ENVIRONMENTAL LITERACY, CONCERN AND DISASTER PREPAREDNESS AMONG RESIDENTS IN MUNICIPALITY OF CALINOG, WESTERN VISAYAS REGION, PHILIPPINES

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Abstract

Environmental catastrophes come in the most unexpected moments in peoples' lives. The effect can be manifested globally ranging in varied intensities of damages. Its impact felt everywhere for it hits all areas worldwide in different strengths and various forms. The Municipality of Calinog, strategically located at the center of Panay Island, has its share of environmental devastations. It is on this premise that it is a necessary to assess the townspeople environmental knowledge, concern, and disaster preparedness. A total of 1394 residents of the disaster prone areas of the Municipality of Calinog were administered with a modified, partly adapted research instrument translated in local dialect. Descriptive statistics, Mann-Whitney, Kruskal-Wallis and correlations were used to analyze the results. Findings reveal that respondents are knowledgable about the environment and has a positive attitude and high degrees of concern toward the environment. Degree of disaster preparedness is evident in all variables except age. Significant differences occurred between environmental literacy level of respondents when classified as to distance from the barangay hall, civil status, educational attainment, and age. Significant differences also existed in the environmental concerns of the respondents when classified as to sex, distance from barangay hall, civil status, educational attainment, age, and location. As to the levels of disaster preparedness, a significant differences can be observed when classified as to the distance of residence from barangay hall, location, civil status, age, and the number of household member, the result is reversed. A significant correlation existed between environmental literacy and ecological concern; environmental literacy and disaster preparedness; environmental concerns and disaster preparedness.

Keywords: environmental literacy, environment concern, disaster preparedness

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1.0 Introduction

> "The earth will not continue to offer its harvest, except with faithful stewardship. We cannot say we love the land and then take steps to destroy it for use by future generations."
>
> - Pope John Paul II

Calinog is a peaceful town in Central Panay, Western Visayas Region of the Philippine Archipelago, which surrounded by mountains with Jalaur River that traverse from the Highland to the lowland where the town proper located. The municipality was not spared with the rage of nature. Flash floods washed away and destroyed farm crops, houses, and other properties when two of the strongest typhoons hit the municipality of Calinog namely typhoons Frank (June 25, 2008), Quinta (December 26, 2012) and Yolanda (November 8, 2013). Worst is that the wrath of nature left many towns people homeless and even caused death.

The mountain, the land, and the seas are God-given resources for mans' need and existence. It is our planet earth, and we are the steward of its resources. Our concern is the knowledge and awareness of its people as well as how to manage and maintain its abundance to sustain productivity for a century and after that. Ecological literacy is the capability to ask "what then"should be done to the mother earth aside from knowing how to read and calculate? It is the knowledge of our landscapes and affinity for the living world (Hardin in Orr, 1992). Any environmental hazard can interrupt essential services, such as the provision of health care, electricity, water sewage and garbage removal, transportation, and communication. The interruption can seriously affect the health, social and economic networks of local communities and countries. Thus, it is but proper that each local and national entities have organizations that could be responsible to disaster related problems. It will include disaster management plan on prevention, preparedness and relief recovery.

The environment if properly managed, may sustain man's daily need unless natural calamities and human destruction alter the balance of nature. It is a threatening issue that needs attention and must not to be taken for granted. Environmental problems including disaster preparedness must include in intellectual discussions in the classrooms or even meetings and conferences. The local radio station may also help in information dissemination.

Along with these presumptions, that the researchers deemed it important to pursue this study on environmental literacy and concern of the townspeople of Calinog and their preparedness in case of catastrophes. This study aimed to evaluate the environmental literacy, concern and disaster preparedness of the residents of the disaster prone areas of the Municipality of Calinog. Specifically, to find out the level of environmental literacy, environmental concern and disaster preparedness of the residents of the calamity prone areas of the Municipality of Calinog when

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taken as a whole and when cluster as to category of sex, civil status, distance of residence from the barangay hall, age, number of household members, highest educational attainment and residence location and to test the significant difference in the environmental literacy, environmental concern and disaster preparedness of the residents.

2.0 Theoretical Framework

The Ecological Systems Theory by Bronfenbrenner published in 1979 (Anonymous, 2008) states that human development has influenced by the different types of environmental systems. It implies that persons should adapt to a variety of environmental in various situations. Environmental management is a necessity for people to know how to act appropriately in times of ecological instability.

