

## Demographics and Environmental Attitude of LGU Employees

Cherry C. Favor, ScD

*Southern Luzon State University-Judge Guillermo Eleazar Campus*

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**ABSTRACT :** This study attempts to show the level of awareness, knowledge, attitude and perception of the permanent employees of the Local Government Unit of Tagkawayan in relation to their environmental attitude as they engagement in implementing policies on Climate Change. The result reveals that the respondents are generally females that resides in metro zone with an average age of 30 – 50 years old with an income ranging from 5000 – 10,000 monthly, are married and mostly are college graduate. Respondents' knowledge on climate change is moderate high, with the mean value of 3.4, which are highly affected by the gender. Perception of the respondents are not affected by any of the demographics as shown by a higher significant value of variance analysis. Awareness on environmental issues related to climate change is influenced by age with a value of 0.026 a value lower that the set 0.05 significant level. Attitudes on Climate change is affected by the educational attainment of the respondents shown in the significant value of 0.08 of the linear regression analysis. Thus, is it recommended that employees specially the male population and the younger employees are encouraged to attend trainings, lectures and seminars or other similar activities so that knowledge in climate change will be enhanced. Further, exposure to different information campaign through several technologies and different modern applications like social media, display of available reading materials in the work place showing data on climate change is suggested to have positive environmental attitude among the respondents.

**KEYWORDS:** Socio Demographic Profile, LGU Tagkawayan, Environmental knowledge and attitudes

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### I. INTRODUCTION

Climate change poses serious environmental problem in the 21<sup>st</sup> century (Burken. et.al., 2015). It is inevitable and can be felt worldwide, wherein its adaptation and mitigation turns to be a global interest. The Philippines government stand to combat Change Climate impact through adaptations that are manifested in its comprehensive legal and regulatory regime that includes environmental policy implementation even in the level of Local Government Unit, it is reflected in the Local Government Code of 1991 that contains provisions on the carrying out of these environmental laws of the land (Reyes, 2014). Climate Change awareness must be increased at the local level specially the impact of this environmental change are exacerbated by numerous extent in disaster prone areas in the countryside of the Philippines (Z. Shahid and A. Piracha, 2016). Being an archipelagic country in the pacific region Philippines is frequently visited by natural calamities. More so, with adverse effect of Climate Change, extreme weather conditions are experienced by its people. As estimated 82.5% of the entire population of the country is exposed to tropical cyclones, flooding and storm surge and 14.9 million homes are vulnerable to the impacts of climate change and the limited knowledge of the citizens can highly contribute to climate change vulnerability that worsen the condition of the poorest residents of the country (UN-HABITAT, Zalameda, 2015).

The role of the institutions such as Local Government Units is vital for disseminating the main objective of the adaptation laws for climate change, and it is essential that knowledge about climate change of LGU officials and employees as well as all persons involved in its implementation must be assess, since they are the implementing the policies and measures for mitigation and adaptation of the impact of this global environmental problems (Ojomo et. Al, 2015). Further studies reveal that unrestricted values and affective impression of a person is associated with their perceptions, thus, their behavior towards this environmental issues are affected their understanding and attitudes on the topics and concerns on Climate Change (Hitayezu et al., 2017.) Behavioral responses on perception will shape adaptation options thus empowering adaptation outcomes (Debela et al, 2015). Furthermore, responses of climate change adaptation are always influence by perceptions (Chean, 2017). Embracing and accepting the science of climate change will be attributed to accepting what causes this environmental change and the mitigation measures that includes recycling, reducing waste and reducing use of non-renewable energy shows and expresses inclination to change a way of life to lessen the impact of this natural phenomena.(Himmelfarb et al., 2014). Assessment of knowledge, understanding and perception on the impact of climate change, may help increase endeavors to raise awareness on this environmental issue (Nigatu, et al. 2013) hence, execution of this environmental laws will then become easy.

## II. OBJECTIVES OF THE STUDY

This study attempt to assess the attitude, knowledge, awareness and perception of the permanent Local Government Unit employees of Tagkawayan in relation to their environmental attitudes towards climate change and specifically answers the following objects: (1) Describe and analyze the demographic profile of the respondents. (2) Determine the knowledge, perception, awareness and attitude of the respondents on climate change. (3) Identify which among the demographics influences the respondents' knowledge, awareness, perceptions and attitude towards climate change. (4) Examine which factor determines the respondents' environmental attitude. (5) Model the respondents' demographics affecting knowledge, attitude, awareness and perception on climate change.

