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**PARTICIPATION OF WOMEN AND THEIR CONTRIBUTIONS TO CLIMATE
COMMUNICATION IN THE CITY OF BATAC, ILOCOS NORTE, PHILIPPINES**

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Acceptance Page:

This paper prepared by **DANIEL P. TAPAOAN, JR.** with the title: "**PARTICIPATION OF WOMEN AND THEIR CONTRIBUTION TO CLIMATE COMMUNICATION IN THE CITY OF BATAC, ILOCOS NORTE, PHILIPPINES**" is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree Program.

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Biographical Sketch

This author was born on August 13, 1996 in Barangay Mandaloque, Dingras, Ilocos Norte. He is the second child of Mr. Daniel F. Tapaoan, Sr. and Mrs. Nancy P. Tapaoan.

A cum laude honoree in college, he completed his undergraduate degree in development communication at the Mariano Marcos State University (MMSU) in the City of Batac, Ilocos Norte in 2017.

Immediately after his graduation, he worked as a writer and information officer of the MMSU Office for Strategic Communication for six years. In October 2023, he transferred to the MMSU College of Agriculture, Food, and Sustainable Development as a faculty member of the Department of Development Communication.

In 2021, he started pursuing his master's degree in development communication at the University of the Philippines Open University (UPOU). Through the program, he further nurtured his competencies in this field of specialization, and improved his work performance and ethic in his station.

With the quality guidance of his professors, he has successfully grappled with the challenges as he has internalized and applied all the lessons needed in fully carrying out his roles as a partner and advocate of inclusive social transformation.

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*“Commit your work to the Lord, and your plans will be established.”
– Proverbs 16:3*

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Dedication

I dedicate my thesis work to my biological family for being my constant source of inspiration. To my parents and siblings, thank you for your patience, support, and understanding in pursuing my ambitions.

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Furthermore, I dedicate this work to the empowered women of the City of Batac, and to other groups which advocate climate action towards sustainable development. I also hope this work would help them realize their noble endeavors.

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ABSTRACT

PARTICIPATION OF WOMEN AND THEIR CONTRIBUTIONS TO CLIMATE COMMUNICATION IN THE CITY OF BATAAC, ILOCOS NORTE, PHILIPPINES

This quantitative and exploratory study was conducted to find out the participation and contributions of women in the implementation of climate communication initiatives in the City of Bataac, Ilocos Norte. An interview schedule was used to gather data from 115 women-respondents in the 14 urban barangays in the city. All data sets were tabulated and organized, as well as processed and interpreted narratively.

The women-respondents, who are all Ilocanos, are predominantly middle-aged, college or vocational education graduates, married, salary earners, non-Catholic Christians, and affiliated with service-oriented organizations. An overwhelming majority of them claimed they always participate in climate communication initiatives. They play six communicative roles, in which information disseminator is the most frequent, and they use both interpersonal and mediated communication channels. Their main contribution is information dissemination and they expect better climate communication outcomes. They experience various facilitators and barriers in their participation, which are grouped into attitudinal/emotional, interpersonal, physical/external, and physiological factors. Moreover, the computed correlational coefficient indicated significant associations between the women's attributes and their participation in climate communication.

Such findings could serve as bases in crafting policies and in implementing efforts to strengthen women's communicative roles and sustain their participation and to make climate communication initiatives in Ilocos Norte more participatory.

Chapter I

INTRODUCTION

Rationale and Background of the Study

Climate change is a perennial crisis that presently threatens humanity. It penetrates almost all societal issues such as poverty, livelihood insecurity, extreme weather events, health risks, human rights threats, and the right to development.

The United Nations stated that the adverse impacts of climate change are global in scope and unprecedented in scale. It also warned that when climate change is not acted upon drastically, adapting to its impacts will be more difficult and costly. In its sixth assessment report, the UN Intergovernmental Panel on Climate Change (IPCC) bared that observed changes in climate system are getting worse through the years. The report also identified 127 risks to natural and human systems (Goswami, 2022) and concluded that human-induced climate change will extremely threaten billions of lives globally (Owen, 2022).

While climate change affects everyone, those who have contributed the least to the crisis – women, children or young people, and future generations – are impacted the most, especially those living in low- and middle-income countries (Partnership for Maternal, Newborn and Child Health, 2021; Save the Children, 2022).

UN Secretary-General Antonio Guterres called the latest climate findings as “an atlas of human suffering” and “a damning indictment of failed climate leadership” which “reveals how people and the planet are getting clobbered by climate change.”

Recognizing the debilitating impacts of climate change, the world is taking climate adaptation and mitigation strategies to address the crisis. Anchored on Sustainable Development Goal 13: Climate Action, UN member countries, and the European Union have developed their Nationally Determined Contributions in response to climate change. They also adopted the Paris Agreement in 2015, which stipulates their commitment to limit global warming to 1.5 °C at the end of this century.

Civil societies and organizations are also taking their part to speed up the pace of climate action through various initiatives, according to the UN. Likewise, the Asian Development Bank revealed that several cities in developing countries in Asia and the Pacific are reducing their greenhouse gas emissions and strengthening their adaptive capacities. Moreover, various social movements in relation to climate change emerged (Boehner, et al., 2022); and social media campaigns against climate crisis were created (Andrio and Safrina, 2021).

Integrated in the climate action initiatives is climate change communication, which pertains to educating, informing, and mobilizing people to act on climate crisis, that has thrived since the late 1990s (Nerlich et al., 2010). This praxis has evolved into various approaches and processes by adopting risk communication, development journalism, environmental communication, advocacy journalism, and communication for social change (Evans et al., 2018).

To foster effective communication of climate change, the Hamburg University of Applied Sciences in Germany created the International Climate Change Information Programme (ICCIP) in 2008. Since its creation, ICCIP has become the world's largest non-governmental funded information, communication and education program on

climate change, engaging thousands of people around the world who benefit from its works, publications, and events (Leal Filho, 2018).

Another successful climate change communication initiative is the Advancing Capacity to Support Climate Change Adaptation (ACCCA) developed and managed by the United Nations Institute for Training and Research, Climate Change Programme (UNITAR), System for Analysis Research and Training Secretariat (START), Stockholm Environment Institute (SEI), and Environment et Development du Tiers Monde (ENDA-TM). This project addresses the need for developing appropriate risk communication strategies capable of supporting multi-sectoral, multi-stakeholder decision making for adaptation through pilot actions and various print, broadcast, and multimedia communication media.

On the other hand, social media has been increasingly used to communicate climate change. Scientists, policymakers, activists, journalists, and ordinary people use social media to share and receive reports, and study about climate change. This platform also provides users with a space to discuss climate change issues; and it has been used to coordinate rescue and relief operations, and to organize climate action movements (Tandoc and Eng, 2017).

Besides communicating climate change, citizen participation is also deemed essential in addressing the crisis. According to Evans et al (2018), effective climate change communication must embrace participation in order to promote inclusivity and fairness in climate change discussions and decision-making.

Recognizing the significance of citizen participation in realizing development, the UN launched the Rio Declaration in 1992, mandating the UN member states to

facilitate and encourage public awareness and participation in environmental actions by ensuring access to information and opportunities to participate in decision-making processes.

In the Philippines, significant progress has been initiated by government and non-government organizations in terms of addressing the impacts of climate change. For instance, the Climate Change Commission (CCC) is helping the localities enhance their climate resilience through various programs such as the Communities for Resilience, People's Survival Fund, and the Comprehensive Integrated Climate Change Adaptation and Resilience Program for Indigenous Peoples. Also, the CCC is seeking cooperation and collaboration with the scientific community to ensure the country's success in its fight against climate change. Local government units in the country had crafted and are implementing their Local Climate Change Adaptation Plans (LCCAPs) to address climate change concerns in their localities.

In resolving climate crisis impacts, various climate action initiatives and climate change communication approaches and strategies have been adopted and implemented. However, long-term and deeper citizen engagement and mass mobilization on climate change mitigation efforts are unorganized (Moser, 2010). In addition, various studies on climate action were already conducted, but inquiries about common understanding on public participation for climate action, and articulation of its processes are lacking (Hugel and Davies, 2020) especially among women.

It has been recognized that women have crucial roles in addressing climate change. Women representation can lead countries to adopt more stringent climate change policies (Mavisakalyan and Tarverdi, 2018); and can actively support initiatives

that will lead to the passage of far-reaching legislations to address climate crisis (Pandve, et al., 2009).

In the 2020 Census of Population and Housing by the Philippine Statistics Authority, the Philippines has a total population of more than 109 million. Of this number, 53.65 million (49.4%) are women. Meanwhile, of the 609 thousand population in Ilocos Norte, 302,516 (49.7%) are females. Records from the City Social Welfare and Development Office of Batac show that there are 11,840 women in the locality.

With these overwhelming number of women, their participation in development initiatives, especially in climate action and communication, is deemed necessary. However, their participation in addressing climate crisis in their localities are yet to be explored.

Employing the participatory communication theory in this study would pave the way in exploring their communication dynamics in formulating and implementing local climate change communication initiatives; in describing and explaining the extent, directions, outcomes; and in identifying the communication facilitators and barriers of their participation in the development initiative.

Doing this inquiry is reasonable because they are the most vulnerable to the impacts of climate change yet their potentials and contributions to climate communication are underrated. More importantly, this study would also help in filling up the lack of complete understanding on public participation for climate communication, and in providing a more holistic view on the critical roles of communication in promoting inclusivity and equity in climate change decision-making

and action-taking. Hence, it is significant that their participation in this social movement be given an empirical focus.

Statement of the Problem

The success of a development goal, like climate action, hinges on the support and active participation of whom it is intended. However, participation depends on several factors since it is rooted on people's understanding and sensitivity as well as the existing problems in their environment.

Local government units (LGUs) in Ilocos Norte are no exception since they have been implementing their Local Climate Change Action Plans (LCCAPs) in their respective territories. However, an investigation about the participation of women in the creation and implementation of the LCCAP remained wanting.

Failure to do this inquiry would mean a negligence in uncovering the communication facilitators and barriers of their participation in the development initiative, which could be used as basis in resolving the problems they encounter as they engage in climate communication. Additionally, omission of this study would still make the communication dynamics, outcomes, and implications of their participation to climate communication initiatives be left unknown, which could serve as anchor in enhancing the development intervention.

Hence, the study aimed to answer the question: What is the manner of women's participation and their contributions in the implementation of climate communication initiatives in the city of Batac, Ilocos Norte, Philippines?

Objectives of the Study

This study sought to find out the participation and contribution of women in the implementation of climate communication initiatives in the City of Batac, Ilocos Norte.

Specifically, this study aimed to:

- identify the personal and socio-institutional attributes of women involved in climate communication;
- describe the participation of women in the implementation of climate communication;
- explain the facilitators and barriers of women's participation in climate communication;
- determine the relationship between the personal and socio-institutional attributes of women and their participation in climate communication; and
- draw out implications of women's participation and their contribution in climate communication as bases in forwarding policy formulation inputs.

Significance of the Study

Identifying the personal and socio-institutional attributes of women engaged in climate communication initiatives in Ilocos Norte would provide the concerned group, government authorities, and the researcher a holistic view on the factors that prompt them to participate in the development endeavor.

Meanwhile, finding out the participation of women in climate communication could serve as basis in determining the extent, process, and outcome of women involvement in the development process, and in establishing the foundation of actions needed in empowering them to participate in climate communication.

Moreover, explaining the communication facilitators and barriers of their participation in the development endeavor could serve as basis in setting courses of action to maximize the facilitators and to mitigate the barriers of their participation in climate communication initiatives.

Determining the relationship between personal and socio-institutional attributes of women engaged in climate communication initiatives could serve as basis in pinpointing the common and distinct roles and their inputs as they participate in the development endeavor.

Furthermore, drawing out development implications of women's participation and their contribution in climate communication could be used by climate action advocates and government authorities as inputs in decision-making that is geared towards policy formulation.

Additionally, results of the study would be of great help to local government leaders, community developers, and development communicators in planning and deciding on the communication strategies to be used in increasing and sustaining participation of citizens in addressing societal issues like climate crisis.

Finally, results of this study would yield a new perspective that may help enrich the concept of participation, a key feature in development communication praxis.

Scope and Limitations of the Study

This quantitative research study focused on the participation of women in the implementation of climate communication initiatives in Ilocos Norte.

