

Collective Resilience: Gender Dynamics and
Adaptation to Climate Change in Isan Region,
Thailand

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A thesis submitted to
Auckland University of Technology
in fulfilment of the requirements of the degree of
Doctor of Philosophy (PhD)

2026

School of Acute and Primary Health

Abstract

Climate change has emerged as a significant global challenge, particularly for vulnerable groups in developing countries. In Thailand, rural women in the northeastern (*Isan*) region play a pivotal role in their village livelihoods and climate change adaptation strategies. However, their voices and contributions are often marginalised in policy and decision-making processes. This thesis examines the factors influencing women's adaptation to climate change, including their perceptions and strategies, with the aim of enhancing the engagement of local villagers, particularly women, in climate change adaptation initiatives.

Drawing on critical theory and the Participatory Action Research (PAR) framework, a mixed-methods study was conducted across two villages over five phases of the research process. The NVivo thematic coding system was utilised to analyse the dynamics of women's roles in climate change adaptation within these rural villages.

Five key themes emerged from the thematic analysis: economic challenges; social dynamics and gendered roles in community development; resource management; climate perceptions and adaptive capacity; and collective resilience. Economic challenges, social dynamics and gendered roles in community development and resource management influenced the responses of local women to climate change. Women developed adaptive strategies grounded in generational knowledge and shaped by their perceptions and experiences of climate change. This was reflected in their positive sentiments when discussing successful initiatives and in the negative emotions they expressed when addressing challenges. The vital role of women as leaders and income earners within their villages underscores their function as agents of change. The findings suggest that empowering women in decision-making processes could amplify their voices, fostering collective responses based on the resilience inherent in each village, which were reflected in community forest conservation and maintaining agricultural practices.

This study contributes to the growing body of literature on the intersection of gender and climate change, offering insights into adaptive responses specifically tailored for women. It emphasises the necessity of promoting transformative climate change adaptation. The research advocates for inclusive policy measures that enhance women's agency, support community-based capacity building and resilience, and incorporate gender-responsive strategies into local and national adaptation initiatives.

Table of Contents

Abstract	II
List of Figures	XII
List of Tables	XIV
Glossary	XV
Abbreviation	XVI
Attestation of Authorship	XVIII
Acknowledgements	XIX
Ethics Approval.....	XXI
Chapter 1 Introduction	1
1.1 Background and Context of the Study	1
1.2 Statement of Research Problem	2
1.3 Motivation and Inspiration for the Thesis: Personal Experience and Professional Background	3
1.4 Research Objectives and Research Questions.....	5
1.5 Rationale and Significance of the Study	6
1.6 Research Design.....	7
1.7 Scope of the Study	8
1.8 Outline of the Thesis	9
1.9 Chapter Summary	11
Chapter 2 Literature Review	12
2.1 Purpose and Structure of the Literature Review	12

2.2	Concepts of Women's Involvement in Climate Change Adaptation	15
2.2.1	Definition of Climate Change and Climate Change Adaptation.....	15
2.2.2	International Frameworks on Women in Climate Change Adaptation	17
2.3	Concepts of Women's Participation and Empowerment	21
2.3.1	Enhancement of Women's Empowerment.....	21
2.3.2	Gender Dynamics in Climate Change Adaptation	23
2.4	Multifaceted Influences on Women in Climate Change Adaptation Efforts ..	26
2.4.1	Internal Factors Shaping Women's Involvement in Adaptation Efforts.....	26
2.4.2	External Factors: Intersections of COVID-19, Area-Based Issues and Climate Change	30
2.5	Overview of Isan: Rural Transformation, Gender Dynamics and Climate Adaptation in Northeast Thailand	33
2.5.1	Rural Livelihood Transformation and Diversification.....	34
2.5.2	Gender and Natural Resource Governance	35
2.5.3	Kinship	36
2.5.4	Climate Change Vulnerability in Isan.....	37
2.6	Critical Review of Thailand's Climate Change Adaptation Plans and Policies	39
2.6.1	Structure and Sequence of Mainstreaming of Thailand's National Policies: Top-Down or Bottom-Up Approach.....	40
2.6.2	Climate Change National and Local Policies on Gender.....	42
2.6.3	Conducting PAR in the Research.....	44
2.6.4	A Multi-Sector Application of PAR: Health and Agriculture	45
2.6.5	Employing PAR in Climate Change Adaptation	47

2.7	Critical Analysis of Existing Research	49
2.8	Chapter Summary	51
Chapter 3	Research Design.....	52
3.1	Research Questions	52
3.2	Research Philosophy	52
3.3	Research Paradigm.....	53
3.3.1	Ontology.....	54
3.3.2	Epistemology	55
3.3.3	Axiology.....	55
3.3.4	Methodology	55
3.4	Research Approach: Inductive Approach	56
3.5	Theoretical Framework: Critical Theory in Climate Change Adaptation.....	58
3.6	Methodology: PAR	60
3.6.1	Justification of Employing PAR	61
3.6.2	Challenges and Considerations in PAR	63
3.7	Research Methods	63
3.7.1	Survey	64
3.7.2	Introductory Meeting	64
3.7.3	Life Story Interview	64
3.7.4	In-depth Interview	65
3.7.5	The Seasonal Calendar	65
3.7.6	Transect Walk	66

3.7.7	Ecological Mapping	66
3.7.8	The So-Leh Discussion	67
3.7.9	The Workshop	68
3.7.10	Fieldwork Journal	68
3.8	Participant Recruitment.....	69
3.9	Getting Contact Details	71
3.10	Research Locations	72
3.10.1	Study Sites.....	72
3.10.2	Research Activity Locations and Timings	73
3.11	Data Collection Phases.....	75
3.12	Translation and Transcription	78
3.13	Data Analysis: Thematic Approach	80
3.13.1	Familiarising with Data.....	80
3.13.2	Generating Initial Codes	80
3.13.3	Searching for Themes	81
3.13.4	Reviewing Themes.....	82
3.13.5	Defining and Naming Themes	82
3.13.6	Producing the Report	83
3.14	Data Verification.....	83
3.15	Ethics.....	84
3.15.1	Participant Information Sheet and Consent Form.....	84
3.15.2	Confidentiality	84

3.15.3	Data Recording and Storage Period	85
3.15.4	Power Imbalance	85
3.16	Role of Participants and the Dynamics of Power.....	86
3.17	Role of the Researcher	87
3.18	Reflections on the Dynamics	88
3.19	Chapter Summary	92
Chapter 4	Research Setting I – BLPTM12	94
4.1	Historical Story of the Village	94
4.2	Economy and Livelihoods	95
4.2.1	Transportation	98
4.2.2	Internet and Social Media	98
4.2.3	Food Accessibility.....	99
4.3	Culture and Society	99
4.3.1	Religion.....	100
4.3.2	Festivals and Rituals	100
4.3.3	Politics.....	104
4.3.4	Education	104
4.4	Natural Resources	105
4.4.1	Community Forest.....	105
4.4.2	Water Resources and Water Supply.....	106
4.5	Village Problems.....	107
4.5.1	Water Quality	107

4.5.2	Waste Management.....	107
4.5.3	Air Pollution.....	108
4.6	Development Project Allocation to the Village	108
4.7	Chapter Summary	109
Chapter 5	Research Setting II - BMM5.....	110
5.1	Historical Story of the Village	110
5.2	Economy and Livelihoods	111
5.2.1	The Non-Chemical Vegetable Collaborative Farming Group	112
5.2.2	Land Ownership	114
5.2.3	Transportation	114
5.2.4	Internet and Social Media	115
5.2.5	Food Accessibility.....	115
5.3	Culture and Society	116
5.3.1	Religion.....	116
5.3.2	Festivals and Rituals	117
5.3.3	Politics.....	118
5.3.4	Education	118
5.4	Natural Resources	119
5.4.1	Water Resources	120
5.4.2	Community Forest.....	121
5.5	Village Problems.....	123
5.6	Development Project Allocation to the Village	124

5.7 Chapter Summary	125
Chapter 6 Findings.....	127
6.1 Critical Discourse on Climate Change Adaptation from Women's Perceptions	127
6.1.1 Climate Change from Participants' Understanding	127
6.1.2 Climate Change Adaptation from Participants' Experience	130
6.2 Emergence of Themes in the Findings.....	134
6.3 Findings I: What factors influence women in adaptation to climate change, and how do these factors impact women in their livelihoods?	136
6.3.1 Theme I: Economic Challenges	136
6.3.2 Theme II: Social Dynamics and Gendered Roles in Community Development	141
6.3.3 Theme III: Resource Management.....	156
6.4 Findings II: How Have Women Perceived and Adapted to Climate Change Issues at the Village Level?.....	159
6.4.1 Theme IV: Climate Perception and Adaptive Capacity	159
6.5 Findings III: How Have Women Enhanced Their Capacities to Respond to Climate Change Adaptation in the Northeast, Isan Region, of Thailand?	163
6.5.1 Collective Resilience.....	164
6.6 Sentiment Analysis of Participants	173
6.6.1 Very Positive.....	174
6.6.2 Moderately Positive	174
6.6.3 Moderately Negative.....	175
6.6.4 Very Negative	175
6.6.5 Summary of Sentiment Analysis.....	176

6.7	Chapter Summary	177
Chapter 7	Discussion	179
7.1	Summary of the Findings	179
7.1.1	Key Findings I: Economic Challenges, Social Dynamics and Gendered Roles in Community Development, and Resource Management.	179
7.1.2	Key Findings II: Climate Perception and Adaptive Capacity	180
7.1.3	Key Findings III: Collective Resilience.....	181
7.2	Discussion of the Findings in Relation to the Existing Literature	182
7.2.1	Climate Change Concept	182
7.2.2	Economic Challenges, Social Dynamics and Gendered Roles in Community Development and Resource Management.....	184
7.2.3	Climate Perception and Adaptive Capacity	187
7.2.4	Collective Resilience - Collective Action and common management.....	189
7.2.5	Comparative Insights on Gender and Climate Change Adaptation	195
7.3	Critical Theory Implications	201
7.3.1	Contributions to the Critical Theory	201
7.3.2	Reflection on the Process of PAR.....	203
7.4	Policy Implications and Recommendations	204
7.5	Chapter Summary	208
Chapter 8	Conclusion	209
8.1	Significance of the Study	209
8.2	Contributions to the Knowledge	210
8.3	Limitations of the Thesis.....	212

8.4	Recommendations for Future Research	213
8.5	Chapter Summary	215
8.6	Final Reflection and Closing Statement.....	215
References		218
Appendices		236
Appendix A: Ethics Approval.....		236
Appendix B: Participant Information Sheets		237
Appendix C: Consent Form		283
Appendix D: Questions		291
Appendix E: Thematic Coding System.....		305

List of Figures

Figure 1: The Research Design	54
Figure 2: PAR Cycles	61
Figure 3: PAR Process in this Thesis	75
Figure 4: Code Groups Arose from the Combined Analysis of Research Activities	82
Figure 5: Location of Study Areas	95
Figure 6: Google Map with a Satellite View of BLPTM12.....	96
Figure 7: A Monk in the Community Forest During Transect Walk	106
Figure 8: Google Map with Satellite View of BMM5	111
Figure 9: Non-Chemical Vegetable Farms in BMM5	113
Figure 10: Solar Panels in BMM5	120
Figure 11: Nong No Swamp	121
Figure 12: <i>Don Pu Ta</i> in the Community Forest and Transect Walk in BMM5	122
Figure 13: <i>So-Leh</i> Discussion in the Two Villages.....	128
Figure 14 Mapping of Themes and Code Groups.....	135
Figure 15: The Relationship of Codes Regarding Women's Roles	147
Figure 16: The Findings of Participants' Voices in the Villages	149
Figure 17: Seasonal Calendar of BMM5	151
Figure 18: Seasonal Calendar of BLPTM12.....	151
Figure 19: The Findings on the Main Research Question.....	164
Figure 20: Women's Voices of BLPTM12 in Their Capacity	166

Figure 21: Herbal Garden Signs in the Community Forest.....	168
Figure 22: Installing a Permanent Metal Sign Promoting a Herbal Garden	169
Figure 23: Participants in BLPTM12 in Evaluation Phase	169
Figure 24: Women’s Voices of BMM5 in Their Capacity	170
Figure 25: BMM5 Women’s Group at Bang Lamphu Fresh Market.....	172
Figure 26: Sentiment Results of Research Fieldwork.....	176
Figure 27: Comprehensive Framework for Understanding How Women’s Agency Influences Local Adaptive Strategies of BLPTM12	191
Figure 28: Comprehensive Framework for Understanding How Women’s Agency Influences Local Adaptive Strategies of BMM5	192

List of Tables

Table 1: The Search Process of the Literature Review	13
Table 2: Inclusion and Exclusion Criteria for Literature Selection	14
Table 3: Projected Risk of Climate Change on the Scenario in Khon Kaen.....	38
Table 4: Summary of Plans and Policies on Climate Change in Thailand	42
Table 5 : Number of Participants in the Data Collection Process.....	69
Table 6: Research Locations in Each Research Activity	73
Table 7: Twelve Festivals in <i>Isan</i>	101
Table 8: Code Name and Description in Participation Group	147
Table 9: Codes in Gender Disparities and Roles Code Group.....	149
Table 10: Comparative Gender Dynamics in Climate Change Adaptation in BLPTM12 and BMM5	196
Table 11: Themes, Code Groups and Codes Used to Categorise Type of Codes.....	305

Glossary

<i>Ban</i>	Village
<i>Boon</i>	Merit-making or charitable events, often tied to Buddhist rituals
<i>Don Pu Ta</i>	A place where an ancestral spirit house is located
<i>Hiet Sibsong Kong Sibsei</i>	Twelve festivals and fourteen moral-ethics codes
<i>Isan</i>	The northeastern region of Thailand
<i>LINE</i>	A communication application service widely available and used by Thai and Asian people
<i>Long Khaek</i>	A kind of reciprocal work exchange in Thailand
<i>Loog or Lah</i>	A little one-used by elders to address younger people
<i>Mae</i>	Mother-used respectfully to address older women
<i>Moo</i>	Sub-unit in a Thai village
<i>Phuyaiban</i>	Village headman
<i>Pid Thong Lung Pra</i>	Doing good deeds without expecting recognition
<i>Por</i>	Father-used respectfully to address older men
<i>Pu Ta or Por Pu</i>	An ancestral spirit believed to serve as a protector of the village
<i>Rai</i>	A unit of area for measuring land area in Thailand
<i>So-Leh</i>	A culturally specific group discussion process in the <i>Isan</i> region of Thailand

Abbreviation

AUT	Auckland University of Technology
AUTEC	Auckland University of Technology Ethics Committee
BAU	Business As Usual
BLPTM12	Ban Lao Phon Thong Moo 12
BMM5	Ban Mor Moo 5
COP	Conference of the Parties
COVID-19	Coronavirus outbreak named by the World Health Organisation on 30 December 2019 in China
DCCE	Department of Climate Change and Environment
FAO	Food and Agriculture Organisation of the United Nations
GDP	Gross Domestic Product
GHG(s)	Greenhouse Gas(es)
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
NAP(s)	National Adaptation Plan(s)
NDC(s)	Nationally Determined Contribution(s)
NESDB	Office of the National Economic and Social Development Board
NESDC	Office of the National Economic and Social Development Council
NESDP	National Economic and Social Development Plan
ONEP	Office of Natural Resources and Environmental Policy

PAR	Participatory Action Research
PM	Particulate Matter
SDG(s)	Sustainable Development Goal(s)
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNHCR	Office of the United Nations High Commissioner for Human Rights
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
VHV(s)	Village Health Volunteer(s)

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

Signed: _____

(Wilailak Maiwong)

Date 31 March 2026

Acknowledgements

I finally have the opportunity to write this part of my academic journey, which represents not only the culmination of my academic journey but also a personal reflection on my contribution to community development in Thailand, my homeland. I am sincerely grateful to all who have contributed to this challenging but rewarding journey. Without their contributions, this thesis would not have been possible.

First and foremost, I would like to express my heartfelt gratitude to my fantastic supervisory team. My deepest appreciation goes to my principal supervisor, Professor Dame Marilyn Waring, for her invaluable guidance, encouragement, and constructive feedback throughout this research. It has been an honour to be one of your students. I am profoundly grateful to Professor John F. Smith for his kindness, warm heart, insightful comments, and countless pieces of guidance, all of which have greatly enriched this study. I would also like to extend my heartfelt thanks to Dr. Karen Webster and Dr. Juliet Boon for their continuous support and active provision of feedback. Your intellectual guidance, patience, and encouragement have been essential in shaping my academic growth and making me feel at home in New Zealand, a place I now call my home. Thank you all for being with me throughout my PhD journey.

I would also like to acknowledge Auckland University of Technology (AUT) for providing an intellectually stimulating environment and administrative support throughout my study period. AUT also provided financial support for fieldwork in Thailand, which enabled me to conduct and complete this thesis.

I am especially thankful for the financial support I received from two scholarships during my PhD studies. I could not have pursued my studies in New Zealand without the full scholarship granted by the Office of the National Economic and Social Development Council (NESDC), which enabled me to fulfil my dream, not only of my PhD but also of my master's degree in 2016. I would also like to recognise the kindness of my bosses at NESDC for supporting and allowing me to study without hesitation. I am also deeply honoured to be the first recipient of the Nicholas Tarling Memorial PhD Scholarship in 2021.

Special gratitude goes to all participants in the villages of Ban Mor Moo 5 (BMM5) and Ban Lao Phon Thong Moo 12 (BLPTM12), who generously shared their time, experiences, and wisdom with me. Their stories of resilience, local knowledge, and strength in the face of climate change challenges have been profoundly and deeply valuable to this thesis. Their voices are meaningful in this thesis. I hope they are proud of their stories and contributions to this thesis.

My sincere thanks also go to Nikorn Phumsaenkhot, my colleague at NESDC, and Vittavat Jantaree, the chief of Ban Wa sub-district administrative organisation, for their expertise in the study areas and invaluable connections that enabled the fieldwork.

On a personal note, I am forever grateful to my big warm family; my parents, siblings, nieces, and husband for their unconditional love and unwavering moral support throughout my life. I dedicate this thesis to all of you. Without all of you, I would not be who I am today.

Lastly, I acknowledge the use of Microsoft Copilot (<https://copilot.microsoft.com>), Grammarly (<https://www.grammarly.com>), and ChatGPT (<https://chat.openai.com>) as tools to assist in proofreading my thesis only. With the Generative AI outputs, I maintained full responsibility for selecting, analysing, and interpreting the thesis in accordance with AUT guidelines and academic integrity.

Kob Khun Ka

Thank you

Ngā mihi Nui

Ethics Approval

The Auckland University of Technology Ethics Committee (AUTEC) approved this research on 10 February 2023. The approval is valid for three years from 10 February 2023 to 10 February 2026. Ethics application number: 22/378.

Chapter 1 Introduction

This chapter begins by underscoring the paramount significance of climate change adaptation for Thailand, with particular emphasis on the challenges that must be addressed in the Northeastern region, known as *Isan*. It outlines the background pertinent to this research and articulates the research problem. Furthermore, it elucidates the motivation behind this thesis, encompassing the research rationale, design, scope, limitations, and concludes with a synopsis of the thesis's organisational structure.

1.1 Background and Context of the Study

Climate change has become a significant and unpredictable challenge, posing substantial risks globally, particularly in developing countries, including Thailand. As Thailand was ranked as the seventeenth most affected country by extreme weather events in 2024, it faced substantial climate-related vulnerabilities (Adil et al., 2025). The Thai government has actively engaged in international climate initiatives, contributing to global efforts to control the rise in average temperatures (Sribuaiaam, 2016) and committing to being a net-zero emission country by 2065 (Office of Natural Resources and Environmental Policy and Planning [ONEP], 2022a). This ambition signifies Thailand's strong commitment to global efforts in mitigating and adapting to climate change.

Despite the nation's significant commitments to international climate initiatives, considerable challenges remain in implementing effective, inclusive adaptation strategies. These challenges are particularly related to gender-specific vulnerabilities and the difficulties encountered in regions such as the *Isan* region. The growing body of evidence indicates that climate change impacts genders differently, with women often experiencing more severe and disproportionate consequences due to entrenched socio-economic inequalities. For instance, women are 14 times more likely than men to perish during climate-related disasters, a disparity attributed to caregiving responsibilities, mobility limitations, and reduced access to information and resources (Okai, 2022).

Women and children constitute the majority of those displaced by conflicts. They are especially vulnerable to the impacts of climate change, as they are frequently responsible

for securing food, water, and fuel for their families. These responsibilities exacerbate their exposure to environmental threats (Office of the United Nations High Commissioner for Human Rights [UNHCR], 2022).

Economically, rural households led by women are more severely affected by climate extremes, incurring significantly higher income losses of 8% from heat stress and 3% from floods than those headed by men (Food and Agriculture Organisation of the United Nations [FAO], 2024). In the agricultural sector, where women constitute a significant proportion of the workforce in developing nations, changing weather patterns have an unequal impact on their productivity and food security (Yavinsky, 2012). In a health context, climate change exacerbates reproductive risks such as preterm births and congenital anomalies due to increasing heat exposure (Sorensen et al., 2018). Moreover, women are especially exposed to indoor air pollution resulting from traditional cooking methods, which elevates the risk of respiratory and cardiovascular diseases (Sorensen et al., 2018).

Notwithstanding their heightened vulnerability, women continue to be underrepresented in decision-making bodies and climate policies, which limits their influence on solutions that directly affect them (Chauhan & Kumar, 2016). These gender dynamics underscore the urgent need for climate-responsive initiatives that promote equity and resilience within policymaking processes at both local and national levels.

1.2 Statement of Research Problem

Despite Thailand's substantial progress in addressing climate change through international commitments as well as national plans and policies, a notable gap persists between policy formulation and local implementation. The country has revised and enacted climate change strategies, policies, and legislation at both national and regional levels to guide its mitigation and adaptation initiatives. These efforts demonstrate Thailand's commitment to environmental sustainability and recognise climate change as an urgent issue. Although understanding of climate change has increased, national policies often adopt a top-down approach, thereby neglecting local knowledge and failing to engage communities in participatory decision-making processes. Additionally, they lack explicit guidelines that incorporate gender perspectives or strategies to empower women in climate adaptation.

A critically overlooked dimension of this policy implementation gap relates to gender dynamics and the differing roles of men and women. Women living in rural Thailand face structural obstacles that hinder their active involvement. Specifically, rural *Isan*, the focus of this thesis, is particularly susceptible to the impacts of climate change, notably droughts and floods that endanger agricultural livelihoods. Nevertheless, local awareness and adaptive capacity remain limited. Furthermore, women also bear responsibilities related to caregiving and household duties, which often restrict their participation in community activities. Consequently, women's voices and contributions to climate adaptation strategies are frequently marginalised.

Hence, this thesis aims to analyse how women in rural *Isan*, with particular emphasis on gender dynamics in adaptation efforts, have enhanced their capacities to respond to climate change. It examines the development of bottom-up decision-making and locally driven adaptation strategies at the village level, with a specific focus on women's participation in climate resilience initiatives. By exploring gendered dynamics in climate change adaptation in Thailand, this thesis contributes to the formulation of more inclusive and effective climate change policies, particularly at the local level, where communities are better equipped to recognise and understand the changes occurring within their regions.

1.3 Motivation and Inspiration for the Thesis: Personal Experience and Professional Background

The motivation for this research stemmed from the intersection of my professional experience in climate policy analysis, personal background in the *Isan* region, and scholarship priority. These interconnected factors have sparked a strong interest in the gendered dimensions of climate change, motivating my focus on gender dynamics and adaptation strategies in Thailand.

I was born and raised in Khon Kaen, where I obtained both my bachelor's and master's degrees in economics from Khon Kaen University. Before joining the Office of the National Economic and Social Development Board (NESDB), a predecessor to the NESDC, in 2009, I gained experience working in the Thailand Board of Investment for two years.

With over a decade of experience, my work has evolved from regional development planning to a specialised focus on climate change plans and policies. My career commenced at the Khon Kaen regional office, where I analysed regional and provincial development plans and monitored government policies. This role entailed direct engagement with rural communities and local government units.

In 2016, I was awarded a scholarship by the NESDB to pursue a second master's degree in Development Studies at the University of Auckland, New Zealand. During this period, I acquired a more comprehensive understanding of equality dynamics, encompassing not only gender but also other facets of life. Following my graduation, I returned to Thailand and, in 2019, transferred to the NESDC headquarters in Bangkok, where I have been engaged in tasks related to climate change issues since then.

Initially, I possessed limited expertise in the field of climate change, despite attending several seminars and acquiring foundational knowledge on this subject. Subsequently, my former director nominated me to attend an international climate change conference in Germany, where I recognised that climate change encompasses more than environmental concerns, extending to social and economic dimensions. As a representative of the Thai government, I participated in pre-sessions at the Conference of the Parties (COP) in Bonn, Germany (May 2019), and at COP25 in Madrid, Spain, in December 2019. These experiences prompted my participation in a negotiation group known as Response Measures, which addresses policy-related issues. However, upon reviewing the negotiation schedules, the discussions on gender drew my attention. Consequently, I was honoured to be nominated by NESDC to engage in a climate change cooperation project in 2020, with a focus on climate finance and the role of women in climate action within Thailand. This assignment progressively enhanced my understanding of the interconnections between climate change and related matters. Furthermore, serving as a representative facilitated my engagement with key stakeholders involved in Thai climate change policymaking.

Beyond my professional endeavours, my personal experiences have significantly influenced my research focus. I was born in Khon Kaen, an *Isan* province, and I frequently travel between Bangkok and my hometown. Discussions with my relatives and neighbours disclosed that, although they are acquainted with the term “climate change”, they often find it challenging to comprehend its actual implications for their livelihoods. This issue is especially pertinent for rural *Isan* women, who form the backbone of

agricultural labour yet remain marginalised in climate adaptation discussions. I realised that this misunderstanding was not confined to local communities; many of my colleagues in the public sector also lacked a clear understanding of the connection between climate change and gender issues. During the development of my PhD proposal, I encountered surprise and scepticism from individuals questioning the relationship between climate change and gender. This experience strengthened my resolve and motivation to pursue research on this subject.

Last but not least, my motivation was the scholarship criteria. The NESDC scholarship prioritises PhD studies, with climate change research ranking within the top ten areas. Consequently, I applied for this scholarship and was successful.

These reasons prompted my investigation into gender dynamics and climate change adaptation in Thailand's *Isan* region. As a Thai scholar, I undertook this study to foster positive change, acknowledging that the insights and expertise gained through this research could serve as valuable assets in my role as a planning and policy analyst. Ultimately, this endeavour aspires to make a meaningful contribution to the advancement of Thai society. Effective policies must be inclusive and participatory, incorporating the perspectives of all sectors of society.

1.4 Research Objectives and Research Questions

The primary objective of this thesis is to empower local villagers, with a focus on women, to take a more active role in making decisions about how their villages adapt to climate change. Given the persistent disparity between top-down policy frameworks and grassroots adaptation initiatives, it is essential to understand women's decision-making processes to bridge this divide and foster more inclusive policies.

The main research question is:

How have women enhanced their capacities to respond to climate change adaptation in the Northeast, *Isan*, region of Thailand?

The sub-questions are:

- (1) How have women perceived and adapted to climate change issues at the village level?
- (2) What factors influence women in adaptation to climate change, and how do these factors impact women in their livelihoods?

1.5 Rationale and Significance of the Study

This thesis holds significance across four primary domains. Firstly, pursuant to Article 15 of the NESDC Act, the NESDC serves as a central policy entity responsible for formulating national plans on a quinquennial (5-year) basis, which explicitly incorporates community participation as a foundational element in the planning process (NESDC, 2018a). The legislation emphasises the need for all sectors of society to be involved equitably in decision-making processes, particularly in the development and implementation of programmes at various levels (NESDB, 2017). It is imperative to ensure that the voices of local communities are integrated into policymaking to address their needs and preserve their livelihoods effectively. Although public participation is broadly acknowledged as vital for the success of policy initiatives, its practical application remains limited. The present research endeavours to address this discrepancy by emphasising grassroots involvement in climate adaptation strategies.

Second, this thesis underscores the gender dynamics associated with climate change, emphasising how women's livelihoods, roles, and participation are both limited and influenced by climate-related risks. Despite the existence of Thailand's climate policies, considerations of gender are substantially absent from both national and local adaptation strategies. By focusing on women's decision-making processes in climate adaptation, this study contributes to broader discussions on women's empowerment. Significantly, its findings have the potential to inform policymakers on the development of more inclusive adaptation strategies that acknowledge women's specific needs and contributions.

Third, the thesis emphasises *Isan*, one of the regions that is most susceptible to climate change, which frequently encounters escalating risks such as droughts, floods, and extreme temperatures, thereby jeopardising local livelihoods. From an economic perspective, this underscores the critical necessity for localised adaptation strategies to safeguard livelihoods. As reported by NESDC (2022), *Isan* has the lowest Gross Domestic Product (GDP) per capita in Thailand, accounting for merely 10.17% of the

national GDP despite hosting 26.54% of the population and 42.72% of the country's agricultural land. This economic imbalance, combined with the risks associated with climate change, disproportionately impacts rural communities, particularly women. *Isan* possesses distinctive cultural characteristics, norms, festivals, language, and resources. A thorough understanding of these local factors is essential for designing more effective and contextually relevant climate resilience interventions. Drawing on my personal experience as an *Isan* woman who has resided and worked in the region, this thesis examines the key factors that have significantly impacted their livelihoods.

Ultimately, this thesis contributes to the academic discourse on climate change adaptation within the Global South, with a particular emphasis on Southeast Asia, where gender considerations have been a central focus of attention. The results of this investigation may serve as a foundational basis for subsequent research and as a valuable reference for other developing nations confronting unforeseen challenges posed by climate change.

1.6 Research Design

This thesis adopts PAR as its primary methodology to investigate gender dynamics and climate change adaptation in rural *Isan*. PAR was chosen because adaptation is embedded in everyday practices, social relations, and locally situated knowledge systems. Its emphasis on collaboration, reflexivity, and shared knowledge production aligns with the study's Critical Theory framework, particularly its concern with dynamics of power and lived experience. The research followed an inductive, qualitatively dominant mixed-method design implemented across five phases of fieldwork. NVivo software was used to systematically identify thematic and sentiment patterns across these phases, supporting rigorous and transparent analysis.

Phase I: Scoping Phase – Surveys were conducted to gather general insights from village headmen, providing an initial understanding of the local context. Additionally, introductory meetings were held to explain the research objectives, outline key details and processes, and recruit potential participants for the study.

Phase II: Practical Phase – Life story interviews were conducted with one elderly man and one elderly woman from each village to document the historical experiences of climate change. Additionally, a seasonal calendar analysis and transect walks were

undertaken within the community forest to observe environmental changes. Immediately after the transect walk, ecological mapping was conducted, using insights from the walk to create community maps. Participants collaborated to verify and refine the collected data. Furthermore, nine women from the two villages participated in in-depth interviews to share their personal adaptation experiences.

Phase III: Analysis Phase – Following data collection, *So-Leh* discussions (a culturally specific group discussion process) were organised in each village, bringing together both men and women to review, discuss, and validate the collected data.

Phase IV: Learning and Sharing Phase – Workshops were conducted in each village following the analysis phase. These workshops were exclusively designated for female participants, providing them with a platform to share their insights and collaboratively identify climate adaptation initiatives based on their lived experiences. Phases I-IV were conducted between April and May 2023.

Phase V: Evaluation Phase – I returned to the villages in January 2024 to monitor progress and gather feedback on the climate adaptation initiatives developed in Phase IV. In this phase, *So-Leh* discussions were conducted to evaluate the outcomes and refine adaptation strategies further.

1.7 Scope of the Study

Although this thesis aims to provide in-depth insights into climate change adaptation efforts in Thailand's *Isan* region, it is essential to acknowledge factors that may limit the generalisability of the research. The following points delineate five key aspects of the study's scope and potential limitations that could influence how the findings are interpreted and generalised.

Firstly, the definition of climate change in this thesis relates to the average weather conditions, encompassing its mean and variability, over a designated period and geographical area. This thesis primarily examines climate change adaptation in response to extreme weather events, including the impacts of droughts, floods, and heat. It explicitly excludes mitigation strategies. In Thai policy frameworks, mitigation pertains to four principal sectors (detailed in Chapter 2). dedicated to reducing greenhouse gas (GHG) emissions, whereas adaptation sectors are directly associated with local

communities' understanding, perceptions, and strategies.

Secondly, the geographic focus on the *Isan* region may limit the generalisability of the findings to other areas within Thailand. These regions exhibit unique characteristics, including ethnic compositions, occupational practices, agricultural activities, religions, and dialects. Such socio-economic factors might influence perceptions and adaptations to climate change across diverse regions.

Thirdly, the thesis employed a mixed-methods approach, primarily utilising qualitative tools to obtain in-depth, contextual insights into local perceptions of climate change and adaptation strategies, with particular emphasis on the role of women. A survey was conducted to gather demographic statistics and general information for each village (detailed in Chapters 3 and 4). This thesis does not incorporate intermediate or advanced quantitative tools, such as econometrics, which may result in a limited scope of analysis and overlook the broader implications of climate change.

Fourthly, fieldwork was conducted in two purposively selected *Isan* villages, representing areas prone to drought and flooding. Key informants included local villagers, with a particular emphasis on women involved in adaptation initiatives. Due to time and resource limitations, further compounded by the COVID-19 pandemic, the study was confined to these two villages exclusively.

Lastly, the thesis explicitly examines the gender dynamics of rural villagers in *Isan*, with particular emphasis on their responses to the challenges of climate change. It focuses on the experiences of men and women in adaptation, while recognising that gender diversity is inclusive.

1.8 Outline of the Thesis

This thesis comprises eight chapters. Below is a brief outline of each.

Chapter 1: Introduction provides an overview of the research project with the personal and professional background of the researcher. The aims of this thesis and research objectives are described, followed by the rationale and significance of this thesis. It provides a brief description of the research methodology, including the scope of the study.

Chapter 2: The literature review discusses seven main topics. These include concepts related to women's involvement in climate change adaptation, as well as their participation and empowerment, and factors that can enhance women's empowerment. Furthermore, this chapter examines the influences and aspects of life that shape women's involvement in adaptation efforts. Also, it investigates the impact of COVID-19 on these dynamics, providing a contemporary context for the analysis. Lastly, I present a critical review of Thailand's climate change plan, along with an overview of *Isan*, to illustrate how the *Isan* region is being affected by climate change.

Chapter 3: This chapter describes the research design, including the methodology and methods employed in this qualitative research thesis. It introduces how to conduct research using PAR, the chosen principal methodology, in two villages in *Isan*, Thailand. I detail the research methods and processes employed in conjunction with PAR. Ethical considerations concerning the conduct of this research are also outlined here.

Chapter 4: This chapter provides background information on Research Village 1: BLPTM12, outlining the village's context, including its history, economy, livelihood, culture, society, natural resources, and existing issues as of 2023. It highlights the community's awareness of climate change and examines the roles of women within the village.

Chapter 5: This chapter describes the background information on research village 2: BMM5. It provides an overview of the second village's historical background, economic and livelihood aspects, cultural and social dimensions, its critical natural resources, and prevalent challenges. I describe the village's understanding of climate change and the roles played by women, particularly in non-vegetable farming, which is a notable feature of this village.

Chapter 6: The findings chapter presents how the codes and relationship types that emerged from the ten fieldwork activities in the two villages were analysed. The chapter presents a critical discourse on climate change from the villagers' perspectives and explores the role of women in climate change adaptation. I compare the contexts of each village regarding climate change using a relationship function analysis, and illustrate the decision-making proposed by participants in each village for climate change adaptation. The final section is an analysis of the roles of women in the two villages.

Chapter 7: The discussion synthesises and elaborates on the key findings in relation to

the research questions. It provides an in-depth analysis of the adaptation strategies employed by women, the factors influencing their involvement in climate change adaptation, and the recommendations for enhancing their capacities.

Chapter 8: The conclusion of the thesis summarises the findings and assesses the limitations of the study. It offers contributions to policy, practice, and future research.

1.9 Chapter Summary

This chapter establishes the foundation for this thesis. It commenced with an exposition of the background of climate change and its significance, underscoring Thailand's susceptibility to its impacts, particularly within the *Isan* region. The chapter emphasised the gendered dimensions of climate change, highlighting the necessity for inclusive adaptation strategies that accommodate the challenges faced by women in *Isan*. The research issues were examined to substantiate the study, followed by insights into the motivation for the research, the formulated questions, and an explanation of its rationale and importance. The research objectives, questions, design, scope, and limitations were delineated to provide a comprehensive overview of this thesis.

Building on this foundation, the subsequent chapter critically examines pertinent literature to position the study. It will explore established academic and policy discourses concerning climate change, gender dynamics, and adaptation strategies, with a particular emphasis on the context of Thailand and the *Isan* region.

Chapter 2 Literature Review

This chapter critically analyses the literature on women's perceptions, contributions and encounters with climate change in Thailand. The chapter also includes an overview of the *Isan* region and its connection to the climate. By delineating key debates and identifying gaps in current research regarding women's adaptation, it establishes a foundation for subsequent discussions on international and national policy frameworks. Additionally, the chapter examines how PAR has been applied across various fields and evaluates its relevance to existing research.

2.1 Purpose and Structure of the Literature Review

This section outlines the approach used to form the search process and structure the literature review. The process of conducting the literature review consisted of multiple steps. I began by organising my thoughts to identify key ideas and refine keywords associated with my research topics. I employed Boolean operators and wildcards to enhance my search results. For instance, I combined different keywords into precise phrases, such as "climate change," by using double quotation marks (".."). The asterisk (*) symbol was used to capture multiple word forms, such as adaptation, adapt, or adaptive. The search for articles and related documents was predominantly sourced from the AUT Library's databases and Google Scholar. Key academic repositories such as ScienceDirect, Scopus, and SpringerLink were extensively utilised. Table 1 outlines the specific keywords and search queries used in this systematic approach to ensure relevance and precision. To organise the selected literature, I categorised the articles based on the research questions. I identified themes to illustrate in my organisation process, showing how articles were classified and how themes were mapped to the research questions.

The literature search process was conducted to ensure comprehensiveness and relevance. These relevant literature papers mainly focus on qualitative research rather than statistical or quantitative analysis. Qualitative studies provide deeper insights into women's perspectives, decision-making processes, and social dynamics, aligning with the epistemic priority given to their experiences in this thesis.

Table 1: The Search Process of the Literature Review

Research Questions	Keywords
Main Research Question: How have women enhanced their capacities to respond to climate change adaptation in the Northeast, <i>Isan</i> , region of Thailand?	“climate change” AND (build*OR capacit* OR empower*) AND (women* OR woman* OR gender*) AND (<i>Isan</i> * OR Isaan* or Esan* OR Northeast*) AND Thailand*
Sub-Question 1: How have women perceived and adapted to climate change issues at the village level?	“climate change” AND (adapt* OR resilien*) AND (women* OR woman* OR gender*) AND Northeast* AND Thailand*
Sub-Question 2: (2) What factors influence women in adaptation to climate change, and how do these factors impact women in their livelihoods?	“climate change” AND factor* AND (women* OR woman* or gender*) AND Northeast* AND Thailand*

Note: Table compiled by the author.

The literature search covered the period from 2002 to 2025, encompassing the period following Thailand’s ratification of the Kyoto Protocol, which marked a substantial rise in academic research related to climate change. The inclusion and exclusion criteria employed for article selection are delineated in Table 2 below.

Following the search, a selection and evaluation process was undertaken. This process involved systematically scanning through and screening the search results to identify and select relevant articles. The criteria for selection included relevance to the research questions, publication quality, and publication date. Each selected article was read in greater detail to ensure it provided valuable insights and data pertinent to the thesis. A thorough content analysis was conducted to align with the thesis’s objectives and ensure consistency with the research questions.

The main limitation of this process was the lack of case studies in the *Isan* region. Despite this, the scoping review identified a comprehensive body of literature that provided key insights into gender and climate change adaptation relevant to this thesis.

Table 2: Inclusion and Exclusion Criteria for Literature Selection

Type	Inclusion Criteria	Exclusion Criteria
Relevance	Articles must address topics related to women and climate change adaptation	Articles that do not directly discuss women in climate change adaptation or that focus on unrelated dimensions of climate change
Geographical Focus	Studies focused on Asia, Southeast Asia, neighbouring countries, especially the <i>Isan</i> region, Thailand	Studies focused on regions outside Asia countries unless it is relevant to the research questions
Publication Period	Research published from 2002 to 2025, corresponding with the period after Thailand ratified the Kyoto Protocol	Research published before 2002 was excluded unless it was foundational to understanding subsequent developments
Type of Literature	Both academic and grey literature, including journal articles, theses, government reports, and other publications	Purely theoretical works without empirical data, or articles with a primary focus on highly technical climate science without social or gendered analysis
Methodological Approach	All types of methodologies were considered	-
Language	Publications in English or Thai were included to ensure comprehensive coverage	Non-English and non-Thai publications were excluded

Note: Table compiled by the author.

The contents of the literature review are divided into six main sections:

(1) Concepts of women's involvement in climate change adaptation. This part will include a definition of climate change. The purpose is to focus on the general meaning of climate change, particularly in the context of adaptation.

(2) Concepts of women's participation and empowerment. This segment will offer an

overview of how gender relates to climate change within the international framework.

