |
| Volcanic Eruption | 0.149 | 0.930 | Not Significant |
| Tropical Cyclone | 0.019 | 0.997 | Not Significant |
| Storm Surge | 0.297 | 0.827 | Not Significant |
| Floods | 0.391 | 0.759 | Not Significant |
| Thunderstorm | 0.336 | 0.799 | Not Significant |
| Tornado | 1.337 | 0.262 | Not Significant |
| Extremely Climatic Variability | 0.617 | 0.605 | Not Significant |
| Human-Induced Hazards | 0.140 | 0.936 | Not Significant |
| **Overall** | **0.317** | **0.813** | **Not Significant** |

## Discussion

Recognizing local knowledge as development requirement certainly leads decision makers to initiate strategies for the mitigation, prevention, and preparedness on the occurrence of natural and anthropogenic disasters "to reduce loss of life and property damage" (NEDA, UNDP, & ECHA, 2008). The findings of the study revealed that various sectors such as farmers, fisher folks, business sector, and the professional sector were equally in need of educating themselves on the eventualities of natural and anthropogenic disasters and their negative impact to lives and properties. Thus, Griffin (2014) emphasized the role of knowledge in natural disaster management. However, she pointed out that members of the community need to contextualize scientific truth and ensuing policies through their own experience and understanding making local knowledge becomes an important component of improving disaster management as expert knowledge. Moreover, Jessamy and Turner (2003) and Vari (2002) strongly divulged that local knowledge influences range from personal experience, personality, culture, access to resources, social status, and future expectations.

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