The City of Batac, which is among the most active localities in Ilocos Norte in implementing climate communication initiatives anchored on LCCAP, was chosen as the locale of the study. Specifically, 14 urban barangays which experience climate-related risks more frequently and are most active in implementing climate communication were considered as sub-settings of the study.

A total of 115 women-respondents from the chosen barangays in Batac participated in the study. Data on their personal and socio-institutional attributes, as well as their frequency of and reasons for participation, communication roles, and communication modalities they utilized were gathered via an interview schedule.

The quality of gathered data from the respondents rested on their willingness to disclose their experiences in their participation in climate communication, and their ability to recall their experience in engaging themselves to the development initiative.

Chapter II

REVIEW OF RELATED LITERATURE

Climate crisis as a development concern

Climate change is the biggest crisis at present, which is developing more swiftly. Its disastrous effects, such as increased temperatures, greater droughts, harsher weather, altered rainfall patterns, and rising sea levels, affect everyone (United Nations, 2020). The World Bank underlined this, stating that as the climate changes, people face greater risks connected to extreme weather, health effects, food, water, livelihood security, migration and forced displacement, loss of cultural identity, and other concerns.

According to the United Nations Environment Programme, one of the biggest dangers to human rights is climate change, which seriously jeopardizes people's fundamental rights to life, health, food, and an appropriate quality of living in communities and individuals around the globe. The Special Rapporteur on the right to development, Saad Alfarargi, stated that the climate issue poses a threat to decades of development. During the Human Rights Council in 2021, Alfarargi delivered his report to UN member states and declared, "Climate change is a global human rights threat multiplier. It already impacts and will increasingly impact a wide range of internationally guaranteed human rights, including the right to development."

While everyone is affected by the ongoing problem of climate change, its effects vary by region and by population. The most vulnerable are those who experience poverty and injustice, and they are finding it difficult to deal with the situation. Many of the world's impoverished sectors depend on agriculture and the natural world for their

survival. These communities are disproportionately threatened by changing seasons, natural disasters, and increasingly unpredictable weather patterns, which threaten their livelihoods and raise the likelihood of experiencing hunger and poverty (Mercy Corps, 2018).

Women, newborns, children, and adolescents are the groups most affected, particularly those living in low- and middle-income countries, according to the Partnership for Maternal, Newborn, and Child Health's Health-Care Professional Associations constituency. Systemic gender inequality increases the effects of climate change on service delivery and women's capacity to withstand its effects. According to Sanson and Bellemo (2021), there is an increase in the frequency and danger of extreme weather events, which directly contribute to starvation, a shortage of clean water, and the emergence of infectious diseases. These also cause post-traumatic stress disorder, anxiety and depression, phobias and panic attacks, sleep disturbances, cognitive deficiencies, and intellectual disabilities, among other mental health issues.

This viewpoint is supported by Balgis Osman-Elasha, a lead author of the IPCC Fourth Assessment Report, who claimed that the effects of climate change on gender are not the same. Since women make up the majority of the world's poor (70% of the 1.3 billion people living in poverty), and because they are proportionately more reliant on threatened natural resources, they are increasingly being seen as more vulnerable than men to the effects of climate change, Osman-Elasha concluded in her article published by the UN Chronicle.

The UN Environment also revealed that women make up 80 percent of those displaced by climate change, and that they are more likely to experience gender-based

violence. Similar to this, the UN Population Fund stated that when a natural disaster occurs, there is an increased need for emergency reproductive care or protection from violence (Nyasulu, 2019).

Climate change is currently getting progressively worse. According to a news story by Boreinstein (2022), the world will grow sicker, hungrier, poorer, depressing, and significantly more dangerous over the next 18 years due to an unavoidable increase in climate threats. Citing the sixth IPCC assessment from the UN, Boreinstein highlighted that between 2021 and 2040, several climate hazards will rise unavoidably and pose numerous threats to ecosystems and people. Beyond 2040, additional dangers to natural and human systems would happen due to the worsening climate change.

"I have seen many scientific reports in my time, but none like this," said UN Secretary-General Antonio Guterres during the 27th Summit of the Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC). He added that the latest IPCC report is a harsh indictment of ineffective climate leadership and an atlas of human suffering. It also shows how climate change is devastating people and the environment with fact after fact.

Climate action as solution to climate crisis

Due to the prevalence of climate change, the globe is acting quickly to address the ongoing catastrophe. One of the Sustainable Development Goals identified by the UN is Climate Action, which can be done by increasing resilience and capacity for adapting to hazards and disasters related to the climate change, incorporating climate change measures into national policies, strategies, and planning, and enhancing

knowledge and expertise on climate change mitigation, adaptation, impact reduction, and early warning.

Majority of UN member-nations have reportedly heeded the call for climate action, according to the UN Department of Economic and Social Affairs. To wit, 125 developing nations were implementing national adaptation plans in 2021, while 123 nations have reportedly adopted national catastrophe risk reduction strategies. In accordance with the UNFCCC, 192 nations and the European Union had notified their Nationally Determined Contributions (NDCs) as of 2022.

In keeping with this development, the UN Climate Change Conference (COP21) held in Paris, France on December 12, 2015, saw the adoption of the Paris Agreement by 196 countries. The Paris Agreement, a legally binding international agreement on climate change, went into effect on November 4, 2016. The agreement is seen as a milestone in the global climate change process since it brings all nations together to battle climate change and adapt to its effects. By the end of this century, governments are required to keep global warming to 1.5 °C. Starting in 2020, national climate action plans, or NDCs, have been submitted by nations.

Governments, corporations, and members of civil society from all around the world are working together in coalitions to accelerate climate action. According to the UN, various climate action initiatives were started by these collectivities, which include reducing emissions, addressing pressing issues like jobs and gender equality, unlocking financing, creating sustainable infrastructure, utilizing nature-based solutions, and advancing adaptation and climate resilience.

Similar to this, cities in developing Asia and the Pacific have adopted climate action plans to cut their greenhouse gas emissions and improve their resilience. The Asian Development Bank, development partners, governments, and the private sector have 100 climate action initiatives, which are divided into 10 categories: clean and renewable energy (21); carbon finance and partnership (4); urban transport and mobility (24); land use and forestry (3); smart cities (6); sustainable and low-carbon communities (17); climate action plans and inventories (8); building energy efficiency (7); solid waste (5); and climate resilience (5).

Additionally, the climate crisis has developed into a full-fledged social movement that motivates people to take action. Boehner, et al. (2022) reported that the top climate change awareness campaigns to date include Action's Climate Name Change campaign, the World-Wide Fund's "Stop climate change before it changes you," A Plastic Planet's "One Plastic Free Day" campaign, the UNDP's "Don't choose extinction," and Iris' "The world is looking to you COP26."

Likewise, some well-known influencers developed campaigns against the climate catastrophe on social media. One example is Mr. Beast's #TeamTrees initiative, which got support from other well-known climate influencers including Destin Sandler from the Smarter Every Day Channel and Elon Musk, the CEO of Tesla, among others. Another illustration is the young Swedish woman Greta Thunberg, whose speech headlined "How Dare You," inspiring young people all over the world during the UN Climate Action Summit. Similarly, the UKCOP26 and the Green Peace use social media to engage with artists, activists, politicians, and academic institutions to demonstrate how the world is currently in a continuous state of climate emergency. The entertainment industry also began distributing climate change-related content on

social media, including CNN's Special Town Hall on Climate Change, HBO's "Years on Years," and "Ice on Fire" (Andrio and Safrina, 2021).

Since 2005, German Watch, the New Climate Institute, and the Climate Action Network have published the Climate Change Performance Index (CCPI) annually to track the climate action activities of 59 nations and the European Union. This impartial monitoring tool makes it possible to compare country climate protection efforts and advancements and strives to increase transparency in global climate politics. Greenhouse gas emissions (40%), renewable energy (20%), energy usage (20%), and climate policy (20%) are the four areas in which each nation is evaluated.

Burck et al (2022), in their CCPI 2023 report, revealed that no country performs well enough in all index categories to achieve an overall "very high" rating in the index. However, Denmark reaches the best ranking (4th place), followed by Sweden, Chile, Morocco, India, Estonia, Norway, United Kingdom, Philippines, Netherlands, Portugal, Finland, Germany, Luxembourg, Malta, European Union, Egypt, Lithuania, Switzerland, Spain, Greece, Latvia, Indonesia, Columbia, France, Italy, Croatia, Mexico, Austria, New Zealand, Slovak Republic, Cyprus, Bulgaria, Ireland, Brazil, Belgium, Vietnam, Slovenia, Thailand, Romania, South Africa, Czech Republic, Belarus, Turkey, Algeria, Argentina, Japan, China, United States, Hungary, Poland, Australia, Malaysia, Chinese Taipei, Canada, Russian Federation, Korea, Kazakhstan, Saudi, Arabia, and Islamic Republic of Iran.

Through several programs, the Climate Change Commission (CCC) of the national government of the Philippines is strengthening and improving the climate resilience of Filipino communities. The People's Survival Fund, Communities for Resilience, and the Comprehensive Integrated Climate Change Adaptation and

Resilience Program for the Indigenous Peoples are a few examples. The Climate Change Act of 2009, also known as Republic Act 9729, was likewise passed by the Philippine government. It also drafted the National Climate Change Action Plan, which sets the nation's goal for adaptation and mitigation, and enacted the National Framework Strategy on Climate Change in 2010.

According to a news article from the Philippine News Agency (PNA), the Philippine government submitted its first NDC to the UNFCCC in 2021, outlining plans to reduce the nation's greenhouse gas emissions. Additionally, it reorganized the National Panel of Technical Experts (NPTE) of the CCC with a new focus on making recommendations for putting into action local adaptation and mitigation strategies for climate change that will strengthen communities' resilience.

Other PNA news stories reveal that the CCC is enticing and aiding the nation's local government units (LGUs), including Ilocos Norte, to create their Local Climate Change Adaptation Plans (LCCAPs) to address climate change concerns in their communities. Recognizing the significance of scientific research in resolving the issue, the commission is also looking for collaboration and cooperation with the local research community to ensure the country's success in the struggle against climate change. Likewise, the Philippine Atmospheric, Geophysical and Astronomical Services Administration has urged people to take little steps to lessen the effects of climate change.

In its website, the National Integrated Climate Change Database Information and Exchange System of the CCC described that LCCAP focuses on both climate change adaptation and mitigation and describes how LGUs plan to respond to the

impacts of climate change and mainstream them into local development plans such as land use plan, sectoral development plan, and investment program, among others.

As of July 2023, there are already 1,472 LCCAPs formulated by LGUs in the entire country from 2005-2023. All the 129 LGUs in Region I have submitted their LCCAPs to the CCC, making the region as 100% compliant.

Communicating climate change to communities

In addition to other communication fields, scientists and society now consider climate change communication to be an important praxis. In fact, numerous research on communicating about climate change have shown up since the late 1990s (Neirich et al. 2010).

Early climate change communication was primarily driven by high-level conferences or policy meetings and narrowly focused on scientific results and synthesis reports, occasionally driven by extremely severe extreme occurrences. However, following a number of years of scientific advancement and a significant increase in scientific agreement, climate change communication had developed into a number of techniques, strategies, and processes, moving beyond scientific and political concerns and now permeating society more thoroughly than in the past (Moser, 2010).

According to Evans et al. (2018), climate change communication has embraced different methodologies, such as risk communication, development journalism, environmental communication, advocacy journalism, and communication for social change for development. However, due to their distinct advantages and

disadvantages, it has been discovered that no single communication strategy can effectively convey climate change.

For Markowitz and Guckian (2018), the climate catastrophe itself, cultural conflict and polarization, and psychological barriers to engagement and communication provide challenges in conveying climate change. Leal Filho (2019), who held a similar perspective, noted that climate change communication is more difficult due to the complexity of the messages, geographical distribution and focus, variety of themes, accountability for the issue, uncertainty, lack of specialist reporting, and conflicting themes.

Additionally, Moser (2010) listed a variety of characteristics that make climate change a difficult topic to interact with. These include the intangible causes of climate change and its long-term effects, modern humans' isolation from their environment, the lack of immediate or delayed rewards for taking action, the human brain's limitations in comparison to technological power, complexity and uncertainty, insufficient signals of the need for change, as well as self-interest, justice, and humanity's shared fate.