The Black Swan theory is a metaphor that describes the describes the major effect of an event that is a surprise to the observer. The theory was developed by Taleb (2008) to explain: The disproportionate role of high-profile, hard-to-predict and rare events that are beyond the realm of normal expectations in history, science, finance and technology; The non-computability of the probability of the consequential rare events using scientific methods. This theory serves as reminders that we should be ready at all times especially with the occurrence of natural calamities.

The Chaos Theory (Richards, 2016) deals with nonlinear dynamics, in which seemingly random events are actually predictable from simple deterministic equations. It also studies the behavior of dynamic systems that are highly sensitive to initial conditions, an effect which popularly referred to as butterfly effect. Chaotic behavior can observe in many natural systems such as weather. In common usage, chaos means a state of disorder. During natural disasters, people are in the chaos that is they tend to panic as to where to seek refuge during the typhoon, flood, earthquake, and other natural calamities. It can correlate with the study for both are concerned with chaos brought about by environmental problems and natural disasters and the measures which people take in preparation for this catastrophe.

3.0 Research Methodology

This descriptive correlational research study aimed to assess the environmental literacy, concern and disaster preparedness of the residents of the disaster prone areas of the Municipality of Calinog as evidenced by their environmental knowledge both in the literacy, emotional aspect and emergency preparedness. Furthermore it attempts to determine how related environmental literacy, concern and disaster preparedness are.

Respondents of this study were the 1,394 residents of the disaster prone area as identified by Department of Social Work and Development (DSWD) in the Municipality of Calinog for the Fiscal Year 2014. Since the total population was too large to be managed by the researcher, 1,394 respondents were considered in the study representing 10% of the total population.

Respondents were asked to answer the partly adapted questionnaire of Varisli (2009). The researcher modified portions of the instrument and translated it into the mother tongue for ease and convenience of the respondents. Then, it was subjected to validation by the pool of experts in environmental science. Moreover, it has undergone reliability testing with a Cronbach alpha index of 0.86.

The researcher-made instrument consisted of four parts: Part one was used to gather the following information about the respondent: sex, civil status, distance of residence from the barangay hall, age, no. of household members, highest educational attainment, and residence location. Part two is subdivided into three areas. Area A was on Environmental Literacy, Area B was in Environmental Concern, and Area C was on Disaster Preparedness consisting of 22, 10 and 20 items respectively. For Part A, the participants were made to choose the correct answer for each question. The mean score was converted to its description using the measuring instrument based on Guilford's Frequency Distribution Table. The scale is shown below:

Scale	Description
17.61 – 22.00	Extremely Knowledgeable
13.21 – 17.60	Very Knowledgeable
8.81 – 13.20	Knowledgeable
4.41 – 8.80	Limited Knowledge
0.00 – 4.40	Very Limited Knowledge

For Part B and C on the other hand, respondents were made to answer the items in the questionnaire by ticking the column of their preferred responses. Each response was given a weight of 5, 4, 3, 2, 1. The mean was converted to its description using the measuring instrument based on Guilford's Frequency Distribution Table. The scale of means is shown below:

Scale	Description	
	Environmental Concern	Disaster Preparedness
4.21 – 5.00	Very Concerned	Always Prepared
3.41 – 4.20	Somewhat Concerned	Most Often Prepared
2.61 – 3.40	Unsure	Frequently Prepared
1.81 – 2.60	A Little Concerned	Rarely Prepared
1.00 – 1.80	Not Concerned At All	Never Prepared

Data were processed and analyzed through the use of SPSS. Descriptive and inferential statistics were computed to describe trends and relationships among the variables tested. A correlation analysis was conducted

to determine if an empirical relationship could be established between the environmental literacy, concerns and disaster preparedness.

4.0 Results and Discussion

Level of Environmental Literacy

Results disclosed that as to environmental literacy all the respondents both when taken as a whole and when grouped as variables are knowledgeable as evidenced by their means ranging from 8.50 to 10.23. It implies that all the respondents have knowledge about environmental issues. However, they have a little idea about environmental problems which could be supplemented by local print and broadcast media. As featured by Quick (2014), the use of print, broadcast, and internet media can be a great way to increase education and awareness. He further added that by working with the media, government agencies and nonprofit organizations, can help spread their message, either by holding press briefings, issuing printed press releases, or even setting up online databases that can be used as information centers. Information centers can be useful tools to educate both the public and journalists about environmental concerns.

