

FINAL REPORT

NATIONAL CLIMATE CHANGE
AWARENESS SURVEY

Support to the Climate Change Commission in
Shaping and Implementing
International Climate Regime (SupportCCC Phase II)



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NATIONAL AWARENESS SURVEY ON CLIMATE CHANGE

FINAL REPORT

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ACRONYMS

CCC	Climate Change Commission
CCET	Climate Change Expenditure Tagging
CENR	City Environment and Natural Resources Office
CLUP	Comprehensive Land Use Planning
DA	Department of Agriculture
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DOE	Department of Energy
DOH	Department of Health
EO	Executive Order
FGD	Focus Group Discussion
GHG	Greenhouse Gases
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit, Gmb</i>
ICI	International Climate Initiative
IEC	Information, Education, and Communication
LCCAP	Local Climate Change Action Plan
LED	Light-emitting Diode
LGU	Local Government Unit
MRF	Material Recovery Facility
NCCAP	National Climate Change Action Plan
NGO	Non-Government Organization
NGP	National Greening Program
OFW	Overseas Filipino Worker
PENRO	Provincial Environment and Natural Resources Office
PIA	Philippine Information Agency
RA	Republic Act
REDD	Reducing Emission from Deforestation or Degradation
REDD+	Reducing Emission from Deforestation or Degradation Plus
WC	World Cafe
3Rs	Reduce, reuse, recycle

EXECUTIVE SUMMARY

The National Climate Change Awareness Survey was initiated as part of the Support to the Philippines in Shaping and Implementing the International Climate Change Regime (SupportCCC II) Project of the Climate Change Commission (CCC) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Gmb, funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety under its International Climate Initiative (ICI). In general, the survey aimed to establish baseline data on the awareness level of the Philippine's general public on climate change and its related issues and find out the public's awareness level on: Reduction of carbon dioxide emissions actions (mitigation); Adaptation to the impacts of climate change; Reduction of emission of deforestation and degradation (REDD); and Implications of government's engagement in fulfilling the national climate change strategy. In addition, the study went further to: find out the level of knowledge on causes and impacts of climate change, where applicable by ecosystem; describe how climate change was experienced by the people, where applicable by ecosystem; assess people's and government's engagement in addressing climate change; and identify misconceptions about climate change that need rectification.

A one-shot survey research design consisting of 1,200 randomly sampled respondents broken into 530 males and 670 females, with ages ranging from 18 to 90 participated in the study. The survey was conducted nationwide in the Philippines from 04 November to 02 December 2016 coming from 6 provinces, 8 municipalities, and 40 barangays, which were randomly sampled as well. Focus group discussions (FGDs) through the World Cafe (WC) technique were conducted to substantiate quantitative data that consisted of 118 participants (65 males and 53 females) representing various agencies and organizations involved in environment-related concerns. Qualitative research aided in understanding climate change as a phenomenon not easily assessed through studies using quantitative methods alone. Thus, qualitative data supported quantitative evidence through triangulation. Moreover, scientific approach was used and the interpretation of findings from the assessment was viewed from varied and broader perspective to become more meaningful, relevant and useful to various stakeholders.

Results of the study are presented using a comprehensive awareness matrix of indicators shown in **Annex 1** and comparative chart (**Figure 1**) for results of the national awareness level. The study revealed that a great majority (1,087 or 90.6 percent) had heard of the term climate change. A great majority (971 or 80.9 percent) also thought that climate change is man-made. More than the majority (794 or 66.2 percent) believed that the recent climate pattern is the "new normal." Unfortunately, only a third (378 or 31.5 percent) were familiar about the CCC. Almost a fourth (264 or 22.0 percent) knew about other national government agencies whose mandate is to address climate change. More than one-fourth (340 or 28.3 percent) of the respondents knew any government programs, projects, and activities to address climate change at the national and local levels despite the presence of those in the country. A little over 10 percent (146 or 12.2 percent) were familiar with the National Climate Change Action Plan (NCCAP). Almost the same percentage (147 or 12.2 percent) heard about the concept of REDD+ but a mere (3 or 2.0 percent) knew of any project in their area.

The study also found that women usually stayed at home being housewives but functionally literate and could therefore be tapped as focal persons in times of disaster education or alerts. Their role can be the "eyes and ears" in every household, climate change impacts being location-specific. Most (488 or 40.7 percent) respondents, (278 are women) belonged to Generation X (aged 35-55), which implies that they have been exposed to various climatic conditions for the last two decades at the least.

The moderate awareness could be attributed to their source of information, which primarily came from the mass media that may not have elaborated on the topics, hence, the brief recall. Specifically, TV was cited as the most prevalent source of information about climate change with radio coming in next. The same is true for knowing about CCC, NCCAP and REDD+. It appears that TV and radio would be the most potent tools for educating the public, as these seem to be available, accessible, and credible sources of information among the larger and distant populations from the metropolis along with other approaches like transformational communication.

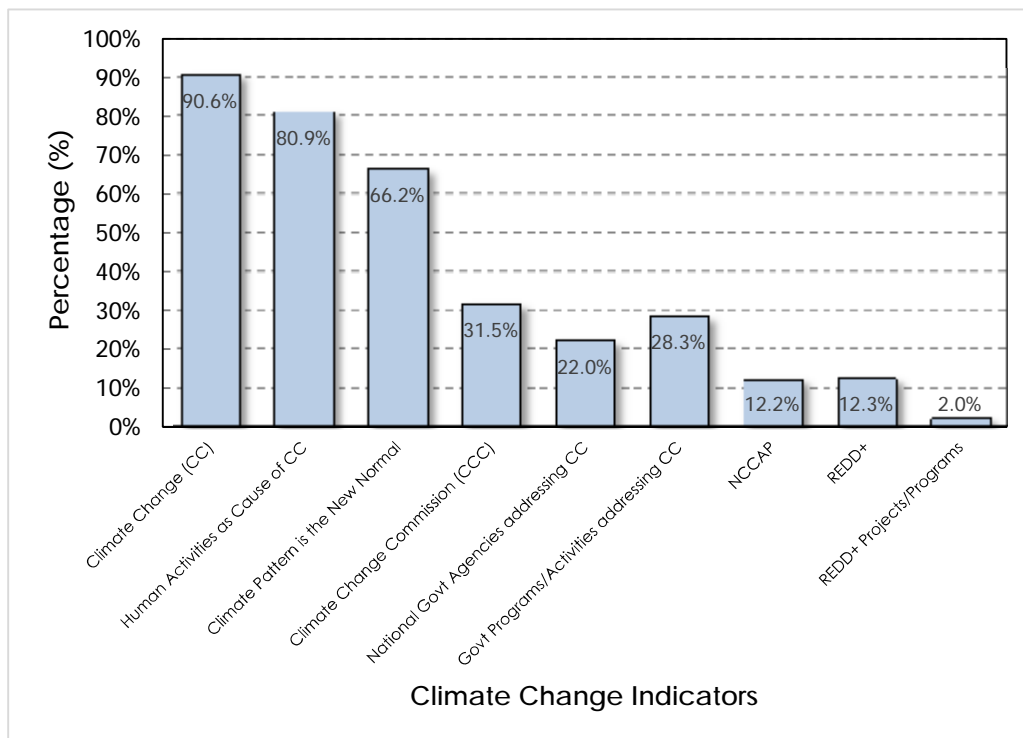


Figure 1. Comparative national awareness levels of various aspects of climate change

While a great majority has heard of the term climate change, hearing is not synonymous to being knowledgeable. The superficial notions of climate change could be a dangerous assumption as revealed in the FGDs like interchanging climate and weather conditions as effects of climate change or thinning of the ozone layer. While, survey respondents' and FGD participants' experience on extreme weather conditions have sensitized them to the impacts of climate change, it was seen as moderately risky. In case the same notion continues without proper education, there could be detrimental effects to the family and the community like what happened in Leyte during Typhoon Yolanda.

The misconceptions about climate change impacts and drivers need to be corrected through educating the general public. Environmental communication that aims to transform norms cannot be implemented on a one-shot basis but requires participation of stakeholders in a more lasting manner. Transforming norms could consequently change behaviors. Therefore, a concerted effort, through intergovernmental approaches with the CCC at the helm has to be made (with relevant agencies like the Department of Environment and Natural Resources (DENR), Department of Energy (DOE), Department of Health (DOH), Department of Education (DepEd), Department of Agriculture (DA), Local Government Units (LGUs), communities, schools, youth groups, farmer's groups, women's group, senior citizens, civil society, etc.) using a more appropriate education communication medium and a more synergistic communication policy planning in collaboration with the Philippine Information Agency (PIA), mainstream media, transformational processes, and establishment of community radios.

Community radios, as a vehicle of change is managed and run by the community, which airs local issues that matter to the locale. Topics on the basics of climate change, causes, effects, impacts, adaptation and mitigation strategies, environmental laws and its implementation, food security, water sufficiency, ecological and environmental sustainability, human security, energy security, climate smart industries and services, and knowledge and capacity development can then be popularized and understood. As highlighted in the FGDs, knowledge on climate smart agriculture needs to be beefed up to ensure food security. As well, since people were aware about the major reasons for increase in greenhouse gas (GHG) emission, it would be appropriate to take cognizance of this awareness as bases for messaging, training, or policy making in the future.

Four dominant themes were drawn from the FGD results, namely, misconceptions about climate change can be dangerous assumptions; experience teaches people, being ready is a necessity, and fear conquers all. These themes connote that participants were aware about climate change but are not properly informed. Due to their experience with the dramatic changes in climatic and weather conditions, they have been sensitized that made them ready to be alert at all times or adapt/adjust to prevailing conditions. The fear that they have felt during extreme events made them resilient to avoid any mishap, thus, information that could properly equip them is sought through the mass media especially TV and radio. In the Philippines, the masses usually rely on the mass media for news and information especially in times of disasters or extreme events. Communication's role in society as far as climate change issues are concerned is vital in order to build climate change resiliency.

Given these themes, participants in the FGDs suggested that there is a need for stricter implementation of environmental laws such as Republic Act (RA) 9003 and Executive Order (EO) 23 (moratorium on logging in natural /residual forests). They recommended that a bold step to regulate the production and use of vehicles must be done by the government to reduce GHG emission like eJeeps. More funding for research and development on climate change mitigation and adaptation actions were likewise forwarded. Also, accurate measurement, monitoring and reporting of GHG emissions in the country must be established as basis for planning climate change adaptation and mitigation strategies. The promotion of organic farming through capacity building, with ample government support on capitalization and marketing of organic farm products surfaced. Discipline and transparent governance was the foremost suggestion to achieve climate action goals.

Hence, capitalizing on the consciousness of the people to educate them about climate change is ripe. This is the time to address climate change in a holistic manner to increase the Filipinos' level of knowledge, attitudes towards, and practices to adapt to climate change effects and impacts. According to the FGD participants, climate change interventions are fragmented. Thus, the Local Climate Change Action Plan (LCCAP) and climate-proofed Comprehensive Land Use Plan (CLUP) must be made coherent to ensure that the entire population becomes an advocate of the initiatives. Communicating science has to be made more scientific for the public to better understand and prepare the Filipinos to become more climate change smart and resilient.

I. BACKGROUND

Climate change has become a buzzword in the last 10 years especially with the pronounced manifestations occurring globally. Stronger typhoons, heavier rain, wetter wet months, hotter dry months, unpredictable weather conditions, rising temperatures, and sea level rise are considered as the new normal. Being aware of the impacts of climate change, however, is not the same as knowing the science behind it. Being knowledgeable about the scientific explanation of what climate change is can equip the Filipinos on how best to face or be climate change resilient. While Filipinos are generally resilient as a people, climate change is a phenomenon that has to be reckoned with complemented by clear scientific explanation and grounding if indeed there is no stopping it.

Establishing a baseline study on the awareness of the Filipinos as the first step in building climate change resilience is therefore called for. Thus, the National Awareness Survey on Climate Change was initiated as part of the Support to the Philippines in Shaping and Implementing the International Climate Regime (SupportCCC II) Project of the Climate Change Commission (CCC) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Gmb, funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety under its International Climate Initiative.

The purpose of Support CCC II are two-fold: 1) to strengthen CCC and other key actors in implementing and coordinating the National Climate Change (NCC) regime, and 2) develop and operationalize national contributions to the NCC regime. SupportCCC II has five components, namely; Implementation of the national climate change policy within the framework of the Philippine international climate change commitment; Climate-proof land-use and development planning at local level; Climate finance; Renewable energy and energy planning; and awareness raising, knowledge management, and networking/interfaces.

II. OBJECTIVES

In general, the survey aimed to:

1. Establish baseline data on the awareness level of the Philippine's general public on climate change and its related issues; and
2. Find out the public's awareness level on:
 - Reduction of carbon dioxide emissions actions (mitigation);
 - Adaptation to the impacts of climate change;
 - Reduction of emission of deforestation and degradation (REDD); and
 - Implications of government's engagement in fulfilling the national climate change strategy.

However, the study went further to:

- find out level of knowledge of causes and impacts of climate change, where applicable by ecosystem;
- describe how climate change was experienced by the people, where applicable by ecosystem;
- assess people's and government's engagement in addressing climate change; and
- identify misconceptions about climate change that need rectification.

With these objectives, awareness level can be better explained and understood as basis in crafting sound recommendations.

III. METHODOLOGY

Research design

The study adopted a one-shot survey research design. Focus group discussions through the World Cafe technique were conducted for triangulation in gathering and analyzing quantitative and qualitative data.

Quantitative and qualitative research approaches were employed in the conduct of the survey. Contextual analysis of both quantitative and qualitative data, such as of baseline survey reports and primary and secondary information were utilized/applied in this assignment. Sampling techniques, analysis of data and recommendations deriving from survey results are pertinent in coming up with appropriate recommendations to achieve the desired results. Qualitative research has a role to play in understanding climate change as a phenomenon not easily assessed through studies using quantitative methods alone. Thus, qualitative data can support quantitative evidence through triangulation. Moreover, scientific approach was used and the interpretation of findings from the assessment, to become more meaningful, relevant and useful to various stakeholders, was viewed from varied and broader perspective. In addition, cultural sensitivity was ensured in formulating recommendations and feedback mechanism.

Specifically, for the quantitative aspect of this survey, it involved interviews with target respondents using survey questionnaire. For the qualitative part, focus group discussions (FGD) were done to substantiate survey results where insights and meanings can be drawn holistically. The result of the survey should lead to policy recommendations and other actions that can be undertaken by different actors of society for communication planning at various levels. Cascading interventions to every Filipino is a must and should not be taken for granted.

Sampling design

Using Cochran's formula, a total of 1,111, rounded to 1,200 respondents were interviewed for the study. These respondents were divided into four major areas: Metro Manila, rest of Luzon, Visayas, and Mindanao. For each major area, two cities/provinces were randomly selected. Likewise, a city/municipality per province were randomly selected. During the data collection, five barangays were randomly selected. In turn, 30 respondents were randomly selected from the list of voters' list in each barangay.

$$n = \frac{PQ}{(d/2)^2}$$

where: *P* is the proportion of the target population that is based on prior information, *Q* is (1-*P*), and *d* is the degree of error.

$$n = \frac{0.50 * 0.50}{(0.03 / 2)^2}$$

$$n = \frac{0.25}{0.000225}$$

$$n = 1,111.11$$

Additional 100 percent of the target number of respondents per barangay was drawn as reserve for respondents who were unavailable (after two visits made) or those who have already died or no longer lives the area being surveyed.

Respondents

There were two types of respondents for the study, namely, the general public for the survey (1,200) and 118 participant representatives from various relevant groups such as farmers, youth, senior citizens, academe, and religious, among others, for the FGDs.

Using random sampling, survey respondents were chosen from the following randomly selected cities, municipalities, and barangays. Randomization and resulting sample areas reflected closely the national situation. As an archipelago, 5 out of 8 are coastal areas is realistic. While urban population are now more than rural populace, in terms of built up areas 3 urban to 5 rural is also a realistic ratio. As well, the type of economy is varied consisting of rural and urban centers. Thus, the sampled areas simulated the natural ecosystems present in the area of study. Hence, the sample includes coastal and inland as well as urban and rural ecosystems (**Table 1**). It implies then that responses are reflective of the events occurring in these locations. The implications of different order climate change impacts (i.e. increase in temperature; irregular temporal and spatial rainfall distribution and intensity; and extreme weather events) by ecosystem can lead to logical science-based proposed interventions.

Instruments

This study employed two primary data gathering instruments, namely, an Interview Guide (**Annex 2**) for randomly chosen respondents and an FGD guide for the World Café or WC (**Annex 3**). Instruments were prepared in English and pretested prior to administration. Survey supervisors, enumerators, encoders, data analysts, facilitators, documenters, and rapporteurs were trained on the use of the instruments prior to data collection.

Instruments for respondents included socio-demographic profile such as gender, age, highest educational attainment, and primary occupation. Gender was crucial as a variable to find out who is more aware and could therefore be tapped as focal persons for upcoming interventions. Educational attainment also played a critical role to establish the literacy level as bases for designing educational materials. Primary occupation could be an indicator of resiliency that would reflect capacity of people to survive or absorb adverse effects of climate change.

For open-ended questions, these were sorted logically. For instance, ideas on causes of climate change were sorted based on known science-based causes (e.g. greenhouse gas or GHG emission, deforestation, etc.). For the perceived effects, sorting was based from the perspective of individuals such as convenience, safety, health, livelihood, damage to assets or properties, etc. For adjustment of adaptation, sorting was based on purposes such as preserving health and welfare, preventing damage to assets or properties or environment, planting of trees, etc.

Table 1. List of province, municipalities and barangays by number of respondents.

Region	Province	Municipality	Barangays	Number of Respondents	Type of ecosystem and economy	
Metro Manila		Muntinlupa	Bayanan	30	Coastal and urban	
			Buli	30		
			Cupang	30		
			Sucacat	30		
			Tunasan	30		
		Pasay City	Barangay 2	30	Coastal and urban	
			Barangay 57	30		
			Barangay 71	30		
			Barangay 158	30		
			Barangay 181	30		
Rest of Luzon	Bulacan	Marilao	Ibayo	30	Coastal and urban	
			Loma de Gato	30		
			Poblacion II	30		
			Santa Rosa I	30		
			Tabing Ilog	30		
		Nueva Ecija	Cabiao	Bagong Sikat	30	Inland and rural
				Maligaya	30	
				Palasinan	30	
				San Fernando	30	
				San Gregorio	30	
Visayas	Iloilo	Lambunao	Binaba-an	30	Coastal and Rural	
			Buri	30		
			Marong	30		
			Pandan	30		
			Tranghawan	30		
		Aklan	Lezo	Agcawilan	30	Inland and Rural
				Bagto	30	
				Cogon	30	
				Ibao	30	
				Tayhawan	30	
Mindanao	Bukidnon	Malaybalay	Barangay 5	30	Inland and Rural	
			Bangcud	30		
			Laquitas	30		
			Mapulo	30		
			San Martin	30		
		Lanao del Norte	Linamon	Larapan	30	Coastal and Rural
				Magoong	30	
				Napo	30	
				Purakan	30	
				Robocon	30	
TOTAL	6 provinces	8 cities and municipalities	40 barangays	1,200 respondents	5 coastal, 3 inland, 3 urban, and 5 rural	

Data gathering procedures and analysis

The Survey

The household surveys were simultaneously held in the four major areas. There were four teams. Each team was composed of at least 10 enumerators and one Research Supervisor. The survey questionnaire consisted of the following items:

1. Awareness level on the concept of climate change;
2. Perceived change in climate conditions and related impacts;
3. Awareness level on government's engagement in fulfilling the national climate change strategy;
4. Awareness level on mitigation, adaptation measures and the REDD; and
5. Activities people are engaged in to reduce risks from climate change impacts and to reduce greenhouse emissions.

The Focus Group Discussion Process

Seven FGDs (one each per municipality/city with Muntinlupa and Pasay in one FGD) were conducted to provide perspective with which to interpret intelligently the results of the quantitative survey. The FGD employed a modified WC technique involving 10-28 people at any one time based on actual turn out. The FGDs were conducted in the municipal/city hall from where the surveys were done. For each municipality/city, the following representatives were invited:

1. Provincial Disaster Risk Mitigation Officer
2. Planning Officer of LGU
3. Social Welfare Officer of LGU
4. Agricultural Officer of the LGU
5. Science teacher from a Secondary School
6. Representative from a Civic Organization
7. Representative from a local Environmental Non-Government Organization (NGO)
8. Representative from Farmer's Group/Association
9. Representative from Fisherfolk's Association
10. Representative from the Provincial Environment and Natural Resources Office (PENRO)/City Environment and Natural Resources Office (CENRO)
11. Representative from Senior's Citizen
12. Representative from media group in the area
13. Representative from transport group
14. Representative from youth or student organization
15. Representative from a State College or University

Ideally, in WC, there should be four tables with four participants per table. However, during the actual data gathering, some municipalities were not able to provide small round tables and instead used conference tables or whatever was available during the conduct of the FGDs. Hence, instead of by table, participants were divided into groups. Each table supposedly would discuss two questions except one with three questions. Due to the various arrangements made and the actual number of attendees, a modified WC was employed.

A host per group instead of table was identified. The host was oriented on his/her task, which was to ask the questions and to stay behind to attend to the next batch of visitors. Twenty minutes were allotted to discuss the questions, after which, the participants have to move to the next group until all participants have answered the questions raised in each

group. The host was tasked to explain or draw out what they have talked about with all visitors after the world tour. Each group was provided with Manila paper and colored pens to document their responses. The rapporteur and the documenter had to move around to document the FGD process.

Each host was asked to present the group's responses to the questions in plenary. As a group they agreed on their responses. Themes were drawn to explain the responses. While results are not generalizable through FGDs, this was compensated by depth of responses. The FGD lasted for two hours at the most or less.

The Team Leader of the survey team prior to accepting the completed questionnaires validated data gathered from the survey. However, due to the limited time for data collection, there are times when the encoder had to call the respondents to complete responses.

The data were validated, encoded, and processed using SPSS. Results are presented in frequency distribution and graphs.

Qualitative data were analyzed thematically using textual analysis. Themes drawn from responses served as insights to validate survey results as triangulate measure. Thematic analysis can establish perceptions about climate change, its causes and impacts, and what do participants do to become climate change resilient. Results also formed the bases for crafting policy recommendations on what measures have to be put in place and how this can be communicated efficiently and effectively through communication policy planning.

IV. RESULTS AND DISCUSSION

A. Socio-demographic Profile of Survey Respondents

The research surveyed 1,200 randomly sampled respondents consisting of 670 or 55.8 percent females and 530 or 44.2 percent males. Most (488 or 40.7 percent) belonged to Generation X (35 to 55 year old.) with a median age of 40, which implies that respondents have been exposed to changing climatic conditions.

This sample is representative of the constitution of the current population where the biggest proportion belongs to the Generation X followed by the millennial. The climate change discourse is most active among the Gen X since they make up the biggest number of professionals. Thus, if there is a sector in the population that can effectively participate in climate action, these are the Gen Xers.

A great majority (770 or 64.2 percent) were married, mostly (318 or 26.5 percent) have finished high school, where a fourth (311 or 25.9 percent) are housewives as primary occupation. However, primary occupation was varied consisting of government employees, professionals, skilled workers, service workers, fisherfolk, farmers, construction workers, drivers, vendors, and practically came from all walks of life that mirrors the nature of the general public although 16.4 percent (197) are jobless (**Table 2**). This implies that women can be tapped as focal persons or people that can be the link for disaster education or alerts since they are available at home and functionally literate. A key to disaster reduction and management is having an assigned contact per household as part of the communication network in a country where climate change impacts are highly location-specific.

Table 2. Socio-demographic profile of survey respondents

Characteristics	Frequency	Percentage
Age classification		
Millenials (18-34)	426	35.5
Gen X (35-55)	488	40.7
Baby boomers (56 and older)	274	22.8
No response	12	1.0
Total	1,200	100.0
Gender		
Female	670	55.8
Male	530	44.2
Total	1,200	100.0
Civil status		
Married	770	64.2
Single	332	27.7
Widow/er/separated	85	7.1
Live-in	13	1.1
Total	1,200	100.0
Educational attainment		
High school graduate	318	26.5
College graduate	183	15.3
Some college years	179	14.9
Some high school years	163	13.6
Completed elementary	148	12.3
Some elementary grade	128	10.7
Vocational	50	4.2
None	12	1.0
No response	12	1.0
Post graduate	7	0.6
Total	1,200	100.0
Primary occupation		
Housewife	311	25.9
None	197	16.4
Farmer/fisherman/farm worker	146	12.2
Carpenter/construction worker	56	4.7
Employee (private sector)	46	3.8
Laborer	43	3.6
skilled worker (electrician, mechanic, beautician, technician)	41	3.4
Businessman/woman	38	3.2
Vendor	34	2.8
Barangay officials/workers	31	2.6
Driver (private)	30	2.5
Government employee	26	2.2

Characteristics	Frequency	Percentage
PUV driver (motorcycle, tricycle, jeepney, bus)	23	1.9
Production operator/factory worker	18	1.5
Maid/helper/baby sitter	17	1.4
Teacher	16	1.3
Sales lady/boy	15	1.3
Student	15	1.3
Store assistant	13	1.1
Sari-sari store owner	12	1.0
Security guard	12	1.0
Seamstress, dressmaker, weaver	10	0.8
Pensioner	10	0.8
Service crew	10	0.8
Utility personnel	9	0.8
Call center agent	8	0.7
Professional (doctor, dentist, engineer)	7	0.6
Overseas Filipino Worker (OFW)	6	0.5
Total	1,200	100.0

B. The FGD participants

A total of 118 participants participated in the FGDs, with 53 female and 65 male. These were composed of 87 representatives from government organizations to include LGUs, regional government offices, Sangguniang Bayan, Mayor's Office, etc.); 10 from schools, 13 from civil society, 4 from the youth group, one from the transport group, and two from the media (Table 3).

Table 3. Profile distribution of FGD participants by gender and organization

Characteristic	Frequency	%age
Gender		
Male	65	55.1
Female	53	44.9
Total	118	100.0
Organization		
Civil Society Organization	13	11.0
Church	1	0.9
Government (LGUs, regional offices)	87	73.7
School	10	8.5
Media	2	1.7
Transport	1	0.9
Youth	4	3.4
Total	118	100.0

C. Level of awareness on the concept of climate change

When asked if they have heard of the term “climate change”, a great majority of the respondents (1,087 or 90.6 percent) said they did while less than 10 % (9.4 percent or 113) have not. A great majority (923 or 84.9 percent) heard about the term climate change from TV followed by radio (514 or 47.3 percent). This implies that the mass media is the primary source of information about climate change. More so, the general public seems to be familiar with the term as set by the mass media as an agenda that the public should be informed of (Table 4). The results also imply that households have access to various communication platforms or have at least TV and radios in their homes given the multiple responses.

Table 4. Distribution of respondents who have heard about climate change and source of information

Particulars	Frequency	Percentage
Heard about the term		
Yes	1,087	90.6
No	113	9.4
Total	1,200	100.0
Source of information*		
TV	923	84.9
Radio	514	47.3
Newspaper	192	17.7
School	166	15.3
Internet	141	13.0
Friends	106	9.8
Local Officials	75	6.9
Family	65	6.0
Seminar/Meeting	60	5.5
Total	2,256	

*Multiple responses, N=1,087

Survey-respondents were asked to rate their level of awareness about climate change, using a scale of 1 to 5, where 5 is the highest. A little over the majority (600 or 55.2 percent) rated it 3 or moderately aware (Table 5) of the problem. However, it appears that women (353 or 57.8 percent) are more aware than men (247 or 51.9 percent) perhaps because they were always at home being housewives and could have tuned in to TV or radio most of the time.

Table 5. Level of awareness regarding climate change by gender

Rating	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
1	25	5.3	17	2.8	42	3.9
2	64	13.4	73	11.9	137	12.6
3	247	51.9	353	57.8	600	55.2
4	100	21.0	110	18.0	210	19.3
5	40	8.4	58	9.5	98	9.0
Total	476	100.0	611	100.0	1087	100.0

Hence, their personal opinion about climate change (**Figure 2**), which was presumably taken from what they have heard were limited. Most (455 or 41.9 percent) said that climate change means changes in weather conditions; change in climate conditions (24.3 percent or 264), changes in temperature (21.8 percent or 237), consequential impacts (82 or 7.5 percent), and thinning of the ozone layer (12 or 1.2 percent). There are also those who do not know about climate change (36 or 3.3 percent). It is alarming to find out that respondents did not identify about the effects on food security, water sufficiency, ecological and environmental sustainability, energy security, human security, climate smart industries and services, and knowledge and capacity development. Presumably, the information about the priorities of the CCC has not been fully disseminated.

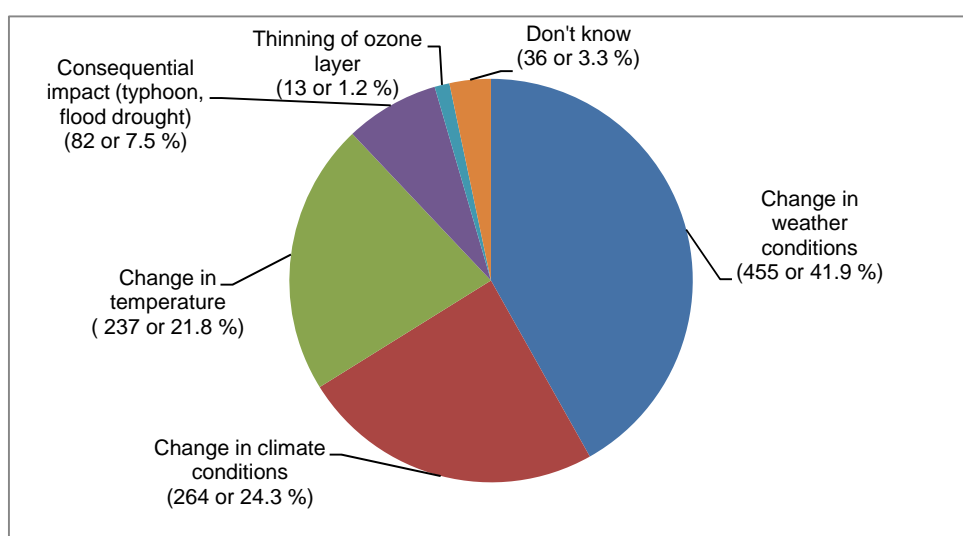


Figure 2. Personal opinion about climate change

Climate change may be characterized as the drastic deviation from normal seasonal weather pattern that people are used to or where farmers and fisherfolks base their regular livelihood activities. It is accompanied by rise in average annual temperature, rise in sea level, irregular spatial and temporal distribution of rainfall of increasing intensity, and more frequent off-season extreme weather events even in new areas.

D. Awareness on climate change causes and impacts

Survey-respondents were asked if they think the global climate is changing. A very great majority (1,046, 87.2 percent) said it was (**Figure 3**).

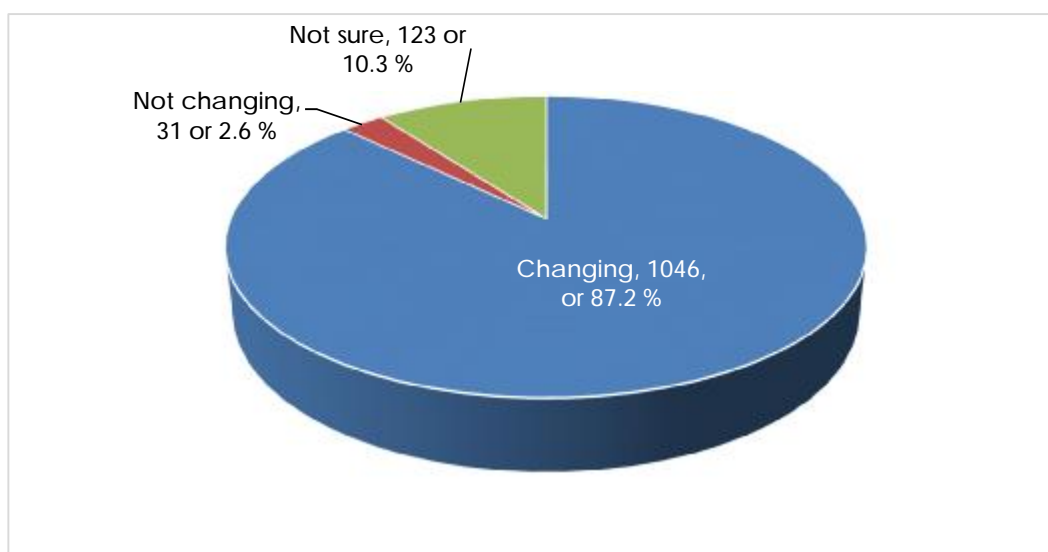


Figure 3. Perception on global climate

More than the majority (794 or 66.2 percent) of survey respondents agreed to the statement that the recent climate pattern (more frequent and out of season extreme weather events) is the new normal (**Figure 4**).

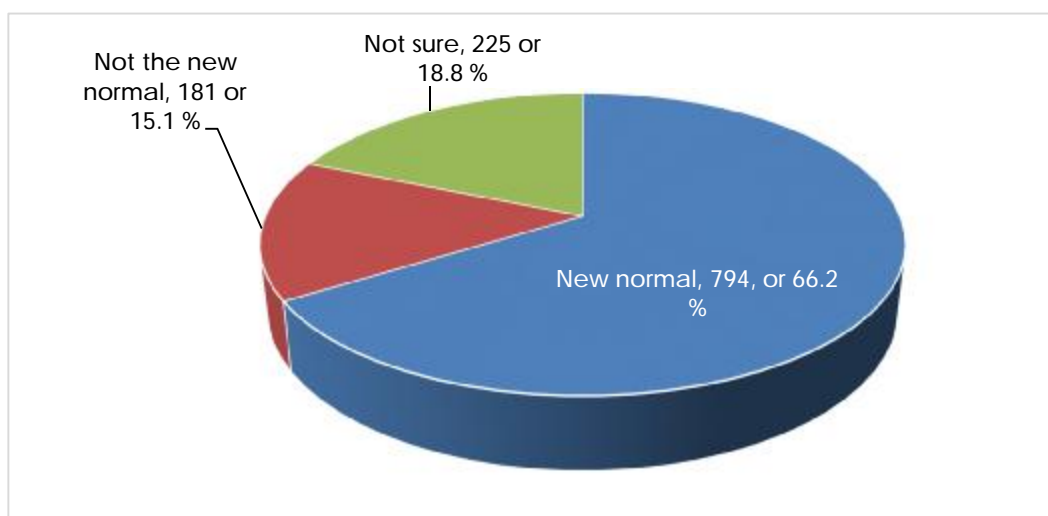


Figure 4. View on climate change pattern as being the new normal

A great majority (971 or 80.9 percent) said that human activities were the main cause of climate change. Being seen as man-made, risk of climate change to their family, community, and surroundings was rated as moderately risky according to most (440 or 36.7 percent) respondents across age classification. Only almost 15 percent (171 or 14.3 percent) noted that it was highly risky. A very great majority (1,113 or 92.8 percent) said that it adversely affects both men and women. It can be deduced that this rating could mean that since causes are man-made, these can be corrected, controlled, and regulated, hence, the moderate consideration of risk. This is a misconception that needs to be addressed by policymakers through strategic communication interventions (**Figures 5, 6, and 7**).

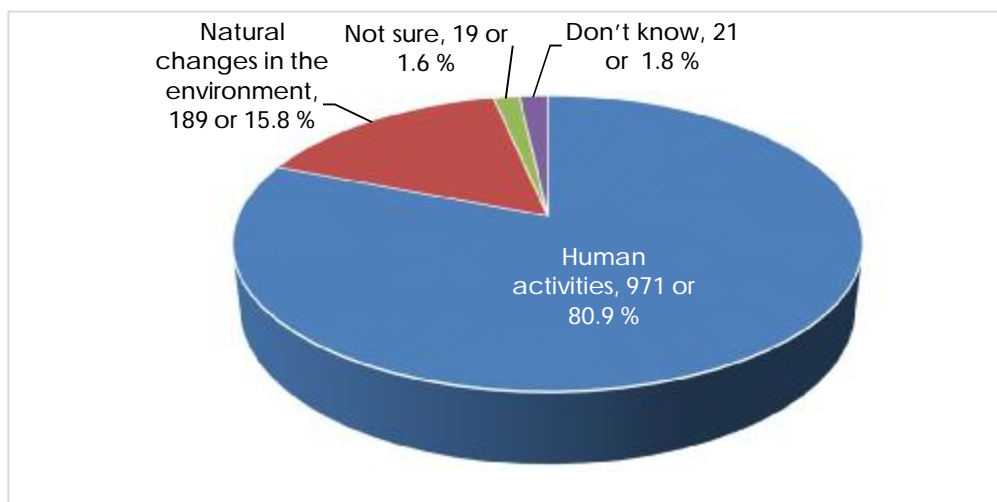


Figure 5. Main cause of climate change

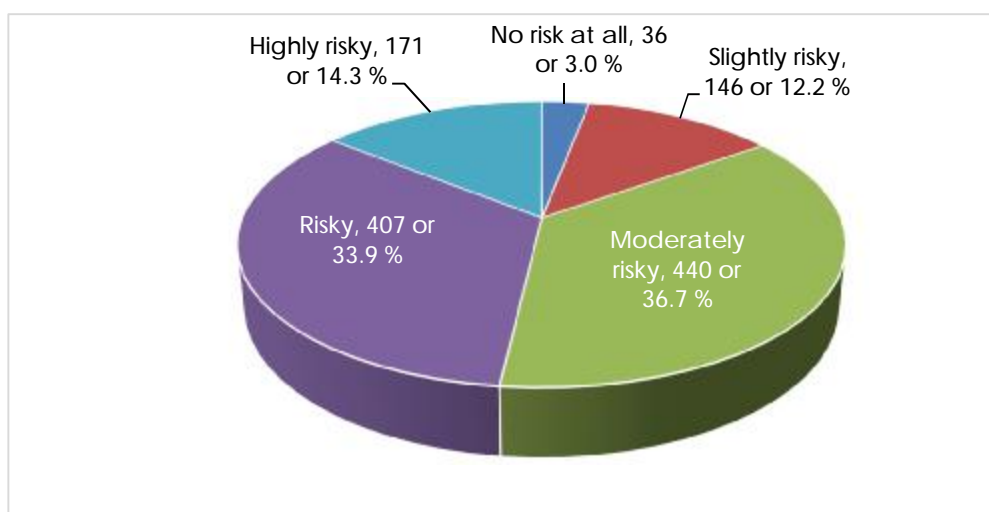


Figure 6. Perceived risk of climate change to family, community, and surroundings

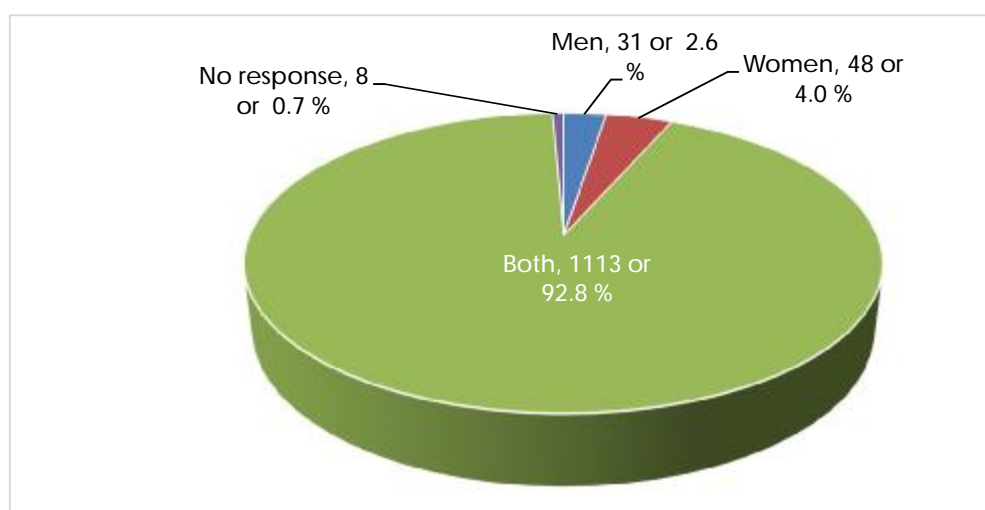


Figure 7. Perception on who would be adversely affected by climate change

The idea on climate change could perhaps be limited because hearing the term is not synonymous to understanding the phenomenon. Similarly, in the FGDs, the climate change problem was generally viewed to be more anthropogenic or human-driven. Population was identified as the foundational problem/root cause of climate change.

Among the anthropogenic activities, deforestation and related activities such as shifting cultivation or *kaingin* and illegal logging were observed to be the most popular in many FGD sites. This implies that they are knowledgeable about the loss of forest cover, which hampers the ability to effectively sequester atmospheric carbon.

Poor enforcement of environmental laws particularly the Solid Waste Management Act (RA 9003) and Clean Air Act (RA 8749) were also identified as the major reason for the worsening climate change problem. Further, the unregulated use of fertilizers and pesticides, burning of rice straws, and natural resource extraction such as mining and overgrazing further magnify climate change impacts. The proliferation of industries/factories, coal-power energy generation, urbanization, and vehicles were listed as sources of voluminous GHG emission, which are all man-made.

E. Perceived changes in climate conditions and related impacts

Survey respondents were queried about observed changes in temperature, sea level rise rainfall, typhoons, flooding, drought, and forest cover in their area.

In general, when respondents were asked if they have observed changes in temperature in the last 10 years, a very great majority (1,123 or 93.6 percent) answered in the affirmative. Almost the same percentage (1,049 or 93.4 percent) observed that it became hotter during the daytime while most (555 or 49.4 percent) noticed that it was also hotter during the nighttime (**Figures 8 and 9**).

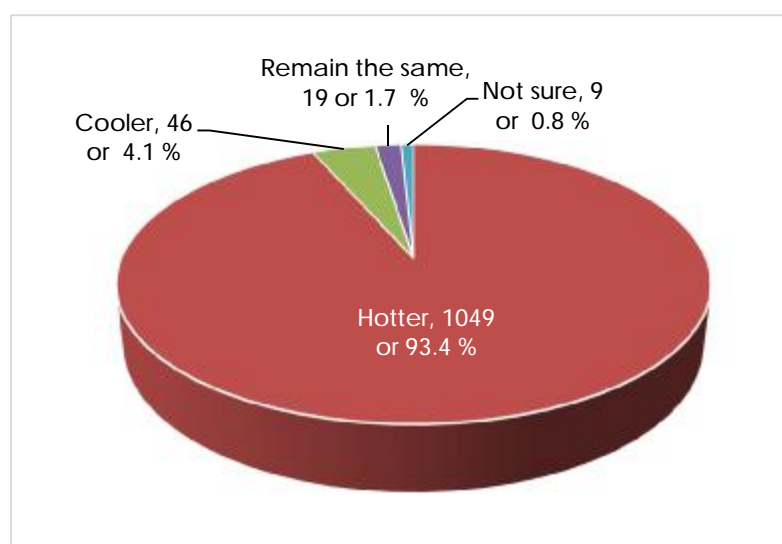


Figure 8. Observed changes in daytime temperature

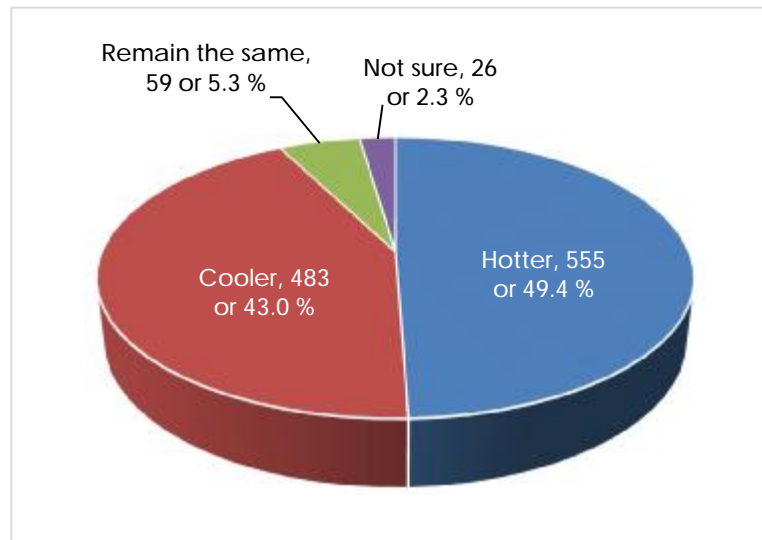


Figure 9. Observed changes in nighttime temperature

In cognizance of the different ecosystems, data was segregated by coastal, inland, rural, and urban temperature change experience. When they were asked about the effects of this changed temperature on their life during the daytime in coastal areas, most (312 or 43.8 percent) out of 963 survey-respondents said that they felt discomfort and prone to get sick. It implies that changing temperatures affect normal body temperature, which makes people feel sick. Too much heat or cold can result to headache or appear feverish given the building structures that Filipinos have which may not be suitable to extreme temperatures. Indeed, changing weather conditions can bring various detrimental effects to people (**Figure 10**).