These difficulties with communicating climate change point to the arduousness of this task and the necessity to investigate more potent communication techniques. Related studies on this topic showed that interested parties like governments, corporations, nonprofit groups, and the scientific community can only advance this field by bolstering its essential components, including purpose and scope, audience, framing, messages, messengers, models and channels, and outcomes.

Inquiring about how societies function and the kinds of linkages that exist between different players in these complex systems is also encouraged by thinking about how climate change is communicated (Neirich et al. 2010). The goal of communicating climate change is to educate and inspire audiences to take action to address the situation rather than only raising awareness of the issue (Leal Filho, 2019).

Undoubtedly, the field of climate change communication has become more active, but more research in this area still needs to be done. The fundamental components of the communication process, communication technologies and modes, communicating mitigation and adaptation, long-term and deeper engagement, and mass mobilization are some of the developing themes for future research and practice (Moser, 2010).

For their part, Pearce et al. (2015) presented two urgent challenges that need to be addressed: the first is how scientists and communicators handle the complexity and unpredictability of climate change, and the second is how to discuss comparatively gradual times of stability. They added that finding out how climate change communication affects the social environment is also crucial, as is researching better ways to communicate the climate problem to all audiences.

Moreover, Evans et al. (2017) suggested that additional pertinent research questions on climate change communication include how the media can be practically set up to enable participation in developing climate change information, how communities at the grassroots level can be better involved in discussion on climate change amidst digital divide, and how to fine-tune normative structural and integrated approach to effective climate change communication.

In an attempt to promote effective communication of climate change, the Hamburg University of Applied Sciences in Germany established the International Climate Change Information Programme (ICCIP) in 2008. Since its founding, ICCIP has grown to become the largest non-governmentally supported program for information, communication, and education on climate change, involving thousands of individuals worldwide who gain from its activities, publications, and events (Leal Filho, 2018).

On the other hand, the United Nations Institute for Training and Research, Climate Change Programme (UNITAR), System for Analysis Research and Training Secretariat (START), Stockholm Environment Institute (SEI), and Environment et Développement du Tiers Monde (ENDA-TM) developed and managed the Advancing Capacity to Support Climate Change Adaptation (ACCCA), another successful climate change communication initiative. To promote multi-sectoral, multi-stakeholder decision making for adaptation, this project addressed the requirement for creating suitable risk communication strategies by using pilot projects and diverse print, broadcast, and multimedia communication channels.

Apart from using traditional communication media in conveying climate change, the social media has been increasingly used to communicate the same development issue. Scientists, policy makers, activists, journalists, and ordinary people use social media to share and receive reports, and study about climate change. The platform provides users with a space to discuss climate change issues; and it has been used to coordinate rescue and relief operations, and to organize climate action movements (Tandoc and Eng, 2017).

Citizen participation in climate action and communication

The UN Conference on Environment and Development produced the Rio Declaration in 1992, which emphasized the importance of citizen involvement in addressing environmental challenges including the climate catastrophe. By ensuring that the public has access to information and chances to engage in decision-making processes, UN member states are required to enable and encourage public knowledge of and participation in environmental initiatives.

In line with this, the UN Framework Convention on Climate Change promotes action for climate empowerment by encouraging public participation, awareness, and access to information. Public participation refers to ongoing cooperation between various groups and the degree to which citizens partner with local and federal governments to develop climate action policies. Meanwhile, public awareness refers to improving general understanding, influencing attitudes, and assisting people in making climate-friendly decisions. Public access to climate information, on the other hand, refers to the dissemination of expertise, knowledge, and experience on the subject.

Given the importance of citizen engagement in climate action, it is now widely acknowledged that women play key roles in combating climate change. Even while they have contributed to the fight against climate change, they are still not included in other activities related to the development endeavor.

According to a news item by Jeffs (2022), women still encounter obstacles to equal involvement in environmental decision-making at all levels and in climate financing. They are also often underutilized as a resource due to the preexisting

biases. Examples include limited access to training, financial resources, jobs, and economic prospects, as well as restricted land rights (Sinha, 2019; Rodriguez, 2022).

Whitmarsh et al. (2021) pinpointed that individual and social or structural struggles significantly impeded public participation in climate change mitigation. Individual challenges comprise of psychological remoteness, a lack of awareness, and conflicting concerns, whereas social or structural struggles are made up of other people's apparent inaction, social norms that promote consumption, and a lack of supportive infrastructure.

To encourage inclusion and fairness in climate change conversations and decision-making, Evans et al. (2018) contend that effective climate change communication must value participation. They emphasized that effective communication on climate change should involve and empower people in the development of mitigation, adaptation, and policy strategies.

Corner et al. (2014) discovered that the way people engage with climate action is influenced by their values. Our interpretation of the climate change information we are exposed to is influenced by the values we uphold, which causes us to embrace or reject the necessity of increased engagement in climate action. Values influence how people engage with climate change by serving as filters for how they understand the information they are exposed to about it.

The success of any adaptation strategy for combating climate change has been postulated to depend heavily on citizen engagement and participation. However, Burton and Nalau (2013) discovered that more public involvement in the development of climate adaptation policies only occurs when those policies start to visibly impact

people and communities; and the public is more interested in how the policy will really be implemented than in how it was created. They also suggested that a deeper knowledge of how public participation could improve the planning process for climate adaption is necessary.

According to McNaught et al. (2014), communities can implement effective community-based adaptation (CBA) to climate change when they are aware of the threat posed by the change and motivated to take steps to reduce the risks. However, to make CBA a truly community-owned process, climate change communication strategies must be reconstructed around a narrative of resiliency and self-efficacy. The science of causes and effects, the spectrum of uncertainties, and risk communication must all be carefully considered in this context.

Despite the perceived seriousness of climate change and its effects, Sapiains et al. (2022) found that people's perceptions of community participation are largely restricted to individual, passive, and reactive duties, and even to the position of responsible consumer. They came to the conclusion that institutional processes need to change in order to boost civil society involvement and collaboration on the issue. The decision-making process should be clearly impacted by citizen participation in climate action that is ongoing, knowledgeable, widespread, transparent, and with a broad audience.

Furthermore, Hugel and Davies' (2020) study of the research literature revealed that numerous research studies on climate action have been carried out since 2000, with an emphasis on risk, flood risk, and risk assessment, perception, and communication. However, gaps in these research efforts have been found, including a lack of common understanding on public participation for climate adaptation across

disciplines, a lack of complete articulation of processes involving citizen engagement, and a dearth of empirical research on how the use of key concepts like risk, vulnerability, and adaptive capacity varies among various disciplines and stakeholders.

Theoretical Framework

The participatory communication theory of Paulo Freire (1970, 1983, 1994) encourages the involvement of subjugated peoples in the development process through dialogical communication and action. Freire believes that individuals have the capacity for reflection, conceptualizing, critical thinking, decision-making, planning, and social change. It also assumes that action and reflection are organically linked. Therefore, it is the dialectical and emancipatory process of action and reflection that constitutes the process of conscientization (Servaes, 1996).

To make development initiative truly participatory and effective, communication should occur among all parties affected, ensuring all have similar opportunities to influence the outcome of the initiative. Participatory communication, therefore, is not just the exchange of information and experiences, but also the exploration and generation of new knowledge aimed at addressing situations that need to be improved (Tuftte and Mefalopulos, 2009).

This theory offered valuable insights as the objectives of this study were realized. Specifically, it identified the frequency of women's participation in climate communication initiatives, as well as their communicative roles, reasons for participation, and contributions in the development initiative. It also validated the importance of communication in motivating and reinforcing women's engagement in

climate crisis resolution. Ultimately, this understanding served as bases in mapping out conclusions and recommendations that encompass contribution in development communication knowledge, as well as practical action-taking, policy-making, and future research studies in relation to climate change communication.

Conceptual Framework

Guided by the participatory communication theory of Freire, the study assumed that personal and socio-institutional attributes could influence women's participation in climate communication initiatives. Personal attributes encompass their age, civil status, income source, and educational attainment; while socio-institutional attributes cut across their religious affiliation, organizational affiliation, and their cultural background.

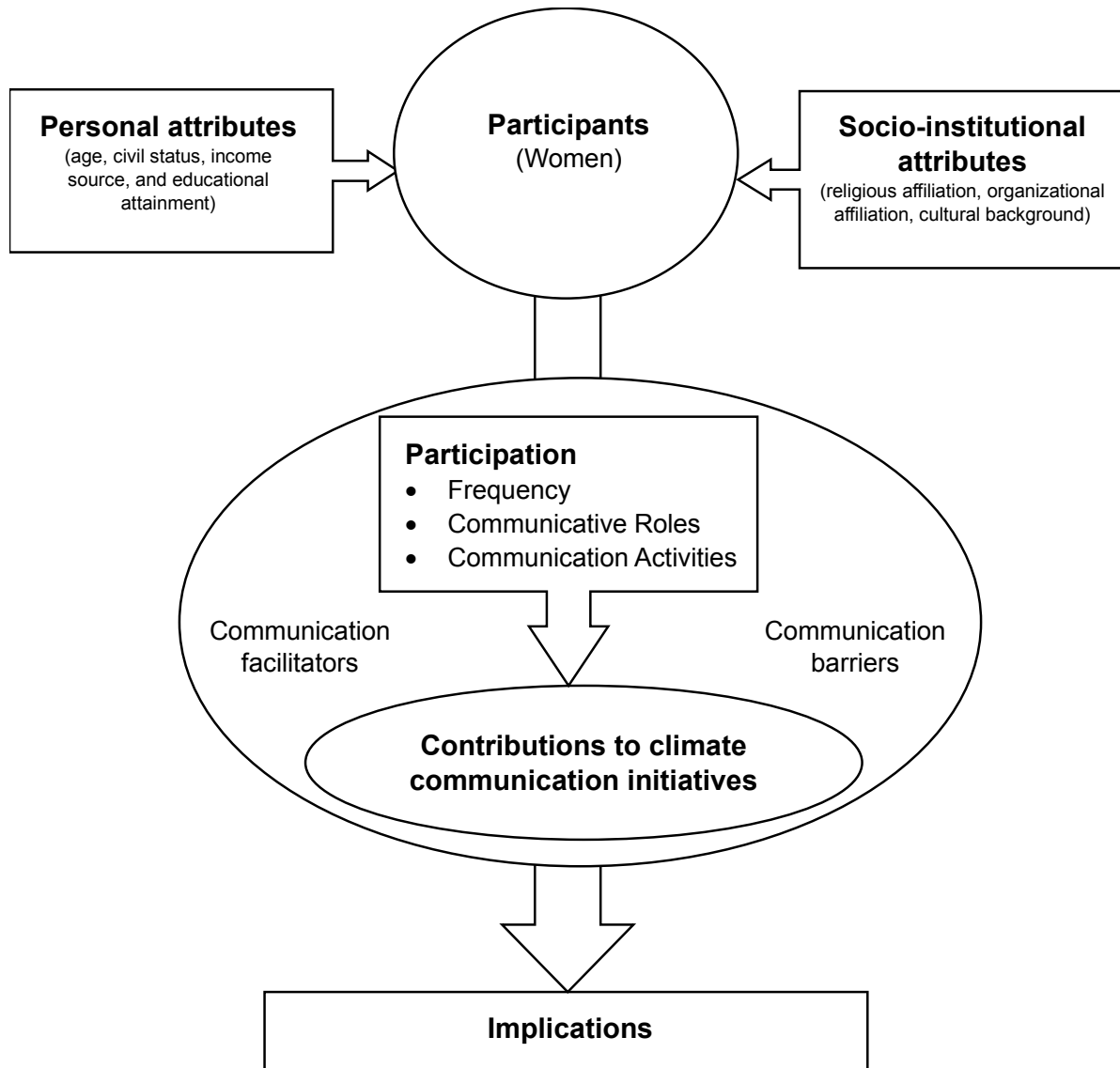
These attributes of women could reinforce their participation in climate communication, the communicative roles they play, and the communication activities they avail of. Meanwhile, the communication facilitators and barriers could affect their participation in the development initiative, regardless of their personal and socio-institutional characteristics.

Lastly, their experiences in engaging with the development initiative, as well as their contributions and expectations could pave the way in drawing out implications which could serve as inputs for policy formulation.

In addition, participatory communication theory helped in understanding women's participation in climate communication. Particularly, it shed light on how their women's attributes, communicative roles and communication opportunities shaped

the dynamics of their participation and contributions to climate communication initiatives.