Level of Environmental Concern

Environmental concern indicates "the degree to which people are aware of problems regarding the environment and support efforts to solve them and or indicate the willingness to contribute personally to their solution" (Dunlap and Jones, 2002). Results showed that the respondents' environmental concern, when taken as a whole, are very concerned and when categorized as to variables, majority are very concerned, except among ages 58-71 years old and respondents with educational qualification of an elementary level are somewhat concerned. It implies that the people of Calinog have imbibed the values of taking good care of the environment, concerned with enviornmental protection and preservation, but it also being noted that the older ones would utterly say that they were too old to be concern about the environment. It is also a clear indication that they are leaving the task to the younger generation to do the job of caring for the environment on their behalf. On another perspective, it also followed that the more literate the people are, the more concerned they become. Similar findings were observed in the study of Shen and Saijo (2008) were they have found out that those who have high educational level had a positive attitude towards environmental concern. As to age, younger people tend to be concerned more about environmental issues than elders since younger people are easier to attend to information about environmental issues than older ones (Van Liere and Dunlap, 1980).

Level Disaster Preparedness

Results revealed that regarding disaster preparedness, all the respondents' both when taken as a whole and when categorized as to the identified variables are rarely prepared as evidenced by their means ranging from 2.24 to 2.45. It implies that the people still needs strategic mechanisms on what to do during natural calamities. It is a fact that the issues on natural disasters were have not given much attention, and few were trained to do the rescue operation in the locality and not as comparable to the United States where they have enough facilities and sufficient expert manpower in the rescue operation like Rescue 911, etc.

Difference in the Environmental Literacy

Table 1 shows the result of the Mann-Whitney test for testing significance of the differences in the environmental literacy of the respondents classified as to sex, distance of residence from barangay hall, and residence location. Results reveal no significant differences exist between the environment literacy level of the respondents when classified as to sex (U=232678,

Table 1. Mann-Whitney test result for testing significance of the differences in the environmental literacy of the respondents classified as to sex, distance of residence from barangay hall, and residence location.

Profile	Frequency	Mean Rank	Sum of Ranks	U	p
Sex					
Male	638	710.80	453490.50	232678.50	0.254
Female	756	686.28	518824.50		
Total	1394				
Distance of Residence from the Barangay Hall					
Near	919	745.31	684940.50	174324.50	0.000*
Far	475	605.00	287374.50		
Total	1394				
Residence Location					
Brgy.	1091	706.88	771208.5	155050	0.096
Poblacion	303	663.72	201106.5		
Total	1394				

*p<.05, significant at .05 alpha

Table 2. Kruskal-Wallis test result for testing significance of the differences in the environmental literacy of the respondents classified as to civil status, highest educational attainment, age, and household member.

Profile	N	Mean Rank	$\chi 2$	df	p
Civil status					
Single	226	700.17			
Separated	91	864.64			
Married	948	679.46	17.951	3	0.000*
Widow	129	707.50			
Total	1394				
Highest Educational Attainment					
Unschooled	32	589.19			
Elem Level	446	653.47			
HS Level	511	672.45	29.873	3	0.000*
College Level	405	786.54			
Total	1394				
Age					
15 - 29 yrs old	399	728.10			
30 - 43 yrs old	434	600.77			
44 - 57 yrs old	324	792.19	46.350	4	0.000*
58 - 71 yrs old	169	703.38			
72 - 85 yrs old	68	669.59			
Total	1394				
Household Members					
1 - 5 members	821	716.76			
6 - 10 members	534	665.10	5.778	2	0.056
11 - 15 members	39	735.79			
Total	1394				

**p<.05, significant at .05 alpha*

Table 3. Post hoc test (Mann-Whitney) for significant Kruskal-Wallis Results for (Environmental Literacy) in Table 2.

Profile	Compared Groups		Mean Difference	p
Civil Status	Single	Separated	-1.04*	0.000
		Married	0.10	0.461
		Widow	-0.09	0.825
	Separated	Married	1.14*	0.000
		Widow	0.95*	0.001
	Married	Widow	-0.19	0.419
Highest Educational Attainment	Unschooled	Elem Level	-0.37	0.364
		HS Level	-0.54	0.178
		College Level	-1.32*	0.016
	Elem Level	HS Level	-0.17	0.853
		College Level	-0.95*	0.000
	HS Level	College Level	-0.78*	0.000
Age	15 - 29 yrs old	30 - 43 yrs old	0.86*	0.000
		44 - 57 yrs old	-0.40*	0.013
		58 - 71 yrs old	0.16	0.394
		72 - 85 yrs old	0.43	0.224
	30 - 43 yrs old	44 - 57 yrs old	-1.25*	0.000
		58 - 71 yrs old	-0.69*	0.004
		72 - 85 yrs old	-0.43	0.183
	44 - 57 yrs old	58 - 71 yrs old	0.56*	0.032
		72 - 85 yrs old	0.82*	0.026
	58 - 71 yrs old	72 - 85 yrs old	0.26	0.597