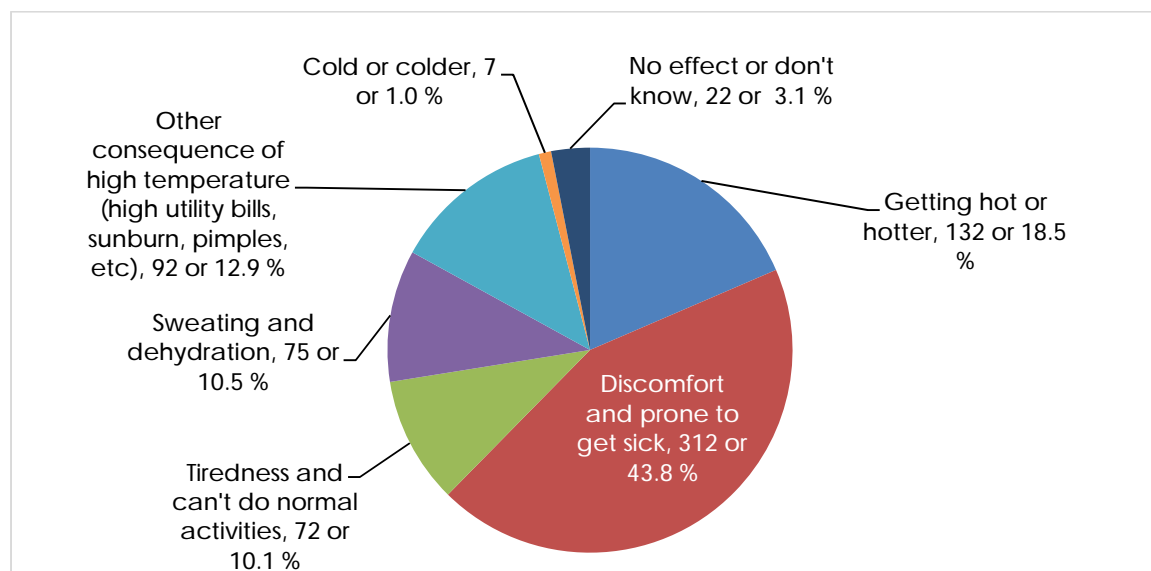


Figure 10. Effects of changes in daytime temperature in coastal areas

In inland areas, most (172 or 41.8 percent) of survey-respondents experienced getting hot or hotter days. It appears that inland areas have hotter daytime temperatures compared to coastal areas. However, according to a sizeable percentage (131 or 31.9 percent), they also felt discomfort and prone to get sick just like in coastal areas (**Figure 11**).

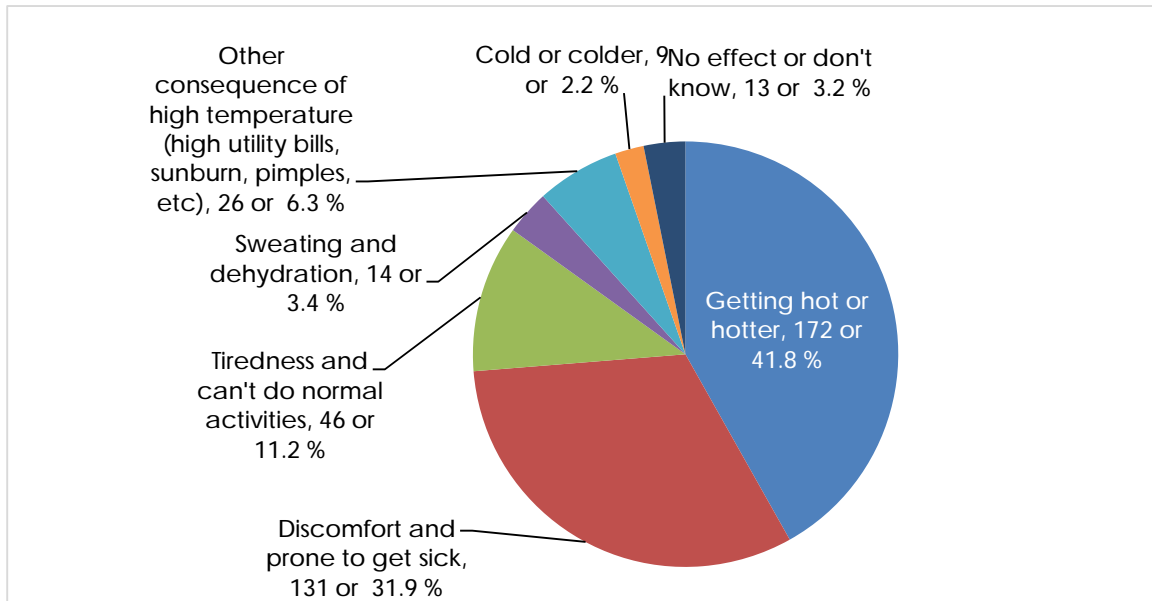


Figure 11. Effects of changes in daytime temperature in inland areas

During the nighttime, effects of temperature change in urban areas according to most (148 or 36.0 percent) respondents was discomfort and prone to get sick. It was also cold or colder during the night according to most (117 or 28.5 percent) survey-respondents. Surmise to say that temperatures in the daytime is hot while those in the evening gets cold in urban areas (Figure 12).

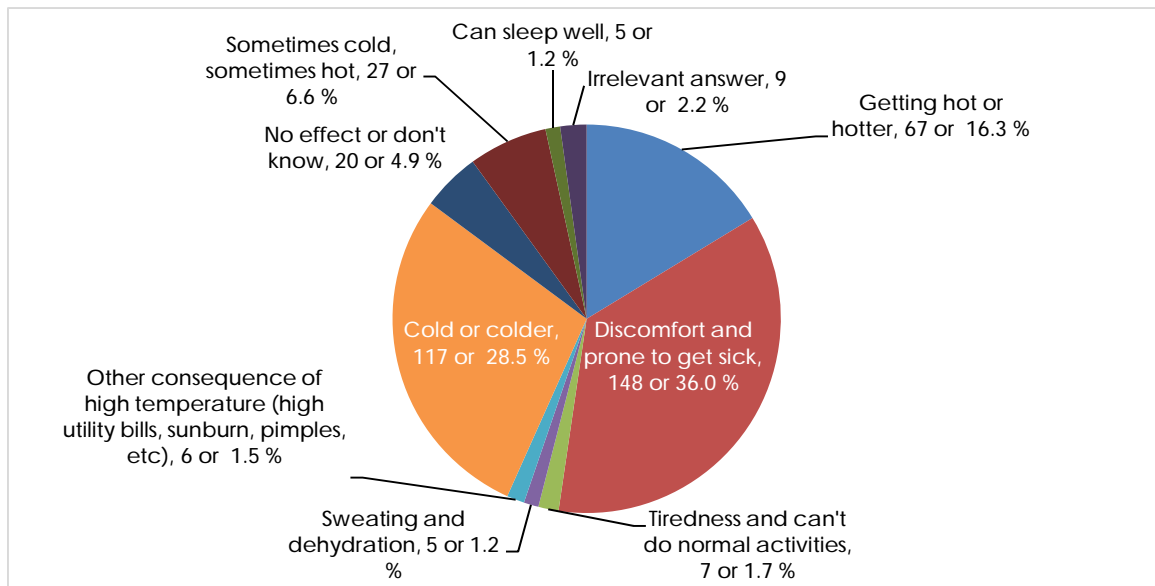


Figure 12. Effects of changes in nighttime temperature in urban areas

In the rural areas, discomfort and prone to get sick was the effect experienced by most (333 or 47.4 percent) respondents and cold or colder (114 or 16.2 percent) in the nighttime in rural areas (Figure 13).

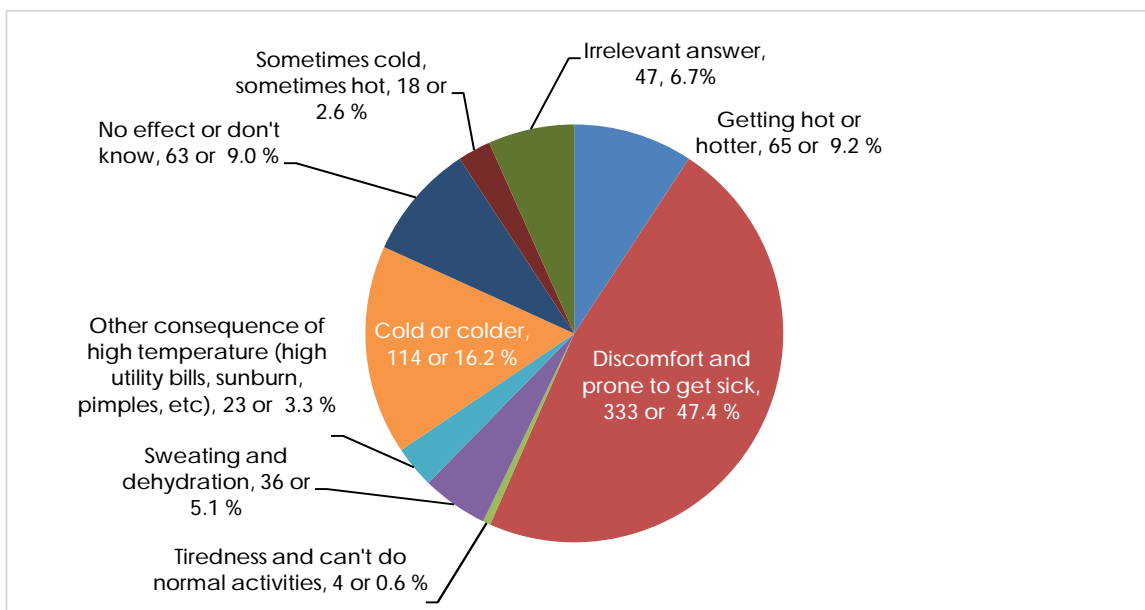


Figure 13. Effects of changes in nighttime temperature in rural areas

As far as the coastal areas are concerned, effects of changes in nighttime temperature was also discomfort and prone to get sick as experienced by majority (367 or 51.5 percent) of survey respondents. It was likewise cold or colder according to most (155 or 21.8 percent) respondents (**Figure 14**).

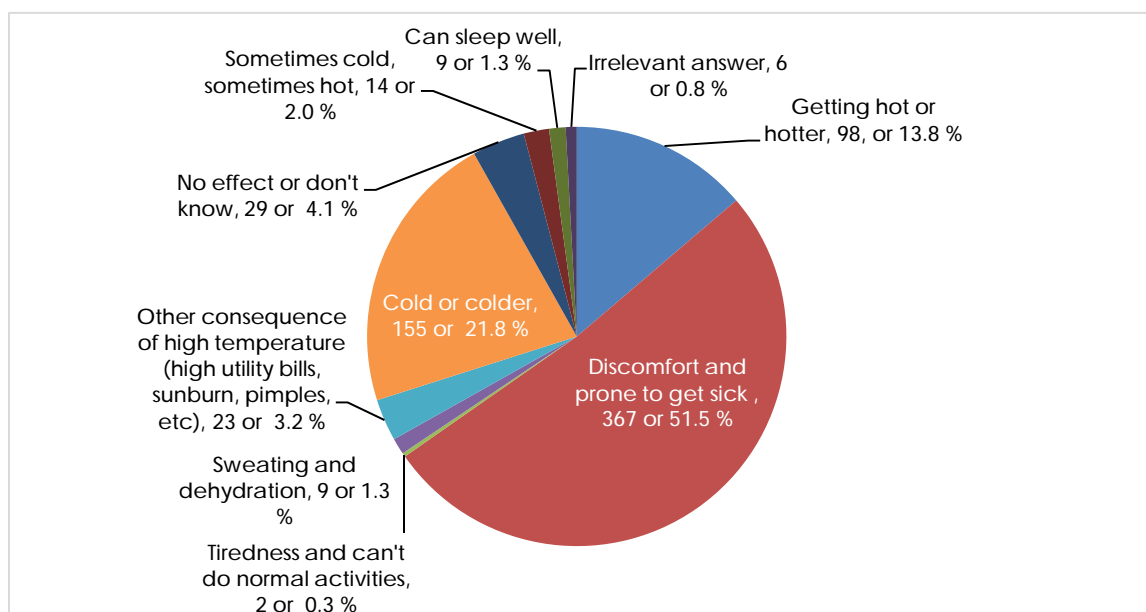


Figure 14. Effects of changes in nighttime temperature in coastal areas

Nighttime temperatures in inland areas according to most (147 or 35.8 percent) survey-respondents resulted to discomfort and prone to get sick. It was also cold or colder according to most (119 or 29.0 percent) in the evenings (**Figure 15**).

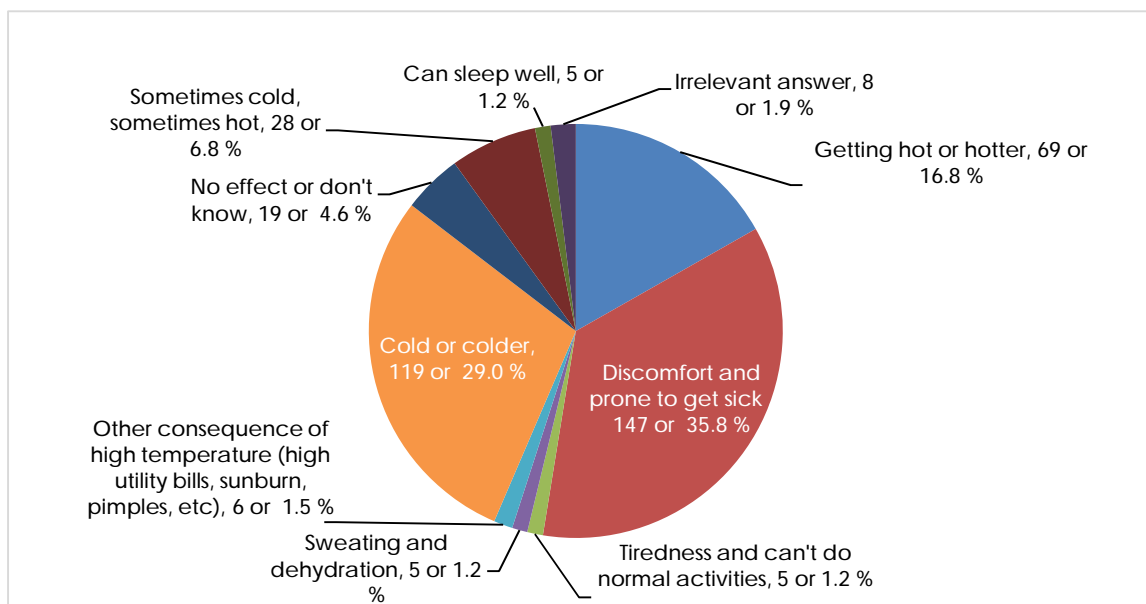


Figure 15. Effects of changes in nighttime temperature in inland areas

Survey-respondents were then asked how they adjust/adapt to these effects during the daytime and nighttime temperatures across ecosystems. In urban areas, most (111 or 26.4 percent) resorted to frequent bathing during the daytime (**Figure 16**) just like in rural areas, most (147 or 20.9 percent) respondents also had to take several baths a day (**Figure 17**) to adjust or adapt to the warming temperatures. This means that more water is needed. For a person to work well, one has to have a colder temperature, which was augmented by the use of fans, air conditioning units or drinking cold drinks (71 or 16.9 percent). Some (72 or 17.1 percent) go or stay in cool places.

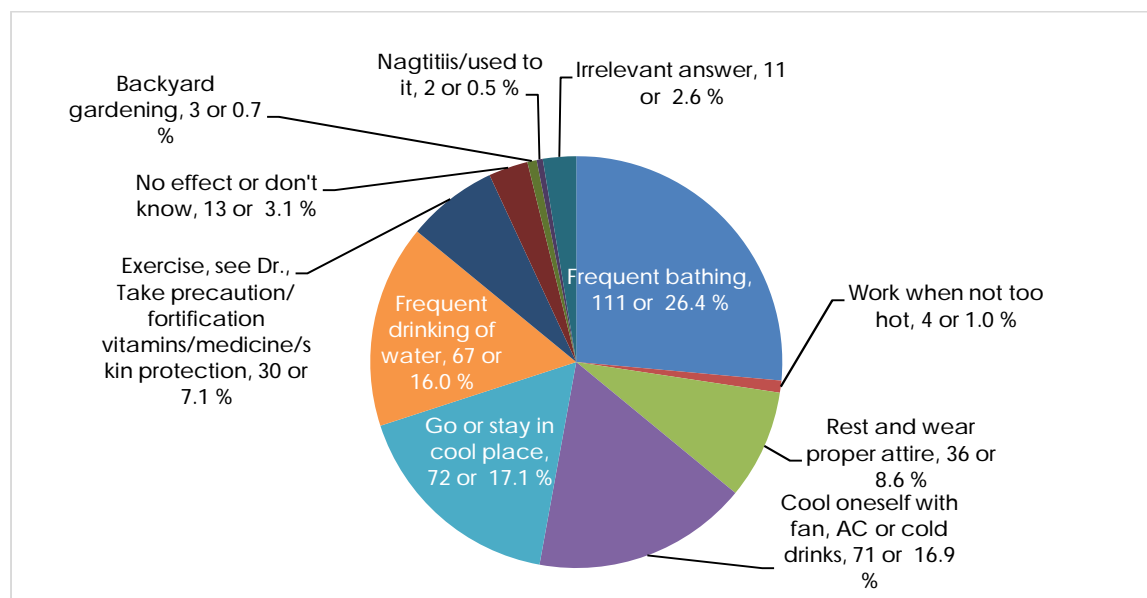


Figure 16. Adjustment/adaptation to changes in daytime temperature in urban areas

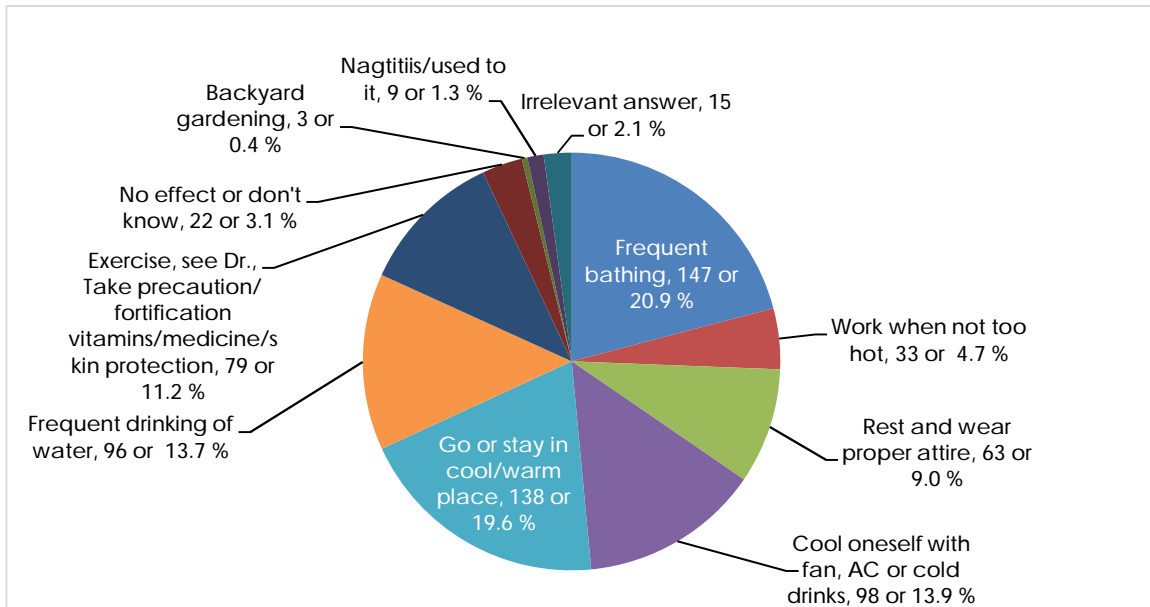


Figure 17. Adjustment/adaptation to changes in daytime temperature in rural areas

For those in coastal areas during daytime temperature, most (166 or 23.4 percent) need to do frequent bathing. Other adaptation/adjustment made according to almost 20 percent (138 or 19.5 percent) of respondents needed to go or stay in cool or warm place. The same is true in inland areas during daytime temperatures where most (80 or 19.9 percent) resorted to frequent bathing (**Figures 18 and 19**).

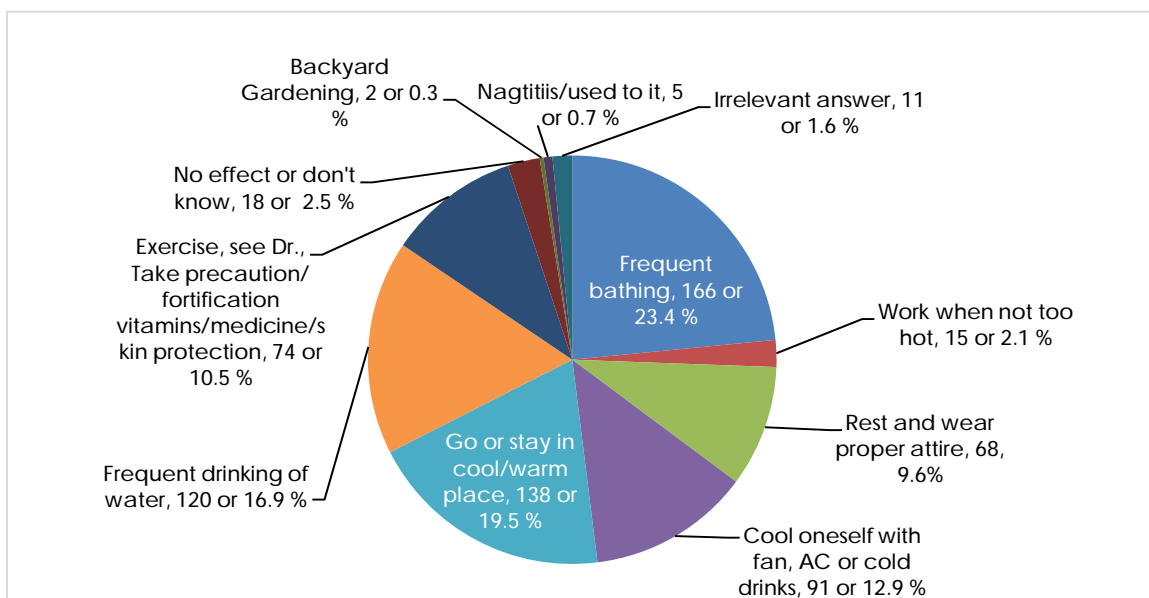


Figure 18. Adjustment/adaptation to changes in daytime temperature in coastal areas

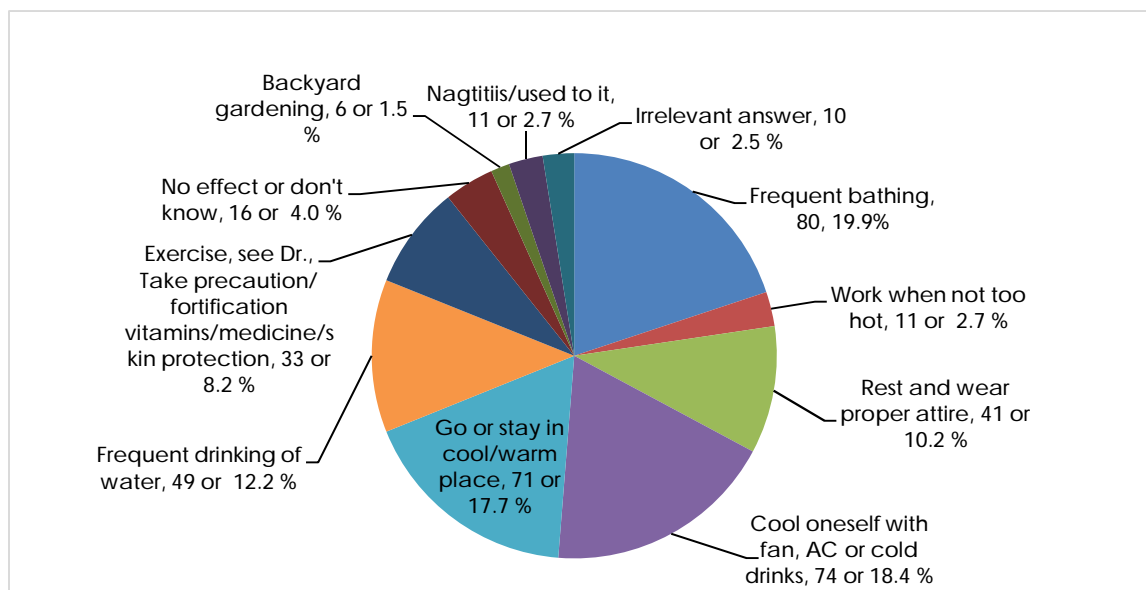


Figure 19. Adjustment/adaptation to changes in daytime temperature in inland areas

During the nighttime, adjustment/adaptation to changes in urban areas was through cooling oneself with fan, AC or cold drinks according to most (137, 32.6 percent). This was followed closely by frequent bathing (135 or 32.1 percent). On the other hand, in rural areas, most (296 or 42.1 percent) had to take a rest and wear proper attire or clothing in the evenings. In coastal areas, adjustment/adaptation was through taking a rest and wearing proper attire according to most (233 or 32.7 percent) which is similar to inland areas according to most (138 or 33.6 percent) respondents (**Figures 20-23**).

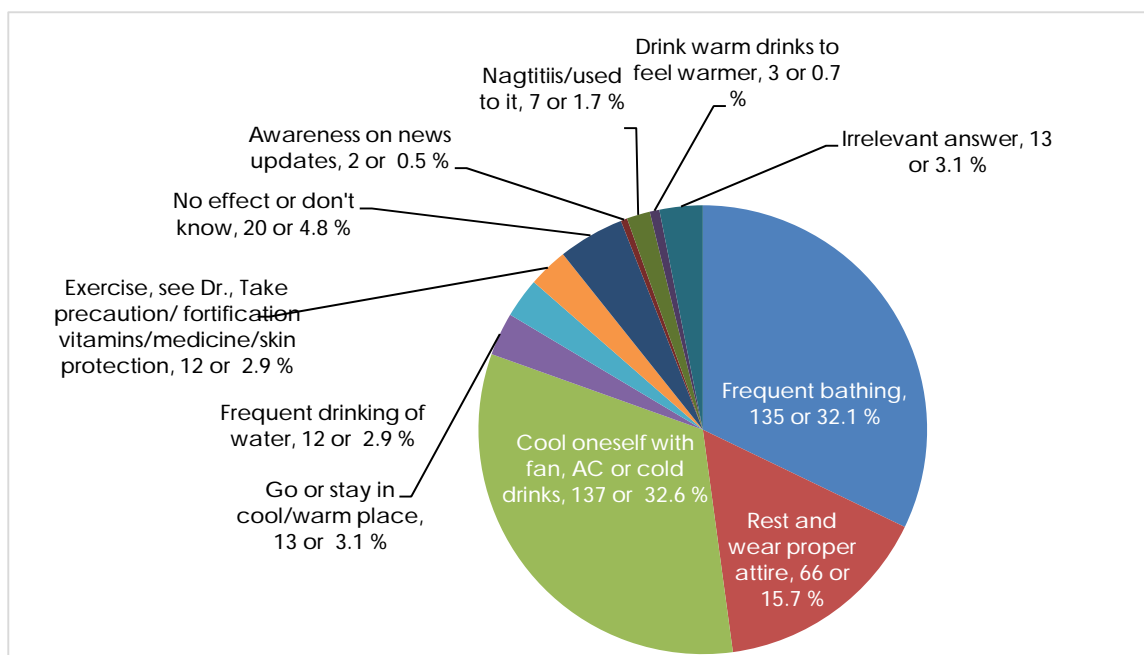


Figure 20. Adjustment/adaptation to changes in nighttime temperature in urban areas

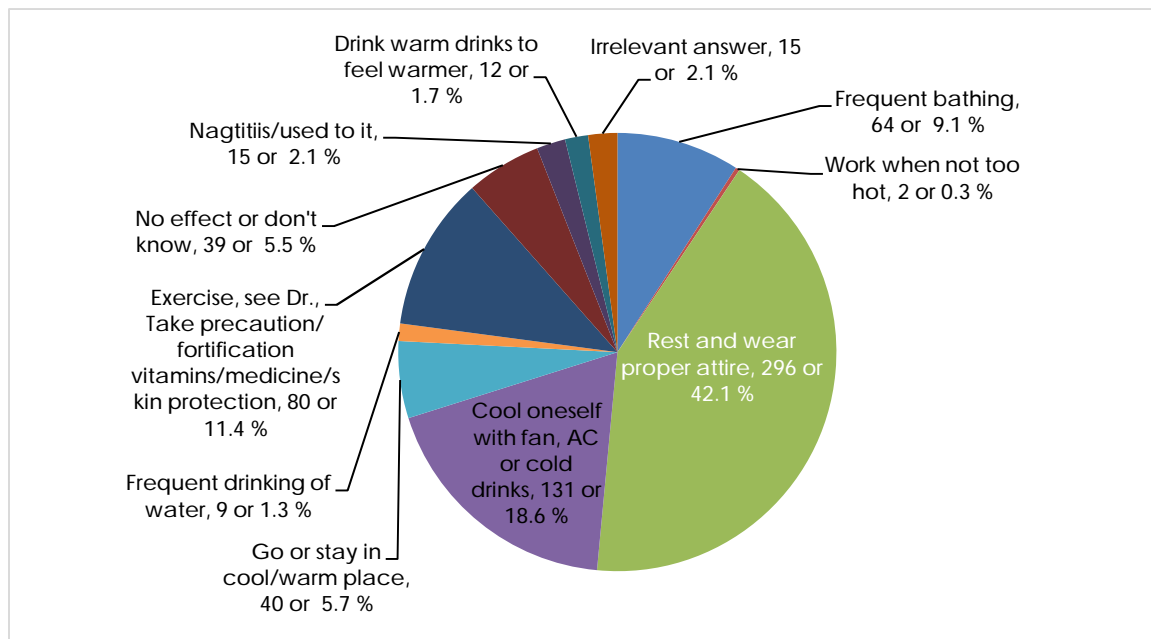


Figure 21. Adjustment/adaptation to changes in nighttime temperature in rural areas

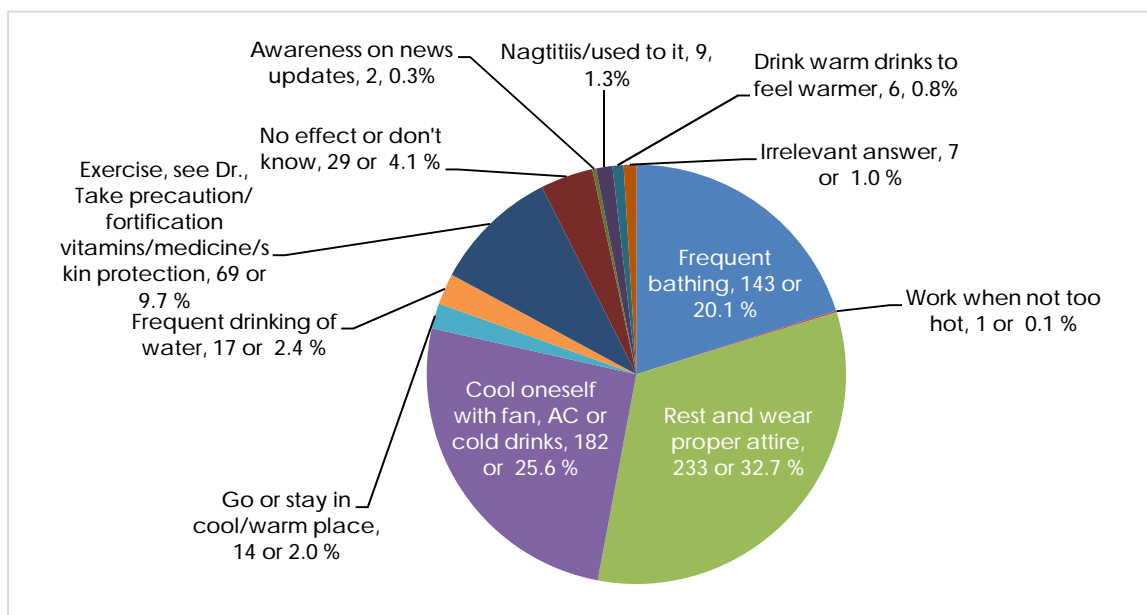


Figure 22. Adjustment/adaptation to changes in nighttime temperature in coastal areas

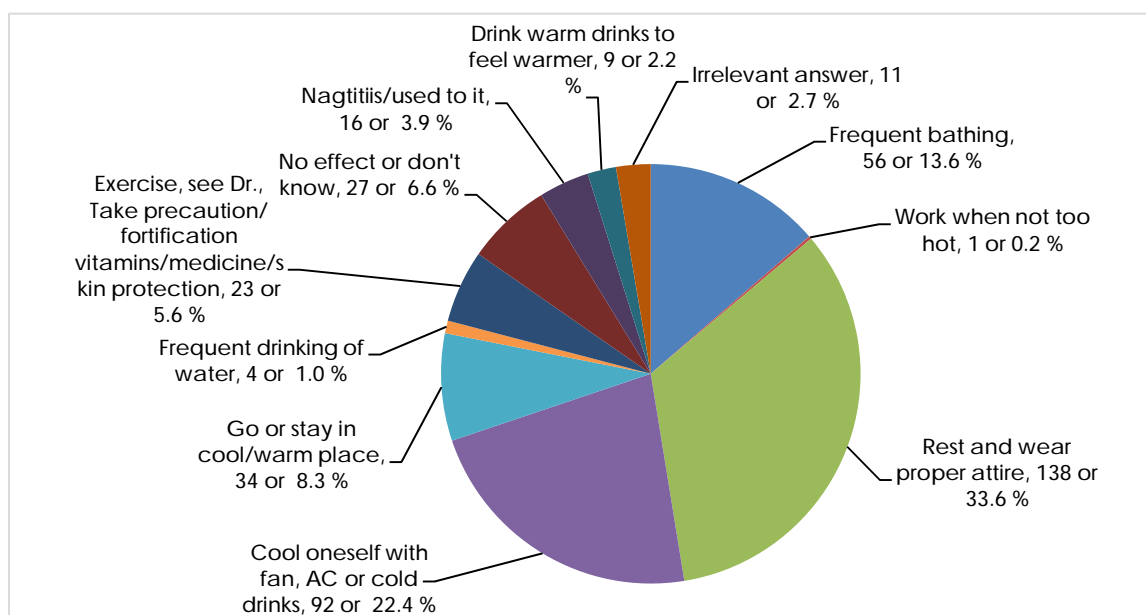


Figure 23. Adjustment/adaptation to changes in nighttime temperature in inland areas

In summary, it can be surmised that daytime and nighttime extreme temperature changes in coastal, inland, urban, and rural ecosystems brought discomfort and prone to get sick to most survey respondents. Day temperatures in all ecosystems got hot or hotter while cold or colder in the evenings. They were able to adjust/adapt to the changes through frequent bathing in the daytime and rest and wearing proper attire or clothing in the evenings as adjustment/adaptation mechanisms. This implies intensive use of water and energy resources, however.

In terms of sea level, respondents were asked what have they observed in the last 10 years in their area. In general, most (467 or 38.9 percent) respondents noted that this was not applicable most likely those coming from the inland communities. In the coastal areas, majority (377 or 55.4 percent) said that they did not observe any changes as opposed to 250 or 36.8 percent who said that they have observed some changes. A great majority (236 or 88.4 percent) of those who observed some changes said that it was increasing. The increase could have been manifested through shorter front beaches or shores (**Figures 24-27**).

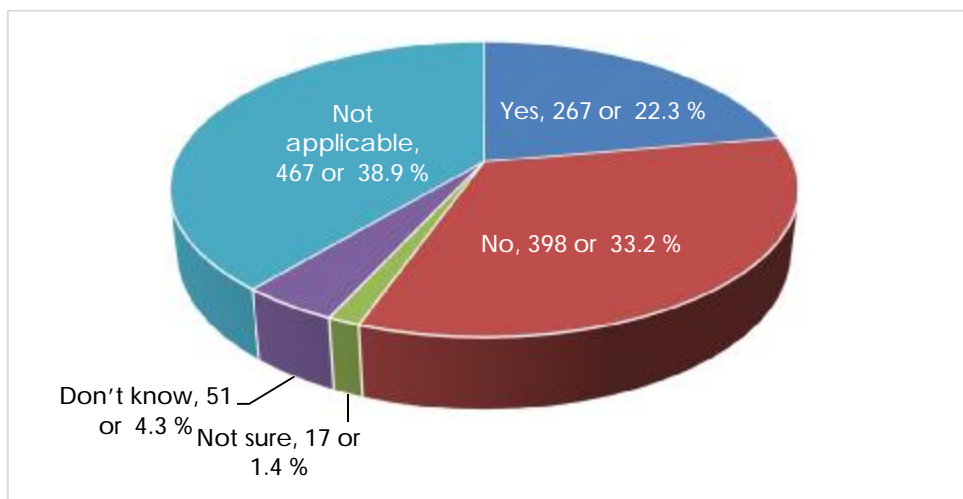


Figure 24. Observed changes in sea level

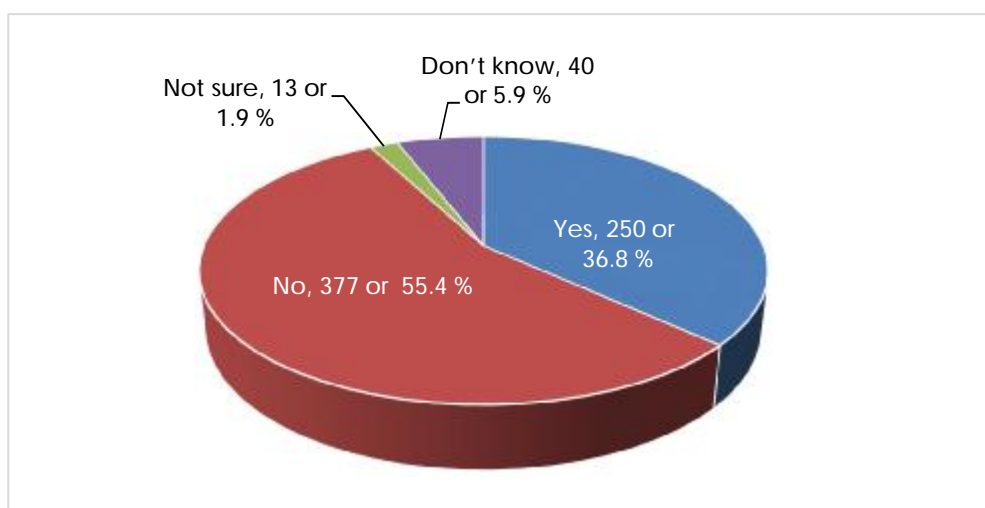


Figure 25. Observed changes in sea level in coastal areas

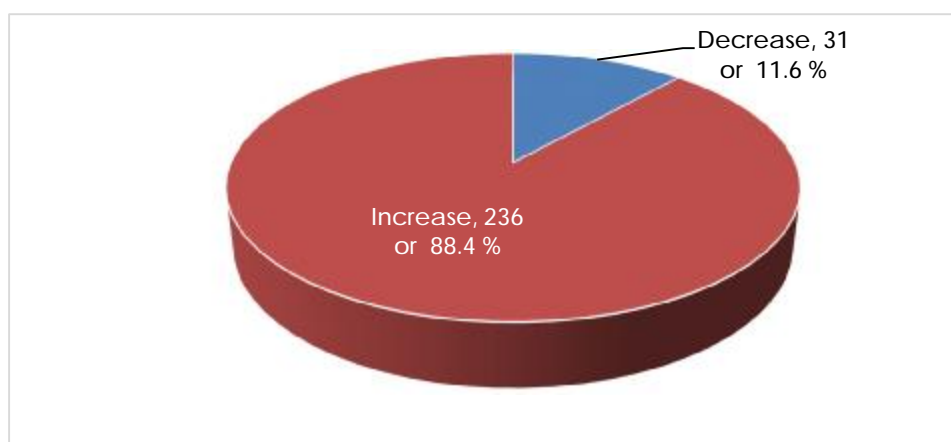


Figure 26. Observed changes in sea level in terms of volume

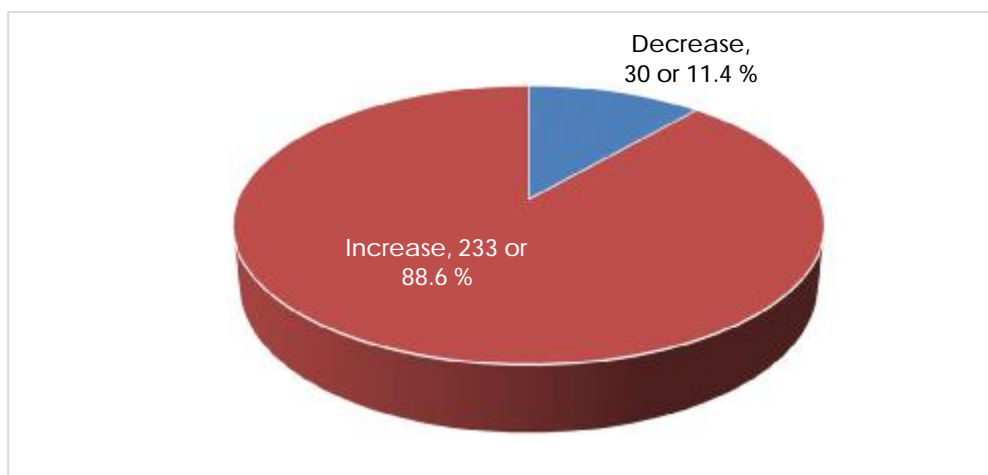


Figure 27. Observed changes in sea level in coastal areas in terms of volume

In terms of effects of sea level rise, most (58 or 23.3 percent) cited flood followed by big/strong sea waves, tidal waves (52, 20.97 percent). These perception need to be clarified and to some extent rectified since flooding, storm surge and tidal waves are caused by other events such as rainfall and storm (for flooding and storm surge) and earthquake (for tidal wave or tsunami). Sea level rise together with coastal erosion however intensifies these problems since larger area of the coasts and river outlets will be inundated. Expanding and deepening sea/high tide was also forwarded by 39 or 15.7 percent of respondents. A little over 10 percent (31 or 12.5 percent) of respondents said that sea level rise affected livelihood/income (**Figure 28**).

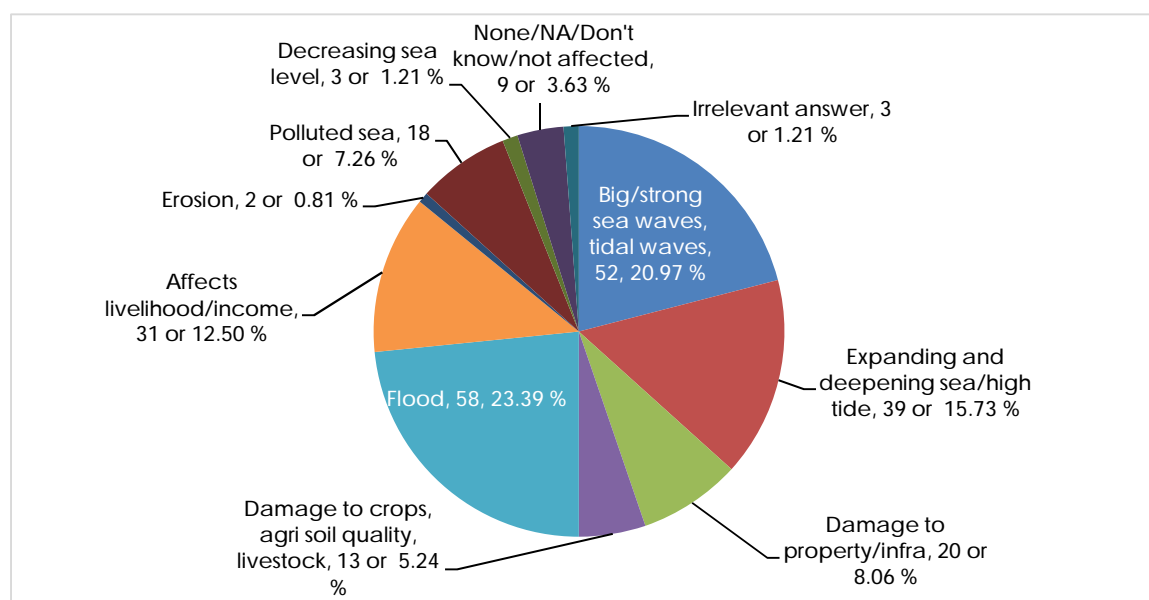


Figure 28. Effects of changes in sea level rise in coastal areas.