Figure 1. Women's participation in climate communication initiatives



Assumptions

It was assumed that the personal and socio-institutional attributes of women who participate in the climate communication initiatives vary. It was also assumed that women participate in climate communication in different ways, they play various communicative roles, and they are engaged in both interpersonal and mediated

communication modes. Moreover, it was assumed that women encounter various communication facilitators and barriers, which affect their participation in climate communication. Lastly, it was assumed that their entire experience contribution, and expectations in climate communication could provide bases in drawing out implications as inputs for policy formulation and execution.

Operational Definition of Terms

Participants	These refer to the women who have been actively engaged in climate communication initiatives in Ilocos Norte.
Personal attribute	It pertains to the profile of a woman-participant, which includes her age, civil status, income source/s, and educational attainment.
Socio-institutional attribute	It refers to the participant's characteristics such as her religious affiliation, organizational affiliation, and cultural background such as language and ethnic group.
Participation	It refers to the active engagement of women in climate communication, which was measured by determining how frequently they are involved in the development

initiative, communicative roles they play, and communication activities they utilize.

Communicative Roles

These pertain to the specific tasks performed by women in climate communication. These include facilitator, gatekeeper, information disseminator, liaison officer, monitoring agent, and opinion leader.

Facilitator

This refers to the activity of women in helping their fellow community members understand climate crisis and climate action.

Gatekeeper

This pertains to the women's role in controlling the flow of information particularly in communicating climate change.

Information Disseminator

This refers to the women's role in relaying or delivering climate-related information to their communities.

Liaison Officer

This pertains to the task of women in facilitating communication between the local government/barangay and the community.

Monitoring Agent

This refers to the women's activity in following up and supervising the community residents' compliance to climate action.

Opinion Leader

This pertains to the role of women in influencing the attitudes or actions of their fellow community members about climate change adaptation and mitigation.

Communication activities

These refer to the opportunities or modalities that women avail as they participate in climate communication. These include interpersonal and mediated communication modes.

Interpersonal communication

This pertains to the face-to-face interactions of women as part of their participation in climate communication. This includes meetings, one-on-one conversations, dialogues, and forums.

Mediated communication

This refers to interactions of women with the aid of print, broadcast, and online media as they participate in climate communication.

Contributions

These pertain to the significant inputs of women based on their participation in climate communication.

Communication facilitators These refer to the factors that accelerate the participation of women in climate communication.

Communication barriers These refer to the factors that make women struggle in participating to climate communication.

The communication facilitators and barriers are grouped as follows:

Attitudinal/Emotional It pertains to the predisposition or feelings experienced by women as they participate in climate communication.

Interpersonal It refers to the nature of the relationship developed by women as they interact with one another when participating in climate communication.

Physical/External It pertains to the environmental factor that smoothens or hinders the participation of women in climate communication.

Physiological It pertains to the physical and mental condition of women that may facilitate or hinder their participation in climate communication.

Development implications

These pertain to the significant insights of the participation of women in climate communication.

Chapter III

METHODOLOGY

Research Design

The objectives of this study were realized via one shot survey research design. This design was utilized to investigate various aspects of women's participation in climate communication, such as their personal and socio-institutional attributes, frequency of participation in climate action, communicative roles, communication activities, reasons for participation, contributions, expectations, as well as facilitators and barriers of their involvement in the development initiative.

Locale of the Study

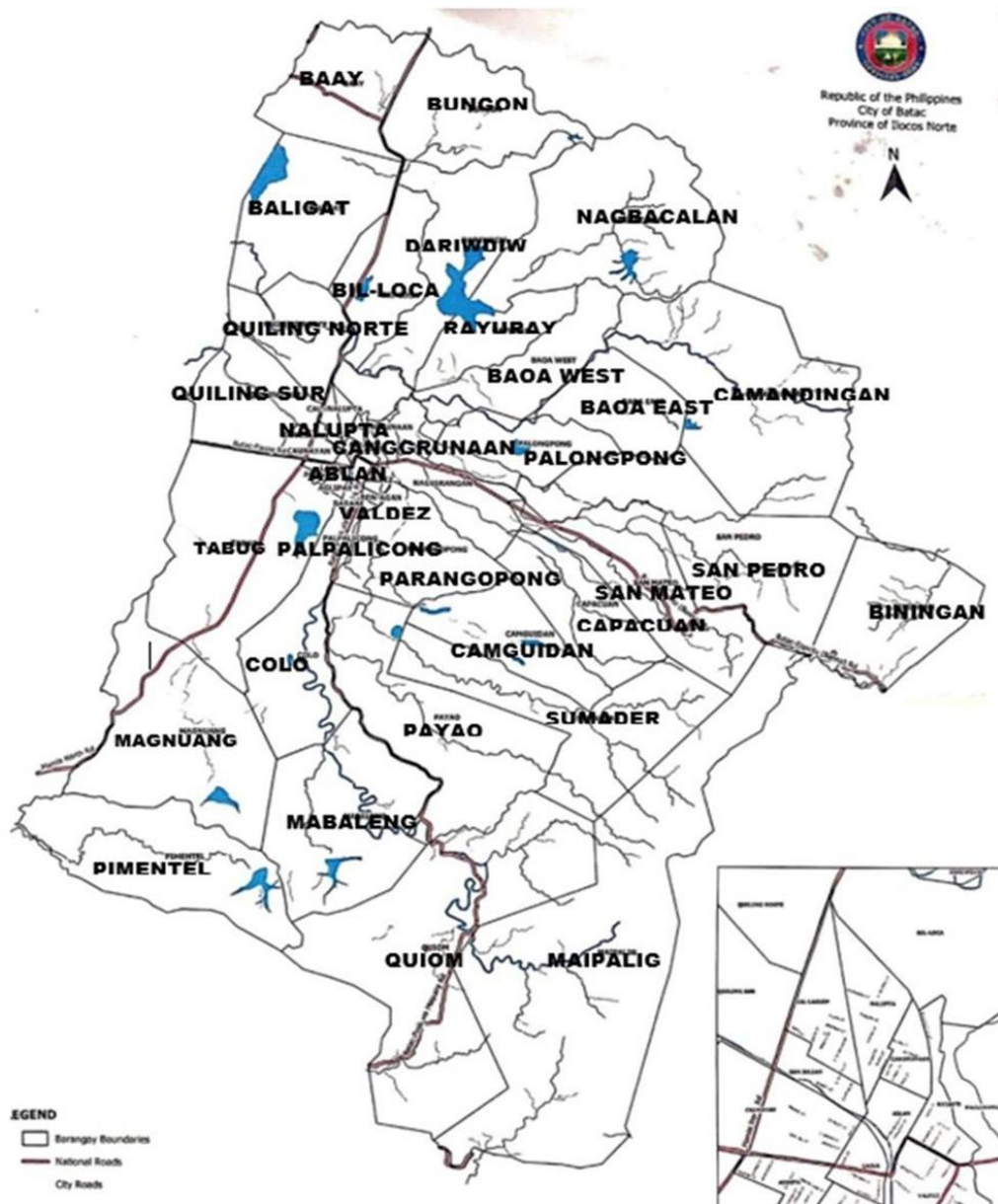
Ilocos Norte province is situated in the Ilocos Region, occupying the northwestern section of Luzon, and bordered clockwise from the northeast. It has a land area of 3,418.75 square kilometers (1,319.99 square miles), and a density of about 178 inhabitants per square kilometer (462 inhabitants per square mile). This province has 21 municipalities, two cities, and 559 barangays. (<https://www.philatlas.com/luzon/r01/ilocos-norte.html>).

Its local government units (LGUs) are engaged in implementing initiatives that address the effects of climate crisis. Of these localities, the City of Batac was chosen as the sub-setting of the study because this locality is more active in implementing climate action and communication.

Specifically, 14 barangays in Batac, which are more frequently exposed to climate-related risks and are active in implementing climate action and communication

initiatives according to the City Government of Batac, were chosen as sub-settings of the study. These barangays are Ricarte, Valdez, Ablan, Cangrunaan, Nalupta, Callaguip, San Julian, Caunayan, Acosta, Aglipay, Lacub, Barani, Ben-agan, and Palpalicong.

Figure 2. Map of Batac, Ilocos Norte



Respondents of the Study

The primary data sources of this study were women-residents (18-49 years old) in the 14 barangays who actively participate in climate communication in the city. Table 1 shows the population of women in each barangay of Batac.

Table 1. *Population of Women in the 14 Urban Barangays of Batac*

Barangay	Population of Women
Ricarte	208
Valdez	152
Ablan	180
Cangrunaan	215
Nalupta	284
Callaguip	203
San Julian	192
Caunayan	150
Acosta	235
Aglipay	294
Lacub	119
Barani	90
Ben-agan	148
Palpalicong	220
Total	2,690

Sampling Procedure

To determine the samples from the population of women-participants, this study used the G*Power Sample Size Formula. The distribution of sample size per barangay in Batac is shown in Table 2.

Table 2. *Sample Size of Woman-Respondents in the 14 Urban Barangays of Batac.*

Barangay	Sample Size
Ricarte	9
Valdez	6
Ablan	8
Cangrunaan	9
Nalupta	12
Callaguip	9
San Julian	8
Caunayan	6
Acosta	10
Aglipay	13
Lacub	5
Barani	4
Ben-agan	6
Palpalicong	9
Total	115

*G*Power Sample Size Formula*

Statistical Test: Correlation Bivariate Normal Model

Test family: Exact test

Correlation ρ 1: 0.3

Margin of error: 0.05

Power: 0.95

Sample size: 115

Actual power: 0.9501

Research Instruments

To gather data needed in this study, an interview schedule was used. The instrument contained the participants' personal and socio-institutional attributes, the dynamics of their participation in climate communication, and the facilitators and barriers of their participation.

Items included in the communicative roles are adopted from the study of Galut *et al* (2016), while choices under the communication activities and as well as those in the communication facilitators and barriers were taken from the study of Agdinaoay and Undonero (2015).

The research instrument was written in English. However, the instrument was explained in Iluko during the interview session to make data-gathering smoother-flowing. To supplement the data gathered via interview schedule, focused group interviews were conducted.

Data Gathering Procedures

Before starting the data gathering, request letters to conduct the study were sent to the City Government of Batac. After seeking approval, the researcher sought information to the City Planning and Development Office about the implementation of climate action and communication initiatives in the locality. Likewise, the researcher requested for a data on women population to the City Social Welfare and Development Office.

After identifying the women-respondents of the chosen barangays, communication with the barangay captains was established via requesting their contact details. With their assistance, the respondents were requested to participate in the study. Upon receiving the respondents' confirmation of their willingness to participate in the research activity, copies of in-depth interview guide were given to them. Then, interview sessions were conducted eventually.

Data Analysis

Gathered data from the women-respondents were measured and analyzed using descriptive and correlational statistics. Then, all the processed data were interpreted narratively and organized based on the logic set forth in the specific objectives of the study. To supplement the interpreted data, illustrative quotes were infused.

In addition, to determine the relationship between the respondents' personal and socio-institutional attributes and their participation in climate communication initiatives, statistical tests such as Contingency Coefficient and Kendall's Tau-b were used.

Contingency coefficient tells whether two variables or data sets are independent of each other. This was used in testing the associations of nominal data through this formula below:

$$C = \sqrt{\frac{\chi^2}{N + \chi^2}}$$

where X^2 is the chi-square statistic, N is the total number of cases or observations in the analysis, and C is the contingency coefficient.

On the other hand, Kendall's tau-b is a nonparametric measure of the strength and direction of association that exists between two variables measured on at least an ordinal scale. This is calculated using the formula below:

$$\tau = (C-D) / (C+D)$$

where C is the number of concordant pairs, and D is the number of discordant pairs.

To calculate its statistical significance, the following formula was used:

$$z = 3\tau \sqrt{n(n-1)} / \sqrt{2(2n+5)}$$

where τ is the value calculated for Kendall's tau, and n is the number of pairs.

Ethical Considerations

In conducting this study, voluntary participation of the respondents was highly encouraged. They were given the right not to answer questions that would seem sensitive to them, and the freedom to withdraw from participating in the study if a conflict of interest exists on their part.

Likewise, the protection of their identities was ensured by keeping their personal information confidential.

Lastly, potential risks that arise during this study were addressed immediately to protect both the respondents of this study and the researcher.