**mean difference is significant at .05 alpha*

p=0.254), the number of household members ($\chi 2$=5.778, p=0.056) and location (U=155050, p=0.096). However, significant differences exist, when they classified as to the distance of residence from barangay hall, civil status, highest educational attainment, and age. Respondents whose residence are near the barangay hall have significantly higher environmental literacy performance than those who are far, while those who are separated have significantly higher environmental literacy level than those who are married and widows. Furthermore, respondents who belong to college level category have significantly higher environmental literacy level than those who belonged to unschooled & elementary level group. As to age, the respondents who belonged to "44-57 years old" category have significantly higher environmental literacy than those respondents who belonged to "58-71" 72-85", "30-43" and "15 to 29" years old. No significant differences have observed in other pairs. Results imply that environmental literacy in most situations has not indicated in the particular sector of society, it is all dependent on the individual capacity to inculcate proper knowledge on environmental issues. This findings coincides with the findings of Poortinga et al., (2004) which suggests that concern about various specific environmental issues is found to have correlation with different socio-demographic characteristics.

Difference in the Environmental Concern

Result revealed that significant differences exist in the environmental concerns of the respondents when classified as to sex (U=223817, p=0.020), distance from barangay hall (U=189519.50, p=0.000), civil status ($\chi 2$=18.145, p=0.000), highest educational attainment ($\chi 2$=22.275, p=0.000), age ($\chi 2$=33.650, p=0.000) and location (U=189519.50, p=0.000).

Males have significantly higher concern than females. Those who are near the barangay hall have significantly higher interest than those far. Those who are separated have considerably higher regard than those who are single, married and widowed. On the other hand, respondents under high school and college level categories have significantly higher concern than those under the unschooled and elementary level category. Those under the elementary level class have a greater interest than those who were under the uneducated group. As to age, those under the "44-57 years old" category have significantly higher concern than those under "15-29" and "58-71 years old" groups. Those under the "72-85 years old" category have significantly higher concern than the "58-71 years old" category. On the other hand, no significant differences were observed when classified as to household members. Results indicated that the following sectors: males, near barangay hall, separated, high school and college levels and ages 44-57 years old are the ones which depict greater environmental concern. They are all exposed to greater responsibility; hence they have imbibed love and concern for the environment and this could be probably because of altruism. Altruism plays a role in the demand for environmental quality (Popp, 2001) and consequently raises up one's concern for the environment. The causes probably of having males that are more altruistic than females and that separated are more altruistic than single, married and widowed is that, men and separated individuals are more engaged in not only economic activities but also life maintenance activities and involvement in the neighborhood and community (Van Liere and Dunlap, 1980). The social class hypothesis of Van Liere and Dunlap (1980) predicts that environmental concern increases as with levels of education. Theoretical explanations for the social class hypothesis primarily rest on Maslow's (1970) hierarchy of needs and theories of relative deprivation. Maslow argues that basic needs such as food, shelter, and safety must be met before luxury needs such as love and self-

Table 4. Mann-Whitney test result for testing significance of the differences in the environmental concern of the respondents classified as to sex, distance of residence from barangay hall, and residence location.

Profile	Frequency	Mean Rank	Sum of Ranks	U	p
Sex					
Male	638	724.69	462352.00	223817.00	0.020*
Female	756	674.55	509963.00		
Total	1394				
Distance of Residence from the Barangay Hall					
Near	919	728.78	669745.50	189519.50	0.000*
Far	475	636.99	302569.50		
Total	1394				
Residence Location					
Brgy.	1091	696.63	760018.00	189519.50	0.000*
Poblacion	303	900.65	212297.00		
Total	1394				

*p<.05, significant at .05 alpha

Table 5. Kruskal-Wallis Test Result for Testing Significance of the Differences in the Environmental Concern of the Respondents Classified as to Civil Status, Highest Educational Attainment, Age, and Household Member