When it comes to asking how did they adapt or adjust to effects of sea level rise, a very great majority (222 or 89.5 percent) had no response (**Figure 29**). This implies that they don't do anything. It could be that since the cause is natural, they cannot think of any other

way to control it. Unlike in some coastal areas, mangrove production is intensified to serve as sea wall. This is one area that needs to be addressed especially that the poorest of the poor lives along coastal areas.

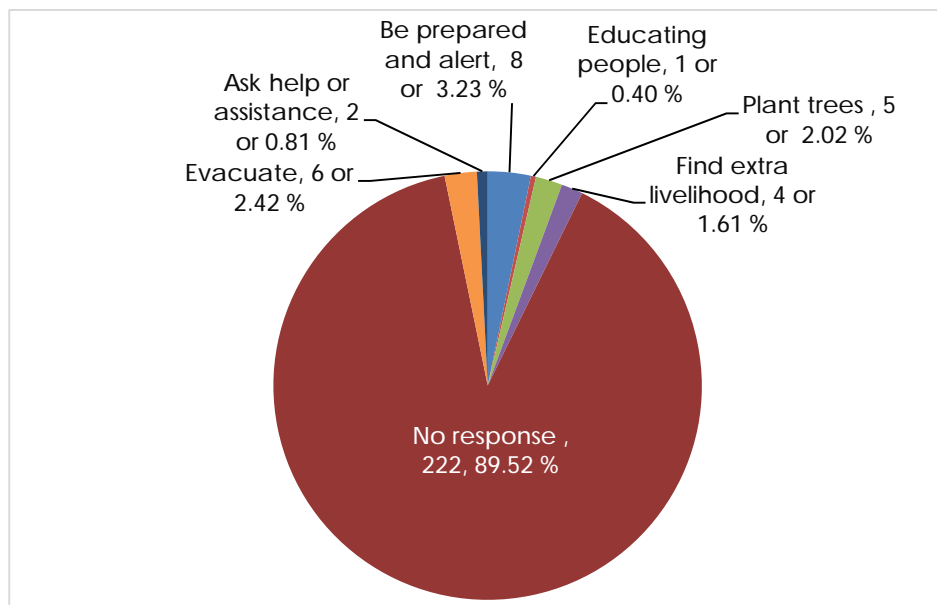


Figure 29. Adjustment/adaptation to changes in sea level rise in coastal areas

In summary, sea level rise was observed which was increasing that resulted to floods and big/strong waves. However, no specific adaptation/adjustment was made.

When it comes to rainfall, similarly, a great majority (986 or 82.2 percent) said that there were changes observed. The frequency of rainfall according to a great majority (744 or 75.5 percent) increased as well as its intensity (776 or 78.7 percent) (**Figures 30-32**).

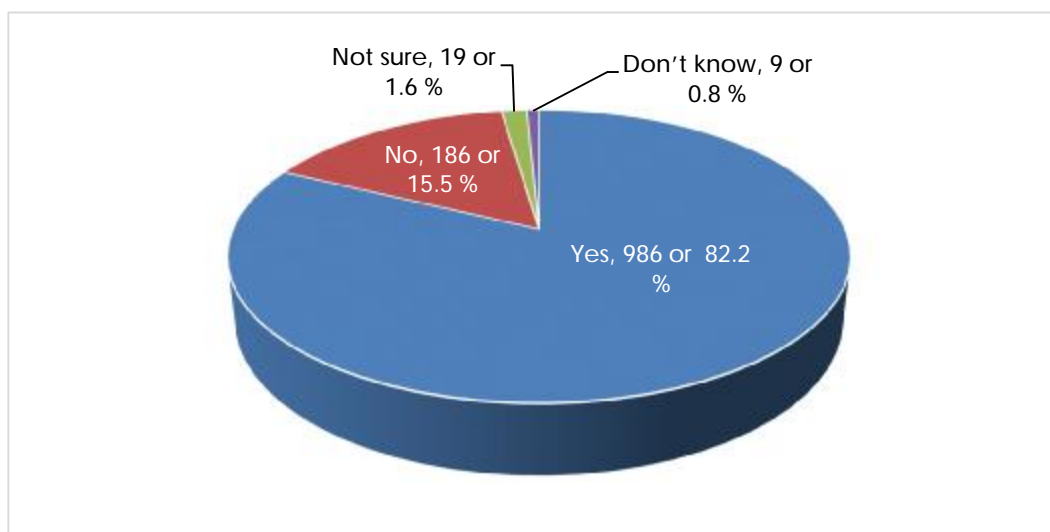


Figure 30. Observed change in rainfall

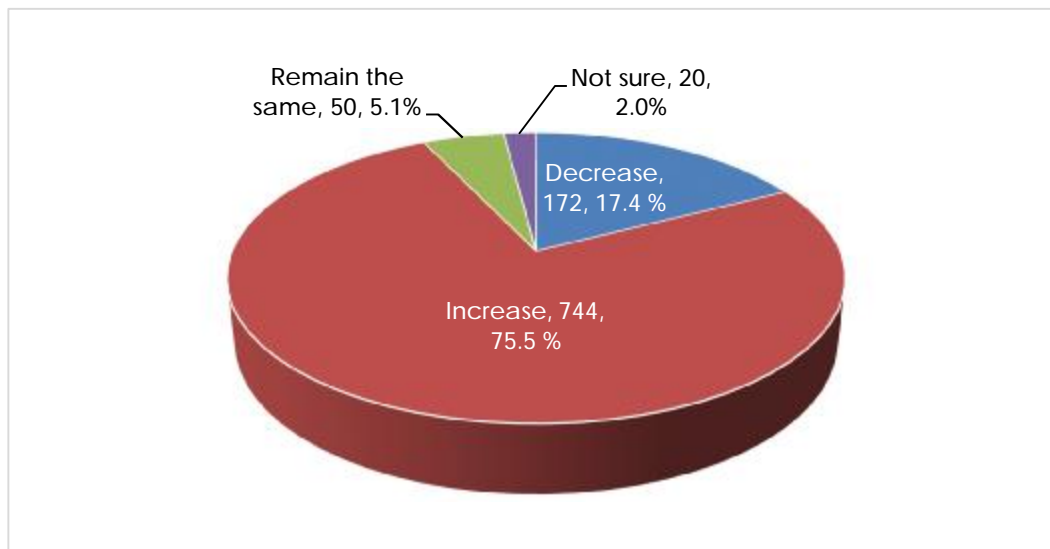


Figure 31. Observed change in frequency of rainfall

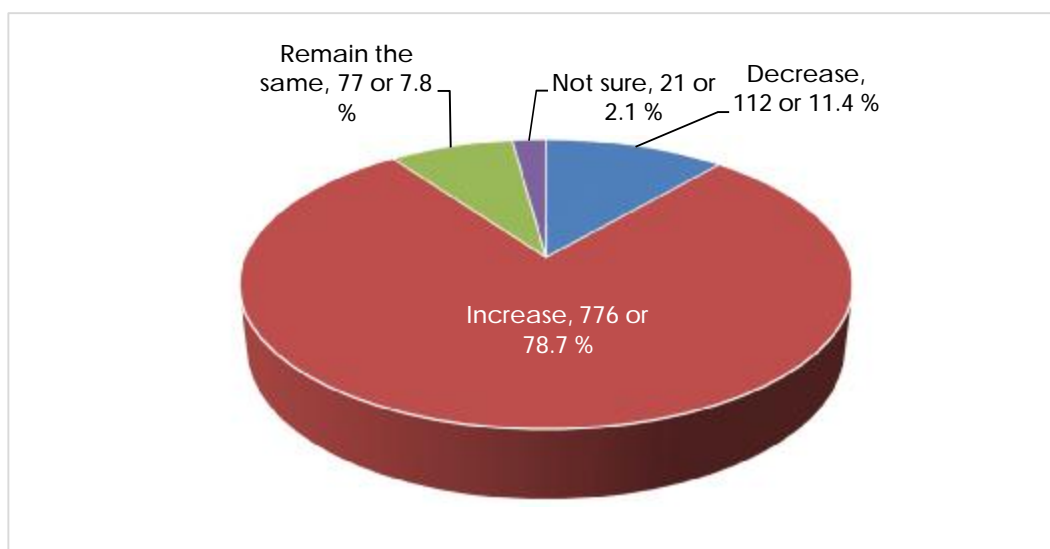


Figure 32. Observed change in intensity of rainfall

Most (455 or 46.1 percent) of survey-respondents cited flood/muddy/damage to crops as effects of rainfall. In order to adapt/adjust to these changes most (339, 34.4 percent) respondents resorted to staying at home or not doing anything or simply bearing with the situation. The nonchalant attitude could be detrimental to vulnerable communities. This also implies that farmers should be introduced to climate smart varieties and technologies in order to adapt better to climate change. Only 23 percent (224 respondents) noted some adaptation practices that could be effective in responding to impacts of rainfall changes, which were improving infrastructures and shifting to more resilient crops.

Figures 33-34 present the data.

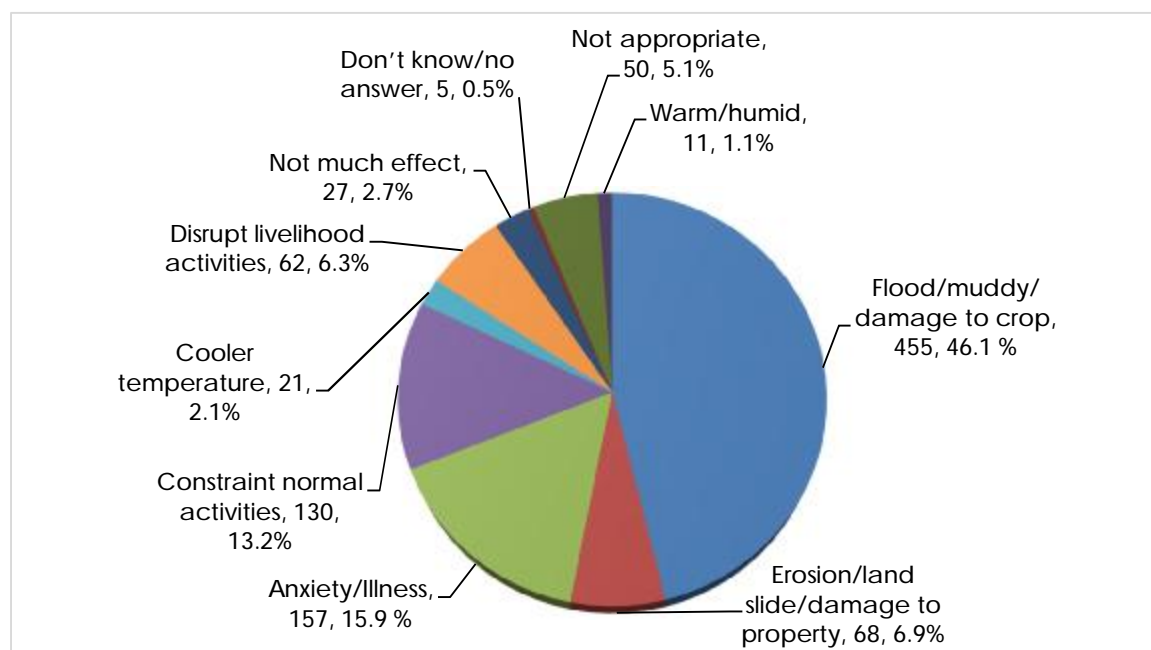


Figure 33. Effects of changes in rainfall

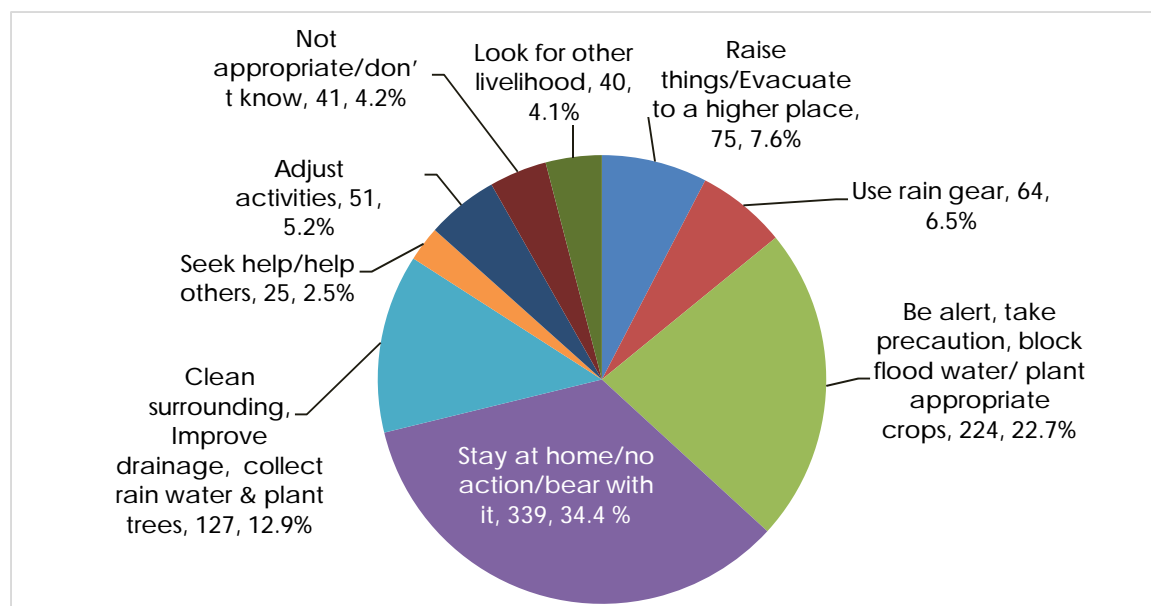


Figure 34. Adjustment/adaptation to the effects of the changes in rainfall

In terms of typhoons, a great majority (1,053 or 87.8 percent) said there were changes observed. A great majority (840 or 79.8 percent) observed that the occurrence of typhoons had increased and that intensity according to a great majority (933 or 88.6) was stronger (Figures 35, 36 and 37).

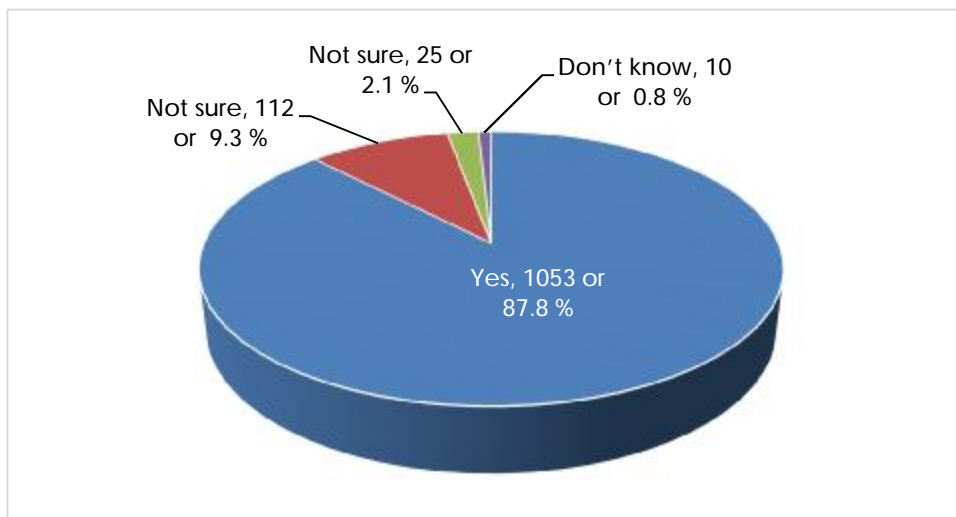


Figure 35. Observed changes in typhoon

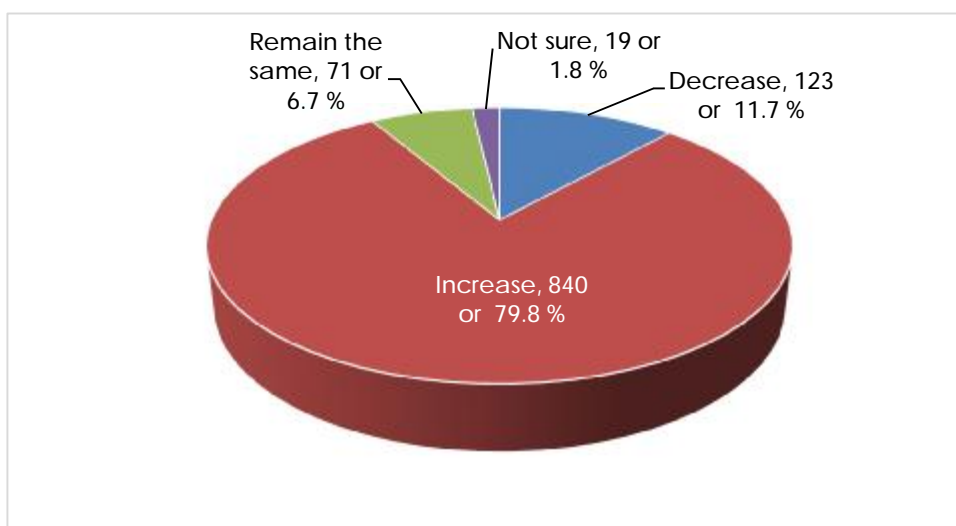


Figure 36. Observed change in occurrence of typhoon



Figure 37. Observed change in intensity of typhoon

The foremost effect according to most (297, 28.2 percent) survey-respondents was damage to property, building, infrastructure, etc. This was followed by damage to crops, trees, livestock, etc. (205, 19.5 percent). Findings connote that damage to material things is more pronounced compared to loss of lives. Respondents have adapted/adjusted to typhoon occurrence by being prepared and listening to the news according to most (258, 25.4 percent) survey-respondents. Some opted to stay at home/pray/no action (183, 18.0 percent) respondents. Being ready implies that they have prepared for the extreme conditions. Preparation could be readiness for evacuation or simply just preparing food stock, candles, drinking water, roof shield, ropes, etc. (Figures 38 and 39).

In general the response of respondents on observation of the changes in terms of occurrence of typhoons is similar to their responses to flooding and rainfall. A new experience to most respondents is the increasing intensity in which they have not learned yet how best to respond. A good example is the case of Typhoon Yolanda. People in east Visayas (e.g. Samar and Leyte) are used to media reports using their cities as reference of the distance to the East where the normal trajectory of typhoons during the Southeast monsoon or 'habagat' is north to northwest. People in East Visayas entertained themselves by going to the seashore and watch the storm clouds pass by safely. What the people did not realize was that Yolanda occurred in November when the monsoon winds had already shifted to the Northeast or 'amihan' which pushed the tropical depression to stay south and had a trajectory of west to slight northwest. In other words, Yolanda went straight through the Visayas where many people were in the seashore watching the storm that was going straight to them. Most of the people who were not recovered were those washed away when the typhoon surge receded.

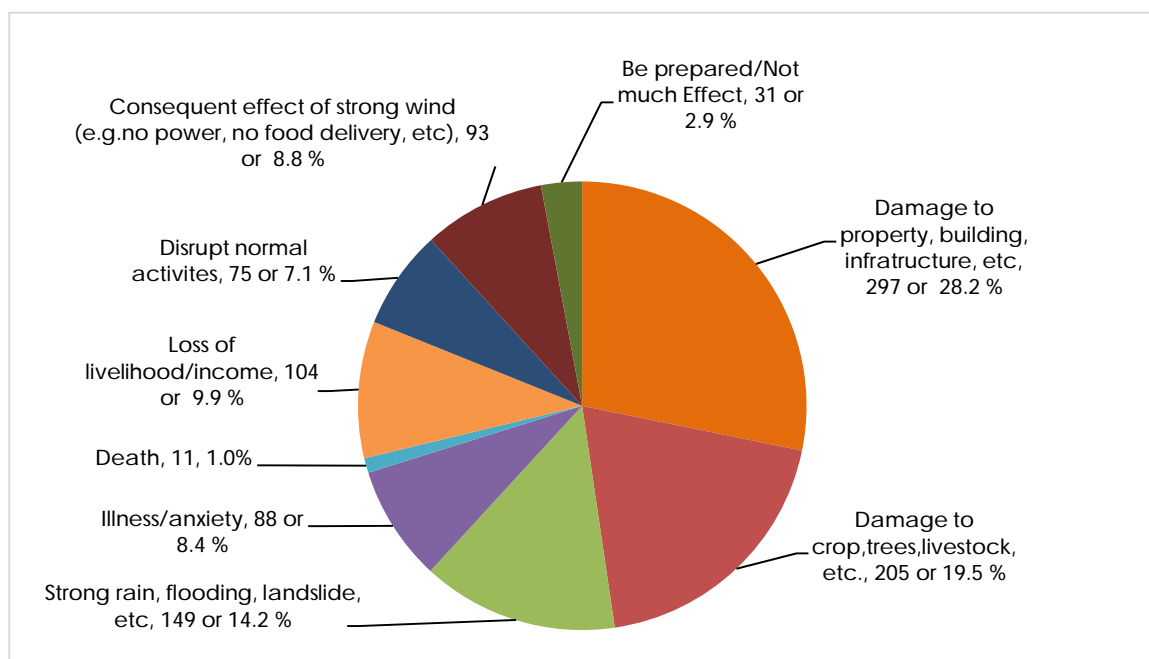


Figure 38. Effects in the change in occurrence/intensity of typhoons

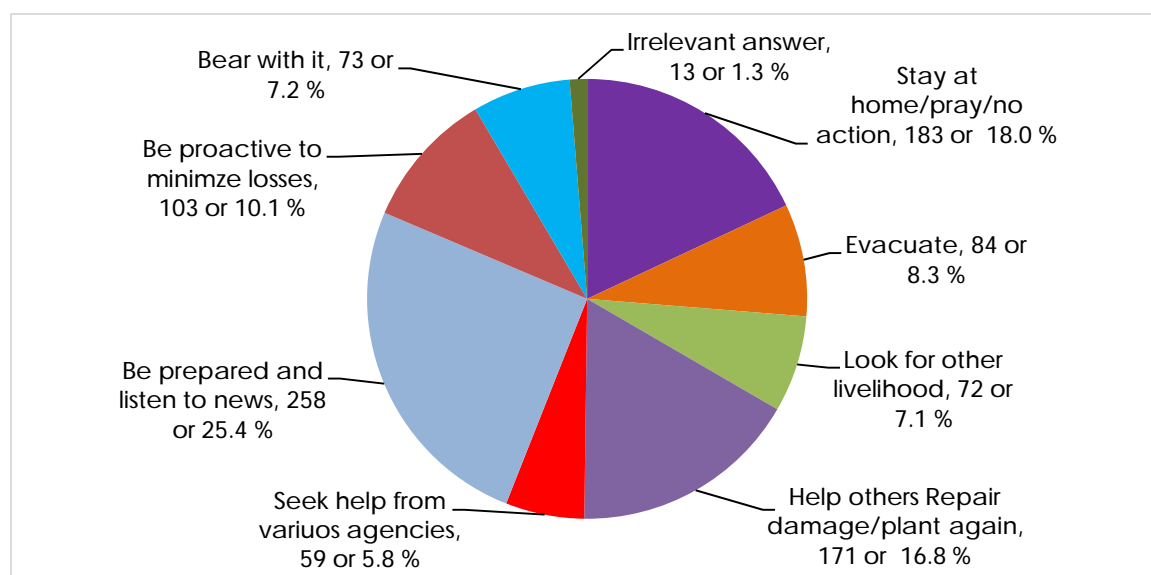


Figure 39. Adjustment/adaptation to the effects in changes in intensity of typhoons

When it comes to flooding, changes were also observed according to more than the majority (841 or 70.1 percent) of respondents. Floods did not only occur but even increased according to 76.7 percent (645) respondents. These floods were deeper (634 or 75.4 percent), extent was wider (612 or 72.8 percent), and longer (484 or 57.6 percent). Thus, floods were observed to be longer, wider, deeper, and more frequent (**Figures 40-44**).

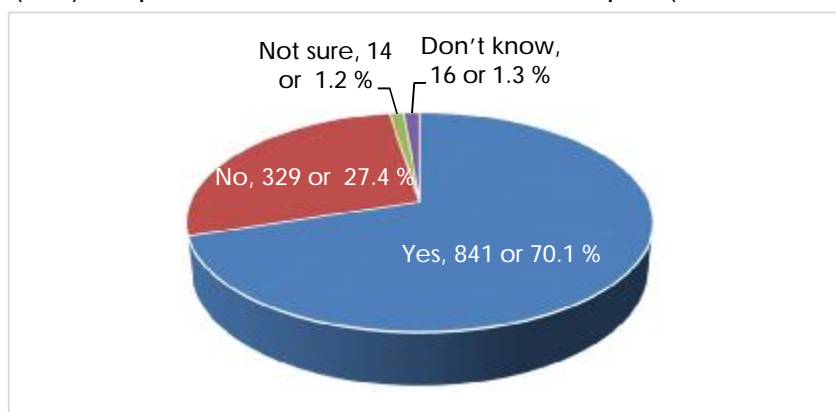


Figure 40. Observed flooding

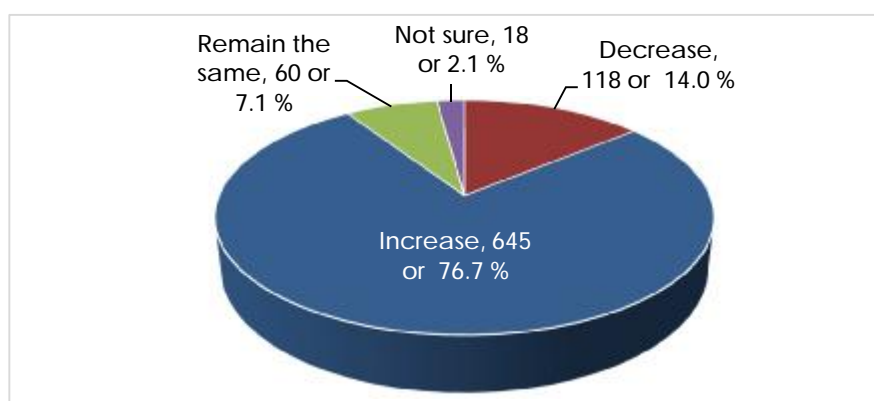


Figure 41. Observed changes in the occurrence of flooding

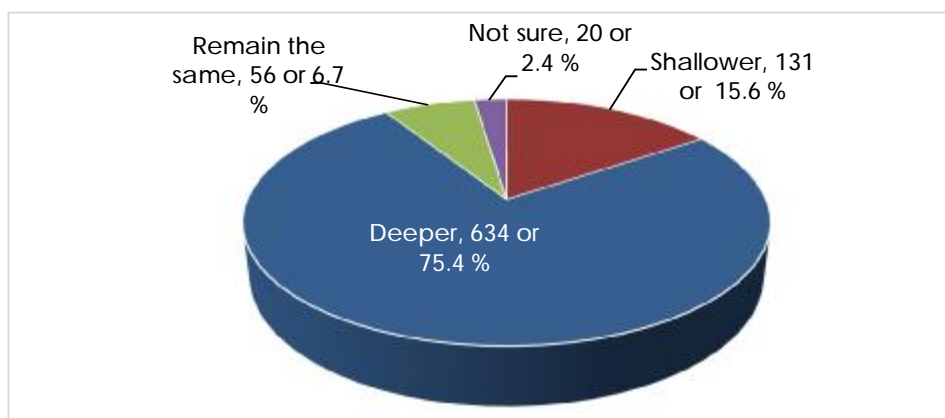


Figure 42. Observed changes in the depth of flooding

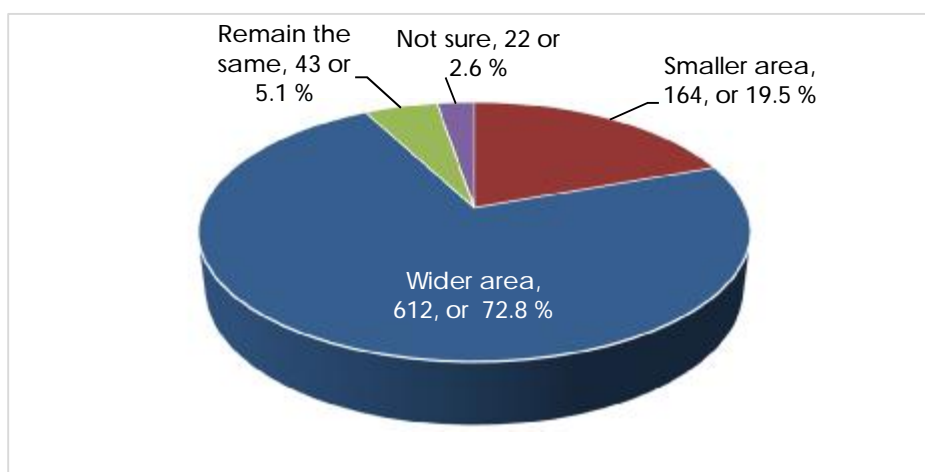


Figure 43. Observed changes in the extent of flooding

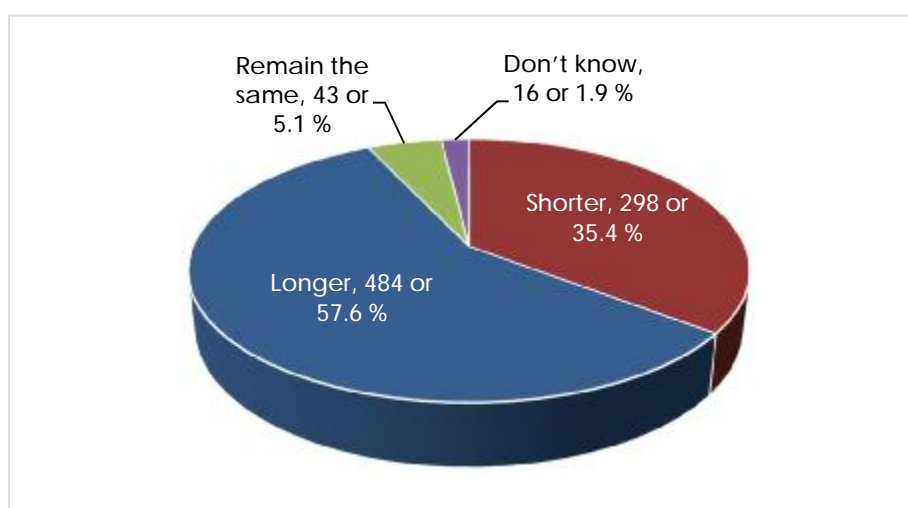


Figure 44. Observed changes in the duration of flooding

On the other hand, more than the majority (805 or 67.1 percent) have experienced drought in their area. Drought occurred before the rainy season according to the majority (457 or 56.8 percent), which greatly affected the timing and preparation of rice-farming communities. Due to drought, there was loss of crops based on half of the respondents (410 or 51 percent).

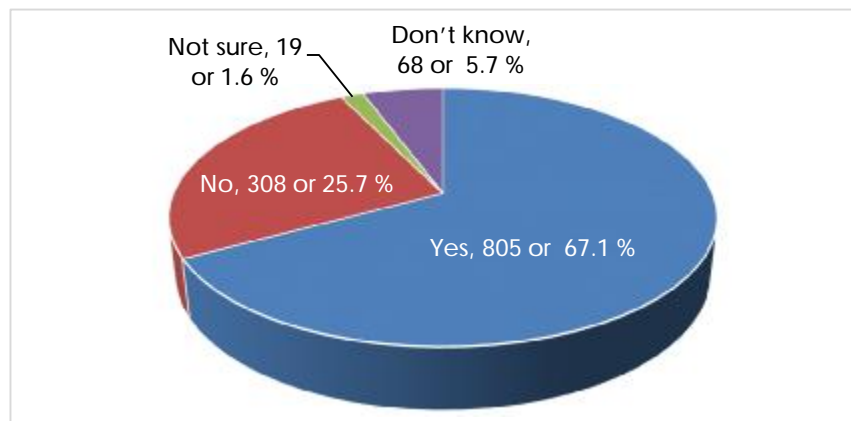


Figure 45. Experienced drought

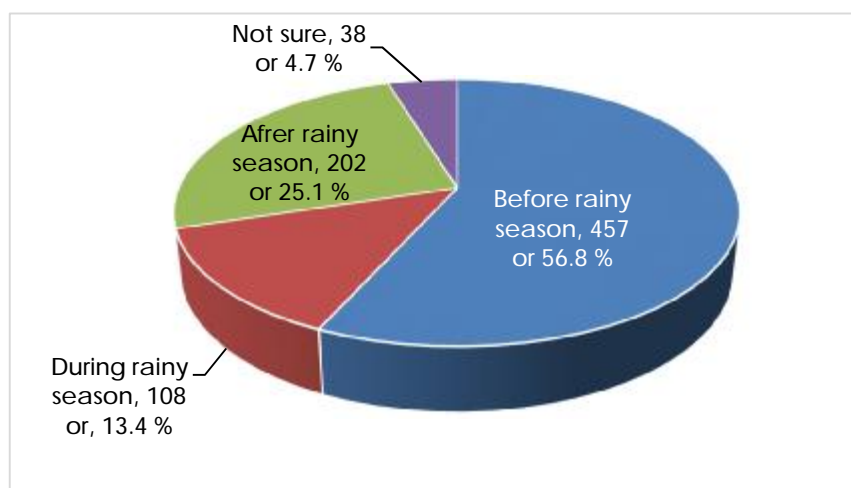


Figure 46. Time when drought occurred

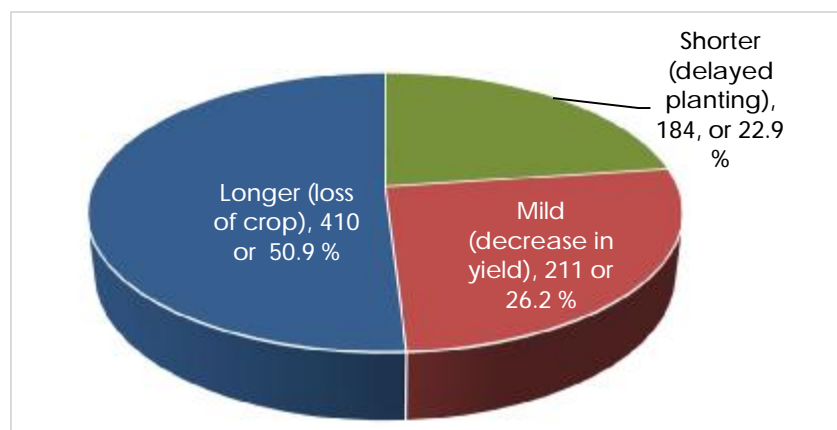


Figure 47. Duration of drought

Effects of drought in rural areas resulted to loss of crops/livelihood according to majority (381, 54.9 percent) of survey-respondents, which is similar in urban areas according to most (49 or 44.1 percent). The same is true with inland areas according to majority (209, 51.2 percent) of survey respondents as well as in coastal areas (205, 51.6 percent) (Figures 48-51). This therefore highlights the perceived detrimental impact of water stress during dry spell events.

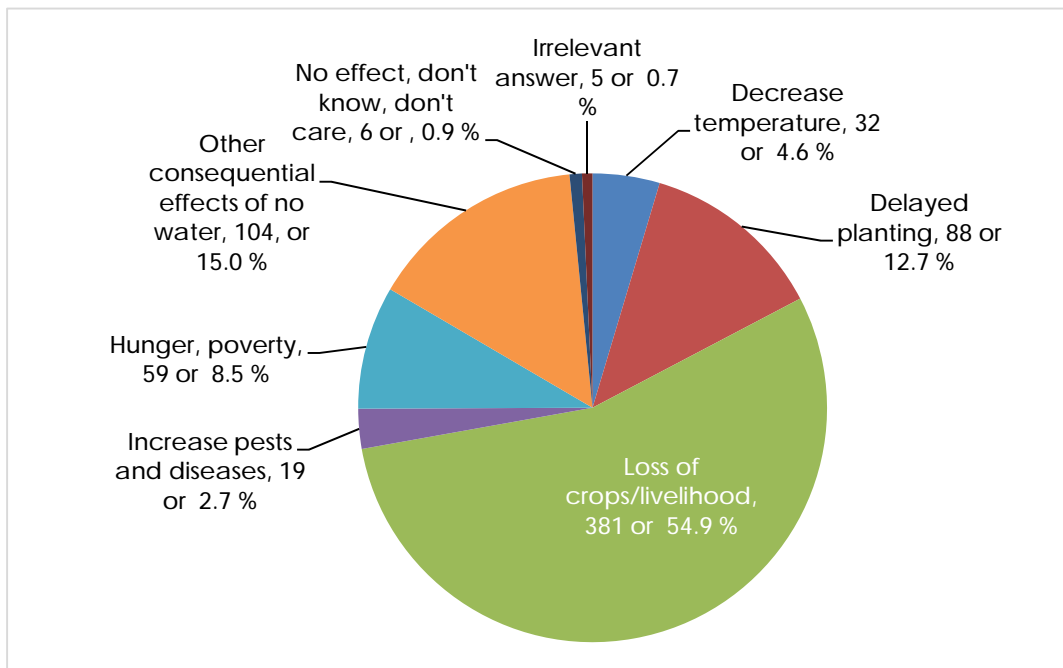


Figure 48. Effects of drought in rural areas

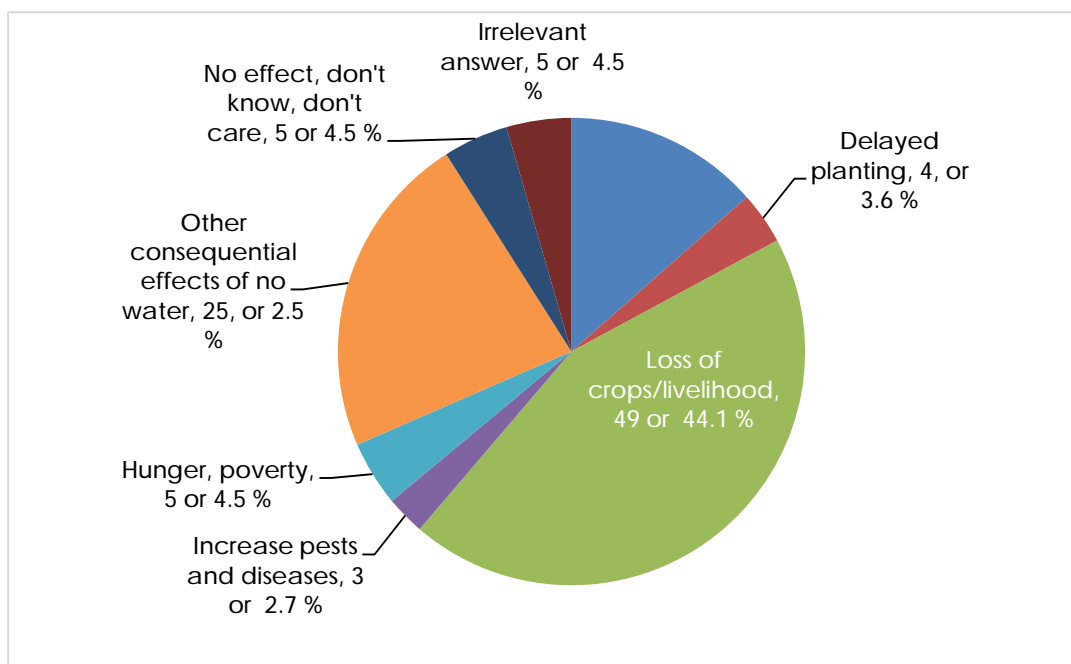


Figure 49. Effects of drought in urban areas

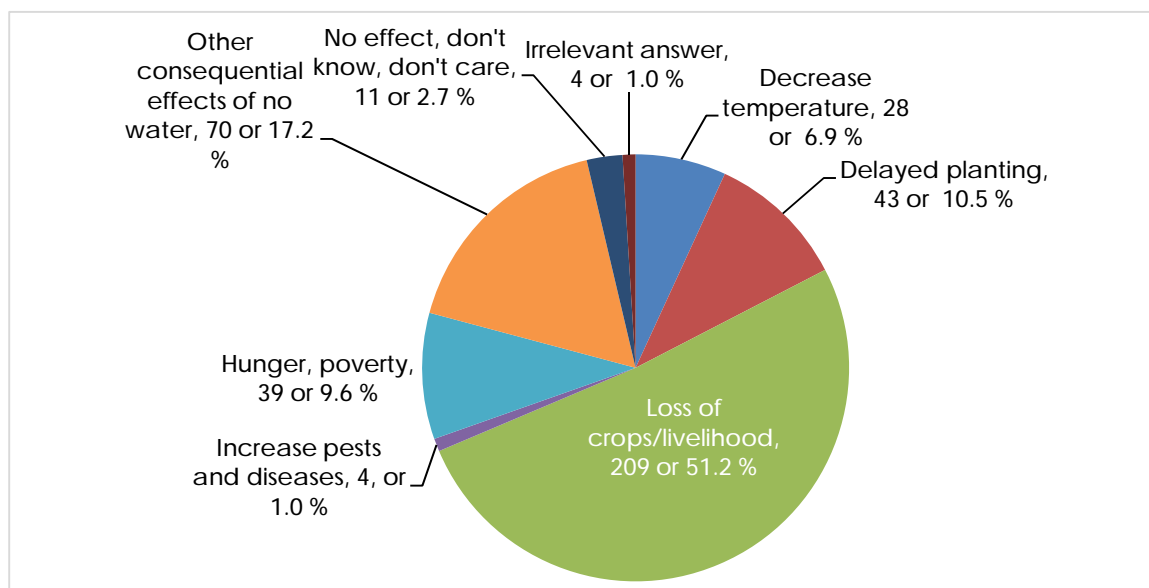


Figure 50. Effects of drought in inland areas

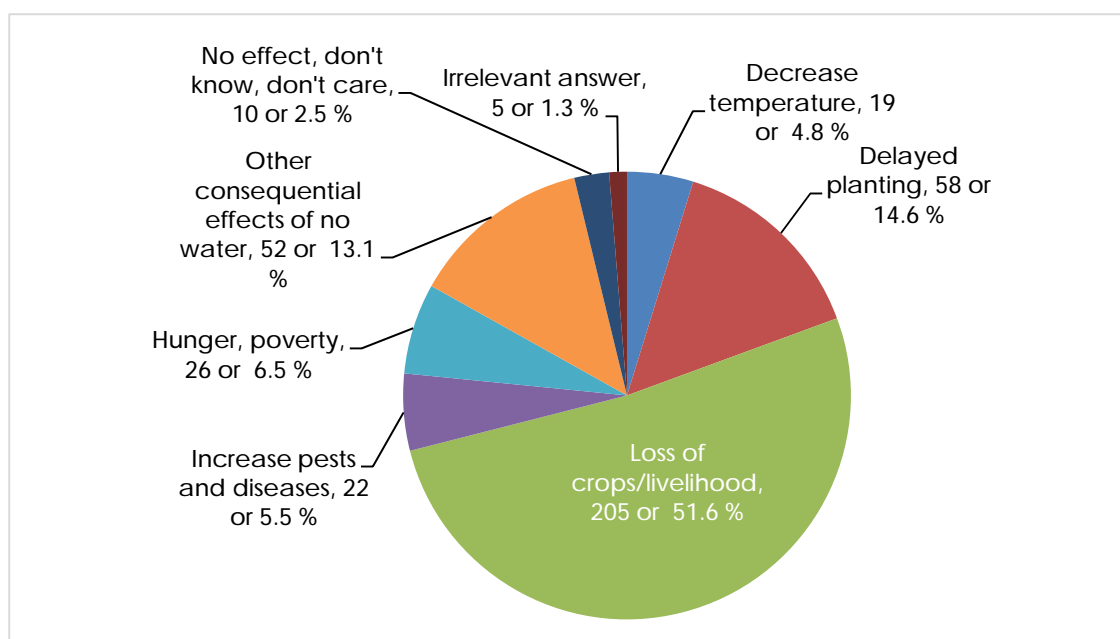


Figure 51. Effects of drought in coastal areas

Survey-respondents in rural areas adapted/adjusted to drought by conserving and storing water according to a little over 20 percent (152, 21.9 percent). An alternative according to almost the same percentage (143, 20.6 percent) is to look for other sources of livelihood/income. In urban areas, they also conserved and stored water (152, 21.9 percent) as well as sought other sources of income (143, 20.6 percent). In inland areas, most (95, 23.3 percent) survey-respondents resorted to looking for other livelihood/sources of income while in coastal areas, most (124, 31.23 percent) conserved and stored water (**Figures 52-55**).