Chapter IV

RESULTS AND DISCUSSION

Personal and Socio-institutional Attributes of Women-Respondents

In terms of their personal attributes, most (98 or 85.22%) of the respondents were middle-aged (25-49 years), a big majority of them had attained college or vocational education (72 or 62.61%), while a majority were married (61 or 53.04%) and salary earners (66 or 57.39%).

For their socio-institutional attributes, majority (67 or 58.26%) of the respondents belonged to non-Catholic sects such as Born-Again Christian, Iglesia Ni Cristo, Aglipayan, Baptist, Pentecost, and Mormons. Most of the respondents (100 or 86.96%) were members of service-oriented organizations such as Barangay Women's Organization, Rural Improvement Club, Barangay Health Workers, Barangay Council, and Sangguniang Kabataan, while only a few were affiliated to profession-based (8 or 7%) and academe-based (7 or 6%) groups. All the respondents were Ilocanos and were conversant in Iloko, Filipino, and English. Table 3 presents the data of their characteristics.

Based on the findings, it seems that participation could be a function of their age, educational attainment, income source, religious affiliation and organizational affiliation. Therefore, such findings imply that women with those personal and socio-institutional attributes were the most predominant individuals who have taken advantage of the opportunities that enabled them to participate in climate communication initiatives.

Table 3. *Personal and socio-psychological attributes of woman-respondents (n=115).*

WOMEN-RESPONDENTS' ATTRIBUTES	FREQUENCY	PERCENTAGE
<i>Personal Attribute</i>		
<i>Age (18-49 years old)</i>		
Young (18 to 24)	17	14.78
Middle-aged (25-49)	98	85.22
Total	115	100.00
Mean (X)		39
<i>Civil Status</i>		
Single	47	40.87
Married	61	53.04
Widowed	7	6.09
Total	115	100.00
<i>Educational attainment</i>		
Elementary Level	2	1.74
Secondary Level	41	35.65
College/Vocational Level	72	62.61
Total	115	100.00
<i>Income Source</i>		
Salary-based	66	57.39
Profit-based	18	15.65
None	31	26.96
Total	115	100.00
<i>Socio-institutional attribute</i>		
<i>Religious Affiliation</i>		
Catholic	48	41.74
Non-Catholic	67	58.26
Total	115	100.00
<i>Organizational Affiliation</i>		
Service-oriented	100	86.96
Profession-based	8	6.95
Academe-based	7	6.09
Total	115	100.00

Cultural Orientation

Ethnic Group		
Ilocano	115	100.00
Language		
Multilingual (Iluco, Filipino, English)	115	100.00

Participation of Women in Climate Communication

Anchored on the Local Climate Change Action Plans (LCCAPs) of the City Government of Batac, climate action initiatives that are being implemented in the barangays aim to attain these strategic priorities: food security, water sufficiency, ecological and environmental stability, human security, climate smart industries and services, and sustainable energy.

For their part, residents in the different barangays of Batac, especially women, participate in these interventions by adopting and communicating eco-friendly and sustainable lifestyle practices, such as reducing energy consumption, observing waste management, conducting clean-up drives and tree-planting activities, and practicing backyard vegetable gardening, among others.

Nature of Women's Participation

Frequency of participation. Overall, an overwhelming majority (89 or 77.40%) of the respondents claimed that they always participate in climate communication. This is rooted by their awareness about climate change impacts and affirmation that climate communication initiatives are being implemented in their barangays.

Such findings imply the pervasiveness of climate crisis in contemporary communities and the expanding consciousness of women on the seriousness of the development problem. Likewise, such frequency of their participation in climate

communication indicates their perceived interest to adapt and mitigate climate change impacts.

Table 4. *Frequency of women’s participation in climate communication initiatives (n=115).*

FREQUENCY OF PARTICIPATION	FREQUENCY	PERCENTAGE
Always	89	77.40
Sometimes	26	22.60
Rarely	-	-
Total	115	100.00

Reasons for participation. All in all, the respondents shared four reasons behind their participation in climate communication initiatives. Those who disclosed that they wanted to learn more about climate action got the highest number of frequency (56 or 48.70%). The other reasons behind their participation include their desire to educate and inform community members on how to adopt climate action (41 or 35.65%); to help their respective barangays and the local government in implementing programs and projects integral in mitigating climate change effects (39 or 33.91%); and for them to become always ready to respond to the future consequences of climate change (19 or 16.52%). In fact, one of the respondents expressed that:

Kasapulan a maresolbar dagiti epekto ti climate change ditoy lugartayo. No mabaybay-an daytoy a problema, madadael dagiti pagtaengantayo ken iti aglawlaw. [There is a need to control the effects of climate crisis in our locality. If this is left unattended, our communities and the environment will become soon inhabitable.]

Taking off from these findings, the range of the women’s intentions indicate their motivation to engage in climate communication. Additionally, these disclosed reasons imply their optimism that predicaments surrounding climate crisis can be addressed, and their willingness to take part in the resolution of the pressing development concern.

Such reasons shared by the respondents are related to the findings of McNaught et al. (2014) that communities participate in climate change adaptation and mitigation measures when they are aware of the threat posed by climate crisis and motivated to take steps to reduce the risks.

Table 5. *Women’s reasons for participating in climate communication (n=115)*.*

REASON FOR PARTICIPATION	FREQUENCY	PERCENTAGE
To educate and inform community members	41	35.65
To learn more about climate action	56	48.70
To help barangay/local government in implementing climate action	39	33.91
To be always ready	19	16.52

**Multiple Responses*

Experience in participating to climate communication. Overall, a great majority (81 or 70.43%) of the respondents stated that they are satisfied thus far with their participation in the climate communication initiatives. In fact, one of the respondents shared that:

Kuntentoak iti panagpartisiparko kadagiti aktidibidad panggep ti climate change. Timmulongak a nang-implementar kadagitoy nga alagaden babaen ti panangipadamag kadagitoy iti kabarangayak, ken aktiboak a mangtigtignay iti sabali a tumulong kadakami. [I am highly satisfied with my participation. I have contributed to mitigating measures by informing my fellow barangay constituents about these, and I am currently active in encouraging others to participate in this endeavor.]

Meanwhile, more than a quarter (34 or 29.57%) said that they are partly satisfied with their experience in the development endeavor, saying that their participation is challenging. They also expressed the need to be involved in climate change adaptation, mitigation, and communication. To reinforce such, one of the respondents asserted that:

Adda met rigatna ti panagpartisiparko kadagiti programa panggep iti climate action. A kas opisial iti barangay, rumbeng a maamuak nga umuna amin nga aktibidad tapno makirakurakko a nasayaat kadagiti kabarangayanmi ken tapno maallukoyko ida a makipartisipar. Ngarud, masapul a hands-on-ak tapnon maubrak a nasayaat dagitoy responsibilidadko. [I describe my participation as challenging because, as a barangay official, I should first know all these climate action initiatives for me to communicate them well to our constituents and motivate them to participate. Thus, I need to be involved more to fulfill my duty more effectively.]

The satisfaction of the respondents with their participation implies their relatively deliberate engagement in climate communication. This also suggests that the participants may have realized their intentions, no matter how straightforward or profound it may be when dealing with climate crisis. Likewise, such satisfaction suggests the motivation of sustaining or even enhancing their efforts toward liberating participation to climate communication.

Table 6. *Women’s experience in participating in climate communication (n=115).*

EXPERIENCE IN PARTICIPATION	FREQUENCY	PERCENTAGE
Satisfied	81	70.43
Partly Satisfied	34	29.57
Not Satisfied	-	-
Total	115	100.00

Roles of Women and Channels used in Participating to Climate Communication

Communicative roles. All in all, the respondents shared six different roles they practice when dealing with climate communication. Among these, the most frequently mentioned communicative role was information disseminator (44 or 38.26%) and the least mentioned was opinion leader (2 or 1.74%). Table 7 shows the results of their communicative roles.

According to the respondents, they communicate information about climate related policies, practices, programs, and resources to their fellow community members to ensure widespread understanding and compliance with climate measures.

Such findings indicate that women naturally communicate climate action-related information to their fellows. This could be attributed to the way how they participate in climate communication, and the reasons why they get involved in the development initiative.

Likewise, the range of their communicative roles they pinpointed manifest their flexibility, capability, and relatively vibrant contributions in carrying out climate communication.

Table 7. *Communicative roles of women in climate communication. (n=115).*

COMMUNICATIVE ROLE	FREQUENCY	PERCENTAGE
Facilitator	29	25.22
Gatekeeper	4	3.48
Information Disseminator	44	38.26
Liaison Officer	11	9.56
Monitoring Agent	25	21.74
Opinion Leader	2	1.74
Total	115	100.00

Communication activities. All in all, the respondents identified four interpersonal and three mediated communication channels they utilize or subscribe to as they participate in climate communication. Affirming these modalities indicates the relevance of these in enabling them to participate in combatting climate change impacts.

In terms of interpersonal communication modes, two-thirds (79 or 68.70%) of the respondents were engaged in meetings related to climate action. On the other hand, forum (43 or 37.39%) was the least frequently used face-to-face communication activity.

For the mediated channels used, a big majority (72 or 62.61%) of the respondents subscribed to social media, while the least utilized medium was broadcast (31 or 26.96%). Table 8 presents the overall data pertaining to their communication activities.

Based on the results, it seems that the respondents are engaged more frequently in interpersonal communication activities. Such findings imply their greater preference to direct or face-to-face interactions, and the appropriateness of these

modalities in implementing climate communication. Meanwhile, the adoption of mediated platforms responsive to climate communication suggests the usability of such in reinforcing women’s participation and in resolving the development problem.

Indeed, climate change communication had developed into several techniques, strategies, and processes (Moser, 2010). The use of both interpersonal and mediated communication modalities in implementing climate action could be because no single communication strategy can effectively convey climate change, which was figured out by Evans *et al.* (2018). Moreover, the observed prevalence of social media as communicative tool for climate action in the locality confirms the findings of Tandoc and Eng (2017) that social media has been increasingly used to communicate climate change.

Table 8. *Activities and channels engaged in by women in climate communication (n=115)*.*

COMMUNICATIVE ACTIVITIES	FREQUENCY	PERCENTAGE
<i>Interpersonal</i>		
Meeting	79	68.70
One-on-one Conversation	49	42.60
Dialogue	40	34.78
Forum	43	37.39
<i>Mediated</i>		
Print	37	32.17
Broadcast	31	26.96
Online (Social Media)	72	62.61

**Multiple Responses*

Contributions of Women in Climate Communication and their Expectations

Contributions. In general, the respondents shared three major contributions based on their participation in the climate communication. Majority of them said they have informed fellow community members about climate action (67 or 58.27%); and they have complied and joined others in practicing climate action measures with the best of their capabilities (62 or 53.91%). Meanwhile, more than a quarter (32 or 27.83%) stated that they have shared their knowledge and expertise with the authorities about climate action.

This range of contributions as disclosed by the respondents imply the relatively fruitful outcomes of their participation in climate communication. Such gratifying experiences stem from the various ways they take part in combatting climate change impacts, as well as their different communicative roles they play and the communication channels they utilize.

Table 9. *Women’s contributions in climate action initiatives (n=115)*.*

CONTRIBUTION	FREQUENCY	PERCENTAGE
Informing fellow community members about climate action	67	58.27
Sharing knowledge about climate action	32	27.83
Doing climate action initiatives with others	62	53.91

**Multiple Responses*

Expectations. Anchored on their reasons behind participating in climate communication and their contributions, the respondents disclosed five major

expectations when they continue their engagement in the development activity. Gaining the highest number of frequencies is the expectation of better outcomes of climate communication being implemented in the barangay levels (48 or 41.74%). On the other hand, learning more about climate action (20 or 17.39%) was the least frequently mentioned expectation. Other expectations shared by the respondents are shown in Table 10.

To reinforce these expectations, one of the respondents stated that:

Babaen ti panagpartisiparko kadagitoy nga aktibidad, mamatiak nga adda naitulongko maipapan ti climate action. Namnamaek a no itultuloyko ti makipagpartisipar, maresolbar tayo dagiti epekto ti climate change. [By participating in such activities even just a little, I believe I contributed to attaining climate action. I am expecting that if I continue doing these tasks, these will have a significant impact in the mitigation of climate change effects.]