Profile	N	Mean Rank	$\chi 2$	df	p
Civil status					
Single	226	645.46			
Separated	91	856.13	18.145	3	0.000*
Married	948	694.10			
Widow	129	701.72			
Total	1394				
Highest Educational Attainment					
Unschooled	32	881.25			
Elem Level	446	638.17	22.275	3	0.000*
HS Level	511	730.58			
College Level	405	705.14			
Total	1394				
Age					
15 - 29 yrs old	399	665.99			
30 - 43 yrs old	434	678.11			
44 - 57 yrs old	324	796.51	33.650	4	0.000*
58 - 71 yrs old	169	606.47			
72 - 85 yrs old	68	760.60			
Total	1394				
Household Members					
1 - 5 members	821	701.73			
6 - 10 members	534	685.60	1.885	2	0.390
11 - 15 members	39	771.33			
Total	1394				

**p<.05, significant at .05 alpha*

Table 6. Post hoc test (Mann-Whitney) for significant Kruskal-Wallis Results for (Environmental Concern) in Table 5.

Profile	Compared Groups		Mean Difference	p
Civil Status	Single	Separated	-0.29*	0.000
		Married	-0.06	0.094
		Widow	-0.03	0.266
	Separated	Married	0.24*	0.000
		Widow	0.26*	0.009
	Married	Widow	0.02	0.829
Highest Educational Attainment	Unschooled	Elem Level	0.24*	0.002
		HS Level	0.08*	0.046
		College Level	0.13*	0.008
	Elem Level	HS Level	-0.17*	0.000
		college level	-0.11*	0.014
	HS Level	college level	0.05	0.346
Age	15 - 29 yrs old	30 - 43 yrs old	0.00	0.756
		44 - 57 yrs old	-0.18*	0.000
		58 - 71 yrs old	0.14	0.095
		72 - 85 yrs old	-0.16	0.092
	30 - 43 yrs old	44 - 57 yrs old	-0.18	0.000
		58 - 71 yrs old	0.15	0.062
		72 - 85 yrs old	-0.16	0.156
	44 - 57 yrs old	58 - 71 yrs old	0.33*	0.000
		72 - 85 yrs old	0.02	0.789
	58 - 71 yrs old	72 - 85 yrs old	-0.30*	0.010

**mean difference is significant at .05 alpha*

actualization can be satisfied.Environmental quality has typically been classified as a luxury need; although many within environmental sociology argue that our dependent relationship with the physical environment is directly related to the basic needs as Maslow characterized them. Similarly, theories of relative deprivation suggest that the lower class are less concerned with environmental quality because they have not had exposure to surroundings that embody high levels of environmental concern.

Difference in the Disaster Preparedness

Results revealed no significant differences in the levels of disaster preparedness when the respondents were classified as to sex (U=236890.00, p=0.568) and highest educational attainment ($\chi 2$=7.622, p=0.106). However, significant differences were exhibited when classified as to the distance of residence from barangay hall (U=181626.50, p=0.000), location (U=116760.00, p=0.000), civil status ($\chi 2$=9.584, p=0.022), age ($\chi 2$=10.092, p=0.039), and the number of household members ($\chi 2$=35.349, p=0.000). Those residing near the barangay hall are more prepared than those who are far. Respondents from the Poblacion are more prepared than those from Barangay. As to civil status, widows were more

Table 7. Mann-Whitney test result for testing significance of the differences in disaster preparedness of the respondents classified as to sex, distance of residence from barangay hall, and residence location.

Profile	Frequency	Mean Rank	Sum of Ranks	U	p
Sex					
Male	638			236890.00	0.568
Female	756	703.15	531584.00		
Total	1394				
Distance of Residence from the Barangay Hall					
Near	919	737.37	677638.50	181626.50	0.000*
Far	475	620.37	294676.50		
Total	1394				
Residence Location					
Brgy.	1091	653.02	71446.00	116760.00	0.000*
Poblacion	303	857.65	259869.00		
Total	1394				

*p<.05, significant at .05 alpha

Table 8. Kruskal-Wallis Test Results for Testing Significance of the Differences in the Disaster Preparedness of the Respondents Classified as to Civil Status, Highest Educational Attainment, Age, and Household Members

Profile	N	Mean Rank	$\chi 2$	df	p
Civil status					
Single	226	702.18			
Separated	91	608.17	9.584	3	0.022*
Married	948	694.19			
Widow	129	776.66			
Total	1394				
Highest Educational Attainment					
Unschooled	32	758.39			
Elem Level	446	662.60	7.622	3	0.106
HS Level	511	697.56			
College Level	405	731.89			
Total	1394				
Age					
15 - 29 yrs old	399	701.22			
30 - 43 yrs old	434	672.08			
44 - 57 yrs old	324	675.45	10.092	4	0.039*
58 - 71 yrs old	169	772.68			
72 - 85 yrs old	68	756.08			
Total	1394				
Household Members					
1 - 5 members	821	653.95			
6 - 10 members	534	744.23	35.349	2	0.000*
11 - 15 members	39	974.51			
Total	1394				

*p<.05, significant at .05 alpha

Table 9. Post hoc test (Mann-Whitney) for significant Kruskal-Wallis Results for (Environmental Concern) in Table 8.