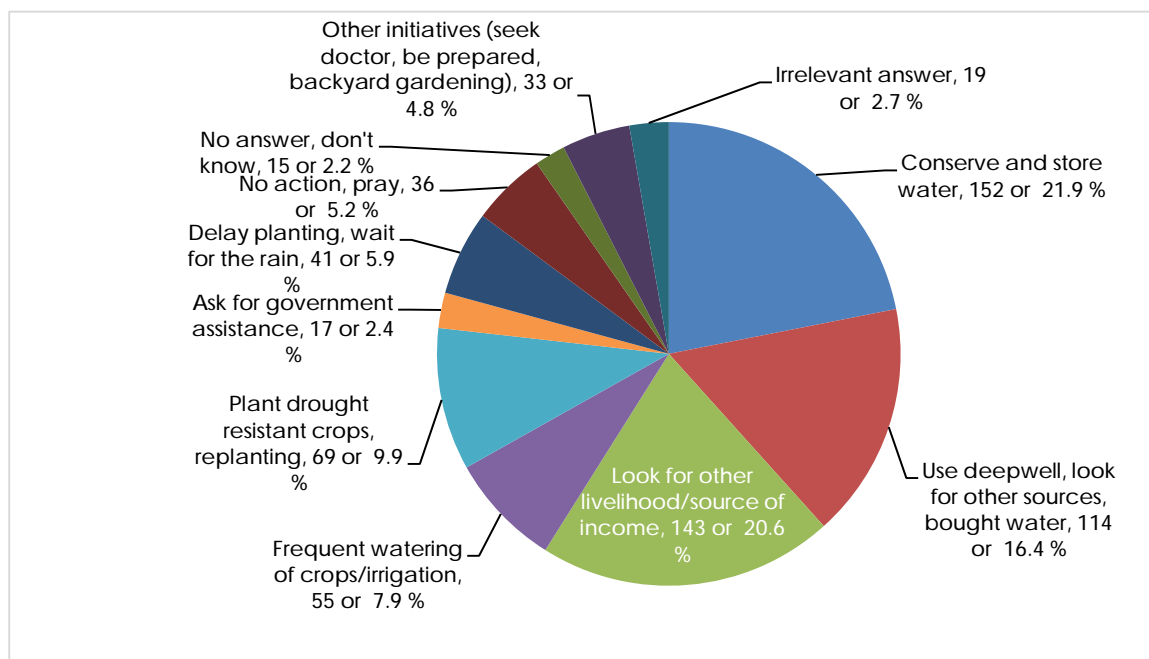


Figure 52. Adjustment/Adaptation to the effects of drought in rural areas

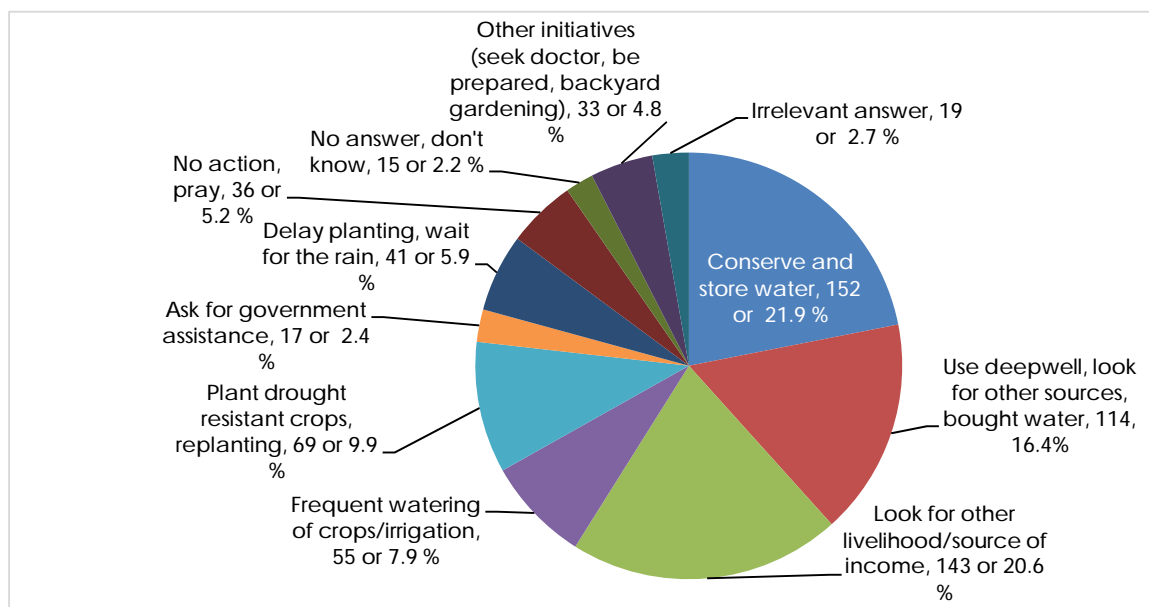


Figure 53. Adjustment/Adaptation to the effects of drought in urban areas

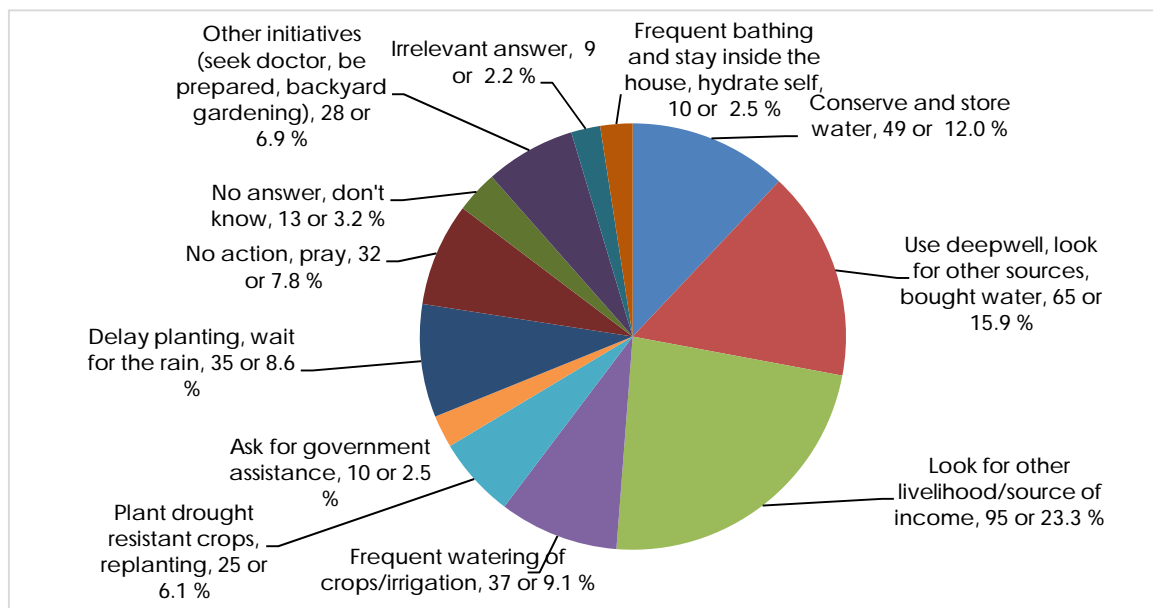


Figure 54. Adjustment/Adaptation to the effects of drought in inland areas

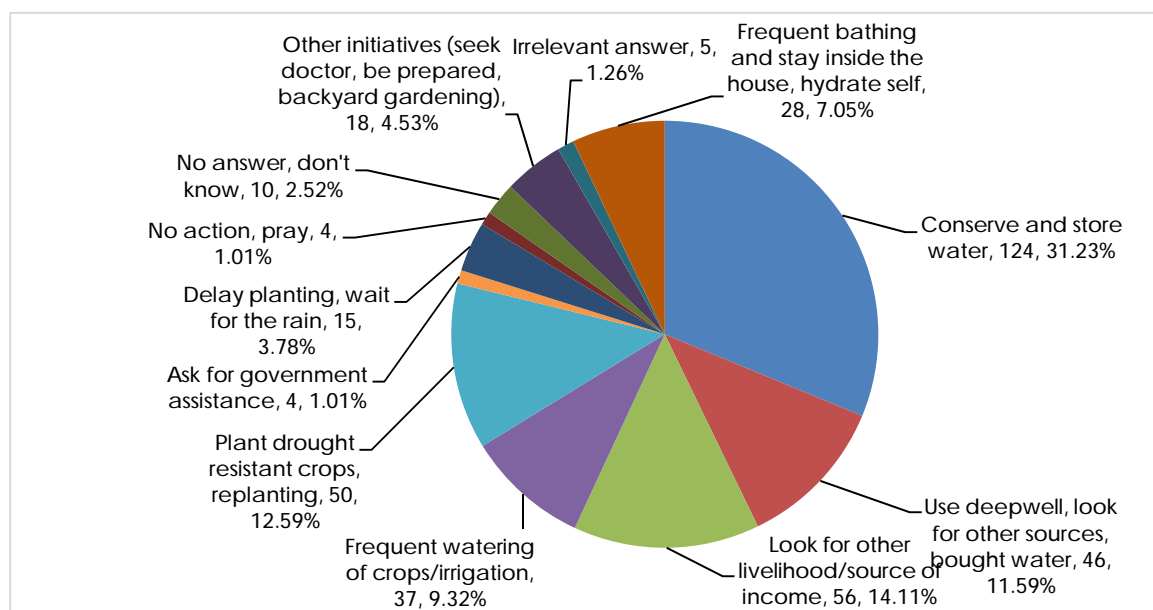


Figure 55. Adjustment/Adaptation to the effects of drought in coastal areas

In terms of forest cover, half (608 or 50.75 percent) of the respondents observed changes in forest cover, which was generally decreasing (499 or 82.2 percent). This is true Philippine-wide. Forest cover in the Philippines has been decreasing. Between 1990 and 2005, the Philippines lost 32.3 percent of its forest cover, or around 3,412,000 but through

reforestation efforts such as the NGP 2016¹, little by little, forest cover is expected to increase through time.

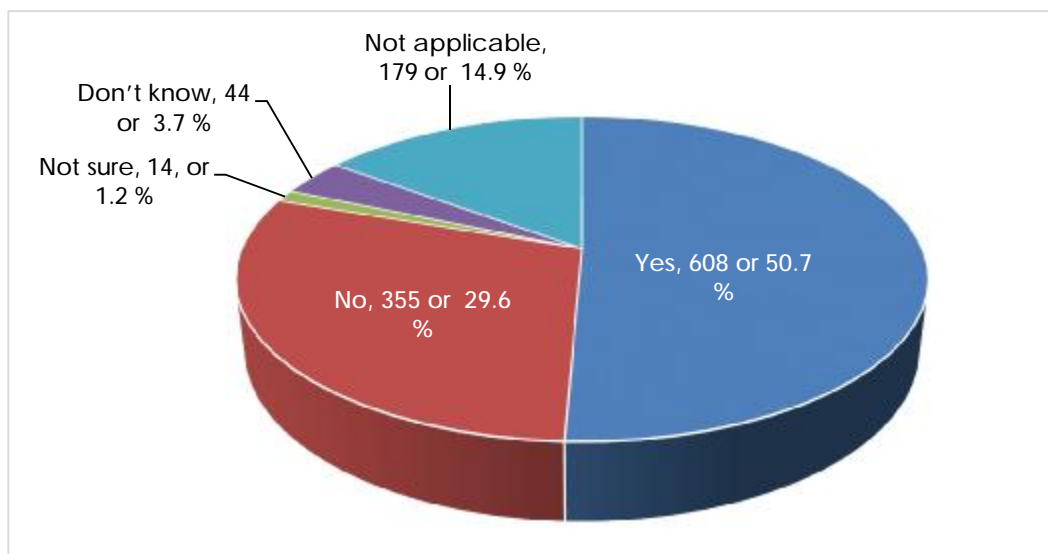


Figure 56. Respondents who observed changes in forest cover

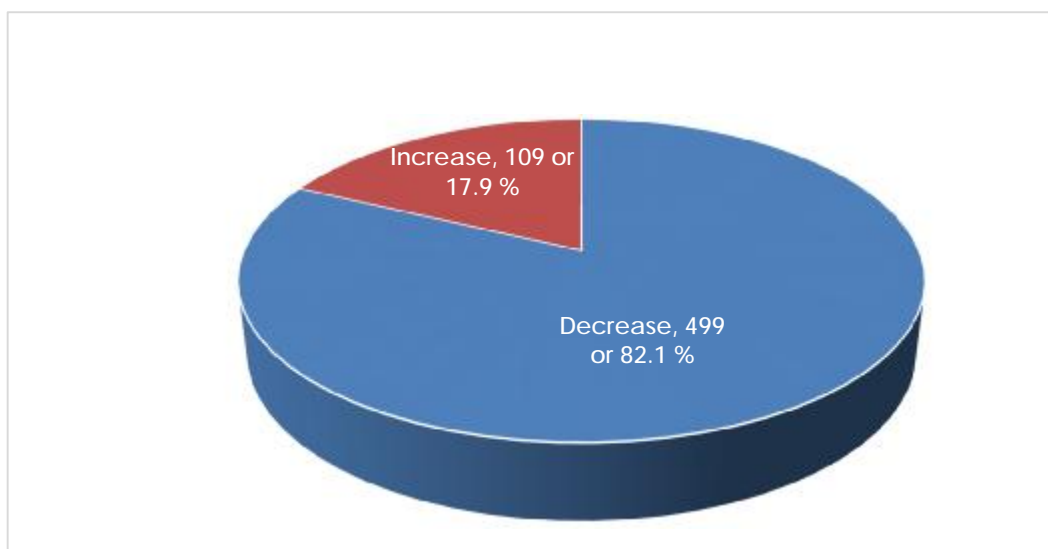


Figure 57. Observed changes in forest cover

¹ As of December 9, 2016; NGP has planted 1.653 M hectares with 1.358 billion seedling

Table 6. Distribution of respondents by perceived changes in climatic conditions

Response	Frequency	Percentage
TEMPERATURE		
Observed change in the last 10 years		
Yes	1,123	93.6
No	75	6.3
Don't know	2	0.2
Total	1,200	100.0
Day time		
Hotter	1,049	93.4
Cooler	46	4.1
Remain the same	19	1.7
Not sure	9	0.8
Total	1,123	100.0
Night time		
Hotter	555	49.4
Cooler	483	43.0
Remain the same	59	5.3
Not sure	26	2.3
Total	1,123	100.0
SEA LEVEL		
Observed change in the last 10 years		
Yes	267	22.3
No	398	33.2
Not sure	17	1.4
Don't know	51	4.3
Not applicable	467	38.9
Total	1,200	100.0
Observed change		
Decrease	31	11.6
Increase	236	88.4
Total	267	100.0
RAINFALL		
Observed change		
Yes	986	82.2
No	186	15.5
Not sure	19	1.6
Don't know	9	0.8
Total	1,200	100.0
Frequency		
Decrease	172	17.4
Increase	744	75.5
Remain the same	50	5.1

Response	Frequency	Percentage
Not sure	20	2.0
Total	986	100.0
Intensity		
Decrease	112	11.4
Increase	776	78.7
Remain the same	77	7.8
Not sure	21	2.1
Total	986	100.0
TYPHOONS		
Yes	1,053	87.8
No	112	9.3
Not sure	25	2.1
Don't know	10	0.8
Total	1,200	100.0
Occurrence		
Decrease	123	11.7
Increase	840	79.8
Remain the same	71	6.7
Not sure	19	1.8
Total	1,053	100.0
Intensity		
Stronger	933	88.6
Weaker	77	7.3
Remain the same	29	2.8
Not sure	14	1.3
Total	1,053	100.0
FLOODING		
Observed flooding in the last 10 yrs		
Yes	841	70.1
No	329	27.4
Not sure	14	1.2
Don't know	16	1.3
Total	1,200	100.0
Occurrence		
Decrease	118	14
Increase	645	76.7
Remain the same	60	7.1
Not sure	18	2.1
Total	841	99.9
Depth		
Shallower	131	15.6
Deeper	634	75.4

Response	Frequency	Percentage
Remain the same	56	6.7
Not sure	20	2.4
Total	841	100.0
Extent		
Smaller area	164	19.5
Wider area	612	72.8
Remain the same	43	5.1
Not sure	22	2.6
Total	841	100.0
Duration		
Shorter	298	35.4
Longer	484	57.6
Remain the same	43	5.1
Don't know	16	1.9
Total	841	100.0
DROUGHT		
Occurrence		
Yes	805	67.1
No	308	25.7
Not sure	19	1.6
Don't know	68	5.7
Total	1,200	100.0
When		
Before rainy season	457	56.8
During rainy season	108	13.4
After rainy season	202	25.1
Not sure	38	4.7
Total	805	100.0
Duration without rain		
Shorter (delayed planting)	184	22.9
Mild (decrease in yield)	211	26.2
Longer (loss of crop)	410	50.9
Total	805	100.0
FOREST COVER		
Observed changes in the past 10 years		
Yes	608	50.7
No	355	29.6
Not sure	14	1.2
Don't know	44	3.7
Not applicable	179	14.9
Total	1,200	100.0

Response	Frequency	Percentage
<i>Observed change in forest cover</i>		
Decrease	499	82.1
Increase	109	17.9
Total	608	100.0

During the FGDs, participants also had the same observations. FGD participants cited frequent and stronger typhoons. They also underscored that no place is no longer exempted to this problem since typhoon tracks have already shifted southward where before typhoons rarely occurred.

In addition, extreme rainfall and drought (El Niño and La Niña events) were observed to be more frequent and severe. These events created major negative impacts to: health (increase of diseases and pests); agriculture (crop failure, fish catch decline); biodiversity (endangerment of flora and fauna); energy (frequent brownout especially during drought), water supply (insufficient during drought / El Niño) and coastal ecosystem (coastal erosion due to sea level rise).

Flooding, landslide, river siltation and occurrence of tornadoes were also identified to be more common nowadays. Extreme temperature (very cold during cold months, and very hot during dry months) was also mentioned as evident.

FGD participants shared that their areas used to be safe from climate-related impacts but are now being flooded and affected by drought. Flooding according to them basically was driven by strong rains and exacerbated by silted rivers and drainage canals. Siltation has been a serious problem because upland forests are now degraded (thus causing erosion) and garbage dumping on drainage canals remains rampant.

They also reported considerable change in temperature, crop failure, and water stress as the most likely impacts of dry spells. They also attributed the changes in climate to the increasing number of factories in their area. Garbage was also seen to worsen air pollution resulting to various health problems.

In terms of climate change drivers, participants underscored GHG emission (particularly atmospheric carbon) as the main cause of climate change. Deforestation (including illegal logging) as an activity was noted to exacerbate GHG emission. They also mentioned ozone layer depletion as a driver of climate change. Alarmingly, climate change was also described as a hoax, on one hand, and God's intervention, on the other, to remind people to be responsible stewards of the environment.

This implies that the general publics' idea of climate change was more of the symptoms rather than the root causes. The public can describe what climate change is but do not know how and why it happens. This is logical being a non-scientist and has been based on exposure to information or experience instead of the science of climate change.

Poor enforcement of environmental laws particularly the Solid Waste Management Act (RA 9003) and Clean Air Act (RA 8749) were also identified as the major reason for the worsening climate change problem. Further, the unregulated use of fertilizers and pesticides, burning of rice straws, and natural resource extraction such as mining and overgrazing further magnifies climate change impacts.

Participants noted that in the past, typhoons were relatively fewer and bearable, but now these are stronger and more violent accompanied by torrential rains. This has resulted to serious flooding and landslides, which greatly affected vulnerable communities in terms of damages to crops and infrastructures, as well as coastal degradation.

They also said that the temperature has dramatically increased (especially during dry months and El Niño), thus, has resulted to: water stress (insufficient water supply), health problems and diseases, biodiversity loss, grassland fires, and crop failure.

Personal feelings about climate change according to participants have also created emotional stresses especially those communities that are vulnerable (with limited capacity to adapt to climate change) to its adverse effects. Many are now migrating to other places since floods and drought are displacing them.

The responses are indeed dramatic and severe which made some people leave their domains to ensure safety and survival. Once the trend continues, there could be more abandoned areas that would prove difficult to manage and maintain.

Similarly, participants during the focus group discussion, generally, viewed climate change in terms of its impacts and drivers. Among the impacts, the unpredictable weather pattern was the most popular. FGD participants further related the extreme temperature change to occurrence of severe floods and typhoons. These therefore threatened health and human security. In the coastal areas, sea level rise was also noted as a major evidence of climate change. They were also aware that climate change triggers the melting of polar caps, which led to sea level rise.

As expected, responses focused on what rather than the why and the how. Since most representatives have been exposed to or trained on various climate change seminars and training, it can be deduced that more explanation of how climate change happens be given more emphasis compared to its adverse effects which could sometimes be localized or true only for a particular location. Hence, interventions should be location-specific rather than generic. Since impacts are known, such awareness level can be capitalized on to educate the public further.

These responses are proofs that the occurrence of the new normal has been felt and recognized as signs of climate change. The experiences and observations are real which implies that any interventions to address climate change are welcomed.

During the FGDs, participants noted that communities appeared prepared in addressing climate change impacts to them. The conduct of seminar and training on climate-related disaster risk reduction management was identified as the most common action that the local government is doing to combat the effects or to adapt to climate change. Of course, only the implementers are being trained, not the total population.

Participants across sites mentioned that the local government's enforcement of RA 9003 i.e. proper solid waste management is an important climate change action.

Funds for environmental projects (reforestation, materials recovery facility (MRF) /waste management facilities) have also increased.

For the sites where agriculture was the primary source of livelihood, the government's regulation of rice straw burning and use of chemical fertilizers and pesticide was noted as an effective initiative to fight environmental degradation and climate change. Local ordinances

in managing agricultural wastes have also increased. Most of the farmers now refrain from burning their rice straw. Awareness campaigns and adoption of organic farming have also increased. Coastal clean-up drive was also mentioned as an avenue where local participation to combat climate change is best exemplified.

Others mentioned that reforestation and infrastructure improvement (e.g. water facilities, roads, and canals) help local communities better mitigate and adapt to floods and drought.

The development and use of alternative energy (solar and hydroelectric) was also mentioned as a good approach to lessen GHG emission.

They have also indicated that the local government has climate change adaptation programs. Mainstreaming of climate change concepts in public school curricula was viewed as necessary to raise local awareness on climate change.

With the increasing awareness on climate change impacts, there is now a greater interest for local people (especially the local government personnel) to participate in seminars and training being provided by various agencies (government, NGOs and academe) especially on the topics pertaining to disaster preparedness, climate change and farming adaptation, and other environment-related resource conservation activities.

Likewise, as local people recognize that air pollution and garbage dumping are very much connected to climate change problem, there has been stricter implementation of RA 9003 (Solid Waste Management Act) even at the barangay levels.

Local ordinances in managing agricultural wastes have also increased. Most of the farmers refrain from burning their rice straw.

Tree planting activities have also become a popular climate change mitigation action, particularly through the National Greening Program (NGP), which envisioned a massive reforestation of the country.

However, the appreciation of the climate change phenomenon should go beyond knowledge acquisition about the concept but to know how these changes have implication on food security, water sufficiency, ecological and environmental sustainability, human security, climate smart industries and services, and knowledge and capacity development as the priorities to be addressed.

F. Awareness on mitigation, adaptation measures and the reduction of emission of deforestation and degradation (REDD)

In contextualizing awareness on the climate change phenomenon, survey-respondents were asked about the sources of GHG based on what scientists say about the major reasons for the tremendous increase in GHG. They were asked to choose one or more responses. Results showed that more than the majority (696 or 58 percent) of survey respondents were aware that industries/factories (use of gasoline/diesel) is a major cause. Agricultural and farming activities (burning of straw) according to 582 (48.5 percent) of survey-respondents identified it as another contributor of GHG emission. However, they are not knowledgeable that once land is submerged in water, it already emits GHG. It is good to know that respondents are aware that garbage disposal, animal wastes, burning of household wastes, and cutting of trees have detrimental effects to the environment (**Table 7**). This implies that since people were aware about the major reasons for increase in GHG emission, it would be

appropriate to take cognizance of this awareness as bases for messaging, training, or policy making in the future.

Table 7. Distribution of respondents by reasons for increase in GHG

Reason	Frequency*	Percentage
Industries/factories (use of gasoline/diesel)	696	58.0
Agricultural and farming activities (burning of straw)	582	48.5
Garbage disposal	570	47.5
Animal wastes (e.g. cow dung)	531	44.2
Deforestation/cutting of trees	378	31.5
Burning of household wastes	194	16.2
Don't know	175	14.6
Total	3,910	

*Multiple responses; N=1,200

They were also asked to indicate whether they are engaged in activities that would contribute to GHG emission. More than the majority (707 or 58.9 percentage) said that they are not but a sizeable percentage (493 or 41.1 percentage) are engaged in some of those activities (**Table 8**).

Table 8. Distribution of respondents who engaged in activities that contributes to GHG emission

Response	Frequency	Percentage
Engaged in activities		
Yes	493	41.1
No	707	58.9
Total	1,200	100.0

Most (207 or 42.5 percent) respondents who are engaged in burning of garbage do this especially in the provinces because they believe that burning the leaves can help eradicate mosquitoes or for mangoes to bear fruits. Some also believe that smoke could shoo away bad spirits that is why they burn their trash usually late in the afternoons. These cultural practices have to be stopped and make people understand that they are contributing to GHG emission as well (**Table 9**).

Table 9. Activities that contribute to GHG emission

Activity	Frequency	%age
Burning of garbage	207	42.0
Improper garbage disposal	82	16.6
Use of fossil fuels	56	11.4
Deforestation/cutting of trees	31	6.3
Cigarette smoking	14	2.8
Burning of agricultural wastes	20	4.1
Smoke from factories	3	0.6
Total	493	100.0

The result is understandable because mitigation measures are not yet fully in place in the country. A great majority (960 or 80 percent), in fact, has not heard about REDD+ but they

perceived that climate change is related to forest cover (986 or 82.2 percent). It is apparent that educating the general public is really mandatory (**Tables 10 and 11**).

Table 10. Distribution of respondents who have heard about REDD+

Response	Frequency	Percentage
Yes	147	12.3
No	960	80.0
Not sure	93	7.7
Total	1,200	100.0

Table 11. Respondent's perception on whether climate change is related to change in forest cover

Response	Frequency	Percentage
Yes	986	82.2
No	47	3.9
Not sure	111	9.3
Don't know	56	4.6
Total	1,200	100.0

It is also apparent that TV as the most (102 or 69.4 percent) accessed source of information about REDD+ may have little coverage or very technical presentation of the concept. Even more revealing is that almost all (98 percent of the 147 who are familiar with the concept of REDD+) were not aware of any REDD+ project in their area because these really do not exist in all areas in the Philippines (**Tables 12 and 13**).

Table 12. Source of information regarding REDD+

Source	Frequency*	Percentage
Television	102	69.4
Radio	62	42.2
School	20	13.6
Internet	12	8.2
Seminar/Meeting	12	8.2
Friends	10	6.8
Family	8	5.4
Local Officials	8	5.4
Newspaper	6	4.1
NGO	2	1.4
Total	242	

* Multiple Responses; N=147

Table 13. Distribution of respondents who are aware of REDD+ projects in their area

Response	Frequency	Percentage
Yes	3	2.0
No	144	98.0
Total	147	100.0

It is saddening to find out that a great majority (860 or 71.7 percent) was not aware about government programs, projects, and activities to address climate change at the national and local levels despite the numerous adaptation projects and programs currently in place (**Table 14**).

Table 14. Knowledge about government programs, projects and activities to address climate change at the national and local levels

Response	Frequency	Percentage
Yes	340	28.3
No	860	71.7
Total	1,200	100.0

Furthermore, half of the survey-respondents believed that the entity responsible to address climate change is the individual followed by the community. This could perhaps be attributed to the notion that the major cause of climate change is man-made. Since respondents felt responsible, this could be the point of entry for any intervention that they can relate with (**Table 15**).

On the other hand, during the FGDs, participants said that government programs related to disaster risk reduction and management have increased; infrastructures and housing designs have improved to enhance resiliency to floods, typhoons, and strong winds.

The disconnection could perhaps be attributed to the type of respondents where FGD participants were purposively chosen and involved in climate change initiatives unlike in the survey, which were randomly chosen. It appears that information dissemination or visibility of projects undertaken need further up scaling and involvement of people. Environmental communication unlike information, education and communication (IEC) or social marketing requires collective pressure and continuous participation of stakeholders. Behavior change is not the intention but transforming norms or practices that could eventually lead to change in behaviors is.

Table 15. Perception on whose responsibility to address climate change

Responsible	Frequency	Percentage
Individual	606	50.5
Community	225	18.8
Local Government Unit	114	9.5
National government	144	12.0
International organization	12	1.0
Business and industries	21	1.8
Environmental organization	62	5.2
No response	16	1.2
Total	1,200	100.0

G. Activities people are engaged in to reduce risks from climate change impacts and to reduce greenhouse emissions

Survey respondents were asked if they are engaged in activities that contribute to GHG emission. More than the majority (707 or 58.9 percent) said that they are not while 493 (41.1 percent) said that they were engaged in activities that contribute to GHG emission (**Table 16**).

Table 16. Distribution of respondents who engaged in activities that contributes to GHG emission

Engaged in activities	Frequency	Percentage
Yes	493	41.1
No	707	58.9
Total	1,200	100.0

Respondents were also asked what activities they were engaged in that would contribute to lessening GHG emission. Almost all (96.8 percent or 1,161) cited that water conservation could lessen GHG emission. It appears that respondents are aware that household activities could lessen GHG emission such as turning-off of appliances when not in use (96.6 percent or 1,159), reducing food wastes (93.5 percent or 1,122), 3Rs-reduce, reuse and recycle (93.4 percent or 1,121) and the like. It implies that respondents are aware about some adaptation measures but not mitigating ones like methane or biogas capture, smart building or use of electric vehicle. The shift to using light emitting diode or LED lights according to a great majority (82.6 percent or 991) is an indication that they are aware about the use of solar energy for home consumption (**Table 17**).

In the FGDs, communities appeared prepared in addressing climate change impacts. The conduct of seminar and training on climate-related disaster risk reduction management was identified as the most common action that the local government is doing to combat climate change.

However, migration to other places particularly those households who are very much exposed to climate change impacts (families that are situated in low-lying areas) and landslide also occurred. In effect, it can be deduced that while adaptation measures are being subscribed to, there are instances when people will just have to leave their abode and transfer to safer grounds. While this is not the prevalent course of action, it can be a cause for alarm because it means that stewardship of natural resources could be jeopardized.

Table 17. Engagement of respondents in activities that lessen the emission of GHGs

Item	Yes		No		No response		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Conserve water	1,161	96.8	28	2.3	11	0.9	1,200	100.0
Turn-off appliances when not needed	1,159	96.6	24	2.0	17	1.4	1,200	100.0
Reduce food waste	1,122	93.5	61	5.1	17	1.4	1,200	100.0
Recycling, reusing and reducing wastes	1,121	93.4	62	5.2	17	1.4	1,200	100.0
Walking or biking instead of riding motorized vehicle	1,067	88.9	124	10.3	9	0.8	1,200	100.0
Non-burning of garbage	1,042	86.8	144	12.0	14	1.2	1,200	100.0
Backyard gardening	1,031	85.9	162	13.5	7	0.6	1,200	100.0
Save gas, fuel wood and electricity for cooking	1,018	84.8	167	13.9	15	1.3	1,200	100.0
Non-cutting of trees	997	83.1	192	16.0	11	0.9	1,200	100.0
Shift to LED lights	991	82.6	193	16.1	16	1.3	1,200	100.0
Commuting instead of bringing a car	973	81.1	214	17.8	13	1.1	1,200	100.0
Tree planting/reforestation	949	79.1	243	20.3	8	0.7	1,200	100.0
Organic farming	787	65.6	402	33.5	11	0.9	1,200	100.0
Mass transport system	730	60.8	450	37.5	20	1.7	1,200	100.0
Agroforestry	728	60.7	463	38.6	9	0.8	1,200	100.0
Car pooling	589	49.1	599	49.9	12	1.0	1,200	100.0
Renewable energy	541	45.1	473	39.4	186	15.5	1,200	100.0
Use of electric vehicle	309	25.8	879	73.3	12	1.0	1,200	100.0
Smart building	277	23.1	687	57.3	236	19.7	1,200	100.0
Methane or biogas capture	219	18.3	930	77.5	51	4.3	1,200	100.0

The moderate awareness of the respondents seems to point to the desire to have more information about climate change and its concomitant risks. Socially constructed beliefs may have to be scientifically changed through a proper information and communication platform. In fact, when survey-respondents were asked if they want to learn about climate change, a very great majority, 92.5 percent (1,110) said they do. The preferred medium to receive more information about climate change was TV according to a very great majority (889 or 80.1 percent) of the respondents. In the Philippines, almost every household has a television set. People especially classes C and D believe what they see on television. The challenge, perhaps, could be the competition with various channels and the willingness of the TV networks to produce development-oriented programs (**Table 18**).

Table 18. Distribution of respondents who want to learn more about climate change by preferred medium

Response	Frequency	Percentage
Who wants to learn more		
Yes	1,110	92.5
No	90	7.5
Total	1,200	100.0
Preferred medium		
TV	889	80.1
Magazine	54	4.9
Radio	52	4.7
Social media	38	3.4
Newspaper	14	1.3
Others	29	2.6
No response	34	3.0
Total	1,110	100.0

Since mass media is the preferred medium for information access, it follows that the most reliable information source about climate change was the mass media with a rating of 4 in a scale of 1-5, with 5 as the highest. This implies that the use of the mass media can bolster climate change resiliency. This can be done in collaboration with the Philippine Information Agency who is mandated to reach the grassroots and empower them so that they can judiciously decide on issues that concerns them. They also have the communication infrastructure to deliver the message in the most appropriate manner given the need to educate people about climate change and prepare them for any eventuality.

In the FGDs, participants were asked about the perceived implications or impacts of the Philippine's commitments to the Paris Agreement and policy recommendations to the present administration for substantial or equitable fulfillment of the commitment. Participants suggested that to be able to meet such commitment, there is a need for stricter implementation of environmental laws such as RA 9003 and EO 23 (moratorium on logging in natural /residual forests). A bold step to regulate the production and use of vehicles must be done by the government to reduce GHG emission. More funding for research and development on climate change mitigation and adaptation actions were likewise suggested. Also, accurate measurement, monitoring and reporting of GHG emissions in the country is critical, as this will provide basis for planning climate change mitigation strategies. The promotion of organic farming, with ample government support on capitalization and marketing of organic farm products was likewise recommended.

Finally, discipline and transparent governance is of utmost need to achieve climate action goals according to the FGD respondents.

H. Awareness level on government’s engagement in fulfilling the national climate change strategy

It is ironic that more than the majority (822 or 69 percent) of the survey-respondents were not aware of the existence of the Climate Change Commission (**Figure 58**). Of those who are aware, majority (292 or 77.2 percent) of the respondents learned about CCC from TV followed by radio (101 or 26.7 percent).

Table 19 presents the source of information about CCC.

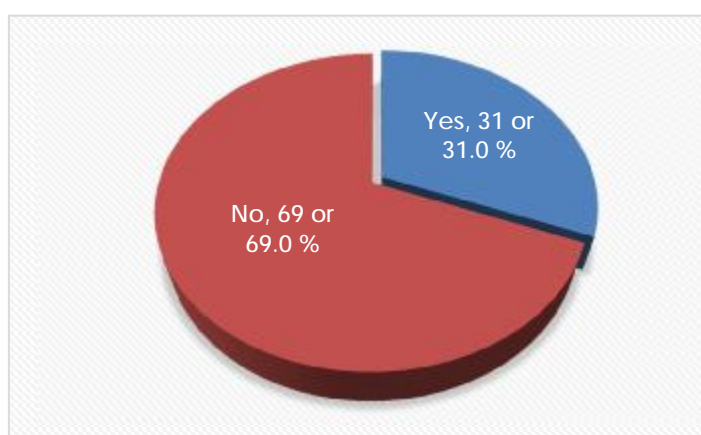


Figure 58. Awareness Level about CCC

Table 19. Distribution of respondents by source of information about CCC

Source	Frequency*	Percentage
Television	292	77.2
Radio	101	26.7
Newspaper	33	8.7
School	28	7.4
Internet	27	7.1
Local officials	20	5.3
Seminar/meeting	16	4.2
Friends	8	2.1
Family	6	1.6
NGO	5	1.3
Total	536	

*Multiple Responses, N=378

It follows that a great majority (1,054 or 87.8 percent) were not familiar with NCCAP (**Figure 59**). More than the majority of those who are aware (112 or 76.7 percent) got their information from TV as well (**Table 20**).

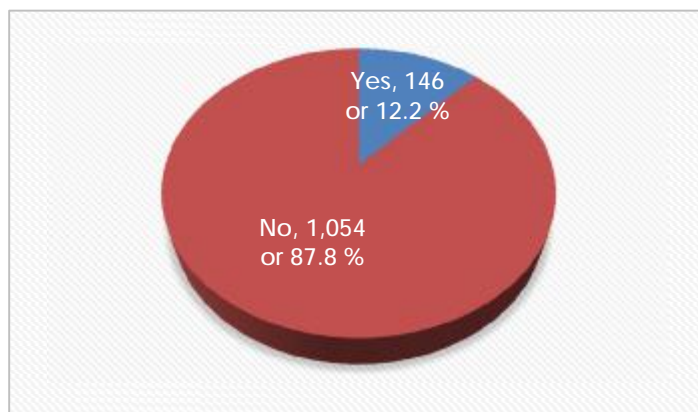


Figure 59. Awareness about NCCAP

Table 20. Distribution of respondents by source of information about NCCAP

Source	Frequency	Percentage
TV	112	76.7
Radio	29	19.9
Internet	12	8.2
Newspaper	9	6.2
School	6	4.1
Local officials	6	4.1
Friends	5	3.4
Seminar/meeting	4	2.7
Family	1	0.7
Total	184	

*Multiple Responses; N=146

Even more alarming is that 78 percent (936) of the survey-respondents do not know any other national government agencies whose mandate is to address climate change. Consequently, most (581 or 48.4 percent) perceived that government programs to address climate change were insufficient (**Table 21**).

Table 21. Distribution of awareness of other government agencies that address climate change and its sufficiency

Response	Frequency	%age
Aware		
Yes	264	22.0
No	936	78.0
Total	1,200	100.0
Activities		
Sufficient	392	32.7
Insufficient	581	48.4
Not sure	227	18.9
Total	1,200	100.0

Thus, when asked if they agree to the statement: "The Philippines should make more use of renewable energy such as solar, wind, hydro, biomass, or geothermal to cover its energy needs," a great majority (1,013 or 84.4 percent) agreed with the statement. More so, a greater majority (1,110 or 92.5 percent) wants to learn more about climate change in all locations (Table 22).

Table 22. Agreement distribution to the statement that government should use renewable energy

Response	Frequency	Percentage
Agree	1,013	84.4
Disagree	31	2.6
Not sure	156	13.0
Total	1,200	100.0
Desire to learn more about climate change		
Yes	1,110	92.5
No	90	7.5
Total	1,200	100.0

The preferred medium to receive more information about climate change was television according to 61.8 percent (890) of the survey-respondents perhaps because through television, climate change concepts can be better-explained using multimedia (Table 23). However, television networks may not devote more time to development-oriented topics that sponsors would be willing to support.

Table 23. Preferred medium to receive more information about climate change

Medium	Frequency*	Percentage
TV	890	74.2
Radio	222	11.5
Social media	138	18.5
Brochure/comics/magazine	100	8.3
Newspaper	90	7.5

*Multiple Responses; N=1,200

Survey-respondents were also asked to rate their level of reliability among the different sources of information on climate change using a scale of 1 to 5 with 5 as the highest. Almost half (590 or 49.2 percent) chose the media as the most reliable source of information on climate change. This implies that the mass media such as television and radio must be tapped to educate the public on climate change. However, media people must be properly equipped with the right information and how this information can be popularized in a manner that every Filipino can understand what is climate change about and its impacts to the country not only in terms of environmental sustainability but its effects on food security, water sufficiency, ecological and environmental sustainability, human security, climate smart industries and services, and knowledge and capacity development. Popularizing science communication is different from laymanizing a concept (Table 24).

Table 24. Level of reliability rating of sources of information regarding climate change

Source	1.00		2.00		3.00		4.00		5.00		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Family Member or friend	100	8.3	159	13.3	390	32.5	277	23.1	274	22.8	1200	100.0
Scientists	90	7.5	104	8.7	270	22.5	240	20.0	496	41.3	1200	100.0
Local Government	34	2.8	99	8.3	411	34.3	382	31.8	274	22.8	1200	100.0
National Government	30	2.5	94	7.8	322	26.8	366	30.5	388	32.3	1200	100.0
NGOs/CSOs/ environmental groups	56	4.7	120	10.0	385	32.1	319	26.6	320	26.7	1200	100.0
School/ Academic institutions	34	2.8	90	7.5	300	25.0	372	31.0	404	33.7	1200	100.0
Media (TV, Radio, Newspaper, Online News)	51	4.3	64	5.3	168	14.0	327	27.3	590	49.2	1200	100.0
Prominent Personalities/ Endorsers	203	16.9	202	16.8	300	25.0	215	17.9	280	23.3	1200	100.0

In the FGD, among the programs of CCC and other government agencies (particularly DENR and LGUs), disaster risk reduction management and land use planning (including geo-hazard mapping) were identified as the most important activities/initiatives to combat climate change.

Again, the enforcement of RA 9003 and implementation of reforestation projects (such as NGP) were included as effective strategies to mitigate climate change.

They were also familiar with the need for developing the LCCAP to better strategize climate change mitigation and adaptation actions that are relevant to the local community situation. Likewise, these sites have indicated that their LGU has already appropriated funds for climate change-related projects through Climate Change Expenditure Tagging or CCET.

They also believed that the promotion of organic farming (RA 10068), integrated pest management, and the usual extension program – farmer field school (mostly implemented by DA) helped increase climate resiliency of local farmers. Participants have also mentioned that there has been an increase in funds for CC-related researches. On the transport sector, traffic management (using new technologies), use of eJeep, and stricter vehicle emission tests were also identified as important government activities to help solve GHG emission problems.

I. Misconceptions about climate change that need rectification

Overall, a number of misconceptions about climate change as perceived by both survey respondents and FGD participants have to be rectified. Some of these include:

- Opinions about the definition of climate change, which are changes in weather or in climate;
- Causes and effects of climate change were viewed interchangeably. They were not able to readily identify whether a certain event is a cause or an effect. All they know is these are related to climate change.
- While they know that the ozone layer is depleting, this was described as directly causing climate change.
- The increase in sea level rise according to the survey respondents causes big and strong waves.
- They also believed that climate change is not too risky which means they do not have a full grasp of what climate change can bring to people's lives.
- Effects of climate change like wetter wet months or hotter dry months or very strong typhoons were always viewed as negative.
- They are not aware that with wide swath of new typhoons of up to 1000 km, destruction of crops and properties are only within 25 km from the path of the eye; beyond that provides benign rain that helps increase crop production.

J. Thematic Analysis

Dominant themes were drawn to explain the meanings of the responses during the FGD sessions.