This range of expectations shared by the respondents implies their conviction in making themselves more empowered participants as well as their commitment to ensuring that climate action is realized by the communities they belong to. Likewise, these expectations suggest an organized move toward participatory development and sustainable partnership among community residents and concerned authorities.

Table 10. *Women’s expectations in participating to climate communication (n=115)*.*

EXPECTATION	FREQUENCY	PERCENTAGE
To educate and inform more people	38	33.04
To have better outcomes of climate communication	48	41.74
To learn more about climate action	20	17.39
To be involved more in climate action initiatives	24	20.87
More people will cooperate in implementing climate action initiatives	22	19.13

**Multiple Responses*

Facilitators and Barriers of Women's Participation in Climate Action Initiatives

Aside from exploring the participation of women in the implementation of climate action initiatives, communication facilitators and barriers of their involvement in the development activity were also surfaced. The respondents identified four groups of facilitators and barriers, which are attitudinal/emotional, interpersonal, physical/external, and physiological.

Facilitators of Women's Participation

Attitudinal/Emotional. There are seven sets of attitudinal/emotional facilitators which were disclosed by the respondents. The main attitudinal facilitator was active participation as disclosed by the majority (65 or 56.52%), while the least frequently mentioned was excitement (32 or 27.83%). Other facilitators include willingness to learn, interest, open-mindedness, attention to detail, and easy comprehension of information. Such findings indicate that their positive predispositions toward climate communication motivate them to participate in the development initiative. This further confirms the findings of Corner *et al.* (2014) that the way people engage with climate communication is influenced by their values and attitudes.

Interpersonal. All in all, the respondents presented two interpersonal facilitators of their participation in climate communication. These are belongingness (55 or 47.83%) and acceptance (54 or 46.96%). According to the respondents, they participate in climate communication because they feel a sense of ownership in these development initiatives and that they can freely engage themselves with the concerned sectors who implement climate change action plans. Therefore, higher

level of participation in climate communication can be achieved when women have access to more opportunities to influence the outcome of the initiative.

Physical/External. The respondents also shared three types of physical/external facilitators as they participate in climate communication. More than one-third of them said that when engaging in interpersonal activities such as meetings and forums, silence is observed so others can concentrate (41 or 35.65%), and the venue or meeting room is organized (40 or 34.78%). Additionally, more than a quarter (31 or 26.96%) of the respondents affirmed that well-ventilated venues facilitate their participation.

Physiological. For this part, the respondents experienced bodily conditions that smoothen their participation in climate action initiatives. Almost half (49 or 42.60%) of them shared they make themselves feel relaxed while more than one-third (42 or 36.52%) maintain their good health for them to effectively participate in such development activities. This indicates that having a good shape among women enables better participation in climate communication.

These surfaced facilitators imply the relevance of embracing these factors in realizing women’s communicative roles as they participate in climate communication. These also suggest the responsiveness of women in propelling the climate action initiatives toward fruition.

Table 11. *Facilitators of women’s participation in climate communication. (n=115)*.*

FACILITATOR	FREQUENCY	PERCENTAGE
<i>Attitudinal/Emotional</i>		
Active Participation	65	56.52
Attention to Detail	42	36.52

Easy comprehension of information	37	32.17
Open-mindedness	44	38.26
Excitement	32	27.83
Interest	52	45.21
Willingness to learn	55	47.83
<i>Interpersonal</i>		
Belongingness	55	47.83
Acceptance	54	46.96
<i>Physical/External</i>		
Well-ventilated	31	26.96
Silence so that respondents can concentrate	41	35.65
Organized room/venue	40	34.78
<i>Physiological</i>		
Relaxed	49	42.60
Healthy	42	36.52

**Multiple Responses*

Barriers of Women's Participation

On the other hand, the respondents pinpointed the same groups of barriers that exist as they participate in the climate communication initiatives. Similarly, the most frequent factors that hinder their participation are attitudinal/emotional in nature.

Attitudinal/Emotional. Overall, the respondents disclosed six types of attitudinal barrier, which are contiguous with each other. The most frequently mentioned was reluctance to listen (28 or 24.35%) while the least commonly pinpointed was competitive (14 or 12.17%). Other attitudinal barriers include boredom, resistance, close-mindedness, and defensiveness. Such findings imply that negative predispositions hinder women from participating in climate communication.

Interpersonal. There are three types of interpersonal barriers that were experienced by respondents when they participate in climate communication

initiatives. These were distance from the group (18 or 15.65%), rejection from the group (17 or 14.78%), and busyness (11 or 9.57%).

Physical/External. Likewise, the respondents indicated three types of physical/external barriers to their participation. When they are engaged in interpersonal climate communication activities, they encounter noise (30 or 26.08%), observe that the venue is unorganized (20 or 17.39%) and not ventilated (17 or 14.78%).

Physiological. The respondents shared that they also experience two bodily conditions that hinder their participation in climate communication initiatives. According to them, some of them feel tense (25 or 21.74%) or unable to relax because of nervousness, anxiety, or stimulation. In addition, others said they sometimes feel unwell (22 or 19.13%), prompting them to delay or limit their involvement in climate communication.

This range of barriers, which affectively constrained the participation of women in the implementation of climate communication initiatives, implies the observable reactions of the participants, particularly the women's focus no matter how relevant the subject matter may be. Having recognized these barriers though suggests the willingness of women in improving their engagement in the development endeavor.

Such results run parallel with the findings of Whitmarsh *et al.* (2021) who noted that individual and social or structural struggles significantly impeded public participation in climate action. Individual challenges comprise of psychological remoteness, a lack of awareness, and conflicting concerns. Meanwhile, social or

structural struggles are made up of other people's apparent inaction, social norms that promote consumption, and a lack of supportive infrastructure.

Table 12. *Barriers of women's participation in climate communication. (n=115)*.*

BARRIER	FREQUENCY	PERCENTAGE
<i>Attitudinal/Emotional</i>		
Defensiveness	16	13.91
Resistance	21	18.26
Competitive	14	12.17
Close-mindedness	20	17.39
Boredom	27	23.48
Reluctance to listen	28	24.35
<i>Interpersonal</i>		
Distance from the group	18	15.65
Rejection from the group	17	14.78
Busyness	11	9.57
<i>Physical/External</i>		
Not ventilated	17	14.78
Noise	30	26.08
Unorganized venue	20	17.39
<i>Physiological</i>		
Tense	25	21.74
Unwell	22	19.13

**Multiple Responses*

Relationships between the Women's Personal and Socio-institutional Attributes and their Participation in Climate Communication

Considering that participation in climate communication is open, flexible, and accommodating to a plurality of community women, as evidenced by the wide range of their personal and socio-institutional attributes, it is indispensable to determine the relationship between these attributes and their participation, including communication facilitators and barriers. Doing so would reinforce understanding on the value of

participation in climate action as shaped by the variations among the women’s age, civil status, educational attainment, income source, religious affiliation, and organizational affiliation.

The variables were statistically analyzed using Contingency Coefficient for ordinal data, and Kendall’s Tau-b for nominal data. The strengths of association for these two statistical tests are shown below.

Table 13. *Strength of associations for Contingency Coefficient and Kendall’s tau-b.*

INTERPRETATIONS	
<i>Contingency Coefficient</i>	
<i>r</i>	<i>Strength of Association</i>
<0.10	Weak
0.11 – 0.30	Moderate
>0.31	Strong
<i>Kendall’ tau-b</i>	
<i>r</i>	<i>Strength of Association</i>
0.00	Negligible
0.06	Weak
0.26	Moderate
0.49	Strong
0.71	Very strong

Women’s Age and their Participation

As shown in table 14, the computed correlation coefficient indicated a strong association between the women-respondents’ age and their communicative roles in climate communication. This implies that the age is an important factor in selecting the roles they play when dealing with climate action initiatives.

However, the computed coefficient indicated negligible associations between women's age and their use of mediated communication channel ($r=-0.049$), contributions (-0.108), expectations ($r=-0.218$), attitudinal/emotional ($r=-0.027$), physical/external ($r=-0.077$), and physiological ($r=-0.110$) facilitators, and the attitudinal ($r=-0.030$) and physiological ($r=0.008$) barriers. Such results mean that women's age have no influence on these parameters.

Table 14. *Correlation between the women's age and their participation in climate communication.*

PARAMETER	r	p-value	Association
Frequency of Participation	0.223	0.049	Moderate
Communicative Role*	0.379	0.037	Strong
Communication Channels			
Interpersonal	0.121	0.132	Moderate
Mediated	-0.049	0.596	Negligible
Reasons for Participation	0.101	0.252	Moderate
Contributions	-0.108	0.248	Negligible
Expectations	-0.218	0.016	Negligible
Facilitators			
Attitudinal/Emotional	-0.027	0.743	Negligible
Interpersonal	0.156	0.061	Moderate
Physical/External	-0.077	0.343	Negligible
Physiological	-0.110	0.315	Negligible
Barriers			
Attitudinal/Emotional	-0.030	0.700	Negligible
Interpersonal	0.018	0.843	Weak
Physical/External	0.030	0.737	Weak
Physiological	0.008	0.925	Negligible

Women's Civil Status and their Participation

Generally, table 15 shows that women's civil status has significant relationships with their participation in climate communication. The computed coefficient indicated strong associations between the respondents' civil status and their communicative roles ($r=0.313$), and mediated communication channels ($r=0.361$). This implies that

civil status greatly influences a woman's role that she chooses to perform, the level of her participation, and the channel she avails when dealing with climate communication.

Likewise, the computed coefficient showed strong associations between the women's civil status and the attitudinal/emotional ($r=0.352$), physical/external ($r=0.337$), and physiological ($r=0.403$) facilitators, as well as the physical/external barrier ($r=0.408$). This suggests that such facilitators and barrier are greatly applicable to women regardless of their civil status.

However, a weak association was observed between the women's civil status and their frequency of participation ($r=0.041$). This indicates that regardless of being single, married, or widowed, women can always or sometimes participate in climate communication.

Table 15. *Correlation between the women's civil status and their participation in climate communication.*

PARAMETER	r	p-value	Association
Frequency of Participation	0.041	0.908	Weak
Communicative Role*	0.313	0.254	Strong
Communication Channels			
Interpersonal	0.281	0.132	Moderate
Mediated*	0.361	0.002	Strong
Reasons for Participation	0.137	0.332	Moderate
Contributions	0.192	0.353	Moderate
Expectations	0.176	0.454	Moderate
Facilitators			
Attitudinal/Emotional*	0.352	0.180	Strong
Interpersonal	0.043	0.889	Weak
Physical/External*	0.337	0.023	Strong
Physiological*	0.403	0.000	Strong
Barriers			
Attitudinal/Emotional	0.193	0.619	Moderate
Interpersonal	0.240	0.134	Moderate
Physical/External*	0.408	0.001	Strong
Physiological	0.199	0.315	Moderate

Women's Educational Attainment and their Participation

For this part, moderate associations were observed between the women's educational attainment and their communicative roles ($r=0.287$), interpersonal ($r=0.105$) and mediated ($r=0.167$) communication channels, expectations ($r=0.157$), and all the barriers of their participation such as attitudinal/emotional ($r=0.215$), interpersonal ($r=0.164$), physical/external ($r=0.266$), and physiological ($r=0.212$). These findings imply that women's roles in climate communication and the use of communication channels are influenced by their educational backgrounds.

On the other hand, there were negligible associations between the respondents' educational attainment and reasons for participation ($r=-0.020$), contributions ($r=-0.0271$), and the attitudinal ($r=-0.020$) and interpersonal ($r=-0.002$) facilitators. These suggest that women's educational qualifications do not significantly affect these variables.

Table 16. *Correlation between the women's educational attainment and their participation in climate communication.*

PARAMETER	r	p-value	Association
Frequency of Participation	0.076	0.717	Weak
Communicative Role	0.287	0.413	Moderate
Communication Channels			
Interpersonal	0.105	0.249	Moderate
Mediated	0.167	0.044	Moderate
Reasons for Participation	-0.020	0.834	Negligible
Contributions	-0.271	0.003	Negligible
Expectations	0.157	0.065	Moderate
Facilitators			
Attitudinal/Emotional	-0.020	0.804	Negligible
Interpersonal	-0.002	0.979	Negligible
Physical/External	0.036	0.665	Weak
Physiological	0.043	0.632	Weak
Barriers			
Attitudinal/Emotional	0.215	0.006	Moderate
Interpersonal	0.164	0.054	Moderate

Physical/External	0.266	0.001	Moderate
Physiological	0.212	0.017	Moderate

Women's Income Source and their Participation

Overall, the computed contingency coefficient indicated that there is a significant relationship between the women's income source and their participation.