(3) Multifaceted Influences on women in climate change adaptation efforts. This section will explore the factors that influence and shape women's participation in adaptation efforts. It will also examine the impact of COVID-19 on these dynamics, providing a contemporary context for the analysis.

(4) Overview of the *Isan* region and climate change. This section will outline the characteristics of *Isan* and other pertinent aspects associated with climate change.

(5) Critical review of Thailand's climate change adaptation plans and policies. The review will assess existing plans and policies in Thailand. Additionally, this section will determine the suitability of PAR for this research in studying women's adaptation efforts, highlighting the challenges and opportunities in data collection and analysis.

(6) The last section is a critical evaluation of existing research. This section will identify gaps in the current literature.

This structure is designed to align with gender-focused adaptation studies in *Isan* and the research questions explored in the relevant studies presented in the following sections.

2.2 Concepts of Women's Involvement in Climate Change Adaptation

Women's involvement in climate change adaptation has been extensively examined for decades. Nonetheless, it is crucial to have a clear definition of climate change adaptation and to understand its progress regarding women within a global framework. This is essential for promoting inclusivity and actively empowering women to participate in climate change initiatives.

2.2.1 Definition of Climate Change and Climate Change Adaptation

According to the United Nations [UN] (1992), it clearly stated that "Climate change means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere, and which is in addition to natural climate variability observed over comparable periods" (p.3). The Intergovernmental Panel on Climate Change [IPCC] defines this specific term in its report as;

Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use (IPCC, 2019, p.808).

These two definitions distinguish between natural climate variability and that caused by human activities. While UN (1992) attributed climate change specifically to human activities that alter the atmosphere's composition, the IPCC (2019) acknowledged both natural and anthropogenic drivers. This differentiation is crucial in understanding the extent of human influence on the global climate system and the necessity of adaptation strategies to address these changes.

Climate change is addressed through two primary approaches: mitigation and adaptation. Mitigation concentrates on initiatives that focus on reducing GHG emissions and enhancing carbon sinks. Adaptation involves actions aimed at minimising vulnerability to the anticipated influences of climate change, such as food and water insecurity, extreme weather events, rising sea levels, and biodiversity loss (United Nations Development Programme [UNDP], 2024).

As a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), Thailand has systematically incorporated climate change considerations into its national, sectoral, and local policy frameworks to promote the development of effective strategies. According to the Department of Climate Change and Environment [DCCE] (2023), the revised National Adaptation Plan (NAP) submitted to the UNFCCC highlights six core sectors, including water resources management, agriculture and food security, tourism, public health, natural resource management, and human settlements and security. These priorities underscore the nation's dedication to strengthening resilience across multiple sectors in an effort to address climate-related challenges.

After recognising the meaning of climate change, it is essential to establish a common understanding of its impacts, which refers to

...the consequences of reali[s]ed risks on natural and human systems, where risks result from the interactions of climate-related hazards (including extreme weather and climate events), exposure, and vulnerability. Impacts generally refer to effects on lives; livelihoods; health and well-being; ecosystems and species; economic, social and cultural assets ... (IPCC, 2019, p. 815).

The impacts of climate change are associated with extreme weather events. The

Intergovernmental Panel on Climate Change (IPCC) (2019) defines it as

...An event that is rare at a particular place and time of year. Definitions of rare vary, but an extreme weather event would normally be as rare as or rarer than the 10th or 90th percentile of a probability density function estimated from observations. By definition, the characteristics of what is called extreme weather may vary from place to place in an absolute sense. When a pattern of extreme weather persists for some time, such as a season, it may be classed as an extreme climate event, especially if it yields an average or total that is itself extreme (e.g., drought or heavy rainfall over a season) (p. 813).

This thesis adopts the definition of climate change as described by the IPCC. The primary emphasis is placed on climate change adaptation, underscoring the necessity for proactive measures to address its impacts as perceived by local people across different generations. In the *Isan* region, agriculture and natural resource management are particularly crucial sectors. Consequently, the main focus is on the impacts of extreme weather events in *Isan*, such as droughts and floods, because of their increased vulnerability to climate variability. These considerations lead into the subsequent section, which examines the extent to which women's participation in adaptation initiatives is either supported or constrained by the international framework.

2.2.2 International Frameworks on Women in Climate Change Adaptation

Global climate policies underscore the significance of implementing gender-responsive adaptation strategies. Climate change adaptation encompasses a comprehensive approach focused on improving resilience, capacity, and minimising the vulnerability of exposed groups. The Summary for Policymakers of the IPCC (2014) stated that:

People who are socially, economically, culturally, politically, institutionally, or otherwise marginali[s]ed are especially vulnerable to climate change and also to some adaptation and mitigation responses. This heightened vulnerability is rarely due to a single cause. Rather, it is the product of intersecting social processes that result in inequalities in socioeconomic status and income, as well as in exposure. Such social processes include, for example, discrimination on the basis of gender, class, ethnicity, age, and (dis)ability. (p.6).

In support of this, the Paris Agreement states that

Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity (UNFCCC, 2015, p.2 para 2)

Article 7 of the Paris Agreement underscores the significance of ensuring that efforts to adapt to the impacts of climate change are gender-responsive. It also emphasises the inclusion of marginalised groups, communities, and ecosystems in these adaptation efforts (UNFCCC, 2015). This mandate highlights the disproportionate consequences of climate change on people who rely on natural resources for their livelihoods and those with limited ability to respond to climate-related threats, including droughts, landslides, floods, and storms (UNFCCC, n.d.-b). Women, in particular, face heightened burdens and risks attributable to the impacts of climate change (Björnberg & Hansson, 2013), as they constitute a substantial segment of the global impoverished population (Yavinsky, 2012). In the most adverse scenario, climate change could lead to an increase of up to 158 million girls and women being pushed into poverty by the year 2050 (United Nations Entity for Gender Equality and the Empowerment of Women [UN Women], 2023). Recognising the intersection of gender and climate change, the UNFCCC (2021) emphasised the importance of including gender considerations in policy development. Nevertheless, existing inequalities within labour markets and decision-making processes obstruct women's participation in climate-related planning, policymaking, and implementation, leading to their continued marginalisation from key decision-making processes (UNFCCC, n.d.-b).

Considering gender-specific barriers is essential for strengthening women's ability to adapt to climate change (Terry, 2009). Habtezion (2013) emphasised that women in developing nations experience increased susceptibility to climate change from various intersecting factors. These individuals often rely heavily on local natural resources to sustain their livelihoods. Additionally, inequalities are present in both access to these resources and involvement in decision-making processes, as well as restricted mobility in rural regions due to socio-cultural norms that limit their access to vital information and skills. To improve the efficacy and sustainability of climate change policies and projects, Habtezion (2013) underscored the importance of increasing female participation, as women frequently demonstrate considerable effectiveness in mobilising communities for disaster risk management and possess critical knowledge of locally relevant adaptation strategies. Consequently, research and development initiatives should concentrate on women's adaptation strategies and participation to inform the formulation of policies and projects that support them.

To advance the incorporation of gender considerations into climate policies, Denton (2002) contended that comprehensive climate change strategies in developing nations

must involve all key stakeholders, particularly women and marginalised communities, to lessen hardships, promote sustainable development, and address gender-based disparities. Given that climate change affects individuals differently based on gender, Björnberg and Hansson (2013) underscored the necessity for gender-sensitive local adaptation approaches to prevent exacerbating existing gender disparities and vulnerabilities. Since women are often disproportionately impacted by climate change owing to some factors such as limited political influence and economic restrictions, and gendered labour roles, adaptation measures should be implemented with a gender-sensitive perspective. Likewise, Rao et al. (2019) advocated for adaptation initiatives that consider power structures, social inclusion, and cultural perceptions to ensure that climate policies address diverse needs and responses equitably. Consequently, institutional and policy reforms are imperative to confirm that gender issues are adequately incorporated into adaptation planning.

Gender concerns have increasingly been integrated into international climate policy through decisions made at the annual COP meetings under the UNFCCC framework. This process began with COP7 and the Marrakesh Accords, which underscored the significance of augmenting women's involvement in climate change decision-making and capacity-building activities (UNFCCC, 2002). Over the years, successive COP agreements have incrementally incorporated gender-specific measures. For instance, COP16 (Cancun agreement) emphasised gender equality and the involvement of women and vulnerable groups in adaptation efforts (UNFCCC, 2011). COP18 further promoted gender parity within UNFCCC bodies, advocating for increased female representation in climate governance (UNFCCC, 2013).

The introduction of the Lima Work Programme on Gender during COP20 (2014) represented a notable advancement in the formal institutionalisation of gender equality within climate initiatives. It emphasised the significance of integrating gender considerations into the formulation and implementation of mitigation and adaptation strategies (UNFCCC, 2015). This initiative was subsequently followed by the adoption of the Gender Action Plan at COP23 (2017), which established a structured framework for incorporating gender viewpoints into climate change policies and promoting greater awareness of gender-responsive climate action (UNFCCC, 2018). The further enhancement of this plan at COP25 (2019) encouraged participating parties to integrate gender considerations into their Nationally Determined Contributions (NDCs) and NAPs, thereby promoting equitable climate action at the national level (UNFCCC, 2020).

Progress in gender inclusion in climate action through the COP process has been notable. The UNDP (2023) highlighted the crucial role of women's participation in decision-making. The COP27 report indicates that gender parity has improved across UNFCCC bodies, with female representation increasing in 11 of 17 bodies, where women comprise at least 40% of members in seven of them. As of July 2022, 38 NAPs had been submitted, with 81.6% incorporating gender-sensitive and participatory adaptation planning. Additionally, one-third of these plans explicitly addressed women's leadership and gender balance (UNFCCC, 2022).

Despite these advancements, challenges remain, notably regarding the slow pace of implementation. The ongoing review of the Gender Action Plan, initially adopted under the Lima Work Programme on Gender at COP20, has undergone multiple revisions, including updates at COP27 and COP28. Most activities are planned to take place throughout 2024 within five key areas: capacity-building, knowledge management and communication; gender balance, participation, and women's leadership; coherence; gender-responsive implementation and means of implementation; and monitoring and reporting. A new agenda is suggested for review and possible adoption at COP 30 in November 2025 (UNFCCC, 2025).

Following the enactment of the Gender Equality Act in 2015, Thailand has endeavoured to integrate principles of gender equality and social inclusion into its climate change strategies. This initiative aims to ensure an equitable distribution of benefits across all population groups and to promote inclusive participation in decision-making and implementation at local, regional, and national levels (ONEP, 2022b). However, since the adoption of the Marrakesh Accords, Thailand has made limited progress toward adopting gender-responsive climate policies. Although the nation has consistently dispatched representatives to gender negotiations at COP meetings, their primary role has been confined to reporting on the progress of the gender forum, rather than actively implementing gender-inclusive initiatives. Moreover, Thailand's most recent NAP, submitted to the UNFCCC in November 2023, lacks specific measures to address gender inequality. A comprehensive review of Thailand's national climate framework and its gender dimensions will be presented in Section 2.6.

Incorporating gender considerations into climate change adaptation strategies has gained increasing recognition across all levels of governance. Despite the emphasis placed on the significance of gender-responsive climate policies within global frameworks such as

the UNFCCC and COP agreements, difficulties persist in translating these commitments into concrete actions. Women persist in confronting structural obstacles that hinder their contribution to decision-making processes and climate change adaptation initiatives. Although programmes like the Gender Action Plan have made progress, the sluggish pace of implementation highlights the need for more robust institutional commitments. In Thailand, the consideration of gender issues within climate policies remains in its early stages of development, with limited integration into national adaptation strategies. Addressing these deficiencies is essential for enhancing women's roles in building climate resilience, thereby ensuring their contributions are adequately reflected in policy formulation and operational practices. The subsequent section will explore women's empowerment and participation, alongside the dynamics present within both the global and Thai contexts.

2.3 Concepts of Women's Participation and Empowerment

The perceptions regarding women's participation and empowerment in enhancing adaptation strategies, which facilitate women's engagement in decision-making and the execution of solutions at local and community levels, are mutually interconnected. This section establishes the foundational understanding of women's empowerment and its dynamics within the context of adaptation, emphasising women's roles at local and community scales.

2.3.1 Enhancement of Women's Empowerment

The concept of women's empowerment varies depending on the context. It encompasses definitions that range from individual self-empowerment to the broader enhancement of women's agency in decision-making and development processes. The discourse surrounding empowerment concepts progresses into practical applications, emphasising how capacity-building initiatives bolster women's resilience in adaptation.

The definition of empowerment differs depending on the context. Different authors and organisations have defined the meaning of empowerment from their perspectives, ranging from self-empowerment to enhancing women's efficacy (Mandal, 2013). "In the context of women and development, the definition of empowerment should include the expansion of choices for women and an increase in women's ability to exercise choice" (Mehra,

1997, p.138). This is an emancipatory definition of empowerment, which is utilised in this thesis.

Mandal (2013) classified women's empowerment into five primary categories: social, educational, economic, political, and psychological. He viewed empowerment and participation in the development process as proactive and participatory efforts, enabling individuals to contribute fully and influence their interests and lives, irrespective of class, race, gender, age, or ability. Perspectives on women's empowerment should include three essential elements: cognitive (the capacity to comprehend their circumstances and acquire knowledge), psychological (the capacity to express emotions), and economic (the capacity to engage in productive activities) (Stromquist, 1988, as cited in Tandon, 2016).

Building on these conceptualisations, Tandon (2016) recommended that empowerment constitutes a dynamic process aimed at redistributing power between men and women within society, encompassing both interpersonal relations and institutional structures. He delineated the nature of empowerment into four aspects: its process-oriented nature; its holistic approach; its focus on strategies rather than immediate gender interests; and its context-specific characteristics. The components constituting women's empowerment vary among theorists. There are specific points with which I disagree, such as the economic component, which references women's "productive activity." In the *Isan* region and many other parts of the world, a considerable amount of women's work is not classified as economically "productive" because it remains unpaid, such as household chores and caregiving for children and elderly family members (Waring, 1988; 2018). Ironically, substantial business activities that have deleterious social, environmental, and climate change impacts are regarded as "productive."

Capacity-building initiatives have demonstrated effectiveness in enhancing women's capacity to adapt to climate change. A variety of studies have examined methods to improve women's adaptive abilities across diverse settings. In research concerning women's empowerment and climate change, Siddika (2008) conducted focus group discussions with women to collect their perceptions of climate change and preferred adaptation strategies in Bangladesh. The study revealed that women in flood-prone regions prioritised adaptation strategies such as modifying their dietary habits and seeking credit loans to mitigate their vulnerability. Banerjee et al. (2019) conducted an action research study in Nepal, focusing on flood-prone rural areas where households rely on remittances. Their findings indicated that capacity-building interventions substantially

enhanced women's adaptability, with households in the intervention cohort displaying greater proactivity in flood preparedness compared to those in the control group. Similarly, Ifeanyi-Obi and Henri-Ukoha (2022) highlighted the significance of education and training, while also addressing social exclusion. Their research on Nigerian smallholder women farmers suggested that empowering women through targeted capacity-building initiatives is crucial for enhancing their participation in climate-smart agriculture.

Women's roles in climate change adaptation extend beyond local initiatives. Christoff et al. (2017) found that climate change adaptation programmes in India, Indonesia, Thailand, and Vietnam could help women reach their full potential within their communities. Their interview data indicated that enhancing women's political participation and social stature can afford them greater autonomy. The researchers concluded that Thailand was less effective in empowering women compared to Indonesia due to the Thai government's limited emphasis on gender awareness and a complex combination of questionable democratic norms and restricted press freedoms.

Several case studies provide comprehensive insights into how climate risks can empower women. In the agricultural sector, Lebel et al. (2014) employed mixed methods to assess climate risk management in aquaculture practices in northern Thailand, demonstrating that women's participation in aquaculture management facilitates more effective and sustainable adaptation strategies. Similar methodologies have been employed in other studies. For instance, the investigation into women's contributions to adaptation in Bangladesh following Cyclone Aila provided empirical evidence of women as capable leaders in adaptation efforts, illustrating their transition from domestic roles to active agents in adaptation (Khalil et al., 2019).

Consequently, women's autonomy is crucial for effectively adapting to climate change. Enhancing capacity is essential for fostering a more profound understanding of climate change among women stakeholders. This discourse subsequently advances to an analysis of gender dynamics in climate change adaptation, highlighting the influence of social norms and economic frameworks in shaping adaptation strategies.

2.3.2 Gender Dynamics in Climate Change Adaptation

Gender roles and socio-economic inequalities significantly influence how women perceive, experience, and respond to the effects of climate change. Intersecting economic,

social, and cultural factors shape their experiences, knowledge, and adaptive strategies. As Azka (2023) contended, transformative social change has the potential to foster gender equality across multiple sectors, including education, workforce participation, civic engagement, and resource allocation.

To effectively examine gender equity in this study, the definition provided by the IPCC (2022, p.549) served as a valuable framework:

Ensuring equity in that women and men have the same rights, resources and opportunities. In the case of climate change gender equity recogni[s]es that women are often more vulnerable to the impacts of climate change and may be disadvantaged in the process and outcomes of climate policy.

This definition acknowledges that gender equity encompasses ensuring fair treatment and equal opportunities for individuals of all genders. It also involves addressing structural obstacles that impede women's complete engagement in decision-making processes concerning climate change adaptation. This thesis categorises gender in the context of climate change solely into men and women. The concept of "women's role" pertains to how power dynamics influence individuals' access to resources, decision-making, social constructs, and opportunities for adaptation.

Research indicates that recognising and acknowledging women's contributions to climate-related initiatives is of paramount importance. Carvajal-Escobar et al. (2008) stated that gender equity is essential for adaptation processes, as it ensures the fair involvement of both men and women in risk participation and risk reduction. Furthermore, they emphasised that risk management frameworks should explicitly promote women's leadership. For example, Pratiwi et al. (2017) documented that women are progressively engaged in addressing how climate change impacts rural Indonesia. This signals a shift in gender dynamics and highlights the need for policies that reduce gender-based inequalities. Such policies must be adaptable and responsive to local needs and circumstances. Consistent with Bhattarai (2020), these differences invariably influence initiatives related to community forestry and resilience.

Empirical investigations underline the achievements and obstacles associated with women's engagement in adaptation across various cultural and geographical settings. Research conducted in neighbouring countries corroborates these similar findings. Vietnamese women farmers are particularly vulnerable due to gender disparities in rural livelihoods. Traditional gender hierarchies restrict women's rights concerning land

ownership and involvement in household or decision-making processes, as noted by Ylipaa et al. (2019). Nong et al. (2020) also identified that women-headed households generally exhibit higher vulnerability indices because they encounter greater difficulties in accessing financial and agricultural assistance, despite their significant roles in family and community adaptation initiatives. The study further indicates that, although male and female farmers employ various strategies to adapt to climate change, women have a more crucial role within the family workforce and in adaptation efforts.

Meanwhile, women face challenges in accessing agricultural services, including financial support and training assistance. Nong et al. (2021) emphasised the importance of recognising and supporting women's agency in shaping adaptation planning. However, Dev and Manalo (2023) argued for a more inclusive gender analysis that involves both women and men in gender-sensitive adaptation planning, as neglecting male perspectives may diminish the effectiveness of inclusive adaptation initiatives.

In Bangladesh's coastal areas, both men and women adjust to the effects of climate change. Nevertheless, men generally exhibit a greater capacity for adaptation. Conventional gender roles and patriarchal structures impede women's access to resources and their participation in decision-making processes (Roy et al., 2022). It is imperative that policies explicitly address these issues, as advocated by Alston (2007) and Sultana (2014). Nevertheless, the gender-specific social repercussions of climate change often remain unacknowledged.

In Thailand, gender inequality remains a prominent issue in climate change adaptation, characterised by substantial disparities in adaptive capacities among men and women across various regions. As Lebel et al. (2014) underscored, women demonstrate a greater propensity to adopt risk management strategies due to their perception of more significant climate-related threats, particularly in rural areas. This assertion is supported by studies conducted by Muttarak and Chankrajang (2014, 2015), which employed statistical analyses to demonstrate that women exhibit increased concern regarding global warming and are more likely to engage in climate-related behaviours compared to men.

Despite these challenges, women possess extensive knowledge, skills, and innovative strategies for coping with environmental challenges, which are crucial for effective climate change adaptation. However, their contributions are often overlooked. Strengthening women's capacities is essential for enhancing adaptive resilience to

climate change in Thailand. Effective adaptation strategies should include a nuanced understanding of social, cultural, situational, and historical contexts that shape women's experiences. These dimensions will be explored further in the next section.

2.4 Multifaceted Influences on Women in Climate Change Adaptation Efforts

Women's adaptation efforts are influenced by both internal and external factors, which impact their ability to engage in climate resilience initiatives. Women's participation in climate change adaptation processes is crucial for ensuring effective decision-making and actions to combat climate change (UNFCCC, 2023). Analysing the factors affecting the behaviours of both women and men is critical in understanding their respective levels of engagement in activities related to climate change mitigation and adaptation. Although women are more negatively impacted by climate effects than men (MacGregor, 2010; Habtezion, 2013), awareness of gender equality is infrequently incorporated into Thailand's climate policies. Agriculture serves as the primary economic activity in the *Isan* region, where populations are vulnerable to both flooding and drought, and heavily depend on their crops. This section analyses the internal and external barriers encountered by women that impede their involvement in adaptation initiatives, including the effects of the COVID-19 pandemic.

2.4.1 Internal Factors Shaping Women's Involvement in Adaptation Efforts

Women's participation in adapting to climate change is determined by intersecting barriers that influence their decision-making power. Promoting women's involvement in decision-making requires an understanding of broader social settings and power dynamics (Onta & Resurreccion, 2011). The perception of climate change and adaptation strategies varies greatly depending on context and can differ notably based on gender and other intersecting factors. They include age, education, marital status, religion, social status, and ethnicity. Resource accessibility, social networks, and local institutions play key roles in influencing adaptive strategies. While the scope of socio-economic factors is quite broad, the IPCC definition stated that a socio-economic scenario "is a scenario that describes a possible future in terms of population, gross domestic product (GDP), and other socio-economic factors relevant to understanding the implications of climate

change.” (IPCC, 2022, p.558). The discussion advances by demonstrating how social, economic, and environmental limitations further restrict women’s participation in adaptation efforts.

Nnadi et al. (2023) underscored the significance of considering gender in the success of adaptation initiatives, highlighting societal concerns by categorising the challenges into four domains: technology, environment, finance, and institutions. Their research revealed that traditional gender roles, societal customs, and patriarchal structures constrain women’s participation in decision-making and adaptation efforts.

A study conducted in Thailand found that men frequently dominated decision-making spaces, as women were typically expected to manage household responsibilities. In contrast, men often engaged in community activities such as board meetings or traditional rituals (Andajani-Sutjahjo et al., 2015). Similarly, in the mountainous areas of Uzbekistan, women played a crucial role in mitigating the impacts of climate change by raising awareness, enhancing health outcomes, and reducing environmental damage. Nonetheless, patriarchal norms and traditional gender roles persist in limiting women’s opportunities for capacity development. Meanwhile, cultural, social, and economic barriers have hindered their comprehensive engagement in climate change adaptation initiatives (Shodieva et al., 2014).

Traditional and cultural knowledge are pivotal considerations for women in developing countries. Previous research has highlighted barriers stemming from gender norms; for example, Mukoni (2013) observed that rights, authority, and resources, alongside suppressive cultural gender roles, limit women’s full participation. Scholars also emphasise the importance of proactive empowerment strategies that address both mitigation and adaptation, particularly those focused on women’s strategic gender needs. Traiyut et al. (2024) recommend integrating traditional knowledge into formal climate change adaptation and sustainability strategies, while promoting governance models that prioritise local leadership and inclusive, community-driven planning. This approach supports policy frameworks that strengthen local governance and participatory planning. More recently, Nchanji et al. (2025) suggest that traditional beliefs, which favour male control over land and decision-making, continue to impede equitable access to climate-smart agriculture. This underscores the critical importance of grassroots initiatives that protect women’s land rights and promote transformative gender norms to dismantle entrenched patriarchal systems.

A greater concern about climate change and a stronger inclination to adopt technical and behavioural modifications to mitigate its impacts are positively correlated with higher levels of education. In Thailand, capacity-building and access to technology remain significant challenges, both of which are essential for enhancing economic opportunities for women engaged in home-based work. Without effective intervention, women may continue to be marginalised from digital opportunities, thereby undermining national inclusion strategies (Intaratat, 2016). In this context, Nchanji (2025) observed that digital tools are essential in promoting the adoption of climate-smart agriculture, as mobile phone ownership is associated with greater access to information about available agricultural technologies.

Migration is increasingly recognised as a social movement and adaptation strategy linked to climate change and gender disparities. Chindarkar (2012) found that climate-induced migration affects men and women differently, with women facing heightened vulnerabilities due to poverty, lower educational attainment, limited access to resources, and health-related challenges. Gender disparities in land ownership, particularly in property rights, increase women's vulnerability, as land is often a key means of accessing financial resources and holding decision-making authority. A longitudinal study by Curran and Meijer-Irons (2014) identified modest but statistically significant increases in migration during periods of prolonged climatic stress, such as drought. They emphasise that climate change influences migration patterns in gender-differentiated ways, with women particularly disadvantaged due to limited land ownership. In Thailand, women tend to own less land, which restricts their access to credit, agricultural inputs, and participation in decision-making processes. Consequently, disparities in land ownership directly influence women's resilience and economic opportunities in the context of climate change.

Migration functions not as evidence of agrarian decline but as a deliberate livelihood strategy that distributes risk across geographic and economic sectors (de Haan, 1999). Mills (1999) demonstrates how rural–urban migration, particularly among young women, reshapes household structures and gender relations. Remittances stabilise rural consumption, finance agricultural production, and support kinship obligations, thereby contributing to resilience under environmental stress. In *Isan* rural transformation, Rigg and Salamanca (2011) describe the emergence of “multi-local households,” in which family members maintain economic and social ties across rural and urban spaces. However, migration also redistributes labour burdens, often increasing women's

responsibilities in agricultural management and community governance (Elmhirst, 2011).

Limited access to resources presents substantial challenges in rural areas like *Isan*, where agriculture serves as a primary source of livelihood. Alston (2007) investigated how structural, cultural, and economic determinants influence the distinct roles assigned to women and men within the agricultural sector across both developed and developing nations. Furthermore, she emphasised that access to financial resources, employment opportunities, and land ownership significantly impact an individual's ability to develop adaptive strategies for climate change. A fundamental mechanism for resilience against climate change involves financial resources, as argued by Huq et al. (2023), who suggest that community-led savings mechanisms could empower women to recover from climate-induced crop losses. Their research indicates that women are more likely to develop savings habits in response to agricultural uncertainties and the barriers they face in accessing traditional financial institutions.

To enhance understanding of the effects, Adom (2024) utilised socioeconomic indicators such as per capita income, agricultural productivity, food insecurity and malnutrition, poverty, health, water resources, and energy security to assess women's ability to lessen the effects of climate change. He found that women frequently possessed less control over their income, thereby constraining their ability to adopt new practices or technologies focused on minimising the impacts.

Empowering women through economic opportunities, education, and inclusive legislation constitutes a fundamental aspect of fostering resilience within communities. Ashrafuzzaman et al. (2023) noted that financial resources, educational opportunities, and supportive policies improve women's ability to adapt to and reduce the climate change impacts at the local level in Bangladesh. For instance, microfinance initiatives advance social inclusion and gender equity for women, thereby serving as a vital catalyst for community-based adaptation in Bangladesh.

In a case study conducted in India and South Asia, Yadav and Lal (2018) found that women in rural areas of developing countries are deeply affected by the adverse effects of climate change on their livelihoods, workload, and self-esteem. Women's vulnerability continues to increase due to poverty, insecure land tenure rights, heavy dependence on agriculture, and restricted access to educational opportunities.

In Thailand, climate change exerts direct economic impacts on agricultural productivity.

Sinnarong et al. (2019) projected that by 2030, climate change could result in a 9.37% decrease in average rice yields, escalating to 33.77% by 2090. Similarly, Pipitpukdee et al. (2020) documented comparable outcomes for sugarcane production, where climate variability and rising land demand for non-agricultural purposes are anticipated to decrease both sugarcane yields and harvested areas during the period from 2046 to 2055.

In terms of environmental factors, experiencing climate-related challenges within one's community tends to increase the likelihood of adopting climate-relevant behaviours (Muttarak & Chankrajang, 2014). Figueiredo and Perkins (2013) found that women's inclusion in water management is essential for adapting to climate change, as they possess valuable knowledge and are disproportionately affected by water-related issues. Strengthening women through education, participation in governance, and recognition of their expertise remains essential for effective climate change adaptation. Goli et al. (2023) support this view by noting that for women rice farmers in Iran, adaptation behaviour is shaped by perceived vulnerability, severity, self-efficacy, and response effectiveness.

In summary, women's adaptation to climate change is influenced by a complex combination of internal factors across social, cultural, economic, institutional, technological, and environmental spheres. Despite these factors, women actively contributed to adaptation and mitigation efforts from their experience and expertise in environmental restoration initiatives. This thesis will examine whether these factors affect women in the *Isan* region. The further discussion progresses by emphasising the growing impact of external factors on women's adaptation responses.

2.4.2 External Factors: Intersections of COVID-19, Area-Based Issues and Climate Change

The COVID-19 pandemic and environmental challenges have exacerbated existing vulnerabilities in women's adaptation. Women in the *Isan* region experienced difficulties as a result of the pandemic and particulate matter (PM) 2.5¹. The spread of COVID-19 from December 2019 fuelled the growing environmental problem. The section integrates gendered economic hardships, ecological degradation, and policy responses as key factors affecting adaptation.

The primary consequence of the COVID-19 pandemic was the increased economic

¹P.M.2.5 refers to "particles with an aerodynamic diameter of $\leq 2.5 \mu\text{m}$ " (WHO, 2021, p. xiv)

burden on vulnerable populations. Azcona et al. (2021) demonstrate that during the pandemic, millions of women worldwide experienced job and income losses. Additionally, they were more likely to leave their employment to care for family members and children, compared to men. According to the World Bank (2022a), the spread of COVID-19 has intensified both domestic and global income disparities, potentially delaying development by at least a decade. It has led to reductions in employment and income among low-income individuals, youth, women, and informal workers. The World Bank (2022b) carried out a telephone survey to investigate the influence of COVID-19 on households in Thailand. The results indicate that women and individuals from low-income families have been the most adversely affected due to caregiving responsibilities, which negatively impacted the employment of married women and those with young children, particularly in urban areas. Bangkok experienced the most substantial decline in employment, whereas the northeastern region saw the most significant increase, as labour migrated back to rural hometowns due to business closures in Bangkok.

Another external concern in Thailand, even without the pandemic, is the measurement of particulate matter. Several studies suggest that climate change is expected to lead to an increase in PM_{2.5} levels, even in the absence of air pollution. Though not the dominant factor, climate change emerged as the second leading contributor to PM_{2.5} increases during the industrial era (Fang et al., 2013). Notwithstanding this, anthropogenic emissions remain the dominant source of PM_{2.5}. The cumulative impacts of land-use changes and climate change could substantially alter PM_{2.5} levels, highlighting the need for stronger emission controls to meet air quality standards and reduce future health risks (Fu et al., 2016).

In Thailand, PM_{2.5} pollution poses a significant environmental and public health concern, exhibiting seasonal and regional variations, particularly in response to forest fires, agricultural burning in the northern region, and transboundary pollution (Suriyawong et al., 2023). Prasertsin and Nathapindhu (2020) indicated that the hazard quotients for five cities within Thailand demonstrated that the potential health risks associated with PM_{2.5} exposure were highest among children in Saraburi (central region), followed by Khon Kaen, which is a case study area in this thesis.

In Bangkok, Praveena and Aris (2021) examined the impacts of COVID-19 on the environment, utilising qualitative content analysis to analyse the textual data from published studies and other online references. Remarkably, their findings indicated an

improvement in air quality in Bangkok, characterised by reductions in PM_{2.5} and Nitrous Oxide, attributable to decreased traffic volumes and diminished municipal waste in urban areas as a consequence of lockdowns and work-from-home policies. Consequently, long-term policy recommendations for managing PM_{2.5} in Thailand include regulating transportation emissions, prohibiting open agricultural burning, and implementing industrial zoning to monitor and control pollution in high-density regions (Wongwatcharapaiboon, 2020). Furthermore, the promotion of biomass utilisation and forest fuel management is advised (Suriyawong et al., 2023).

In the *Isan* region, despite the Thai central government's prohibition on residue burning (Department of Local Administration Thailand, 2023), the issue of burning residual biomass from agricultural farms persists. Kumar et al. (2020) observed that, despite various campaigns and policies aimed at regulating residue burning from rice and sugarcane and promoting sustainable residue management practices, numerous challenges remained. These challenges encompass farmers' reluctance to modify their practices, high costs associated with farm machinery and labour expenses, as well as a lack of awareness among farmers about the consequences of burning residues.

Scholars have identified PM_{2.5} as a primary source of highly toxic air pollution, which also significantly contributes to global warming. Addressing air pollution from these sources has been shown to simultaneously mitigate climate change, as both issues represent interconnected aspects of environmental degradation. Several studies have emphasised the need to prioritise the protection of public health to enhance human capital and alleviate poverty, particularly in countries of the Global South (World Bank, 2022c). Furthermore, the persistent effects of the COVID-19 pandemic continued to impact local populations during the 2022–2023 period, which also influenced climate and air quality challenges in many low-income regions.

A complex array of internal and external factors influences women's engagement in climate change adaptation. Economic, social and environmental factors significantly hinder their involvement, while the pandemic and environmental issues pose additional challenges to their livelihoods. Addressing these issues necessitates a comprehensive approach to empower women and enhance their capacities. To facilitate effective climate change adaptation, these barriers must be meticulously examined within this thesis. This section introduces an analysis of localised impacts, with a particular focus on the vulnerabilities specific to the *Isan* region. The climate-related context pertinent to this

area will be elaborated upon in the subsequent section.

2.5 Overview of *Isan*: Rural Transformation, Gender Dynamics and Climate Adaptation in Northeast Thailand

Isan, the largest region of Thailand, comprises twenty provinces, with Nakhon Ratchasima being the most populous, followed by Ubon Ratchathani and Khon Kaen (National Statistical Office, 2024). The region covers an area of 168,854 square kilometres. It is characterised as two major upland plateaus featuring shallow lakes that drain into the Chi and Mun rivers, the longest within the region. The region's most significant natural resource is the Mekong River, which is 765 kilometres long and flows north and east, traversing extensive portions of the northern and eastern borders and supporting fishing and agriculture across numerous provinces. It shares borders with Laos to the north and northeast, and Cambodia to the southeast (NESDB, 2018b). The predominant spoken language is *Isan*, whereas the formal written language is Thai.

Isan has a rapidly ageing population and exhibits the highest poverty rates within Thailand, factors that influence its ability to adapt to climate change. According to the World Health Organisation (2023), Thailand has been classified as an ageing society, with individuals aged 60 years and above constituting 10% of the population. It is anticipated that the elderly demographic will increase to 28%, and that Thailand will attain the status of a super-aged society by 2033. As of 2022, the *Isan* region had a population of approximately 18.05 million, with those aged 60 and above comprising 22.6%. The poverty rate in *Isan* exceeded that of other areas of the country (NESDC, 2023), and its Gross Domestic Product (GDP) per capita was 99,272 baht annually, the lowest in the nation (NESDC, 2025).

The Thai government has implemented policies aimed at attracting investment and promoting industrial development within the *Isan* region; however, economic disparities persist. The government has focused on industry clusters in the Northeastern Economic Corridor, encompassing major provinces such as Nakhon Ratchasima, Khon Kaen, Udon Thani, and Nong Khai. Incentives, including corporate income tax exemptions and investment promotion, have been extended to sectors such as agriculture, food, and bioindustries, to encourage private sector participation in regional development,

including research and development of technology and innovation (Thailand Board of Investment, 2025).

To develop a comprehensive understanding of Isan, this study situates climate change adaptation within broader processes of rural transformation and gender dynamics. These interconnected dimensions provide the analytical foundation for examining how adaptation is experienced, negotiated, and enacted at the community level.

2.5.1 Rural Livelihood Transformation and Diversification

Rural livelihoods in Isan have undergone significant transformation between rural and urban life and between agricultural and non-agricultural work. Rigg (2001, 2019) emphasises that contemporary rural households are characterised by livelihood diversification, mobility, and complex social relations rather than exclusive reliance on agriculture. He conceptualises rural change as a relational process shaped by markets, state policies, and social obligations, offering a useful lens for understanding how environmental stress intersects with agrarian change and migration.

Complementing this perspective, Lapanun's (2003) work on environmental movements in Thailand demonstrates that struggles over natural resources are gendered and deeply embedded in everyday livelihood practices. Women's engagement often emerges from reproductive and community roles, which become political when resource access is threatened. This underscores that environmental action is socially embedded, shaped by livelihood transformation, gendered labour, and collective norms rather than solely technical responses. Importantly, Lapanun (2003) also cautions that women's participation does not automatically challenge patriarchal power. Instead, it reveals how gendered labour and moral obligations structure both resistance and governance. This is particularly relevant in rural Thailand, where women's everyday practices of care, resource management, and social coordination form critical often overlooked dimensions of climate adaptation.

This interpretation aligns with Ellis's (2000) argument that diversification is a structural feature of rural economies under market integration and risk, and with Scoones' (1998) Sustainable Livelihoods Framework, which situates household strategies within a broader vulnerability context shaped by institutions, assets, and power relations. Bebbington (1999) further emphasises that livelihood assets, including social and political capital, create both security and the capacity for collective action.

Although livelihood diversification is extensive, rain-fed rice cultivation remains culturally and economically significant in *Isan*. Its exposure to drought and variability renders environmental uncertainty a constant feature of rural life yet vulnerability is shaped by far more than climate. Political ecology scholarship highlights how environmental stress intersects with political and economic marginalisation. Blaikie and Brookfield (1987) stress the link between degradation and structural inequalities, while Forsyth and Walker (2008) critique technocratic narratives that overlook local political economies. Walker (2012) further links agrarian change to patronage systems and rural political mobilisation. These insights emphasise that climate change must be understood in the context of uneven development, state intervention, and market restructuring. Adaptation strategies, therefore reflect governance structures and power relations, not only ecological conditions.

Rural households have long developed strategies to manage climatic uncertainty. Dercon (2002) shows that households balance risk reduction with income opportunities. In *Isan*, the timing of migration, cropping patterns, and communal labour exchanges align closely with rainfall variability. Adger (2003) links such social practices to resilience, noting the importance of social capital and collective action. Women's coordination of food storage, water management, caregiving, and community rituals represents a critical but often invisible dimension of resilience.

Thus, climate adaptation extends long-standing practices of risk management, seasonal adjustment, and social coordination. Environmental stress intersects with mobility, remittance dependence, and uneven development, embedding adaptation within diversified livelihood systems rather than agricultural practices alone.

2.5.2 Gender and Natural Resource Governance

Extensive scholarship demonstrates that gender dynamics fundamentally shape natural resource governance. Feminist political ecology highlights how access to resources, decision-making authority, and environmental knowledge are structured by gendered power relations within households and communities (Rocheleau et al., 1996). Within this framework, women's participation reflects deeper issues of voice, authority, and institutional design.

Research on community forestry provides strong empirical evidence of the benefits of women's meaningful participation. Agarwal (2010) shows that forest user groups with

substantive not symbolic female involvement exhibit better rule compliance, reduced conflict, and improved forest conditions. Coleman and Mwangi (2013) similarly find that gender-inclusive governance strengthens monitoring and enforcement. Westermann et al. (2005) demonstrate that mixed-gender groups often show more cooperative and equitable decision-making. Such outcomes, however, depend on institutional arrangements, a critical mass of women, and socio-cultural norms that shape women's ability to express authority.

Similar patterns emerge in irrigation governance. Membership criteria based on land ownership or male household heads often exclude women, despite their significant role in agricultural water management (Meinzen-Dick & Zwarteveen, 1998). Evidence from the World Bank initiatives reinforces that women's leadership enhances equitable resource allocation (Jha et al., 2024).

In Thailand, the Community Forest Act B.E. 2562 (2019) formalised community forestry outside protected areas, enabling legally recognised local management groups. Capacity-building programmes have expanded opportunities for women's participation. A case study from Thung Yao, northern Thailand, illustrates this pattern. Women-led conservation groups in Ban Thung Yao have long played central roles in forest protection, resource monitoring, and knowledge-sharing (Stockholm Environment Institute [SEI], 2022). These developments suggest that Thailand's community forestry policies are gradually moving toward more inclusive governance arrangements, although gendered barriers to participation remain embedded within local social norms and institutional practices.

Taken together, this body of literature demonstrates that effective natural resource governance is closely linked to inclusive institutional design and meaningful participation. Women's roles in forest management, water governance, and community institutions illustrate how gendered labour, knowledge, and social networks contribute to environmental management and adaptation processes. These insights provide an important analytical lens for examining gender dynamics within climate change adaptation practices in rural *Isan* communities.