Dominant theme 1: Misconceptions about climate change can be dangerous assumptions

Participants viewed climate change based on its impacts and drivers. This is not enough if the need is to build climate change resiliency. A thorough understanding of the climate change phenomenon must be brought to the fore to socially, mentally, economically, and environmentally prepare the Filipino people on the concept of climate change. Being knowledgeable is desired to change the misconceptions of what climate change really is. Knowing the buzzword could be dangerous which means knowing the science must be enforced at all levels. Addressing wrong notions should be done to avoid misconceptions on scientific processes that should be popularized for policymakers and enforcers to understand. At the minimum, information, education and communication (IEC) campaigns should include the relevant topics on: 1) foundational cause(s) of GHG increase (anthropogenic and natural); 2) process how GHGs shape climate; 3) exposure and vulnerabilities of people and ecosystems to climate change (knowing who are at risks and to what degree); 4) importance of doing mitigation (to reduce GHG increase) and adaptation (to cope with climate change impacts) at the same time; 4) what is and how to participate disaster preparedness / disaster risk reduction and management.

The little knowledge that people know should really be beefed up and organized in a coherent frame. For instance, the sweeping statements like exchanging weather and climate should be corrected and clarified. Apparently, one cannot fully prepare for the unpredictable and short-term effects of weather changes, but rather and more importantly to pronounced and long-term climate variabilities such as delayed rain onset, prolonged El Nino, and others. Awareness campaigns should also endeavor in explaining the wide impacts on

climate change on health, environment, food security, water security, human security, energy security, climate smart industries/communities, and knowledge management. These impacts must be sufficiently reflected in the local level planning. Moreover, interventions should not be limited to awareness but educating and ultimately calling people to collective action.

Dominant theme 2: Experience teaches people

Since people have become aware of the concept of climate change because of the traumatic experience that the Philippines has undergone, it made them concerned instead of being complacent. Fear made them resilient towards climate change because they cling to that feeling so that any seminar or training or education that they can hold on to will be very much appreciated. They know what are the adverse effects of climate change which they have very little control of but if they are to be responsible for their actions, they can have a positive attitude. In cognizance of the people's experience, the same can be the anchor to extend their knowledge about the other mitigating and adaptation measures.

Dominant theme 3: Being ready is a necessity

FGD participants noted that being ready is a necessity. Socially preparing people in anticipation of any untoward disaster can make people resilient to climate change. Information dissemination must be intensified through constant bombardment of issues about climate change as well as the need to respond to its impacts on a regular basis through the fastest medium can be helpful. Now that the government fully supports climate change initiatives from the local government units, there is no reason why they cannot socially, mentally, and physically prepare their constituents. Information communication technologies like radio, television, social media, and the mobile phone are potential avenues for building networks and linkages should carry messages about food security, water security, environment and ecosystem sustainability, human security, energy security, climate smart industries/communities, and knowledge management. There are instances when people just have to embrace the measures for survival and the propensity to make the world a better place to live in. It is also critical that practical and suitable options to mitigate and adapt to impacts should be known to greater audiences.

Dominant theme 4: Fear conquers all

It seems that participants were encouraged to embrace climate change because of fear. Fear as a sign of adaptation can actually save lives. People who are afraid of flood occurrence or typhoon-ready are better prepared. However, the fear, which has no basis, may lead to death through heart attacks or simply uncontrollable tensions and pressures because of emotional stress. Intensive education on climate change must really be done to become climate smart. This should start by conducting participatory risk and vulnerability assessments (to determine areas and severity of impacts) that are coupled with scientific studies (e.g. climatic projections, flood modelling, landslide susceptibility, and others); and thereafter pursue multi-stakeholder mitigation and adaptation planning.

FGD participants were aware of the climate change problem. They associated this more on its negative impacts (to health, safety, and livelihoods). They also recognized that there is now a 'new climate normal' with the fact that weather patterns became unpredictable, stronger typhoons are more frequent, dry spells are longer, and disasters due to flooding and landslides are now more severe.

They also narrated that the current approach to address climate change (particularly at LGU level) still appears to be fragmented. This is somehow reflective of the lack of comprehensive plan(s) such as LCCAP and climate-proofed CLUP. Not all LGUs have prepared these plans. Some LGUs have separate climate change action plans, which do not form part of the CLUP. There are LGUs who are being supported by NGOs, which could lead to fragmentation of climate change approaches. However, notions of climate change are limited to what or its effects and not on the why and how processes of climate change occurrence. Communicating science has to be made more scientific for the public to better understand and prepare the Filipinos to become climate change smart and resilient. This means that messages should be grounded on the science of climate change. Information dissemination should not be too popularized that the essence of climate change is lost. Making people understand the science behind climate change is necessary to better understand the event. In this way, people will not interchange cause and effects of climate change, which is what is happening right now, even with technical people.

K. Contextualizing interpretation of survey and FGD results based on NCCAP priorities

Food Security. The respondents and FGD participants are generally aware of climate change and considered stronger typhoons, unseasonal intense rain and frequent or longer droughts are possible effects. These phenomena usually result in crop damage or lower production thus affecting food security. Strong typhoons damage properties and infrastructure such as roads and bridges, which consequently hamper food distribution especially to remote areas or to heavily populated urban centers. Also, typhoons or heavy downpours cause power outages, which result in food spoilage or would require standby generators, the operation of which adds cost and burns fossil fuel, which increase emission of GHG. Some FGD participants observed increasing swath of typhoons of up to 1,000 km wide in recent years. While destruction occurs within 25 km radius of path of the eye of the typhoon, the outlying areas receive benign rain, which in turn increases production of rain-fed crops.

Water Sufficiency. Respondents consider cutting of trees or deforestation as a major cause of climate change. Deforestation affects microclimate and generally reduces rainfall. Heavy rain during monsoon in open slopy areas accelerates erosion or loss of topsoil and sometimes landslide. Eroded topsoil limits rainwater infiltration that recharges the aquifer which supply domestic or drinking water in lowland areas.

Agriculture is a major consumer of rainwater. Unfortunately our irrigation system for rice were designed without due consideration of efficiency. Single pass with no provision for drainage and means for collecting surplus water for reuse or recycling were not part of the engineering design. With increasing demand for domestic water due to increasing population, the agricultural irrigation system need retrofitting to be economical for agricultural use with conservation measures that would enable increase available supply for human population. Respondents also recommended proper garbage disposal and upgrading of sewerage system to avoid contamination of domestic water supply for safe and quality water for human use.

It was also suggested that new buildings should have rainwater collection system for cleaning, watering of plants or for conserving water for use during drought or El Nino. Also in wider landscape, it was recommended to have lagoons or mini dams to conserve water instead of just draining surplus rainwater to the sea.

Ecological and Environmental Sustainability. Respondents believe that neglect or abuse of the environment is a major cause of climate change. Those who are familiar with the Eco-town project of CCC believe that having self-contained Eco-town model for each ecosystem is a sustainable way of adapting to climate change. As well, the model supports one of the UN's Sustainable Development Goals, goal number 11 or Sustainable Cities and Communities. To protect or conserve the environment, respondents believed that effective enforcement of environmental laws by the Duterte Administration can go a long way of improving the quality of life of the people.

Similarly, waste segregation, proper waste disposal, cleaning of waterways and coastal areas will improve the quality of the environment and could help restore the loss of biodiversity.

Human Security. Extreme weather events pose threats to human lives. Likewise, people need to be educated on the threat of weather borne diseases to human well-being and productivity. With increasing intensity of typhoons, it is necessary to build better homes and away from disaster prone areas such as *estero* or coastal areas where tidal surges are likely. Other respondents believe that help people rise above poverty will enable them to have more resources to be able to cope to adverse effects of climate change.

Energy Security. Respondents believe that a gradual shift toward renewable energy would contribute to long term solution to adverse effects of climate change and enable the country to fulfill its international commitment on climate regimes. Similarly, the program of the Department of Energy on energy conservation would help save on utility bills but also promote energy security. More Research and Development programs are needed to develop energy and material efficient technologies.

Climate Smart Industries and Enterprises. In the long term, developing green technologies for industries or enterprises are believed to contribute to energy and material efficiency but help promote CC resiliency. Green building uses less energy and saves on utility bills. It would also involve retrofitting our building and infrastructure and with other co-benefits would make investment more profitable at the same time boost economic development and quality of life.

Capacity Building and Knowledge Management. Since most people already are aware of climate change but not yet knowledgeable on how best to minimize risk or how to adapt to climate change and more so on effective means of mitigation, a systematic capacity building on climate change adaptation across sectors and society starting from schools, LGU programs and support of mass media would be an important investment of the government. This theme should cut across the other themes to fully and thoroughly educate the Filipino people.

V. CONCLUSIONS

The survey results showed that a great majority were aware about climate change and its related issues. However, being aware is not synonymous to being knowledgeable. The superficial notions of climate change could be a dangerous assumption. People's experiences on extreme weather conditions have sensitized them to the impacts of climate change but were not seen as highly risky. In case the same notion continues without proper education, there could be detrimental effects to the family and the community.

For one, the public's awareness level on mitigation measures is very nil though a great majority have engaged in adaptation measures which address man-made initiatives. The non-cognizance of the Climate Change Commission and the National Climate Change Strategy is a revelation that has to be reckoned with because it could impact to how people should be prepared. Information dissemination must be intensified through constant bombardment of issues about climate change on a regular basis through the fastest medium but to be complemented by other platforms or strategies. TV, could be the preferred medium but would television stations buy the idea of airing development-oriented programs? This could be seen as a topic that is informative but not entertaining. People watch TV to be entertained and for relaxation. Thus, a more appropriate and closer medium to the masses must be installed like community radios, a vehicle of change that is managed and run by the community which airs local issues that matter to the locals.

Capitalizing on the consciousness of the people to educate them about climate change is ripe. This is the time for the LGUs to address climate change in a holistic manner. The LCCAP and climate-proofed CLUP must be coherent and ensure that the entire population is an advocate of these initiatives. Communicating science has to be made more scientific for the public to better understand and prepare the Filipinos to become climate change smart and resilient.

Building better and stronger infrastructure with co-benefits though more expensive is a wiser adaptation measure than least cost approach. Investment in climate-proofed or smart buildings and infrastructure can stimulate economic growth, create jobs and are more sustainable in the long term but should be location specific. Climate change interventions cannot be true for all.

VI. RECOMMENDATIONS

Based on the results of the survey, the following recommendations are forwarded:

1. The CCC in collaboration with the PIA and related government agencies must develop a communication policy to cascade climate change information especially to the grassroots. The public appears to be sensitized and ready to embrace change and as such there is a need to craft a communication policy at all levels in mainstreaming climate change resiliency i.e. what needs to be done, how to socially prepare the people to face climate change effects, and readily understand scientifically the causes and effects of climate change. This could also be an avenue to address wrong notions or beliefs about climate change as a science. Tapping the mainstream media especially TV and radio must be explored as tools to educate the general public on the science of climate change complemented by other communication approaches.
2. Based on the results of the FGD, it appears that information imparted either through training or seminars needs to be reviewed. A more focused, science-based seminars or training programs must be conducted to level-off understanding, comprehension, and preparation for adaptation and mitigation among schools, local officials, and other related agencies. These activities should also stage the sharing of successful and effective mitigation and adaptation practices among local stakeholders, which can be mainstreamed in their locality. Local people themselves who have experienced the best ways to respond to climate change can be tapped as resource persons during these activities since there is a saying that farmers learn best from other farmers.
3. FGD participants have also suggested having a more holistic approach in government activities instead of a sectoral approach to avoid fragmentation of interventions. At present, climate change initiatives are fragmented. LGUs, through the guidance of CCC and other related agencies, should review past programs or initiatives on climate change, and find ways on how to integrate them into CLUP. This review should capture: 1) similarities and overlaps among the project plans and targets i.e. in terms of problems that need to be addressed, and intended beneficiaries / sectors; 2) potential funding sources (both government and non-government agencies); 3) planning horizons to complete projects (short-, medium-, and long-term); 4) projects' thematic typologies (e.g. health, livelihood, ecosystem, landscape, etc.); and 5) long term programs should have built-in sustainability and not co-terminus with the administration which initiated them. Such review will help draw a framework that will guide LGUs in synthesizing strategies into a master plan that will be responsive to climate change issues.
4. In the FGDs, participants suggested that there is a need for stricter implementation of environmental laws such as RA 9003 and EO 23 (moratorium on logging in natural /residual forests).
5. A bold step to regulate the production and use of vehicles must be done by the government to reduce GHG emission as suggested in the FGDs.
6. FGD participants also forwarded that more funding for research and development on climate change mitigation and adaptation actions should be explored.
7. Also, accurate measurement, monitoring and reporting of GHG emissions in the country is critical, as this will provide basis for planning climate change mitigation strategies

according to the FGD participants. It is quite difficult to initiate climate change interventions without an accurate baseline data.

8. The promotion of organic farming, with ample government support on capitalization and marketing of organic farm products was likewise recommended by FGD participants and survey respondents.
9. Introduction of climate smart varieties and technologies in agricultural production.
10. Discipline and transparent governance was the foremost suggestion forwarded by FGD participants to achieve climate action goal

Annex



Comparative Indicator Matrix

Annex 1. Comparative indicators matrix.

Province	Have you heard of the term climate change?		What do you think is the main cause of CLIMATE CHANGE?		Do you think the recent climate pattern is the New Normal?		Are you aware of the Climate Change Commission?		Do you know any other national government agencies whose mandate is to address climate change?		Do you know any government programs, projects, activities to address climate change at the national and local level?		Are you familiar with the National Climate Change Action Plan (NCCAP)?		Have you heard of the concept of 'Reducing Emission from Deforestation or Degradation' or REDD+?		If yes, do you know any REDD projects in your area?	
	Yes		Human activities		Yes		Yes		Yes		Yes		Yes		Yes		Yes	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Metro Manila	280	93.3	235	78.3	184	61.3	70	23.3	33	11.0	66	22.0	22	7.3	25	8.3	0	0.0
Bulacan	145	96.7	145	96.7	79	52.7	22	14.7	30	20.0	4	2.7	0	0.0	3	2.0	0	0.0
Nueva Ecija	150	100.0	133	88.7	137	91.3	124	82.7	43	28.7	56	37.3	49	32.7	55	36.7	0	0.0
Iloilo	134	89.3	121	80.7	102	68.0	36	24.0	73	48.7	84	56.0	22	14.7	22	14.7	1	4.5
Aklan	124	82.7	91	60.7	91	60.7	64	42.7	26	17.3	27	18.0	24	16.0	11	7.3	0	0.0
Bukidnon	115	76.7	113	75.3	105	70.0	37	24.7	19	12.7	71	47.3	13	8.7	12	8.0	2	16.7
Lanao del Norte	139	92.7	133	88.7	96	64.0	25	16.7	40	26.7	32	21.3	16	10.7	19	12.7	0	0.0
Total	1087	90.6	971	80.9	794	66.2	378	31.5	264	22.0	340	28.3	146	12.2	147	12.3	3	2.0

Annex



Interview Guide



Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

Objective: To gather baseline information on the current level of awareness on climate change, level of knowledge of causes and its impact, how climate change is experienced by the people and their engagement to address climate change.	Support to the Climate Change Commission in Shaping and Implementing International Climate Regime (SupportCCC Phase 2)	CONFIDENTIALITY: AIDS I takes the responsibility in guarding the confidentiality of all the information generated through this instrument
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Survey Questionnaire

Date: _____ Enumerator: _____ Team Leader: _____

Province: _____ Municipality: _____

Barangay: _____

Respondent Identification

Name		Cellphone No. :
Sex :	1- Male 2 - Female	
Age (as of last birthday)		
Marital Status :	1-Single 2-Married 3-Widow/er/Separated	
Highest Educational Attainment	1- None 2 - Some Elem. Grade 3-Completed Elem. 4-Some High School Years 5-High School Graduate 6- Vocational 7- Some College Year 8-College Graduate 9-Post Graduate	
Primary Occupation		

1. LEVEL OF AWARENESS ON CLIMATE CHANGE

1.1 Have you heard of the term **CLIMATE CHANGE**?
 1 Yes 2 No (*If No, proceed to 1.3*)

1.2 From where did you hear this term? [*Note: Response maybe more than one*]

- | | | | |
|----------|-------------------|-------------------|---------------------------|
| 1 Radio | 4 TV | 7 Newspaper | 10 Friends |
| 2 Family | 5 Local Officials | 8 NGO | 11 Others, please specify |
| 3 School | 6 Internet | 9 Seminar/Meeting | _____ |

1.3 How would you rate your level of awareness of climate change?
 (1- lowest 5 - highest) Encircle the answer. (*Show card*)

1 2 3 4 5

1.4 What do you know about climate change, please describe: _____

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

2. PERCEIVED CHANGE/S IN WEATHER, CLIMATE AND ENVIRONMENTAL CONDITIONS

2.1 Over the last 10 years, have you observed changes in **TEMPERATURE**?

- 1 Yes 2 No (*Proceed to 2.2*) 3 Not sure 4 Don't know (*Proceed to 2.2*)

If yes, what were the observed changes in the temperature [day/night] in your area?

2.1.a Day time

- 1 Hotter
- 2 Cooler
- 3 Remain the same
- 4 Not Sure

2.1.b Night time

- 1 Hotter
- 2 Cooler
- 3 Remain the same
- 4 Not Sure

2.1.2 What were the effects of this changed **TEMPERATURE** on your life? List down the effects.

2.1.a Day time	2.1.b Night time

2.1.3 How did you adjust/adapt to these effects?

2.1.a Day time	2.1.b Night time

2.2 Over the last 10 years, have you observed changes in the **SEA LEVEL** in your area?

- 1 Yes 2 No (*Proceed to 2.3*) 3 Not sure 4 Don't know (*Proceed to 2.3*)
 5 Not applicable (*Proceed to 2.3*)

If Yes, what was the observed change?

- 1 Decrease
- 2 Increase
- 3 Remain the same
- 4 Not Sure

2.2.1 What were the effects of this change in **SEA LEVEL**? List down the effects.

2.2.2 How did you adjust/adapt to these effects?

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

2.3 Over the last 10 years, have you observed changes in the **RAINFALL**?

1 Yes 2 No (*Proceed to 2.4*) 3 Not sure 4 Don't know (*Proceed to 2.4*)

If Yes, what were the observed changes?

2.3.a Frequency

- 1 Decrease
- 2 Increase
- 3 Remain the same
- 4 Not sure

2.3.b. Intensity

- 1 Decrease
- 2 Increase
- 3 Remain the same
- 4 Not Sure

2.3.1 What were the effects in the change in rainfall? List down the effects.

2.3.2 How did you adjust/adapt to these effects? What did you do?

2.4 Over the last 10 years, have you observed changes in the **TYPHOONS** in your area?

1 Yes 2 No (*Proceed to 2.5*) 3 Not sure 4 Don't know (*Proceed to 2.5*)

If Yes, what were the observed changes?

2.4.a Occurrence

- 1 Decrease
- 2 Increase
- 3 Remain the same
- 4 Not Sure

2.4.b. Intensity

- 1 Stronger
- 2 Weaker
- 3 Remain the same
- 4 Not Sure

2.4.1 What were the effects of the change in the occurrence and intensity of **TYPHOONS**? List down the effects.

2.4.2 How did you adjust/adapt to these effects? What did you do?

2.5 Over the last 10 years, have you observed flooding in your area?

1 Yes 2 No (*Proceed to 2.6*) 3 Not Sure 4 Don't know (*Proceed to 2.6*)

Code:				
	City/Province	Municipality	Brgy.	Respondent Number

If yes, what were the observed changes?

2.5.a Occurrence	2.5.b Depth	2.5.c Extent	2.5.d. Duration
1 Decrease	1 Shallower	1 Smaller area	1 Shorter
2 Increase	2 Deeper	2 Wider area	2 Longer
3 Remain the same	3 Remain the same	3 Remain the same	3 Remain the same
4 Not Sure	4 Not Sure	4 Not Sure	4 Don't know

2.5.1 What are the adverse effects of **FLOODING** in your area? List down the effects.

2.5.2 How did you adjust/adapt to these effects?

2.6 Over the last 10 years, have you observed the occurrence of **DROUGHT** in your area?

1 Yes 2 No (*Proceed to 2.7*) 3 Not sure 4 Don't know (*Proceed to 2.7*)

If Yes, when? _____

- 1 Before rainy season (delayed rain)
- 2 During rainy season (less rainfall)
- 3 After rainy season (early dry season)
- 4 Not Sure

How long there was no rain?

- 1 Shorter (delayed planting)
- 2 Mild (decrease in yield)
- 3 Longer (loss of crop)

2.6.1 What were the effects of drought? List down the effects.

2.6.2 How did you adjust/adapt to the effects of drought? What did you do?

2.7 Over the last 10 years, have you observed changes on the **FOREST COVER** in your area?

1 Yes 2 No (*Proceed to 3.0*) 3 Not sure 4 Don't know (*Proceed to 3.0*)
5 Not applicable (*Proceed to 3.0*)

If Yes, what was the change you observed?

- 1 Decrease
- 2 Increase
- 3 Remain the Same
- 4 Not Sure
- 5 Don't know

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

2.7.1 If decrease or increase, what do you think are the major causes for this change?
Please describe the reasons:

3. AWARENESS ON CLIMATE CHANGE CAUSES AND IMPACTS

3.1. Do you think that the **GLOBAL CLIMATE** is changing?

1 Yes 2 No 3 Not Sure

3.2. Do you think the recent climate pattern (more frequent and out of season extreme weather events) is the **NEW NORMAL**?

1 Yes 2 No 3 Not Sure

3.3. What do you think is the main cause of **CLIMATE CHANGE**?

1 Human Activities 2 Natural changes in the environment 3 Not Sure 4 Don't know

3.4. In a scale of 1 to 5, how would you rate the risk of climate change to your family, community and surroundings? (*Show card*)

1 No risk at all 4 Risky
2 Slightly risky 5 Highly risky
3 Moderately risky

3.5. In your opinion, who will be adversely affected by climate change?

1 Men 2 Women 3 Both

Why? _____

3.6 Scientists are saying that **the tremendous increase in greenhouse gases are the major reason for climate change**, given this, which of the following do you think is/are the source(s) of greenhouse gases? [*Note: Response maybe more than one*]

- 1 Burning of fossil fuel (use of gasoline/diesel in cars/buses/trucks and other motor vehicles)
- 2 Industries/factories (use of gasoline/diesel in factories)
- 3 Deforestation/cutting of trees
- 4 Agricultural and farming activities (burning of straw)
- 5 Animal wastes (e.g., cow dung)
- 6 Garbage disposal
- 7 Burning of household wastes
- 8 Others, please specify: _____

3.7 Are there activities that you are engaged that contribute to the emission of these greenhouse gases?

1 Yes 2 No

If yes, what are these activities? _____

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

3.8 Which of the following activities contribute to the lessening of greenhouse gas emission?

Mitigation Activities	1 Agree 2 Disagree	Explain why agree or disagree	Engaged 1-yes 2-no
Green strategies			
• Tree planting / Reforestation			
• Agroforestry			
• Organic farming			
• Backyard gardening			
• Non-cutting of trees			
• Methane or biogas capture			
Transportation			
• Walking or biking instead riding motorized vehicle			
• Commuting instead of bringing a car			
• Car pooling			
• Mass transport system			
• Use of electric vehicle			
Waste management (no burning, recycling, reusing, reducing)			
• Non-burning of garbage			
• Recycling, reusing and reducing wastes			
Household consumption			
• Save gas, fuelwood and electricity for cooking			
• Shift to LED lights			
• Reduce food waste			
• Conserve water			
• Turn-off appliances when not needed			
Renewable Energy			
Smart Building			
Others, please specify			

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

3.9 What does your family/community do to lessen emission of greenhouse gases?

3.10 Do you think that change in forest cover is related to climate change?

- 1 Yes 2 No 3 Not Sure 4 Don't Know

3.11 What should be done to protect the forest?

3.12 Have you heard of the concept of '**Reducing Emission from Deforestation or Degradation**' or **REDD+**?

- 1 Yes 2 No 3 Not sure

If yes, from where did you learn about this?

- | | | | |
|----------|-------------------|-------------------|---------------------------|
| 1 Radio | 4 TV | 7 Newspaper | 10 Friends |
| 2 Family | 5 Local Officials | 8 NGO | 11 Others, please specify |
| 3 School | 6 Internet | 9 Seminar/Meeting | _____ |

If yes, what do you know about it?

If yes, do you know any REDD projects in your area? Please give details.

4. AWARENESS LEVEL ON GOVERNMENT'S ENGAGEMENT IN FULFILLING THE NATIONAL CLIMATE CHANGE STRATEGY

4.1 Who do you think has the main responsibility for addressing climate change?
(Please encircle only one)

- 1 individual
- 2 community
- 3 local government
- 4 national government
- 5 international organization
- 6 business and industries
- 7 environmental organization
- 8 others, please specify _____

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

4.2 Do you know any government programs, projects, activities to address climate change at the national and local level? 1 Yes 2 No (*Proceed to 4.3*)

If yes, please list in the table below.

Program/Projects/Activities	Lead Agency	Remarks
National		
Local government unit		

4.3 Are you aware of the Climate Change Commission?
1 Yes 2 No (*Proceed to 4.4*)

4.3.1 From what source have you heard about the Commission?

- | | | | |
|----------|-------------------|-------------------|---------------------------|
| 1 Radio | 4 TV | 7 Newspaper | 10 Friends |
| 2 Family | 5 Local Officials | 8 NGO | 11 Others, please specify |
| 3 School | 6 Internet | 9 Seminar/Meeting | _____ |

4.3.2 What do think are the functions/roles of the Commission? Please enumerate.

4.4 Are you familiar with the **National Climate Change Action Plan (NCCAP)**?

1 Yes 2 No (*Proceed to 4.5*)

4.4.1 From what source have you heard about the NCCAP?

- | | | | |
|----------|-------------------|-------------------|---------------------------|
| 1 Radio | 4 TV | 7 Newspaper | 10 Friends |
| 2 Family | 5 Local Officials | 8 NGO | 11 Others, please specify |
| 3 School | 6 Internet | 9 Seminar/Meeting | _____ |

4.4.2 If yes, what do you know about the NCCAP? Please explain.

4.5 Do you know any other national government agencies whose mandate is to address climate change?

1 Yes 2 No (*Proceed to 4.6*)

If yes, please identify: _____

Code:					
	City/Province	Municipality	Brgy.	Respondent Number	

4.6 Are government's activities _____ to address climate change?

1 Sufficient 2 Insufficient 3 Not sure

4.7 Can you think of other activities that the government should do to address climate change?

4.8 Do you agree or disagree with the following statement: ***The Philippines should make more use of renewable energy such as solar, wind, hydro, biomass, or geothermal to cover its energy needs.***

1 Agree 2 Disagree 3 Not Sure

If agree, why? _____

If disagree, why? _____

4.9 Do you want to learn more about climate change?

1 Yes 2 No

If Yes, what would you like to know more?

If No, why?

4.10 What medium do you prefer to receive more information on climate change?

- 1 TV
- 2 social media
- 3 radio
- 4 brochure/comics/magazine
- 5 newspaper
- 6 others, please specify: _____

4.11 In a scale of 1 to 5 with 5 as the highest, please rate your level of reliability among the following sources of information on climate change?

	Rate
Family Member or friend	
Scientists	
Local Government	
National Government	
NGOs/CSOs/ environmental groups	
School/Academic institutions	
Media (TV, Radio, Newspaper, Online News)	
Prominent Personalities/Endorsers	

Annex



Focus Group Discussion (FGD) Guide Questions

ANNEX 3: Focus Group Discussion (FGD) Guide

1. What is your idea about climate change?
2. In the last 10 years, what have you observed or experienced about our climate?
3. What do you think are the causes of climate change?
4. What are the dramatic changes and impacts have you felt?
5. What changes have your community/barangay felt?
6. How did the community respond to these changes?
7. How did the government respond to these changes?
8. What do the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to the adverse effects of climate change?
9. In November 2015, the Philippines committed to reduce GHG (greenhouse gas emission) by 70% based on 1990 level by 2050 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?

Annex



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Annex Table 1. Distribution of respondents by province and municipality.

Province	Municipality	N	%
Metro Manila	Muntinlupa	150	12.5
	Pasay City	150	12.5
Bulacan	Marilao	150	12.5
Nueva Ecija	Cabiao	150	12.5
Iloilo	Lambunao	150	12.5
Aklan	Lezo	150	12.5
Bukidnon	Malaybalay City	150	12.5
Lanao del Norte	Lnamon	150	12.5
Total		1,200	100.0

Annex Table 2. Distribution of respondents by sex and by province.

Province	Sex				Total	
	Male		Female		N	%
	N	%	N	%		
Metro Manila	126	42.0	174	58.0	300	100.0
Bulacan	66	44.0	84	56.0	150	100.0
Nueva Ecija	76	50.7	74	49.3	150	100.0
Iloilo	71	47.3	79	52.7	150	100.0
Aklan	63	42.0	87	58.0	150	100.0
Bukidnon	75	50.0	75	50.0	150	100.0
Lanao del Norte	53	35.3	97	64.7	150	100.0
Total	530	44.2	670	55.8	1,200	100.0

Annex Table 3. Distribution of respondents by marital status and by province.

Province	Marital status								Total	
	Single		Married		Widow/er/Separated		Live-in		N	%
	N	%	N	%	N	%	N	%		
Metro Manila	122	40.7	155	51.7	22	7.3	1	.3	300	100.0
Bulacan	48	32.0	91	60.7	9	6.0	2	1.3	150	100.0
Nueva Ecija	29	19.3	113	75.3	6	4.0	2	1.3	150	100.0
Iloilo	30	20.0	108	72.0	12	8.0	0	0.0	150	100.0
Aklan	44	29.3	94	62.7	12	8.0	0	0.0	150	100.0
Bukidnon	28	18.7	112	74.7	10	6.7	0	0.0	150	100.0
Lanao del Norte	31	20.7	97	64.7	14	9.3	8	5.3	150	100.0
Total	332	27.7	770	64.2	85	7.1	13	1.1	1,200	100.0

Annex Table 4. Distribution of respondents by educational attainment.

Educational Attainment	N	%
High School Graduate	318	26.5
College Graduate	183	15.3
Some College Year	179	14.9
Some High School Years	163	13.6
Completed Elem	148	12.3
Some Elem. Grade	128	10.7
Vocational	50	4.2
None	12	1.0
No response	12	1.0
Post Graduate	7	.6
Total	1,200	100.0

Annex Table 5a. Distribution of respondents by primary occupation.

Primary Occupation	N	%
Housewife	311	25.9
None	197	16.4
Farmer/Fisherman/Farm worker	146	12.2
Carpenter/Construction worker	56	4.7
Employee (private sector)	46	3.8
Laborer	43	3.6
Skilled worker (electrician/mechanic/beautician/technician)	41	3.4
Businessman/woman	38	3.2
Vendor	34	2.8
Barangay officials/workers	31	2.6
Driver (Private)	30	2.5
Government employee	26	2.2
PUV Driver (Motorcycle, Tricycle, Jeepney, Bus)	23	1.9
Production operator/factory worker	18	1.5
Maid/Helper/Baby sitter	17	1.4
Teacher	16	1.3
Sales lady/boy	15	1.3
Student	15	1.3
Store assistant	13	1.1
Sari-sari store owner	12	1.0
Security guard	12	1.0
Seamstress/Dressmaker/Weaver	10	0.8
Pensioner	10	0.8
Service crew	10	0.8
Utility personnel	9	0.8
Call center agent	8	0.7

Primary Occupation	N	%
Professional (Doctor/Dentist/Engineer)	7	0.6
OFW	6	0.5
Total	1,200	100.0

Annex Table 5b. Distribution of respondents by primary occupation (regrouped)

Primary Occupation	N	%
Housewife	311	25.9
Artisan/Skilled worker	425	35.4
Professional	158	13.2
Retiree	10	0.8
Others	99	8.3
None	197	16.4
TOTAL	1,200	100.0

Annex Table 6. Distribution of respondents who have heard about climate change by province.

Province	Have you hear of the term climate change?				Total	
	Yes		No			
	N	%	N	%	N	%
Metro Manila	280	93.3	20	6.7	300	100.0
Bulacan	145	96.7	5	3.3	150	100.0
Nueva Ecija	150	100.0	0	0.0	150	100.0
Iloilo	134	89.3	16	10.7	150	100.0
Aklan	124	82.7	26	17.3	150	100.0
Bukidnon	115	76.7	35	23.3	150	100.0
Lanao del Norte	139	92.7	11	7.3	150	100.0
Total	1,087	90.6	113	9.4	1200	100.0

Annex Table 7a. Source of information regarding climate change.

Source	N	%
Radio	513	47.2
Family	13	1.2
School	67	6.2
TV	439	40.4
Local Officials	11	1.0
Internet	12	1.1
Newspaper	7	0.6
Seminar/Meeting	18	1.7
Friends	7	.6
Total	1,087	100.0

Annex Table 7b. Source of information regarding climate change.

Source*	N	%
Radio	514	22.8
Family	65	2.9
School	166	7.4
TV	923	40.9
Local Officials	75	3.3
Internet	141	6.3
Newspaper	192	8.5
NGO	14	.6
Seminar/Meeting	60	2.7
Friends	106	4.7
Total	2,256	100.0

*Multiple responses

Annex Table 8. Mean rating on level of awareness regarding climate change, by sex and by province. (mode not mean rating)

Province	Sex						Total		
	Male			Female			Mean	N	Std. Deviation
	Mean	N	Std. Deviation	Mean	N	Std. Deviation			
Metro Manila	3.39	119	0.85	3.40	161	0.85	3.40	280	0.84
Bulacan	2.86	64	0.69	2.81	81	0.50	2.83	145	0.59
Nueva Ecija	3.72	76	0.76	3.72	74	0.82	3.72	150	0.79
Iloilo	3.46	59	0.86	3.29	75	0.88	3.37	134	0.87
Aklan	2.61	54	1.14	3.04	70	0.95	2.85	124	1.06
Bukidnon	2.77	56	0.74	3.25	59	0.90	3.02	115	0.86
Lanao del Norte	2.58	48	0.85	2.74	91	0.73	2.68	139	0.77
Total	3.14	476	0.93	3.19	611	0.87	3.17	1087	0.90

Annex Table 9a. Distribution of respondents by personal definition of climate change.

Response	N	%
Changing weather conditions	356	32.8
Change in climate conditions	154	14.2
Change in climate and temperature	47	4.3
Change in temperature	44	4.0
Rise in temperature, global warming	60	5.5
Abnormal changes in temperature and weather conditions	15	1.4
Changing climate conditions	63	5.8
Changes in weather conditions due to human activities/pollution	99	9.1
Thinning of the ozone layer	13	1.2
Extreme changes in temperature	118	10.9
Extreme weather conditions (typhoons, drought, flooding)	74	6.8
Occurrence of stronger typhoons	8	0.7
Don't know	36	3.3
Total	1,087	100.0

Annex Table 9b. Distribution of respondents by personal definition of climate change (regrouped).

Response	N	%
Change in weather conditions	455	41.9
Change in climate conditions	264	24.3
Change in temperature	237	21.8
Consequential impact (typhoon, flood drought)	82	7.5
Thinning of ozone layer	13	1.2
Don't know	36	3.3
Total	1,087	100.0

Annex Table 10a. Distribution of respondents who observed changes in temperature, by province.

Province	Over the last 10 years, have you observed changes in TEMPERATURE?						Total	
	Yes		No		Don't know			
	N	%	N	%	N	%	N	%
Metro Manila	273	91.0	26	8.7	1	.3	300	100.0
Bulacan	147	98.0	3	2.0	0	0.0	150	100.0
Nueva Ecija	147	98.0	3	2.0	0	0.0	150	100.0
Iloilo	146	97.3	4	2.7	0	0.0	150	100.0
Aklan	130	86.7	20	13.3	0	0.0	150	100.0
Bukidnon	134	89.3	15	10.0	1	.7	150	100.0
Lanao del Norte	146	97.3	4	2.7	0	0.0	150	100.0
Total	1,123	93.6	75	6.3	2	.2	1,200	100.0

Annex Table 10b. Observed changes in temperature during day time, by province.

Province	Observed changes in temperatures (day time)								Total	
	Hotter		Cooler		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	249	91.2	17	6.2	2	.7	5	1.8	273	100.0
Bulacan	145	98.6	1	.7	1	.7	0	0.0	147	100.0
Nueva Ecija	141	95.9	6	4.1	0	0.0	0	0.0	147	100.0
Iloilo	143	97.9	3	2.1	0	0.0	0	0.0	146	100.0
Aklan	110	84.6	5	3.8	11	8.5	4	3.1	130	100.0
Bukidnon	129	96.3	4	3.0	1	.7	0	0.0	134	100.0
Lanao del Norte	132	90.4	10	6.8	4	2.7	0	0.0	146	100.0
Total	1,049	93.4	46	4.1	19	1.7	9	0.8	1,123	100.0

Annex Table 10c. Effects of Changed day-time temperature

Response	N	%
Getting hot or hotter	68	7.1
Discomfort and prone to get sick	505	52.4
Tiredness and can't do normal activities	140	14.5
Sweating and dehydration	90	9.3
Other consequence of high temperature (high utility bills, sunburn, pimples, etc)	104	10.8
Cold or colder	20	2.1
No effect or don't know	36	3.7
Total	963	100.0

Annex Table 10d. Adjustments/Adaptations to changed day-time temperature

Response	N	%
Frequent bathing	264	23.5
Work when not too hot	30	2.7
Rest and wear proper attire	87	7.8
Cool oneself with fan, AC or cold drinks	213	19.0
Go or stay in cool place	185	16.5
Frequent drinking	159	14.2
Exercise, see Dr., Take precaution/ fortification vitamins/medicine	117	10.4
No effect or don't know	45	4.0
Invalid	22	2.0
Total	1,122	100.0

Annex Table 10e. Observed changes in temperature during night time, by province.

Province	Observed changes in temperatures (night time)								Total	
	Hotter		Cooler		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	171	62.6	78	28.6	17	6.2	7	2.6	273	100.0
Bulacan	122	83.0	22	15.0	3	2.0	0	0.0	147	100.0
Nueva Ecija	109	74.1	36	24.5	1	0.7	1	0.7	147	100.0
Iloilo	34	23.3	112	76.7	0	0.0	0	0.0	146	100.0
Aklan	48	36.9	60	46.2	17	13.1	5	3.8	130	100.0
Bukidnon	32	23.9	78	58.2	16	11.9	8	6.0	134	100.0
Lanao del Norte	39	26.7	97	66.4	5	3.4	5	3.4	146	100.0
Total	555	49.4	483	43.0	59	5.3	26	2.3	1123	100.0

Annex Table 10f. Effects of changed night-time temperature

Response	N	%
Getting hot or hotter	132	11.8
Discomfort and prone to get sick	481	42.8
Tiredness and can't do normal activities	11	1.0
Sweating and dehydration	41	3.7
Other consequence of high temperature (high utility bills, sunburn, pimples, etc)	29	2.6
Cold or colder	231	20.6
No effect or don't know	83	7.4
Sometimes cold, sometimes hot	45	4.0
Can sleep well	5	0.4
Irrelevant answer	56	5
No response	9	0.8
Total	1,123	100.0

Annex Table 10g. Adjustments/adaptations to changed night-time temperature

Response	N	%
Frequent bathing	199	17.7
Work when not too hot	2	0.2
Rest and wear proper attire	362	32.2
Cool oneself with fan, AC or cold drinks	268	23.9
Go or stay in cool/warm place	53	4.7
Frequent drinking of water	21	1.9
Exercise, see Dr., Take precaution/ fortification vitamins/medicine/skin protection	92	8.2
No effect or don't know	59	5.3
Nagitiis/used to it	22	2.0
Drink warm drinks to feel warmer	15	1.3
Irrelevant answer	30	2.7
Total	1,123	100.0

Annex Table 11a. Distribution of respondents who observed changes in rainfall in the last 10 years, by province.

Province	Over the last 10 years, have you observed changes in the RAINFALL?								Total	
	Yes		No		Not sure		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	258	86.0	37	12.3	2	.7	3	1.0	300	100.0
Bulacan	86	57.3	63	42.0	0	0.0	1	.7	150	100.0
Nueva Ecija	145	96.7	5	3.3	0	0.0	0	0.0	150	100.0
Iloilo	129	86.0	21	14.0	0	0.0	0	0.0	150	100.0
Aklan	112	74.7	34	22.7	4	2.7	0	0.0	150	100.0
Bukidnon	124	82.7	14	9.3	10	6.7	2	1.3	150	100.0
Lanao del Norte	132	88.0	12	8.0	3	2.0	3	2.0	150	100.0
Total	986	82.2	186	15.5	19	1.6	9	.8	1200	100.0

Annex Table 11b. Observed changes in frequency of rainfall, by province.

Province	Frequency								Total	
	Decrease		Increase		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	68	26.4	174	67.4	8	3.1	8	3.1	258	100.0
Bulacan	1	1.2	81	94.2	4	4.7	0	.0	86	100.0
Nueva Ecija	22	15.2	122	84.1	1	0.7	0	0.0	145	100.0
Iloilo	25	19.4	103	79.8	0	0.0	1	0.8	129	100.0
Aklan	29	25.9	67	59.8	15	13.4	1	0.9	112	100.0
Bukidnon	17	13.7	88	71.0	11	8.9	8	6.5	124	100.0
Lanao del Norte	10	7.6	109	82.6	11	8.3	2	1.5	132	100.0
Total	172	17.4	744	75.5	50	5.1	20	2.0	986	100.0

Annex Table 11c. Observed changes in intensity of rainfall, by province.

Province	Intensity								Total	
	Decrease		Increase		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	46	17.8	176	68.2	26	10.1	10	3.9	258	100.0
Bulacan	3	3.5	83	96.5	0	0.0	0	.0	86	100.0
Nueva Ecija	14	9.7	126	86.9	4	2.8	1	0.7	145	100.0
Iloilo	17	13.2	110	85.3	1	0.8	1	0.8	129	100.0
Aklan	12	10.7	82	73.2	17	15.2	1	0.9	112	100.0
Bukidnon	14	11.3	82	66.1	23	18.5	5	4.0	124	100.0
Lanao del Norte	6	4.5	117	88.6	6	4.5	3	2.3	132	100.0
Total	112	11.4%	776	78.7	77	7.8	21	2.1%	986	100.0

Annex Table 11d. Effects in changes in rainfall

Response	N	%
Flood/muddy/damage to crop	455	46.1
Erosion/land slide/damage to property	68	6.9
Anxiety/Illness	157	15.9
Constraint normal activities	130	13.2
Cooler temperature	21	2.1
Disrupt livelihood activities	62	6.3
Not much effect	27	2.7
Don't know/no answer	5	0.5
Warm/humid	11	1.1
Irrelevant answer	50	5.1
Total	986	100.0

Annex Table 11e. Adjustments/Adaptations to changes in rainfall

Response	N	%
Raise things/Evacuate to a higher place	75	7.6
Use rain gear	64	6.5
Be alert, take precaution, block flood water/ plant appropriate crops	224	22.7
Stay at home/no action/bear with it	339	34.4
Clean surrounding, Improve drainage, collect rain water & plant trees	127	12.9
Seek help/help others	25	2.5
Adjust activities	51	5.2
Look for other livelihood	40	4.1
Irrelevant answer/don't know	41	4.2
Total	986	100.0

Annex Table 12a. Distribution of respondents who observed changes in typhoons, by province.

Province	Over the last 10 years, have you observed changes in the TYPHOONS in your area?								Total	
	Yes		No		Not sure		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	279	93.0	13	4.3	3	1.0	5	1.7	300	100.0
Bulacan	109	72.7	40	26.7	0	0.0	1	.7	150	100.0
Nueva Ecija	149	99.3	0	0.0	1	0.7	0	0.0	150	100.0
Iloilo	149	99.3	1	0.7	0	0.0	0	0.0	150	100.0
Aklan	133	88.7	15	10.0	1	0.7	1	0.7	150	100.0
Bukidnon	94	62.7	36	24.0	19	12.7	1	0.7	150	100.0
Lanao del Norte	140	93.3	7	4.7	1	0.7	2	1.3	150	100.0
Total	1053	87.8	112	9.3	25	2.1	10	.8	1200	100.0

Annex Table 12b. Observed changes in the occurrence of typhoons, by province.