## III. MATERIALS AND METHODS

This study is a qualitative and quantitative research conducted in the Local Government Unit of the Municipality of Tagkawayan in Quezon Province which are employed to 126 permanent employees. A semi structured questionnaire that was adopted from the studies of (Ochieng, M.A. and Koske J., 2013 and Ojomo et. Al, 2015) was used as the research instruments which is composed of two parts. Part I illustrates and describes the demographic profile of the respondents and Part II were composed of questions divided to show Knowledge and Awareness, Attitudes and Perception of the respondents towards Climate Change. Linear Regression was used to analyze and interpret data with the use of SPSS 20.

### A. Locale of the Study:

Local Government Unit of the Municipality of Tagkawayan



Figure 1. LGU Building

Local Government Unit is headed by the Municipal Mayor and structured and are composed of several departments which also supervised by their corresponding Heads.

### B. Conceptual Frame work

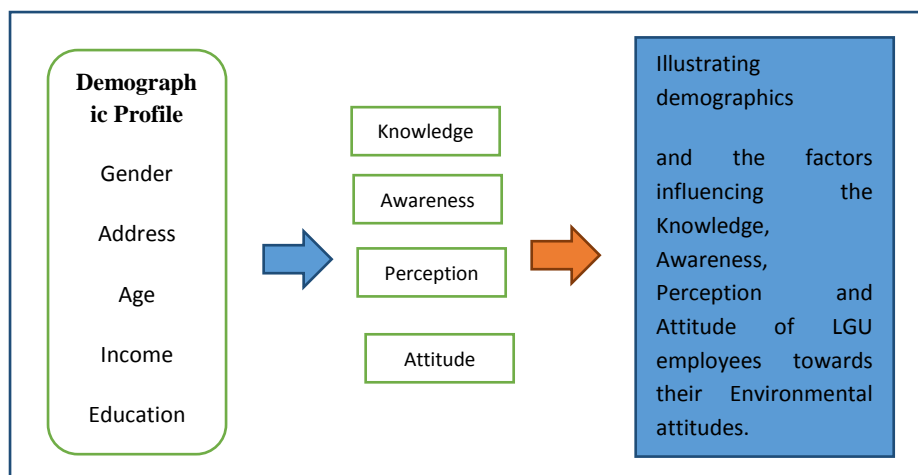


Figure 2. Flow of concept in the conduct of the Study

**IV. RESULTS AND DISCUSSION**

The gender distribution of the respondents where 41% of the respondents' population are male and 59% are female.

**Table 1 Gender**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	52	41.3	41.3	41.3
female	74	58.7	58.7	100.0
Total	126	100.0	100.0	

This presents the respondents address of residence the corresponds to 48% are coming from metro zone, 31 % are from highway zone and 12% originates from railroad zone and the remaining 9% is from mountain zone.

**Table 2 address**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid metro	61	48.4	48.4	48.4
highway	39	31.0	31.0	79.4
railroad	15	11.9	11.9	91.3
mountain	11	8.7	8.7	100.0
Total	126	100.0	100.0	

This illustrates the income bracket of the respondents, 15% of the respondents receives income that are less than 5000.00, 77% are within the salary range 5001.00 to 10,000.00 and the remaining 8% receives salaries that are greater than 10,000.00.

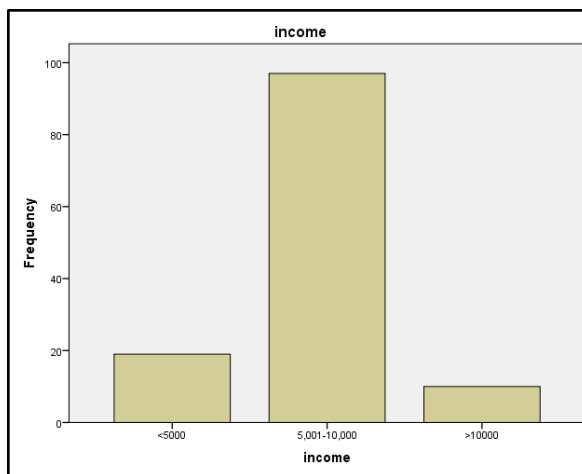
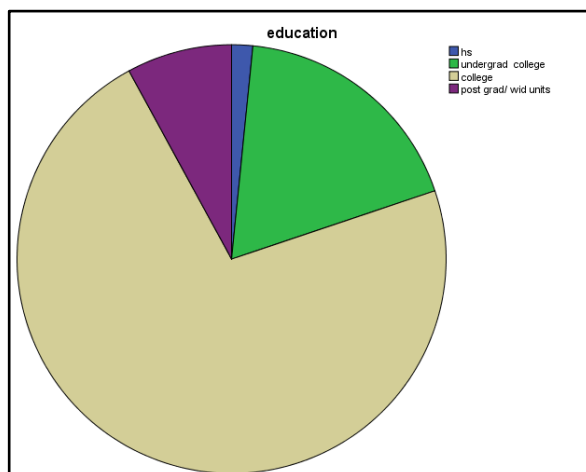


Figure 2. Elucidates the educational attainment of the respondents, 72 % are college graduates, 18% are college undergraduate, 2% finished high school and last 8% are with Masters' units.