2.5.3 Kinship

Adaptation in rural *Isan* is deeply shaped by kinship networks, reciprocal labour exchanges, and long-standing social obligations. Scott's (1977) "moral economy" helps

explain why *Isan* households prioritise subsistence security and risk-averse strategies, aligning with observed practices such as diversified livelihoods, seasonal mobility, and reliance on extended kin for support. These kinship structures enable flexible labour sharing such as *Long Khaek*, a kind of reciprocal work exchange in Thailand, and provide informal safety nets during periods of crop failure, illness, or income shortage.

Contemporary research continues to emphasise the importance of household labour organisation in agrarian systems, particularly the roles of women and intergenerational labour contributions in sustaining agricultural livelihoods (Doss, 2014). A recent study also highlights the role of cooperative labour exchange and social networks in sustaining smallholder agricultural systems, reinforcing the importance of kinship-based labour organisation in rural communities (Tshotsho et al., 2023)

Kinship ties also sustain networks of reciprocal assistance. Welfare schemes and village funds complement these systems but do not replace the centrality of kin support. For women in particular, kinship obligations structure the negotiation of care responsibilities, mobility, and income-generating work across domestic and public spaces, making kin networks a core foundation of everyday adaptation strategies in rural *Isan*.

2.5.4 Climate Change Vulnerability in *Isan*

Isan is confronted with escalating climate-related hazards that adversely affect agriculture. Notably, this region is where Thailand's famous jasmine rice is mainly grown, with significant implications for water security and public health. According to the NAP (DCCE, 2023), the anticipated climate change risks to *Isan* encompass heat stress. The affected provinces are mainly in the lower region (Nakhon Ratchasima, Ubon Ratchathani, Buri Ram, Si Sa Ket, Surin), with only two provinces in the central sub-region, Roi Et, and Khon Kaen. The drought has significantly impacted several provinces across northeastern Thailand, particularly in both the central, lower and upper sub-regions. These include areas such as Nakhon Ratchasima, Ubon Ratchathani, Khon Kaen, Roi Et, Surin, Buri Ram, Si Sa Ket, Chaiyaphum, and Udon Thani. Furthermore, flooding has impacted Nakhon Ratchasima, Khon Kaen, and Ubon Ratchathani. Notably, Khon Kaen is projected to be affected by all three risks.

Climate change has intensified health challenges in the *Isan* region. The *Isan* people have increasingly experienced vector-borne diseases, particularly food and waterborne illnesses such as diarrhoea, since 2012. The mortality rate attributable to diarrhoea in

Thailand demonstrated an upward trend from 2012 to 2021, with the majority of cases occurring in the *Isan* region. Although morbidity and mortality rates from dengue fever declined nationally, reaching their peak in 2013, the Northern region recorded the highest fatalities from dengue fever, followed sequentially by the central region, the Northeastern region, and the Southern region (DCCE, 2023). The illnesses and fatalities associated with these diseases are either directly or indirectly linked to climate change. Consequently, this has led to increased public health expenditures, elevated healthcare costs, and significant economic losses.

Khon Kaen, a central economic hub in *Isan*, is among the most vulnerable provinces to climate change, facing risks from heat stress, drought, and flooding. In 2022, the population of Khon Kaen Province was 1.7 million inhabitants, with a gross provincial product per capita of 128,424 baht, ranking it second within the *Isan* region (NESDC, 2025). As illustrated in Table 3, Khon Kaen is projected to encounter flood risks across all sectors relevant to climate change adaptation. At the same time, drought conditions are expected to affect all sectors except the natural resource sector. Heat stress is expected to impact three sectors. However, the study did not establish a correlation between these impacts and women's adaptive capacity at the regional and provincial levels.

Table 3: Projected Risk of Climate Change on the Scenario in Khon Kaen

Risk to Sector	Water Management	Agriculture and Food Security	Tourism	Public Health	Natural resource	Human Resettlement
Heat Stress	/	/	-	/	-	-
Floods	/	/	/	/	/	/
Drought	/	/	/	/	-	/

Source: Reproduced from DCCE (2023).

Given these intersecting vulnerabilities, and the central role of kinship networks and diversified livelihoods in shaping how households manage uncertainty in *Isan*, the effectiveness of adaptation policy hinges not only on sector-specific interventions but also on the extent to which governance arrangements reflect local social organisation. Although government initiatives continue to prioritise economic development, climate risks pose persistent threats to agriculture, public health, and rural infrastructure, as

illustrated in the case of Khon Kaen. These dynamics underscore the urgency of developing climate strategies that account for local livelihood systems, political-economic conditions, and existing forms of collective action. The following section therefore examines Thailand's climate change adaptation policies and assesses their adequacy in responding to the specific challenges faced in the *Isan* region.

2.6 Critical Review of Thailand's Climate Change Adaptation Plans and Policies

Thailand has consistently strengthened its policies and commitments related to climate change adaptation, aligning with international frameworks, to enhance resilience and reduce greenhouse gas emissions. The nation has made considerable progress in global climate initiatives since its accession as a party to the UNFCCC in 1991 (ONEP, 2022c). It further ratified the Kyoto Protocol in 2002 and subsequently endorsed the Paris Agreement in 2016 (UNFCCC, n.d.-a). In fulfilment of its obligations under the Paris Agreement, Thailand formally submitted its Initial Nationally Determined Contribution (INDC) in 2015. This document delineates specific objectives and strategies aimed at reducing GHG emissions by 20% from the Business As Usual (BAU) baseline scenario by the year 2030, contingent upon international support. (ONEP, 2016; 2017).

Then, Thailand submitted its updated NDC in 2020 by increasing its ambition to 20-25% (ONEP, 2022d). These policies aim to foster a low-carbon society, implement actions aligned with international standards, and promote global cooperation (Jaderojananont, 2018). In 2022, Thailand's second revised NDC articulated a commitment to reduce GHG emissions from projected BAU levels by 30%, with an aspirational goal of increasing this reduction to 40%, contingent upon adequate international support by 2030 (ONEP, 2022e). This updated NDC also emphasised Thailand's adaptation objectives, which concentrate on enhancing resilience within vulnerable sectors. However, the emission reduction targets focus on key sectors that significantly contribute to Thailand's overall emissions profile. Thailand reaffirmed its commitment by submitting a long-term strategy for low-GHG emission development in October 2022. Thailand has committed to becoming carbon-neutral by 2050 and achieving net-zero emissions by 2065 as part of its long-term climate strategy (ONEP, 2022a).

In adaptation efforts, Thailand identifies public health, agriculture, water management,

human settlements, and ecosystems as primary sectors for adaptation and resilience. It articulated the strategic measures necessary at the national level to bolster resilience against the impacts of climate change (DCCE, 2023). The subsequent sections delineate the structure and strategy underpinning Thailand's adaptation policies and provide an assessment of the effectiveness of its governance approaches. Additionally, it references the support required to restore more robust ecosystems and rebuild the economy in response to the COVID-19 pandemic, thereby advancing its climate-resilient and sustainable development initiatives (DCCE, 2023).

2.6.1 Structure and Sequence of Mainstreaming of Thailand's National Policies: Top-Down or Bottom-Up Approach

Thailand's climate change adaptation policies are governed by a structured framework, predominantly guided by a top-down governance model, with limited efforts to incorporate bottom-up approaches. Consistent with international agreements, the implementation of national climate change targets and objectives must follow national Thai government guidelines.

Following the 2015 military coup, the government promulgated the National Strategy (2018-2037), which serves as the principal guiding document for achieving national goals and development. The vision of this strategy is to transform Thailand into a developed country characterised by security, prosperity, and sustainability, following the Sufficiency Economy Philosophy (NESDC, 2018c). This national strategy has been designated as the highest-level national plan, approved by the Cabinet. It is supplemented by second-level plans, including 23 Master Plans and the National Economic and Social Development Plans (NESDPs) (NESDC, 2023). Third-level plans involve development and action plans that specify the functions of government agencies to ensure alignment with the second-level plans and the overall national strategy, thereby maintaining coherence and integration across all levels (NESDC, 2023). All government units are mandated to revise their plans to align with the national strategy and are required to submit these plans to NESDC for approval before public dissemination.

Climate change is expected to elevate Thailand's electricity demand, thereby necessitating modifications in energy planning to accommodate increased peak loads (Parkpoom & Harrison, 2008). Thailand has incorporated climate change mitigation strategies into its energy policies; however, adaptation initiatives remain somewhat

fragmented and underdeveloped. Concerning mitigation, especially within the energy sector, the focus is on reducing GHG emissions. Renewable energy and energy efficiency strategies have been implemented to assist Thailand in achieving its GHG emission reduction goals. Thailand's mitigation measures for GHG emissions include emissions trading and carbon capture and storage technologies, which have the potential to achieve significant GHG reductions but may also influence the utilisation of renewable energy and energy efficiency (Thepkhun et al., 2013). Full implementation of these measures would enhance both energy efficiency and the deployment of renewable resources, leading to the most effective reduction in greenhouse gas emissions. This approach not only advances GHG mitigation but also strengthens energy security and delivers co-benefits, such as improvements in the energy intensity index, thereby supporting sustainable energy and environmental development (Thepkhun et al., 2013; Misila et al., 2020).

Regarding the adaptation initiative, the NAP aims to support the adaptive strategies across various sectors and sub-national levels. It also aims to provide pilot and key projects to ensure appropriate budgetary allocation for financing adaptation programmes. Certain government agencies have initiated the development of their strategies and policies, including aquaculture policies, and are beginning to address climate change; however, more comprehensive adaptation measures are required.

As policies and plans are required to align with the Thailand national strategy, the climate change agenda is integrated into the 18th sub-master plan within the national framework. Lower-level plans, including local development plans, are formulated to be consistent with the overarching strategies delineated at the national level. In this regard, the NESDC issued guidelines to all provincial offices and clusters, outlining best practices for developing effective plans. One such guideline underscores the importance of establishing a civil society forum in each province to promote public participation, thereby ensuring that development and action plans are responsive to local needs. Recognising that each region has unique challenges and characteristics. Therefore, planning initiatives should be customised to address specific issues and meet local needs. This approach supports a bottom-up rather than a top-down model of development.

The NAP aims to mainstream adaptation at the sectoral and sub-national levels, but challenges persist in financing, institutional coordination, and local implementation. After the submission of the NAP to the UNFCCC, all pertinent government agencies are

mandated to update their action plans to ensure consistency with the NAP and other higher-level plans. For instance, the Ministry of Agriculture and Cooperatives has been revising the Climate Change Action Plan for Agriculture 2023–2027, which promotes and accelerates mitigation and adaptation efforts. There has been a deliberate initiative to incorporate gender and social inclusion into climate-smart agriculture. Throughout the implementation stage, the agency has been developing strategies to integrate gender equality and social inclusion into climate initiatives related to agriculture and land use. These plans will help enhance the inclusion of women in climate-smart agriculture initiatives. (UNDP, 2023).

Thailand has made progress in climate mitigation for decades. However, adaptation efforts are relatively new, with the formal NAP submitted only in November 2023. The implementation at the local level must strengthen the effort on gender in its upcoming or updated NAP.

Although Thailand has made progress in climate mitigation, efforts toward adaptation are relatively recent. The implementation at the local level must enhance focus on gender considerations in its forthcoming or revised NAPs. The existing local gender policies will be examined in the subsequent section.

2.6.2 Climate Change National and Local Policies on Gender

Despite Thailand’s broader development frameworks acknowledging gender equality, gender-responsive climate adaptation remains notably absent from key policies. A critical review of gender issues within Thailand’s approach to climate change requires an examination of the first and second-level plans, along with their mitigation, adaptation, and other strategies. An overview of national, regional, and provincial climate change adaptation plans and policies, as detailed in Table 4, reveals a lack of gender considerations across principal national policies and local plans related to climate change.

Table 4: Summary of Plans and Policies on Climate Change in Thailand

Level	Name of Plans	Year	Mitigation*	Adaptation**	Gender Issue
1	National Strategy	2018-2037	/	/	-
2	Master Plan under National Strategy	2018-2037	/	/	-

Level	Name of Plans	Year	Mitigation*	Adaptation**	Gender Issue
2	National Economic and Social Development Plan (13 th)	2022-2027	/	/	-
3	Climate Change Master Plan B.E. 2558–2593	2015-2050	/	/	-
3	Northeastern Region Economic and Social Development Plan	2022-2027	-	-	-
3	Khon Kaen Provincial Development Plan	2022-2027	/	/	-

Note: Table compiled by author.

* Mitigation includes any contexts in the plans and policies regarding four sectors of Thailand's priority on mitigation to climate change: energy, transportation, industrial processes and waste management.

** Adaptation includes any contexts in the plans and policies regarding six sectors of Thailand's priority on adaptation to climate change: water management, agriculture and food security, public health, tourism, natural resources management, and human resettlement.

While national policies outline broad climate adaptation, local-level plans in *Isan* lack specific projects dedicated to mitigation and adaptation, reflecting a weak translation of policy at the provincial level. The national economic and social development plans commenced prioritising aspects of climate change in the 7th NESDP (1992–1996) (NESDB, 1992). In the 13th NESDP (2023–2027), two out of 13 milestones explicitly address climate change. Firstly, Thailand aspires to establish a circular economy and a low-carbon society. Secondly, Thailand attempts to lessen the risks and impacts of natural disasters and climate change. This strategic plan focuses on decreasing vulnerability to these threats and enhancing Thailand's capacity for response and adaptation to climate-related challenges. The country's ageing population and fiscal constraints further exacerbate its susceptibility. Furthermore, principal economic stakeholders underscore the significance of reducing GHG emissions and tackling global warming, rendering this issue a critical consideration in international trade and investment (NESDC, 2023).

Regarding local development and action plans, there are no projects or programmes specifically targeting mitigation or adaptation within the *Isan* region. The provincial plan, along with the Khon Kaen development and action plans, includes references to climate change derived from the national strategy and the second-level plans. The only relevant

initiative is a sub-activity, which constitutes a programme aimed at preventing, mitigating, and adapting to natural disasters and climate change. This programme involves engaging Khon Kaen University as the implementation agency to design participatory practices for rice cultivation that can withstand abrupt climate variations (Khon Kaen Provincial Office, 2023). Further discussion of sub-district and village-level plans is provided in subsequent chapters.

At the local level, particularly in the *Isan* region, climate adaptation strategies remain inadequately delineated, with limited indications of concrete action in provincial development plans. These shortcomings highlight the importance of implementing more inclusive and participatory adaptation strategies. To enhance local engagement, the importance of employing a local research approach, PAR, will be discussed in the subsequent session.

2.6.3 Conducting PAR in the Research

Considering the gaps identified in policy and implementation, an inclusive, community-driven approach is essential. PAR offers a methodology for integrating local knowledge into adaptation strategies, particularly among marginalised groups such as rural women. This thesis employs PAR within a critical theory framework to actively involve rural women in shaping climate adaptation strategies in the *Isan* region. PAR serves as both a theoretical and methodological framework that aims to empower participants by involving them in the research process (Maguire, 1987). It aligns with the principles of critical theory by emphasising the proactive role of rural women. It is essential for comprehending the interaction of power dynamics, gender roles, and other community perspectives in shaping women's participation in climate change adaptation within Thailand's *Isan* region.

Utilising PAR as a tool for praxis and transformation highlights the significance of community development through collaborative research efforts. It demonstrates that active participation of individuals in the research process results in more meaningful and sustainable outcomes (Baum et al., 2006). Additionally, emphasising the importance of incorporating the voices and experiences of women into the development of climate action strategies, Godden et al. (2020) promoted PAR as a means of attaining climate justice, which may contribute to more comprehensive and equitable initiatives.

This thesis uses PAR to strengthen women's voices in *Isan*, ensuring that their lived

experiences shape climate adaptation strategies. PAR also enhances community capacity and fosters collective action. This framework supports the development of a bottom-up adaptation approach that prioritises women's agency in decision-making processes. Through the application of PAR, the research intends to ensure that local women's voices are not only heard but are central to the formulation of climate resilience strategies that address their unique vulnerabilities and leverage their local knowledge.

2.6.4 A Multi-Sector Application of PAR: Health and Agriculture

PAR has been extensively utilised within Thailand's health and agricultural sectors to address local issues through participatory engagement. In advocating for community-driven health initiatives, Nilvarangkul et al. (2013) reaffirmed the importance of action research processes in facilitating self-care practices among women weavers in the *Isan* region of Thailand. Participants and researchers collaboratively developed five action plans derived from solutions identified through focus group discussions, informal interviews, and participant observations. The study demonstrated significant positive outcomes in evaluations conducted at six and ten months post-implementation. Furthermore, it was observed that, within the context of community self-care, Thai wisdom and indigenous knowledge fostered a sense of empowerment and learning through traditional Thai massage and stretching exercises, which served as enjoyable, sustainable, and cost-effective health strategies.

Subsequently, Nilvarangkul et al. (2015) employed action research to enhance the development of action plans for primary care services for informal sector workers in the *Isan* region, Thailand. This study incorporated both quantitative and qualitative data, derived from questionnaires and focus group discussions, which were transcribed from audiotapes for analytical purposes. The research was conducted in four distinct phases: understanding the situation, collaboration, enabling, and evaluation. Building upon this work, Nilvarangkul et al. (2016) extended their investigation to include workers in informal sectors, such as agriculture, who face occupational health risks in four provinces of northern and northeastern Thailand. The researchers used PAR to gain insights into the real problems and promote health services. Data was gathered through questionnaires, in-depth interviews, and focus group discussions. Subsequently, the research was structured into three phases aimed at assisting the local community in understanding their circumstances, developing action plans, and evaluating strategies to address the health and safety priorities of informal workers.

Sena et al. (2018) additionally conducted focus group discussions and participant observation, employing field notes and implementing an action research process primarily aimed at fostering community participation to enable stakeholders to understand and address the community's health issues collaboratively. Quantitative data were presented as statistical summaries, whereas qualitative data were coded, categorised, and conceptualised, leading to the conclusion that action research can assist public health personnel in comprehending and resolving local health concerns. Multiple studies using PAR have demonstrated its capacity to reinforce empowerment within local Thai communities. PAR health research has also been utilised to raise awareness among local populations regarding health matters. Nookong and Sanasuttipun (2019) developed a PAR project consisting of four stages (identification of causes; engagement; implementation; self-monitoring and follow-ups) as part of an action plan aimed at preventing metabolic syndrome among adolescent schoolchildren.

In a neighbouring country, Laos, Sanaphay et al. (2014) examined the underlying factors influencing pregnant women's choices to deliver either at home or in a hospital. They conducted comprehensive interviews utilising a structured, open-ended questionnaire to collect personal experiences and perspectives. Descriptive statistics were employed for quantitative data analysis, while thematic content analysis was implemented as a qualitative approach. To gain a more thorough understanding of the challenges and obstacles, the authors recommended employing PAR as an appropriate methodology for community engagement.

PAR has been extensively utilised in the fields of agriculture and community planning to enhance local decision-making processes, resource management, and rural livelihoods. Certain action research initiatives within the *Isan* region have concentrated on developing action plans that address issues or agendas identified by external researchers, which are considered to have the potential to improve well-being or livelihoods within the respective areas.

In PAR, participants are acknowledged as subject matter experts within the context of the study. Researchers specialising in agriculture and urban planning are progressively adopting PAR to enhance understanding and improve community well-being. In Thailand, Suwanmontri et al. (2018) noted that farmers involved in PAR demonstrated increased crop yields and heightened awareness of climate change, suggesting that this approach holds significant potential to effect tangible advancements in agricultural

practices.

Suttisa (2005) employed PAR to investigate the concept of civil society in two rural communities located near the Chi River in Northeastern Thailand. Her study used a diverse range of methods, including group interviews, focus group discussions, brainstorming sessions, participatory mapping, life story interviews, transect walks, linkage diagrams, a case study, and field notes. The aims were to identify factors that promote proactive civil society and to understand the mechanisms that activate it. Each community worked together to find solutions to its respective issues. Additionally, in the *Isan* region, Hunchaisri et al. (2012) applied PAR to enable participatory action on waste management, to improve community learning processes, and to explore problems and limitations within the Khongchai Pattana Municipality of Kalasin Province, Thailand. Their data collection methods included questionnaires, group discussions, organisational and community meetings, and observational techniques.

PAR can be applied to a variety of issues and employs multiple qualitative methods to collect information from communities. Most notably, its procedures empower communities to make their own preferred decisions.

2.6.5 Employing PAR in Climate Change Adaptation

PAR has emerged in this thesis as a valuable tool which enables community-driven decision-making, captures local knowledge, and addresses gender-specific adaptation challenges. In the field of climate change research, Brody et al. (2008) emphasised the importance of adopting more participatory research methodologies to effectively incorporate context-specific knowledge and experiences of both women and men. They recommended linking research findings to policy and implementation and building the capacity of women and men to engage in climate change debates at all levels of governance. Despite challenges, Jongudomkarn (2014) emphasised the importance of empowering participants in PAR to ensure its success. Burnside-Lawry et al. (2017) studied the potential of PAR in the Pacific region to engage local communities. They demonstrated that it can bridge the gap between theory and practice in building resilience. Their results also suggested that PAR can foster multisector networks, improve communication of climate science, and strengthen local advocacy in climate-related policy decisions. Godden et al. (2020) advocated for feminist PAR as a tool for climate justice, stressing the integration of women's perspectives and lived experiences in

developing climate action strategies. This inclusion, they argued, led to more comprehensive and just climate actions.

The application of PAR within the context of climate change and women's adaptation, including matters related to gender, remains limited. Previous studies on women and climate change have employed diverse methodologies, emphasising the significance of empowering women and enhancing their agency to address local challenges. Xu et al. (2022) used a qualitative, evidence-based approach that facilitated the identification of key areas where gender integration is often inadequate in climate finance, complemented by actionable recommendations aimed at improving gender mainstreaming within this domain. They recommended the involvement of local women's groups and national gender institutions to capitalise on their expertise and networks.

In Thailand, Lebel et al. (2014) conducted a mixed-methods study on women's roles in adapting to climate-related risks within fisheries in northern Thailand. Their findings indicated that women's involvement in aquaculture management enhances the effectiveness and sustainability of adaptation strategies. Furthermore, a mixed-methods study was undertaken on fifteen reservoirs across nine provinces in northern Thailand to evaluate the significance of climate-related risks confronting cage aquaculture farmers and to assess how these farmers address and adapt to such risks. This methodology incorporated surveys, interviews, and in-depth interviews (Lebel et al., 2016). In the context of climate-related risks, Lebel and Lebel (2018) employed a range of mixed methods, including a tablet-based game, risk aversion scales, in-depth interviews, and focus group discussions with farmers. These methods aimed to understand the dynamics between men and women, including their emotions, attitudes, and risk appraisal processes in decision-making concerning aquaculture in northern Thailand.

Several case studies conducted in remote areas of countries such as Ghana, Bangladesh, and Uganda have examined the participation of smallholder female farmers in agriculture and climate change using various participatory tools, including focus group discussions, maps, and calendars, to compare similarities and differences across these nations. Notably, it is observed that older adults possess and share indigenous knowledge, which serves as the most reliable source of weather and climate information within these communities. Gathering information from elders is a vital element of PAR (Jost et al., 2016). A recent investigation into water resources in India by Sisodia (2024) employed PAR utilising tools such as participatory videos, focus group discussions, resource

mapping, and transect walks to explore water access challenges in India, providing a platform for youth to propose solutions.

These studies demonstrate that PAR can incorporate a diverse range of methods, including interviews, focus group discussions, brainstorming sessions, participatory mapping, life histories, and transect walks. This thesis plans to utilise some of these methods during field research to collect relevant data.

The utilisation of PAR in this thesis signifies a pragmatic and inclusive approach to engaging local women within the *Isan* region in the research process. The justification and challenges of using PAR in this thesis will be elaborated in Section 5.6 of Chapter 5. The subsequent section provides a critical review of prior studies on climate adaptation and gender, highlighting existing research gaps and opportunities for future investigation.

2.7 Critical Analysis of Existing Research

Existing research frequently neglects the intersection between climate change and localised gendered adaptation practices. This section will critically analyse four main challenges of existing research gaps to justify this thesis.

Firstly, although global frameworks and Thailand's national policies recognise the significance of implementing gender-sensitive approaches to climate adaptation, in practice, these policies frequently fail to incorporate gender considerations into local adaptation strategies fully. Habtezion (2013) and Terry (2009) emphasised how climate change disproportionately affects women, pointing out that intersecting factors like socio-economic and cultural influences influence their ability to adapt. Given that climate change has gender-differentiated impacts (UN Women, 2023), existing studies in Thailand often assume homogeneity among women, disregarding the complexity of their social identities and thereby overlooking the unique challenges faced by different subgroups, such as older women and young women. This thesis seeks to address this gap by utilising various tools, including life-story interviews conducted with older women, who are regarded as the most respected members of the community due to their longevity. Incorporating the perspectives of older women regarding their adaptation strategies enriches understanding of how women's adaptive capacities and vulnerabilities evolve, especially in response to climate change. This approach provides a more comprehensive

perspective on the development and transformation of these strategies.

Secondly, policies in Thailand are primarily formulated at the national level, employing a top-down approach that frequently neglects the specific needs, knowledge, and participation of local communities. A significant issue highlighted in the literature is Thailand's dependence on top-down climate adaptation strategies. Policies, such as the NAPs, are formulated centrally and may not fully reflect the specific needs and circumstances of local communities. The disconnection between national policies and local realities, particularly in rural areas such as *Isan*, warrants careful examination. Although Thailand's national policies acknowledge the importance of local participation, rural women are frequently excluded from formal decision-making processes. This exclusion results in ineffective adaptation efforts that overlook local knowledge and lived experiences. This thesis aims to address this gap by actively engaging women in the research process, thereby ensuring their voices and local expertise are incorporated into adaptation strategies.

Thirdly, despite being disproportionately impacted by climate change, women are frequently excluded from leadership roles in adaptation initiatives, which restricts their capacity to influence community-led resilience strategies. Research, such as that by Yadav and Lal (2018) and Khalil et al. (2019), emphasises that women are proactive agents of change rather than mere victims. This highlights a focus on how women adapt, rather than on their potential to lead and shape adaptation efforts within their communities. To address this gap, this thesis will investigate how women in *Isan* can be empowered to assume diverse roles within their communities, thereby gaining a comprehensive understanding of gender-specific roles through targeted case studies.

Finally, the *Isan* region faces significant air pollution problems, particularly from PM_{2.5}, which has a substantial impact on the study area. These pollutants not only degrade air quality but also influence precipitation patterns and climate dynamics. Addressing these emissions is essential for reducing the impacts of climate change. To gain a comprehensive understanding of the contexts of the fieldwork areas, general background information and specific site details will be provided in Chapters 3 and 4.

2.8 Chapter Summary

This chapter provides a comprehensive review of the literature on gender, climate change adaptation, and the determinants influencing women's participation in these initiatives, with particular emphasis on the *Isan* region of Thailand. By analysing both international frameworks and Thailand's national policies, the literature highlighted significant gaps in gender integration and the practical strategies at the local level.

The review presented the importance of context-specific approaches, recognising that women face complex challenges in climate change adaptation. The literature review highlighted the need for adaptation strategies that empower women and address the specific barriers they encounter in their livelihoods. Furthermore, the COVID-19 pandemic and environmental impacts in *Isan* highlighted the roles of women in building climate resilience.

This chapter also emphasised the significance of gender-responsive and localised climate adaptation strategies. The identified gaps in Thailand's policies, especially concerning gender inclusion and bottom-up approaches, highlight the relevance of this thesis's use of PAR to involve women in *Isan* as proactive agents in climate adaptation. These insights from the previous studies and the context of *Isan* inform the framing of the research design and guide fieldwork, as outlined in the next chapter.

Chapter 3 Research Design

This chapter describes how ontology, epistemology, axiology, methodology, and research methods underpin the study. This thesis adopts Critical Theory as the overarching framework, providing an analytical lens to examine power dynamics within the social contexts of two research settings. PAR was selected as the principal methodology due to its bottom-up approach, which has emancipatory value and the capacity to empower and give voice to participants, primarily women villagers, to make decisions about what matters to them (Lloyd-Evans et al., 2023). The ontology, epistemology, axiology, methodology, and research methods will be described.

3.1 Research Questions

This research investigates women's perspectives on climate change adaptation in Northeast Thailand, emphasising their adaptive responses, decision-making processes, and the factors influencing their involvement in climate change adaptation. Additionally, it examines how women have previously adapted to recent and ongoing climate variations and evaluates their potential for increased engagement.

The thesis question is "How have women enhanced their capacities to respond to climate change adaptation in the Northeast, *Isan*, region of Thailand?" Two sub-questions break down the main research question into specific aspects of women's adaptive capacities.

- (1) How have women perceived and adapted to climate change issues at the village level?
- (2) What factors influence women in adaptation to climate change, and how do these factors impact women in their livelihoods?

3.2 Research Philosophy

Saunders et al. (2009) define research philosophy as "a system of beliefs and assumptions about the development of knowledge" (p.124). Among the philosophical positions, this thesis adopts a critical realist perspective, which acknowledges that reality exists independently of human interpretation or perception (ontological realism) but can only be understood through socially constructed interpretations (epistemological relativism).

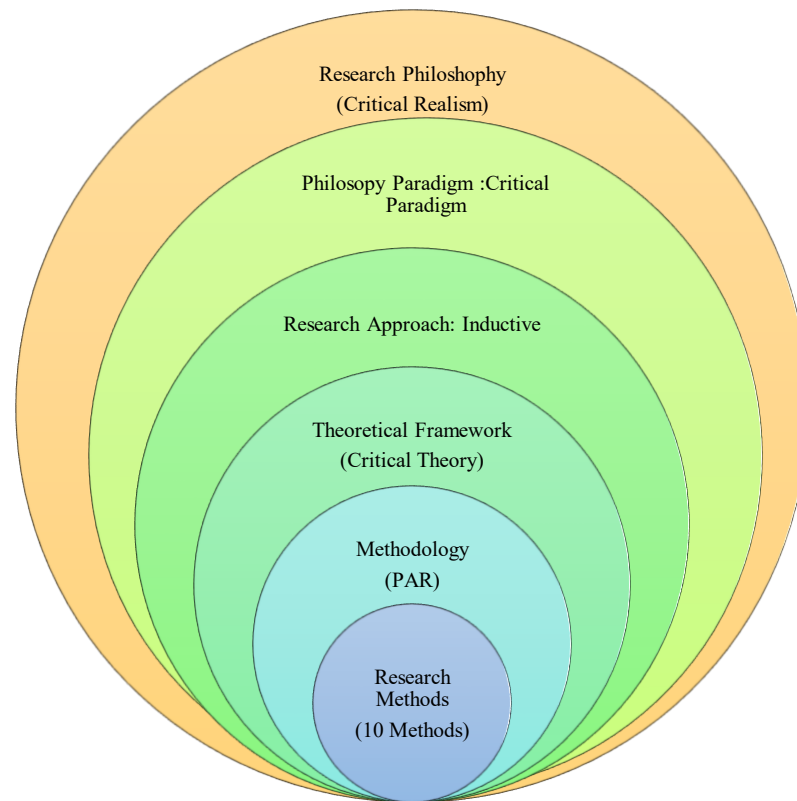
Critical realism offers a nuanced position between positivism and interpretivism, allowing for the recognition of real structures, mechanisms, and powers that influence social phenomena, while also acknowledging that human understanding of these realities is inherently fallible and shaped by context (Saunders et al., 2009). This philosophical position aligns with the thesis's focus on exploring gender dynamics and adaptive responses to climate change in the *Isan* region of Thailand. It supports the use of qualitative and participatory methodologies, such as PAR, to uncover underlying mechanisms and empower local voices. Thus, critical realism provides a suitable philosophical foundation for a study that is committed to both understanding and transforming the social world.

3.3 Research Paradigm

A research paradigm delineates a foundational framework that directs the conduct of scholarly investigation. Guba and Lincoln (1994) characterised a research paradigm as “the basic belief system or worldview that guides the investigator not only in choices of method but in ontologically and epistemologically fundamental ways” (p.105). It comprises four principal components: ontology, epistemology, axiology, and methodology (Guba & Lincoln, 1994; Saunders et al., 2009). A well-structured research design guarantees that the constituent elements, including the research paradigm, theoretical framework, conceptual framework, methodology, and research methods, are coherently interconnected and aligned with the overarching research objectives, as illustrated in Figure 1.

This thesis employs a critical paradigm to analyse gender dynamics in climate change adaptation within Thailand's *Isan* region, where women frequently encounter structural impediments in decision-making processes. After evaluating various paradigms, the critical paradigm was selected due to its capacity to challenge existing power structures, address social inequalities, and promote emancipation (Kincheloe & McLaren, 2011). This paradigm posits that knowledge is influenced by historical, social, and political contexts rather than being neutral (Creswell & Poth, 2018). Within this framework, critical theory provides an analytical perspective that will be elaborated upon further.

Figure 1: The Research Design



Note: Diagram produced by the author.

The research paradigm is founded upon four fundamental assumptions: ontology, epistemology, axiology, and methodology, establishing a basis for comprehending how reality is perceived, the development of knowledge, and the influence of values on the research process.

3.3.1 Ontology

Ontology relates to the fundamental assumptions held by the researcher regarding the nature of reality, whether it is socially constructed or objective and independent, and how it is perceived (Guba & Lincoln, 1994; Saunders et al., 2009). Women's adaptive responses are not isolated phenomena; instead, they are influenced by historical, economic, and cultural factors (Freire, 1970). Women's decision-making in climate adaptation, as explored in this thesis, is not solely an individual process but is also shaped by various factors and resources within their communities. Recognising this ontological perspective ensures that the study not only documents women's responses but also critically examines the systemic barriers they face.

3.3.2 Epistemology

Epistemology refers to the nature of knowledge and its acquisition (Guba & Lincoln, 1994; Saunders et al., 2009). This thesis adopts a subjectivist epistemology, emphasising that knowledge is co-constructed through dialogue, lived experiences, and social interactions. Rather than perceiving knowledge as objective and detached, this research aligns with emancipatory research, which advocates that knowledge should be generated in collaboration with marginalised groups to challenge dominant narratives (Mertens, 2010). In the research process, women in the *Isan* region are not merely participants; they are active contributors to the production of knowledge about climate adaptation, consistent with the view that research should serve as a tool for empowerment rather than merely a mechanism for data extraction (Wang & Burris, 1994).

3.3.3 Axiology

Axiology pertains to the influence of values within research (Guba & Lincoln, 1994; Saunders et al., 2009). This study dismisses the concept of value-free investigation, acknowledging that all scholarly inquiry is shaped by the researcher's perspectives and ethical commitments (Mertens, 2010). The values and moral responsibilities informing this thesis, as delineated in Section 1.3 of Chapter 1, were inspired by the curiosity of peers and neighbours within the community. This project aimed to empower women to enhance awareness of climate change adaptation and to support their rights to determine their own paths and aspirations, thereby embodying a form of action research. Its critical and emancipatory orientation actively promotes gender equality and climate change adaptation, recognising that prevailing climate adaptation policies frequently neglect gendered considerations, thereby limiting women's participation rather than maintaining neutrality. By centring women's voices and experiences, this thesis conforms with critical research paradigms that critique dominant power structures (Kincheloe & McLaren, 2011).

3.3.4 Methodology

Saunders et al. (2009) endorsed an inductive and emergent methodological approach. They emphasised the importance of adaptability within the research process, whereby the research design, questions, and methods evolve iteratively throughout the study. The details of the methodology will be elaborated upon in Section 5.6 accordingly.

All four elements of the research paradigm have been discussed with a focus on their internal consistency. The subsequent section outlines the inductive research approach adopted in this thesis.

3.4 Research Approach: Inductive Approach

A research approach refers to the strategic plan or methodology that a researcher employs to conduct a study. It guides the procedures for data collection, analysis, and interpretation. The selection of a research approach is contingent upon the research problem, objectives, and underlying philosophical assumptions (Sutrisna, 2009; Creswell & Creswell, 2018).

Inductive and deductive approaches represent distinct philosophical paradigms. The inductive method is exploratory and data-driven, enabling patterns and themes to develop from observations and inform the development of theory. It is more open-ended and responsive to the data itself (Thomas, 2006; Bryman, 2016). In contrast, the deductive approach is theory-driven, where existing theories or hypotheses are tested through data collection and analysis (Thomas, 2006; Bryman, 2016). While both approaches are valuable, selection depends on the nature of the research inquiry.

Creswell (2014) examines both inductive and deductive methodologies as fundamental reasoning strategies within the domain of research. The inductive approach starts with specific observations and advances toward broader generalisations and theories, often associated with qualitative research (Creswell & Poth, 2018). This methodology involves data collection, pattern recognition, hypothesis formulation, and the development of theories based on observed patterns. It demonstrates flexibility and provides a comprehensive understanding of contextual factors; however, it may be time-consuming and less broadly applicable.

Conversely, the deductive methodology begins with a theoretical framework or hypothesis, which is then examined through empirical observations. This technique is frequently employed in quantitative research. Researchers initiate their process by establishing a theory, formulating a hypothesis, collecting data to test the hypothesis, and subsequently validating or refuting it based on the empirical evidence. This approach offers high reliability, a clearly defined structure, and generalisable results; however, it may also be rigid and potentially neglect contextual factors or new insights (Creswell, 2014).

This research employs an inductive approach, known for its flexibility in accommodating emerging themes, making it well-suited for qualitative studies centred on lived experiences (Braun & Clarke, 2006). Instead of testing preconceived theories, this study derives insights from women's lived experiences of climate adaptation, allowing themes and patterns that arise from the data. Four main reasons demonstrate its relevance to this thesis.

Firstly, climate change adaptation is highly localised and influenced by cultural, socio-economic, and environmental factors. Inductive analysis enables an in-depth investigation into how these factors influence local women's adaptation strategies, without imposing pre-existing theoretical frameworks that may not fully reflect the complexity of their lived experiences.

Secondly, the inductive approach aligns well with PAR, which emphasises the co-creation of knowledge with participants. This approach enables participants' voices to influence the analysis process, rather than being absorbed into rigid theoretical frameworks (Chevalier & Buckles, 2019).

Thirdly, this thesis investigates how women in the *Isan* region make independent decisions about climate change adaptation. The inductive approach is suitable for this goal, as there is limited research on the intersection of gender, decision-making, and climate adaptation in this specific context. This method enables themes to emerge naturally from participants' narratives, rather than being constrained by predetermined theoretical frameworks (Creswell & Poth, 2018). As Adger et al. (2009) emphasise, effective adaptation strategies must be rooted in the particular social and cultural contexts where they are implemented, rather than relying solely on generalised models that may overlook local complexities and values.

Lastly, the thesis employs thematic analysis, an approach inherently aligned with an inductive approach, as it facilitates the emergence of themes directly from qualitative data. This approach ensures that the analysis remains anchored in participants' perspectives rather than constraining data within pre-established categories (Braun & Clarke, 2006).

The integration of Critical Theory, PAR, and thematic analysis ensures that research remains participatory, adaptable, and context-specific. This methodology enhances theoretical contributions and supports practical applications in climate adaptation,

particularly those promoting women's participation. The subsequent section will outline the critical theory framework, which underpins the theoretical foundation of this thesis.

3.5 Theoretical Framework: Critical Theory in Climate Change Adaptation

This thesis employs critical theory as its foundational theoretical framework to scrutinise the intersection of gender dynamics and climate adaptation within Thailand's *Isan* region. Originating from the Frankfurt School, critical theory critically examines societal power structures and systems of oppression, advocating for emancipation and social transformation. It is an interdisciplinary approach that integrates philosophical and sociological perspectives (Denzin & Lincoln, 2017). The justification for utilising critical theory is based on two primary considerations: emancipation and gender.

Firstly, critical theory endeavours to empower marginalised communities to critically evaluate and modify the social conditions that constrain them (Freire, 1970). This research aims to enable women to make autonomous decisions regarding climate adaptation. It provides knowledge and tools for understanding and overcoming oppression, guiding actions towards enlightenment and emancipation, and offering radical social critiques (Newman, 2005).

Additionally, emancipatory research is a form of PAR that recognises the inherent power imbalances in traditional research contexts and aims to uplift and empower those who are usually the subjects of inquiry (Noel, 2016). It seeks to liberate individuals and groups from various forms of domination and encourages active participation in the research process among marginalised communities. The emancipatory value in research lies in the collaborative process that co-creates knowledge and actions directly benefiting disadvantaged or marginalised people. This framework requires researchers to become more conscious and reflective about how their power and privilege influence the research process, thereby reducing the reliance on "top-down" methodologies and fostering research projects that genuinely empower those involved (Noel, 2016).

Thompson (2020) described emancipatory values arising from the application of critical theory, which seeks to understand social processes and the increasing awareness of structural oppression within them. Researchers in PAR have an emancipatory focus on

improving human welfare and use a variety of methods for action and reflection (Murray & Ozanne, 1991, as cited in Ozanne & Saatcioglu, 2008). According to Bidwell and Schweizer (2021), emancipatory values concentrate on social power disparities, aiming to empower less-privileged groups and individuals by creating new voices and spaces in decision-making environments. Emancipatory research is viewed as benefiting society, particularly previously marginalised or “voiceless” groups. Models and tools based on emancipatory concepts can be reflected in practical settings such as action groups, local town hall meetings, and community development initiatives (Renn, 2008, as cited in Bidwell & Schweizer, 2021).