Province	Occurrence								Total	
	Decrease		Increase		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	52	18.6	217	77.8	8	2.9	2	0.7	279	100.0
Bulacan	0	0.0	89	81.7	20	18.3	0	.0	109	100.0
Nueva Ecija	14	9.4	134	89.9	1	0.7	0	0.0	149	100.0
Iloilo	15	10.1	134	89.9	0	0.0	0	0.0	149	100.0
Aklan	12	9.0	83	62.4	36	27.1	2	1.5	133	100.0
Bukidnon	20	21.3	68	72.3	3	3.2	3	3.2	94	100.0
Lanao del Norte	10	7.1	115	82.1	3	2.1	12	8.6	140	100.0
Total	123	11.7	840	79.8	71	6.7	19	1.8	1053	100.0

Annex Table 12c. Observed changes in the intensity of typhoons, by province.

Province	Intensity								Total	
	Increase		Decrease		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	236	84.6	30	10.8	9	3.2	4	1.4	279	100.0
Bulacan	107	98.2	2	1.8	0	0.0	0	0.0	109	100.0
Nueva Ecija	144	96.6	4	2.7	1	0.7	0	0.0	149	100.0
Iloilo	143	96.0	6	4.0	0	0.0	0	0.0	149	100.0
Aklan	121	91.0	8	6.0	4	3.0	0	0.0	133	100.0
Bukidnon	61	64.9	20	21.3	6	6.4	7	7.4	94	100.0
Lanao del Norte	121	86.4	7	5.0	9	6.4	3	2.1	140	100.0
Total	933	88.6	77	7.3	29	2.8	14	1.3	1053	100.0

Annex Table 12d. Effects of changes in occurrence and intensity of typhoons

Response	N	%
Damage to property, building, infrastructure, etc	297	28.2
Damage to crop, trees, livestock, etc.	205	19.5
Strong rain, flooding, landslide, etc	149	14.2
Illness/anxiety	88	8.4
Death	11	1.0
Loss of livelihood/income	104	9.9
Disrupt normal activities	75	7.1
Consequent effect of strong wind (e.g.no power, no food delivery, etc)	93	8.8
Be prepared/Not much Effect	31	2.9
Total	1,053	100.0

Annex Table 12e. Adjustments/Adaptations in changes in increased intensity of typhoons

Response	N	%
Stay at home/pray/no action	183	19.6
Evacuate	84	9.0
Look for other livelihood	72	7.7
Help others Repair damage/plant again	171	18.3
Seek help from various agencies	59	6.3
Be prepared and listen to news	258	27.7
Be proactive to minimize losses	103	11.0
Bear with it	73	7.8
Irrelevant answer	13	1.4
Total	1,016	100.0

Annex Table 13a. Distribution of respondents who observed flooding in their area over the last 10 years, by province.

Province	Over the last 10 years, have you observed flooding in your area?								Total	
	Yes		No		Not sure		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	231	77.0	63	21.0	0	0.0	6	2.0	300	100.0
Bulacan	103	68.7	46	30.7	0	0.0	1	0.7	150	100.0
Nueva Ecija	147	98.0	2	1.3	1	0.7	0	0.0	150	100.0
Iloilo	86	57.3	64	42.7	0	0.0	0	0.0	150	100.0
Aklan	60	40.0	86	57.3	0	0.0	4	2.7	150	100.0
Bukidnon	96	64.0	43	28.7	9	6.0	2	1.3	150	100.0
Lanao del Norte	118	78.7	25	16.7	4	2.7	3	2.0	150	100.0
Total	841	70.1	329	27.4	14	1.2	16	1.3	1200	100.0

Annex Table 13b. Observed changes in the occurrence of flooding, by province.

Province	Occurrence								Total	
	Decrease		Increase		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	63	27.3	153	66.2	10	4.3	5	2.2	231	100.0
Bulacan	9	8.7	94	91.3	0	0.0	0	0.0	103	100.0
Nueva Ecija	12	8.2	132	89.8	2	1.4	1	0.7	147	100.0
Iloilo	6	7.0	78	90.7	1	1.2	1	1.2	86	100.0
Aklan	6	10.0	27	45.0	25	41.7	2	3.3	60	100.0
Bukidnon	13	13.5	68	70.8	11	11.5	4	4.2	96	100.0
Lanao del Norte	9	7.6	93	78.8	11	9.3	5	4.2	118	100.0
Total	118	14.0	645	76.7	60	7.1	18	2.1	841	100.0

Annex Table 13c. Observed changes in the depth of flooding, by province.

	Depth								Total	
	Shallower		Deeper		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	72	31.2	142	61.5	9	3.9	8	3.5	231	100.0
Bulacan	9	8.7	94	91.3	0	0.0	0	.0	103	100.0
Nueva Ecija	6	4.1	134	91.2	6	4.1	1	0.7	147	100.0
Iloilo	8	9.3	75	87.2	2	2.3	1	1.2	86	100.0
Aklan	11	18.3	35	58.3	13	21.7	1	1.7	60	100.0
Bukidnon	19	19.8	55	57.3	16	16.7	6	6.3	96	100.0
Lanao del Norte	6	5.1	99	83.9	10	8.5	3	2.5	118	100.0
Total	131	15.6	634	75.4	56	6.7	20	2.4	841	100.0

Annex Table 13d. Observed changes in the extent of flooding, by province.

	Extent								Total	
	Smaller area		Wider area		Remain the same		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	76	32.9	128	55.4	16	6.9	11	4.8	231	100.0
Bulacan	9	8.7	94	91.3	0	0.0	0	.0	103	100.0
Nueva Ecija	20	13.6	120	81.6	7	4.8	0	0.0	147	100.0
Iloilo	13	15.1	71	82.6	1	1.2	1	1.2	86	100.0
Aklan	18	30.0	31	51.7	9	15.0	2	3.3	60	100.0
Bukidnon	17	17.7	69	71.9	7	7.3	3	3.1	96	100.0
Lanao del Norte	11	9.3	99	83.9	3	2.5	5	4.2	118	100.0
	164	19.5	612	72.8	43	5.1	22	2.6	841	100.0

Annex Table 13e. Observed changes in the duration of flooding, by province.

	Duration								Total	
	Shorter		Longer		Remain the same		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	103	44.6	114	49.4	9	3.9	5	2.2	231	100.0
Bulacan	18	17.5	83	80.6	2	1.9	0	.0	103	100.0
Nueva Ecija	49	33.3	92	62.6	6	4.1	0	0.0	147	100.0
Iloilo	35	40.7	49	57.0	1	1.2	1	1.2	86	100.0
Aklan	32	53.3	16	26.7	12	20.0	0	0.0	60	100.0
Bukidnon	38	39.6	45	46.9	8	8.3	5	5.2	96	100.0
Lanao del Norte	23	19.5	85	72.0	5	4.2	5	4.2	118	100.0
	298	35.4	484	57.6	43	5.1	16	1.9	841	100.0

Annex Table 13f. Adverse effects of changes in flooding.

Response	N	%
Damage to property, building, infra	156	18.5
Damage to crop, tree, livestock, etc.	202	24.0
Loss of livelihood/source of income	102	12.1
Risk of diseases/ accident	128	15.2
Cause of death	3	0.4
Disruption of normal activities	144	17.1
Not much affected	34	4.0
Irrelevant answer	72	8.6
Total	841	100.0

Annex Table 13g. Adjustments/Adaptations to changes in flooding.

Response	N	%
Stay at home/pray/no action	135	16.1
Evacuate	66	7.8
Look for other livelihood	75	8.9
Help others repair damage/plant again	166	19.7
Seek help from various agencies/doctor	10	1.2
Be prepared and listen to news	151	18.0
Be proactive to minimize losses	104	12.4
Bear with it	101	12.0
No answer	8	1.0
Not affected	11	1.3
Irrelevant answer	14	1.7
Total	841	100.0

Annex Table 14a. Distribution of respondents who experienced drought, by province.

Province	Over the last 10 years, have you experienced drought in your area?								Total	
	Yes		No		Not sure		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	99	33.0	146	48.7	3	1.0	52	17.3	300	100.0
Bulacan	12	8.0	128	85.3	2	1.3	8	5.3	150	100.0
Nueva Ecija	144	96.0	3	2.0	3	2.0	0	0.0	150	100.0
Iloilo	149	99.3	1	0.7	0	0.0	0	0.0	150	100.0
Aklan	135	90.0	11	7.3	3	2.0	1	0.7	150	100.0
Bukidnon	129	86.0	9	6.0	7	4.7	5	3.3	150	100.0
Lanao del Norte	137	91.3	10	6.7	1	0.7	2	1.3	150	100.0
Total	805	67.1	308	25.7	19	1.6	68	5.7	1200	100.0

Annex Table 14b. Observed occurrence of drought, by province.

Province	If yes, when?								Total	
	Before rainy season (delayed rain)		During rainy season (less rainfall)		After rainy season (early dry season)		Not sure			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	49	49.5	20	20.2	28	28.3	2	2.0	99	100.0
Bulacan	3	25.0	4	33.3	5	41.7	0	.0	12	100.0
Nueva Ecija	131	91.0	11	7.6	2	1.4	0	0.0	144	100.0
Iloilo	103	69.1	15	10.1	26	17.4	5	3.4	149	100.0
Aklan	24	17.8	40	29.6	55	40.7	16	11.9	135	100.0
Bukidnon	80	62.0	6	4.7	42	32.6	1	0.8	129	100.0
Lanao del Norte	67	48.9	12	8.8	44	32.1	14	10.2	137	100.0
Total	457	56.8	108	13.4	202	25.1	38	4.7	805	100.0

Annex Table 14c. Duration of drought, by province.

Province	How long there was no rain?							
	Shorter (delayed planting)		Mild (decrease in yield)		Longer (loss of crop)		Total	
	N	%	N	%	N	%	N	%
Metro Manila	36	36.4	19	19.2	44	44.4	99	100.0
Bulacan	2	16.7	3	25.0	7	58.3	12	100.0
Nueva Ecija	13	9.0	36	25.0	95	66.0	144	100.0
Iloilo	62	41.6	39	26.2	48	32.2	149	100.0
Aklan	29	21.5	59	43.7	47	34.8	135	100.0
Bukidnon	23	17.8	35	27.1	71	55.0	129	100.0
Lanao del Norte	19	13.9	20	14.6	98	71.5	137	100.0
Total	184	22.9%	211	26.2	410	50.9	805	100.0

Annex Table 14d. Effects of drought

Response	N	%
Increase temperature	44	5.5
Delayed planting	104	12.9
Loss of crops/livelihood	406	50.4
Increase pests and diseases	11	1.4
Hunger, poverty	39	4.8
Other consequential effects of no water	175	21.7
No effect, don't know, don't care	10	1.2
Irrelevant answer	16	2.0
Total	805	100.0

Annex Table 15a. Distribution of respondents who observed changes in forest cover in the last 10 years, by province.

Province	Over the last 10 years, have you observed changes in forest cover in your area?										Total	
	Yes		No		Not sure		Don't know		Not applicable			
	N	%	N	%	N	%	N	%	N	%	N	%
Metro Manila	78	26.0	66	22.0	3	1.0	4	1.3	149	49.7	300	100.0
Bulacan	21	14.0	94	62.7	0	0.0	12	8.0	23	15.3	150	100.0
Nueva Ecija	135	90.0	10	6.7	2	1.3	0	0.0	3	2.0	150	100.0
Iloilo	112	74.7	35	23.3	0	0.0	3	2.0	0	0.0	150	100.0
Aklan	47	31.3	89	59.3	2	1.3	11	7.3	1	.7	150	100.0
Bukidnon	108	72.0	29	19.3	5	3.3	5	3.3	3	2.0	150	100.0
Lanao del Norte	107	71.3	32	21.3	2	1.3	9	6.0	0	0.0	150	100.0
Total	608	50.7	355	29.6	14	1.2	44	3.7	179	14.9	1200	100.0

Annex Table 15b. Observed changes in forest cover, by province.

Province	If yes, what change did you observed?				Total	
	Decrease		Increase			
	N	%	N	%	N	%
Metro Manila	38	48.7	40	51.3	78	100.0
Bulacan	17	81.0	4	19.0	21	100.0
Nueva Ecija	111	82.2	24	17.8	135	100.0
Iloilo	101	90.2	11	9.8	112	100.0
Aklan	43	91.5	4	8.5	47	100.0
Bukidnon	90	83.3	18	16.7	108	100.0
Lanao del Norte	99	92.5	8	7.5	107	100.0
Total	499	82.1	109	17.9	608	100.0

Annex Table 15c. Ways to protect the forests.

Response	N	%
Planting of trees	353	35.8
Logging ban	427	43.3
Bantay gubat	78	7.9
Agroforestry	6	0.6
other initiatives(avoid kaingin, follow rules/law, massive information campaign,	89	9.0
No answer	27	2.7
Irrelevant answer	6	0.6
Total	986	100.0

Annex Table 16a. Distribution of respondents who observed changes in the sea level in the last 10 years, by province.

Province	Over the last 10 years, have you observed changes in the SEA LEVEL in your area?										Total	
	Yes		No		Not sure		Don't know		Not applicable			
	N	%	N	%	N	%	N	%	N	%	N	%
Metro Manila	96	32.0	84	28.0	2	0.7	16	5.3	102	34.0	300	100.0
Bulacan	43	28.7	84	56.0	1	0.7	9	6.0	13	8.7	150	100.0
Nueva Ecija	2	1.3	6	4.0	1	0.7	0	0.0	141	94.0	150	100.0
Iloilo	1	0.7	63	42.0	0	0.0	0	0.0	86	57.3	150	100.0
Aklan	15	10.0	122	81.3	2	1.3	11	7.3	0	.0	150	100.0
Bukidnon	2	1.3	15	10.0	3	2.0	5	3.3	125	83.3	150	100.0
Lanao del Norte	108	72.0	24	16.0	8	5.3	10	6.7	0	0.0	150	100.0
Total	267	22.3	398	33.2	17	1.4	51	4.3	467	38.9	1200	100.0

Annex Table 16b. Observed changes in sea level, by province.

Province	If Yes, what was the observed change?				Total	
	Decrease		Increase			
	N	%	N	%	N	%
Metro Manila	21	21.9	75	78.1	96	100.0
Bulacan	1	2.3	42	97.7	43	100.0
Nueva Ecija	0	0.0	2	100.0	2	100.0
Iloilo	0	0.0	1	100.0	1	100.0
Aklan	5	33.3	10	66.7	15	100.0
Bukidnon	1	50.0	1	50.0	2	100.0
Lanao del Norte	3	2.8	105	97.2	108	100.0
Total	31	11.6	236	88.4	267	100.0

Annex Table 16c. Effects of changes in sea level in coastal areas.

Response	N	%
Big/strong sea waves, tidal waves	52	21.0
Expanding and deepening sea/high tide	39	15.7
Damage to property/infra	20	8.1
Damage to crops, agri soil quality, livestock	13	5.2
Flood	58	23.4
Affects livelihood/income	31	12.5
Erosion	2	0.8
Polluted sea	18	7.3
Decreasing sea level	3	1.2
None/NA/Don't know/not affected	9	3.6
Irrelevant answer	3	1.2
Total	248	100.0

Annex Table 16d. Adjustments/Adaptations to changes in sea level in coastal areas.

Response	N	%
Be prepared and alert	8	3.2
Educating people	1	0.4
Plant trees	5	2.0
Find extra livelihood	4	1.6
Evacuate	6	2.4
Ask help or assistance	2	0.8
No response	222	89.5
Total	248	100.0

Annex Table 17. Perception of respondents regarding change in global climate, by province.

Province	Do you think that the GLOBAL CLIMATE is changing?						Total	
	Yes		No		Not sure			
	N	%	N	%	N	%	N	%
Metro Manila	264	88.0	7	2.3	29	9.7	300	100.0
Bulacan	96	64.0	0	0.0	54	36.0	150	100.0
Nueva Ecija	147	98.0	1	.7	2	1.3	150	100.0
Iloilo	141	94.0	8	5.3	1	.7	150	100.0
Aklan	119	79.3	6	4.0	25	16.7	150	100.0
Bukidnon	139	92.7	5	3.3	6	4.0	150	100.0
Lanao del Norte	140	93.3	4	2.7	6	4.0	150	100.0
Total	1046	87.2	31	2.6	123	10.3	1200	100.0

Annex Table 18. Distribution of respondents who think that recent climate patterns is the new normal, by province.

Province	Do you think the recent climate pattern is the NEW NORMAL?						Total	
	Yes		No		Not sure			
	N	%	N	%	N	%	N	%
Metro Manila	184	61.3	65	21.7	51	17.0	300	100.0
Bulacan	79	52.7	5	3.3	66	44.0	150	100.0
Nueva Ecija	137	91.3	3	2.0	10	6.7	150	100.0
Iloilo	102	68.0	43	28.7	5	3.3	150	100.0
Aklan	91	60.7	41	27.3	18	12.0	150	100.0
Bukidnon	105	70.0	10	6.7	35	23.3	150	100.0
Lanao del Norte	96	64.0	14	9.3	40	26.7	150	100.0
Total	794	66.2	181	15.1	225	18.8	1200	100.0

Annex Table 19. Main cause of climate change, by province.

Province	What do you think is the main cause of CLIMATE CHANGE?								Total	
	Human activities		Natural changes in the environment		Not sure		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	235	78.3	58	19.3	1	0.3	6	2.0	300	100.0
Bulacan	145	96.7	2	1.3	1	0.7	2	1.3	150	100.0
Nueva Ecija	133	88.7	16	10.7	1	0.7	0	.0	150	100.0
Iloilo	121	80.7	26	17.3	2	1.3	1	0.7	150	100.0
Aklan	91	60.7	42	28.0	8	5.3	9	6.0	150	100.0
Bukidnon	113	75.3	30	20.0	4	2.7	3	2.0	150	100.0
Lanao del Norte	133	88.7	15	10.0	2	1.3	0	0.0	150	100.0
Total	971	80.9	189	15.8	19	1.6	21	1.8	1200	100.0

Annex Table 20. Major Cause of Climate Change

Cause	N	%
Cutting of trees	351	61.4
Illegal logging	89	15.6
Other natural causes	58	10.1
Due to building of homes, infrastructure, land development	31	5.4
Over population, human activities	19	3.3
Forest fires	19	3.3
No answer/don't know	5	0.9
TOTAL	572	100.0

Annex Table 21. Risk assessment of respondents regarding the impact of climate change on family, community and surroundings, by province.

Province	How would you rate the risk of climate change to your family, community and surroundings?										Total	
	No risk at all		Slightly risky		Moderately risky		Risky		Highly risky			
	N	%	N	%	N	%	N	%	N	%	N	%
Metro Manila	5	1.7	38	12.7	95	31.7	117	39.0	45	15.0	300	100.0
Bulacan	1	0.7	5	3.3	96	64.0	44	29.3	4	2.7	150	100.0
Nueva Ecija	0	0.0	18	12.0	49	32.7	76	50.7	7	4.7	150	100.0
Iloilo	5	3.3	31	20.7	58	38.7	44	29.3	12	8.0	150	100.0
Aklan	16	10.7	22	14.7	56	37.3	29	19.3	27	18.0	150	100.0
Bukidnon	5	3.3	24	16.0	51	34.0	52	34.7	18	12.0	150	100.0
Lanao del Norte	4	2.7%	8	5.3%	35	23.3%	45	30.0%	58	38.7%	150	100.0%
Total	36	3.0%	146	12.2%	440	36.7%	407	33.9%	171	14.3%	1200	100.0%

Annex Table 22. Perception of respondents on who will be adversely affected by climate change, by province.

Province	In your opinion, who will be adversely affected by climate change?								Total	
	Men		Women		Both		No response			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	1	0.3	5	1.7	294	98.0	0	0.0	300	100.0
Bulacan	6	4.0	31	20.7	113	75.3	0	0.0	150	100.0
Nueva Ecija	7	4.7	3	2.0	140	93.3	0	.0	150	100.0
Iloilo	5	3.3	5	3.3	139	92.7	1	0.7	150	100.0
Aklan	9	6.0	2	1.3	136	90.7	3	2.0	150	100.0
Bukidnon	2	1.3	2	1.3	142	94.7	4	2.7	150	100.0
Lanao del Norte	1	0.7	0	0.0	149	99.3	0	0.0	150	100.0
Total	31	2.6	48	4.0	1113	92.8	8	0.7	1200	100.0

Annex Table 23. Sources of greenhouse gases.

Response*	N	%
Burning of fossil fuel	784	20.1
Industries/factories	696	17.8
Garbage disposal	570	14.6
Deforestation	378	9.7
Burning of household wastes	194	5.0
Agricultural and farming activities	582	14.9
Animal wastes	531	13.6
Don't know	175	4.5
Total	3910	100.0

* Multiple responses

Annex Table 24. Distribution of respondents who engage in activities that contribute to emission of greenhouse gases.

Province	Are there activities that you are engaged that contribute to the emission of these greenhouse gases?				Total	
	Yes		No		N	%
	N	%	N	%		
Metro Manila	67	22.3	233	77.7	300	100.0
Bulacan	78	52.0	72	48.0	150	100.0
Nueva Ecija	49	32.7	101	67.3	150	100.0
Iloilo	57	38.0	93	62.0	150	100.0
Aklan	54	36.0	96	64.0	150	100.0
Bukidnon	70	46.7	80	53.3	150	100.0
Lanao del Norte	118	78.7	32	21.3	150	100.0
Total	493	41.1	707	58.9	1200	100.0

Annex Table 25. Activities that contribute to greenhouse gas emissions.

Response	N	%
Burning of garbage	207	42.0
Burning of plastics	80	16.2
Use of fossil fuels	56	11.4
Deforestation/cutting of trees	31	6.3
Cigarette smoking	14	2.8
Burning of agricultural wastes	20	4.1
Smoke from factories	3	0.6
Improper garbage disposal	82	16.6
Total	493	100.0

Annex Table 26. Activities which contribute to lessening greenhouse gas emission.

Item	Agree		Disagree		No response		Total	
	N	%	N	%	N	%	N	%
Tree planting/reforestation	1,193	99.4	2	0.2	5	0.4	1,200	100.0
Agroforestry	1,163	96.9	32	2.7	5	0.4	1,200	100.0
Organic farming	1,169	97.4	25	2.1	6	0.5	1,200	100.0
Backyard gardening	1,191	99.3	6	0.5	3	0.3	1,200	100.0
Non-cutting of trees	1,170	97.5	25	2.1	5	0.4	1,200	100.0
Methane or biogas capture	937	78.1	217	18.1	46	3.8	1,200	100.0
Walking or biking instead of riding motorized vehicle	1,134	94.5	62	5.2	4	0.3	1,200	100.0
Commuting instead of bringing a car	1,131	94.3	64	5.3	5	0.4	1,200	100.0
Car pooling	1,076	89.7	117	9.8	7	0.6	1,200	100.0
Mass transport system	1,096	91.3	83	6.9	21	1.8	1,200	100.0
Use of electric vehicle	1,037	86.4	145	12.1	18	1.5	1,200	100.0
Non-burning of garbage	1,169	97.4	26	2.2	5	0.4	1,200	100.0
Recycling, reusing and reducing wastes	1,182	98.5	11	0.9	7	0.6	1,200	100.0
Save gas, fuelwood and electricity for cooking	1,123	93.6	73	6.1	4	0.3	1,200	100.0
Shift to LED lights	1,147	95.6	46	3.8	7	0.6	1,200	100.0
Reduce food waste	1,146	95.5	47	3.9	7	0.6	1,200	100.0
Conserve water	1,188	99.0	7	0.6	5	0.4	1,200	100.0
Turn-off appliances when not needed	1,189	99.1	4	0.3	7	0.6	1,200	100.0
Renewable energy	1,007	83.9	21	1.8	172	14.3	1,200	100.0
Smart building	772	64.3	191	15.9	237	19.8	1,200	100.0

Annex Table 27. Engagement of respondents in activities that lessen the emission of greenhouse gases.

Item	Yes		No		No response		Total	
	N	%	N	%	N	%	N	%
Tree planting/reforestation	949	79.1	243	20.3	8	0.7	1,200	100.0
Agroforestry	728	60.7	463	38.6	9	0.8	1,200	100.0
Organic farming	787	65.6	402	33.5	11	0.9	1,200	100.0
Backyard gardening	1,031	85.9	162	13.5	7	0.6	1,200	100.0
Non-cutting of trees	997	83.1	192	16.0	11	0.9	1,200	100.0
Methane or biogas capture	219	18.3	930	77.5	51	4.3	1,200	100.0
Walking or biking instead of riding motorized vehicle	1,067	88.9	124	10.3	9	0.8	1,200	100.0
Commuting instead of bringing a car	973	81.1	214	17.8	13	1.1	1,200	100.0
Car pooling	589	49.1	599	49.9	12	1.0	1,200	100.0
Mass transport system	730	60.8	450	37.5	20	1.7	1,200	100.0
Use of electric vehicle	309	25.8	879	73.3	12	1.0	1,200	100.0
Non-burning of garbage	1,042	86.8	144	12.0	14	1.2	1,200	100.0
Recycling, reusing and reducing wastes	1,121	93.4	62	5.2	17	1.4	1,200	100.0
Save gas, fuelwood and electricity for cooking	1,018	84.8	167	13.9	15	1.3	1,200	100.0
Shift to LED lights	991	82.6	193	16.1	16	1.3	1,200	100.0
Reduce food waste	1,122	93.5	61	5.1	17	1.4	1,200	100.0
Conserve water	1,161	96.8	28	2.3	11	0.9	1,200	100.0
Turn-off appliances when not needed	1,159	96.6	24	2.0	17	1.4	1,200	100.0
Renewable energy	541	45.1	473	39.4	186	15.5	1,200	100.0
Smart building	277	23.1	687	57.3	236	19.6	1,200	100.0

Annex Table 28. Respondents' perception on whether climate change is related to change in forest cover, by province.

Province	Do you think that change in forest cover is related to climate change?								Total	
	Yes		No		Not sure		Don't know			
	N	%	N	%	N	%	N	%	N	%
Metro Manila	225	75.0	13	4.3	41	13.7	21	7.0	300	100.0
Bulacan	102	68.0	7	4.7	21	14.0	20	13.3	150	100.0
Nueva Ecija	138	92.0	8	5.3	4	2.7	0	0.0	150	100.0
Iloilo	137	91.3	4	2.7	5	3.3	4	2.7	150	100.0
Aklan	105	70.0	12	8.0	25	16.7	8	5.3	150	100.0
Bukidnon	137	91.3	3	2.0	7	4.7	3	2.0	150	100.0
Lanao del Norte	142	94.7	0	0.0	8	5.3	0	0.0	150	100.0
Total	986	82.2	47	3.9	111	9.3	56	4.7	1,200	100.0

Annex Table 29. Distribution of respondents who have heard about REDD+, by province.

Province	Have you heard of the concept of 'Reducing Emission from Deforestation or Degradation' or REDD+?						Total	
	Yes		No		Not sure			
	N	%	N	%	N	%	N	%
Metro Manila	25	8.3	257	85.7	18	6.0	300	100.0
Bulacan	3	2.0	137	91.3	10	6.7	150	100.0
Nueva Ecija	55	36.7	82	54.7	13	8.7	150	100.0
Iloilo	22	14.7	124	82.7	4	2.7	150	100.0
Aklan	11	7.3	123	82.0	16	10.7	150	100.0
Bukidnon	12	8.0	125	83.3	13	8.7	150	100.0
Lanao del Norte	19	12.7	112	74.7	19	12.7	150	100.0
Total	147	12.3	960	80.0	93	7.8	1,200	100.0

Annex Table 30. Source of information regarding REDD+.

Source*	N	%
TV	102	42.1
Radio	62	25.6
School	20	8.3
Internet	12	5.0
Seminar/Meeting	12	5.0
Friends	10	4.1
Family	8	3.3
Local Officials	8	3.3
Newspaper	6	2.5
NGO	2	.8
Total	242	100.0

*Multiple responses

Annex Table 31. Distribution of respondents who are aware of REDD+ projects in their area, by province.

Province	If yes, do you know any REDD projects in your area?				Total	
	Yes		No		N	%
	N	%	N	%		
Metro Manila	0	0.0	25	100.0	25	100.0
Bulacan	0	0.0	3	100.0	3	100.0
Nueva Ecija	0	0.0	55	100.0	55	100.0
Iloilo	1	4.5	21	95.5	22	100.0
Aklan	0	0.0	11	100.0	11	100.0
Bukidnon	2	16.7	10	83.3	12	100.0
Lanao del Norte	0	0.0	19	100.0	19	100.0
Total	3	2.0	144	98.0	147	100.0

Annex Table 32. Respondents' perception on who has the main responsibility for addressing climate change, by province.

Province	Who do you think has the main responsibility for addressing climate change?																Total	
	Individual		Community		Local government		National government		International organization		Business and industries		Environmental organization		No response			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Metro Manila	178	59.3	40	13.3	15	5.0	30	10.0	7	2.3	7	2.3	19	6.3	4	1.3	300	100.0
Bulacan	37	24.7	69	46.0	3	2.0	24	16.0	1	.7	0	0.0	16	10.7	0	0.0	150	100.0
Nueva Ecija	107	71.3	13	8.7	22	14.7	4	2.7	1	.7	1	.7	1	.7	1	.7	150	100.0
Iloilo	70	46.7	41	27.3	10	6.7	21	14.0	0	0.0	4	2.7	3	2.0	1	.7	150	100.0
Aklan	80	53.3	18	12.0	13	8.7	25	16.7	1	.7	1	.7	5	3.3	7	4.7	150	100.0
Bukidnon	56	37.3	12	8.0	29	19.3	34	22.7	2	1.3	0	0.0	15	10.0	2	1.3	150	100.0
Lanao del Norte	78	52.0	32	21.3	22	14.7	6	4.0	0	0.0	8	5.3	3	2.0	1	.7	150	100.0
Total	606	50.5	225	18.8	114	9.5	144	12.0	12	1.0	21	1.8	62	5.2	16	1.3	1200	100.0

Annex Table 33. Awareness of respondents regarding government programs being implemented, by province.

Province	Do you know any government programs, projects, activities to address climate change at the national and local level?				Total	
	Yes		No			
	N	%	N	%	N	%
Metro Manila	66	22.0	234	78.0	300	100.0
Bulacan	4	2.7	146	97.3	150	100.0
Nueva Ecija	56	37.3	94	62.7	150	100.0
Iloilo	84	56.0	66	44.0	150	100.0
Aklan	27	18.0	123	82.0	150	100.0
Bukidnon	71	47.3	79	52.7	150	100.0
Lanao del Norte	32	21.3	118	78.7	150	100.0
Total	340	28.3	860	71.7	1200	100.0

Annex Table 34. Distribution of respondents who are aware of the Climate Change Commission, by province.

Province	Are you aware of the Climate Change Commission?				Total	
	Yes		No		N	%
	N	%	N	%		
Metro Manila	70	23.3	230	76.7	300	100.0
Bulacan	22	14.7	128	85.3	150	100.0
Nueva Ecija	124	82.7	26	17.3	150	100.0
Iloilo	36	24.0	114	76.0	150	100.0
Aklan	64	42.7	86	57.3	150	100.0
Bukidnon	37	24.7	113	75.3	150	100.0
Lanao del Norte	25	16.7	125	83.3	150	100.0
Total	378	31.5	822	68.5	1,200	100.0

Annex Table 35. Source of information regarding the Climate Change Commission.

Response*	N	%
TV	292	54.5
Radio	101	18.8
Newspaper	33	6.2
School	28	5.2
Internet	27	5.0
Local Officials	20	3.7
Seminar/Meeting	16	3.0
Friends	8	1.5
Family	6	1.1
NGO	5	0.9
Total	536	100.0

*Multiple responses

Annex Table 36. Distribution of respondents who are familiar with the NCCAP, by province.

Province	Are you familiar with the National Climate Change Action Plan (NCCAP)?				Total	
	Yes		No			
	N	%	N	%	N	%
Metro Manila	22	7.3	278	92.7	300	100.0
Bulacan	0	0.0	150	100.0	150	100.0
Nueva Ecija	49	32.7	101	67.3	150	100.0
Iloilo	22	14.7	128	85.3	150	100.0
Aklan	24	16.0	126	84.0	150	100.0
Bukidnon	13	8.7	137	91.3	150	100.0
Lanao del Norte	16	10.7	134	89.3	150	100.0
Total	146	12.2%	1,054	87.8%	1,200	100.0%

Annex Table 37. Source of information regarding the NCCAP.

Response*	N	%
TV	112	60.9
Radio	29	15.8
Internet	12	6.5
Newspaper	9	4.9
School	6	3.3
Local Officials	6	3.3
Friends	5	2.7
Seminar/Meeting	4	2.2
Family	1	0.5
Total	184	100.0

* Multiple responses

Annex Table 38. Awareness of other government agencies that address climate change, by province.

Province	Do you know any other national government agencies whose mandate is to address climate change?				Total	
	Yes		No			
	N	%	N	%	N	%
Metro Manila	33	11.0	267	89.0	300	100.0
Bulacan	30	20.0	120	80.0	150	100.0
Nueva Ecija	43	28.7	107	71.3	150	100.0
Iloilo	73	48.7	77	51.3	150	100.0
Aklan	26	17.3	124	82.7	150	100.0
Bukidnon	19	12.7	131	87.3	150	100.0
Lanao del Norte	40	26.7	110	73.3	150	100.0
Total	264	22.0	936	78.0	1,200	100.0

Annex Table 39. Perception of respondents' regarding the sufficiency of government programs to address climate change, by province.

Province	Are government's activities sufficient to address climate change?						Total	
	Sufficient		Insufficient		Not sure			
	N	%	N	%	N	%	N	%
Metro Manila	72	24.0	160	53.3	68	22.7	300	100.0
Bulacan	39	26.0	72	48.0	39	26.0	150	100.0
Nueva Ecija	114	76.0	28	18.7	8	5.3	150	100.0
Iloilo	51	34.0	86	57.3	13	8.7	150	100.0
Aklan	53	35.3	60	40.0	37	24.7	150	100.0
Bukidnon	29	19.3	92	61.3	29	19.3	150	100.0
Lanao del Norte	34	22.7	83	55.3	33	22.0	150	100.0
Total	392	32.7%	581	48.4%	227	18.9%	1,200	100.0

Annex Table 40. Distribution of respondents who agree that the country should make use of renewable energy, by province.

Province	The Philippines should make more use of renewable energy such as solar, wind, hydro, biomass, or geothermal to cover its energy needs.						Total	
	Agree		Disagree		Not sure			
	N	%	N	%	N	%	N	%
Metro Manila	250	83.3	3	1.0	47	15.7	300	100.0
Bulacan	120	80.0	2	1.3	28	18.7	150	100.0
Nueva Ecija	146	97.3	0	0.0	4	2.7	150	100.0
Iloilo	140	93.3	9	6.0	1	0.7	150	100.0
Aklan	124	82.7	6	4.0	20	13.3	150	100.0
Bukidnon	103	68.7	1	0.7	46	30.7	150	100.0
Lanao del Norte	130	86.7	10	6.7	10	6.7	150	100.0
Total	1,013	84.4	31	2.6	156	13.0	1,200	100.0

Annex Table 41. Distribution of respondents who want to learn more about climate change, by province.

Province	Do you want to learn more about climate change?				Total	
	Yes		No			
	N	%	N	%	N	%
Metro Manila	278	92.7	22	7.3	300	100.0
Bulacan	147	98.0	3	2.0	150	100.0
Nueva Ecija	145	96.7	5	3.3	150	100.0
Iloilo	131	87.3	19	12.7	150	100.0
Aklan	126	84.0	24	16.0	150	100.0
Bukidnon	135	90.0	15	10.0	150	100.0
Lanao del Norte	148	98.7	2	1.3	150	100.0
Total	1,110	92.5	90	7.5	1,200	100.0

Annex Table 42a. Preferred medium to receive more information about climate change, by province.

Province	What medium do you prefer to receive more information on climate change?														Total	
	TV		social media		radio		brochure/ comics/ magazine		newspaper		others		No response			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Metro Manila	215	77.3	18	6.5	1	0.4	17	6.1	6	2.2	0	0.0	21	7.6	278	100.0
Bulacan	110	74.8	5	3.4	7	4.8	23	15.6	2	1.4	0	0.0	0	0.0	147	100.0
Nueva Ecija	141	97.2	3	2.1	1	0.7	0	0.0	0	0.0	0	0.0	0	0.0	145	100.0
Iloilo	95	72.5	1	0.8	20	15.3	1	0.8	0	0.0	10	7.6	4	3.1	131	100.0
Aklan	89	70.6	1	0.8	6	4.8	5	4.0	2	1.6	17	13.5	6	4.8	126	100.0
Bukidnon	102	75.6	5	3.7	13	9.6	7	5.2	4	3.0	2	1.5	2	1.5	135	100.0
Lanao del Norte	137	92.6	5	3.4	4	2.7	1	0.7	0	0.0	0	0.0	1	0.7	148	100.0
Total	889	80.1	38	3.4	52	4.7	54	4.9	14	1.3	29	2.6	34	3.1	1,110	100.0

Annex Table 42b. Preferred medium to receive more information about climate change.

Medium	Response*	
	N	%
TV	890	61.8
social media	138	9.6
radio	222	15.4
brochure/ comics/ magazine	100	6.9
newspaper	90	6.3
Total	1,440	100.0

* Multiple responses

Annex Table 42c. Mean reliability rating of different sources of information regarding climate change, by province.

Province	Family Member or friend		Scientists		Local Government		National Government		NGOs/CSOs/ environmental groups		School/Academic institutions		Media (TV, Radio, Newspaper, Online News)		Prominent Personalities/ Endorsers	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
Metro Manila	3.4983	299	3.7100	300	3.6890	299	3.7893	299	3.6767	300	3.8700	300	4.1400	300	3.4200	300
Bulacan	3.2400	150	3.8733	150	3.3067	150	3.5467	150	3.3600	150	3.7267	150	3.4333	150	2.5467	150
Nueva Ecija	4.0667	150	3.7200	150	3.6667	150	4.1800	150	3.3733	150	4.0267	150	4.7400	150	4.7667	150
Iloilo	3.2067	150	3.4966	149	3.6577	149	3.7517	149	3.4600	150	3.7400	150	4.2600	150	2.6933	150
Aklan	3.5467	150	4.0467	150	3.4933	150	3.8800	150	3.6933	150	3.9200	150	4.0133	150	2.9467	150
Bukidnon	2.7432	148	3.1757	148	3.6081	148	3.7770	148	3.5000	148	3.3851	148	3.9459	148	2.0270	148
Lanao del Norte	3.3400	150	4.6267	150	4.0467	150	4.2800	150	4.1333	150	4.2867	150	4.2933	150	3.2933	150
Total	3.3935	1197	3.7962	1197	3.6446	1196	3.8746	1196	3.6093	1198	3.8539	1198	4.1210	1198	3.1411	1198

Annex Table 43a. Effects on changed day-time temperature in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Getting hot or hotter	226	32.1	75	17.9
Discomfort and prone to get sick	267	38.0	175	41.7
Tiredness and can't do normal activities	72	10.2	51	12.1
Sweating and dehydration	24	3.4	65	15.5
Other consequence of high temperature (high utility bills, sunburn, pimples, etc)	87	12.4	34	8.1
Cold or colder	14	2.0	2	0.5
No effect or don't know	13	1.8	18	4.3
Total	703	100.0	420	100.0

Annex Table 43b. Effects on changed day-time temperature in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Getting hot or hotter	172	53.1	132	18.5
Discomfort and prone to get sick	44	13.6	312	43.8
Tiredness and can't do normal activities	46	14.2	72	10.1
Sweating and dehydration	14	4.3	75	10.5
Other consequence of high temperature (high utility bills, sunburn, pimples, etc)	26	8.0	92	12.9
Cold or colder	9	2.8	7	1.0
No effect or don't know	13	4.0	22	3.1
Total	324	100.0	712	100.0

Annex Table 43c. Adjustments/Adaptations to changes on day-time temperature in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Frequent bathing	147	20.9	111	26.4
Work when not too hot	33	4.7	4	1.0
Rest and wear proper attire	63	9.0	36	8.6
Cool oneself with fan, AC or cold drinks	98	13.9	71	16.9
Go or stay in cool/warm place	138	19.6	72	17.1
Frequent drinking of water	96	13.7	67	16.0
Exercise, see Dr., Take precaution/ fortification vitamins/medicine/skin protection	79	11.2	30	7.1
No effect or don't know	22	3.1	13	3.1
Backyard gardening	3	0.4	3	0.7
Nagtititiis/used to it	9	1.3	2	0.5
Irrelevant answer	15	2.1	11	2.6
Total	703	100.0	420	100.0

Annex Table 43d. Adjustments/Adaptations to changes on day-time temperature in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Frequent bathing	80	19.9	166	23.4
Work when not too hot	11	2.7	15	2.1
Rest and wear proper attire	41	10.2	68	9.6
Cool oneself with fan, AC or cold drinks	74	18.4	91	12.9
Go or stay in cool/warm place	71	17.7	138	19.5
Frequent drinking of water	49	12.2	120	16.9
Exercise, see Dr., Take precaution/ fortification vitamins/medicine/skin protection	33	8.2	74	10.5
No effect or don't know	16	4.0	18	2.5
Backyard gardening	6	1.5	2	0.3
Nagitiis/used to it	11	2.7	5	0.7
Irrelevant answer	10	2.5	11	1.6
No response	9		4	
Total	411	100.0	712	100.0

Annex Table 43e. Effects on changed night-time temperature in rural and urban areas

Effects	Rural		Urban	
	N	%	N	%
Getting hot or hotter	65	9.2	67	16.3
Discomfort and prone to get sick	333	47.4	148	36.0
Tiredness and can't do normal activities	4	0.6	7	1.7
Sweating and dehydration	36	5.1	5	1.2
Other consequence of high temperature (high utility bills, sunburn, pimples, etc)	23	3.3	6	1.5
Cold or colder	114	16.2	117	28.5
No effect or don't know	63	9.0	20	4.9
Sometimes cold, sometimes hot	18	2.6	27	6.6
Can sleep well			5	1.2
Irrelevant answer	47	6.7	9	2.2
Total	703	100.0	411	100.0

Annex Table 43f. Effects on changed night-time temperature in inland and coastal areas

Effects	Inland		Coastal	
	N	%	N	%
Getting hot or hotter	69	16.8	98	13.8
Discomfort and prone to get sick	147	35.8	367	51.5
Tiredness and can't do normal activities	5	1.2	2	0.3
Sweating and dehydration	5	1.2	9	1.3
Other consequence of high temperature (high utility bills, sunburn, pimples, etc)	6	1.5	23	3.2
Cold or colder	119	29.0	155	21.8
No effect or don't know	19	4.6	29	4.1
Sometimes cold, sometimes hot	28	6.8	14	2.0
Can sleep well	5	1.2	9	1.3
Irrelevant answer	8	1.9	6	0.8
Total	411	100.0	712	100.0

Annex Table 43g. Adjustments/Adaptations to changes on night-time temperature in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Frequent bathing	64	9.1	135	32.1
Work when not too hot	2	0.3		
Rest and wear proper attire	296	42.1	66	15.7
Cool oneself with fan, AC or cold drinks	131	18.6	137	32.6
Go or stay in cool/warm place	40	5.7	13	3.1
Frequent drinking of water	9	1.3	12	2.9
Exercise, see Dr., Take precaution/ fortification vitamins/medicine/skin protection	80	11.4	12	2.9
No effect or don't know	39	5.5	20	4.8
Backyard gardening		0.0		
Nagitiis/used to it	15	2.1	7	1.7
Drink warm drinks to feel warmer	12	1.7	3	0.7
Irrelevant answer	15	2.1	15	3.6
Total	703	100.0	420	100.0

Annex Table 43h. Adjustments/Adaptations to changes on night-time temperature in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Frequent bathing	56	13.6	143	20.1
Work when not too hot	1	0.2	1	0.1
Rest and wear proper attire	138	33.6	233	32.7
Cool oneself with fan, AC or cold drinks	92	22.4	182	25.6
Go or stay in cool/warm place	34	8.3	14	2.0
Frequent drinking of water	4	1.0	17	2.4
Exercise, see Dr., Take precaution/ fortification vitamins/ medicine/skin protection	23	5.6	69	9.7
No effect or don't know	27	6.6	29	4.1
Nagtititiis/used to it	16	3.9	9	1.3
Drink warm drinks to feel warmer	9	2.2	6	0.8
Irrelevant answer	11	2.7	9	1.3
Total	411	100.0	712	100.0