Those parameters that indicated strong associations with the respondents' income source are their communicative roles ($r=0.477$), attitudinal/emotional ($r=0.450$) and physical/external ($r=0.332$) facilitators, as well as the attitudinal (0.334) and physical ($r=0.317$) barriers. Such findings imply that their means of living determine their functions, the way they engage themselves in climate communication, and the factors that enable them to participate in development initiatives.

Table 17. Correlation between the women's income source and their participation in climate communication.

PARAMETER	r	p-value	Association
Frequency of Participation	0.119	0.440	Moderate
Communicative Role*	0.477	0.000	Strong
Manner of Participation*	0.366	0.058	Strong
Communication Channels			
Interpersonal	0.278	0.141	Moderate
Mediated	0.178	0.439	Moderate
Reasons for Participation	0.154	0.248	Moderate
Contributions	0.240	0.135	Moderate
Expectations	0.230	0.168	Moderate
Facilitators			
Attitudinal/Emotional*	0.450	0.004	Strong
Interpersonal	0.299	0.003	Moderate
Physical/External*	0.332	0.027	Strong
Physiological	0.255	0.092	Moderate
Barriers			
Attitudinal/Emotional*	0.334	0.025	Strong
Interpersonal	0.252	0.099	Moderate
Physical/External*	0.317	0.045	Strong
Physiological	0.270	0.060	Moderate

Women's Religious Affiliation and their Participation

Similarly, there is a significant relationship between the women's religious affiliation and their participation in climate communication.

Specifically, the four parameters that indicated a strong association with the respondents' religion are the mediated communication channels ($r=0.371$), attitudinal ($r=0.228$), and physical ($r=0.376$) facilitators, and interpersonal barrier (0.328). Such findings imply that the respondents' Christian faith greatly influences their preferred communication channels when participating in climate communication, as well as the facilitators and barriers that greatly affect their engagement.

Meanwhile, the computed coefficient indicated a weak association between women's religion and their reasons for participation ($r=0.063$). This implies that religion does not dictate their motives in taking part in climate communication.

Table 18. *Correlation between the women's religions affiliation and their participation in climate communication.*

PARAMETER	r	p-value	Association
Frequency of Participation	0.212	0.020	Moderate
Communicative Role	0.298	0.047	Moderate
Communication Channels			
Interpersonal	0.212	0.146	Moderate
Mediated*	0.371	0.000	Strong
Reasons for Participation	0.063	0.501	Weak
Contributions	0.185	0.132	Moderate
Expectations	0.138	0.329	Moderate
Facilitators			
Attitudinal/Emotional*	0.479	0.000	Strong
Interpersonal	0.268	0.003	Moderate
Physical/External*	0.376	0.000	Strong
Physiological	0.217	0.059	Moderate
Barriers			
Attitudinal/Emotional	0.228	0.097	Moderate
Interpersonal*	0.328	0.001	Strong
Physical/External	0.268	0.031	Moderate

Physiological	0.162	0.212	Moderate
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Women’s Organizational Affiliation and their Participation

Lastly, it was observed that there is a significant relationship between the women’s organization affiliation and their participation in climate communication.

The computed coefficient indicated strong associations between the respondents’ organizational affiliation has a strong association with nine parameters: communicative roles ($r=0.388$); both interpersonal ($r=0.344$) and mediated ($r=0.380$) communication channels; attitudinal ($r=0.409$) and physiological ($r=0.338$) facilitators, as well as the attitudinal ($r=0.359$), interpersonal ($r=0.399$), and physical ($r=0.483$) barriers. Such findings imply that women’s membership in either service-oriented, profession-based, or academic-based organizations reinforces the dynamics of their participation in climate communication.

However, the computed coefficient showed weak association between the women’s organizational affiliation and their frequency of participation. This means that women could still participate in climate communication even if they are not affiliated with any organization.

Table 19. Correlation between the women’s organizational affiliation and their participation in climate communication.

PARAMETER	r	p-value	Association
Frequency of Participation	0.073	0.734	Weak
Communicative Role*	0.388	0.026	Strong
Communication Channels			
Interpersonal*	0.344	0.017	Strong
Mediated*	0.380	0.001	Strong
Reasons for Participation	0.215	0.061	Moderate
Contributions	0.237	0.144	Moderate
Expectations	0.270	0.061	Moderate

Facilitators			
Attitudinal/Emotional*	0.409	0.027	Strong
Interpersonal	0.146	0.284	Moderate
Physical/External	0.296	0.088	Moderate
Physiological*	0.338	0.005	Strong
Barriers			
Attitudinal/Emotional*	0.359	0.009	Strong
Interpersonal*	0.399	0.000	Strong
Physical/External*	0.483	0.000	Strong
Physiological	0.143	0.662	Moderate

These results of the correlational analysis between the women's personal and socio-psychological attributes and their participation imply that such characteristics could impact their actions, the direction and outcomes of their involvement in climate communication initiatives.

Implications of Women's Participation in Climate Communication

Taking off from the dynamics of women's participation to climate communication, as well as the relationships of their personal and socio-institutional attributes to their participation vis-à-vis the observed facilitators and barriers, the following implications are rolled out:

Toward Sustained Participation of Women in Climate Communication

Exploring the participation of women in the implementation of climate communication in the City of Batac, Ilocos Norte captures their conscientiousness in addressing the impacts of climate change. Reflecting on the attributes they have, the communicative roles they played, channels utilized, as well as their expectations, women have become optimistic and motivated to take part in climate communication. Such optimism also empowers them to decide on how best they can make themselves

prepared against the worsening climate crisis and become equipped in addressing its adverse consequences in the future.

The uncovered ways how women participate and their reasons behind their engagement in climate communication would prompt other community members and the authorities to make climate action more inclusive and participatory. Likewise, the different communication roles they play and the wide range of communication channels they subscribe to would urge government authorities to maximize their involvement and sustain their utilization of communication activities and channels as they carry out efforts to combat climate change. Moreover, their positive contributions and expectations, as well as the facilitators and barriers of their participation in climate communication would motivate the authorities to level up their concerted efforts to work with women-participants, other community members, advocates and other stakeholders in proactively dealing with the emerging effects of climate crisis.

Policy Formulation and Implementation

The complications of climate crisis as a development concern require a holistic approach in coping with it inclusively and sustainably. Inasmuch as the local government and other identified institutions are constitutionally mandated to manage operations responsive to climate action, they are accountable to society and to the environment. As such, they can reflect on the research findings, and as much as possible, validate and organize them so they can serve as inputs in reinforcing present legislation, in crafting corresponding policies, and in refining existing initiatives.

Still anchored on the findings of the study, the local government and other concerned groups can mobilize synchronized actions in partnership with climate action

advocates for them to sustain women's and other stakeholders' participation toward ensuring the attainment of that sustainable development goal.

Chapter V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This quantitative and exploratory study explored the participation of women in the implementation of climate communication initiatives in the City of Batac, Ilocos Norte. Specifically, this study identified the personal and socio-institutional attributes of women involved in climate communication; and described their participation, as well as the facilitators and barriers of the engagement in the development activity. Moreover, this study determined the relationship between the personal and socio-institutional attributes of women and their participation in climate communication initiatives. Finally, it figured out the implications of women's participation in the climate communication as bases in forwarding policy formulation inputs.

Using an interview schedule coupled with one-on-one and focused group discussions, data sets were gathered from the 115 women-participants from 14 urban barangays in Batac, which are more exposed to climate-related risks and are more active in implementing climate communication initiatives.

After which, data sets were measured and analyzed through descriptive and correlational statistics. All the processed data were interpreted narratively and organized based on the logic set forth in the specific research objectives. Illustrative quotes were likewise infused to supplement the interpreted data.

Women's Personal and Socio-institutional Attributes

In terms of personal attributes, most of the respondents are old and a big majority of them had finished college or vocational education. Majority of the participants are married and salary earners. For their socio-institutional characteristics, majority are non-Catholic Christians and members of service-oriented organizations, and all of them are Ilocanos and conversant with Iloko, Filipino, and English.

Participation of Women in Climate Communication

Results show that an overwhelming majority of the respondents claimed that they always participate in climate communication initiatives.

Among the five major reasons behind their participation, the most dominant of which is their desire to learn more about climate action, and to educate and inform community members about the same. A great majority of them are satisfied with their participation, while others emphasized the need to be involved more in climate action.

Moreover, women play six communicative roles, and the most dominant of which is information dissemination. They also avail four interpersonal channels with meeting as the most frequently used, and they utilize three mediated channels, especially online or social media.

In addition, they disclosed three major contributions in climate communication, the most common of which is by informing community members about climate action initiatives. Of their five expectations, the desire for better outcomes of climate action is the most frequently mentioned.

Facilitators and Barriers of Women's Participation

The women also affirmed that the four groups of facilitators and barriers to their participation in climate communication are attitudinal/emotional, interpersonal, physical/external, and physiological in nature.

Specifically, there are seven attitudinal, two interpersonal, three physical, and two physiological facilitators. On the other hand, they pinpointed six attitudinal, three interpersonal, three physical, and two physiological facilitators of their participation in climate communication.

Relationships between Women's Personal and Socio-institutional Attributes and their Participation in Climate Communication

Age and Participation. The computed correlation coefficient indicates moderate to strong associations between the women's age and the different parameters of their participation in climate communication.

Civil Status and Participation. Moderate to strong associations exist between the women's civil status and the different parameters of their engagement in carrying out climate communication.

Educational Attainment and Participation. The strength of relationship between the women's educational attainment and their participation in climate communication ranges from negligible to moderate associations.

Income Source and Participation. The computed contingency correlation indicates moderate to strong associations between the women's income source and the different aspects of their involvement in climate communication.

Religious Affiliation and Participation. The strength of correlation between the respondents' religion and their participation in climate communication ranges from moderate to strong associations.

Organizational Affiliation and Participation. There are strong and moderate associations between the respondents' organizational membership and their engagement in climate communication.

Implications of Women's Participation in Climate Communication

The participation of women in climate communication initiatives, which are anchored on the Local Climate Change Action Plan of the City of Batac, captures their conscientiousness in adapting with and mitigating the impacts of climate change. Such findings, once consolidated by the city government and other concerned agencies and institutions, can be used as bases in making climate action more participatory and inclusive, in levelling up their concerted efforts to work with women and different stakeholders, and in refining existing initiatives or crafting new policies.

Likewise, the local government and other concerned groups can mobilize synchronized actions for them to sustain women's and other stakeholders' participation toward ensuring the advancement of climate action.

CONCLUSIONS

The study has uncovered significant insights into the participation of women and their contribution to climate communication. Specifically, it provided a deeper understanding on their personal and socio-institutional attributes, frequency of and reasons for their participation, the communicative roles they play and the communication activities they subscribe to, as well as their contributions and expectations, along with the facilitators and barriers of their participation. Moreover, the study shed light on how women's attributes significantly influence their involvement in the development initiative.

Despite their persisting gender stereotypes such as being submissive and conservative, and regardless of their varying personal and socio-institutional attributes, women have become actively involved in communicating climate change because they are motivated to address the predicaments and consequences surrounding the ongoing risk. The prevalence and severity of climate crisis has increased their consciousness, prompting them to take part in climate communication in whatever opportunities that can utilize or engaged with.

In terms of their communicative roles, it is worth noting that women-respondents most frequently play as information disseminators, which could be attributed to their motherly character. This implies that women are capable, credible, efficient, and effective communicators of development initiatives like climate action. However, other roles surfaced from them should be maximized further for them to become more productive and indispensable change agents and communicators.

Women's engagement in both interpersonal activities and mediated channels further spells out the crucial function of development communication in democratizing participation. Their exposure to such opportunities is also necessary for them to effectively perform various communicative roles, concretize their contributions, and meet their expectations. Thus, improving or sustaining their engagement to these communication efforts is highly essential.

Moreover, the participation of women in local climate action initiatives is considered as relatively fruitful because of the communication facilitators they are experiencing. However, the outcome of their climate action engagement could be affected by the communication barriers surrounding them. These necessitates a concerted effort among women, along with the authorities and other concerned groups, to maximize the facilitators and mitigate the barriers confronting their participation in climate communication.