Profile	Compared Groups		Mean Difference	p
Civil Status	Single	Separated	0.09*	0.021
		Married	0.03	0.797
		Widow	-0.03	0.051
	Separated	Married	-0.06	0.064
		Widow	-0.12*	0.003
	Married	Widow	-0.06*	0.034
Age	15 - 29 yrs old	30 - 43 yrs old	0.06	0.287
		44 - 57 yrs old	0.05	0.415
		58 - 71 yrs old	-0.05	0.064
		72 - 85 yrs old	-0.02	0.253
	30 - 43 yrs old	44 - 57 yrs old	-0.01	0.924
		58 - 71 yrs old	-0.11*	0.006
		72 - 85 yrs old	-0.08	0.118
	44 - 57 yrs old	58 - 71 yrs old	-0.10*	0.010
		72 - 85 yrs old	-0.07	0.134
	58 - 71 yrs old	72 - 85 yrs old	0.04	0.675
Household Members	1 - 5 members	6 - 10 members	-0.08*	0.000
		11 - 15 members	-0.26*	0.000
	6 - 10 members	11 - 15 members	-0.19*	0.001

**mean difference is significant at .05 alpha*

ready than married, single and separated. As to age, "58-71" years old were more prepared than those in "30-43" and "44-57 years old" categories. As to household members, significant differences were noted among all the three groups. These are revealed by the p-values which are all lower than .05. Tables 7, 8 and 9 show the data. Results imply that sectors of the community namely: people in the Poblacion, widows, ages 58-71 are more prepared due to the fact they are more experienced regarding natural calamities. Previous disaster experiences could be a factor for disaster preparedness. Past disaster experience may influence individuals to collect more information about disasters and as a result implement them for better disaster preparedness (Najafi et al., 2015).

Relationships between Environmental Literacy and Concern and Environmental Preparedness

The table showed that there is a significant correlation between environmental literacy and environmental concern (r=0.126, p=0.000). Likewise, a significant correlation exists between environmental literacy and disaster preparedness (r=0.118, p=0.000). Moreover, a significant correlation also exists between environmental concern and disaster preparedness (r=0.127, p=0.000). Results indicated that the more knowledgeable the people are on environmental issues, the more they will develop

Table 10. Correlation Matrix for Environmental Literacy, Environmental Concern and Disaster Preparedness

Correlations Indicators		Environmental Literacy	Environmental Concern	Disaster Preparedness
Environmental Literacy	Spearman Correlation	1	0.126**	0.118**
	Sig. (2-tailed)	.	0.000	0.000
	N	1394	1394	1394
Environmental Concern	Spearman Correlation		1	0.127**
	Sig. (2-tailed)		.	0.000
	N		1394	1394
Disaster Preparedness	Spearman Correlation			1
	Sig. (2-tailed)			.
	N			1394

***Correlation is significant at the 0.01 level (2-tailed).*

concern for protection and preservation. Further, the knowledge and love encourage them to be involved in disaster risk management mechanisms and adjustments. The result of the study agrees that of Donovan (2001) which also exhibited positive relationships among environmental knowledge, attitudes, and behavior. However, the findings negate the study of Unaldi (2008) which states that environmental awareness and involvement is about risk and adjustments.

5.0 Conclusion

The study indicated that the townspeople have the know-how as regards their environment because it is their place of abode. However, they were not very much knowledgeable about environmental issues, and few senior citizens take particular concern about the environment. Residents have not yet internalized environmental issues. Hence, they are not that well prepared for unexpected natural disasters that happened in sudden time. There is also an indication that they are not yet fully aware what to do incase unpredictable natural phenomenon will occur in an unexpected moment. Thus, many people suffered from natural calamities. There is also an indication that more you know about your environment, the more you will develop love and concern and subsequently the more you will be able to prepare for any natural calamity that would occur.

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