Annex Table 44a. Adverse effects of flooding in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Damage to property, building, infra	119	23.5	38	11.4
Damage to crop, tree, livestock, etc.	189	37.3	2	0.6
Loss of livelihood/ source of income	48	9.5	68	20.4
Risk of diseases/accident	39	7.7	84	25.1
Causes death	3	0.6		
Disruption of normal activities	81	16.0	92	27.5
Not much effect	16	3.2	14	4.2
No response			4	1.2
Irrelevant answer	12	2.4	32	9.6
Total	507	100.0	334	100.0

Annex Table 44b. Adverse effects of flooding in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Damage to property, building, infra	55	18.2	116	22.0
Damage to crop, tree, livestock, etc.	98	32.3	94	17.8
Loss of livelihood/ source of income	32	10.6	86	16.3
Risk of diseases/accident	29	9.6	81	15.3
Causes death	3	1.0		
Disruption of normal activities	41	13.5	90	17.0
Not much effect	14	4.6	18	3.4
Irrelevant answer	31	10.2	40	7.6
No response			3	0.6
Total	303	100.0	528	100.0

Annex Table 44c. Adjustments/Adaptations to flooding in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Stay at home/pray/no action	94	18.5	115	34.4
Evacuate	64	12.6	13	3.9
Look for other livelihood	65	12.8	6	1.8
Help others repair damage/plant again	134	26.4	54	16.2
Seek help from various agencies/doctor	5	1.0	6	1.8
Be prepared and listen to news	54	10.7	99	29.6
Be proactive to minimize losses	32	6.3	12	3.6
Bear with it	36	7.1	15	4.5
No response	5	1.0	3	0.9
Not affected	9	1.8	4	1.2
Irrelevant answer	9	1.8	7	2.1
Total	507	100.0	334	100.0

Annex Table 44d. Adjustments/Adaptations to flooding in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Stay at home/pray/no action	89	29.4	128	23.8
Evacuate	19	6.3	50	9.3
Look for other livelihood	45	14.9	28	5.2
Help others repair damage/plant again	59	19.5	71	13.2
Seek help from various agencies/doctor	5	1.7	9	1.7
Be prepared and listen to news	26	8.6	137	25.5
Be proactive to minimize losses	17	5.6	88	16.4
Bear with it, used to it	24	7.9	14	2.6
No response	5	1.7	3	0.6
Not affected	9	3.0	4	0.7
Irrelevant answer	5	1.7	6	1.1
Total	303	100.0	538	100.0

Annex Table 45a. Effects of drought in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Decrease temperature	32	4.6	15	13.5
Delayed planting	88	12.7	4	3.6
Loss of crops/livelihood	381	54.9	49	44.1
Increase pests and diseases	19	2.7	3	2.7
Hunger, poverty	59	8.5	5	4.5
Other consequential effects of no water	104	15.0	25	22.5
No effect, don't know, don't care	6	0.9	5	4.5
Irrelevant answer	5	0.7	5	4.5
Total	694	100.0	111	100.0

Annex Table 45b. Effects of drought in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Decrease temperature	28	6.9	19	4.8
Delayed planting	43	10.5	58	14.6
Loss of crops/livelihood	209	51.2	205	51.6
Increase pests and diseases	4	1.0	22	5.5
Hunger, poverty	39	9.6	26	6.5
Other consequential effects of no water	70	17.2	52	13.1
No effect, don't know, don't care	11	2.7	10	2.5
Invalid answer	4	1.0	5	1.3
Total	408	100.0	397	100.0

Annex Table 45c. Adjustments/adaptations to drought in rural and urban areas

Response	Rural		Urban	
	N	%	N	%
Conserve and store water	152	21.9	23	20.7
Use deep well, look for other sources, bought water	114	16.4	7	6.3
Look for other livelihood/source of income	143	20.6	19	17.1
Frequent watering of crops/irrigation	55	7.9	10	9.0
Plant drought resistant crops, replanting	69	9.9	5	4.5
Ask for government assistance	17	2.4	1	0.9
Delay planting, wait for the rain	41	5.9	2	1.8
Frequent bathing and stay inside the house, hydrate self			20	18.0
No action, pray	36	5.2	3	2.7
Other initiatives (seek doctor, be prepared, backyard gardening)	33	4.8	8	7.2
Irrelevant answer	19	2.7	4	3.6
No answer, don't know	15	2.2	9	8.1
Total	694	100.0	111	100.0

Annex Table 45d. Adjustments/adaptations to drought in inland and coastal areas

Response	Inland		Coastal	
	N	%	N	%
Conserve and store water	49	12.0	124	31.2
Use deep well, look for other sources, bought water	65	15.9	46	11.6
Look for other livelihood/source of income	95	23.3	56	14.1
Frequent watering of crops/irrigation	37	9.1	37	9.3
Plant drought resistant crops, replanting	25	6.1	50	12.6
Ask for government assistance	10	2.5	4	1.0
Delay planting, wait for the rain	35	8.6	15	3.8
No action, pray	32	7.8	4	1.0
Frequent bathing and stay inside the house, hydrate self	10	2.5	28	7.1
Other initiatives (seek doctor, be prepared, backyard gardening)	28	6.9	18	4.5
Irrelevant answer	9	2.2	5	1.3
No answer, don't know	13	3.2	10	2.5
Total	408	100.0	397	100.0

Annex



FGD Reports



FOCUS GROUP DISCUSSION RESULTS
National Awareness Survey on Climate Change

Lambunao, Iloilo
15 November 2016
9:00 – 11:00 AM
ABC Session Hall
Lambunao, Iloilo

List of attendees:

	Name	Position/Office/Agency	Gender
1.	Mark Lasugas	Municipal Agriculture Office	male
2.	Richard C. Catedral	Municipal Agriculture Office	male
3.	Cheryl Jane Leonida	MSWD/DSWD	female
4.	Cecil C. Ganzon	Science Teacher in Lambunao National High School	female
5.	Shane Dana Laygan	Youth for Environment School's Organization - Student	female
6.	Ma. Neneth Mantilla	MENRO	female
7.	Ma. Docilyn L. Lecano	MPDC	female
8.	Mirza V. Lachauna	Professor in West Visayas State University, Lambunao Campus	female
9.	Mary O. Legada	Mayor's Office	female
10.	Gina G. Aris	Information Office (media)	female
11.	Febe L. Tingson	MPDC	female
12.	Mary Grace Suganob	Farmer's Representative	female
13.	Felinor Naira Villa	Mayor's Office	female
14.	Corazon L. Leбата	NGO Senior Citizen	female
15.	Sergio Balano	Transport Group	male
16.	Stephen Lee Mandadelo	MDRRMC	male
17.	Merlyn Ardiente	ABC Hall Staff	female
18.	Perla A. Belmonte	ABC Hall Staff	female
19.	Jocelyn Bayla	ABC Hall Staff	female
20.	Romer C. Vilueza	GSO	male
21.	Perry Clarreon Lenamina	ABC Hall Staff	male
22.	Leslie S. Castor	ABC Hall Staff	female

Facilitator: Edmund G. Centeno
Rapporteur: Rikki Lee B. Mendiola
Documentor: Marionette Dela Cruz

INTRODUCTION

Sixteen participants attended the focus group discussion for the Municipality of Lambunao in Iloilo last 15 November 2016. Since the only venue available during the said date was the ABC Session Hall, the physical arrangements were not done as requested. Instead of the bistro type of seating arrangement, the participants were grouped into four with each group occupying a long table.

There were 14 females and 2 males who represented the Local Government Unit, farmer org, youth sector, senior citizen, and the academe. During the start of the FGD, the facilitator introduced himself, gave a brief overview of what the FGD was about and the mechanics of the FGD using a powerpoint presentation. Afterwards, he introduced the team and asked the participants to introduce themselves. Questions regarding the research project were entertained.

The FGD was conducted using the World Café method. There were four participants in each group, with one appointed as leader. Each group was given 20 minutes to discuss their answers to the questions. The group leader was tasked to facilitate the discussion in each group while the group members were encouraged to write their answers on the butcher's paper or on metacards which were taped on the butcher's paper. After 20 minutes, the members of the four groups rotated and moved to the next table to discuss their answers to the next set of questions.

After all the questions have been discussed, the answers of the participants were clipped at the side of the room and were discussed and synthesized by the group leader. Additional information were provided by the participants. Some points were clarified and validated.

The FGD started at 9:00 PM and ended at 11:00 AM.

RESULTS

The following are the results of the World Café which were presented to the group by the group leader:

Group 1

- Ø What is your idea about climate change?
 - § Climate change is a sudden change of phenomenon that greatly affects the normal process of nature.
 - § A change of climate in certain place for a long period of time
 - § Climate change is an occurrence that has affected the world's weather and environment and has changed the way people respond to disasters and changes in climate
 - § Climate change is also called greenhouse effect (global warming) - the rise of temperature on earth surface due to carbon dioxide emission
 - § Climate change is not effectively the greenhouse effect.

All participants agreed that climate change is the dramatic increase in temperature observed over a long period of time. They also added that there is an urgent need to address climate change and mitigate its effects in the community. One interesting observation noted by the group leader was that

some participants said that climate change is synonymous with greenhouse effect. Two respondents who came from the academe explained that climate change is caused by greenhouse effect.

- Ø In the last 10 years, what have you observed or experienced about our climate?
- Stronger typhoons
 - Rise in temperature, mas mainit ngayon ang panahon kumpara dati.
 - Severe rainfall which causes flooding and landslide.
 - More dry and hot days
 - Occurrence of floods and landslides
 - Emerging and re-emerging of diseases
 - Occurrence of pest and diseases on agriculture crops, livestock, and poultry
 - Shortage of potable water
 - Evolves diseases that are resistant to antibacterial/treatment
 - Dengue outbreak
 - Temp during summer is remarkably increasing
 - BEFORE: bigger farm production
 - BEFORE: cleaner air
 - BEFORE: sufficient water flows in the river and brooks
 - BEFORE: more predictable climate/season (La Niña, El Niño); alam natin kung anong buwan ang tag-araw at tag-ulan pero ngayon ay unpredictable na.
 - BEFORE: rich forest ecosystem
 - BEFORE: green forest
 - BEFORE: More fish in the rivers
- Ø What do you think are the causes of climate change?
- § Human activities that directly affect our environment such as illegal logging, mining, kaingin, etc
 - § Factories that emits gas
 - § CFCs emitted by materials/objects that we need or use everyday (eg perfume, cooking materials, etc)
 - § Calamities /disasters (natural and man-made)
 - § Accidents (fire)
 - § Vehicles
 - § Chemical farming, use of pesticides
 - § Open field incineration of waste
 - § Improper Waste disposal
 - § Use of soap and other chemicals
 - § Development of technology

The various causes of climate change as mentioned by the participants can be categorized into two: man-made causes and natural causes. Man-made

causes include activities at home (cooking, personal hygiene, use of appliances), in industries/factories (emission of gases and wastes), carbon emissions from transportation, and activities in the environment (mining, illegal logging, and improper waste disposal). Natural causes include calamities/disasters such volcanic eruptions, typhoons, fire, and earthquake.

Group 2

- Ø What are the dramatic changes and impacts have you felt?
 - § During rainy season the populace living near the rivers felt nervous because they knew the flood will come immediately
 - § In mountain areas, the populace are afraid of landslide
 - § Reduction of agriculture products, bigger farm inputs
 - § Shortage of water supply
 - § Occurrence of pests and diseases on agricultural crops, poultry, and livestock
 - § Shortage of food supply in some areas affected by long drought
 - § Change in crop patterns. Dati alam natin kung anong buwan magtatanim ng mais, palay, o gulay. Ngayon, nag-iba na ang panahon.

The Municipality of Lambunao is located near the mountain. It has abundant natural resources (rivers, lake, falls, etc). According to the participants, these natural resources have been greatly affected by climate change. In addition, it is interesting to note that the participants emphasized the effects of climate change in agriculture. These effects include the occurrence of pests and crop diseases, shortage in irrigation, and increased farm inputs (such as fertilizers and pesticides). The unpredictable weather conditions also caused irregular crop patterns.

- Ø What are the changes have your community/barangay felt?
 - § I lived in the river banks before, we moved now.
 - § We live near the highway (Quezon City) before we can still hang laundry outdoors, but over the years we are not able to do since they get dirty from air pollution
 - § Change of climate pattern
 - § Stronger typhoon (intensity)
 - § Severe rainfall
 - § River siltation due to flood and landslide
 - § The river bank is no longer stable
 - § Increase of temperature (hotter than usual)
 - § Too much impact of the heat of the sun on our skin especially at noon time, unlike before
 - § Water shortage during summer

Group 3

- Ø How did the government respond to these changes?
 - § Implemented policies (local laws/ordinances) in support to climate change awareness

- § Creation of task force (committee in environmental protection), especially those overseeing the communities in the mountain who do kaingin
 - § The provincial government of iloilo mandated each municipality to implement programs such as waste segregation, prohibiting smoking, tree planting, etc.
 - § Climate change advocacy, information dissemination conducted by the municipal government with the help of the barangay officials
 - § Community activities supported by government such cleaning the barangays and providing seedlings
 - § Salin Tubig Program implemented to aid Water Scarcity in locality
 - § Implemented summit on climate change
 - § Sustainable Livelihood Program was implemented
 - § Organic farming was implemented
 - § HEART program was initiated
 - § Health and social services
 - § Environment, education, entrepreneurship, and employment
 - § Agricultural sustainability
 - § Rural development
 - § Transportation accessibility
 - § BRRM fund were well supported incorporated in the AIP
 - § Alternative use of energy like solar power, hydropower, and wind turbines
 - § Implementing Bayong Day – using bayongs when going to the market instead of plastic bags
 - § Schools are now very active in teaching about climate change and its effects.
- Ø How did the community respond to these changes?
- § The Western Visayas State University – Lambunao Campus (WVSU-LC) created the clean and green organization. The objective of the org is to promote correct and proper practice on waste disposal and segregation
 - § Implementing 3Rs (reduce, reuse, recycle)
 - § Supported local policies
 - § Implemented/supported local projects:
 - § Tree planting
 - § Local preparedness
 - § Attended meetings/seminars on envt protection
 - § The WVSU-LC is involved in outreach programs, such as tree planting to its adapted barangay and conducts clean up drive within and outside the campus.
 - § Internal school organizations involved in planting and waste segregation

- § Engaging youth to participate in environmental awareness programs
- § Practice water conservation
- § Organized forum association on climate change
- § Promote organic farming practice among farmers

The FGD participants did not mention any programs implemented at the national level.

Different sectors in the community had their own share in mitigating the effects of climate change. According to the participants, in response to the climate change programs of the provincial government of Iloilo, their municipality, with the active participation of the barangays, implement different environmental programs such as tree planting activities, trainings and seminars on climate change awareness, livelihood programs, and promotion of organic farming and use of bayongs. The households were encouraged to participate in cleanup drives and waste segregation. Farmer groups conduct trainings on organic farming. Schools in Lambunao have been very active in discussing climate change and its effects. Student organizations and other youth groups conduct outreach programs and other activities relating to environmental protection and conservation.

Group 4

- Ø What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to adverse effects of climate change?

The participants recommended the following activities for the CCC and other government agencies.

- Conduct training, seminars, conferences on climate change
- Conduct tree planting activities (financial and material support)
- Conduct awareness campaign especially on kaingin system used by farmers
- Inform the locality about the effects of using chemicals on the environment, especially to farmers and households
- Conduct summit on CCA and DRRM
- Formulate policies to address CCA and DRRM such as RA 9003, anti smoking law
- Implement programs and projects in relation to CCA and DRRM

It should be noted the the participants had very low awareness with regard to what the CCC and other government agencies implement or do to prepare the country or adapt to adverse effects of climate change. According to them, they were aware of some programs by DENR, DA, and DOH such as organic farming, waste segregation, and harmful effects smoking through the posters distributed in their locality. The answers that they gave for this question were actually suggestions on what CCC and government agencies can implement in their locality.

- Ø In November 2015, the Philippines committed to reduce GHG (greenhouse gas emissions) by 70% based on 1990 level by 2030 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?
 - § Educate marine and nautical engns to strategize routes that could save fuel
 - § Effect on economic development
 - § Limit no. of factories
 - § Limit no. of private vehicles
 - § In effect, unemployment rate might increase
 - § Stop kaingin farming system, support organic farming.
 - § Control transportation ownership/strict observance of LTO Licensing Policy.
 - § Creation of carbon neutral areas, forest and communities
 - § Building Eco village and supporting their entire build up.
 - § Open solar energy
 - § Educate people in the community, correct and proper segregation of waste & the effects of not practicing the later.
 - § Stop practicing waste incineration.
 - § The government should create support program for waste segregation, since disposing waste without finding ways to reuse them would still result to waste accumulation in landfills.
 - § Use alternative energy sources e.g. solar, hydro, fuel, wind and etc.
 - § Fund research studies
 - § Implementation of Organic Agricultural Act
 - § Promote green engineering
 - § Implementation enforcement of laws like RA 9003.

The participants had very low awareness level with regard to the Philippines' commitment mentioned above. However, they suggested that in order for us to accomplish our goal, our government should strictly implement its laws that are related to climate change (especially those relating to agriculture, health, and environment).

CONCLUSION

1. The FGD participants had very high awareness level on climate change issues since they had first-hand experiences on its effects. They knew that climate change refers to the change in global climate patterns over a long period of time, however, they tend to be confused with technical terminologies (eg. global warming, greenhouse effect, greenhouse gas emissions, climate change)
2. Different sectors in Lambunao (LGU, households, farmers, academe, youth groups) have been conducting activities to mitigate the effects of climate

change. These activities were conducted in response to the provincial government's environmental programs.

3. The FGD participants highly appreciated the LGU's efforts and active implementation of environmental programs at the municipal and barangay levels. Strict implementation of environmental laws should be done at the national level.
4. Although the FGD participants had no to very low awareness with regard to the Paris Agreement, they recognized the need to mitigate the effects of climate change. They suggested some activities that could help us us to fulfill our commitment.

PHOTO DOCUMENTATION (LAMBUNAO, ILOILO)



FOCUS GROUP DISCUSSION RESULTS
National Awareness Survey on Climate Change
November 21, 2016
9:30am – 12:00nn
People’s Hall, Malaybalay City Hall
City of Malaybalay, Bukidnon

LIST OF ATTENDEES

Name	Position/Office/Agency	Gender
1. Virgil P. Estrada	Kalasan PCECI	male
2. Kris Guerrero B. Tabernero	City ENRO/Supervising EMS	male
3. Adrian R. Gamboa	CPDO/CPDC	male
4. Reynaldo S. Agne	NOBTSCO	male
5. Emmanuel P. Patricio	Fisherfolk	male
6. Sarulla, Rodney M.	MPDC	male
7. Rhondell M. Maputi	Buksu DRRM Coordinator	male
8. Alexander M. Maputi	Sr. Fed. Of Senior Citizen	male
9. Alan J. Comiso	CDRRMO IV	male
10. Virginia I. Flores	CSWDO	female
11. Irine Mae T. Belderol	Bukidnon National HighSchool	female
12. Benjamin M. Maputi	Farmer	male
13. Elizabeth J. Jurolan	Agri Office/Agriculturist II	female
14. Leo Abejoela	Diocese Mtg. Ecology	male
15. Rommel Parbeo	DXDB	male
16. Romeo R. Lapeciroc Jr.	ACA/EA	male

Facilitator: Prof. Mark Lester M. Chico
Rapporteur: Mr. Ryan Jay I. Galang
Documenter: Mr. Elijah Jesse M. Pine

INTRODUCTION

The FGD for Malaybalay City, Bukidnon was attended by 16 participants. The venue was well-prepared with proper set-up of four tables with four chairs each. The FGD started at around 9:30 AM. After the opening prayer and national anthem, Malaybalay Assistant City Administrator welcomed the participants. His assistant introduced each of the participants. Afterwards, Prof. Mark Lester M. Chico, facilitator, discussed briefly the background of the project as well as the mechanics of the FGD. It was emphasized that the city was randomly picked and participants were specifically identified based from the list sent to the LGU.

About 1-2 participants came in after the orientation. Assistant Professor Chico approached them to provide them with a quick overview of what was going to happen and what the expected output was.

The group leaders were identified and was asked to occupy the assigned tables. The participants were then given the freedom to choose which table they would like to belong to first. Each group was given Manila paper in which FGD questions were posted. These papers were pinned on bulletin boards/whiteboards so that participants could easily paste their inputs. Participants were also provided with pens and meta cards. When the meta cards have been used up, participants were asked to directly write their answers on the Manila paper.

After all participants were able to answer all questions, the leaders were asked to report the outputs in plenary. The clothesline that was originally set-up for the presentation was not stable enough to keep the Manila papers in place. Thus, instead of hanging the Manila papers on the clothesline, they were posted on the bulletin boards.

The FGD ended at 12:00 NN. Everybody were then served with lunch.

RESULTS

The results of the FGD in Malaybalay City, Bukidnon which were presented by the hosts/leaders (per table) are as follows:

Table 1

- **What is your idea about climate change?**
 - Global warming
 - Related to greenhouse effect
 - Unpredictable/Rapid Change of climate condition
 - Old concept but not understood/digested by people
 - Technology dependent people
 - Natural phenomenon (part of evolution)
 - God's intervention
 - A Hoax

- **In the last 10 years, what have you observed or experienced about our climate?**
 - Hotter/Warmer temperature ('di na ganun kalamig tulad nang dati')
 - Pest outbreak
 - Drought
 - Forest degradation

- Flashfloods
- Less productive crop due to unpredictable weather pattern
- Biodiversity is affected
- Bukidnon not a typhoon-free area anymore
- Impact in agriculture sector
- Changes in way of living
- Health issues (shorter life span; heatstroke)
- Change in preferences and attitudes (people are easily irritated)
- Unpredictable fortuitous events
- Migration– Bukidnon people go elsewhere especially during summer
- Brownout – (Before no brownout)
- Students easily get sick
-

- **What do you think are the causes of climate change?**
 - Industrialization
 - Greed for land' profit
 - Unsustainable use of natural resources
 - Too many vehicles
 - Lack of discipline of people
 - Unmanageable solid waste management
 - No respect for nature/ecology
 - Poverty

Table 2

- **What are the dramatic changes and impacts have you felt?**
 - Climate-change induced - Clothing preferences (dahil mainit, mas maiksi na magdamit)
 - Sudden change in temperature
 - Decreasing surface water volume
 - Landslide and soil erosion
 - Low-income for farmers
 - Wild animals stay on high places/mountains
 - Scarcity of Water supply – water rationing
 - Experience typhoon
 - Poverty
 - Emotional effects (easily irritated due to hot weather, disturbed sleeping hours)
 - Family finances affected
 - Shorter life span on agricultural products (prone to pests)
 - Heat strokes; diseases

- **What changes have your community/barangay felt?**
 - Dependence on technology
 - People build resilient shelters (from nipa hut to concrete houses)
 - Low agriculture production – high cost of farm inputs
 - Hotter/Warmer temperature
 - Changes in cropping pattern
 - Poor animal health
 - Migration of locals to other places/abroad
 - Higher cost of basic commodities
 - Garbage problem

- Hotter temp. causes extreme evaporation; leads to drought
- Reduce quality and quantity of crop production
- Depleting and air and water quality
- Polluted rivers and creeks (industrial and agricultural wastes)
- Wildlife migration from forest to urban areas/cities (birds, snakes)

Table 3

- **How did the community respond to these changes?**
 - Civic groups/NGOs involvement
 - Tree growing (not tree planting) – requires commitment
 - Clean up drive
 - Information drive
 - Farmer's training
 - Seek support from LGUs through CCA initiatives
 - Promotion of Organic Agriculture
 - Change cropping calendar
 - Promotion of high yielding and climate change varieties – mitigation & adaptation
 - Practice integrated farming
 - Seek job/livelihood opportunities elsewhere (lumads/IPs going down to cities)
 - Natural farming technology system (NFTS)
 - FAITH program (food always in the home)
- **How did the government respond to these changes?**
 - Promote renewable energy
 - LGU partnership with national and international organization
 - Allocated funds to vulnerable resources
 - Subsidy on high yielding varieties
 - Improve farmer to market road (infrastructure)
 - Invested on life saving equipment/infrastructures
 - Values Formation initiatives
 - Organizing stakeholders
 - Policy making DRR-CCA
 - Implementation of RA 9003
 - Advocacy and Awareness
 - Action and implementation
 - Assessment and Evaluation
 - Monitoring and Follow up
 - Question of Sustainability?

Table 4

- **What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to the adverse effects of climate change?**
 - Capacitates stakeholders for climate change
 - Provide funds
 - Technical Assistance
 - Monitoring
 - Policy Formulation
 - Info dissemination
 - Research
 - Initiatives not yet fully implemented -can't be felt by the communities

- **In November 2015, the Philippines committed to reduce GHG (greenhouse gas emission) by 70% based on 1990 level by 2030 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?**
 - Clear roadmap for LGUs
 - Reward system
 - Incorporate CCA on senior high and college curriculum
 - Stop Chemical manufacturers
 - Serious Scientific/Technical guidance and approaches;
 - Mind setting
 - Implementation of solid waste management; and other environmental protection acts

THEMES

Climate change is caused by humans.

Participants believe that humans, specifically human activities, are the greatest contributor to climate change. Lack of discipline and negligence of the public in the area of waste management is evident. They also attribute increased carbon emission to industrialization and increase in car/vehicle volume on the road.

Sustainable initiatives are key to “fighting” climate change.

Participants assert the need for activities that have a long-term effect on the environment and impact to the community. For example, participants suggest “Tree growing” as an appropriate program than just mere “Tree planting” because it addresses sustainability (*planting fruit growing trees instead of trees used for lumber*) and valuable to the community (*harvesting fruits for consumption and livelihood*).

Adaptation over mitigation.

Accepting the fact that climate change is already here, the participants believe that we can only do so much on mitigation, thus, most of the initiatives identified were under adaptation measures (building “safer” houses, changing cropping calendar, wearing thin/short clothes).

CONCLUSION

The participants had a common understanding on what climate change is as well as its effects (global warming, extreme heat, greenhouse effect). While they agree that climate change is mostly caused by human interventions such as industrialization, pollution, and improper waste management, some mentioned about it being a hoax and some refer to it as God’s intervention (to make people realize the value of the earth).

In Malaybalay City, Bukidnon, it is the agriculture sector that is heavily affected by climate change due to unpredictable weather pattern that leads to changes in cropping pattern/calendar that in turn leads to lower yield/production.

Climate change is not only affecting the environment per se. The participants also cited effects related to people’s health. They said that disease outbreak (and other health issues are effects of climate change.

Community and government initiatives are focused on adaptation and not on mitigation. They all agree that there is a need to call for action in addressing (i.e., mitigating) climate change and that CCC initiatives are not felt and/or not known to the community.

PHOTO DOCUMENTATION (MALAYBALAY, BUKIDNON)



Participants of the Bukidnon Focus Group Discussion



Opening remarks from the City Assistant Administrator



Prof. Mark Lester M. Chico introduces the FGD facilitators and discussed the mechanics of the World Cafe



Discussants in Table 3 brainstorming about local government responses to the effects of climate change



General layout of the World Cafe held at the People's Hall, City Hall, Malaybalay City



Discussants in Table 1 posting on a paper wall their insights about the changes brought about by climate change



A participant facilitator reporting the collated insights of the participants on the question assigned to his table



An open forum was conducted after the presentation of the results of the World Cafe

FOCUS GROUP DISCUSSION
National Awareness Survey on Climate Change
Marilao, Bulacan
21 November 2016
2:00 – 4:00 PM
Municipal Hall Conference Room
Marilao, Bulacan

List of attendees:

Name	Position/Office/Agency	Sex
1. Belinda V. Forbuena	DepEd/Prenza National High School – HF III	Female
2. Ernesto Guevarra	Senior Citizens	Male
3. Flordeliz M. Corpuz	Sagip Kalikasan - President	Female
4. Reinalyn R. Condat	MPDO Staff	Female
5. Michael N. Guillermo	MPDO Staff	Male
6. Salvador P. Ramirez Jr.	MPDO Staff	Male
7. Enrico C. Dillena	Samahan Ng Nagkakaisang Mangingisda Vice President	Male
8. Mariano T. de los Santos	Municipal Agricultural & Fisheries Council Chairman	Male
9. Shirley Manluco	Municipal Agricultural Officer	Female
10. Dorothy Bonifacio	MDRRMO	Female

Facilitator: Juvy Gopela

Rapporteur: Airyne Almendral

Documentor: Marionnette de la Cruz

INTRODUCTION

The FGD for Marilao, Bulacan was attended by 10 participants. The expected participants should be 16 but because of conflicting schedules, only 10 were able to attend. Also, physical arrangements were not done as requested (4 small tables with 4 chairs). Consequently, the start of the FGD was a bit delayed (instead of 1:00PM, the FGD started at 1:45PM)

Five (5) females and five (5) males represented the Municipal Agriculture Office, the academe, senior citizens, NGOs, the Disaster Risk and Reduction Management Office, the Municipal Planning and Development Office, and the fisher folk Group.

The participants were seated around the conference table. The facilitator introduced the team and asked the participants to introduce themselves. After the introductions, the facilitator gave a brief overview of what the activity was about using a powerpoint presentation. It was emphasized that the municipalities were randomly chosen for the conduct of the FGD.

A modified World Café was done to suit the number of participants. Since there were only 10 participants, the group was first divided into two. Butcher's papers for Group 1 (with the corresponding questions 1, 2 and 3 written on the paper) and for Group 2

(questions 4 & 5) were provided. Each group elected a host/leader who acted as facilitator of the discussion. They were given 20 minutes to discuss and write their answers to the questions in the butcher's paper. After 20 minutes, the members of the group transferred to the other group (exchange of group members) leaving behind the elected host/leader. The host/leader then shared to the new members of the group what they have discussed and answered. The new groupmates then discussed their responses and wrote it also in the same butcher's paper. After 20 minutes, for the second round, the group was given another set of butcher's papers (with questions 6 & 7; another set for the other group with questions 8, 9). They then elected a new host/leader to facilitate Group 3 questions and Group 4 questions. The same procedure was done for these set of questions. The hosts/leaders presented the responses based

The FGD started at 2:00 PM and ended at 4:00 PM.

RESULTS

Despite the small number of participants, results were substantive and comprehensive. The results of the World Café which were presented to the group by the Group leaders are as follows:

Group 1

- Ø What is your idea about climate change?
 - § Also known as global warming
 - § Change in global climate pattern
 - § Abnormal and unpredictable weather conditions

Ideas shared of changing global climate pattern, the abnormal and unpredictable weather conditions were symptoms that the climate is changing. There was no differentiation between climate and weather because it seems that climate and weather are one and the same. But they were one in saying that climate change is global warming and that the effects of climate change are highly observable.

- Ø In the last 10 years, what have you observed or experienced about our climate?
 - § Increased temperature
 - § Prolonged El Niño and La Niña phenomenon
 - § Very powerful typhoon
 - § Heavier rainfall
 - § Frequent drought
 - § Acid rain
 - § Hale storm experience
 - § Air pollution
 - § Extreme high tide
 - § Flash floods
 - § Frequent tornado (ipo-ipo) experience

Most of the things they observed and listed were from the experiences in the country and more specifically of their own experiences. Global conditions and situations were not cited nor discussed. The most

observed was the increased temperature and strong typhoons that hit the country.

- Ø What do you think are the causes of climate change?
 - § Too much CO₂ emission
 - § Increase in greenhouse gasses in atmosphere.
 - § Abusing our natural resources
 - § Different pollutants
 - § Urban development
 - § Industrialization
 - § Failure to implement appropriate laws or ordinance.
 - § Self-discipline

The participants identified various causes of climate change but in the end they say that it boils down to just one thing – self-discipline. According to the participants, all the responses they listed can be minimized if everyone has self-discipline.

Group 2

- Ø What are the dramatic changes and impacts have you felt?
 - § Nagbago ang klima.
 - § Nakararanas ng matinding kulog at kidlat.
 - § Nakararanas na ng hightide.
 - § Mabilis na pagtaas ng tubig.
 - § Nagkaroon ng mataas na signal ng bagyo.
 - § Matinding baha at nagtatagal ng halos isang linggo.
 - § Maraming namamatay pag nagkakaroon ng bagyo.

Participants believed that the climate has changed because they can no longer identify the wet and dry months. The changes in climate are very obvious. There are more calamities nowadays because of very strong rains and typhoons.

- Ø What are the changes have your community/barangay felt?
 - § Di na napapakinabangan ang Prenza Dam dahil sa polusyon.
 - § Mabilis na pagbaha at madaming barangay ang binabaha.
 - § Pagbabaw ng ilog.
 - § Dumami ang factory na nagging sanhi ng air at water pollution.
 - § Kakapusan ng pagkukuhanan ng malinis na tubig.
 - § Konting ulan ay bumabaha na sa Prenza National High School.

Participants identified various causes of climate change which are mostly caused by the people themselves. Most of these are impacting the depletion of natural resources.

Group 3

- Ø How did the community respond to these changes?
 - § Ningas kugon attributes/attitude.
 - § Community based organization creation to help or improve environment conditions.
 - § Clean up drive programs.
 - § Lower use of chemical fertilizer.

§ Increase use of organic fertilizer.

Although at first they cannot think of how their community responded to climate change, they were able to identify some responses. Slowly they were able to connect the different activities they were doing were responses to what they are experiencing on the changing climate. The participants reported that the community are just starting to be aware of the adverse effects of climate change thus slowly they are making ways to adapt to these changes, but according to them some of the members have this ningas cogon attitude. Like in doing clean up drives. They feel they just need to encourage members of the community to help by lessening use of chemical fertilizers and increasing use of organic fertilizers.

Ø How did the government respond to these changes?

- § Creation of policies or ordinance regarding on our environment.
- § Adaptation/implementation of RA 9003 (Solid Waste Management).
- § Formulation/planning of Climate Change Action Plan Mitigation
- § Funding on proposed programs.
- § Adaptation of RA9100 or Organic Act.
- § IRR of RA 10121- Disaster Awareness

The participants were able to identify various programs and policies they said that the government has been doing its job to inform the community about climate change, people are aware but what it lacks is strict implementation of these program and policies. The participants described it as “kailangan ng ngipin”.

Group 4

Ø What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to adverse effects of climate change?

- § Tree planting
- § 3Rs – Reduce, Reuse, and Recycle
- § Using alternative source of energy (biogas/solar/wing)
- § Using organic agriculture (animal manure/compost)
- § No to plastic
- § Back to basic (eco-bike)
- § Reduce the use of fossil fuels
- § Regulate/control the use of old vehicles
- § Traffic management

The activities identified such as tree planting, lessen/avoidance of burning of plastics and the like, traffic managements and the regulation or control of old vehicles are meant to reduce emission of greenhouse. The community people are aware of these so the local government can just boosts/enhance their programs to better prepare the community towards the adverse effects of climate change.

- Ø In November 2015, the Philippines committed to reduce GHG (greenhouse gas emissions) by 70% based on 1990 level by 2030 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfilment of our commitment?
- § Improvement of transportation system to minimize the emission of greenhouse gases.
 - § Strict implementation of the law about waste segregation.
 - § Stop kaingin system.
 - § Good/transparent governance.

The participants seems not so aware about this commitment of the Philippines. They suggested that since most of the policies and laws on climate change are in place, the government should have strict implementation. The primary suggestion to reduce GHG emissions was to improve the transportation system and stop kaingin systems because they believed that these are the primary contributors to the GHG.

Thematic Analysis of Results

From the gathered responses during the FGD, the following themes can be drawn:

People learn through their experiences

People are aware of some concepts of climate change through their experiences. They know the detrimental effects of climate change because of what they have been to. As they analyzed the situation, they are now more aware and concerned about seeking more information about climate change.

Support from the government

The government are doing their part in terms of policies and laws are concerned. What the people needs, according to the participants, is more support in terms of stricter implementation of these laws and policies so that people will be more aware, educated thus prepared to handle any drastic changes brought about by climate change.

Conclusion

The participants have the knowledge about climate change, its causes and the effects of these changes. They have the knowledge, they are aware but they seem to lack full understanding of these concepts. The participants need to be educated and capacitated to strengthen their knowledge in addressing mitigation strategies. There should be more efforts on the part of the government to educate these people.

PHOTO DOCUMENTATION (MARILAO, BULACAN)



Introductions and overview of the Focus Group Discussion (FGD) and discussion on the mechanics of the World Café method by the FGD Facilitator, Ms. Juvy Gopela.



Conduct of World Café, Group 1 discussion on questions 1 to 3.



Conduct of World Café, Group 2 discussion on questions 4 and 5.



Conduct of World Café, Group 2 discussion on questions 6 and 7.



Conduct of World Café, Group 1 discussion on questions 8 and 9.



Plenary presentation of FGD results by hosts



Marilao, Bulacan FGD Participants with FGD Facilitator Ms. Juvy Gopela

FOCUS GROUP DISCUSSION RESULTS
National Awareness Survey on Climate Change
Muntinlupa and Pasay Cities

21 November 2016

2:00 – 4:00 PM

Muntinlupa Hall of Justice
Resiliency Building, Tunasan, Muntinlupa City

List of attendees:

Name	Position/Office/Agency	Gender
1. Benjamin Ramirez	DA-ESO	Male
2. Dolores Publico	DA	Female
3. Gina E. Barlangay	DA	Female
4. Leny Cipriano	DA	Female
5. Ellaine Z. Castro	Teacher/Poblacion Elem School	Female
6. Felix Guerrero	PCDRRMO-PO1 (Pasay)	Male
7. Ferescel Austin Lopez	Youth Representative	Male
8. Mary Rose dela Paz	Youth Representative	Female
9. Rebecca Cruz	CENRO	Female
10. Jose David Adriano	CPDO	Male
11. Vic Baldonaza	PPO	Male

Facilitator: Benjamina G. Flor

Rapporteur: Juvy Rocamora

Documentor: Iky Llegado

INTRODUCTION

The FGD for Muntinlupa and Pasay was attended by 11 participants, 10 from Muntinlupa City and one from Pasay City. The expected participants should be 16 but because of conflicting schedules, only 11 were able to attend and almost all came from the host municipality, Muntinlupa. As well, physical arrangements were not done as requested (4 small tables with 4 chairs). Consequently, start of the FGD was a bit delayed (instead of 1:00PM, the FGD started at 2:00PM)

There were six females and five males who represented the Department of Agriculture, the academe, the youth group, the Disaster Risk and Reduction Management Office, City Planning Office and Environment and Natural Resources Office.

Through an open circle of chairs, the facilitator, introduced the team and asked the participants to introduce themselves. After the introductions, a brief overview of what the FGD was about ensued using a powerpoint presentation (Annex 1). It was emphasized that the municipalities where the FGD will be conducted was done randomly.

A modified World Café was done to suit the number of participants. The FGD was conducted in a big hall without the tables but chairs were provided. Hence, instead of

tables, the walls were used to post butcher's paper for participants to write on using markers provided and for the discussion.

There were only three members in each group, with one appointed as leader; while one group was headed by the facilitator with two members.

The FGD started at 2:00 PM and ended at 4:00 PM.

RESULTS

Despite the small number of participants, results were substantive and comprehensive. The results of the World Café which were presented to the group by the Group leader are as follows:

Group 1 (Leader: Dolores Publico)

- Ø What is your idea about climate change?
 - § Pabago-bagong klima sa ating kapaligiran (changing climate in the environment)
 - § Pagkakaroon ng mga matinding pagbabaha (occurrence of strong floods)
 - § Sobrang init ng panahon (too hot weather)
 - § Pabago-bagong panahon (changing climate)
 - § Pagkakaroon ng malalakas na bagyo kahit may ulan (occurrence of strong typhoons even during the rainy season)
 - § There were trees before but now no more (drew a tree, then fallen trees)
 - § Sobrang init at lamig (too much heat or cold)
 - § Pagkasira ng ozone layer na sanhi din ng pagkatunaw ng yelo sa north pole at south pole

Ideas shared of changing climatic conditions, occurrence of very strong typhoons, excessive cold or heat are symptoms that the climate is changing. There was no differentiation between climate and weather, however. It seems that climate and weather are one and the same. Nonetheless, the effects are highly observable that can be attributed to climate change.

- Ø In the last 10 years, what have you observed or experienced about our climate?
 - § Sea level rise
 - § Temperature increase
 - § Strong typhoon
 - § Changes in weather pattern
 - § Unpredictable weather
 - § Fast/quick melting down of iceberg in the south and north poles
 - § We already have signal no. 5

The observations shared by the participants notably came from seminars like the melting of iceberg in the north and southern poles. While these are not seen in the Philippines, knowledge on global conditions are known to them. The most salient observation can be attributed to strong typhoons that hit the country while before these were not that strong. The frequency of occurrence of strong typhoons had shown that there is something wrong with the climate that could drastically affect the country and its population.

- Ø What do you think are the causes of climate change?
 - § Kapabayaang ng mga tao sa pangangalaga ng mga kagubatan, ilog at dagat, pagtatapon ng basura at pagputol ng mga punong-kahoy (people's negligence in taking care of the forests, rivers, and seas; waste disposal and cutting of forest trees)
 - § Maraming pabrika ang itinatayo (Too many factories are being established)
 - § Maraming minahan ang nagsulputan (Mushrooming of mining industries).
 - § Sobra-sobrang pagkuha ng likas na yaman (Too much use of natural resources)
 - § Emission ng carbon dioxide mula sa pabrika at mga sasakyan (Carbon dioxide emission from transportation and factories)
 - § Pag-abuso sa likas na yaman (Abuse of natural resources)
 - § Pagkasira ng ozone layer (Destruction of the ozone layer).
 - § Paglabas ng usok mula sa mga sasakyan at pagsusunog ng basura (Burning trash and vehicle emissions)
 - § Pagputol ng mga punong kahoy na nakakasira ng kalikasan (cutting of forest trees that destroys nature).
 - § Population increase

Participants identified various causes of climate change which are mostly anthropogenic like burning of trash, carbon emissions from transportation, mining industries, and factories, abuse of natural resources, forest degradation through logging leading to the destruction of the ozone layer and population increase. Due to the increasing population, demand for food and amenities are higher impacting to the depletion of natural resources and carrying capacity of the locality thus abuse of natural resources. It appears that the knowledge on the cause of climate change has been limited to man-made causes rather than natural causes. Perhaps, the attribution are meant to sensitize people to action since man had abused nature.

Group 2 (Leader: Felix Guerrero)

- Ø What are the dramatic changes and impacts have you felt?
 - § Unpredictable weather condition
 - § The summer effect

Participants believed that climate (not weather) nowadays have become unpredictable. One can no longer assume that it will not rain or shine given a particular season. For instance, in the month of December, the country should experience cool "ber" months with some duskiness but not quite since at this time, it has been raining and more wet than dry. However, during rainy months, it is more dry than wet. Thus, climatic changes have become obvious and made people aware that climate conditions are indeed changing.

- Ø What are the changes have your community/barangay felt?
 - § The same as what individuals have felt

Group 3 (Leader: Benjamin Ramirez)

- Ø How did the community respond to these changes?
 - § Ang mga clients ay unti-unting sumusunod (Community members are starting to follow little by little).
 - § Being more disciplined and a responsible community.
 - § Always be prepared; always keep on listening to the news about the weather.
 - § Attend to seminars and training programs about mitigation of climate change.
 - § Pagsasaayos sa lahat ng kapasidad na pedeng mapaglagyan ng mga nasirang bagay (Improve capacity of MRF as storage of recyclable materials)
 - § Pagsasaayos ng mga kanal para sa pagdating ng baha (Clean canals in preparation for the coming of floods)

The participants reported that community members are starting to be sensitized to the adverse effects of climate change so that they cautiously adhere to adaptation initiatives albeit slowly. Since they know that effects of climate change are detrimental to their lives they have formed the habit of being prepared and always tuning in to the news for weather updates. They felt that attendance to seminars or training programs on climate change mitigation can help them build their capacities to ensure that everyone is safe and sound in times of disaster. Cleaning canals are needed in anticipation of floods that may hit their communities. Such physical, cognitive, and emotional preparations are necessary to prepare community members since they feel that they are responsible for their safety and without the proper discipline they cannot be resilient towards climate change.

- Ø How did the government respond to these changes?
 - § The EPNRO and DENR conduct different talks/seminar on the awareness of climate change and how to respond to different weather disturbances/calamities in schools and colleges as well as Local Government up to the barangay level.
 - § Pagtutulong sa paggawa ng mga kapasidad tulad ng mga kanal para wala ng baha.
 - § Pagbibigay ng seminar at training.
 - § Nagpapatupad ng Urban Organic farming projects: vertical gardening.
 - § Educate target clients on the effects of using chemicals versus organic inputs.
 - § Nagbibigay ng impormasyon tungkol sa climate change.
 - § Tinatag ang mga activities sa Annual Investment Plan na may kaugnay sa climate change.