Critical theory constitutes a praxis-oriented and emancipatory framework that aims to elucidate social structures that oppress individuals and pursue their liberation from domination (Suttisa, 2005). While emancipatory theory primarily focuses on liberation, critical theory provides a more comprehensive paradigm that encompasses societal structures and power relations. The foundational assumptions of this research are that the emancipatory tradition inherent in action research is appropriate for uniting community stakeholders to cultivate a shared consciousness and dedication to action (Nilvarangkul et al., 2016).

The theory critically examines prevailing discourses that marginalise women’s involvement in climate decision-making processes. It emphasises power structures, social inequalities, and the potential for transformative change (Kincheloe & McLaren, 2011). This aligns with the thesis’s purpose in empowering women within the context of climate change adaptation efforts in the *Isan* region of Thailand. Additionally, gender perspectives within critical theory not only analyse existing inequalities but also aim to promote social transformation, thereby supporting the thesis’s goal of empowering women in climate adaptation.

By engaging with local perspectives, this research aligns with the objectives of critical theory, which not only critiques existing power structures but also aims to facilitate social change. The methodology will be discussed in the subsequent sections, transitioning from theoretical discussion to practical application.

3.6 Methodology: PAR

This thesis adopts PAR, drawing on its foundations in critical theory and empowerment to involve participants as co-creators of knowledge and solutions to local challenges. The origins of PAR can be traced back to Kurt Lewin's work in 1946, who initially conceived of action research as a spiral process encompassing fact-finding, planning, implementation, evaluation, and revision before advancing to subsequent stages (Okoko, 2023). Two types of action research are identified: PAR, which involves community members as co-researchers aiming to explore avenues for enhancing their lives and communities, and practical action research, which focuses on solving a specific, practice-based problem with a focus on actionable outcomes (Okoko, 2023).

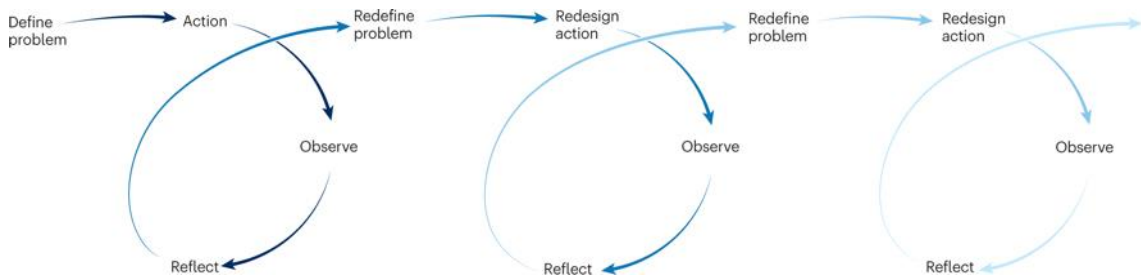
The PAR approach was subsequently expanded and popularised by scholars such as Freire (1970), whose critical pedagogy emphasised that research should serve as a means of empowering oppressed communities. Subsequent advancements in feminist research, indigenous methodologies, and critical theory have shaped contemporary PAR as an approach that prioritises social justice, collective participation, and transformative action (Denzin & Lincoln, 2017). The methodological framework is informed by its ontological, epistemological, and axiological foundations. The thesis aims to empower participants.

The proponents of PAR work within a variety of organisational and community contexts, using both quantitative and qualitative methods (Schneider, 2012). Baum et al. (2006) noted that PAR sets itself apart from traditional research through three key features: 1) its ability to enable action; 2) its focus on power dynamics; and 3) its departure from less participatory, top-down approaches that see participants merely as "subjects" for data collection, often removing data from their original contexts for researchers' use, unlike conventional research, which often extracts data from communities without giving them control over how it is used, leading to power imbalances and potential exploitation (Chambers, 1994). Such methods tend to impose external solutions. In contrast, PAR draws on local knowledge and existing coping strategies (McTaggart, 1991).

PAR is a cyclical and participatory process that involves several key stages aimed at generating practical solutions and a deeper understanding. In a cyclical process, teams collaborate to establish an initial problem definition, design an action, observe (developing a research plan and collecting data on the results, followed by analysis and interpretation), and reflect (or evaluate the action). Subsequently, they adjust their

understanding and revise the next cycle of the research–action process. (Cornish et al., 2023). This cycle is depicted in Figure 2.

Figure 2: PAR Cycles



Source: Cornish et al. (2023).

3.6.1 Justification of Employing PAR

The adoption of PAR offers numerous advantages, particularly in community-based research. Within the context of this thesis, the use of PAR is justified for four particular reasons.

Firstly, PAR facilitates collaborative knowledge creation, thereby ensuring that women's perspectives are integral to the research process (Maguire, 1987). Its grassroots methodology enables a comprehensive examination of participants' lived experiences and emphasises the importance of their voices. Lloyd-Evans et al. (2023) elucidate that, rather than seeking to address or rectify deficiencies within a community, the PAR approach recognises the community's existing knowledge and its potential for positive transformation. This methodology enhances the validity and credibility of the research by ensuring that the findings accurately reflect community concerns and lived realities. Participants assume a central role in the research process. Their knowledge and experiences contribute significantly to academic insights, complemented by critical reflection on the power dynamics inherent in the research.

Secondly, PAR aligns with critical theory. PAR promotes emancipation and social justice, ensuring that marginalised groups, particularly women, have an active role in

knowledge production and decision-making (Freire, 1970; Mertens, 2010). This methodology enables women in the *Isan* region to challenge restrictive gender norms and participate in climate adaptation strategies as co-researchers rather than passive subjects (Gaventa & Cornwall, 2006).

Thirdly, PAR generates solutions that are locally relevant and culturally appropriate (Gaventa & Cornwall, 2006). This methodology enhances the sustainability of interventions by deriving solutions from within the community itself, rather than imposing externally devised solutions. Furthermore, PAR functions as a vital tool for policy advocacy, as it provides evidence-based recommendations directly rooted in community experiences. Policymakers are more inclined to implement actions based on research findings that have been collaboratively developed with affected communities, owing to the legitimacy and contextually grounded insights they offer (Gaventa, 2006). Research utilising PAR in the context of climate change adaptation in Thailand possesses considerable potential to influence national policies that promote gender-inclusive adaptation strategies, thereby empowering women's leadership within climate governance. In climate adaptation initiatives, participants may recognise the need for additional strategies to mitigate associated risks. Moreover, PAR encourages ongoing reflection and learning, ensuring that the research process remains adaptable and responsive (Reason & Bradbury, 2008).

Finally, with regard to ethical considerations, PAR adheres to exemplary ethical standards by engaging the community in the research process, rather than conducting research on them (Cornwall, 2008). It underscores the importance of informed consent, transparency, and mutual respect, which are vital when working with vulnerable or historically marginalised groups. PAR actively involves women in the research design process, thereby ensuring compliance with ethical principles.

By integrating these philosophical assumptions, the thesis maintains consistency between its paradigm, theoretical framework, and research methods. Acknowledging that reality is socially constructed (ontology), knowledge is co-created (epistemology), and research is value-driven (axiology), PAR has been chosen as a primary methodology. This alignment ensures that the thesis not only explores gendered climate adaptation but also contributes to empowering women in the *Isan* region to influence climate resilience strategies at multiple levels.

3.6.2 Challenges and Considerations in PAR

Although PAR offers numerous benefits, it also encompasses three significant challenges that necessitate meticulous examination within this study. Firstly, PAR demands persistent engagement, trust-building, and ongoing participation, which can be burdensome for both researchers and participants (McTaggart, 1991). The fieldwork I conducted on two separate occasions, supplemented by the *LINE* communication channel to gather updates from participants, facilitated continued engagement with them.

Secondly, PAR functions as a means to empower participants. The dynamics of power to the participants can ensure genuine participation within the community and minimise researcher dominance (Cornwall, 2008). See Section 5.15.4 for a discussion of reducing the power imbalance.

Finally, the process of conducting PAR starts with defining the problem, collecting data, analysing findings, and applying solutions (Kindon et al., 2007). Climate change adaptation is the starting point for determining the problem addressed in this thesis. Although this thesis does not directly address the overall situation in the village, climate change is a cross-cutting issue that relates to various concerns within the village, such as drought, heat, and floods.

By actively involving women in the *Isan* region, this thesis goes beyond traditional research methods and ensures that its findings support practical, community-centred climate adaptation solutions. The following section describes the selection of research methods.

3.7 Research Methods

Ten data collection methods were employed: surveys, introductory meetings, life story interviews, in-depth interviews, seasonal calendars, transect walks, *So-Leh* discussions, workshops, ecological mapping, and fieldwork journals. These methods were selected based on their alignment with the methodology, ensuring active participant engagement and knowledge co-creation.

This study adopted a qualitatively dominant mixed-methods design. While both qualitative and quantitative approaches were employed, the research was

epistemologically and analytically grounded in qualitative inquiry. Mixed-methods research involves the deliberate integration of qualitative and quantitative approaches within a single study to generate a more comprehensive understanding of complex social phenomena (Creswell & Plano Clark, 2018). In this study, mixed methods were multi-method qualitative techniques using several qualitative tools within the same interpretive paradigm to enhance depth and internal coherence.

3.7.1 Survey

A survey is a structured method for gathering information or data from a defined group of respondents through questionnaires or interviews (Creswell & Creswell, 2018). The survey questionnaires were used to collect information from the elected *Phuyaiban* of each of the two villages, including one male and one female representative. The survey was structured into four sections: socio-economic and demographic characteristics of the village, livelihoods within the village, perceptions of climatic impacts, and the role of women in local development. The survey questionnaire can be found in Appendix D.

3.7.2 Introductory Meeting

An introductory meeting was held in each village at the start of the research to introduce myself, explain the research objectives, and solicit participation from the villagers. Invitations were extended to all adult villagers, with meetings scheduled in the evenings at easily accessible village halls to optimise attendance. The two *Phuyaiban* communicated with their villagers via the village public address systems, a media channel dedicated to disseminating news and information within each village, and through personal approaches. The leaders possessed thorough knowledge of their village members, having resided there since birth, and many villagers were kinfolk.

3.7.3 Life Story Interview

A life story interview serves as a qualitative research method utilised to collect detailed narratives concerning an individual's life. It emphasises how individuals interpret their experiences over time, encompassing significant events, turning points, personal growth, challenges, and social or cultural factors that influence their identities (McAdams, 1995).

I conducted life story interviews using a semi-structured questionnaire with one elderly man and one elderly woman from each of the two villages. These interviews aimed to capture the perspectives of women and men regarding the history of each village, from

individuals who had resided there the longest and could provide memories that might not have been documented or recorded elsewhere. The questionnaire was divided into two primary sections: general information about the village, and inquiries concerning natural resources, the environment, and climate conditions. I encouraged participants to speak freely and asked follow-up questions to help them share historical insights. The life story interview questions are provided in Appendix D.

3.7.4 In-depth Interview

An interview is a qualitative method used to gather detailed insights into participants' experiences, opinions, and perceptions (Creswell, 2014). In-depth interviews were conducted with nine women to gain extensive information about their experiences, perspectives, and opinions regarding the impacts of climate change on their daily lives. All interviews took place in community halls (Sa-La-Moo-Ban in Thai), chosen for their convenience and comfort for the participants. The interviews used a semi-structured questionnaire with three sections: general information about the villages and climate conditions, women's contributions to the village, and the impacts of COVID-19. During the interviews, the weather was notably hot, and pressing issues related to climate, such as heat stroke and PM2.5 air pollution, arose. Subsequently, additional questions on these topics were incorporated into the interview framework as the sessions continued. The in-depth interview questions can be found in Appendix D.

3.7.5 The Seasonal Calendar

A seasonal calendar serves as a visual tool to illustrate activities associated with seasonal phenomena throughout the year (Fauna & Flora International, 2013). Chambers (1994) incorporated seasonal calendars into participatory rural appraisal methodologies, thereby fostering community empowerment through the analysis of local contexts. Cornwall and Jewkes (1995) described this tool as a means that enables villages to analyse interconnected factors such as rainfall, migration, food access, and health issues over time.

In this thesis, seasonal calendars were collaboratively developed with participants to highlight seasonal variations within the villages, encompassing topics such as income, agricultural practices, annual festivals, gender-based workloads, weather patterns, and other village activities. Throughout this process, participants employed large sheets of paper (newsprint), along with pens and markers, to orally and visually express and share

their thoughts and experiences.

3.7.6 Transect Walk

A transect walk is a participatory research method where participants systematically walk along a designated path within a community. It helps explore environmental and social resources, conditions, and systems through attentive listening, questioning, observations, and the creation of a transect diagram in collaboration with community members (Okoko & Prempeh, 2023).

The processes of this method were carried out in each village. The researcher and a group of village participants walked through their respective villages, identifying and discussing their landscape features and crucial community resources. In the case of BMM5, we ventured into the adjacent community forest, known as “*Don Pu Ta*,” which is regarded as a sacred site and believed to be protected by an ancestor spirit that safeguards the community from calamities. We also journeyed north from *Don Pu Ta* to the Nong-no swamps, a vital water source essential for that village’s farming activities. In BLPTM12, our walk traversed the expansive community forest, which notably houses a Dhamma centre. It is also a meditation centre for Buddhists from within and neighbouring villages (more details outlined in the research settings). During the walk, I encouraged participants to collect parts of plants that intrigued them, suggesting a minimum of three different plants. This was because I wanted to discuss and compare how men and women showed interest in the plants they picked.

3.7.7 Ecological Mapping

Ecological mapping, a form of participatory mapping, enables communities to depict their interactions with natural resources and the environment visually. Chambers (1994) describes participatory mapping as a tool that empowers local people to articulate and share their spatial knowledge, especially of their surroundings.

Employing this tool during fieldwork involved creating a visual map that highlighted locations, resources, and connections among key features identified during the transect walk. After completing the walk in both villages, we returned to our designated areas to collaboratively draw a map representing our journey and the resources we found. Participants marked the locations of the collected plants and other notable observations from our walk using large sheets of paper, pens, and markers. Afterwards, we engaged in

group discussions to assess and evaluate the quality of the plants gathered.

3.7.8 The *So-Leh* Discussion

The *So-Leh* discussions were held twice in each village, once during the Phase III analysis and again during the Phase V evaluation. There are some differences between a conventional group discussion and *So-Leh* discussions.

The conventional focus group discussion is typically researcher-led, semi-structured, and guided by predetermined questions designed to elicit responses relevant to specific research objectives. The facilitator moderates participation, manages time, and ensures that discussion remains aligned with research themes. While focus groups may encourage interaction among participants, they remain structured within a formal research framework in which the researcher retains authority over the process and direction of dialogue.

In contrast, the *So-Leh* discussion groups are a traditional form of indigenous group discussion in *Isan*, where participants use the *Isan* dialect to exchange opinions and collectively address village issues, such as livelihoods, life experiences, or other problems (Sanannaree et al., 2020). Conducted in the *Isan* dialect and characterised by informal, unfocused, relaxed, and often humorous interaction. Participation is shaped by kinship ties and social familiarity rather than researcher control. Dialogue unfolds organically, and participants collectively shape the direction, scope, and parameters of the discussion. This egalitarian structure reduces social pressure and allows individuals regardless of gender to speak openly without fear or intimidation. *So-Leh discussions* can take place at any time and in any location, usually in open spaces within the village.

The nature of this established local method of deliberation style involves no leaders, no followers, and no pressure from outsiders in the discussion, everyone is equal. It bears similarities to Talanoa, described as “a Pacific Island form of dialogue that brings people together to share opposing views without any predetermined expectations for agreement. Talanoa participants set the parameters for their discussions: inclusion, reconciliation, and mutual respect” (Robinson & Robinson, 2005, p.2). Talanoa involves engaging in unstructured, face-to-face conversations, allowing researchers and participants to speak freely and equally, thereby enabling the expression of personal and collective viewpoints (Vaiotei, 2006). The *So-Leh* discussions allow all participants, regardless of gender, to verify and validate data obtained from their activities. It was clear that *So-Leh* discussions

provide a platform for sharing experiences, stories, viewpoints, and knowledge, ultimately supporting problem-solving within culturally appropriate settings.

During the *So-Leh* discussions, I also provided ancillary data concerning climate change relevant to the *Isan* region to inform them about historical events and scientific predictions for the future. I used simple language rather than scientific terminology to enhance clarity and accessibility.

3.7.9 The Workshop

Workshops in participatory research serve as platforms that facilitate dialogue and mutual learning, wherein community members and researchers collaboratively generate knowledge and strategise actions (Cornwall & Jewkes, 1995).

In research contexts, workshops serve as platforms that facilitate interaction among diverse stakeholders, enhance mutual understanding, and promote the integration of multiple perspectives. These workshops are extensively documented within PAR as essential tools for knowledge dissemination, co-creation, and collaborative problem-solving. Consequently, they enable participants to engage in both the research process and its outcomes actively (Kindon et al., 2007).

Workshops were used to facilitate the exchange of knowledge, encourage discussions, and promote active engagement exclusively among female participants in each village. The primary objective of each workshop was to provide women with opportunities to refine their approaches to climate change adaptation, tailored to their perspectives and capacities.

3.7.10 Fieldwork Journal

A fieldwork journal serves as a reflective and observational tool, allowing researchers to document not only empirical data but also their impressions and the contextual dynamics that surround them. These elements are crucial for subsequent analysis, documentation, and for gaining reflexive insights throughout the research process (Emerson et al., 2011).

A Fieldwork journal functions as a tool for documenting observations and reflections related to daily research activities. I kept journals throughout the fieldwork, recording various activities, conversations, situations, encountered problems, decisions made, and my reflections on the research process. Daily field notes were taken and then transcribed

into Microsoft Word. These updates were shared weekly with my supervisors to keep them informed of progress and developments during my fieldwork.

3.8 Participant Recruitment

A comprehensive and inclusive recruitment strategy was implemented to ensure diverse representation. The standard criteria were that all participants could communicate in both Thai and *Isan*. Participants were volunteers and were comfortable participating in research activities during the fieldwork period.

The participants were primarily women from the two selected villages, supplemented by several men, who took part in seven research activities: a survey, introductory meeting, seasonal calendar, transect walk, ecological mapping, *So-Leh* discussion, and life-story interviews. The number of participants involved in each activity is presented in Table 5.

Table 5 : Number of Participants in the Data Collection Process

Methods	BLPTM12		BMM5		Total Participants
	Male	Female	Male	Female	
1 Survey	-	1	1	-	2
2 Introductory Meeting	7	23	10	25	65
3 Life story interview (Elderly)	1	1	1	1	4
4 Seasonal Calendar	5	7	7	8	27
5 Transect walk	3	7	4	4	18
6 Ecological Mapping					
7 In-depth interview (Women only)	0	5	0	5	10
8 <i>So-Leh</i> discussion	5	8	5	11	29
8.1 Analysis phase					
8.2 Evaluation phase	3	7	2	9	21
9 Workshop	0	8	0	10	18
10 Fieldwork journal (Researcher only)	-	-	-	-	-
Total	21	60	28	64	194

Note: Table compiled by the author.

Participant selection criteria varied by research activity. Recruitment began with an introductory meeting held in the community hall of each village, where all villagers were invited to join voluntarily. For the survey, I purposively selected the *Phuyaiban* from both villages because of their in-depth knowledge of local conditions and community dynamics.

Across all phases, participation remained voluntary. The resulting samples reflect the socio-demographic characteristics of the two villages and provide analytical depth rather than statistical representativeness. The predominance of middle-aged and older participants brought particular attention to themes such as productive and reproductive labour, public and domestic roles, farm management, and informal coordination in adaptation practices.

A purposive sampling strategy guided the study, with participants selected based on their involvement in livelihood activities and with attention to gender, age, and social roles. This approach ensured representation of diverse social positions and enabled examination of differentiated responsibilities and power relations in climate adaptation.

For the seasonal calendar, transect walk, and ecological mapping activities, participants included both women and men residing and working in each village, spanning different age groups wherever possible.

The in-depth interviews were conducted with female participants who reside and work independently on their farms within the two villages. I specifically invited women who exhibited enthusiasm and a willingness to engage and share information actively during various activities. This approach aimed to gain comprehensive insights into their daily practices through in-depth interviews. There were three distinct age groups: 18-40, 41-60, and 60 and older. However, there were limitations regarding age groups among women in BLPTM12; only two age groups (41-60 and 60+ years old) were interviewed, as younger community members were working in urban factories and the inner-city centre of Khon Kaen during the daytime. An elderly man and woman from each village, who had been born, raised and lived the longest in their respective villages, were invited for life story interviews. The participants in the introductory meetings suggested their names.

During the analysis phase of the *So-Leh* discussions, all participants who had engaged in any research activity were invited to participate openly and freely. However, for the evaluation phase in January 2024, while extending invitations to all female participants,

I selectively invited male participants who had demonstrated active engagement during the research activities conducted between April and May 2023.

All activities were conducted voluntarily, with the participant cohort maintained at a relatively small size. This facilitated active listening, observation, and meticulous note-taking throughout the procedures, tasks that pose greater challenges in larger groups. The same participants engaged in the transect walk and ecological mapping, as both activities were performed sequentially on the same day.

A total of 194 participants were involved, segmented according to various activities. At the outset, during the introductory meeting, each volunteer committed to contributing to research activities numbered 4 through 7, as outlined in Table 5. Notably, some participants chose to engage in multiple activities, depending on their availability and interests. As a result, the overall participant count was influenced by overlapping involvement across these activities. There were some adjustments in orders to accommodate the specific circumstances of each village during the fieldwork events. Therefore, the actual number of participants was 13 in BLPTM12 and 22 in BMM5, totalling 35 participants from the two villages.

3.9 Getting Contact Details

To ensure effective communication and the comfort of participants, I collected contact details from those willing to participate during the introductory meeting and supplied my contact information. During this meeting, when participants expressed their willingness to partake, either by raising their hands or verbally indicating interest, I promptly engaged with them to gather their contact details, including postal addresses, telephone numbers, and *LINE* social media accounts. Concurrently, I provided them with my business card and offered to supply additional information regarding the research activities should they wish to obtain further details or have any inquiries.

Recognising the importance of participant comfort, I also informed the *Phuyaiban* that they could help facilitate contact if any participants felt uneasy about reaching out directly. This approach aimed to ensure seamless communication and a comfortable environment that facilitated participant engagement in the research.

3.10 Research Locations

A strategic selection process was employed to identify research sites and coordinate activities, ensuring accessibility and minimal disruption. The subsequent section will elucidate how the sites, locations, and timings were chosen.

3.10.1 Study Sites

The main criteria for choosing the research locations were twofold. Firstly, to examine different climate impacts in flood-prone and drought-prone areas within the same province. Secondly, to investigate women's contributions through their roles.

In my research proposal, approved on 27 October 2022, the expressed intention was to conduct research in one village from each of the Thapra and Sawathee Sub-districts. Thapra sub-district was heavily affected by floods from September to October 2021, making it a flood-prone area surrounded by farmlands, schools, and several damaged villages. The continuation of these disasters was predicted due to “La Niña” (Thai Meteorological Department, 2021). I planned to select a village in the Sawathee sub-district, which is known for experiencing water scarcity during the summer and monsoon seasons. As described in the following paragraphs, the final selection of the two villages proved to be a challenging task.

Both selected villages in the south and west of Khon Kaen shared similar lifestyles, characteristics, and issues, which may limit the scope of comparison. Therefore, I opted to change the location from the Sawathee sub-district to Ku Kum, specifically selecting BMM5 as the study site. I reached out to the *Phuyaiban* and successfully obtained permission to conduct research. Additionally, I included BMM5 and Ban Nong Bua Di Mee in the Thapra sub-district as case studies for ethics approval. This village is situated in a flood-prone area.

In January 2023, during the preparatory phase of my return to Thailand, I established contact with an acquaintance familiar with the chief of the Thapra sub-district administrative organisation, who facilitated an introduction before commencing the fieldwork. The chief indicated that Thapra might not be an ideal location for research due to frequent and uncontrollable flooding, which predominantly affects public spaces and agricultural fields rather than residential areas. Consequently, I sought advice from a colleague, who then consulted the chief of the Ban Wa sub-district administrative

organisation. The latter recommended conducting the fieldwork in the Ban Wa sub-district, considering its ongoing drought conditions. He also offered assistance in establishing contact with a female *Phuyaiban*, leading to the selection of site BLPTM12. This village is situated in a drought-prone area. Subsequently, I received confirmations from both villages, BMM5 and BLPTM12, indicating their willingness to participate in the fieldwork.

3.10.2 Research Activity Locations and Timings

The research activities were strategically conducted in accessible locations and scheduled to accommodate participants' daily routines. This ensured active engagement without disrupting their daily routines. Once the confusion regarding the study areas was resolved, I promptly contacted the *Phuyaiban* to commence the research activities. Fortunately, their cooperation enabled the successful execution of the nine research activities at convenient locations for the participants. In BLPTM12, most activities took place in their community hall. However, in BMM5, Singharn, a non-chemical group leader, suggested conducting the activities at his farm due to ample space and proximity to the Nong-No swamp and community forest, which facilitated the activities.

To ensure their participation, the participants provided consent to take part in the research process between April and May. The communication facilitated the participants' planning of their involvement appropriately, without disrupting their professional commitments. The designated locations and times for each activity are delineated in Table 6.

Table 6: Research Locations in Each Research Activity

Research Activities	Locations		Timing
	BLPTM12	BMM5	
1 Survey	<i>Phuyaiban</i> filled out the survey paper form	<i>Phuyaiban</i> filled out the survey paper form	No time limit. The <i>Phuyaiban</i> filled out the form and sent it back to me on the last day of fieldwork

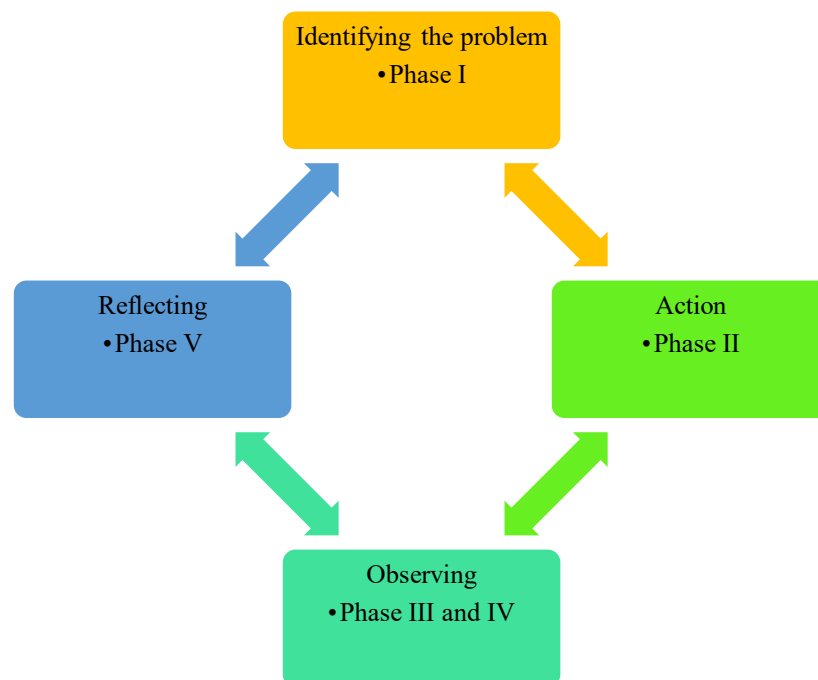
Research Activities	Locations		Timing
	BLPTM12	BMM5	
2	Introductory Meeting	Community Hall Singharn's farm	Around 2 hours
3	Life Story Interview	Community Hall Singharn's farm	Around 1.0 -1.5 hours for each participant
4	In-Depth Interview	Community Hall Singharn's farm	Around 1.0 to 1.5 hours for each participant
5	Seasonal Calendar	Community Hall Singharn's farm	Around 2 hours
6	Transect Walk	Community Forest Community Forest	Around 1.0 hour
7	Ecological Mapping	Temple Hall in the community forest area Singharn's farm	Around 1.0 hour Immediately after the transect walk
8	(8.1) <i>So-Leh</i> Discussion (Learning and sharing phase)	Community Hall Singharn's farm	Around 1.5 hours
	(8.2) <i>So-Leh</i> Discussion (Evaluation phase)	Temple Hall in the community forest area Singharn's farm	Around 2 hours
9	Workshop	Community Hall Singharn's farm	Around 45 minutes
10	Fieldwork Journal	Recorded and noted each activity by the researcher	Every week

Note: Table compiled by the author.

3.11 Data Collection Phases

The data collection process in this research was conducted in multiple phases, incorporating ten methods, to ensure a thorough grasp of women's viewpoints on climate change adaptation in the *Isan* region of Thailand. Based on the staged cyclical process of PAR, I organised the fieldwork into five phases. The relationship between the PAR stages and the thesis phases is illustrated in Figure 3.

Figure 3: PAR Process in this Thesis



Note: Diagram produced by the author.

Phase I (Scoping Phase): I analysed spatial data related to climate change, including weather patterns, agricultural production, and economic data, to develop an overview of the primary study area, the *Isan* region of Thailand. This phase commenced in December 2021 during my stay in Thailand, prompted by the COVID-19 pandemic-induced closure of New Zealand's borders. I visited the Khon Kaen district administrative office to review sub- district and village plans and to examine their strategies for climate change adaptation. Updated quantitative climate and demographic data were obtained from biennial update reports, which are incorporated into the Thai Government's reports

submitted to the UNFCCC. These reports provide updates on national GHG inventories and encompass reports on mitigation actions, needs, and received support. After arriving in New Zealand and gaining admission to the PhD programme, I received ethics approval. Subsequently, I collected additional specific data through surveys of the *Phuyaiban* to gain a deeper understanding.

In April 2023, I returned to Thailand and approached the *Phuyaiban*, seeking their cooperation to organise my introductory meetings. These meetings were scheduled in the evening, from 6.00 pm to approximately 8:30 pm, a time convenient for most villagers to attend. During these sessions, I communicated the purpose, key details, and the research project's processes using the *Isan* dialect, the spoken language of the *Isan* people. I invited their participation in research activities such as the seasonal calendar, transect walk, and ecological mapping.

Subsequently, I sought potential participants for life story interviews, specifically one elderly man and one elderly woman from each village. To gain an intergenerational understanding of the village development dynamics, I invited some younger participants to join the research process.

Phase II (Practical Phase): Fieldwork for Phases II, III, and IV was conducted between April and May 2023. This stage commenced with life history interviews. Each participant was over 70 years of age. They provided local wisdom and recounted stories about the decades of transformations in their villages, dating back to the mid-19th century. During these interviews, other villagers and elderly relatives were also present.

After gathering insightful life stories from elderly participants, I proceeded with the seasonal calendar activity in the following week. I conducted a transect walk within the first village and community forest of BLPTM12. A week later, I conducted a transect walk and a seasonal calendar in village 2, BMM5, and its associated community forest and Nong-no swamp. Immediately after completing the transect walk, ecological mapping was undertaken as the information gathered during the walk was crucial for creating the maps and was still fresh in the participants' minds. During these activities, all participants collaborated in verifying the collected data. These activities involved a large group of both men and women participants. As a local village scribe, I facilitated and assisted with the processes.

Phase III (Analysis Phase): Following the completion of research activities in Phase II, discussions on *So-Leh* were organised in each village to comprehensively review all data collected, which I subsequently reported back to the participants. Participants were actively encouraged to engage in dialogue and validate the data, leveraging their expertise on the subject matter to enhance the accuracy of the findings. Initially, I intended to divide the participants into two groups, intentionally selecting women for the first group and men for the second, to observe differing perspectives. However, after spending over a month in the village, I observed that villagers were comfortable expressing themselves openly in front of one another, regardless of their status or gender. Consequently, I decided to consolidate the group discussions into unified *So-Leh* discussions.

Phase IV (Learning and Sharing Phase): Following data collection and collaborative analysis, participants engaged in collective discussions and deliberations concerning actions aligned with their perspectives on climate change adaptation. They made informed decisions regarding which initiatives to pursue, grounded in their insights and experiences. Initially, I had intended to invite the chief of staff of the Ban Wa sub-district administrative organisation to participate in the workshops as observers. Their presence would have facilitated an understanding of the genuine aspirations of the local community, which is essential for developing the subsequent sub-district plan. However, due to the upcoming general election in Thailand, they were engaged in their official duties at that time.

Phase V (Evaluation Phase): This stage involved collecting feedback from participants upon completion of the fieldwork outlined in the preceding phases. I duly informed all participants regarding the processes involved, and they provided their consent to participate. The primary objective was to evaluate the decisions made during the workshop and their subsequent impacts. Additionally, I maintained ongoing discussions via *LINE* with two participants and *Phuyaiban* to investigate their practices regarding climate change adaptation.

In December 2023, I contacted them to coordinate and schedule the evaluation phase, which would assess the implementation. We mutually agreed to hold it during the last week of January 2024. I arranged a discussion session in the style of *So-Leh* to establish a welcoming environment where participants could openly share their experiences and insights.

3.12 Translation and Transcription

The translation and transcription process in this study was a critical and time-consuming task, involving careful conversion of the *Isan* dialect and the Thai language into English while maintaining accuracy and capturing the nuances of participants' voices and cultural expressions.

Before commencing my research activities, I obtained participants' consent regarding the recording procedures. For the transcripts derived from the in-depth and life story interviews, I provided participants with the opportunity to review, comment on, or amend them as they saw fit. Nevertheless, the participants expressed their satisfaction with their involvement and affirmed that the information provided during the interviews was accurate and transparent. As a result, they saw no necessity for any revisions.

Audio recordings played a pivotal role in gathering data across all research activities, complemented by note-taking and observing participants' comfort levels during these activities. I utilised the "Voice Recorder – VOZ" application available on the App Store, a free and seamless tool that I downloaded and used throughout my fieldwork without any disruptions. The recordings were meticulously organised by date and time on my mobile phone, enabling easy access for reference. Additionally, I could directly upload these audio files to my AUT University OneDrive for secure storage and accessibility.

The process commenced with my translation of the *Isan* dialect into formal Thai. However, following a meeting with my supervisors in June 2023 in New Zealand, they advised me to translate directly from the *Isan* dialect into English. As a native speaker of both the *Isan* dialect and Thai, it was deemed unnecessary to perform translations in both languages, thereby conserving time and resources. Nonetheless, translating into English proved to be time-consuming, given that English is my second language; I had to pause and revise the audio recordings frequently. I initially underestimated the difficulty of this task; my supervisors estimated it might take approximately three months. I believed I could complete it within one month, but I overestimated. The process was particularly challenging due to not only general English vocabulary but also specific terms related to Thai culture and native plants encountered during transect walks, where I needed terminology understandable to non-Thai speakers. For instance, when translating the term *Yanang*, I attempted to find an English term through an online search but was unsuccessful. Consequently, I used the scientific name "*Tiliacora triandra*" in the thesis.

Additional examples will be discussed in Chapter 7.

Specific applications and software, including Microsoft 365 and NVivo, have transcription features for the Thai language. However, these programmes do not support languages like the *Isan* dialect, despite their linguistic similarities to Thai. This limitation causes time-consuming difficulties when transcribing audio in the *Isan* dialect.

The transcripts were intended to be a verbatim representation of the conversation. Although I omitted filler words such as “um,” “ah,” “hmm,” “like,” “you know,” and “alright,” these words were nevertheless considered during sentiment analysis, as they could indicate participants’ emotions. I spent considerable time checking grammar, validating tenses, and proofreading to ensure accuracy, as English is my second language.

Transcribing from Thai to English posed specific challenges regarding grammar and tenses. Unlike Thai, which primarily uses a single tense, English requires careful selection among multiple tenses. These differences required careful rethinking and cross-checking to ensure the accuracy of the English transcription. The validation process involved several checks, particularly for activities with multiple participants, such as the seasonal calendar, transect walk, *So-Leh* discussions, and workshops.

Identifying speakers within these group settings required meticulous validation. As I began translating and transcribing the audio recordings, I heard myself laugh, which reminded me of the open and barrier-free conversations I had shared with participants. Their friendliness and humour created a relaxed and enjoyable atmosphere. The participants’ familiarity with each other allowed them to converse openly without shyness. These open discussions made it easy for me to engage and recognise each participant’s voice in the recordings. Thanks to the PAR process, which encouraged frequent interactions and visits, I became familiar with the participants’ voices and could easily identify them during transcription.

Following the completion of the evaluation phase of the fieldwork in BMM5 on 30 January 2024, I reviewed the audio recording and identified a technical issue that resulted in partial data loss. The available recording lasted only 6.35 minutes, whereas a full hour-long recording was anticipated. During my supervision session on 1 February 2024, I informed the team of the problem. They advised me to recall as much content as possible and record it immediately to avoid further loss. Luckily, two supervisors, John and Juliet, along with Jack, a colleague, were present during the *So-Leh* discussion and assisted me

in reconstructing the missing parts of the conversation.

3.13 Data Analysis: Thematic Approach

The data analysis employed a thematic approach, utilising inductive coding and NVivo software to identify and interpret patterns systematically. The analysis was conducted through thematic analysis to ensure that the findings remained consistent with Critical Theory's emphasis on critiquing power relations and social transformation (Braun & Clarke, 2006). Thematic analysis is particularly suitable for research that explores lived experiences and social structures, with a focus on gender dynamics, decision-making processes, and climate adaptation.

The study prioritised analytical depth, participatory engagement, and process-oriented understanding consistent with PAR, rather than statistical generalisation.

This research employed an inductive method for thematic analysis, signifying that themes were identified directly from the data instead of relying on pre-existing theories. The inductive approach ensured that the voices at the core of the process analysis facilitated the capture of emergent patterns, meanings, and concerns expressed by women in the context of climate adaptation. This methodology is crucial for examining gendered decision-making, as it enables the researcher to uncover context-specific insights that may not have been anticipated in advance.

Braun and Clarke (2006) outlined six phases of thematic analysis: familiarising with data; generating initial codes; searching for themes; reviewing themes; defining and naming themes, and producing the report. These phases are systematically adhered to in this thesis. The specifics of each data analysis stage are described below.

3.13.1 Familiarising with Data

I thoroughly engaged with the data by repeatedly reviewing transcripts from all research activities and field notes as a reference. The stages of qualitative data analysis were based on translations and transcriptions of the fieldwork data.

3.13.2 Generating Initial Codes

This phase represents a substantial segment of the research. I inductively identified codes

through the systematic organisation and coding of data derived from over 300 pages of transcriptions. The data were imported into NVivo, a qualitative data analysis software that facilitates efficient data management and theme development. NVivo is designed to support the organisation, sorting, and structuring of extensive datasets or texts (Bazeley, 2013).

I manually code the data without employing auto-coding methods. I review the texts from the transcriptions on a sentence-by-sentence basis, and upon identifying a text containing an implication, I assign it a corresponding name or “code.” In the current study, a total of 679 verbatim quotations from all research activities conducted in the two villages were allocated to 95 distinct codes, which were derived from the transcriptions.

The thematic analysis conducted in this study was grounded in coding methods rooted in grounded theory, which combine data collection with analysis. This methodology enables researchers to modify and revisit the field as necessary to address gaps, thereby enhancing the efficiency and comprehensiveness of the research process (Charmaz, 2001).

Inductive coding was employed to interpret and elucidate topics by deducing a network of relationships among codes (Hennink et al., 2011) within each village dataset. Furthermore, I utilised inductive coding categories derived from qualitative methodologies to generate frequency counts (Franzosi et al., 2013), and extended the coding framework to elucidate the relationships among these codes.

3.13.3 Searching for Themes

Both patterns and connections were examined and categorised into themes. The codes were employed to identify and analyse the principal issues emerging from the fieldwork. Code development was conducted using NVivo data analysis software, Version 14. This iteration differs from the previous version in terms of design and some functions. Upon commencing the use of this software, I sought a manual guide to ensure proper utilisation. Through recent research and user guides, I discovered that Version 14 employs the term “code” to represent a grouping of words, whereas earlier versions utilised the term “theme.”

To ensure mutual understanding within this thesis, the term “code” refers to a concise label or phrase that encapsulates a specific piece of information or idea, or a node, which serves as a container for all text associated with a particular idea. “Code group” refers to

a parent entity of codes sharing a similar pattern, whereas “theme” encompasses a broader pattern of meaning derived from the grouping of related code groups.

I organised 95 codes into 18 code groups to systematically manage them and facilitate a comprehensive understanding of similar ideas aligned with and connected to the research questions. The themes that support this linkage for data organisation and analysis are illustrated in Figure 4. A detailed description of the code groups, along with individual code specifics, is included in Table 11 of Appendix E.