Moreover, the participation and contribution of women is grounded in their own personal and socio-institutional attributes, which is indicated by the moderate to strong associations between their characteristics and the different aspects of participation, including their communication facilitators and barriers. Therefore, it is necessary for the climate action implementers to consider or build on these attributes to better maximize their potentials in forwarding development interventions.

Anchored on the findings and implications, it is concluded that participatory communication is purposive or goal-oriented, and it promotes volunteerism and empowerment. People who actively participate in development initiative express themselves, interact with others, and use different channels. Also, people deliberately take part in a development initiative even without compulsion but with an intent to act

on their problems. Thirdly, those who take part in any development initiative are liberated, making them exposed to various opportunities and more demanding roles in the society.

Overall, this study could contribute to the existing body of knowledge, particularly in the field of development communication, by filling the gap concerning the participation and contribution of women in local climate action. The findings could also yield implications for concerned government units and agencies, climate action advocates, and other stakeholders in formulating and implementing more participatory and inclusive climate communication initiatives. By nurturing women's communicative roles and contributions, and by further liberating their participation, communities and localities can address the adverse impacts of climate change.

RECOMMENDATIONS

Based on the results of this study and the conclusions drawn, the following recommendations are forwarded:

For Future Studies:

Based on the strengths of this present study, a follow-up inquiry should be done to expand the usefulness of its findings. Its limitations should be deliberately revisited so that they can be addressed accordingly.

1. *Qualitative Research:* Since this present study is quantitative in nature, future researchers could conduct a phenomenological research study to understand the nature of women's participation and their experiences in climate communication. Likewise, future researchers could conduct an

ethnographic study to explore the culture, attitudes, behavior, practices, and social interactions of women who participate in climate communication.

2. *Impact Assessment:* Future researchers could evaluate the impact of the communication programs or initiatives undertaken in implementing climate action plans of any locality. This would uncover the effectiveness of communication efforts in carrying out climate action and provide valuable insights for continual improvement or sustainability.
3. *Comparative Studies:* Future researchers could conduct studies that seek to compare and determine which communication initiatives or channels are integral in effectively managing climate change action programs, or which of these are useful in enhancing people's participation in the development endeavor.

On Development Communication Practice:

1. *Sustain Communication Activities and Channels for Climate Communication:*
Since women prefer direct or face-to-face communication in dealing with local climate action initiatives, implementers of climate communication initiatives should keep on implementing interpersonal communication activities (meetings, one-on-one conversations, dialogues, and forums) more frequently. On the other hand, they should also find ways to maximize the use of mediated channels like print, broadcast, and online to supplement interpersonal communication activities. By doing so, participation of women and other stakeholders could become more open, and more effective implementation of climate communication could be attained.

2. *Reinforce the Management of Climate Communication Initiatives:* Various communication organizations and practitioners, in collaboration with concerned agencies and institutions, can reinforce the implementation, monitoring, and evaluation of climate communication initiatives at all levels. Doing such would prompt them to be proactive partners in advancing climate action, as well as in empowering women and other individuals to become active advocates and participants of climate communication.

On Practical Application

1. *Sustain Women's Participation in Various Development Initiatives:* With the depth and range of women's engagement vis-à-vis their contributions in the implementation of climate communication, they should keep on participating in various development initiatives. They can do it by maintaining their assertiveness, maximizing their communicative roles, and by addressing the persisting gender stereotypes with the help of the authorities and other concerned groups.
2. *Strengthen Women's Communicative Roles and Efforts:* Building on the communicative roles and contributions of women in climate communication, government authorities and other concerned groups should provide avenues that could help strengthen their functions in carrying out climate action and other development efforts. One of which may be a training activity on how to become more effective and efficient facilitators, gatekeepers, information disseminators, liaison officers, monitoring agents, and opinion leaders for development.

On Policy Making and Action-Taking

- *Consolidate Outputs of Present Study as Inputs for Decision-Making and Action-Taking:* With the pervasiveness of climate crisis and the vulnerability of individuals and their collectivities, the government authorities, other constitutionally mandated agencies, and even groups of climate action advocates should provide relevant opportunities for the sharing of research initiatives like this present study for them to reflect on and appreciate their possible contributions to decision-making and action-taking. Additionally, they can consolidate the outputs of this present study and use such inputs in making climate action and communication programs more participatory and inclusive, and in refining existing initiatives or crafting new policies related to the development goal.

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Appendices

APPENDIX A
Letter Request to the City Mayor of Batac



UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY
Los Baños, Laguna 4031, Philippines

HON. ALBERT D. CHUA
City Mayor
City of Batac, Ilocos Norte

Dear **HON. CHUA**:

Greetings from the UP Open University! May I humbly request your kind approval for me to gather data in your locality? I am currently conducting my study, entitled: "Participation of Women and their Contribution to Climate Communication in the City of Batac, Ilocos Norte, Philippines." The study aims to find out the role women play in climate communication initiatives. Women participation is one area that needs investigation due to their importance in preparing people for climate change impacts.

The City Planning and Development Office informed me that women organizations and housewives are involved in the implementation of climate communication initiatives in various barangays. This would be a good opportunity for me to find out how their participation had contributed to climate change action.

In this regard, may I respectfully request for the women population list in each barangay of the city to determine my sample size?

Rest assured that all data to be gathered will be kept confidential and will be exclusively used for academic purposes only.

Many thanks for your usual support and kind assistance, our dear Mayor.

Very truly yours,

DANIEL P. TAPAOAN, JR.
MDC Thesis Student

dptapaoan@up.edu.ph

NOTED:

BENJAMINA PAULA G. FLOR, PhD
Thesis Adviser

APPENDIX B
Letter Request to the ABC President



UNIVERSITY OF THE PHILIPPINES
OPEN UNIVERSITY
Los Baños, Laguna 4031, Philippines

HON. GILBERT O. MEDINA
ABC President
City of Batac, Ilocos Norte

Dear **HON. MEDINA**:

Greetings from the UP Open University!

I am currently conducting my study, entitled: "Participation of Women and their Contribution to Climate Communication in the City of Batac, Ilocos Norte, Philippines." The study aims to find out the role women play in climate communication initiatives. Women participation is one area that needs investigation due to their importance in preparing people for climate change impacts.

The City Planning and Development Office and the City Social Welfare and Development Office informed me that women organizations and housewives are involved in the implementation of climate communication initiatives in various barangays. This would be a good opportunity for me to find out how their participation had contributed to climate change action.

Attached herewith is the list of barangays where and the number of sample respondents whom I will be gathering the needed data for this study. Also attached is a related letter request which was approved by the City Mayor.

In this regard, may I humbly request your kind approval for me to gather data in the selected barangays starting on July 11?

Rest assured that all data to be gathered will be kept confidential and will be exclusively used for academic purposes only. Many thanks for your usual support and kind assistance, sir.

Very truly yours,

DANIEL P. TAPAOAN, JR.
Student-Researcher

NOTED:

BENJAMINA PAULA G. FLOR, PhD
Thesis Adviser

APPENDIX C
Research Instrument

Interview Schedule

My dear respondent,

I humbly request your participation in the study that I'm conducting entitled: "Participation of Women and their Contribution to Climate Communication in the City of Batac, Ilocos Norte, Philippines." The study aims to find out the role women play in climate communication initiatives in the locality.

I believe that your active involvement in climate communication here in our place will be a very valuable resource. Results shall contribute to a better understanding of the important role that you play, which could serve as an exemplar in similar undertakings.

Hence, your participation is very much needed. Rest assured that your personal information will be treated with utmost confidentiality and will be used for academic purposes only. Data will be analyzed as a whole and not by specific respondent to ensure anonymity. You can also stop any time if you feel uncomfortable and no longer want to continue.

Many thanks for your usual support and kind assistance.

Daniel P. Tapaoan, Jr.
MDC Thesis Student
UP Open University

dptapaoan@up.edu.ph

INTERVIEW PROPER

I. PERSONAL AND SOCIO-INSTITUTIONAL ATTRIBUTES

1. What is your age as of your last birthday? _____

2. What is your civil status?

- Single
- Married
- Widowed

3. What is your highest educational attainment?

- Elementary level
- Secondary level
- College/Vocational or Technical level

4. What is your major source of income?

- Salary-based
- Profit-based
- None

5. What religious affiliation or sect do you belong to?

Roman Catholic

Non-Catholic:

Born-Again Christian

Iglesia Ni Cristo

Aglipayan

Baptist

Pentecost

Others (please specify): _____

6. What organization(s) are you affiliated to?

Service-oriented

Profession-based

Academe-based

Others (please specify): _____

7. What is your cultural orientation?

Ethnic group: _____

Language: _____

II. PARTICIPATION OF WOMEN IN CLIMATE COMMUNICATION INITIATIVES

1. Do you participate in the implementation of climate communication initiatives in the locality?

Yes No

If not, stop the interview and thank the participant.

2. If yes, how frequently do you participate in the implementation of climate communication initiatives in the locality?

Always Sometimes Rarely

3. What communication role do you play as you participate in the implementation of climate communication initiatives in the locality? [Choices were adopted from the instrument used by Galut *et al* (2016).]

Facilitator

Gatekeeper

Information Disseminator

Liaison Officer

Monitoring Agent

Opinion Leader

Others (please specify): _____

4. What communication channels/modalities do you utilize or subscribe to as you participate in climate communication initiatives? [Choices were adopted from the instrument used by Agdinaoay and Undunero (2015).]

- Interpersonal
 - Meeting
 - One-on-one conversation
 - Dialogue
 - Forum
- Mediated
 - Print
 - Broadcast
 - Online (Social Media)
- Others (please specify): _____

5. Why do you participate in the implementation of climate communication initiatives in the locality?

6. Overall, how would you describe your participation in the implementation of climate communication initiatives?

7. What do you think are your contributions based on your participation in climate communication initiatives?

8. If you were to continue with your participation in implementing climate communication initiatives, what would you expect to happen?

III. FACILITATORS AND BARRIERS OF THE PARTICIPATION OF WOMEN IN CLIMATE COMMUNICATION INITIATIVES

[Choices were adopted from the instrument used by Agdinaoay and Undunero (2015).]

1. What do you think are the factors that enable you to participate more effectively in the implementation of climate communication initiatives?
2. What do you think are the hindrances of your participation in the implementation of climate communication initiatives?

COMMUNICATION FACILITATOR	COMMUNICATION BARRIER
<p>Attitudinal/Emotional</p> <p><input type="checkbox"/> Active Participation</p> <p><input type="checkbox"/> Attention to detail</p> <p><input type="checkbox"/> Easy comprehension of information</p> <p><input type="checkbox"/> Open-mindedness</p> <p><input type="checkbox"/> Excitement</p> <p><input type="checkbox"/> Interest</p> <p><input type="checkbox"/> Willingness to Learn</p> <p>Others:</p>	<p>Attitudinal/Emotional</p> <p><input type="checkbox"/> Defensiveness</p> <p><input type="checkbox"/> Resistance</p> <p><input type="checkbox"/> Competitive</p> <p><input type="checkbox"/> Close-mindedness</p> <p><input type="checkbox"/> Boredom</p> <p><input type="checkbox"/> Reluctance to listen</p> <p>Others:</p>
<p>Interpersonal</p> <p><input type="checkbox"/> Belongingness</p> <p><input type="checkbox"/> Acceptance</p> <p>Others:</p>	<p>Interpersonal</p> <p><input type="checkbox"/> Distance from the group</p> <p><input type="checkbox"/> Rejection from the group</p> <p>Others:</p>
<p>Physical/External</p> <p><input type="checkbox"/> Well-ventilated</p> <p><input type="checkbox"/> Silence so that respondents can concentrate</p> <p><input type="checkbox"/> Organized Room/Venue</p> <p>Others:</p>	<p>Physical/External</p> <p><input type="checkbox"/> Not ventilated</p> <p><input type="checkbox"/> Noise</p> <p><input type="checkbox"/> Unorganized Venue</p> <p>Others:</p>
<p>Physiological</p> <p><input type="checkbox"/> Relaxed</p> <p><input type="checkbox"/> Healthy</p> <p>Others:</p>	<p>Physiological</p> <p><input type="checkbox"/> Tense</p> <p><input type="checkbox"/> Unwell</p> <p>Others:</p>

Thank you once again, dear respondent!