Presents the distribution of the civil status of the respondents, 80% of the respondents are married, 13% are single and the remaining 7% are separated.

**Table 3 Civil status**

	Frequency	Percent	Valid Percent	Cumulative Percent
single	16	12.7	12.7	12.7
married	101	80.2	80.2	92.9
separated	9	7.1	7.1	100.0
Total	126	100.0	100.0	

Mostly of the respondents with 78% of the employees perceived that climate change is generally a threat to the country while the 22% believes that it not a threat.

**Table 4. Perception On Climate Change as a threat**

Item	%
Climate Change is a threat to the country	78% = 98
Climate Change is not a threat to the country	22 % = 28
n= 126	100 = 126

Table 5. Knowledge, Awareness and Attitude

The level of awareness of the respondents' is rated as 3.4 interpreted as much aware, hence the awareness of Climate Change is evident to the respondents. On the other hand, the attitude of the respondents is high with a rating equal to 2.9 that expresses willingness to participate in the programs and plans of the government to combat the effects of this environmental phenomena. When it comes to the respondents' knowledge, it is rated as 3.4 described as moderately high which means that the respondents are with knowledge about climate change that are not sufficient to have an in depth understanding of this natural occurrences that might affect their effectiveness in carrying out their task and responsibility. The report of [14] Asia foundation, 2012 supports this result that Bangladesh is country with high political commitment to many of its citizens are unaware whether their existing ability would be enough to adapt to the changes

<b>Level of awareness</b>		
<b>Indicator</b>	<b>Weighted mean</b>	<b>Interpretation</b>
<i>Climate change is happening</i>	<b>3.3</b>	<b>Much aware</b>
<i>Climate change manifests in diverse ways in the world</i>	<b>3.7</b>	<b>Much aware</b>
<i>We are already experiencing the impacts of climate change</i>	<b>3.7</b>	<b>Much aware</b>
<i>I see climate change to be of immediate and urgent concern</i>	<b>3.6</b>	<b>Much aware</b>
<i>Climate change is a threat to sustainable development</i>	<b>3.4</b>	<b>Much aware</b>
<b>Total</b>	<b>3.4</b>	<b>Much aware</b>
0-1.0 – not at all aware, 1.1-2.0 – little awareness, 2-1-3.0 – more aware, 3.1-4.0 much aware, 4.1-5.0 – high awareness		
<b>Attitude towards climate change</b>		
<b>Indicator</b>	<b>Weighted mean</b>	<b>Interpretation</b>
I believe we need to change our lifestyle to reduce the impact of climate change	<b>2.8</b>	<b>high</b>
I believe we need to live and adapt to a more warmer climate	<b>2.9</b>	<b>high</b>
I believe we will do something to climate change lessen impact of CC	<b>3.0</b>	<b>high</b>
I believe we should engage in environmental friendly activities.	<b>3.2</b>	<b>Moderately high</b>
I believe we need to participate in the government campaign for adaptation for climate change.	<b>2.7</b>	<b>high</b>
<b>Total</b>	<b>2.9</b>	<b>high</b>
0-1.0 – low, 1.1-2.0 – moderately low, 2-1-3.0 – high, 3.1-4.0 moderately high, 4.1-5.0 – extremely high		
<b>Knowledge on Climate change.</b>		
<b>Indicator</b>	<b>Weighted mean</b>	<b>Interpretation</b>
Climate Change is occurring	<b>3.3</b>	<b>Moderately high</b>
Natural changes in the environment are humans are responsible for climate change	<b>3.7</b>	<b>Moderately high</b>
Climate Change can reduce the quality	<b>3.3</b>	<b>Moderat</b>

of life for future generations		<b>ely high</b>
Human Activity is responsible for climate change	<b>3.4</b>	<b>Moderately high</b>
Every individual can do something to adapt to climate change.	<b>3.4</b>	<b>Moderately high</b>
Total	<b>3.4</b>	<b>Moderately high</b>
0-1.0 – low, 1.1-2.0 – moderately low, 2-1-3.0 – high, 3.1-4.0 moderately high, 4.1-5.0 – extremely high		

**Table 6.** Shows that gender among the demographic profile has 0.038 significant value that is lower than the set value of 0.05 significant level. The shows that knowledge of the respondents are affected by the gender.

**Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.630	.491		7.398	.000
gender	<b>-0.238</b>	<b>.113</b>	<b>-.190</b>	<b>-2.101</b>	<b>.038</b>
address	-.036	.059	-.055	-.612	.542
income	.095	.119	.073	.801	.424
cstatus	.085	.132	.061	.649	.518
age	-.145	.094	-.146	-1.546	.125
education	-.071	.100	-.064	-.707	.481

a. Dependent Variable: Knowledge

**Table 7.** Presents that among the demographic profile age has 0.026 significant value that is lower than the set value of 0.05 significant level. When it comes to the awareness age directly influences and affects the respondents' awareness.

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.518	.444		5.677	.000
education	.097	.091	.094	1.071	.286
gender	-.192	.102	-.166	-1.872	.064
address	-.029	.053	-.049	-.552	.582
income	.101	.107	.084	.939	.350
cstatus	.226	.119	.175	1.899	.060
age	<b>-.190</b>	<b>.085</b>	<b>-.208</b>	<b>-2.247</b>	<b>.026</b>

a. Dependent Variable: awareness

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.996	6	.166	.968	.450 <sup>b</sup>
	Residual	20.409	119	.172		
	Total	21.404	125			

a. Dependent Variable: perception

a. Predictors: (Constant), age, education, address, gender, income, civil status

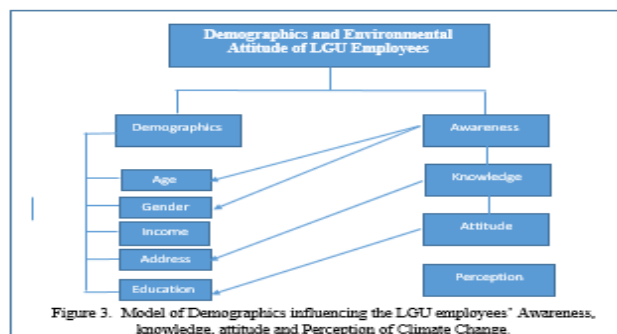
Table 7. Shows the linear relationship of attitude V.s. Demographic profile of the respondents that indicates education can affect respondents' attitude towards climate change which mean that the more educated and more information are given the better outlook will be shown, the higher willingness and greater productive can be observed towards carrying out duties and responsibilities among the employees.

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	3.740	.480		7.799	.000
	gender	-.012	.111	-.010	-.108	.914
	address	.033	.057	.052	.575	.567
	income	-.083	.116	-.065	-.717	.475
	Civil status	.145	.129	.106	1.123	.264
	age	-.099	.092	-.102	-1.078	.283
	education	<b>-.266</b>	<b>.098</b>	<b>-.243</b>	<b>-2.714</b>	<b>.008</b>

a. Dependent Variable: attitude

With the given the result the diagram below will illustrate and give the model of the demographics that influences the behavior and attitudes of the employees towards Climate Change.



**V. CONCLUSION AND RECOMMENDATION**

The respondents are generally females that resides in metro zone with an average age of 30 – 50 years old with an income ranging from 5,000.00 – 10,000.00 monthly, are married and mostly are college graduate. They believed that climate change is happening and human activities strongly contributes in this natural change, thus they are also responsible to adapt for this naturally occurring change and based on their responses, their knowledge on climate change is moderately high, with the mean value of 3.4, which are highly affect by the

gender. Perception on Climate Change is affected by their demographics as shown in the higher significant value of variance analysis and believed that Climate change is a threat that needs an urgent response from the people. Awareness on environmental issues related to climate change is influenced by age with a value of 0.026 a value lower than the set 0.05 significant level and respondents are much aware that it can be an impediment to sustainable development and there is the urgency to develop adaptation and mitigation measures to lessen its impact in the country. Attitudes on Climate change is affected by the educational attainment of the respondents shown in the significant value of 0.08 of the linear regression analysis, willingness to change lifestyle and participate in several environmental activities are observed among their responses. Thus, it is recommended that employees specially the male population and the younger employees are encouraged to attend trainings, lectures and seminars or other similar activities so that knowledge in climate change will be enhanced. Further, exposure to different information campaign through several technologies and different modern applications like social media, display of available reading materials in the work place showing data on climate change is suggested.

### **ACKNOWLEDGMENT**

The author expresses a heartfelt gratitude to the LGU officials and employees for their cooperation and patience to make this endeavor a success. To SLSU-JGE administration for the technical support to make this study possible.

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