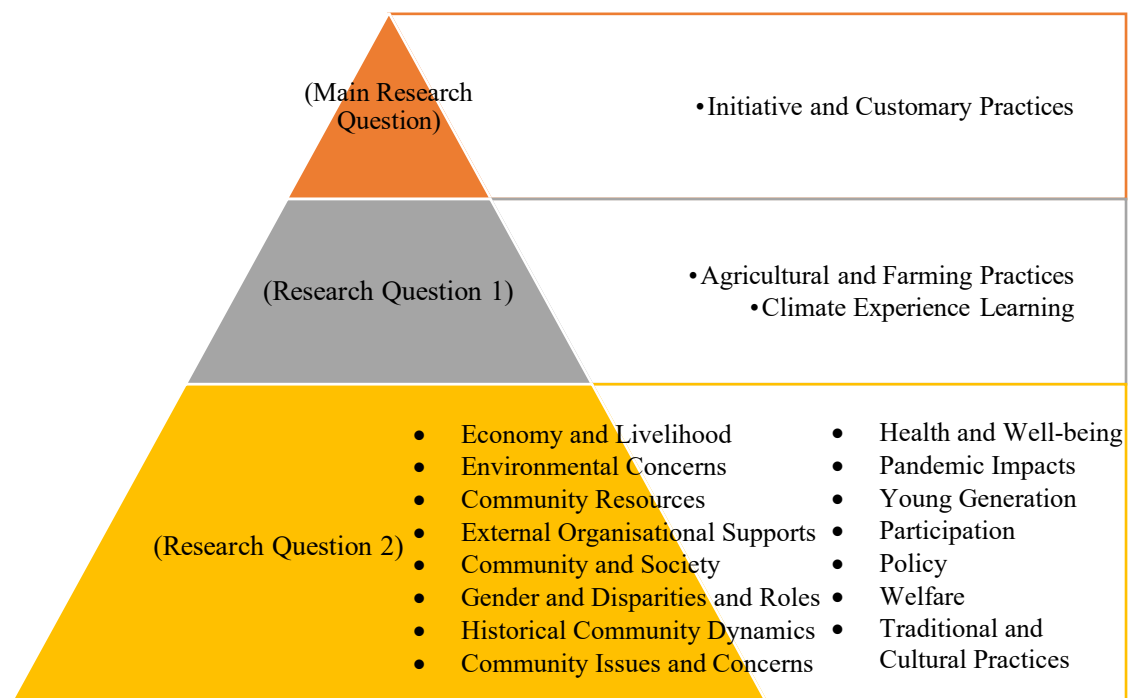
3.13.4 Reviewing Themes

Code groups, together with individual codes, were refined and cross-checked with the transcriptions and field notes. The review included checking words, grammar, and meaning to ensure the translation was understandable to non-Thai readers.

3.13.5 Defining and Naming Themes

Code groups were articulated and assigned descriptive names. The description of each code and each code group, along with the child’s codes, is presented in Table 11 of Appendix E.

Figure 4: Code Groups Arose from the Combined Analysis of Research Activities



Source: Diagram produced by the author.

3.13.6 Producing the Report

Themes were incorporated into the study's findings and interpreted within the broader discussion. The integration of inductive thematic analysis with NVivo facilitated data management and organisation, systematic coding, theme development and refinement, and the creation of visualisations for the report. Furthermore, this process ensured reliability and transparency in the analytical process (Nowell et al., 2017). The data analysis report may be presented in various formats, such as texts, visual representations, diagrams, or reports, including word clouds and mind maps. The utilisation of visual tools extends beyond mere presentation, serving also as analytical instruments (Bazeley, 2009).

This systematic methodology ensures a meticulous and transparent analysis of qualitative data while remaining receptive to emerging insights derived from participants' lived experiences (Braun & Clarke, 2006). Other scholars, such as Lohmiller (2021), examined the process of conducting thematic analysis with qualitative data, emphasising the importance of rigour and reproducibility. Byrne (2021) provided an illustrative example of Braun and Clarke's approach, aiming to elucidate its implementation and to dispel common misconceptions. By adhering to these six phases, the thesis ensures a rigorous, systematic, and transparent analysis, while maintaining openness to new insights arising from participants' lived experiences.

3.14 Data Verification

The data verification process was meticulously conducted in two ways. Initially, participants actively engaged in analysing data derived from the seasonal calendar, transect walks, and ecological mapping. Their contributions were utilised to validate the data during the *So-Leh* discussion, facilitated by various data presentation tools, including mapping diagrams. These visualisation tools were subsequently shared with and returned to the villagers for their review. Participants were thereby enabled to verify the data they collectively assembled during the research process.

Secondly, I conducted a thematic analysis on all collected data utilising NVivo Version 14 software. The programme assisted me, as the researcher, in cross-verifying while generating codes and analysing transcribed audio discussions, as well as providing feedback on the research process, documents, and the fieldwork journals.

3.15 Ethics

Ethical considerations in fieldwork research involving human subjects are vital for safeguarding the well-being, dignity, and rights of participants. AUTECH oversees research involving human participants to ensure adherence to ethical principles and guidelines, thereby protecting their rights, safety, and overall well-being. Ethical approval was duly granted on 10 February 2023 (AUTECH 22/378) for a validity period extending until 10 February 2026 (See Appendix A). This process included detailing procedures for obtaining informed consent from participants (See Appendix C), maintaining confidentiality, minimising potential risks, and ensuring the ethical integrity of the research.

3.15.1 Participant Information Sheet and Consent Form

Before starting the fieldwork, I shared the participant information sheet with both *Phuyaiban* via the *LINE* application, ensuring they reviewed and understood the information before informing their villagers about the initial meeting.

During the introductory meeting, I distributed participant information sheets and consent forms to all prospective participants. The participant information sheets were provided in the Thai language version to the potential participants. Those who accepted the invitations to participate were requested to complete the consent process by thoroughly reading and signing the consent forms.

Participants in the seasonal calendar, transect walk, and ecological mapping activities demonstrated their consent by participating in each activity, as all these activities were conducted collectively. The activities were social and interactive, and no evidence or information could be linked to any specific participant.

3.15.2 Confidentiality

All participants in this research volunteered. All volunteer adults older than 16 years. They had the right to refuse to answer any questions, to refuse participation, and to withdraw from the research activities at any time before the completion of fieldwork activities without any consequences. The details of participants' rights in the research processes have been indicated in the Participant Information Sheet in Appendix B.

Anonymity was offered; however, all participants chose to use their legal names instead

of pseudonyms or nicknames. They authorised the use of their legal names throughout the research, as they believed there was no need to conceal anything.

I also acknowledged the significance I attributed to collaborating with individuals. All participants were thoroughly informed regarding the research objectives and were encouraged to ask any questions about the research during the introductory meeting and at all times, both before and during the research activities.

3.15.3 Data Recording and Storage Period

All activities were audio-recorded after obtaining consent from the participants. The participants were informed that they could pause the audio recordings at any point if they felt hesitant to continue or experienced discomfort during their interviews. Furthermore, participants were invited to engage in writing and drawing activities, which constituted an integral part of this research.

The principle of participation guided the research decision-making process, allowing participants to select their preferred methods, such as drawing, mind-mapping, or other techniques, to present their ideas at their convenience and in environments of their choosing. Participants were provided with interview transcripts for feedback to ensure accuracy and were kept informed about the study's progress. Upon completion of the research, a comprehensive summary of the findings was shared with all participants and other involved stakeholders. The privacy and confidentiality of participants were rigorously maintained and respected throughout the research process. All attributable recorded data were securely stored in a location accessible only to the researcher and supervisors.

In accordance with AUTECH guidelines to ensure compliance and data protection protocols, all personal data collected was handled with strict confidentiality. Notes and interview records obtained during the research were utilised solely for this study and will be securely disposed of after the retention period. Paper data will be shredded, while electronic data will be deleted. Any visual aids, such as mapping and diagrams, used during the research will be returned to the villages.

3.15.4 Power Imbalance

Throughout the fieldwork, I acknowledged the existence of power differentials between myself as a researcher and the participants, which were influenced by factors such as age,

gender, and occupation. Recognised as an outsider or authority figure, I remained mindful of these dynamics, particularly the cultural norm of *Greng Jai* (avoiding disturbance to others).

To bridge this gap, I aimed to be self-aware and communicate using language appropriate for non-academic settings. I deliberately spoke exclusively in the *Isan* dialect to foster a sense of shared identity between the participants and me. This decision was intended to create a feeling of “we are the same” and to minimise any potential discomfort participants might feel when using the Thai formal language, which is not part of their daily speech. Speaking in the *Isan* dialect helped to build rapport between the participants and the researcher quickly.

During the introductory meeting, I clarified my role as a PhD student at AUT, distinctly separating my identity as a researcher from any official role. I consistently emphasised that I was conducting fieldwork as a student, not as an analyst. All participants were assured that they were regarded as experts on the research topic. I emphasised that their role was to share their unique perspectives, lived experiences, and insights for themselves and their village, and that they would not be judged.

3.16 Role of Participants and the Dynamics of Power

The dynamics of power were integral to the participatory methodology, fostering collaboration, collective decision-making, and empowerment, thereby ensuring that participants assume an active and equitable role in the development of the research process and its outcomes.

Prior to my arrival in New Zealand, I lacked a clear understanding of the concept of “dynamics of power” because the term “dynamic” was confusing when translated into Thai. However, following a meeting with my primary supervisor in July 2022, she explained the dynamics of power. It became clear to me that the dynamics of power are fundamental to the principles and practices of leadership. The type of power dynamic most aligned with PAR is typically described as “Power With” or “Power To.” In the fieldwork, “Power With” emphasises collaboration and shared authority among all participants in the research process to foster an environment where researchers and participants work collaboratively as equals, valuing diverse perspectives and

contributions. Conversely, “Power To” focuses on empowering individuals or communities to take action and effect change. Its goal is to provide the necessary resources, knowledge, and support to enable participants to make informed decisions and influence outcomes meaningful to them. By employing “Power With” and/or “Power To” dynamics with participants, I endeavoured to democratise the research process, facilitating shared decision-making, mutual learning, and the co-creation of knowledge. These dynamics are consistent with the participatory nature of PAR, emphasising collaboration, inclusivity, and the empowerment of all stakeholder groups involved.

3.17 Role of the Researcher

In PAR, researchers play a distinct and collaborative role that differs from traditional research approaches. Their roles are multifaceted and involve various responsibilities and functions such as facilitators, co-learners, and advocates, aiming not only to conduct rigorous research but also to empower communities, effect positive change, and address social issues collaboratively. These roles emphasise partnership, mutual respect, and the equitable distribution of power between researchers and participants.

During my fieldwork, I participated as a facilitator and co-learner, rather than a leader or researcher. I embraced the participants’ thoughts, knowledge, and wisdom as new learning opportunities. Communication with the participants was barrier-free, owing to my roots as an *Isan* native, born in Khon Kaen, my hometown, which is situated not far from the two study areas. The community settings in *Isan*, encompassing language, lifestyle, religious beliefs, and food, resonated closely with my childhood.

My familiarity with village life originates from my upbringing. Following the completion of a master’s degree, I served as a civil servant at the Northeastern Region Economic and Social Development Office (NEESO, NESDC regional office) in Khon Kaen from 2009 to 2018. This tenure enabled me to travel extensively throughout villages across the twenty provinces of the *Isan* region, overseeing government projects and fostering relationships by emphasising our role as attentive listeners rather than mere monitors. It became apparent that employing the Thai formal language created barriers during discussions with villagers, leading to discomfort and hindering their willingness to communicate openly.

I wore casual clothes, such as a T-shirt and jeans and, communicated in the *Isan* dialect, addressing the villagers as “*Por*” (Dad) or “*Mae*” (Mom) to show respect for the elders. They reciprocated by calling me “*Lah*” or “*Loog*” (a little daughter), symbolising a familiarity and establishing trust. Additionally, I consistently emphasised their expertise, referring to them as my teachers and experts, thereby acknowledging their superior understanding of their village compared to academic perspectives. This approach fostered a mutual learning environment where I came to the village to learn from their invaluable knowledge.

3.18 Reflections on the Dynamics

This section reflects on the challenges and methodological changes I faced during my fieldwork, emphasising the adaptive strategies I used to overcome difficulties and ensure the success of the research at different phases of the study.

Phase I (Scoping phase): The process of conducting fieldwork research began with organising introductory meetings and surveys to gather general information, introducing myself and my research project, and recruiting volunteer participants. I vividly recalled the first day I arrived in Khon Kaen, after meticulously planning to commence my research. However, unexpected incidents arose, requiring daily active problem-solving. The primary research activities during this phase were introductory meetings and surveys.

During this phase, I experienced two significant shifts. Firstly, as discussed in Section 5.10 (Research Locations), I encountered challenges in selecting locations, which led to two changes in the study sites. Fortunately, despite these challenges, I eventually received confirmation from the two chosen sites, BMM5 and BLPTM12, to carry out my research fieldwork. The central insight I gained from the two villages was that the Songkran festival was approaching in a few days (between 13 and 15 April), and both villages were preparing a ritual ceremony, one of the twelve annual festivals of the *Isan* people. This period was significant because it marked the first festival since the COVID-19 pandemic. They told me they would prefer to begin the research after celebrating the festival. I agreed to start after Songkran but asked *Phuyaiban* to help organise a date for an introductory meeting before the festival. This would ensure I could reach the target number of volunteers. I then rescheduled my fieldwork plan to ensure the participants would be available.

Secondly, I had planned to conduct surveys of representatives from the local administrative organisations governing each village. However, I realised that using this source was unnecessary as the demographic and general information was readily available from the Ministry of Interior, Thailand. To gather specific information concerning women's participation, women's groups, and adaptation to climate change within each village, I deemed the *Phuyaiban* the most suitable respondents. As such, I sent a survey form to these leaders in advance, allowing them sufficient time to respond freely. Upon receiving their completed surveys, I reviewed them and sought clarification on any unclear answers. During my introductory visits, I provided hard copies of the survey, introduced myself and requested their cooperation in organising the introductory meeting.

The key aspect of this process was the ability to respond effectively to unexpected situations while also respecting the traditional way of life. Despite having meticulously planned my research diary, unforeseen events such as the scheduling of the general election in Thailand required flexibility. Understandably, the Thai people were eagerly anticipating this upcoming election, which necessitated that my gatekeepers (the Chief of Ban Wa sub-district administrative organisation and *Phuyaiban*) prioritise their responsibilities related to this event.

Phase II (Practical Phase): In this stage, the changes I needed to make mainly arose from four circumstances.

Firstly, during the general election in Thailand, I observed a decrease in participation in the transect walk and ecological mapping activities in BMM5. This decline was due to a candidate contesting for the House of Parliament visiting the village and surrounding areas for campaign purposes. Consequently, some participants opted to attend this political event instead. Recognising that the attendance was approximately half of what was anticipated, I engaged with the participants to discuss the possibility of proceeding with the activity despite the reduced numbers. After deliberation, they consented, and we decided to proceed with the activity, incorporating both male and female participants.

Secondly, during this phase, I encountered the withdrawal of participants from BLPTM12, which presented an additional challenge. In the fourth week, the *Phuyaiban* informed me that one woman wished to withdraw from the research activities due to potential daytime commitments. Respecting her decision, I assured her that I would find

a suitable replacement. However, the *Phuyaiban* proactively stepped in, offering assistance by identifying a potential replacement and arranging for us to meet at the venue that day.

Consequently, I arrived at BLPTM12 before the scheduled time. I met with the proposed replacement, explained the research, and kindly asked for her voluntary participation. Fortunately, she agreed, thereby effectively settling this matter.

Thirdly, just before conducting the seasonal calendar activity, I received a call from *Phuyaiban* of BLPTM12, informing me that three participants would be attending a monk ordination ceremony during the scheduled time for the seasonal calendar activity. Understanding the importance of such events, I reassured her that it was completely acceptable. She suggested that if I could arrive earlier, those participants might be able to join for a brief period. I acknowledged the possibility of urgent situations and individuals needing to take leave. If the majority of the group could participate, we would proceed with the activity. Additionally, a working lunch was a good way to exchange ideas, allowing them to share more information about their daily lives freely while having a meal.

Fourthly, during a life story interview, another participant arrived earlier than the scheduled time. I chose to invite him to sit and engage in conversation, conducting the interview concurrently with another participant, to avoid making him wait until the first interview was finished. It appeared inappropriate to make him wait or to request his departure from the venue. Considering cultural norms, particularly within *Isan* culture, such conduct would have been regarded as impolite. In Thai culture, it is deemed disrespectful to make an elder wait for a younger person. In hindsight, my decision to interview both participants simultaneously proved to be a good choice. Although initially uncertain, the concurrent interviews ultimately provided more comprehensive data by capturing diverse perspectives.

Phase III (Analysis Phase): During the final week of fieldwork, I encountered considerable challenges. I had dedicated my efforts to preparing all requisite information for the *So-Leh* discussion, with only one activity scheduled for the analysis phase. However, *Phuyaiban* from BMM5 informed me that they had an unexpected field trip planned in Buriram Province and requested a postponement of the *So-Leh* discussion. When asked about the number of participants involved in this trip, *Phuyaiban* indicated

that most of them would be attending.

Recognising the urgency of the situation, I proposed to *Phuyaiban* that we could exchange the dates with the participants from BLPTM12. Despite numerous attempts to contact *Phuyaiban* of BLPTM12 via *LINE* and calls, I was unable to contact her. Consequently, I visited her residence; however, she was not present. I then proceeded to her team, Lumduan, but she was also absent. Fortunately, a neighbour informed me that she was at the farm and helped me contact her through *LINE*.

After establishing contact with her, I arranged to reschedule the *So-Leh* discussion for the subsequent day and solicited her assistance in notifying the other participants of this modification. While driving back home, I passed by the community hall and observed a group of four participants engaged in conversation. I approached them and inquired whether they could join the discussion the following day, and they concurred. Their readiness was sincerely appreciated.

Subsequently, I corresponded with *Phuyaiban* of BMM5 to confirm our rescheduled appointments and to organise a new meeting for BMM5 on the 10th of May. Despite my diligent efforts, I was unable to establish contact with *Phuyaiban* of BLPTM12 until 9:00 pm. She explained that she had been attending to her livestock on the farm, but assured me of her participation and agreement to attend the meeting the following day.

Phase IV (Learning and Sharing Phase): The only activity carried out during this stage was a workshop with women. Initially, I thought about scheduling the *So-Leh* discussion and the workshop on different days. However, since mid-May marks the start of rice cultivation and the monsoon season, I decided to hold both activities on the same day. I first organised to conduct the *So-Leh* discussion with the entire group. Then, I asked the male participants to take a break and temporarily leave the venue while I facilitated the workshop exclusively with the women.

Another reason for consolidating both activities was that the information essential for women's decision-making during the workshop had emerged from the *So-Leh* discussion. As the analysis process relied heavily on the comprehensive information gathered during the fieldwork, I believed that conducting both activities consecutively would ensure the information remained fresh in their minds. This approach proved to be effective in practice.

Phase V (Evaluation Phase): As I prepared to return to Thailand between January and February 2024, I had a supervision session with my supervisors. Initially, they recommended prioritising women, given that my topics and primary participants were predominantly women, although men were also invited to participate. Drawing from my experience during fieldwork conducted between April and May 2023, where both men and women supported each other, I decided to contact *Phuyaiban* and one of her team members in BLPTM12 to extend invitations to all participants, regardless of gender. In this village, excluding anyone was not feasible, as each participant regularly engaged in nearly all research activities. Regarding BMM5, I contacted some participants to help disseminate information. I prioritised women's involvement in this phase, emphasising their vital role in non-chemical vegetable farming, as detailed in Chapter 4. Additionally, I extended invitations to some male participants who had expressed a keen interest in sharing information during the previous fieldwork.

Although women were regarded as the primary stakeholders, I deemed it essential to include men as well, as they offered substantial support to me and other female participants during research activities. Consequently, I extended invitations to both genders for the final activity, with a priority given to women in terms of proportion.

3.19 Chapter Summary

This chapter delineates the research design for the thesis by establishing its foundation within the research philosophy and paradigm, followed by an exposition of critical theory, which was employed to analyse the intersection of gender, power, and climate adaptation. The framework emphasises emancipation and gender equality, aiming to empower women in decision-making processes. PAR was selected to promote active participation and collaboration with women in the *Isan* region. The methodology aligns with the study's objectives of understanding and enhancing women's adaptive capacities. The ten mixed-methods employed ensured comprehensive data collection and active engagement of participants. The thematic analysis was used to identify themes and patterns, with NVivo software facilitating systematic data management and analysis. Additional elements, such as participant recruitment, contact details, research locations, translation and transcription processes, data collection, and data verification, were also explained.

Ethical principles were rigorously observed to ensure informed consent, confidentiality,

and respect for participants' rights. Reflections on the dynamics of power, in the fieldwork, followed by a discussion of the role of the researcher, and the challenges encountered during fieldwork.

These thoughtfully constructed research design frameworks are intended to facilitate practical fieldwork. These insights inform the research design and fieldwork, which are discussed in the following chapters. These chapters present the research settings in the two case study villages in *Isan*, where the PAR was implemented to explore women's lived experiences and their adaptive responses to climate change.

Chapter 4 Research Setting I – BLPTM12

This chapter provides a detailed overview of BLPTM12, one of the two case study villages. It examines key aspects, including the village's history, economy, livelihood, culture, society, natural resources, and contemporary challenges from 2023 to 2024. Additionally, it highlights local climate-related development projects.

4.1 Historical Story of the Village

BLPTM 12 is one of 13 villages located in the Ban Wa sub-district, Muang district, Khon Kaen Province (see Figure 5). It is approximately 440 kilometres northeast of Bangkok. The village is situated approximately 3 kilometres from the Lao Na Di road, which provides access to a section of the Mitrphap Highway. Additionally, it is positioned in Muang district of Khon Kaen, approximately 13 kilometres from the district's city centre. Its boundaries are contiguous with Ban Khok Sung *Moo*² 4 to the south, Ban Hua Sra (Don Chang sub-district) to the east, and Ban Wa *Moo* 2 to the west.

According to the village plan records, BLPTM12 was established in 1953. The initial settlers migrated from Ban Wa *Moo* 2, moving south to graze their buffalo in what is now BLPTM12. Subsequently, individuals such as Srivichai from Surin Province, Yoss from Pra Lab sub-district, Luang Inn Chamarat from Ban Muang-Kao, and Sung, together with their family members from Ubon Ratchathani Province, contributed to the founding of BLPTM12.

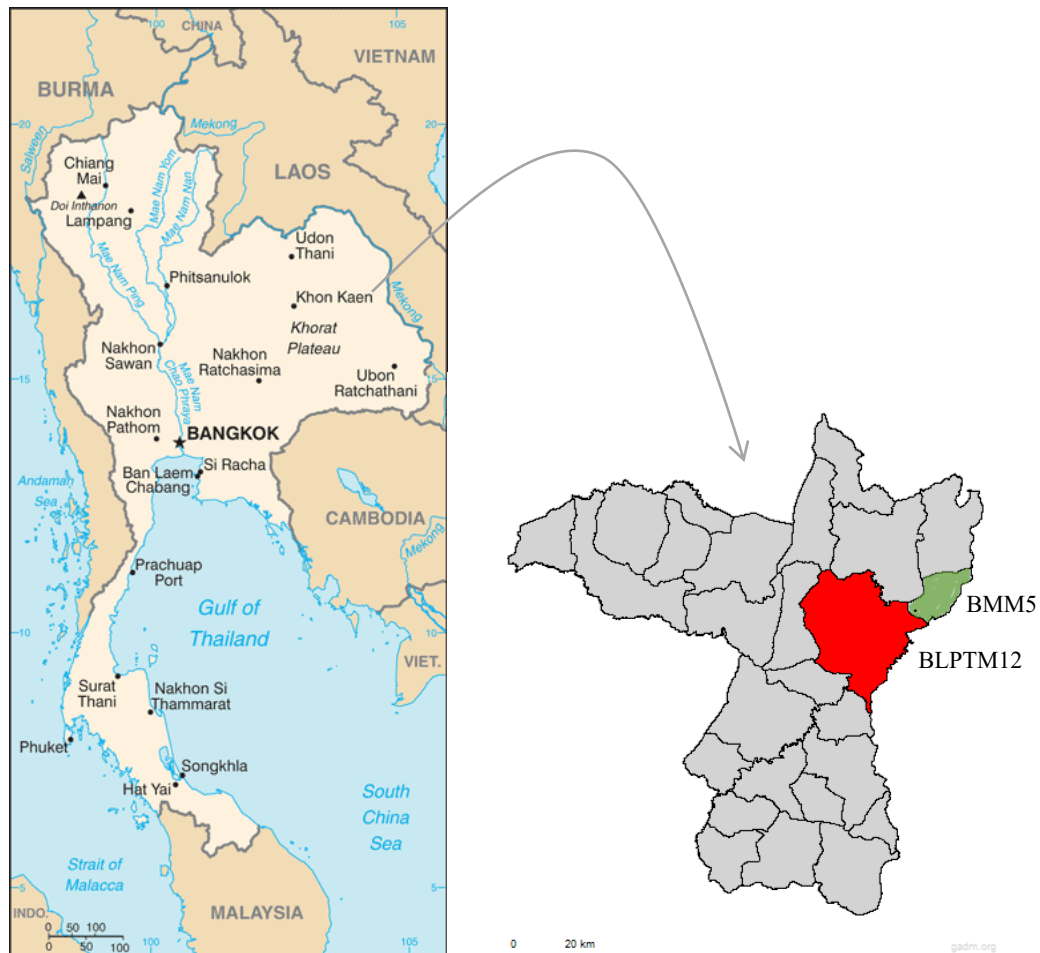
The name “Lao Phon Thong” derives from the village's geography, with a hill situated to the east of the village. The hill is called ‘Phon’ in Thai, and the morning sun shining over it gives the appearance of golden light (gold is “Thong” in Thai). Therefore, the villagers combined these elements to create the name “Lao Phon Thong.”

BLPTM12's history reflects a settlement shaped by migration and agriculture, with its geography contributing to its distinct identity. The subsequent section analyses the

² In the past “Moo” refers to a sub-village or a smaller administrative unit within a village. However, due to increases in population, this term is used to divide one big village into two or three smaller villages, each having its *Phuyaiban*

village's economy and livelihood, emphasising how natural resources and socio-economic factors have shaped its development.

Figure 5: Location of Study Areas



Source: Worldometer (<https://www.worldometers.info>) and Global Administrative Areas (<https://gadm.org/>)

4.2 Economy and Livelihoods

This section presents the economic structure and livelihood strategies of BLPTM12, comprising demographic characteristics, primary income sources, financial challenges, and access to essential services.

A survey was conducted with the *Phuyaiban* of this village between April and May 2023 to collect demographic data and the village's characteristics. BLPTM12 covers an area

of 1,725 *Rai*.³ The village comprises 196 households with a total population of 677 individuals, consisting of 330 men and 347 women. Among them, the elderly population comprises 120 individuals, consisting of 48 men and 72 women, accounting for approximately 18.5% of the total population. There are 26 individuals with disabilities in the village.

In Figure 6, the satellite image shows BLPTM12 surrounded by extensive agricultural fields. The dense cluster of buildings in the centre indicates a populated settlement. At the same time, the surrounding patchwork of green and brown fields suggests organised farming, with rice, sugar cane, and cassava cultivation. In the lower part of the image, a plume of white and black smoke, likely from crop burning, is visible, a common post-harvest practice in the region. The visible road network connects the town to its agricultural surroundings.

Figure 6: Google Map with a Satellite View of BLPTM12



Source: Reproduced from Google (2023).

³*Rai* is a common unit to measure land area in Thailand (1 *Rai*=1,600 square metres or 0.16 hectares or 0.3954 acres)

The cultural and linguistic identity of BLPTM12 reflects the profound historical links between the Thai–Lao ethnic group and the wider *Isan* region. The demographic is chiefly composed of individuals from the Thai–Lao ethnic group. The villagers predominantly communicate in *Isan*, a dialect widely spoken in the area, which is closely related to the Lao language. This linguistic relationship highlights the enduring historical and cultural ties that connect northeastern Thailand and Laos, which are evident throughout the *Isan* region.

The primary sources of income in the village mainly come from non-agricultural sectors (100 households), followed by rice cultivation activities (80 households). Notably, 160 households hold land rights, while 10 households rent farmland. Another 10 households do not possess land.

Villagers are engaged in various occupations, including construction work and factory outsourcing. A notable local industry involved the production of fishing nets, with two large factories nearby outsourcing work to individuals, favouring home-based employment. The unemployment rate within the village was remarkably low, with only nine individuals unemployed, representing approximately 1% of the village population.

Economic conditions in BLPTM12 reflected significant financial challenges. Sixty per cent of households in BLPTM12 were male-headed, while five households were classified as living below the poverty line. The average annual income ranged from 40,000 to 100,000 baht (approximately NZD 5,000). One hundred eighty out of the 196 households were registered under the Thai national welfare system, known as the “But Khon Jon” or “Poor People Card,” a welfare card programme implemented by Thailand to support low-income individuals. This card was launched to provide financial assistance to low-income and vulnerable groups in the country by issuing it to eligible Thai citizens who meet specific criteria, such as those with low incomes. The card is pre-loaded with a certain amount of money or benefits, which recipients can utilise to purchase essential goods and other necessities at participating stores that accept the card as a form of payment. The objective is to enhance the quality of life for beneficiaries. The details of the programmes or campaigns, including eligibility criteria, may vary and are subject to government policies and regulations.

All villagers in BLPTM12 have access to Thailand’s public health system through various schemes tailored to their employment status. These encompass the universal healthcare

system (commonly referred to as the 30-baht system), the social security scheme for formal employees, and the civil servant system for government personnel. The primary healthcare facility serving the village is the Ban Wa Sub-district Health Promotion Hospital, located approximately 1.5 kilometres from the village. Moreover, within the village, ten village health volunteers (VHVs) play a vital role in supporting local healthcare initiatives, assisting with basic medical care, health education, and disease prevention efforts. This healthcare infrastructure guarantees that essential health services are accessible to all villagers, regardless of their economic circumstances, thereby reaffirming the government's dedication to universal health coverage.

4.2.1 Transportation

Villagers primarily rely on personal transportation methods, such as pickup trucks, automobiles, motorcycles, and bicycles, for their daily commuting requirements. Public transportation, particularly the Song-Taew (pickup truck service), offers connectivity to Khon Kaen city centre. However, the villagers often prefer to use their own vehicles due to the limited frequency and inconvenience associated with the Song-Taew service.

4.2.2 Internet and Social Media

The widespread availability of the internet in Thailand has enabled villagers to access it through prepaid or postpaid packages provided by various service providers. With the advent of smartphones and the internet, Thai people have embraced social media applications, with the “*LINE*”⁴ application being the dominant chat tool among them. This application allows free calls, video calls, and messaging, making it a preferred mode of communication, mainly because it is cost-free. Moreover, *LINE* is not limited to personal interactions; many organisations in Thailand, including banks, public services, enterprises, and schools, utilise *LINE* for communication, transactions and advertisements. Commercial banks, for instance, provide transaction updates through their official *LINE* accounts. During the COVID-19 pandemic, the Thai government utilised its “Mor Prompt” App on this platform for citizens to access pandemic-related information and register for vaccinations.

As of June 2023, *LINE* Thailand reported a user base of 54 million (Leesa-nguansuk,

⁴ *LINE* application is very similar to WhatsApp. Thai people use it because it is free of charge and has multiple functions. Many public and private agencies also use *LINE* as their main channel to connect with their customers.

2023), positioning itself as the premier and most reliable smartphone application for daily communication. Throughout the research fieldwork, it was observed that all participants were acquainted with this application, with the majority possessing a *LINE* account. The phrase “*LINE* me” has evolved into a generic expression for requesting messages or texts. For instance, rather than saying “text me,” Thai individuals commonly say *LINE* me, which reflects the application’s extensive integration into daily language.

4.2.3 Food Accessibility

The villagers’ lifestyle has been changing, with an increase in ready-to-eat food stalls and small vendors selling various items around and near the village. While these stalls offer convenient meal options, fresh produce mainly comes from the fresh-food market in Ban Lao Na Di, which operates in the mornings and evenings as a flea and street market serving the Ban Wa sub-district. Additionally, modern retail options are available, with mini-chain supermarkets such as Lotus’s and 7-Eleven located just 2.5 kilometres from BLPTM12, offering further access to everyday necessities.

The emergence of food delivery services in Thailand has significantly changed food access in rural areas. Providers such as Grab Food, LINE Man, Shopee Food, and 7-Eleven delivery operate in the centre of Khon Kaen and have expanded their delivery area to BLPTM12. Local villagers are increasingly using smartphone applications to order both ready-to-eat meals and groceries online. This trend was significantly accelerated during the COVID-19 lockdowns, when gathering restrictions led to a surge in food delivery services, making them a popular and convenient means of obtaining food.

A combination of agricultural and non-agricultural livelihoods has shaped the economic landscape of BLPTM12. The villagers’ access to essential services, such as healthcare, transportation, internet, and food, through various means reflects the ongoing socio-economic transformation. The subsequent section examines the cultural and social dynamics of BLPTM12, investigating local traditions and social structures within the village.

4.3 Culture and Society

This section examines the cultural and societal aspects of BLPTM12, including religion, festivals, governance, and education.

4.3.1 Religion

The majority of the villagers adhere to Buddhism and incorporate its principles into their daily activities. As of April 2023, some villagers have visited the temple known as “Phon Thong Temple,” located in Ban Lao Phon Thong *Moo* 7, within a short walking distance from BLPTM12. These two villages were originally considered part of the same settlement; however, administrative decisions, guided by the delineation of *Moo*, resulted in their separation by the Ministry of Interior, thereby establishing the distinct categorisation of Ban Lao Phon Thong *Moo* 7 and BLPTM12.

4.3.2 Festivals and Rituals

The festivals in *Isan*, also known as “*Hiet Sibsong Kong Sibsei*”, are deeply rooted in local culture and traditions. They focus on various aspects of people’s lives, such as agriculture, religion, and community celebrations. Throughout the year, 12 important festivals are celebrated in *Isan*. Each festival has its own unique rituals, ceremonies, and communal activities, which help strengthen bonds among the people while maintaining traditional customs. These festivals often blend Buddhist principles with animistic and Brahmanic beliefs, resulting in a unique cultural synthesis. They commemorate different stages of the agricultural cycle, from planting to harvest, honouring deities, spirits, and ancestors, and seeking blessings for a good harvest, prosperity, and well-being. For example, the Loy Krathong festival involves floating beautifully decorated Krathongs (lotus-shaped baskets) on rivers and waterways, symbolising the end of the harvesting season.

The Songkran Festival, widely recognised as the Thai New Year, is celebrated with traditional water-splashing ceremonies and family reunions. In April 2023, at the commencement of my research fieldwork, the villagers organised *Boon* (a charitable event) to raise funds for the Maha Sati Pattan 4 Dhamma Centre, to elevate its status to that of a temple. Situated within the community forest, this centre has served as a spiritual site for over a decade. Instead of relying on subsidies from the central government, the villagers unanimously decided to finance the initiative through local fundraising, showing a strong commitment to community-led development.

The timing of the *Boon* during Songkran was strategic, as the festival aligns with a national holiday period, facilitating the return of family members and relatives employed outside the village to their homes to partake. The cultural and spiritual significance of the

Dhamma Centre, along with its emerging role in preserving community customs and supporting climate adaptation, will be examined in greater detail in the findings and discussion chapters.

Boon Bang Fai, or the *Isan Rocket Festival*, is a traditional celebration marking the onset of the rainy season. Villagers craft and launch handmade rockets into the sky as an appeal to *Phaya Thaen*, the rain god, seeking abundant rainfall for successful farming. This ritual, rooted in *Isan* culture, reflects the strong connection between local traditions and agricultural livelihoods. In BLPTM12, this festival has not been observed for the past decade due to safety regulations imposed by the Khon Kaen airport, located approximately 15 kilometres from the village. Authorities have raised concerns about aviation safety regarding the launch of rockets, leading to a local prohibition on the event. Despite this restriction, *Boon Bang Fai* remains a significant cultural tradition in other parts of *Isan*. Table 7 below presents a comprehensive overview of the 12 key festivals commonly celebrated in *Isan* culture.

Table 7: Twelve Festivals in *Isan*

	Month	Festival Name	Purpose/Belief
1	December - January	<i>Boon Pi Mai</i> or <i>Boon Kum Kao Yai</i>	To celebrate a new year festival for good luck in the upcoming year and for merit-making where people offer rice and food to monks after the rice harvesting season.
2*	January-February	<i>Boon Khoon Lan</i>	Merit-making, where people offer rice and food to monks. For BLPTM12, no activity this month for this village since they decided to combine this month's festival with the fourth month's festival.
3	February-March	<i>Boon Khaw Jee</i>	Eating Khaw Jee (glutenous rice pancakes with egg coating) during this festival is believed to extend one's life, whereas the absence of this practice may be associated with a shorter lifespan according to the tradition.

	Month	Festival Name	Purpose/Belief
4	March-April	<i>Boon Pawade</i> (and <i>Boon Koon Larn</i> for this village)	The belief surrounding the Buddha's past life often revolves around his compassionate acts toward others. According to Buddhist tradition, before becoming the Buddha, Siddhartha Gautama lived many lives, practicing virtues and compassion. In these past lives, known as Jataka tales, Vessantara, in the story, Vessantara demonstrates the highest form of generosity by relinquishing all his possessions, even his children.
5	April-May	<i>Boon Songkran</i>	It is a traditional Thai New Year. Celebrated in April, it usually takes place from the 13th to the 15th of the month. It is known for its exuberant water fights and vibrant celebrations. In addition to its well-known water celebrations, Songkran serves as a meaningful occasion for family gatherings and honouring older generations. It is customary for younger individuals to gently pour fragrant water over the hands of their elders, symbolising respect and a wish for blessings. Many people also take the opportunity to visit local temples, engage in merit-making activities, and offer prayers for the new year.
6*	May-June	<i>Boon Bung Fai</i>	Festivities include parades, traditional dances, and the launching of homemade rockets to entice the rain god for plentiful rains.
		For BLPTM12, no activity in this month due to aviation regulations.	
7	June-July	<i>Boon Samha</i> or <i>Boon Berk Ban</i>	Honors spirits dwelling in the trees and forests. People offer food to appease forest spirits and seek their protection.
8	July-August	<i>Boon Khao Pansa</i>	Buddhist Lent marks the onset of the rainy season and the traditional Buddhist Lent, when monks observe a three-month retreat, typically remaining within their temples to focus on Buddhism practice.

	Month	Festival Name	Purpose/Belief
9	August-September	<i>Boon Khaw Pradubdin</i>	To make offerings of food to monks and make merit to ancestors and spirits.
10	September-October	<i>Boon Khaw Sak</i>	To make offerings of food to monks and make merit to ancestors.
11	October-November	<i>Boon Katin</i> and <i>Boon Auk Pansa</i>	The end of Buddhist Lent marks a joyful celebration in Thailand. This festival concludes the three-month rainy season retreat for monks and is celebrated with vibrant ceremonies and festivities and a big merit of the year called <i>Katin</i> which must be done within 1 month after Buddhist lent.
12	November-December	<i>Boon Loy Krathong</i>	To express gratitude and ask forgiveness to the Goddess of water on the full moon of the twelfth lunar month. People make krathongs (banana trays) and put some flowers, fingernail clippings, or hair in to krathongs on float to lakes or rivers with the belief that these bad luck omens will float the bad luck out of our lives.

Note: 1. In *Isan* society, people start counting the first month following the lunar calendar, which usually begins in the middle of December. For example, in 2024, the first day of the lunar calendar began on 13 December 2023.

2. Some festivals described here are based on the accounts of participants during research fieldwork. In some cases, these may differ from the broader *Hiet Sibsong* practices commonly observed in other villages and documented sources.

3. The star sign (*) is a festival which is not celebrated in BLPTM12

Source: Table compiled by the author from participants' narratives.

The socio-cultural landscape of the study villages is shaped by longstanding traditions that continue to influence everyday life, local governance, and collective action. Temple-based activities and Buddhist festivals form an important part of the social calendar and act as regular gathering points where villagers exchange information, negotiate responsibilities, and organise communal work. Ritual practices associated with Don Pu Ta, the ancestral spirit forest, reinforce community norms of stewardship, respect for shared resources, and the protection of sacred forest areas. Seasonal festival cycles such as *Hiet Sibsong Kong Sibsei* provide structured occasions for cooperation, ceremonial labour exchange, and inter-household support. In addition, *So-Leh* group

discussions serve as an informal but influential space where villagers, including women, discuss concerns, interpret environmental signals, and make decisions about farming, forest use, and community challenges. These socio-cultural practices underpin high levels of trust, cohesion, and mutual obligation, forming an important foundation for the adaptive behaviours and collective resilience demonstrated in later chapters.

4.3.3 Politics

Local governance in BLPTM12 is shaped by an elected leadership structure, with a *Phuyaiban* and representatives playing key roles in administrative and political processes. *Phuyaiban* is elected through a voting process by eligible villagers aged 18 and above. This leadership role is crucial for managing local affairs and representing the community in broader administrative matters.

During the research period (2023-2024), Chittra served as the *Phuyaiban*, having held the position for over a decade. Under previous regulations, the *Phuyaiban* was elected every four years. However, recent policy changes allow the *Phuyaiban* to serve until the age of 60 without requiring re-election. In carrying out administrative and community responsibilities, the *Phuyaiban* is supported by two assistants, who assist in managing village tasks and facilitating local governance. As part of the local administration system, each village elects one or two representatives to serve on the sub-district administration board, known as “Sor Tor.”

During my fieldwork (April–May 2023), Thailand was preparing for its general election on 14 May 2023. Political campaigns were active in the area, with sound trucks broadcasting messages from party candidates as they drove through the village, a typical campaign method in Thailand. Fortunately, these activities did not interfere with my research processes.

4.3.4 Education

The educational system in the BLPTM12 locality encompasses provisions for students ranging from pre-school through to secondary education. The Children’s Development Centre, located in the Ban Wa sub-district, offers nursery and pre-school educational services for children aged 6 months to 6 years. For primary education, Ban Wa Lao Phon Thong Prachanukul School caters to students from Grade 1 to Grade 6 (ages 7 to 12), serving children from all sub-villages within Ban Wa and the broader BLPTM12 area.