The government it appears had not been remiss in its duty to inform educate the populace about climate change related initiatives which are included in the Annual Investment Plan. It shows that interpersonal communication initiatives have been done not only to increase people's awareness on climate change but providing projects or interventions that can help the country adapt to climate change especially in agriculture in the urban areas. Vertical gardening or urban organic farming can be done indoors or outdoors even with small spaces. With the greening of the environment, carbon emissions can be sequestered.

2. Group 4 (Leader: Benjamina G. Flor)

- Ø What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to adverse effects of climate change?

The participants said that the following projects are being done for the country to adapt to adverse effects of climate change:

- § Pagtatanim ng mga puno (Tree planting)
- § Pag gamit ng eJeep (Use of eJeep)
- § Ban smoking
- § Inventory of emission gases
- § Remove factories near the city proper
- § Implementation of the Climate Change Expenditure Tagging (CCET) (from the Department of Budget and Management) including fire extinguishers from powder as per recommended to HCFC 123 fire extinguishers. LGUs can propose projects on climate change related issues which will be funded by DBM.
- § Development of the Local Climate Change Adaptation Plan
- § Mainstream all Local Development Plan, Climate Change Adaptation Plan, DRRM under the Comprehensive Land Use Plan, the mother of all plans such as CDP, Local Investment Plan, Annual Investment Plan)
- § Recycling
- § Correct/proper waste segregation through MRF (Material Recovery Facility)
- § Use of natural farming method using biodegradable waste

These activities are meant to reduce emission of greenhouse gases from carbon sequestration (tree planting), use of natural farming methods, smoking ban, proper waste disposal, removal of factories that caused environmental pollution, use of electronic jeep to recycling by ensuring that these interventions are included in the Comprehensive Land Use Plan (CLUP). Through CCET, tagging projects on climate change-related issues can be funded by DBM. Hence, there is no reason why LGUs cannot prepare their communities towards the adverse effects of climate change.

- Ø In November 2015, the Philippines committed to reduce GHG (greenhouse gas emissions) by 70% based on 1990 level by 2030 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?
 - § Provision of concrete data for GHG.
 - § Strict implementation of the commitments made in Paris.
 - § Employ mixed use plan-where industries should be established within residential communities (on the assumption that they will use environment-friendly facilities and operations). Inasmuch as they are within residential areas, they can provide jobs and make the community sustainable as long as they observe clean and green practices.

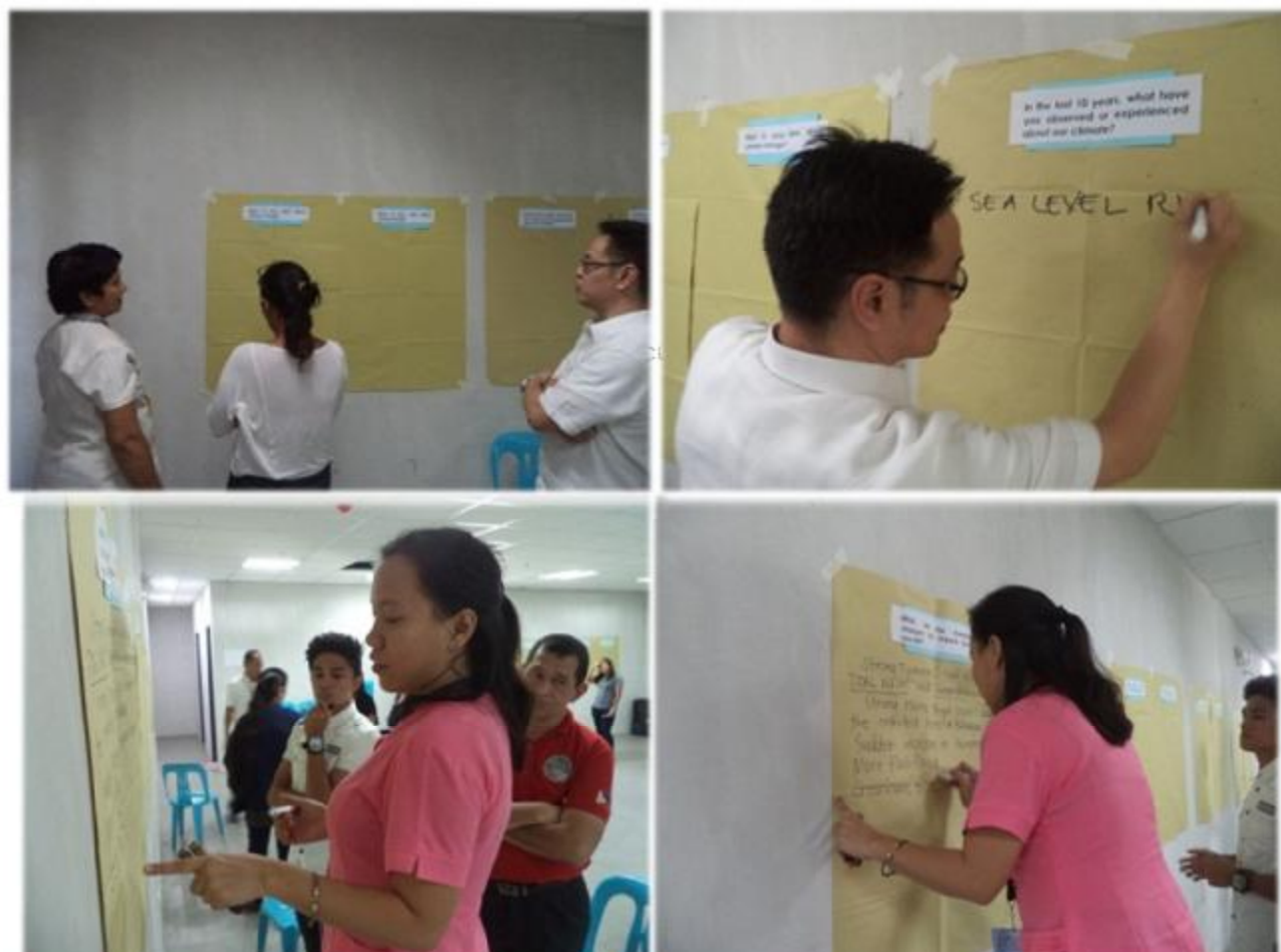
- § Kailangan magkaroon ng disiplina ang mga tao para magawa ang dapat gawin (people need to be disciplined so that the things that ought to be done are accomplished)

The participants believed that the Philippines is not a major contributor to GHG emissions but nonetheless try to address the issue. They suggested that the government should provide a concrete data for GHG emission as basis for compliance. It seems that 70% reduction is too high considering that the country's GHG emission is not even 1% or 3% (as assumed in the absence of actual data). However, since this is the agreement, they would appreciate if actual data of GHG emission can be made available to them to determine if indeed we need to reduce that much of GHG. They said that we also want to be industrialized since emission of GHG is low; however, we cannot do that since we are assignatory to the Paris Agreement. On the other hand, others believed that if only the Filipinos would have the discipline to obey and practice environment-friendly initiatives, then perhaps, adverse effects of climate change can be reduced if not totally prevented.

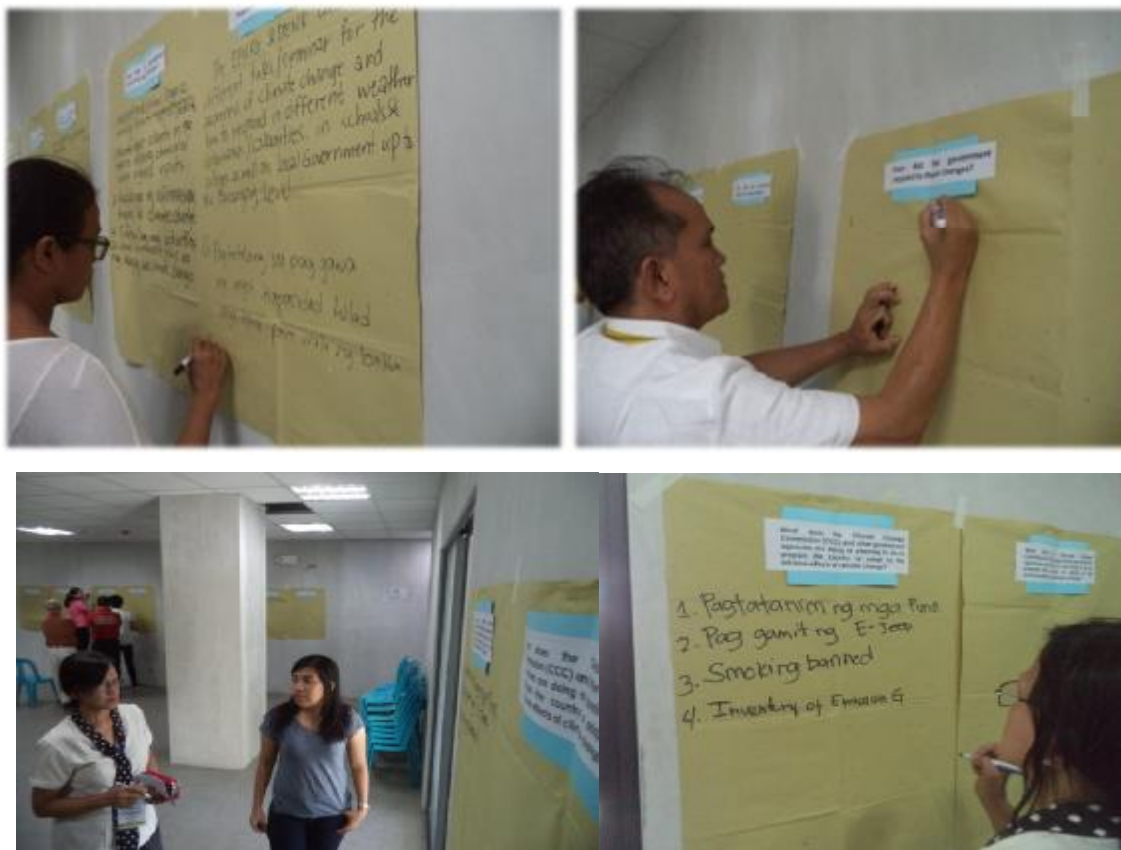
PHOTO DOCUMENTATION (CITIES OF MUNTINLUPA AND PASAY)



Introduction and overview of the Focus Group Discussion (FGD) and discussion on the mechanics of the World Café method by the FGD Facilitator, Ms. Benjamina G. Flor.



Groups discussing and answering the FGD questions



Groups discussing and answering the FGD questions



Plenary presentation of FGD results by hosts

FOCUS GROUP DISCUSSION RESULTS
National Awareness Survey on Climate Change

Cabiao, Nueva Ecija
22 November 2016
9:15AM – 11:15 AM
Sangguniang Bayan Hall
Cabiao, Nueva Ecija

List of attendees:

Name	Position/Office/Agency	Gender
1. Arnel S. Garcia	Electronic Data Processing	Male
2. Juliana R. Garcia	MDRRMO	Female
3. Robert M. Santiago	Electronic Data Processing	Male
4. Irma V. Caruin	Municipal Vetmed	Female
5. Pedrito H. Caingat	Municipal Planning and Development Office	Male
6. Donald L. Mercado	MDRRMO	Male
7. Marianito B. Velasquez	MDRRMO	Male
8. Rommel Dizon	MDRRMO	Male
9. Renell Manzon	MDRRMO	Male
10. Felix P. Lalo	Person with Disabilities Appeals Office	Male
11. Mark Jasper M. Bati-el	Bureau of Fire Protection	Male
12. SFO2 Roberto B. Magno	Cabiao Bureau of Fire Protection	Male
13. Ricardo Miranda	SBP Secretary	Male
14. Renbrandth Verneer M. De Guzman	Municipal Planning and Development Office	Male
15. Lorrelei H. Munsayoc	Municipal Agriculture Office – Agriculturist II	Female
16. George B. Galang	MDRRMO	Male
17. Mario D. Nidar Jr.	Department of Agriculture	Male
18. Joseph S. Victorio	Department of Agriculture	Male
19. Michael F. Castro	Department of Agriculture	Male
20. Teoflor M. Amuro	Department of Agriculture	Male
21. Ronald delos Santos	Fisheries Livelihood Development Technology – Bureau of Fisheries and Aquatic Resources	Male
22. Marichu Santiago Buenaventura	Rural Health Physician (RHP)	Female
23. Oswald V. Macatula	Sangguniang Bayan – LGU	Male
24. Carina C. Atencio	Sangguniang Bayan – LGU	Female
25. Rizza Santos	Sangguniang Bayan – LGU	Female
26. Mariecar Salonga	Sangguniang Bayan – LGU	Female
27. Ericson Ontiz Luis	Department of Agriculture	Male
28. Benedicto dela Cruz	MDRRMO	Male

Facilitator: Juvy Gopela
Rapporteur: Airyne Almendral
Documentor: Marionnette de la Cruz

INTRODUCTION

The FGD for Cabiao, Nueva Ecija was attended by 28 participants. The expected participants should be 16 but 28 were able to attend. Physical arrangements were not done as requested (4 small tables with 4 chairs). Consequently, start of the FGD was a bit delayed (instead of 9:00AM, the FGD started at 9:15AM)

There were seven (7) females and twenty one (21) males who represented the Municipal Agriculture Office, Electronic Data Processing Unit, Person with Disabilities, Rural Health Unit, the Disaster Risk and Reduction Management Office, the Municipal Planning and Development Office, Bureau of Fire Protection, Sangguniang Bayan, Bureau of Fisheries and Aquatic Resources, and the Municipal Veterinary Office.

The participants were seated around the conference table. The facilitator introduced the team and asked the participants to introduce themselves. After the introductions, the facilitator gave a brief overview of what the activity was about using a powerpoint presentation (Annex 1). It was emphasized that the municipalities were randomly chosen for the conduct of the FGD.

A modified World Café was done to suit the number of participants. At first there were 16 participants. They were divided into four groups with 4 members each. Butcher's papers and pentel pens were provided to each group. Each group elected a host/leader who acted as facilitator of the discussion. They were given 20 minutes to discuss and write their answers to the questions in the butcher's paper. After 20 minutes, the members of the group transferred to the other group leaving behind the elected host/leader. This was done until all the participants have moved to the four groups. Those participants who came in they were distributed evenly to the four groups. The hosts/ leaders presented the responses.

The FGD started at 9:15 AM and ended at 11:15 AM.

RESULTS

Despite the small number of participants, results were substantive and comprehensive. The results of the World Café which were presented to the group by the Group leader are as follows:

Group 1

- Ø What is your idea about climate change?
 - § Climate Change is the unnatural changes on our global climate pattern
 - § The number one cause of climate change is global warming.
 - § Climate change increases the threat to human security as people compete for natural resources.
 - § Climate change means increased temperature (hotter Hot months, cooler Cool months) changing rainfall pattern, rising sea levels, extreme weather events -> impact on country's food and water supply, environmental and infrastructure
 - § Affects human health and well-being: temperature related illness and death, extreme weather-related health effect, air pollution-related health effect, and water and food-borne diseases.

Climate change for the participants is increase in temperature, extreme weather condition,, affects human health and well-being, and changing rainfall pattern brought about by global warming.

- Ø In the last 10 years, what have you observed or experienced about our climate?
 - § Sa nakalipas na 10 taon mas tumitindi ang init na nararanasan ngayon. At ang mga bagyo ay mas madalas at mas malalakas kumpara sa mga nakalipas na panahon.
 - § Mas maraming volume ng ulan kaya madalas ang pagbaha.
 - § Pabagobago ang panahon.
 - § Nagkakaroon na din tayo ngayon ng mga buhawi
 - § Different kind of viruses come from some animals.

Most of the things they observed and listed were from the experiences in the country and more specifically of their own experiences. Global conditions and situations were not cited nor discussed. The most observed and repeatedly mentioned during the discussion was the increased temperature and strong typhoons that hit the country.

- Ø What do you think are the causes of climate change?
 - § Deforestation – illegal logging
 - § Developing technology
 - § Over population
 - § Open burning
 - § Natural disaster like volcanic eruption
 - § Overgrazing
 - § Ozone layer depletion
 - § Greenhouse gas emission
 - § Global warming

The participants identified various causes of climate change both human and man-made and natural causes (volcanic eruption). Most of those listed are very general.

Group 2

- Ø What are the dramatic changes and impacts have you felt?
 - § Long dry season
 - § Lack of water
 - § Madalas ang sunog
 - § Effects on our natural resources
 - § Rainy season -> super typhoon
 - § Heavy rain -> flood
 - § Apektado ang kabuhayang ng magsasaka dahil sa mababang ani
 - § Natatakot
 - § Pangamba – kakulangan sa pagkain – shelter
 - § Dati specific ang month ng rainy days
 - § Dati ang pagbaha ay seasonal lang ngayon ay every month ay bumabaha o bagyo.
 - § Mas prone sa sakit.

- § Dati ang bagyo signal 3 malakas, ngayon super typhoon na ang signal ay 5 pataas.

Participants believed that climate have become unpredictable. There is longer dry season, no specific months for the rainy days, there are monthly flood and storms. Fear comes in with dramatic changes in climate is concerned. The participants fear that there will be food and shelter shortage, less water supply, and more people will get sick.

- Ø What are the changes have your community/barangay felt?
 - § During rainy season, the temperature is too hot.
 - § Sandaling ulan ay binabaha sa barangay.
 - § The plants are easily destroyed and infested by some insects.
 - § Some artesian wells are difficult to get water.
 - § Cooked foods are easily spoiled due to excessive heat.
 - § Maraming sakit ang suffered ng tao dahil sa pagbabago ng panahon.
 - § Ricefields are drought due to El Niño
 - § Mahabang tagtuyot na tubig nakakaapekto sa kalusugan ng komunidad.
 - § Mababang ani sa dahilan ng walang tubig (or dry season).
 - § Dati barangay na di binabaha ay binabaha na ngayon.

Climatic changes have become obvious and made people aware that climate conditions are indeed changing. Participants have even observed that food are easily spoiled due to excessive heat and that water in artesian wells are getting scarce.

Group 3

- Ø How did the community respond to these changes?
 - § MRC (modified rapid composting) – 23.0 hec. Implementation
 - § Organic farming – 9.0 hec.
 - § Big establishments implemented No Plastic: STM, SaveMore, Pandayan, K Star
 - § Reduce – Reuse – Recycle
 - § Farmers plant adaptable rice varieties.
 - § Attend seminars on the impact of climate change.
 - § Schools, POs planted trees
 - § No to open burning that causes air pollution.

Since the participants are aware of the effects of climate change, they attend seminars on the impact of climate change to be knowledgeable about the situation and thus be prepared. Different sectors of the community have their share in doing adaptaon and mitigation strategies.

- Ø How did the government respond to these changes?
 - § (Campaign) – Implementation of SWM (RA 9003) (IEC)
 - § Campaign organic farming
 - § Campaign Modified Rapid Composting
 - § Establishment of MRF in every barangays.
 - § Municipal Ordinance “No to Plastic”
 - § Conservation of Nabao Lake

- § Reforestation (tree-planting)
- § NGP (National Greening Project)
- § Government produce adaptable rice varieties.
- § Conduct earthquake and fire drills.
- § Conduct public seminars regarding the impact of climate change.
- § Health Facility Enhancement Program (Cabiao Community Clinic)
- § Campaign for Good Agricultural Practices (GAP)
- § Training on Water Lily Weaving (for drug users “returnees”)
- § BUB on organic agriculture (dissemination African Night Crawlers)

It appears that the government had not been irresponsible or neglectful of their duties to the community. There were many policies, activities and initiatives by the government identified by the participants to educate and help them adjust to the situations.

Group 4

- Ø What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to adverse effects of climate change?

Sa aming kaalaman, ang dapat gawin para maiwasan ang climate change ay gaya ng mga sumusunod:

- § Magtanim ng mga puno at mga halaman
- § Iwasan ang pagsusunog ng mga plastic, goma at iba pa
- § Reuse – Reduce – Recycle
- § Maging responsibleng mamamayan at lagging makiisa sa mga usaping ito.
- § Implementation of RA 9003
- § Reforestation – massive planting of trees
- § Massive campaign, involving DepEd, pupils and students regarding climate change and what you can offer to reduce climate change.
- § Rebirth: TAPAT KO LINIS KO
- § Smoke Free – ordinance not implemented
- § NDPP (National Disaster Preparedness Plan)

The activities identified such as tree planting, lessen/avoidance of burning of plastics and the like are meant to reduce emission of greenhouse. The community people are aware of these so the local government can just boosts/enhance their programs to better prepare the community towards the adverse effects of climate change.

- Ø In November 2015, the Philippines committed to reduce GHG (greenhouse gas emissions) by 70% based on 1990 level by 2030 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?

- § We would recommend on strict compliance on creating MRF in every barangay.
- § We recommend the full support of the government in organic farming.
- § The government should have strict laws on vehicles and factories' emission.
- § Full implementation of laws on illegal logging and mining.
- § Strict implementation of "NO TO PLASTIC"
- § More trainings for health staffs regarding "Disaster Preparedness".
- § Strict implementation: No segregation, No collection of waste
- § Strict implementation just like other municipalities.

The participants all agreed that the government and the community are doing their share in the fulfillment of the commitment. But to further enhance these, strict and full implementation should be imposed. Also, more trainings on disaster risks and preparedness not only for health staffs but for all sector of the community should be done.

THEMATIC ANALYSIS OF RESULTS

From the gathered responses during the FGD, the following themes can be drawn:

People learn through their experiences

People are aware of some concepts of climate change through their experiences. They can identify the detrimental effects of climate change because of what they have been to. As they analyzed the situation, they are now more aware and concerned about seeking more information about climate change.

Support from the government

The government are doing their part in terms of policies and laws are concerned. The government should provide more support in terms of stricter implementation of these laws and policies so that people will be more aware, educated thus prepared to handle any drastic changes brought about by climate change. Massive trainings should also be done to capacitate all sectors.

CONCLUSION

The participants are aware and have the knowledge about climate change, its causes and the effects of these changes. They have the knowledge, they are aware but they seem to lack full understanding of these concepts. The participants need to be educated and capacitated to strengthen their knowledge in addressing mitigation strategies. There should be more efforts on the part of the government to educate these people.

PHOTO DOCUMENTATION (CABIAO, NUEVA ECIJA)



Introductions and overview of the Focus Group Discussion (FGD) and discussion on the mechanics of the World Café method by the FGD Facilitator, Ms. Juvy Gopela.



FGD Participants discussing questions in Table 1 (Questions 1 to 3).



FGD Participants discussing questions in Table 2 (Questions 4 and 5).



FGD Participants discussing questions in Table 3 (Questions 6 and 7).



FGD Participants discussing questions in Table 4 (Questions 8 and 9).



Plenary presentation of FGD results by hosts



Cabiao, Nueva Ecija FGD Participants with FGD Facilitator Ms. Juvy Gopela

FOCUS GROUP DISCUSSION RESULTS
National Awareness Survey on Climate Change
November 22, 2016
10:00am – 12:00nn
Linamon Session Hall
Municipality of Linamon, Lanao del Norte

LIST OF ATTENDEES

Name	Position/Office/Agency	Gender
1. Ramon G. Serapio	PLGU-ENRO	male
2. Lorna T. Dingding	DEPED - Linamon National High School	female
3. Riztine M. Gedaro	DEPED - Linamon National High School	female
4. John Paul P. Patulombon	student organization	male
5. Irenila G. Obunza	MA	female
6. Dominador P. Comeda Jr.	Fisherfolk's Chairman	male
7. Carmelino C. Sipalay	MAFC	male
8. Mary C. Generacao	MSWD	female
9. Felicidad M. Tuzol	MENRO	female
10. Michaela D. Gorrero	MPDC	female

Facilitator: Prof. Mark Lester M. Chico

Rapporteur: Mr. Ryan Jay I. Galang

Documenter: Mr. Elijah Jesse M. Pine

INTRODUCTION

The FGD for Linamon, Lanao del Norte was attended by only 10 participants. The venue, which was the municipal council session hall, was enough for the participants but had to be rearranged. Tables, originally arranged in U-formation, were moved to form four small tables with three chairs each.

The FGD, which was supposed to start at 9 AM, commenced at around 10:30 AM. The team was late due to unanticipated delay of travel via public transport.

After the opening prayer and national anthem, the participants were introduced. Afterwards, Prof. Mark Lester M. Chico, facilitator, discussed briefly the background of the project as well as the mechanics of the FGD. It was emphasized that the city was randomly picked and participants were specifically identified based from the list sent to the LGU.

The group leaders were identified and was asked to occupy the assigned tables. The participants were then given the freedom to choose which table they would like to

belong. Two groups had 3 participants each including the leader, and another two groups with two participants.

Each group was given Manila paper in which FGD questions were posted. These papers were placed on the table and the participants were asked to write directly on it their answers to the questions. After the first 20 minutes, which was the time period given for each round, the participants moved on their own without waiting for the end of the round. Thus, 2-3 participants were able to move around in less than an hour.

After all participants were able to answer all questions, the leaders were asked to report the outputs in plenary. Manila papers were posted on the Vice Mayor's table which was a little elevated, thus, participants were able to have a good view of their responses.

The FGD ended a little over 12:00 NN. All of them enjoyed their lunch.

RESULTS

The results of the FGD in Linamon which were presented by the hosts (per table) are as follows:

Table 1

- **What is your idea about climate change?**
 - Human created and/or contributor to climate change
 - Increase/Change in temperature
 - Increase precipitation thus resulting to flash floods
 - Increase of greenhouse gases (from industrialized/developed countries)
 - Scarcity of water supply
 - Change in weather patterns
 - Abnormal changes of weather condition

- **In the last 10 years, what have you observed or experienced about our climate?**
 - More typhoons (Mindanao not typhoon-free anymore)
 - Occurrence of flash floods
 - Degradation of coastal habitation
 - Heavy siltation – soil erosion (shallowing of riverbanks)
 - Narrowing of coastal line
 - Massive of coral destruction (forming an islet) due to storm surge
 - Coral bleaching
 - Hot temperature event early in the morning
 - Fish catch declined

- **What do you think are the causes of climate change?**
 - More power coal plants established
 - Illegal logging/Illegal mining
 - Improper/Negligence of people on environmental considerations
 - Heavy urbanization
 - Improper waste management
 - Developed countries contribute more in climate change due to emission of greenhouse gases
 - Increase in population
 - Use of hydro carbon fuel

Table 2

- **What are the dramatic changes and impacts have you felt?**
 - Extreme heat
 - Food intake from organic to inorganic (use of chemicals)
 - Unhealthy lifestyle
 - Frequent flooding
 - Silted river bed and seabed
 - Reduction of coastal habitat
 - Reduction of Agricultural productivity
 - Storm/Typhoons
 - Rain induces landslide due to continuous rain
 - Too much preservatives lead to diseases
 - Health issues/illnesses
 - Scarcity of food and water

- **What changes have your community/barangay felt?**
 - Drought caused lower yield production
 - Presence of epidemics (dengue)
 - Sea level rise
 - Observe hotter days
 - Flashfloods
 - Pollution due to emission
 - More population reduce farmland (land conversion)
 - Illegal logging
 - Water in creeks rises faster even on moderate rain
 - Reduction of drinking water
 - Presence of diseases
 - Cases of dog bites increased

Table 3

- **How did the community respond to these changes?**
 - Waste segregation
 - Tree Planting
 - Put up canals/drainage
 - Linkage to government program
 - Capacity building/Training on Disaster Preparedness (Listong Pamilya)
 - Initiatives for reviving biodiversity/ecosystem
 - Bayanihan (in case of calamities)
 - Sustainable development (Community action)

- **How did the government respond to these changes?**
 - National greening program
 - ISWM program
 - Strict enforcement of ordinances
 - Coastal clean-up drive
 - Organize MDRRM Team
 - Conduct of
 - Provision of rescue equipment
 - Provides aid in crisis
 - Implementation of climate change adaptation plan
 - Incorporating Climate Change strategies
 - Build a resilient evacuation center
 - Activate incident command system

Table 4

- **What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to the adverse effects of climate change?**
 - Mainstreaming climate change adaptation (and prevention?)
 - Retrofitting and building climate-resilient infrastructures
 - Legislative measures prohibiting building structures on hazard-prone areas
 - Geohazard Mapping nationwide
 - Creation of DRMM O/C
 - Conduct education and information campaign

- **In November 2015, the Philippines committed to reduce GHG (greenhouse gas emission) by 70% based on 1990 level by 2030 during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?**
 - Strict implementation of emission test
 - Strict monitoring of environmental compliance of projects
 - Strict compliance of RA 9003, Clean air act, Solid Waste Management Act
 - Limited industrialization
 - Conduct inventory on greenhouse emissions among LGUs and community
 - Developed countries to contribute substantial amount of money (funding) as penalty due to high-emission of greenhouse gases

THEMES

Coal plants had a diverse effect on climate change in Linamon.

Major emitters should donate funds to low emitters such as the Philippines.

CONCLUSION

Common knowledge of what climate change is (extreme heat; global warming)

1. Common knowledge of what is the root cause of climate change. It is man-made (pollution industrialization, urbanization)
2. Awareness on the effects of climate change is high because it is highly felt by the community and its people
3. Both the community and the government took actions concerning climate change. Activities and programs are geared toward mitigation and adaptation instead of prevention and eradication.
4. High awareness on CCC's and government programs and initiatives on mitigating and adapting to climate change.
5. Enough policies and actions in mitigating and/or adapting climate change. There's a call for strict enforcement/implementation/compliance of existing policies concerning environmental protection.
6. Developed countries should be held liable and accountable on the impacts of climate change.

FOCUS GROUP DISCUSSION RESULTS
National Awareness Survey on Climate Change

Lezo, Aklan

28 November 2016

9:30 – 12:30PM

Municipal Function Hall, Lezo, Aklan

List of attendees:

Name	Position/Office/Agency	Gender
1. Lordine S. De Mariano	Agricultural Technician- Office of the Municipal Agriculture	female
2. Paul S. De Jesus	Barangay Secretary	male
3. Peter Brylle R. Ibardaloza	T-1, Lezo Integrated School (LIS)	male
4. John Storic I. Diaz	Student, LIS	male
5. Jofre U. Alevedo	Municipal Assessor	male
6. Frenz Carl Ibanez	JO, Mayor's Office	female
7. Bernadeth B. Leyson	DCW I, MSWDO Office	female
8. Serafin J. Matus, Jr.	OSCA Head- DSWD	male
9. Webster Apolonio R. Ibabao	DRRM staff, MDRRMO	male
10. Ronald B. Silverio	MDRRMO staff	male
11. Asil S. Claud	MPDC	female
12. Jefferson Buenaventura	Lezo Technical College	male
13. Pauline Grace M. Serlie	AT and MAFC Coordinator	female
14. Ermeda L. Morales	Mayor's Office	female
15. Alvin A. Barrios, Jr.	MAFC Chairman	male
16. Mary Lenate R. Fernandez	Municipal Mayor, Lezo	female
17. Mary Lucy R. Dela Cruz	SB Member	female
18. Mary Ann A. Macavinta	Mayor's Office	female
19. Alven M. Mosquera	Information Officer	male
20. Melpa Partrona	DSWD, Lezo, Aklan	female
21. Tita I. Refasat	Mayor's Office	female

Facilitator: Elvira E.Dumayas

Rapporteur: Airyne Almendral

Documentor: Marionette De la Cruz

INTRODUCTION

The FGD for Lezo, Aklan was attended by 21 but actively participated by 15 participants. Some of the expected participants who did not come because of conflicting schedules were being represented. Physical arrangements were done as requested with four rectangular small tables with four chairs each. The FGD was a bit delayed (instead of 9:00AM, the FGD started at 9:30AM).

Fifty percent or eleven of the participants were females and the other half or ten were males. They were representatives from the Office of Municipal of Agriculturist (OMA), the academe, Office of the Senior Citizen Association (OSCA), the Municipal Disaster Risk and Reduction Management Office (MDRRMO), the Local Government Units (municipal and barangay), Municipal Planning and Development Office (MPDO), and Municipal Agricultural and Fishery Council (MAFC).

The FGD started by an opening prayer led by the OSCA head and followed by a welcome remarks by Mayor Fernandez of Lezo, Aklan. The facilitator introduced the team and asked the participants to introduce themselves. After the introductions, a brief overview of what the FGD was about was discussed using a powerpoint presentation (Annex 1). It was emphasized that the municipality of Lezo was one of the randomly selected municipalities for the FGD.

The World Café method of FGD was followed by the participants. The FGD was conducted in a big hall with four small tables and four chairs on each were provided. Manila papers or butcher's paper for participants to write on their discussions using markers were provided.

There were four members in each group except for one table with three members only (as 15 actively participated in the FGD as mentioned earlier). Each group selected their leader or host.

The FGD started at 9:30 AM and ended at 12:30 PM.

RESULTS

The following results of the World Café which were comprehensive and substantive were presented to the group by the group leader or host.

Group 1

∅ What is your idea about climate change?

- § Ang pagbabago ng klima sa buong mundo sa loob ng takdang panahon, na nakakaapekto sa sangkatauhan (global change in climate affecting all humans)
- § And pagbabagong ito ay kadalasang nararanasang nakakasama sa buhay ng sangkatauhan (global climate change usually has adverse effects on human life)
- § Affects daily lives by extreme heat, typhoons, increase sea water level that small islets are disappearing

Ideas shared about climate change relate to occurrence of very strong typhoons, extreme heat, and increase in sea water level. Climate change is experienced globally and adversely affecting human beings.

∅ In the last 10 years, what have you observed or experienced about our climate?

- § Abnormalities on atmospheric temperature
- § Typhoons – irregular occurrence
- § El Niño and La Niña – economy/infrastructure
- § Extreme flooding – infrastructure – homeless – fatalities – big spending
- § Drought – agri loss/ economic loss
- § Abnormal Weather Conditions
- § Increase in the surface temperature of our planet
- § Extinction of some animals and plants due to the change in weather patterns

- § Severe heat waves – sun rays – ozone – CFC
- § Stronger hurricanes/typhoons
- § Wildfires – natural and man made
- § Changes in precipitation pattern (rain)
- § Sudden rise in sea level

The participants' experiences and observations about our climate were varied. They are knowledgeable on the different manifestations of climate change not only in the Philippines but also globally. They talked of the strong typhoons that they themselves experienced to hit the country. Hurricanes occurred in other countries. Others attribution of climate change shared by the participants include drought that sometimes easily contribute to wildfires; and adversely affect crop production, the la niña and el niño phenomena, floods, extreme temperature, frequent and strong rainfall, and change in sea level rise. It was also explained that the ice in the North Pole is already melting causing the water sea level rise.

Ø What do you think are the causes of climate change?

- § Industrialization
- § Deforestation
- § Development of countries
- § Improper use of fertilizers and pesticides
- § Global warming

The participants identified the different causes of climate change and explained why these causes happened. As population increases the demand for various commodities increases leading to more factories to manufacture more goods and factories need energy to operate and these operations emit excessive carbon dioxide that causes air pollution. Development of countries which according to participants is irreversible means more vehicles (both land and air transport) that also causing global warming. Gasoline is needed to run these vehicles and more fuels means depletion of fossils, a non-renewable source of energy. Also, demand for timber to build houses and buildings as population increases causes deforestation since most of the trees cut is not replanted. In addition, agriculture through improper use of chemical fertilizer and pesticides causes climate change. A participant said that he had read that a bag of urea is equivalent to 200 vehicles emitting greenhouse gas.

Group 2

Ø What are the dramatic changes and impacts have you felt?

Changes

- § Increase in temperature
- § Abnormalities in weather condition
- § Increasing air and water pollution
- § Occurrence of flooding even light rain
- § Dried-up waterways
- § Unpronounced seasons
- § Stronger & more typhoons were experienced
- § Heat waves

Impacts

- § Prevalence uncommon diseases
- § Affects the productivity of workers
- § Increasing number of heat strokes and high blood
- § Skin diseases
- § Extinction of flora and fauna

The participants felt the changing climate nowadays as the seasons of the months cannot be predicted anymore. One expects the cold months as December is approaching but not anymore as one still experience the “summer heat” anywhere in the country and there are days that sudden strong rains occur. Dramatic climatic changes have impact on health, the economy, and agriculture. Uncommon water and airborne diseases (like psoriasis) becomes prevalent; many experienced heat stroke and high blood pressures with increasing temperatures; workers need air conditioned rooms to increase their productivity; and certain crop varieties and animal species cannot adapt anymore to the extreme temperature.

Ø What are the changes have your community/barangay felt?

- § Extreme heat even during the rainy season
- § Low production of agricultural products
- § Insufficiency of food in the table due to La Nina or El Nino
- § Increase in price of basic commodities
- § Damaged in structures and properties
- § Increasing numbers of vigilant members in the community on disaster preparedness
- § Too much rain during rainy season
- § Drought during dry season
- § Trauma when there is announced typhoon and possible risks it may bring
- § Higher level of flood occurrence, compared to flood history 50 years ago
- § Increasing number of typhoon occurrence
- § Increasing occurrence of pests and diseases to agricultural crops, new species were found
- § Poor soil absorption level
- § Dried-up wells and waterways
- § Poor Level III water supply distribution in Poblacion
- § Low water level/Insufficient water supply of irrigation canal.
- § Prevalence of water and air borne diseases.
- § Irregular pattern of fruit bearing trees.
- § Low resistance of crops on pests and diseases.
- § Increasing occurrence of diseases on livestock and domesticated animals.

In the same manner as the participants, the members of the community felt the effect of climate change in the sector of agriculture; and economy, health and social aspect. New species of insects adversely affecting crop production emerged, irregular pattern of crop harvesting ensued, and animal resistance to diseases becomes low. With excessive flooding, infrastructures are damaged both in the

urban and rural communities. Prices of agricultural commodities increase with low supply due to damages from strong typhoons as areas not affected by typhoons before are now so unpredictable. Also, they experienced the poor distribution of Level III water in the poblacion as the aquifer level decreased due to occurrence of drought in the area. Participants also reported that with the community's traumatic experiences especially with Typhoon Yolanda, the members of the community became alerted with the adverse effects of climate change. In fact, they are well prepared now with announcements of incoming typhoons and it resulted to less disaster in their areas.

Group 3

Ø How did the community respond to these changes?

- § solid waste segregation
- § reduction of burning of plastics and rubber
- § positive response on government's ordinance against burning of rice straws
- § conduct of clean up drives
- § tree planting activity in schools
- § recycling materials (non-biodegradable)

Some negative responses from the community:

- § Some of the households does not practice proper segregation of waste
- § Non-conforming use of properties/zoning violation
- § Unawareness of government's ordinance

The participants noted that community members are doing some activities to combat the adverse effects of climate change. They are more vigilant to follow adaptation strategies which they learned from seminars/trainings and from watching televisions. They are aware of the negative effects of climate change to their lives so the members of the community are prepared nowadays if there are typhoon alerts announced on news. They help in clean-up drive projects of the municipality. The community members feels responsible for a safe and clean environment and hence also participate in activities like tree planting, segregation of wastes, and reuse of non-biodegradable materials like eco-bags.

Ø How did the government respond to these changes?

- § establishment of municipal eco-park/sanitary landfills
- § quick response during emergencies and calamities
- § plan for the establishment of MRF in every barangay.
- § "lagyan ng pangil ang batas (strict implementation of laws)" to have proper implementation
- § conduct more seminars and trainings for proper segregation and disposal of wastes
- § tree planting to reduce air pollution
- § strict implementation on smoke emission testing of the LTO
- § conduct of trainings seminars of climate change mitigation and adaptation
- § strict implementation of the rice straw ordinance
- § crop diversification from rice to vegetables

§ implementing laws in accordance to climate change mitigation and adaptation

The participants recognize the government's role in climate change mitigation and adaptation initiatives through the conduct of more seminars/trainings although it was mentioned that there are some government projects that lacks some funding. The material recovery facility (MRF) project is on the pipeline for every barangay. Eco-park in Barangay Silakat Nonok was mentioned to have been established in the community. Government policies related to climate change mitigation has been translated into ordinances such as the implementation of smoke emission test of the LTO, the law on solid waste management, and the non-burning of rice straws in farms. Program on tree planting is continuously implemented to avoid soil erosion or forest destruction.

Group 4

- Ø What does the Climate Change Commission (CCC) and other government agencies are doing or planning to do to prepare the country or adapt to adverse effects of climate change?
 - § conducting farmer field school (FFS) by DA
 - § practicing integrated pest management (IPM) by DA
 - § practice organic agriculture, adopt natural farming system in crops or livestock
 - § practice green manuring
 - § introduction of adaptable crops to suit for climate change

 - § Funding of climate change adaptation such as Integrating natural resources protection and climate resilient livelihood
 - § Protecting watershed river and mangroves
 - § Providing technical assistance to vulnerable farmers and fisher folks
 - § Promoting community education about climate change awareness and adaptation or information dissemination about climate change
 - § DENR – tree planting or reforestation – establishment of eco park
 - § Conduct trainings or seminars on climate change mitigation or adaptation
 - § Practice of urban gardening or container gardening
 - § Provision of planting materials
 - § Formulation of plan, the LGU is mandated to make a plan to lessen climate change

The participants said that the Department of Agriculture (DA), the Department of Environment and Natural Resources (DENR) and the local government units are implementing projects and programs and activities for the country to adapt to adverse effects of climate change. Climate change related initiatives are incorporated in all government plans now.

- Ø In November 2015, the Philippines committed to reduce GHG (greenhouse gas emissions) by 70% based on 1990 level by 2030

during the Paris Climate Change Conference in France. What do you think are the implications or impacts of our commitments? What policy would you recommend to the present administration for substantial or equitable fulfillment of our commitment?

Opinion on commitment

- § In our point of view, the commitment of the Philippines to reduce GHG by 70% will not be met by 2030, only 50%

Policies

- § banning of use of chlorofluorocarbons (CFCs)
- § strict implementation of the non-burning of rice straw
- § Promotion of organic agriculture or implementation of Republic Act 10068 (Organic Agriculture Act)
- § solid waste management or strict implementation of the Republic Act 9003 (Ecological Solid Management Act)

The participants agreed that the Philippines commitment to reduce GHG by 70% cannot be met (no reasons however was given by the participants). There was a consensus that no new policies should be formulated as the existing laws on environment, organic agriculture and solid waste management should be supported. Strict implementation of laws that will mitigate climate change are needed to have a good environment for all today and in the future.

THEMATIC ANALYSIS OF RESULTS

Experience teaches people

With the traumatic experiences on the adverse effects of climate change that the Philippines has encountered in the past, the Filipinos appreciate very well any climate change mitigation and adaptation strategies they could learn. The feeling of fear every time a typhoon is announced is an alarm to them be concerned and be prepared for they already knew that they cannot control the adverse effects of climate change.

Being prepared

The government supports climate change mitigation and adaptation strategies through local government units and its constituents are attending seminars, trainings and do activities related to climate change initiatives. Hence, they are physically and socially prepared on any untoward incidents related to climate change.

Advocate policies

The Philippines has many policies related to environment and climate change that needs strict enforcement and implementation in order to avoid degradation of the environment which is contributory to the effects of climate change. These policies are translated into programs and projects that addresses mitigation and adaptation strategies on climate change.

CONCLUSION

The FGD participants are aware and knowledgeable of the concept of climate change, have ideas on the causes and effects of climate change. They have the impression that they are prepared to address the causes of climate change but seem to lack capacity towards mitigation strategies. They also have their own adaptation strategies and knew of some national agencies doing programs and projects related to climate change initiatives. They seemed to be unaware of the Philippines commitment to the Paris Agreement for they did not give any opinion why we should only target 50% of our commitment. Also, they did not mention the renewable energy sources that could help reduce greenhouse gases. There is still a need to strengthen their knowledge on causes of climate change, mitigation and adaptation strategies and how to impart them to their constituents through education and more action projects.

PHOTO DOCUMENTATION (LEZO, AKLAN)



Honorable Mayor Lynette Fernandez' Opening Remarks



Introductions and overview of the FGD and discussion of the mechanics of the World Café method by the FGD Facilitator Ms. Elvira Dumayas



Conduct of the World Café, FGD participants' discussion on questions 1 to 3



Conduct of the World Café, FGD participants' discussion on questions 4 and 5



Conduct of the World Café, FGD participants' discussion on questions 6 and 7



Conduct of the World Café, FGD participants' discussion on questions 8 and 9



Plenary presentation of the FGD results by the hosts



Lezo, Aklan FGD Participants with FGD AIDS Team