Despite the availability of six primary schools within the sub-district, a majority of parents prefer to enrol their children in the nearest school, primarily due to convenience considerations. For secondary education, students from BLPTM12 typically attend Pisal Punna Wittaya School, located in Ban Lao Na Di, approximately 2.2 kilometres away, as well as other schools situated within the city centre. In Thailand, most schools receive budget allocations for providing lunch meals to students, averaging around 22-36 baht per student, depending on the number of students⁵, along with free milk.

Following the completion of their compulsory education at the age of 18, numerous students from BLPTM12 migrated to larger urban centres in pursuit of employment opportunities, often engaging in manual labour or factory work. These students frequently contributed financially to their families' households. Tertiary education has become more accessible owing to government-sponsored study loan programmes, which enable students to repay their loans upon securing employment. Data regarding the number of students pursuing higher education from this village was not available. In addition to public educational institutions, the sub-district encompasses three private establishments, including a high school, a polytechnic college, and an international school, thereby providing alternative educational pathways beyond the public system. Aside from understanding the village's economic and social structures, its natural resources also pose considerable challenges.

4.4 Natural Resources

This section examines the natural resources in BLPTM12, with a focus on the community forest and water resources, which play a crucial role in the village's environmental sustainability and daily livelihoods.

4.4.1 Community Forest

The community forest, referred to as "Pa Chum Chon," functions as a crucial asset for the local village. It hosts the "Maha Sati Pattan 4 Dhamma Centre." Spanning approximately 83 Rai, this forest is safeguarded by four monks, who serve as forest

⁵ 1-40 students will get 36 baht per head.
 41-100 students will get 27 baht per head.
 101-120 students will get 24 baht per head.
 121 and above will get 22 baht per head.

rangers. Notably, one of these monks was observed participating in the transect walk alongside the participants (see Figure 7). Their presence has proven effective in deterring illegal logging activities by external actors, owing to the deep respect commanded by monks within Thai culture. During the transect walks conducted in 2023 and the subsequent evaluation phase in 2024, various edible plants and herbs were identified as valuable sources of nutrition and medicinal resources for the local community.

Figure 7: A Monk in the Community Forest During Transect Walk



Note: Photo taken by the author.

4.4.2 Water Resources and Water Supply

Access to water remained a significant concern for BLPTM12, as the village lacked a connection to the provincial waterworks. The village's water supply primarily relies on a tap water project that pumps water from Nam Ton rapids for daily use. This initiative was essential given the region's lack of provincial waterworks. Concerns regarding water quality arose, as the water occasionally displayed turbidity and impurities, rendering it unsuitable for specific applications. The cost of water was 10 baht per unit, representing

a substantial expense for the villagers due to the 6-kilometre distance from the water source.

To address water scarcity, the Provincial Waterworks Authority in Khon Kaen coordinated a water supply infrastructure project as part of the Ban Wa sub-district development plan. This project aimed to address the water shortage and was scheduled for completion by 2024. The Ban Wa sub-district administrative office provided partial funding. However, villagers who wanted to be connected to the new tap water system had to cover the setup fees themselves. As of 2023, the project was being implemented in Ban Kok Sung, located just 4 kilometres from BLPTM12. Considering the challenges encountered in this village, which significantly affect the villagers' livelihoods, the primary issues are examined in the subsequent section.

4.5 Village Problems

BLPTM12 encountered multiple concerns that adversely affected the well-being of its villagers, encompassing issues related to water quality, waste management, and air pollution. These challenges not only influence daily living conditions but also present long-term risks to public health, local ecosystems, and sustainable development.

4.5.1 Water Quality

Water quality was a primary concern in BLPTM12. The village relied on Nam Ton rapids, a shared water resource serving several nearby villages. However, the quality of this water source fluctuated significantly throughout the year, particularly during the monsoon and drought seasons. During the monsoon season, the water became contaminated with mud and debris, rendering it unsuitable for consumption. Conversely, during periods of drought, the water supply became insufficient to meet household needs. In response to this seasonal variation, villagers have resorted to digging wells to access groundwater as an alternative source of water. Unfortunately, groundwater has not been a viable solution for all, as some areas in the village suffer from high salinity levels, rendering it unusable.

4.5.2 Waste Management

Waste disposal was another primary concern within BLPTM12, exacerbated by poor waste segregation and the common practice of burning waste. A key problem is the mixing of different waste types in a single container, which hampers effective waste

management. To address this, the Ban Wa sub-district administrative organisation proposed a project to provide designated bins for various types of waste throughout the village and other areas within the sub-district. This initiative could significantly enhance waste segregation and management, resulting in a cleaner and healthier environment and promoting more responsible waste disposal habits among villagers. Another emerging issue is the frequent burning of dried leaves and household waste in residential areas, which produces unpleasant smoke and odours.

4.5.3 Air Pollution

Air pollution, primarily resulting from the burning of agricultural residues such as rice and sugarcane, presents considerable health and environmental hazards to villagers of BLPTM12. Despite the implementation of local government regulations prohibiting burning and the dissemination of warnings by *Phuyaiban* via the village broadcast system, the practice continues unabated.

A significant challenge in addressing this issue is that much of the land around the village is leased to outsiders, who often engage in nighttime burning activities, making it difficult for authorities to identify and penalise them.

The harmful black particles produced from burning not only negatively impact the health of local villagers but also create an environmental nuisance, as the soot settles on homes and property. Additionally, plumes of white and black smoke can be seen in satellite imagery from Google Maps. For example, areas undergoing burning are visible in the lower right corner of Figure 2, indicating active fires or recently burned land. This visual evidence underscores the seriousness of post-harvest burning practices. The issue highlights the urgent need for more effective and enforceable measures to mitigate air pollution and protect community health.

Given these complex challenges faced by the village, the following section assesses whether local development projects effectively meet the village's needs and concerns.

4.6 Development Project Allocation to the Village

The Ban Wa sub-district development plan (2021–2025) has outlined a comprehensive framework for improving infrastructure and public health initiatives across all 13 villages

within its jurisdiction, including BLPTM12. Nevertheless, despite acknowledgement of pressing issues such as water scarcity and waste management in BLPTM12, these concerns have not received prioritised attention.

Despite the increasing significance of climate change at the national level, the sub-district plan did not incorporate specific strategies aimed at raising awareness or facilitating adaptation among the local population. Nonetheless, the plan included certain elements aligned with community interests. For example, its forestry and herb conservation initiatives resonated with villagers' growing concerns regarding environmental preservation. These projects were scheduled for implementation between 2021 and 2025 and represent an initial step towards more integrated and community-driven climate adaptation efforts in the future.

4.7 Chapter Summary

This chapter presents a comprehensive overview of BLPTM12, covering its history, economy, livelihoods, cultural and societal aspects, natural resources, and local challenges. The village's economy mainly relies on non-agricultural activities, such as the home-based production of fishing nets and rice cultivation for household use. Water scarcity is identified as the most urgent issue impacting the community. Alongside water scarcity, waste management and air pollution are also recognised as major concerns within the village. The following chapter introduces the second case study village, describing its infrastructure, challenges, adaptation methods, and practices.

Chapter 5 Research Setting II - BMM5

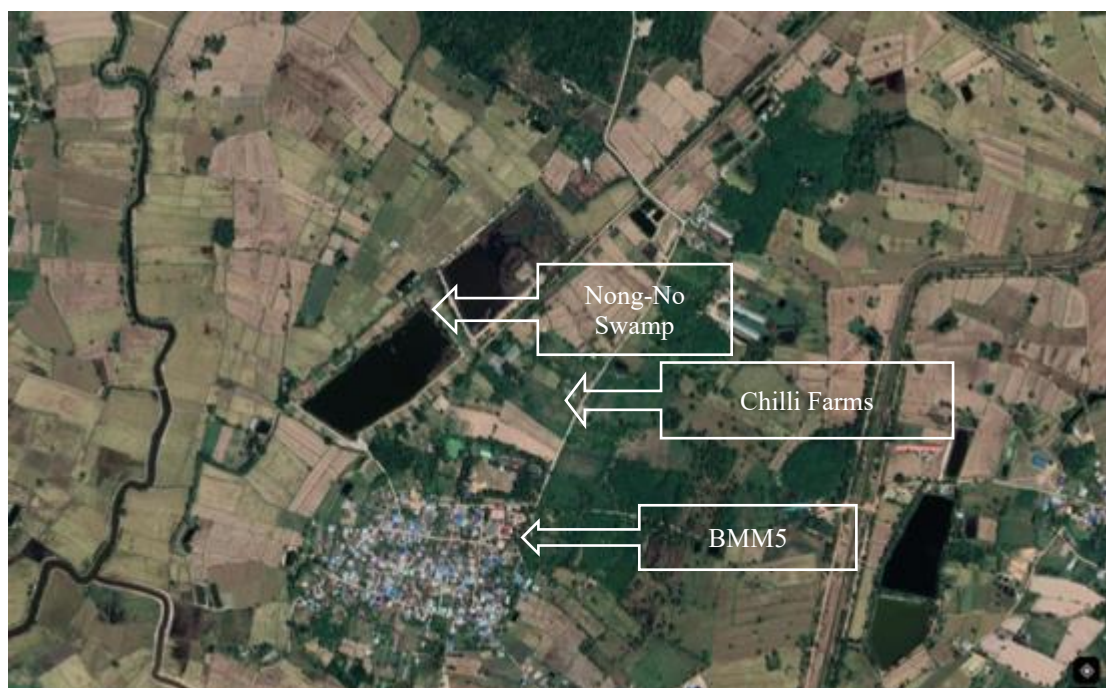
This chapter provides an overview of BMM5, the second case study village. It covers its historical background, economy, culture, natural resources, and the challenges it faces. One notable aspect of BMM5 is its practice of organic vegetable farming, which has dramatically influenced the village's economic and social structures. Additionally, this chapter examines the role of women in agriculture, a key feature that sets it apart from the first case study village (BLPTM12).

5.1 Historical Story of the Village

This section outlines the historical development of BMM5, including its origins, geographical setting, and primary cultural identifiers. BMM5 is one of eight villages located within the Ku Kum sub-district, Sum Sung district, in the northeastern region of Khon Kaen Province (refer to Figure 1 in Chapter 5). It is approximately 24 kilometres from the centre of Khon Kaen city and roughly 13 kilometres from National Highway Route 12, which is part of the East-West Economic Corridor (EWEC). The EWEC is an economic development initiative aimed at promoting growth and integration among the five Southeast Asian nations: Myanmar, Thailand, Laos, Cambodia, and Vietnam. The village is bordered by only two neighbouring villages: Ban Mor Kum *Moo* 7 to the south and Ban Nong Bua Kum Moon to the east; a significant wetland, Nong-No, is located to the north of the village (see Figure 8).

Based on historical records documented in the village plan, Ban Mor was established around the 1860s. The name “Mor” comes from a tree species known as *Rothmannia wittii* (Craib) Bremek. In Thailand, it is common to add the prefixes “Ton” (meaning “tree”) or “Mak” (meaning “fruit”) before the tree's name, resulting in terms like “Ton Mor” or “Mak Mor.” This species of tree was once common in the village, which is why the village was named after it. However, during the 2023 fieldwork, no Mor trees were observed. The last known tree was in the community forest but has since been removed. The historical development of BMM5 underscores its strategic location. The following section will examine the village's economy and patterns of livelihood.

Figure 8: Google Map with Satellite View of BMM5



Note: Reproduced from Google (2023)

5.2 Economy and Livelihoods

This section examines the economic activities and livelihood strategies in BMM5, with a specific emphasis on non-chemical vegetable cultivation, land ownership, access to public health services, and employment patterns.

A survey was carried out in April and May 2023 to collect demographic data and gain insights into the characteristics of BMM5. The village spans an area of 1,725 *Rai* and consists of 121 households, with a total population of 484 individuals (250 men and 234 women). Approximately 60% of households are headed by men, and most villagers primarily work in agriculture.

Economic stability is relatively high, with only one household reported to be below the poverty line. The average annual income ranges from 40,000 to 100,000 baht (approximately NZD 2,000 to 5,000). The primary source of income in the village is non-chemical vegetable farming, a characteristic that has defined the sub-district since 1995.

Agriculture is the primary source of livelihood in BMM5. With reliable access to water resources and support from academic institutions such as Maejo University and Khon

Kaen University, the farmers have successfully engaged in agricultural practices for over two decades.

Most villagers belong to the Thai–Lao ethnic group. They speak the *Isan* dialect for daily communication. During my research, I observed that villagers maintain strong kinship ties, as evidenced by the household heads' names displayed in front of each home, which indicates a limited number of surnames in the village. The villagers mentioned that this close-knit community has known each other since birth.

All villagers have access to the public health system through one of three eligibility schemes: the 30-baht healthcare scheme, the social security system, and the civil servant medical benefit scheme. The nearest primary care unit is the Sum Sung Sub-district Health Promotion Hospital. Two hospitals are located near the village: Sum Sung Hospital, which functions as the district hospital, and Khon Kaen Hospital (Second Branch in Khok Sri), established in 2016 and situated approximately 12 kilometres from the village. This branch was built to expand healthcare services to villagers in the eastern region of Khon Kaen. Furthermore, the village is supported by ten VHV's who provide general health information and coordinate healthcare initiatives within the community.

5.2.1 The Non-Chemical Vegetable Collaborative Farming Group

Ban Mor is renowned for its non-chemical vegetable farms (see Figure 9), offering affordable, chemical-free produce to consumers in Khon Kaen. To promote this initiative, farmers have established the “Ban Mor Non-Chemical Vegetable Group,” which comprises members from two villages: BMM5 and Ban Mor Kum *Moo* 7. These two villages were originally a single community, but were administratively separated under a provincial administration act. All farmers engaged in non-chemical vegetable cultivation are members of this group.

The group is divided into two sub-groups based on their selling strategies: retailers at Bang Lamphu fresh market, a fresh food market located in the centre of Khon Kaen city, and wholesalers supplying contracted vendors. The retail group, comprising eight members, regularly sells produce directly to consumers at the Bang Lamphu fresh market in the city centre of Khon Kaen. Their presence in the market dates back to 1995, when they received support from Khon Kaen University to negotiate a stall rental agreement. Initially, the market owner waived the monthly stall fees, as he appreciated having non-chemical products available in his market. However, this privilege led to tensions with

other vendors. To prevent conflict, Sunan, the *Phuyaiban* at the time, along with the mutual agreement of the group, voluntarily decided to start paying the stall fees. The retail group originally consisted of 30 members; however, some opted to withdraw and switch to wholesale distribution due to the burden of monthly fees and the necessity for daily market attendance.

The second subgroup consists of wholesalers supplying contracted vendors, totalling 40 members. This subgroup primarily grows non-chemical vegetables, especially chilli, and sells them directly to middlemen who collect the produce at the farm. These two groups have separate target customers to prevent market overlap. They have agreed that each will avoid selling to customers outside their designated markets. Although a proposal was made for the group to supply produce to a hypermarket, they decided not to pursue this option; more details are in the Findings Chapter. Their product range includes Chinese kale (Kai Lan), long beans, fresh and dried chilli, cucumbers, eggplants, and other seasonal vegetables.

Figure 9: Non-Chemical Vegetable Farms in BMM5



Note: Photo taken by a participant (2023).

A common practice to protect crops from insect infestation involves the utilisation of protective nets. Ban Mor's non-chemical agricultural methods depend on these nets to

defend crops against insects and direct sunlight, thereby demonstrating the absence of chemical pesticides. Nevertheless, these nets are unable to protect against rainfall, presenting difficulties during the monsoon season.

During in-depth interviews, some farmers expressed the need for greenhouses with sturdy roofs. Such structures would offer better protection against insects, sunlight, and excess water, while also enabling year-round vegetable farming, including during the rainy season. Investment in greenhouses could support sustainability efforts and further strengthen Ban Mor's status as a leader in chemical-free vegetable cultivation.

5.2.2 Land Ownership

All households within BMM5 hold ownership rights over their residential properties and rice farms. Most villagers have inherited their land from their ancestors. Besides privately owned plots, the village maintains two communal farming areas that serve as shared spaces for agricultural activities. The northern communal farming area, approximately 70 *Rai* in size and situated near the Nong-No swamp, is primarily used for chilli cultivation, a key crop in the village. The southern communal farming area, covering roughly 850 *Rai*, is dedicated to vegetable cultivation. This area is the primary source of livelihood for many households.

The communal land system in BMM5, established during Sunan's tenure as *Phuyaiban*, was designed to promote equal land distribution and support agricultural livelihoods among villagers. Under this collective arrangement, each household was granted one block of land (approximately 5-6 *Rai*), regardless of family size. The land remains communal and cannot be sold, as it lacks an official title from the Land Department. If a household chooses not to farm, its allocation is revoked and reassigned to other households that wish to farm. This system ensures that all participating households have stable access to farmland, thereby strengthening food security and economic stability within the village. The ongoing use of communal land emphasises its lasting value as a reliable source of livelihood for the villagers of Ban Mor.

5.2.3 Transportation

Transportation within BMM5 primarily relies on private vehicles, owing to the limited availability and infrequent operation of public transit services. Villagers predominantly utilise pick-up trucks, automobiles, motorcycles, and bicycles for their daily commutes

within the village and to neighbouring localities, including Khon Kaen city centre. Public transportation is accessible via a single route connecting Kra Nuan District to Khon Kaen city centre; however, this service is characterised by infrequent schedules, operating mainly during morning and evening hours.

For market vendors, especially women selling non-chemical vegetables, transportation is usually a family affair. Many travel together to the market using their own trucks or are taken by their spouses early in the morning. In the afternoon, they return to the village by Song-Taew. Instead of going straight home, they often get off at Ban Prom Nimit (approximately 10 kilometres from the village), where they arrange for a family member to pick them up, as this is considered a more convenient option.

For inter-village travel, most villagers use mini trucks or motorcycles. Additionally, families with children attending schools in Khon Kaen city centre prefer van shuttle services for school transport, ensuring convenience and safety for their children.

5.2.4 Internet and Social Media

Given the widespread availability of internet access and social media throughout Thailand, including in BMM5, the villagers have actively adopted platforms such as *LINE* and Facebook. They use these channels to communicate with friends, relatives, and businesses, as well as to promote and sell agricultural products.

The rapid increase in digital awareness, particularly among the younger generation, has encouraged the integration of technology into agricultural practices. Many farmers subscribe to agricultural channels on YouTube, Facebook, or TikTok to learn about modern farming techniques and gain insights from experts. Some also share videos showcasing their farming practices, which not only spread knowledge but also generate income. These knowledge-sharing platforms have contributed to the adoption of innovative farming methods, further enhancing the village's agricultural expertise. The impacts of COVID-19, further accelerated the use of social media, are discussed in the findings chapter.

5.2.5 Food Accessibility

The village's food choice dynamics have shifted, with some vendors offering ready-to-eat foods within the village. As the village is not situated near a major road, there are no mini-chain supermarkets nearby, and grocery or food delivery services are not available

in the area.

The most common traditional method of food distribution in rural areas is known as “Rod Pum Puang.” This system utilises mobile food vendors, who use mini trucks and motorcycles, to provide villagers with convenient daily access to fresh produce, including vegetables, meat products, and ready-to-eat foods. These vendors display their fresh goods in bags hanging around their vehicles, making it easy for villagers to select and buy. As a result, this service enables villagers to access fresh food daily.

In the evening, villagers can also visit the flea and street markets in Kok Si sub-district, about 7 kilometres away. Kok Si is an important suburban area in eastern Khon Kaen, offering a variety of fresh food options and market stalls.

The livelihood of BMM5 is sustained by its successful non-chemical vegetable cultivation, maintained through community collaboration and traditional land management practices. The subsequent section analyses the cultural and societal facets of BMM5.

5.3 Culture and Society

This section examines religion, festivals, traditional healing practices, and community connections. The village’s close-knit kinship networks and strong cultural identity are vital in shaping social interactions and community resilience.

5.3.1 Religion

Buddhism is deeply embedded in the daily lives of the villagers, with religious practices systematically integrated into their routines. A common tradition involves the offering of food to monks each morning, exemplifying the community’s commitment to Buddhist principles.

The village is home to two temples, both of which serve as important spiritual and communal hubs. The first temple, Wat Ban Mor, is located near the village. This temple serves as a gathering place not only for villagers from BMM5 but also for those from neighbouring villages such as Ban Mor *Moo 7* and Ban Mor Ku. Due to strong kinship ties and the absence of strict village boundaries, Buddhist celebrations and merit-making ceremonies are often shared among these communities, fostering a collective sense of

festivity and unity. The second temple, Wat Pa Prom Pang Dhamma Centre, is situated in the southern part of the village. It serves a vital role in hosting merit-making events and traditional festivals, functioning as a principal spiritual and cultural hub for the local community.

5.3.2 Festivals and Rituals

BMM5 actively observes all twelve *Hiet Sibsong Kong Sibsei* festivals, which are regarded as fostering prosperity, well-being, and spiritual harmony. Of these, two festivals are of particular importance. Notably, *Boon Bang Fai*, the rocket festival (refer to details in Table 7), is indicative of the region's hot and drought-prone climate and carries profound cultural and spiritual significance. The Ku Kum Sub-District Administrative Organisation acknowledges the importance of this festival by allocating an annual budget to support and promote it. A prominent feature is the rocket competition among various groups and villages, where the duration of the rocket's flight determines the victor before the rocket descends. Nonetheless, priority is given to sourcing rockets from reputable manufacturers to mitigate safety risks.

In addition to *Boon Bang Fai*, another highly revered festival is *Boon Khawsak*, which villagers consider one of the most significant of the twelve ceremonies. This ritual is deeply connected to the worship of ancestors, as villagers believe that their deceased ancestors await receiving merits and food from them. Every *Isan* household observes this tradition, highlighting its essential role in local spiritual and cultural life.

Specific festivals incorporate “Mor Lum” as a means to bring joy to attendees, including celebrations such as *Boon Pawade*, *Loy Krathong*, and the New Year festivals. Mor Lum is a traditional folk music form prevalent in the *Isan* region of Thailand, distinguished by its rapid rhythms, lively melodies, and the use of customary instruments such as the khene, a bamboo mouth organ. Performances by teams or groups are commonly observed at cultural events, festivals, or local gatherings, exemplifying the vibrant musical heritage of *Isan*.

Beyond its entertainment value, some members of the village community, especially elderly women, used to practise traditional healing known as “Mor Lum Theam.” This method is rooted in supernatural or folk healing beliefs, where practitioners are believed to communicate with spirits or supernatural entities to treat both physical and spiritual ailments. However, this practice seems to be disappeared, as participants did not mention

it during fieldwork, indicating a decline in its observance.

5.3.3 Politics

The local governance structure, leadership roles, and political engagement in BMM5 underscore the significant impact of closely knit community ties on local political participation and decision-making. While local politics remains non-competitive, national elections generate significant political discussions within the village.

During the period of this research (2023–2024), Thongdee served as the *Phuyaiban* for a decade, succeeding Sunan, the former *Phuyaiban* who held the position for three decades. Considering that most villagers are closely related, elections for this role are generally not highly competitive.

Although local politics within the village remained stable and uncontested, national political affairs sparked lively debates among villagers. During the 2023 fieldwork, political campaign banners were prominently displayed throughout the area. Sound trucks operated from dusk until dawn, amplifying political messages. Villagers consistently engaged in discussions about the election as a daily topic and openly shared their opinions regarding various political parties and candidates.

5.3.4 Education

Education within and around the village encompasses a range of levels. Two Children's Development Centres, located in Ban Mor Kum and Ban Ku, cater to nursery and preschool-aged children aged three and under, accommodating approximately 100 children with the assistance of four caregivers. These centres, together with Ban Mor School, which offers early childhood education, provide educational services from kindergarten through Grade 6 and function as the primary institutions for the village and its surrounding areas. Furthermore, the sub-district is home to three additional schools: Ku Kum Pittayasan School, Ban Bor Yai School, and Nong Bua Kum Moon School. A complimentary lunch program, supported by the Ku Kum Sub-district Administrative Office, benefits children enrolled in both the Children's Development Centres and the primary schools.

For secondary education, Ku Kum Pittayasan School in Ban Ku functions as a high school within the sub-district, offering educational programmes from Grade 1 to Grade 9. As of the year 2023, this institution serves all villages within the sub-district, accommodating

approximately 134 students and staffed by a team of 17 teachers and administrative personnel. Alternatively, some families opt to enrol their children in schools located in Khon Kaen city centre, motivated by the belief in superior educational standards.

Besides the formal education system, a non-formal education centre in Ban Ku Klong Moo 7 offers free learning opportunities for those aiming to complete their studies from Grade 7 to Grade 12. About 300 villagers, including both young people and adults from the sub-district and nearby areas, are enrolled in this programme.

According to the village development plan, all villagers are literate. Most individuals over the age of 50 completed primary education up to Grade 4⁶, whereas those under 50 generally had access to secondary education.

After completing their compulsory education (Grade 12), some young individuals decide to pursue further studies or relocate to nearby city centres or major cities, such as Bangkok, in search of employment opportunities. Interestingly, some villagers have since chosen to return to farming to support their families. This trend became more evident during the COVID-19 pandemic in 2020, when factory and company work sites were either closed permanently or temporarily, and remote work became more widespread. Many realised that farming could provide a sustainable income and enable them to care for their families.

Religion, festivals, politics, and education within BMM5 influence the lifestyles of its villagers. The subsequent section evaluates the natural resources in BMM5.

5.4 Natural Resources

This section analyses BMM5's natural resources, including water sources, irrigation frameworks, and the community forest, emphasising their significance in agriculture, daily existence, and spiritual practices. Although the village benefits from specific water infrastructure for agricultural use, issues persist regarding the quality of groundwater utilised by villagers.

⁶ Before 1978, the compulsory education system was set at the primary school which provided the education from grade 1 to grade 4.

5.4.1 Water Resources

The villagers rely on a tap water project for their daily needs, drawing water from Nong-No Swamp. This swamp also serves as the primary water source for their chilli farms. Due to the lack of provincial water infrastructure nearby, the village received assistance from the Royal Project Fund under the initiative known as *Pid Thong Lung Pra*, which translates into English as “Doing good deeds without expecting recognition.”

The fund allocated approximately 200,000 baht (equivalent to approximately NZD 10,000) for the installation of solar panels (see Figure 10), which operate water pumps extracting water from Nong-No swamp (see Figure 11) for agricultural use. This initiative has decreased the expenses associated with chilli cultivation and has contributed to making farming more affordable and sustainable.

Figure 10: Solar Panels in BMM5



Note: Photos taken by the author (2023).

The groundwater in the village comes from two separate sources. While the groundwater used for agriculture remains a reliable and high-quality resource for vegetable cultivation,

another source for daily consumption presents particular challenges, as some areas produce water with excessive salinity. This disparity in water quality causes difficulties for some households within the village in accessing suitable water for their daily needs.

The village benefits from an irrigation system that supports rice cultivation, extending from the south of Ubonrat Dam to the northern and eastern parts of the village. This infrastructure enables farmers to harvest two crops annually: glutinous rice for household consumption and jasmine rice for sale and consumption. During periods of flooding or drought, farmers within irrigated zones are entitled to higher government subsidies, which are determined based on the number of harvests per year and average yields. Consequently, rice production in irrigated areas significantly surpasses that in non-irrigated regions.

Figure 11: Nong-No Swamp



Note: Photos taken by the author (2023).

5.4.2 Community Forest

The community forest, known as *Don Pu Ta* (see Figure 12), holds profound spiritual and

cultural significance within the BMM5 area. It is regarded as the residence of ancestral spirits, and villagers routinely conduct offerings and rituals at this location to solicit protection, blessings, and guidance. In this vicinity, the ancestral spirit, designated as *Por Pu*, is honoured every Wednesday with a tray of food offerings, typically comprising chicken, fruits, and beverages. The veneration of ancestral spirits at *Don Pu Ta* underscores the villagers' strong familial bonds and accentuates the spiritual dimensions embedded within the local culture.

Figure 12: *Don Pu Ta* in the Community Forest and Transect Walk in BMM5



Note: Photos taken by the author (2023).

The belief in Pu Ta is a widespread practice across various regions of the *Isan* area and other rural communities within Thailand. Within BMM5, this spiritual conviction remains an essential component of village life. During instances of extraordinary events, such as mysterious illnesses, or when villagers seek success in specific endeavours, they visit *Don Pu Ta* to offer vows or make offerings. Upon realising their desires, they return to the site to fulfil their commitments. In addition to providing protection and promoting health and well-being, villagers also believe that Pu Ta has a special fondness for soldiers. Consequently, two individuals from the village are annually selected for military conscription, which is regarded as an act of honouring Pu Ta's wishes.

In the village, the caretaker of *Don Pu Ta* is recognised as *Por Yai Jump*, a spirit medium

entrusted with the upkeep of the shrine, conducting rituals, making offerings, and acting as a mediator for communication with the spirit. Before commencing the transect walk, all participants, including myself, were required to pay their respects to *Pu Ta* and notify the spirit of our intentions. Por Yai Jump, serving as one of the participants, accompanied us throughout the activity.

Don Pu Ta has been part of the community forest in Ban Mor for years. During the transect walk, we observed a variety of edible plants and herbs; some grew naturally, while the villagers cultivated others. The villagers are authorised to harvest certain plants for consumption.

The natural resources of BMM5 are vital not only for the villagers' agricultural livelihoods but also for their cultural traditions. The irrigation system and solar-powered pumps have significantly enhanced water management; however, challenges still exist regarding the quality of groundwater for daily use. The community forest serves both as an essential natural resource and a sacred site. In the next section, I will examine the emerging challenges facing the village.

5.5 Village Problems

Although the village exhibits economic stability and strong community bonds, emerging social and environmental challenges threaten long-term sustainability. This section outlines the urgent issues identified in BMM5, based on fieldwork findings, with particular emphasis on youth drug use and its impact on community welfare.

One of the most pressing concerns raised was the increasing prevalence of methamphetamine use among young people. This issue not only impacts those young individuals but also contributes to domestic violence within families. In response, the Sum Sung Sub-district Office has implemented several initiatives aimed at prevention and rehabilitation. These include workshops focused on agricultural skills and personal development, featuring local wisdom experts as guest speakers. One such speaker is Singharn, a participant from this village, who is frequently invited to share his expertise and train others in sustainable farming practices to promote positive change and discourage drug use.

Efforts to address this issue began around 2020, a period characterised by increased

accessibility and a notable decline in methamphetamine prices. According to Thai PBS (2022), a report published on 17 October 2022 indicated that the price of a methamphetamine tablet had decreased to less than 35 baht (approximately NZD 1.60), thereby rendering it alarmingly accessible to adolescents and posing a broader threat to national security.

Although BMM5 maintains economic stability, it encounters issues related to youth drug use. Local and governmental efforts are dedicated to addressing these concerns through sustainable, long-term solutions. The following section analyses development project allocations, evaluating the extent to which government planning aligns with local challenges, needs, and priorities.

5.6 Development Project Allocation to the Village

To address development and challenges within the Sum Sung District, the local administrative organisation is responsible for formulating development and action plans. This section critically evaluates the Ku Kum Sub-district Development Plan (2021–2025), with a focus on its implications for BMM5. The analysis examines budget allocations, project priorities, and identifies existing gaps in responding to the specific needs of the village.

The Ku Kum sub-district development plan for 2021–2025 outlines a comprehensive array of strategic actions aimed at implementing development projects across eight villages within the sub-district. The primary emphasis of this plan is on infrastructure improvement and community development, encompassing the construction of roads within and between villages, as well as water supply systems, electricity provision, healthcare services, and initiatives aimed at preserving local traditions and festivals.

Although the Ban Mor vegetable farms were recognised as a success story and an exemplary product of the sub-district, the budget allocations remain relatively modest. Only two of the nine sustainable agriculture strategy projects, which directly support the village's non-chemical vegetable and chilli farm groups, have been allocated a budget of 100,000 baht each for five years, amounting to approximately 20,000 baht (about NZD 1,000) annually. Furthermore, a project is dedicated to developing the Ban Mor development centre to encourage the adoption of sustainable practices among vegetable

farmers, with a particular emphasis on engaging the younger generation.

In response to the village's drug use problem, seven projects were allocated a budget aimed at organising sports events, implementing training programmes on the effects of drug abuse among the youth, and establishing programmes to assist individuals struggling with addiction.

The climate change initiatives integrated into the sub-district development plans include projects aimed at mitigating global warming. These initiatives seek to promote the use of organic fertilisers, raise public awareness of global warming, and support reforestation efforts. However, there is a lack of comprehensive strategies, particularly in terms of the effectiveness of activities such as parades and extensive campaigns designed to raise awareness.

The plan references a singular project focused on enhancing women's capacities, primarily aimed at training and skill development for women. Nonetheless, the specifics of its implementation remain ambiguous, and there is a lack of dedicated funding to support women's economic empowerment or leadership advancement.

Although the Ku Kum Sub-district Development Plan encompasses infrastructure, agricultural, and social interventions, its funding allocations for BMM5 are restricted, particularly in areas such as climate change adaptation, women's empowerment, and long-term economic sustainability.

5.7 Chapter Summary

This chapter offers a comprehensive overview of BMM5, emphasising its economic stability resulting from non-chemical vegetable farming, strong kinship networks, and deeply rooted cultural traditions. The village benefits from communal land ownership, access to irrigation infrastructure, and spiritual connections to the *Don Pu Ta* community forest, thereby supporting both livelihoods and cultural identity. However, challenges such as youth drug use threaten villagers' security. Although the sub-district development plan includes infrastructure and agricultural initiatives, it lacks specific support for climate adaptation and women's empowerment. These findings will be discussed further in Chapter 7, which will feature a comparative analysis between BMM5 and BLPTM12, exploring differences in economic strategies, environmental pressures, adaptation

responses, and governance frameworks. These backgrounds of the study areas enlighten to the main findings of this research, as presented in the next chapter.

Chapter 6 Findings

This chapter presents the findings of fieldwork research conducted as part of the PAR process in the two villages. These findings contribute to a deeper understanding of women's perspectives on climate change, their adaptation decision-making processes, and the factors that influence their involvement. It focuses on identifying barriers and opportunities for improving women's engagement in climate change adaptation.

This chapter is organised into six sections. It begins with a critical discourse on climate change from the villagers' perspectives, integrating insights from all research activities. Subsequently, it elucidates the development of codes derived from the data. The findings are presented in three parts, each aligned with the corresponding research questions. The chapter concludes with a sentiment analysis of participants' reflections from the fieldwork, providing insight into village dynamics and their connection to climate change.

6.1 Critical Discourse on Climate Change Adaptation from Women's Perceptions

Understanding women's perceptions of climate change adaptation is essential for comprehending how local knowledge and lived experiences influence adaptive responses. This section utilises participants' reflections to analyse their understanding and engagement with climate change adaptation in their daily lives. The analysis is based on data obtained from in-depth interviews, life story interviews, *So-Leh* Discussion and workshops. The discussion is organised around two primary frameworks: participants' perceptions of climate change and their experiential insights. These viewpoints have been derived from participants across both villages included in the study. The analysis begins with an examination of perceptions and insights shared by participants during the research activities. Subsequently, a range of insights gathered from their fieldwork engagement is presented, including the challenges faced and their recommendations for addressing climate-related issues within their villages.

6.1.1 Climate Change from Participants' Understanding

Participants' understanding of climate change varied across generations, shaped by

personal experience, education, and media exposure. While the term “climate change” was unfamiliar to many, its effects, such as extreme heat, droughts, and storms, were widely recognised.

At the start of my fieldwork, especially through life-story interviews, in-depth interviews, and *So-Leh* discussions (see Figure 13), I avoided using the term “climate change.” I believed it was too complex, which would make it harder for both villagers and professionals in the academic and government sectors to understand. Recognising this, my supervisors advised me to use simple, non-academic words to help my participants understand and clarify the concepts better.

Figure 13: *So-Leh* Discussion in the Two Villages



Note: Photos taken by the author.

During my first visits to both villages, I observed that the villagers were unfamiliar with the term climate change. They remained silent. I realised that a more effective way to assess their understanding was to encourage them to ask questions. As a result, I gathered some questions from my participants and recorded them in my field notes.

The first woman asked about disasters, specifically droughts and floods, wondering if the village would face a drought in the coming year. A second woman voiced her frustration about the ongoing drought in the village and pointed out the lack of remedial projects and budgets.

I responded to the first woman by stating that it was beyond my capacity to predict a drought. I clarified that disasters such as heavy rains, floods, and droughts are natural phenomena. While we cannot forecast the precise impacts of climate change and their manifestation, we can implement adaptations to mitigate its effects. This rationale underpins the focus of this research. I conveyed to the second woman that I understood her remark and indicated that this research project could serve as a platform to help the local administration and higher levels in identifying their genuine needs. Participation was mandated in local and national plans. Additionally, I informed the community that, with their consent, I would forward the research results to the local administrative authority.

In the in-depth interviews conducted with women from the two villages, the participants' ages ranged from 22 to 80 years old. This range enabled a comprehensive understanding of their perspectives on climate change from various viewpoints. Starting with the younger cohort, it was observed that they appeared neither uncomfortable nor confused when discussing climate change. As one young farmer participant stated:

I learned about climate change when I was in high school. My teacher explained it in class. I personally do think it's not a good term because its impacts are becoming more severe now. For instance, as you can see, strong sunlight means it's very hot. (Naphatsorn, 22-year-old female participant, vegetable farmer and seller)

A middle-aged participant identified this term based on their personal experiences, as shown by the in-depth interviews with a VHV participant.

I heard this term, but I didn't understand what it means. I think this word refers to weather changes. For example, when I was young, I had never seen very strong winds or cyclones in the summer season, but now I often see them. It's a natural phenomenon. (Buaban, 58-year-old female participant, VHV)

An elderly woman referenced climate change, drawing upon her lifetime of experience.

In the past, I hadn't heard of this term until recently. It's like the change in weather, from cold to hot. I knew it on television. I don't know what it is or what we can do about it. In the past, when I went to feed the buffalo in the field, I could drink water from the field, and it was fine. I have no idea what climate change is. I just heard it on the news. (Prasat, 66-year-old female participant, elder)

Another elderly participant mentioned that she learned this term through media outlets. She stated:

I heard about it on television. I listened to the news about climate change, and it seems chaotic and troubling. They mentioned something about the extreme weather events and their serious impact on our environment, daily lives, and future. It looks like a concerning problem. (Thongma, 80-year-old female participant, elder)

During the 2023 fieldwork, Thailand was experiencing extreme heat. This allowed participants to compare their current feelings with historical trends without relying on scientific data, which is often presented in English and may pose comprehension challenges for some Thai individuals. Subsequently, I engaged with the participants in all research activities, with a focus on weather patterns and climate-related disasters, such as droughts and floods.

The causes of climate change are examined, including the possibility that it may be a natural phenomenon, uncontrollable, and anthropogenic in origin. A senior participant highlighted a notable observation about climate variations based on his personal experiences. He said, “I think the cause of the increased heat is the concrete roads. In the past, we had only dirt roads” (Nires, 78-year-old male participant, elder).

Building on these insights, the following section examines participants’ lived experiences with climate change adaptation explicitly. It emphasises the practical responses women have made to climate-related challenges, the obstacles they have encountered, and the adaptive strategies they have developed within their communities.

6.1.2 Climate Change Adaptation from Participants’ Experience

Participants’ awareness of climate change is intricately connected to their personal experiences and daily routines. This section presents participants’ firsthand experiences of how they have adapted to climate change. It is organised into two main areas: (1) daily life adaptations and work-related challenges; and (2) the pandemic and air pollution challenges.

6.1.2.1 Daily Life Adaptations and Work-Related Challenges

This section examines how villagers, particularly farmers, have adjusted their daily routines in response to increasingly severe heat. Based on activities and observations in both study villages, it can be summarised into two main themes: the intensification of heat has significantly changed traditional work patterns; and the rhythms of everyday life.

Previously, they would wake up just before sunrise and head to their farms, working continuously until their tasks were completed. However, due to the extremely hot weather, they have changed their routines. They said they now have to wake up even earlier and go straight to their farms to avoid the intense sunlight, allowing them to do more work before stopping once the sun becomes too strong. Afterwards, they return home to rest or find shade, such as in a hut or under a large tree. They observed that current sunlight and summer conditions differ significantly from those of the past.

During the life story interviews, a local elder from BMM5 shared his memories of the weather when he was young:

I believed that the climate started to change when I was in my early adulthood. This area, where we are now, used to be a vast forest full of edible plants like mushrooms and sweet potatoes. We could find these easily. That forest was our main source of food, and the weather was good, not as hot as it is now. About 20-30 years ago, I could work comfortably even under the sunlight all day long, but that is no longer possible. It has been extremely hot for the past few years. (Sunan, 70-year-old male participant, former *Phuyaiban*)

An elderly woman shared her thoughts on the changing weather patterns she has experienced since childhood.

The weather has changed considerably. Rainfall has decreased, but storms are now more intense and frightening. In the past, I could work in the paddy fields during the rain, but I can't do that anymore because I am scared of lightning and thunder. (Phutta, 71-year-old female participant, elder)

Since the villagers in BMM5 are vegetable-growing farmers, experiencing the increasingly hot weather in Thailand over the past decade has prompted them to adapt their farming practices, as a woman farmer shares:

In my daily routine, I usually wake up early in the morning, around 2 a.m., to go to the farms and harvest some vegetables. Then, around 5 or 5:30 a.m., I go to the market to sell those vegetables. I want to ensure the produce is fresh for the customers. (Pairin, 33-year-old female participant, vegetable farmer and seller)

The subsequent narratives detail how individual villagers have observed and responded to environmental changes. They recount memories of a period when the climate was notably more temperate, presenting a stark contrast to the progressively severe conditions observed in contemporary times.

The extremely hot weather affects not only humans and trees, but it also impacts animals. Another participant who raises cattle has had to adjust her daily life:

I've adjusted my daily routine. For example, I wake up early in the morning to harvest grass for the cattle, instead of waiting until late morning. If I have a meeting, I don't take the cows and buffalo to the field; I keep them at home and feed them there with grass harvested from the previous day. I plan my work schedule accordingly. My husband is an assistant *Phuyaiban*, and he also makes similar adjustments. (Lumduan, 46-year-old female participant, sub-district medical practitioner)

This observation extends beyond her personal experience; she also took note of how her cattle reacted to the heat on her farm.

I've also been observing my cows in the fields. I think they're also affected by the extreme heat, just like us. I've observed that when it's hot, they become restless, look around frequently, and breathe rapidly. To help them, I have been taking them into the shade. (Lumduan, 46-year-old participant, sub-district medical practitioner)

These climate-induced adjustments in daily routines reflect not only the villagers' adaptability but also the increasing pressures they face in maintaining their livelihoods and well-being. As the following section discusses, the villagers' adaptive capacity has also been tested by the compounding effects of the global COVID-19 pandemic and air pollution, both of which have further disrupted their lives and deepened existing vulnerabilities.

6.1.2.2 COVID-19 Pandemic and Air Pollution Challenges

This section examines the challenges posed by the pandemic and air pollution on villagers' livelihoods and adaptation strategies. Air pollution, particularly from crop burning, has significantly impacted daily life and health, sparking ongoing debates within communities about its effects and potential mitigation measures. Both challenges highlight broader vulnerabilities that parallel climate change threats, emphasising the need for adaptive responses to environmental and economic disruptions.

In Thailand, measures were implemented to prevent and control the disease from March 2020, and some of these measures began to be lifted in 2023. This meant that when I conducted fieldwork in March 2023, some Thais were still wearing face masks. This pandemic not only affected the health of participants, especially those from BMM5, but it also severely impacted them because they were unable to visit the Bang Lamphu fresh market. As discussed in Chapter 4, before the pandemic, women villagers would typically go to the market to sell fresh vegetables to customers, which was their primary source of income. During the pandemic, the market was closed for 3 or 7 days each time there was

a reported increase in COVID–19 infections, especially in 2021 when Thailand recorded its highest number of daily infections. Because of increased awareness about the spread of the virus, the number of customers declined. Some women villagers opted to sell their products online using Facebook and the *LINE* application to inform their online friends that they had an excess supply. They did this because they had to pick their vegetables daily from their farms; they could not wait too long, as the vegetables would not be in good condition, as each vegetable has its own harvesting period. Sometimes, they had to sell their produce at lower prices than usual to clear their stock. Luckily, after the pandemic, when I visited them for the evaluation phase in 2024, they were able to go to the market to earn income again.

There wasn't much we could do. Travelling became challenging, and I couldn't take my produce to the market because the middlemen were aware of COVID-19. They didn't go to the market, and there were times when the market was temporarily closed due to the pandemic. (Thongsuk, 54-year-old female participant, vegetable farmer)

Another concern in the Khon Kaen area was the burning of residues from rice straw, particularly sugarcane. These fires were at a harmful level in the northern region of Thailand, such as Chiang Mai Province. This issue has become more prominent, as evidenced by people experiencing respiratory problems. This has led people to continue wearing face masks to prevent exposure to small particulate matter. The particulate matter emissions from burning sugarcane residue also affect people in another way. Black particles fly through the air and settle in residential areas, causing dirtiness around houses and soiling clothes hung outdoors.

Participants in both villages held differing opinions on this issue. One group believes it is acceptable and chooses to overlook it because burning only occurs once a year, considering it part of their way of life. However, another group contends that this practice is harmful, especially for vulnerable individuals such as those with allergies or asthma. To address this, the Ministry of the Interior (2023) has issued an announcement banning the burning of residues, and local *Phuyaiban* have broadcast this through local channels to inform all villagers of the rule. Nonetheless, the challenge is that those responsible for these broadcasts do not reside in the village. Furthermore, offenders often carry out the burning at night, making it difficult to catch them.

There was an issue with burning sugarcane. Black particles flew in the air and dropped on the roofs, turning them black. My house is near the burning site. I knew who did it, but I haven't blamed them. I do understand this only happens

once a year. (Naphatsorn, 22-year-old female participant, young vegetable farmer and seller)

The pandemic and air pollution are external factors that have significantly impacted villagers' livelihoods, affecting their health and daily routines. These challenges necessitated adaptations, including transitioning to online sales and enforcing the use of masks amid deteriorating air quality. Similarly, climate change causes similar disruptions, especially to agricultural activities. The ongoing issue of air pollution from crop burning also reflects broader environmental concerns, and the connection between the pandemic and climate change will be explored in the subsequent sessions within the thematic analysis.

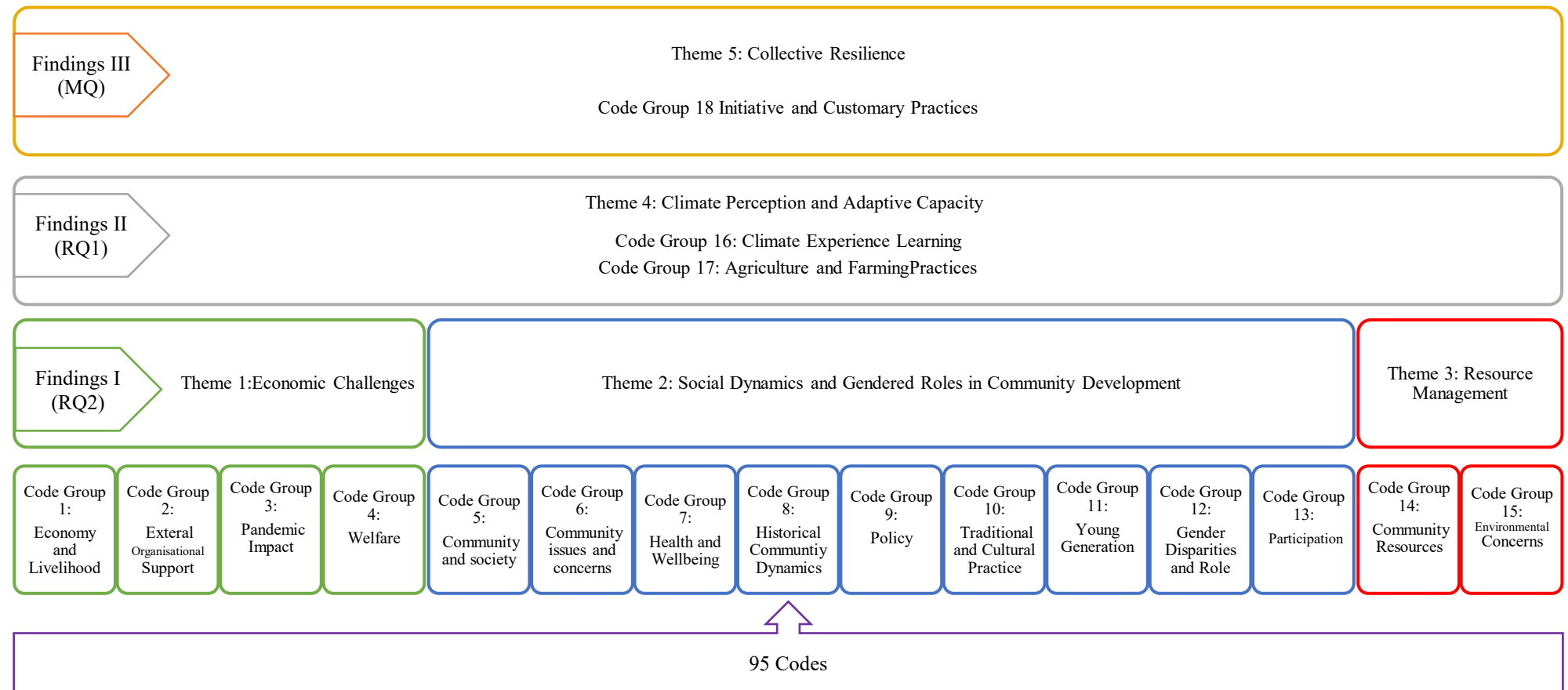
The following section presents themes that emerged from the data. Direct quotes from participants are included to highlight their voices, illustrate their lived experiences, and deepen the understanding of climate change adaptation through their practices.

6.2 Emergence of Themes in the Findings

Identifying patterns across participants' narratives is essential for understanding the broader gendered dimensions of climate change adaptation. This section presents the thematic findings that emerged from the qualitative analysis, highlighting how these themes reflect the lived experiences, perceptions, and responses of women within the two study villages.

As outlined in Chapter 5 about the coding system, detailed explanations, frequency numbers, and examples of each code are provided in Appendix E. After organising these code groups, I arranged them into themes for broader discussion. Figure 14 illustrates the relationship between each code group and its corresponding theme, as well as the associated research questions. Each theme connects to specific research questions. The first three themes in this category relate to RQ2 and include 15 code groups. The fourth theme relates to RQ1 and consists of two code groups. The fifth theme addresses the MQ group with one code group. The following section will discuss the results for each theme about the research questions.

Figure 14 Mapping of Themes and Code Groups



Note:

- RQ2 (Sub-Research Question 2) = What factors influence women in adaptation to climate change, and how do these factors impact women in their livelihoods?
- RQ1 (Sub-Research Question 1) = How have women perceived and adapted to climate change issues at the village level?
- MQ (Main Research Question) = How have women enhanced their capacities to respond to climate change adaptation in the Northeast, *Isan*, region of Thailand

6.3 Findings I: What factors influence women in adaptation to climate change, and how do these factors impact women in their livelihoods?

A comprehensive understanding of the factors shaping women's participation in climate change adaptation is crucial for addressing sub-research question 2: What factors influence women's adaptation to climate change, and how do these factors impact their livelihoods? Out of the 18 code groups identified through analysis, 15 contained relevant data reflecting the determinants influencing women's experiences and roles in climate change adaptation (refer to Figure 14). Each code group provides diverse insights into the challenges and opportunities confronting women within the context of climate change. Collectively, these 15 groups encompass 82 codes, capturing the complex influences affecting women's livelihoods. The findings underscore the intricacy of women's involvement in climate resilience, which is shaped by contextual realities and deeply rooted gender dynamics. By further examining overarching patterns of gender disparities, roles, and participation, this analysis aims to inform the development of more inclusive and gender-responsive strategies for local climate adaptation. This section explores the primary factors impacting women's active engagement in climate change adaptation within their villages. These factors are organised into three principal themes: economic challenges, social dynamics and gendered roles in community development, and resource management.

6.3.1 Theme I: Economic Challenges

In the two villages, the way people earn a living, interact with their environment, and engage with society all influence how they face challenges and adapt to change. The women were experienced in handling difficult situations and finding ways to support their families. In this section, I will describe how women endured hardship and showed resilience in the face of economic burdens while confronting various challenges. The four code groups identified included i) Economy and Livelihood, ii) External Organisational Support, iii) Pandemic Impacts, and iv) Welfare. These are discussed in the following four sections.

6.3.1.1 Economy and Livelihood

Economic activities and livelihood dynamics are central to rural resilience in the face of climate variability, reflecting a unique aspect of life for the people of *Isan*. During life

stories and in-depth interviews, I inquired about their tenure in the village to gain an understanding of their familiarity with it. The majority of participants had lived in the village since birth, with only one participant originating from elsewhere and another having migrated before marriage. Despite diverse backgrounds, most participants had spent most of their lives in the village. When asked about changes in their lifestyles, many attributed these shifts to economic factors. Participants recalled emphasising that financial considerations influenced the transformation over time.

It was a sharing society. We shared our food with each other instead of buying it. However, I realised it was changed when I was in my early adulthood and started working to earn a living. I had to use that money to buy food for my big family. I didn't have much left for anything else. (Somphan, 77-year-old female participant, elder)

Things were different in the past; the village was not as developed as it's now. Money wasn't a major concern because, with just 1 baht, I could buy a lot of snacks. When going to the farms, there were plenty of food sources. We could have fish, crabs, tadpoles, or water spinach, but now we have to pay for every meal. I used trolleys to carry rice from the paddy fields to our storage, but now we use machines or trucks, which increase farming costs. The elders once said that as long as we have rice, we don't need money. However, we can no longer do without money; even though we have rice, we sell it for income. Our society has changed. (Pairin, 33-year-old female participant, vegetable farmer and seller)

The discussions highlighted the profound climate impact on agricultural practices and community life, emphasising the need for adaptive strategies. Additionally, participants' experiences emphasise the transformative effect of economic factors on their way of life, showing how their lives shifted from being interconnected to a monetary society, which influenced the agricultural aspects of their livelihoods.

Since rice farming is a central activity within households, discussions about weather and climate conditions compared to the past revealed noticeable changes. One participant shared their experience with rice farming, highlighting its importance as a primary agricultural pursuit among villagers. Because rice farming is a key source of food and income for the *Isan* community, any changes in its practices carry significant implications. The female elderly participants in the villages emphasised the links between climate change impacts and changes in their way of life, stressing the broader effect on the community.

In the past, we used to plough our paddy farms around Mother's Day in August and harvest around Father's Day in December. Nowadays, we have to rush to cultivate, by applying paddy-sown fields, and traditional hand-planted rice fields are less common for this reason. (Phutta, 71-year-old female participant, elder)

The participants' life stories and interviews revealed that economic activities and livelihood dynamics are central to rural resilience, and they have evolved. As the interviewer, I observed that when they shared their stories, they felt comfortable recounting positive tales of their early lives, which reminded them of a simpler lifestyle. Economic transformations have led to a more capitalist society, which has significantly affected agricultural practices and the livelihoods of farmers. Experiencing climate change has altered rice farming methods, with noticeable changes in weather conditions affecting the community's way of life.

6.3.1.2 External Organisational Support

The assistance provided by various organisations has led to projects tailored to the specific needs of the two villages in different forms. In BLPTM12, before the pandemic, a housewives' group was established to produce salted eggs, weave mats, and cultivate mushrooms within the village. This initiative was supported by the local administrative organisation, which provided both financial and technical assistance, as Buaban shared: "The Ban Wa Sub-district Administrative Organisation later allocated some funding to support our efforts in establishing the groups, which allowed us to organise and conduct our group activities, which are registered formally. (Buaban, 57-year-old female participant, VHV)

Buaban also advised that another organisation based in Khon Kaen, which provided a training course for the villagers' secondary jobs, upskilled the villagers, especially the women, to enable them to earn more money for their livelihood. She said:

The Community Organisation Development Institute organised and delivered a development skills training course specifically tailored for the villagers, who actively engaged in the sessions to enhance their knowledge, improve their practical skills, and contribute more effectively to our village's development. (Buaban, 57-year-old female participant, VHV)

In the other village, BMM5, participants shared diverse stories of receiving support that significantly improved their livelihoods. Assistance from *Pid Thong Lung Pra* Project enabled them to install solar panels for chilli farms around Nong No swamp, providing a secure source of income for the farmers as they can pump water from the swamp to their chilli farms throughout the year. This initiative, spearheaded by the former *Phuyaiban*, Sunan, has been a source of pride for the community. Additionally, academic support from universities in Thailand has contributed valuable knowledge on agricultural practices, further enhancing their capabilities.

Universities advised us that the optimal time for harvesting is between 1 a.m. and sunrise. By around 5:30 a.m., we finish and go to the market to serve customers. This practice helps preserve freshness and retain nutrients. It also allows us to spot and manage pests at night. Nine prominent universities in Thailand, including Maejo University, visited our village to offer training in farming and utilising the groundwater resource. They underlined that we could contribute to the provincial or country level by engaging in agriculture, as it could become a primary source of income for us. At first, we were concerned about the lack of a market for our products, but the universities helped us find a place to sell our produce in Bang Lamphu fresh market, which is a major fresh market in Khon Kaen. They negotiated with the owner, who kindly agreed to provide a stall for non-chemical vegetables. (Sunan, 70-year-old male participant, former *Phuyaiban*)

Having been a customer of Bang Lamphu fresh market for twenty years, I noticed that the women's group of BMM5 had a permanent stall inside the market building, making it easily accessible for customers to purchase their daily produce. Support from local organisations was tailored to meet the specific needs of each village. This demonstrated a proactive approach to improving the livelihoods of the villagers in BLPTM12 and BMM5.

6.3.1.3 Pandemic Impacts

The COVID-19 pandemic presented unprecedented challenges and disruptions to the villagers, who experienced both adverse and beneficial effects. On the unfavourable side, women in BMM5 experienced a loss of income from selling their agricultural produce.

When the market was closed due to the pandemic, I couldn't go to sell my fresh vegetables. Even when the market was closed for only 2-3 days, it affected my earnings. I remembered that sometimes it was closed for an entire week. (Pairin, 33-year-old female participant, vegetable farmer and seller)

The pandemic disrupted my livelihood, especially going to the Bang Lamphu fresh market to sell my fresh vegetables. At that time, I faced an overproduction of my vegetables because customers didn't come to the fresh market during the pandemic period. (Pranom, 61-year-old female participant, vegetable farmer and seller)

During that period, not only was it difficult for them to go out to the market alone, but a woman trying to send produce to a middleman also faced disruptions due to restrictions and increased pandemic awareness. A group of women explained that, faced with oversupply, they did their best to sell their vegetables by using online platforms such as Facebook or *LINE* to inform their friends and family. Additionally, they noted that during the pandemic, chilli farms saw their earnings double because of market closures and the demand for chilli, a staple ingredient in Thai cuisine, remained high. One elderly woman emphasised,

This year, we earned only 400 to 500 baht per 10 kilograms, or 50 baht per kilogram. But during the pandemic outbreak, the price of fresh chilli in the market doubled. I can remember at that time it was around 100 baht per kilogram. (Phutta, 71-year-old female participant, elder)

While women in BMM5 shared their experiences from both sides of the pandemic, the women in BLPTM12 discussed the impacts of COVID-19 on traditions and the restrictions imposed on festivals. As they prepared for the Songkran festival in April 2023, it is noteworthy that the festival had been postponed since 2020 due to the spread of COVID-19 and government-imposed restrictions on gatherings aimed at controlling the disease. During my fieldwork, I observed their enthusiasm in preparing for the festival and making merit by rebuilding the temple within the community forest through charitable acts. They intended to celebrate the Songkran festival when family members and relatives returned to the village to participate, following *Hiet Sibsong Kong Sibsei* among the *Isan* people.

6.3.1.4 Welfare

The pursuit of well-being and quality of life is fundamental to rural community living. I categorised the codes under the welfare code group to demonstrate how women can access social benefits within villages. Regarding BMM5, it pertains to job security; specifically, being a non-chemical farmer can ensure a stable household income. One participant explained, “I feel proud because I can earn a living from farming and provide for my children, enabling them to graduate with bachelor’s degrees” (Thongsai, 59-year-old female participant, vegetable farmer and seller). A young female also shared that:

Being a non-chemical vegetable farmer makes me proud because I can support my family and take care of my mum. My quality of life has improved, and I have been able to invest more in my farms. I can afford a vehicle. (Pairin, 33-year-old female participant, vegetable farmer and seller)

At the BLPTM12, a woman expressed her desire to establish a savings fund to support her family’s livelihood in case of a family member’s passing. According to *Isan*’s traditional customs, funerals generally last two or three days and can be costly. Additionally, they are required to perform *Boon*, as these rituals are believed to ensure the deceased’s peaceful rest.

I am involved in a rubbish fund project at the sub-district level. We do pay a monthly fee, and we do sort different types of rubbish in the community and sell recyclables to a factory. The money from this goes back to the family members upon their passing. (Buaban, 57-year-old female participant, VHV)

Every month, all members must pay a fee or a premium, depending on the number of deaths that have occurred during the preceding month. It is a form of local insurance organised by the community. The importance of well-being and quality of life for rural villagers, with considerations ranging from job security in sustainable farming to financial preparations, highlights the varying social support needs among different villages.

The villagers' resilience was based on adapting their livelihoods, utilising external support, creatively managing pandemic disruptions, and maintaining community welfare systems. Women's active participation in all these areas was significant.

6.3.2 Theme II: Social Dynamics and Gendered Roles in Community Development

Community development in rural areas of the *Isan* region is a multifaceted process that encompasses the community's dynamics and social interactions. It involves addressing various issues and concerns, understanding historical dynamics, shaping policies, and preserving traditional and cultural practices. This section reveals these dynamics to better understand the diverse perspectives and approaches to community development, as well as the evolving roles of men and women in fostering resilient and sustainable communities.

6.3.2.1 Community and Society

In the context of rural life, the interaction between community and society plays a fundamental aspect in shaping climate change responses. I investigated the connection between social structures, norms, and relationships that influence the engagement of women and villagers in their communities.

The implications of this section pertain to the *Isan* lifestyle and its evolution. It was apparent that all participants, particularly the women, were eager to share their thoughts and insights. While some ideas were consistent, others varied, as they actively engaged in discussions. This openness in sharing may be attributed to their familiarity with one another within the community. Notably, I observed that the men did not seek to dominate the conversation; instead, they took pleasure in making jokes during the activities. This reflects the spirited nature of *Isan* culture, characterised by a relaxed discussion style, an interdependent society, and a strong family structure that distinguishes *Isan* from other regions.

In *Isan* society, local wisdom, practised by villagers for generations, is particularly evident in their use of herbs. An elder of BMM5 shared insights on how local wisdom intersects with academic knowledge.

In the past, we relied on a local herb as a medicine, and local wisdom gurus used these herbs to treat us. We knew little about their exact qualities. For example, Yanang is normally cooked with bamboo shoots in *Isan* curry dishes. We believed that eating bamboo shoots could cause sore legs. Later, a university professor discovered that Yanang can prevent sore legs. (Sunan, 70-year-old male participant, former *Phuyaiban*)

Some issues have been changed, and the participants believe it has affected them both positively and negatively, such as through technological and community development, including road construction and irrigation systems. These improvements have allowed villagers to travel more easily compared to the past, as one elderly person shared.

The village has undergone significant development and has become more accessible. In the past, people hesitated to visit due to a big, dark and intimidating forest, which was mainly filled with Mor trees. That made this village and its surroundings appear underdeveloped. (Phutta, 71-year-old female participant, elder)

6.3.2.2 Community Issues and Concerns

At the core of effective adaptation is a thorough understanding of the urgent issues and concerns faced by local communities. This group highlights the specific challenges women encounter in climate change adaptation.

The primary concern for BLPTM12 was the water supply, encompassing both tap water and drinking water. The quality of the tap water was poor, leading villagers to rely on groundwater as their primary source of water. They had to purchase drinking water for 12 baht per bucket. During the years 2023–2024, while I was in fieldwork, they were still awaiting the allocation of funds for tap water from the provincial waterworks authority, despite BMM5 possessing its own water resources for agricultural purposes. The water quality has since deteriorated. One participant remarked:

Rainwater has also changed. In the past, when it rained, the soil and vegetables stayed moist. However, I now believe the quality of rainwater has worsened; it seems toxic and has caused downy mildew, especially early in the season, leading to diseases in the vegetables. (Pairin, 33-year-old female participant, vegetable farmer and seller)

When I conveyed the information regarding the potential connection between this concern and the impacts of climate change, the villagers concurred.

Honestly, information about climate change hasn't reached the villagers. We have heard about it on social media, but we can't rely solely on that. The government's information has not reached us, and we aren't aware of what climate change is, its impacts, or how we can adapt to it. We don't know that the agricultural sector is the second-largest source of GHG emissions. We aren't sure how to address this issue because farming has been our way of life for generations. (Aphevish, 56-year-old male participant, villager)

Effective climate change adaptation requires a thorough understanding of the specific challenges faced by communities, such as the water-related concerns observed in BLPTM12 and BMM5. Other general community concerns of each village were described in the background information in Chapters 4 and 5.

6.3.2.3 Health and Well-being

Climate change has brought the health and well-being of rural communities to the forefront as paramount concerns. In the in-depth interviews, women described getting sick from the COVID-19 disease and how they received support from VHVs and other organisations to recover and prevent the disease. Others shared experiences with other health issues in villages, such as asthma and diabetes. The emergence of health problems, not only in *Isan* but also in many parts of Thailand, has been linked to PM 2.5 pollution, mainly from the burning of residues, especially sugarcane. This situation is described in Chapters 4 and 5. One woman in BLPTM12 mentioned suffering from this issue.

I get pimples on my skin when it's hot, and I sometimes get headaches. However, when asking about how it has changed, I think my daily life is not what it was in the past. I have seen that our world is warming. (Sathaporn, 56-year-old female participant, farmer)

The complex health issues exacerbated by climate change, including the effects of COVID-19 and PM2.5 pollution, have underscored the urgent need for comprehensive support and intervention strategies to safeguard the well-being of rural communities, as reflected in the personal experiences shared by participants.

6.3.2.4 Historical Community Dynamics

The recollections shared by elderly participants and others regarding changes in their villages helped me understand the past and the simple lifestyle I did not personally experience, as well as the harmonious way of life that once existed. Elderly women in BMM5 described how the *Isan* people lived.

In the past, we used to walk to the paddy fields and fetch water from a well. I would carry water on my shoulders using wooden containers. After a while, we

started using trolleys to make it easier to carry from the well to our homes. (Phutta, 71-year-old female participant, elder)

An interesting point that some participants mentioned was the change in rainfall patterns, as they recalled past experiences to illustrate how this natural phenomenon occurred.

Back then, the weather was good, and the wind made me feel comfortable. When it rained, it wasn't as intense as it is nowadays. There were occasional storms, but they weren't too severe. Yesterday was very hot. In the past, it was hot, but we could still work. Even without any headgear, we could work comfortably. (Somphan, 77-year-old female participant, elder)

Although it occurred frequently, it wasn't a serious problem. We faced strong winds, but back then, our roofs were made of vetiver grass, not corrugated sheets as they are nowadays. When it was windy, the roofs would fly or lift off, but the houses remained undamaged. It was a natural phenomenon. (Nires, 78-year-old male participant, elder)

6.3.2.5 Policy

Effective policy frameworks are vital for guiding and supporting climate adaptation efforts at the local level. The issues discussed in this section highlight the policy landscape surrounding climate change adaptation and its implications for people's participation in villages. The discussion focuses on the government's reforestation campaign. Some trees are planted for special occasions, such as Thai Mother's Day or Father's Day. However, a male participant in BLPTM12 said that:

Honestly, I'm interested in planting some herbs in our community forest because some herbs are edible. In the past, when the government launched a tree planting campaign, they didn't consider our preferences; they just sent us some trees to grow. (Aphevish, 56-year-old male participant, villager)

In April 2024, while researching the action plans for the Ban Wa sub-district, I found that the organisation had a project aimed at reducing greenhouse gas emissions, in line with national policy to achieve carbon neutrality. However, I was unable to locate any climate change adaptation policies at the provincial level.

6.3.2.6 Traditional and Cultural Practices

Traditional knowledge and cultural practices in *Isan*, known as *Hiet Sibsong Kong Sibsei*, are closely linked to weather patterns, as described in the background information of the two villages. During fieldwork in 2023, villagers were organising festivals. Participating in the festival was a priority for those in both villages. All participants of BMM5 stated that, while creating their seasonal calendars, they engage in various festival activities

throughout the year, such as New Year celebrations and *Boon Pawade*.

The villagers' beliefs about festivals are rooted in their Buddhist practice. Participants, especially the elderly, accrue merit by visiting the temple on Buddhist holy days. Additionally, they offer food to monks each morning in front of their homes. Beyond Buddhist beliefs, villagers in BMM5 also believe in and trust *Por Pu*, the spirit of *Don Pu Ta*. They believe *Por Pu* has safeguarded them from accidents and other disasters for generations. As this elderly woman in BMM5 explained:

People make vows based on their needs. *Por Pu* particularly favours those who aspire to become officials, especially soldiers. Every member of the village visits *Don Pu Ta* to make their vows. For instance, when other nearby villages, such as Ban Dong and Ban Ku, were affected by strong winds, ours wasn't. We deeply respect *Por Pu*. After the temple was built in the village, we visited both *Don Pu Ta* and the temple, with *Por Pu* receiving respect first. (Phutta, 71-year-old female participant, elder)

As outlined in Chapter 4, temple-based gatherings and *Don Pu Ta* rituals function as pre-existing coordination mechanisms. These socio-cultural structures enabled women's leadership in the herbal garden initiative in BLPTM12 and supported collective market decisions in BMM5. Traditional knowledge and cultural practices, such as those observed in the *Isan* region, offer valuable insights for navigating social change. This is evidenced by the connection between local norms and weather patterns, the prioritisation of festival participation, and the deeply rooted beliefs in Buddhism and ancestral spirits, all of which influence the daily lives and rituals of villagers.

6.3.2.7 Young Generation

The next generation holds the key to sustainable development in rural villages, with young people playing a crucial role in climate adaptation and driving transformative change. I examine how empowering the younger generation can catalyse innovation and resilience-building efforts. However, I noticed the absence of children in both villages, indicating a shift in lifestyle where children prefer staying indoors, occupied with phones or tablets, rather than engaging in communal activities with their peers. During a life story interview with an elderly man in BMM5, he shared this observation. He suggested ways to encourage the youth in the village to engage in non-chemical vegetable farming, thereby maintaining this way of life as a primary occupation in the village.

I want the next generation to become farmers. In the past, we used to argue about when young people used their mobile phones. However, I have seen my son use his phone to learn and get some knowledge. This modern approach has made

information easily accessible. Young people can also use smartphones to sell products online. In our group, some young people returned to the village after graduation. We shared ideas about online channels. We took them on study visit trips to inspire them to do farming. There were some who showed their interest in becoming farmers, and that's something I'm proud of. (Sunan, 70-year-old male participant, former *Phuyaiban*)

Encouraging the younger generation to embrace farming practices offers promising prospects for supporting rural livelihoods, as seen in the changing attitudes towards technology and entrepreneurship shared by an elderly man in BMM5. He proposed a way to involve youth in non-chemical vegetable farming to preserve traditional village ways.

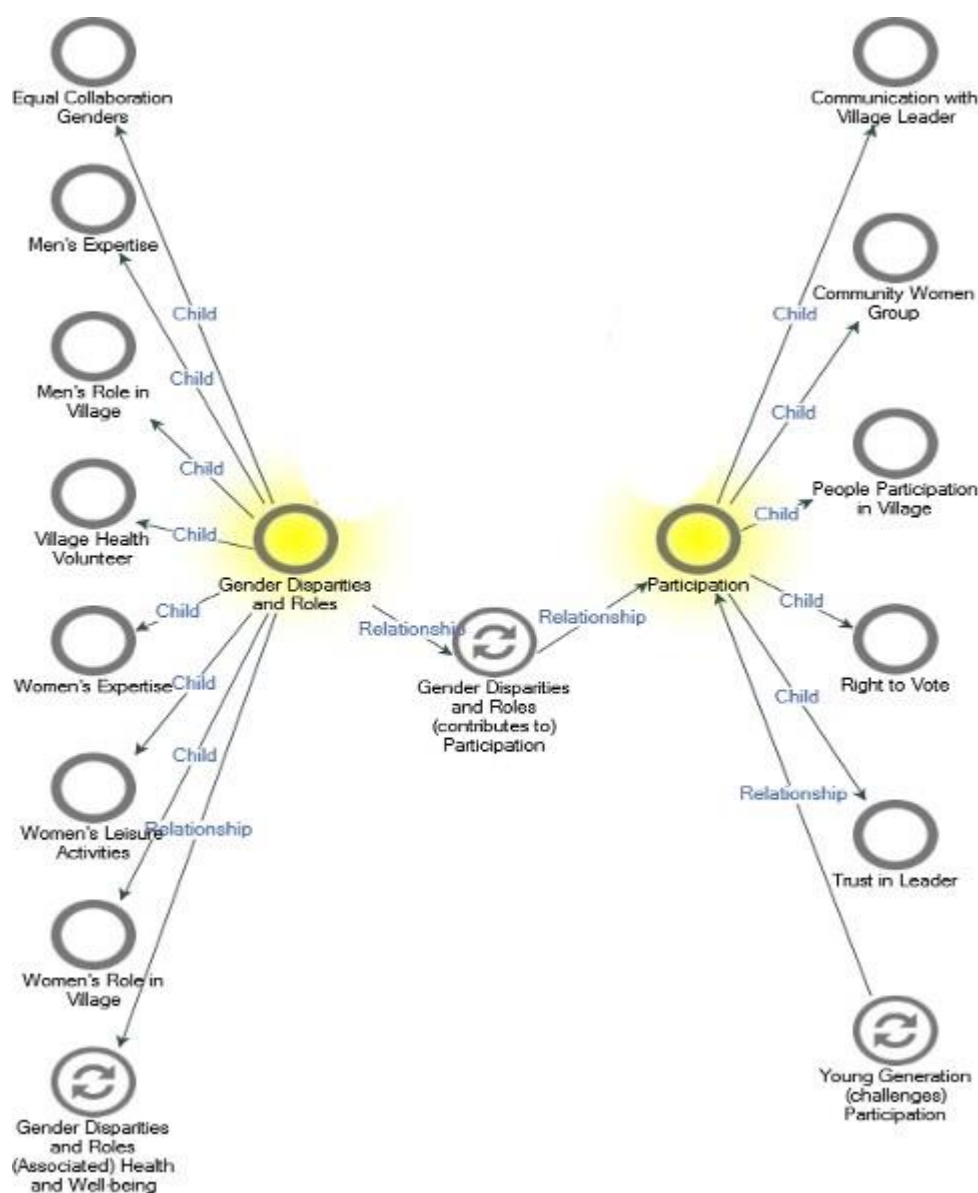
6.3.2.8 Gender Disparities and Roles, and Participation: Role of Women in the Villages

Examining gender dynamics is essential to understanding women's roles in climate change adaptation at the community level. This section draws on coded data to explore women's responsibilities, participation, and the expectations placed upon them in the two study villages. The analysis is based on two key code groups: (1) Gender Disparities and Roles, and (2) Participation, which are further organised into two thematic areas: factors relating to gender, and broader gender roles within the villages.

In this section, I analysed participants' thoughts and feelings concerning the nuances that distinguish tasks and roles between men and women, based on discussions conducted during fieldwork. I categorised these factors into two code groups: gender disparities and roles, and participation, as illustrated in Figure 15. The first group includes factors affecting involvement in five distinct ways, while the second group, gender disparities, comprises seven detailed codes.

The codes illustrated in Table 8 were derived from in-depth interviews with women regarding their participation in decision-making processes, engagement in community activities, and interactions with the *Phuyaiban* and women's group concerning community involvement.

Figure 15: The Relationship of Codes Regarding Women's Roles



Note: The diagram produced by the author via NVivo

Table 8: Code Name and Description in Participation Group

No.	Code Name	Description
1	Communication with Village Headman	It presents instances or discussions related to how people maintain contact or communication with the village headman.
2	Community Women Group	It connects to the roles, activities, and contributions of women's groups within the community.

No.	Code Name	Description
3	People's Participation in Village	It pertains to discussions about the involvement and participation of community members in village activities and decision-making.
4	Right to Vote	It applies to discussions and considerations related to the right to vote in their communities.
5	Trust in Leader	It refers to the level of trust and confidence community members have in their leaders or authorities.

Note: Table compiled by the author.

The data collected from the in-depth interviews revealed insights into how women participate in community affairs within their respective villages. The word cloud in Figure 16 represents that the trust in the leader stands out as significant in the BLPTM12. This reflects a substantial reliance on *Phuyaiban*. It became apparent that decisions made by these leaders held considerable influence, with villagers generally supporting their judgments. This dynamic was particularly notable in BLPTM12, where a woman served as *Phuyaiban* for more than a decade. One participant elaborated on this, emphasising the trust and authority vested in Chittra's leadership over the years, "I have attended meetings, and if the *Phuyaiban* proposes something and it seems reasonable, I raise my hand in support. I have not personally proposed anything" (Thongma, 80-year-old female participant, elder).

I observed and participated in activities within BLPTM12, with a particular focus on the *Phuyaiban*'s role. It was evident that she was eager to be involved in the research process, actively encouraging participants to engage without disrupting them. The participants demonstrated a high level of trust in her leadership. A notable aspect was her ability to foster effective teamwork, with a dedicated team of assistants, including VHVs and sub-district medical practitioners, who collaborated seamlessly to support her in various tasks, such as participation in research activities.

The second group of codes comprises terms derived from the fieldwork, encompassing equal collaboration, men's expertise, men's role in the village, women's expertise, VHVs, and women's leisure activities. Descriptions of each code are provided in Table 9.

Figure 16: The Findings of Participants' Voices in the Villages



Note: Word cloud compiled by the author.

Table 9: Codes in Gender Disparities and Roles Code Group

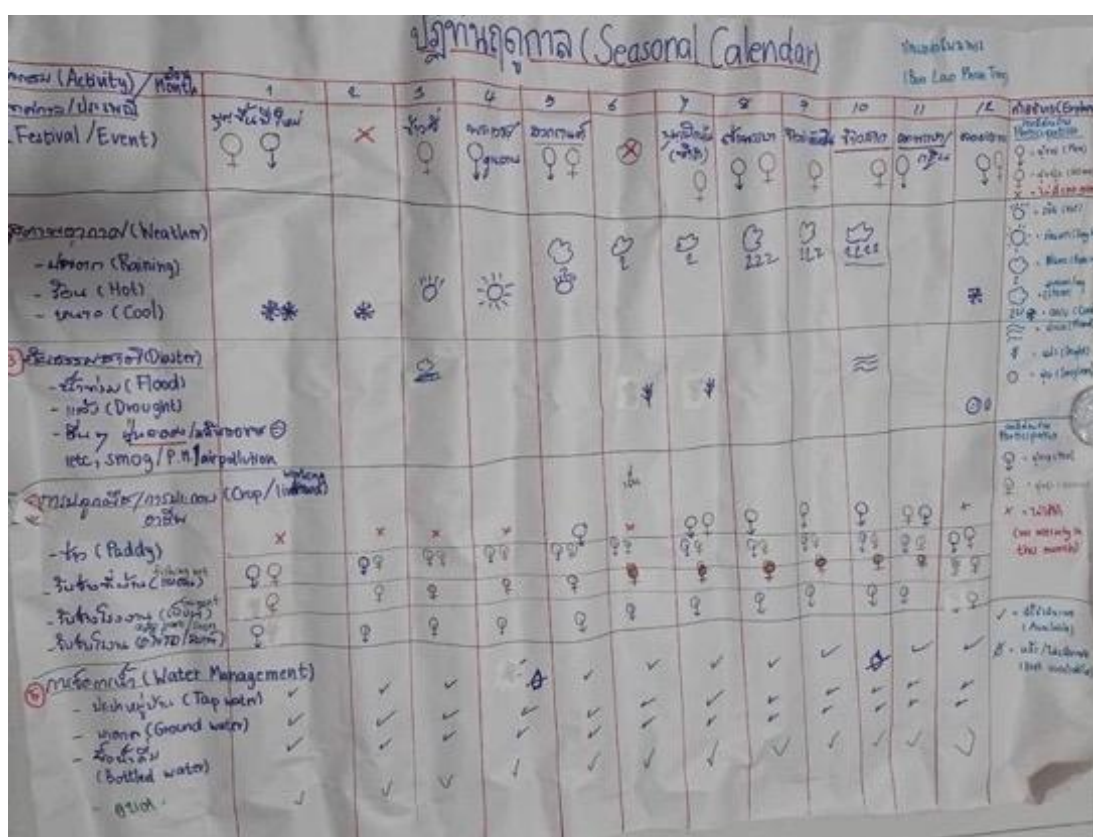
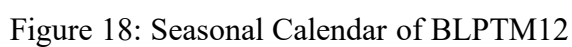
No.	Code Name	Description
1	Equal Collaboration Genders	It includes discussions related to gender equality and equal collaboration between genders in community activities.
2	Men's Expertise	It includes discussions and observations about the expertise and roles of men within the community.
3	Men's Role in Village	This code pertains to discussions about the roles and responsibilities of men within the community.
4	VHVs	This code pertains to the role and activities of health volunteers within the village.
5	Women's Expertise	This covers discussions and observations related to the expertise and skills of women within the village.

No.	Code Name	Description
6	Women's Leisure Activities	It includes discussions about the leisure activities and pastimes of women within the community.
7	Women's Role in Village	This code pertains to discussions about the roles and responsibilities of women within the community.

Note: Table compiled by the author.

During the fieldwork, I engaged with participants to comprehend their perceptions of their roles within the community. Through discussions and activities, such as the seasonal calendar exercises, we examined the dynamics of gender roles and responsibilities. The participants identified three primary approaches: equal collaboration, where both men and women work together; reliance on women, where women assume more significant roles or responsibilities; and reliance on men, where men are primarily responsible for specific tasks. These insights provide valuable context for understanding how gender dynamics intersect with the village's responses to environmental challenges, as illustrated in Figures 17 and 18, which depict the roles of men and women within the seasonal calendars of each village. The upper section of each village's documentation was allocated to denote the gender dominance in each festival activity. The seasonal calendars of both villages similarly illustrated how each festival throughout the year correlates with people's livelihoods and weather conditions, particularly in agriculture. Furthermore, participants shared their perceptions regarding the roles of men and women in these festivals throughout the year, including notions of equal collaboration, men's predominance in specific tasks, and women's predominance in tasks.

Inquiring about the roles and responsibilities of men and women in creating the seasonal calendar for each village, utilising traditional *Isan* festivals as reference points, aims not only to understand the significance of each festival in relation to climate change and other factors but also to investigate how men and women participate in these processes. Initially, participants found it somewhat challenging to specify the tasks undertaken by each gender, often stating that they work together in collaboration. I empathised with their hesitation and clarified the purpose of my inquiry, providing examples of functions typically associated with festivals. This facilitated their understanding of the importance of acknowledging gender-specific roles. Once clarified, participants readily acknowledged and concurred with the concept, thereby enabling a more effective discussion of gender roles.



6.3.2.8.1 Equal Collaboration

Based on the information collected from participants during the fieldwork, I categorised the gender disparities according to roles and expertise. In cases of equal collaboration between men and women, participants emphasised the importance of working together to achieve tasks, acknowledging that both genders contribute distinctive strengths that can complement each other to complete tasks.

Regarding BMM5, the festivals in which men and women are perceived to collaborate equally include the New Year festival, *Boon Pawade*, *Boon Songkran*, *Boon Samha*, *Boon Khao Pansa*, *Boon Khaw Sak*, *Boon Auk Pansa*, and *Loy Krathong*. It is believed that all these festivals require participation from both genders without any dominance. As evidenced by the participants' expressions during the seasonal activities, when I inquired about their roles, a male participant shared his perspective:

Both men and women contribute equally when having festivals. The responsibilities are often divided based on each person's skills or physical demands. While men typically undertake some tasks, women manage other chores. At the end of the day, we work together. (Sanchai, 62-year-old male participant, vegetable farmer)

As BMM5 villagers work on vegetable farming throughout the year, they conveyed that they cooperate to fulfil their responsibilities. During rice cultivation, they provided valuable insights into the roles of men and women. They held the view that men and women can collaborate effectively to complete most tasks; however, there is an activity, discussed in the following section, where men exert more effort than women.

Regarding BLPTM12, three festivals were identified where men and women purportedly participate collaboratively and equally: the New Year Festival, *Boon Songkran*, and *Loy Krathong*. As participants engaged in seasonal activities, I inquired about their respective roles, at which point a male participant explained that: "During the Songkran and New Year festivals, both men and women in our village participate equally in traditional festivities and rituals, as both festivals require the collaboration from all villagers" (Aphevish, 56-year-old male participant, villager).

In addition to festivals, participants shared information about how their occupations influenced gender roles within the seasonal calendar. Specifically, for rice cultivation, activities such as hand-planting and harvesting were observed to involve equitable collaboration between men and women. As a woman farmer stated:

Both men and women are actively involved in farming activities within each household. In general, men are responsible for physically demanding tasks, such as repairing leaks in the rice paddies in the monsoon season, removing invasive weeds, and maintaining other farming tasks. (Pairin, 33-year-old female participant, vegetable farmer and seller)

Based on the insights gathered from participants during the fieldwork, gender disparities were categorised based on roles and expertise, with an emphasis on equal collaboration between men and women. Festivals such as the New Year, Songkran, and Loy Krathong were identified as occasions where both genders worked together equally. Additionally, in agricultural activities such as hand-planted rice seedlings and harvesting, participants noted equal participation from both men and women, highlighting the importance of collaborative efforts regardless of gender.

6.3.2.8.2 Men's Predominance in Tasks

As previously mentioned, specific tasks are predominantly undertaken by men, as women may perceive them as physically challenging and consequently rely on men's strength and expertise. Men are generally more suitable for tasks involving tools or machinery due to their physical strength and familiarity with such equipment. For example, female participants in BMM5 agreed that "Women cannot operate ploughing machines, but men can do" (Thongsuk, a 54-year-old female participant, vegetable farmer).

During the preparations for the festival, men frequently assume key roles in physically demanding tasks, as exemplified during activities in BMM5. For instance, men played a vital role in the *Boon Bung Fai*, where they were responsible for purchasing rockets for the village competition. Additionally, they prepared the venue for launching the *Isan* rockets and implemented safety measures. The significance of this festival was further elaborated in the chapters discussing research settings. A female participant in BMM5 stated that when questioned about gender roles in this festival, "*Boon Bung Fai*, also known as *Boon Phaya Thaen*, is a festival traditionally associated with men participating in rocket competitions." (Thongsai, 59-year-old female participant, VHV)

Her response highlighted the roles of the men in this festival more than those of the women, as their primary duty was assigned to them. Conversely, the female participants emphasised that women villagers took part as dancers in the parade during this festival, which serves as a way to honour Phaya Thaen and celebrate the festival.

The participants in BLPTM12 stated that two festivals depend on men's skill and expertise. A male participant remarked:

I can say that men play a key role in *Boon Katin* and *Boon Pawade*. These two festivals are Buddhist traditions. *Boon Katin* is the festival where villagers gather to offer new robes to monks. This event requires intricate handicraft work, often undertaken by men who possess the necessary skills and expertise. *Boon Pawade* is a merit-making festival associated with the recitation of the Vessantara. Men's expertise is essential in organising the various rituals and activities. (Aphevish, 56-year-old male participant, villager)

These festivals not only showcase men's skills but also reflect their significant role in maintaining and perpetuating cultural and religious traditions in the village. The proficiency of men in tasks requiring physical strength and technical expertise. Their participation was particularly vital in activities where heavy lifting and technical know-how are essential for successful execution.

6.3.2.8.3 Women's Domestic and Public Spheres

In examining the dynamics of gender roles within livelihoods and festivals, participants frequently highlighted the collaborative aspect of their activities. However, a more detailed analysis uncovers subtle distinctions where gender differences are apparent. For example, in BMM5, participants shed light on these nuances about festival participation. It was observed that more women than men participated in various festival activities.

In discussions regarding women's skills, participants in BLPTM12 similarly emphasised the importance of women's expertise in two festivals: *Boon Sumha* and *Boon Kao Sak*. These festivals typically involve the preparation of food for spiritual purposes and the act of paying respect to ancestors. This responsibility primarily depends on women's culinary skills and traditional knowledge.

In BMM5, where villagers primarily engage in vegetable farming for their primary income, it was noted that women play a pivotal role and are often responsible for various aspects of vegetable cultivation. Their involvement in these activities is crucial for their success. A woman participant shared on women's tasks in the farms: "Normally, women are primarily responsible for harvesting crops on farms, although men may sometimes assist with this task. In most cases, it's the women who take the harvested vegetables to sell at local markets, supporting household income" (Punyakun, 38-year-old female participant, young vegetable farmer).

This ability to be a seller or income earner was crucial for them. When I visited the Bang

Lamphu fresh market to buy their produce, I noticed that all of the sellers from BMM5 were women. When I asked why there were no men, the participants explained that women are more suited for this job. However, men or their husbands could assist them by taking care of the farms during the day and transporting them to and from the market.

Although BLPTM12 adopts an alternative lifestyle that does not solely depend on agriculture, certain villagers are employed in nearby manufacturing facilities. A female participant noted that women often work in apparel factories, as these positions demand meticulous attention to detail, a trait well-suited to women:

Women are mainly employed in industries such as fishing nets and garment factories, while men are more often employed in factories that manufacture items like footwear and automobile spare parts. This is because these factories require workers to work with machinery (Chittra, 57-year-old female participant, *Phuyaiban*)

The findings underscore the pivotal roles women occupy in both daily livelihoods and leadership positions within the study villages. In BLPTM12, women are notably prominent in leadership and community health, with the *Phuyaiban* being a woman who actively supports the villagers, particularly during the pandemic. Conversely, women in BMM5 predominantly contribute to the economy through agricultural activities, notably vegetable cultivation. These gender roles elucidate the collaborative and differentiated nature of responsibilities within the two communities.

The empirical data indicate that adaptation occurs concurrently across domestic, public, and collective spheres, with women playing central though differentiated roles in each. Within the domestic domain, women adjust daily routines to manage heat stress and health risks. Many participants reported beginning agricultural work earlier in the morning or completing labour-intensive tasks in shaded areas to reduce exposure to extreme heat. Women also undertook health-related adaptation, including protecting children and elders from COVID-19 and PM2.5 pollution, coordinating mask use, and modifying indoor cooking practices to minimise smoke exposure. These household-level adjustments reflect a gendered distribution of responsibilities for food security, health, and caregiving, underscoring the integral role of domestic decisions in community resilience.

In the public and collective domain, women exercised agency in distinct and visible ways. In BLPTM12, women including the *Phuyaiban*, VHVs, and long-standing community leaders were instrumental in establishing and expanding the herbal garden initiative,

transforming underutilised forest areas into productive communal spaces. In BMM5, women played an equally significant role in market-based adaptation by managing logistics for non-chemical vegetable sales, coordinating weekly market supplies, and adjusting product bundles to respond to uncertainties that intensified during the pandemic. Women in both villages also actively participated in research activities, where they helped articulate collective understandings of climate risks. These examples demonstrate that women engage in adaptation not only through domestic responsibilities but also as influential actors in public decision-making arenas.

Taken together, the domestic and public forms of adaptation illustrate how women straddle multiple spheres of resilience-building. Adaptation emerges not as a series of isolated actions but as a continuum of practices shaped by gender roles, cultural norms, and village-level institutions.

Comparative evidence from the mixed-gender activities highlights important gendered contrasts in adaptation. While women and men share broad perceptions of climatic shifts such as increasing temperatures, unpredictable rainfall, and deteriorating air quality, they interpret and respond to these changes through gender-specific divisions of labour. Women's narratives emphasise responsibilities linked to reproductive and productive tasks, including daily routines, food security, and household health. Men's accounts foreground productive work in public spaces and regarding land or forest management.

Intersectional factors further differentiate adaptation experiences within gender groups. Age is particularly influential: older women draw on extensive traditional knowledge, including seasonal cues, wind patterns, and medicinal plants, whereas younger women rely more on formal information from schools, mobile phones, and social media. Land tenure also shapes adaptation pathways, as households with more secure access to land are better positioned to pursue longer-term strategies such as crop diversification.

These intersecting dynamics demonstrate that gender alone does not determine adaptive capacity. Rather, it interacts with age, socio-economic status, education, mobility patterns, and culturally embedded roles. Recognising these layered influences helps explain why adaptation strategies vary not only between the two study villages but also among women within each community.

6.3.3 Theme III: Resource Management

This analysis section elaborates on the relationship between natural resources and

management practices in the two villages, demonstrating how sustainable factors and resources are linked to adaptive responses to climate change. This theme comprises two code groups: community resources; and environmental concerns.

6.3.3.1 Community Resources

In a dynamic environment, communities adopt various strategies to resolve issues and maintain their traditional way of life. I observed that villages possess a broad spectrum of resources, and I analysed how villagers, particularly women, utilise and oversee these resources. The forest served as a source of sustenance, as articulated by a male participant from BLPTM12.

We go to the community forest, located at the same place as the temple, to collect dried wood for making charcoal for household cooking. The community forest is home to many edible plants, such as mushrooms, Siam tulip, Pak Wan, and ant larvae. (Nires, 78-year-old male participant, elder)

In BLPTM12, the community forest continues to supply free food, and the local population rely on it. They indicated the use of traditional cooking methods utilising charcoal produced from wood as an energy source for their households.

In BMM5, groundwater resources for agriculture are considered a valuable asset for this village. Sunan recalled that:

This farming area is a village public space covering about 850 Rai. Around 30 years ago, during my first term as *Phuyaiban* in 1983, a petroleum exploration team visited our village and stayed at my house. They accidentally discovered a large groundwater source in this village. (Sunan, 70-year-old male participant, former *Phuyaiban*)

In exploring village resources in 2023, I discovered that they possessed a diverse range of resources, each holding unique importance for its respective community. In BLPTM12, the forest served as a source of food and herbs, and also as a venue for village festivals. In BMM5, the forest is regarded as a sacred site for paying respect to *Por Pu*, as mentioned earlier. Additionally, water resources are vital in BMM5, acting as a key resource that has transformed livelihoods by providing secure jobs and income through farming activities.

6.3.3.2 Environmental Concerns

Although both villages possess natural resources, the villagers were affected by environmental changes. As discussed, the impact of PM 2.5 (see Section 6.3.2.3) was

especially noticeable at the start of the year. Some days, the sky was clear; on others, it appeared yellow and gloomy. Evidence indicates that air quality and extreme heat substantially influence the villagers' quality of life. This remains a complex issue because, despite the *Phuyaiban* village's warnings, some individuals still carelessly burn sugarcane at night. While there has been a decline in burning rice straw, the primary cause of air pollution remains the burning of sugarcane, as its particles are darker in colour. As the participants in BLPTM12 shared:

I want to address the issue of sugarcane burning. I rarely see any individuals responsible for this problem. I've tried to discourage them from burning, but they often refuse and blame others or say that people who come to hunt rats do it at night. It isn't easy to catch them. ... There are rules and regulations against burning rice straws and sugarcane, but those who do so tend to do it at night, making it hard to catch them. All *Phuyaiban* from all villages made announcements prohibiting it, but some people still continue to do so. (Lumduan, 46-year-old participant, sub-district medical practitioner)

Regarding the burning of residual waste, outsiders were generally unaware of it. Even when the *Phuyaiban* made announcements, some people remained uninformed. However, recently I've observed a positive change in nearby sugarcane farms, just to the left of our village. After harvesting, they no longer burned the residual waste. Instead, they used sugarcane leaves as feed for cattle. This change can benefit both sugar factories and farmers. I do believe that if this practice continues, burning will be phased out in the future since sugarcane leaves can be sold. (Aphevish, 56-year-old male participant, villager)

Across both BLPTM12 and BMM5, villagers navigate a set of intertwined economic, institutional, environmental, and socio-cultural conditions that shape their exposure to climate risks and the forms of adaptation they consider possible. Meanwhile, institutional gaps, particularly the top-down nature of adaptation planning and limited local budget lines, constrain how villages can perceive emerging risks.

Environmental stressors intensify these pressures. Villagers consistently described heat, drought, flooding, and worsening air quality as everyday realities. These stressors have cumulative effects: heat influences labour patterns and health; drought undermines crops and water security; and smoke affects respiratory health. Socio-cultural norms also act as mechanisms shaping how risk is perceived and acted upon. Strong kinship networks, obligations connected to Buddhist rituals and *Hiet Sibsong Kong Sibsei*, and community forest customs such as those linked to *Don Pu Ta* define expectations about who participates in collective work, who makes decisions, and how knowledge is transferred across generations.

These dynamics indicate that villagers interpret climate risks through lenses that combine livelihood pressures, gendered responsibilities, and local ecological knowledge. Such conditions function as mechanisms that shape the adaptive actions documented in later sections, whether shifting market routines, reviving herbal knowledge, protecting community forests, or negotiating household labour during extreme weather.

6.4 Findings II: How Have Women Perceived and Adapted to Climate Change Issues at the Village Level?

Understanding how local villagers respond to climate change is essential for identifying locally grounded adaptation strategies, which address sub-research question I: How have women perceived and adapted to climate change issues at the village level? This section introduces the theme, “Climate Perception and Adaptive Capacity,” which emerged from the analysis of women’s responses and the strategies employed by villagers to adapt to climate change and sustain their livelihoods.

6.4.1 Theme IV: Climate Perception and Adaptive Capacity

Each village displays its unique lifestyle and occupational patterns. These patterns illustrate how villagers enhance their capacity to adapt to climate change. Based on fieldwork data, two coding categories were identified: “Agricultural and Farming Practices” and “Climate Experience and Resilience,” which together include 12 codes (refer to Appendix E). The subsequent sections examine these aspects, providing examples from each village to illuminate the nuances of their experiences and adaptive strategies.

6.4.1.1 Agriculture and Farming Practice

The agricultural practices in the two villages can be classified into six primary categories: Alternative Energy in Farming; Cattle and Fishing; Consideration of Chemical Usage; Farming Experience; Market Demand and Supply; and Risk Management. Participants exchanged information regarding their agricultural practices, drawing upon their personal experiences and expertise.

A notable aspect of the villagers that exemplifies the transformation in *Isan*’s lifestyle from historical times to the present is their dependence on the water resources. An elderly

female participant in BLPTM12 remarked:

Some villagers who live by the Nam Ton rapids mainly rely on fishing because it's their primary source of income. The proximity to the river provides them with regular and easy access to water resources that supports their way of life. (Somphan, 77-year-old female participant, elder)

Since BLPTM12 lacks a water resource within the village, relying on nearby water sources, their agricultural practices primarily focus on rice farming and cattle rearing. In contrast, BMM5 benefits from having its own water supply. BMM5 exemplifies agrarian adaptation. Over generations, they have continually adjusted to the impacts of climate change. By examining their experiences, I aim to highlight the influences they have encountered from the past to the present.

Since 1994, BMM5 has been actively involved in non-chemical vegetable cultivation. Concerning the use of chemicals, a participant noted that, although chemicals are employed, consumer safety remains the foremost priority. An elderly woman corroborated this sentiment:

While we still use chemicals, we ensure that a safety period is observed before harvesting and selling to customers. Based on my farming experience, I would say that a purely non-chemical practice does not yield good results. We used some but ensured a safety period. (Phutta, 71-year-old female participant, elder)

When planning their agricultural activities, the villagers took into account not only the use of chemicals but also factors such as market demand and the potential profitability of the vegetables they intended to cultivate. A member of the group stated that:

We decided to grow chilli farms around this area, Nong-No swamp, because it's easier to cultivate compared to other vegetables. Moreover, by the time we started farming, we noticed a significant increase in the price of fresh chilli, making it a good opportunity. It turned out to be successful. (Singharn, 70-year-old male participant, non-chemical vegetable group leader)

As women participate in sales activities, comprehending market demand and acquiring risk management become ongoing learning processes that they undertake independently. During the *So-Leh* discussions held in the evaluation phase, participants shared insights gained from their experiences and actions.

Alongside weather factors, we also consider customers' demand. For example, this year I've begun cultivating kale, a new crop for me, driven by current trends and its potential benefits. We have to observe and assess our practices on a daily basis. (Pairin, 33-year-old female participant, vegetable farmer and seller)

One of the advantages of farming in BMM5, which differentiates it from other villages in Khon Kaen, is its use of solar panels for pumping water from the swamp. During the transect walk, villagers showcased and explained how Nong-No swamp serves as the primary water source for households and the 83 *Rai* of chilli farms in the village. The water pumping system runs entirely on solar power, supported by the *Pid Thong Lung Pra* Project. Previously reliant on electricity, the switch to solar power was driven by the high costs of electrically powered pumps. Villagers take pride in this support, especially since only two villages in Khon Kaen received assistance from the project. During the transect walk, one participant explained:

We're now using solar cells to pump water from this swamp. We used to have drip irrigation over this area, but it was not successful due to high electricity costs. It was so expensive; we had to pay around 500 baht per user. I would say that the drip irrigation project was good, but the cost was unaffordable. (Singharn, 70-year-old male participant, non-chemical vegetable group leader)

The agricultural practices in the two villages reflect a dynamic adaptation to climate change and market demands, as participants shared insights from their experiences. BMM5 stands out for its innovative use of solar panels for water pumping, symbolising a resilient approach to agricultural challenges.

6.4.1.2 Climate Experience Learning

The code group climate experience learning consists of six principal categories: adaptive response to climate change, adverse weather impacts, drought experiences, flood experiences, natural signs, and the cost of living. The villagers' insights are grounded in their daily lives and practices, which they utilise to mitigate the impacts of climate change through their own methods.

Impacts of climate change, such as floods and droughts, are prevalent in the *Isan* region. The life story interviews, and in-depth discussions elucidated how communities have endured these adversities.

There has been controversy over whether abundant forests prevent drought. However, we used to experience droughts for two to three years in a row. ...Flooding was common in the past due to the Ubonrat dam and Kud-ting pond. Farmers were affected by floods every year. (Sunan, 70-year-old male participant, former *Phuyaiban*)

During my two visits to Khon Kaen for research, it became evident that hot weather presents a significant threat to villagers, not only within *Isan* but throughout the entire nation. This leads to increased expenses for electricity and water bills during the summer

months, as emphasised by a participant from BMM5, who said:

I'm having difficulty paying my electricity and water bills. The monthly electricity bill has increased significantly during this summer because of the very hot weather, as we need to use fans, making it hard for me to manage those costs. (Naphatsorn, 22-year-old female participant, young vegetable farmer and seller)

The participants have had to adapt to the impacts of the climate on their daily lives and have developed various strategies to cope with the challenges of hot weather. These include adjusting daily routines, using cooling methods such as fans, taking baths, seeking shade while working in the fields to avoid sunlight, and choosing crops for farming that are suitable for hot weather or resistant to drought.

I do adjust my schedule for farming activities. To do my work in the vegetable farms, I usually wake up very early in the morning to avoid the hot temperatures. If I don't have to go to the market, I keep working until 9 or 10 a.m. to avoid the strong sunlight. (Pairin, 33-year-old female participant, vegetable farmer and seller)

In BMM5, participants discussed signs of an impending drought, such as fruit trees with fewer blossoms and fruits, which indicate reduced rainfall. They shared how they have altered their farming methods during droughts, such as the crops they grow and the seeds and fertilisers they select.

The increased visibility of women in farm management and community coordination reflects broader regional patterns of gendered migration. As Mills (1999) and Elmhirst (2011) argue, rural–urban migration in Southeast Asia often redistributes labour responsibilities within households, expanding women's roles without necessarily transforming patriarchal authority. In the study villages, this redistribution appears to generate both enhanced responsibility and constrained decision-making power.

During the *So-Leh* discussion in the evaluation phase, Pairin also shared her strategies for adapting to climate change, particularly in response to the extreme hot weather in 2023:

I've adapted by changing the types of vegetables I grow. Last year, I switched from cultivating leafy plants to vine plants, such as long beans or cucumbers, during drought periods because they're more drought-resistant than the leafy plants. (Pairin, 33-year-old female participant, vegetable farmer and seller)

The diversification strategies observed in the two villages reflect on the scholars such as Ellis (2000) who conceptualises as structural livelihood diversification rather than temporary coping. Rather than abandoning agriculture, households combine farming with wage labour and remittance income in ways that distribute environmental and economic

risk. This aligns with Rigg's (2019) argument that rural transformation in Thailand has produced multi-local livelihood systems in which adaptation is embedded within mobility and income pluralisation.

These adaptation practices operate largely through informal norms and negotiated arrangements rather than formal institutional design. This practice signifies what Cleaver (2002) describes as "institutional bricolage," where governance emerges through existing social relations and moral obligations. The findings suggest that adaptation in these villages is embedded within socially constructed norms rather than externally imposed frameworks.

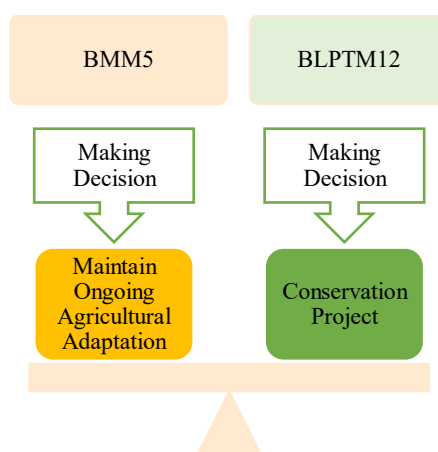
Women face climate-related challenges in their daily lives and respond through continuous decision-making and adaptation. Their lived experiences, which include managing the effects of droughts and floods adjusting farming practices and household routines, are instrumental in shaping their approaches to these issues. The subsequent section presents findings that illustrate how these experiences influence the decisions women make in adaptation to climate change.

6.5 Findings III: How Have Women Enhanced Their Capacities to Respond to Climate Change Adaptation in the Northeast, *Isan* Region, of Thailand?

Exploring the decision-making processes of women in response to climate change provides valuable insights into the dynamics of local adaptation strategies. This addresses the main research question: How have women enhanced their capacities to respond to climate change adaptation in the northeast *Isan* region of Thailand? This section focuses on the decision-making approaches articulated by women from both villages, particularly in relation to their adaptations to climate-related challenges.

Drawing from the findings, this analysis provides insight into women's perspectives on climate impacts and the strategies they implement in response. Figure 19 below presents a visual summary of the principal elements of this analysis, emphasising significant aspects of their adaptation-related decisions.

Figure 19: The Findings on the Main Research Question



Note: Diagram produced by the author.

6.5.1 Collective Resilience

Women’s herbal-garden stewardship and market governance resonate with international findings about women improving collaboration and compliance in natural resource management bodies. Based on the data collected from the fieldwork, I established the theme “Collective Resilience,” which emerged from a code group named “Capacity Building.” This encompasses two distinct codes: “Maintain Ongoing Agricultural Adaptation” and “Conservation Project.” These solutions were formulated by women participants, taking into account their unique contexts, experiences, and available resources. Each village made different choices in adapting to climate change. In this section, I focus on BLPTM12, which opted to develop a community forest into a herbal garden as its adaptation strategy. Conversely, in BMM5, participants decided not to pursue further adaptation measures but instead discussed their lifelong agricultural practices, which inherently involved adapting to climate change in their own ways. Both villages presented interesting case studies as they made decisions based on their preferences and circumstances.

6.5.1.1 Conservation Project for BLPTM12

The participants’ voices and ideas emerged from the research activities, reflecting their capacity for climate change adaptation, as shown in Figure 20. The word cloud indicates that participants discussed two primary concerns: the forest and the water, which they needed to develop. Following the workshop activity, they reached a consensus to

transform the community forest into a herbal garden to promote the preservation of the herbs discovered during the transect walk. Both men and women supported this initiative during the *So-Leh* discussion. Subsequently, during a workshop with the women's group, participants reaffirmed their commitment to this initiative.

I believe that if we have signs on the trees, we can promote our herbal garden to other villages in this sub-district. When they come to visit, they can easily understand and learn about the qualities of each plant from these signs. In addition, schools can take students here for visits, and they can walk and learn the qualities of each herb themselves. (Buaban, 57-year-old female participant, VHV)

Participants expressed concerns regarding budget constraints for the signage for plants and trees, which were essential components of the project, as there was no available funding within the village. Furthermore, they were unable to seek support through local government allocations in the 2024 budget cycle. Nonetheless, they resolved to proceed independently. From May 2023 to January 2024, the *Phuyaiban*, together with both male and female participants, collaborated on this initiative.

The process commenced with a survey of herbs and trees within the community forest, followed by documentation of their findings in a notebook. Subsequently, they solicited assistance from a villager equipped with a computer to prepare, design, print, and laminate the signs, thereby ensuring protection against heat and water damage. Although I returned to New Zealand from June 2023 to January 2024, I maintained communication with the *Phuyaiban* via the *LINE* application, providing remote support and advice as required. For example, I offered guidance on design and material selection. Despite facing challenges such as budget limitations, the *Phuyaiban* and her team devised innovative solutions to address these issues. They opted to print the signs on A5 paper, laminate them for increased durability, and hang them on trees to endure rainy and hot weather conditions. To prevent the signs from being obscured by soil or vegetation during the summer, they crafted small bamboo stakes sourced from the forest and hung the signs in prominent locations.

While monitoring the village's progress, I reviewed the administrative plan for the Ban Wa sub-district for the years 2023-2027. I identified projects aimed at promoting herbal gardens within the sub-district. To inquire about the budget allocation for these initiatives, I reached out to a colleague with connections to the Mayor of the Ban Wa sub-district administrative organisation, following the Thai tradition of establishing contacts through acquaintances. My colleague informed me that the mayor allocates an annual budget for

[illegible]

In January 2024, as part of the evaluation phase of my research in Thailand, my participants, my supervisor (Juliet), and I conducted a transect walk to assess the progress

made in developing the herbal garden. This involved walking the same transect as in 2023 to observe the changes and efforts undertaken by the community. Following this field activity, we gathered in the temple hall for a *So-Leh* discussion and opened the floor to participants to engage in open dialogue and decision-making.

During this discussion, a VHV proposed the interesting idea of creating a tourist map specifically for the herbal garden. She shared her inspiration, which came from visiting another herbal garden in a different province, where she encountered a similar map. Her suggestion sparked enthusiasm among the group, as they recognised the potential benefits of having such a map for their community forest herbal garden.

During the discussion, I recalled that during our previous fieldwork in April 2023, we had a draft of this community forest map or ecological map. This map was created during a transect walk and geological mapping activity. I suggested that the existing draft could serve as a strong starting point for the herbal garden map. The group agreed, emphasising the importance of building on previous efforts and resources in the ongoing development process.

Furthermore, *Phuyaiban* proposed during the *So-Leh* discussion the installation of large, permanent signs at the entrance of the community forest to inform villagers and temple visitors of the presence of a herbal garden within the temple grounds.

If villagers and visitors come to the temple and see a big sign, they will realise and can walk to see our herbal garden... For example, during the Songkran festival, people visiting their hometown will come to the temple for traditional celebrations. Additionally, events like *Boon Katin* and *Phapa* are held here. During festivals such as Buddhist Lent, other people and organisations often join the celebrations at this temple. When they see this sign, they will know what we have. (Chittra, 57-year-old female participant, *Phuyaiban*)

They chose to undertake this project independently, without seeking support from the local government, because they understood it might take some time, as the local authority has its own process for considering projects. *Phuyaiban* asked for consensus from the participants, and they agreed with her idea. The male participants stated that they could help install the large sign, as they have construction expertise. I assisted them by providing a large sign sourced from a local banner shop. I found this shop, which offered a reasonable price, good materials and designs, and could deliver door-to-door. After maintaining contact with the villagers for nearly a year, this demonstrated my appreciation for their contributions to my research. I felt like I was a part of the village,

and I could contribute something they needed for their initiative. The metal sign arrived at the village ready to be installed on 20 February 2024. On 18 March 2024, *Phuyaiban* shared photos of the installation progress, showing their collaboration, as seen in Figures 21, 22 and 23.

As of April 2024, *Phuyaiban* and her team planned to draft a proposal seeking support from the local government for the fiscal year 2025 as a further step. They felt confident about this proposal, given the strong foundation laid during the initial phase, which allowed them to showcase their achievements and the unique herbal garden development they have undertaken, compared to other villages.

Their next steps involved developing pathways within the herbal garden and promoting it as a learning centre for both local villagers and nearby villages and schools. Additionally, during workshop activities and *So-Leh* discussions, the idea arose to empower the elderly in the village, who hold traditional knowledge of herb usage, to become local mentors and share their wisdom.

The BLPTM12 herbal-garden leadership reflects broader patterns in natural resource management, where women's meaningful participation is linked to stronger collaboration and improved rule compliance, particularly when local arrangements minimise exclusion and support women's voices in decision-making.

Figure 21: Herbal Garden Signs in the Community Forest



Note: Photo taken by the author.

Figure 22: Installing a Permanent Metal Sign Promoting a Herbal Garden



Note: Photo taken by a participant.

Figure 23: Participants in BLPTM12 in Evaluation Phase



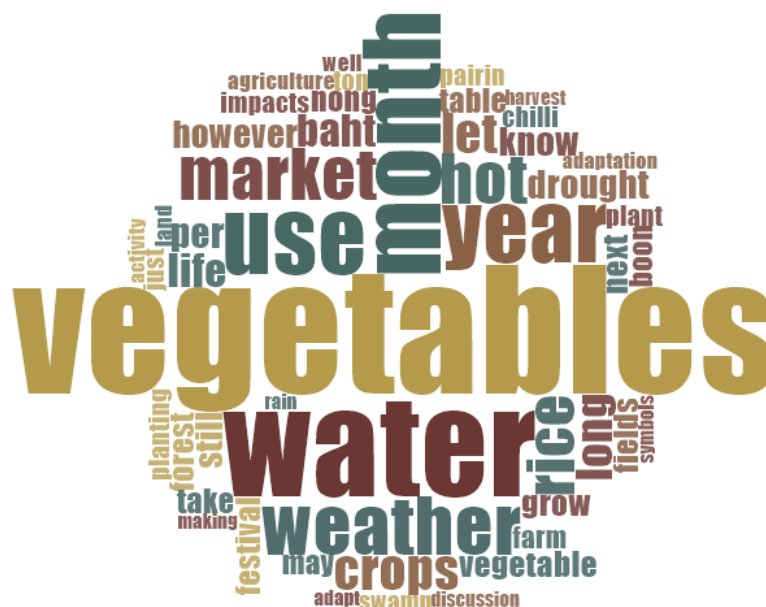
Note: Photo taken by the author.

6.5.1.2 Maintain Ongoing Agricultural Adaptation for BMM5

The voices and ideas of the participants emerged from the research activities, reflecting their capacity for climate change adaptation, as illustrated in Figure 24. The word cloud demonstrates that the participants focus on two primary areas: their crops and the importance of water as a resource, which is closely tied to their livelihoods. Participants in BMM5 chose not to pursue any specific adaptation projects related to climate change, in contrast to BLPTM12. Nonetheless, it does not mean they do nothing. During the *So-Leh* discussions and workshops conducted between April and May 2023, they shared their reasons, which were perspectives based on their generational adaptation experiences. As one participant remarked:

Each year, we observe and adapt our crops, but each farmer is affected differently. It depends on the types of vegetables they cultivate throughout the year. For example, some of us grow a glutinous corn, which is suitable during the monsoon season; however, we can't cultivate it in the summer because it is not drought resistant. (Pairin, 33-year-old female participant, vegetable farmer and seller)

Figure 24: Women's Voices of BMM5 in Their Capacity



Even though the participants in BMM5 did not choose to undertake an initiative project related to climate change adaptation like BLPTM12, they acknowledged that their longstanding agricultural practices and vegetable farms already serve as the most effective methods of adapting to the unpredictable weather patterns that affect their crops each year. The main lessons learned from the workshop emphasised the importance of

utilising local knowledge and wisdom and of paying close attention to natural indicators as strategies for adaptation.

During the eight months I was away from the village and returned to New Zealand, I maintained contact with the participants to stay updated on what was going on in the village. When I visited the village in January 2024 to conduct the *So-Leh* discussion for the evaluation phase, to understand what had occurred during my absence, the participants mentioned that some villagers experienced flooding in October, which affected rice farms but not vegetable farms and residential areas. As recounted by an elderly woman.

My rice farms were affected by floods, which resulted in no rice harvest. The floods occurred in October last year (2023), likely starting in late September. This is because my rice farms are situated near the swamp, in flood-prone areas. I did not receive any compensation, as in previous years, which was around 1,000 baht per Rai. (Phutta, 71-year-old female participant, elder)

Then, participants shared their experiences of how the climate affected their livelihoods. They relied on practices they have been employing for generations. During the evaluation phase, they reaffirmed their adaptive methods and discussed how they adapted to climate change in the 2023 crop. They adapted by changing the types of plants they grow to be drought-resistant, as stated in Section 6.4.1.2.

One of their practices, shared during the evaluation phase, which helped them maintain their income, is crop rotation. It serves as a form of risk management for farming amidst climate change.

We had to observe and check on a day-by-day basis. Last year, the weather was extremely hot, and we couldn't grow certain vegetables, so we had to adapt and change our crops to suit the weather conditions. It's like we are solving problems based on each situation. I can say that we do risk management on our farms. For example, in one Rai, we cultivate several types of vegetables, not just one. If any plant doesn't grow well, we still have others to harvest. (Pairin, 33-year-old female participant, vegetable farmer and seller)

To observe the participants and women farmers' daily activities, my supervisors and I visited them at their farms and Bang Lamphu fresh market, where the women's group sells their produce in the city centre. Since January falls in the winter season, the weather is cooler than usual, resulting in an abundance of produce available for sale. This period presents a prime opportunity to generate income, as depicted in Figure 25. They shared their observations and predicted that growing vegetables such as chilli would become more challenging after March.

The group was previously approached by hypermarkets for supply contracts; however, the farmers of BMM5 collectively decided to prioritise serving local customers and middlemen instead. This decision reflects the community's intention to support local markets, preserve traditional farming practices, and ensure fair prices for low-income customers. By engaging directly with customers, farmers maintain better control over their produce and guarantee a stable, consistent supply, thereby avoiding market oversaturation. As described by one elderly man,

I discussed with the chief of Sum Sung district and decided not to accept the offer to supply our vegetables to hypermarkets. Instead, I told the chief that I had offered this marketing channel opportunity to our network farmers in Sum Sung (Ban Sawang). Although the chief tried to persuade us, I explained that I preferred serving the lower-end market rather than hypermarkets. I said we wanted to be independent and be honest with customers. Another reason for not going to hypermarkets is that it would require us to establish a cooperative, which doesn't align with our practices. For instance, if one farmer grows long beans, others have to wait 5-10 days to ensure a continuous supply and to prevent oversupply. (Sunan, 70-year-old male participant, former *Phuyaiban*)

The two case studies shared their own choices, which depend on the circumstances of each village. The following section presents a sentiment analysis of participants' responses, explicitly exploring the emotional tone expressed throughout the research activities and deepening our understanding of their lived experiences.

Figure 25: BMM5 Women's Group at Bang Lamphu Fresh Market



Note: Photo taken by the author.

A cross-case comparison of BLPTM12 and BMM5 highlights how contrasting ecological, economic, and institutional contexts generate distinct adaptation pathways. In BLPTM12, adaptation is characterised by project-based, resource-constrained initiatives, shaped by water scarcity, limited budget allocations, and the central role of the temple and community forest. The herbal garden project, led primarily by women, exemplifies how villagers use local materials and indigenous knowledge to compensate for formal institutional gaps. Adaptation here is collective, small-scale, and anchored in socio-cultural institutions such as ritual spaces and temple networks.

In contrast, BMM5 displays a market-driven adaptation model, supported by stronger agricultural assets, including reliable irrigation, solar-powered pumping, and established non-chemical farming. Women play leading roles in product preparation and marketing, and adapting to climate impacts by adjusting crop rotations, diversifying produce, and utilizing water resources. External collaborations with district agriculture offices, universities, and buyers support a more outward-facing and economically resilient adaptation pathway. These differences shape the kinds of agency women exercise: BLPTM12 women lead community resource stewardship, whereas BMM5 women lead economic adaptation and market engagement.

Despite these contrasts, both cases reveal common adaptive mechanisms: reliance on local knowledge, integration of household and public roles, and strong collective action. Women in both villages navigate gendered expectations while expanding their roles in decision-making, demonstrating that multiple pathways can enhance resilience when grounded in community participation and gendered insight.

6.6 Sentiment Analysis of Participants

Sentiment analysis is a feature that allows for the analysis and interpretation of the emotional tone expressed during fieldwork. It proves beneficial for understanding participants' feelings. For this purpose, all research activities conducted in the fieldwork were employed to categorise transcriptions and observations into four sentiment categories: Very Positive, Moderately Positive, Moderately Negative, and Very Negative.

6.6.1 Very Positive

This tone conveyed highly appreciative or enthusiastic feelings, attitudes, or opinions. It reflects a strong sense of satisfaction, happiness, excitement, or approval. For instance, sentiments expressed by participants in BLPTM12 during in-depth interviews about the village health centre, which had previously served as a role model in Khon Kaen Province. When inquired about this success, one participant responded with a sense of pride.

The health centre was here, but it's currently unavailable. It used to be a place where we provided non-prescription care to our villagers who had a minor symptom. We asked and observed the patients before transferring them to the sub-district health centre. However, due to difficulties with the management system, we discontinued this practice around two years ago. Nevertheless, I'm proud of this role because it used to be a role model for both the provincial and the regional levels. It was filmed for a documentary in the cholangiocarcinoma project by Professor Narong at Khon Kaen University. This was a good thing in my life. (Buaban, 57-year-old female participant, VHV)

Another example of very positive sentiment from participants in BMM5 was shared by a male participant, who expressed his pride in farming.

From my experience, I moved to this village in 1978 during a period of severe flooding in Khon Kaen. It was challenging at that time. I had to do everything myself and started farming by planting spring onions. At that time, I was the first person in BMM5 to do this farm. The key factors were water resources. Access to water is key to farming, and adaptability too. (Singharn, 70-year-old male participant, non-chemical vegetable group leader)

This highlighted instances of very positive sentiment among participants, reflecting a deep sense of pride and satisfaction in their accomplishments and contributions to their lives. These sentiments underscored the significance of both community and individual achievements, such as successful farming practices, which shaped personal experiences and community narratives.

6.6.2 Moderately Positive

This sentiment conveyed an optimistic tone, albeit with less intensity than a very positive one. This tone of voice was evident as a woman shared her reasons for planting chilli farms around the swamp. Meanwhile, an elderly woman of BLPTM12 shared her hobby as an additional source of income to support her family.

We wanted to maximise the benefits of using resources around the Nong-No swamp. We agreed to allocate one block to each household to ensure equal

distribution. We didn't want to leave the land unused without generating income. (Buppha, 51-year-old female participant, farmer)

Aside from working on my farm, I also cook Thai desserts as a secondary job to support my family. Usually, I supply various vendors nearby in this sub-district. When I receive confirmed orders, I prepare the desserts for them. Each tray costs 350 baht. This makes me proud because I can earn a living and support my family and myself. (Somphan, 77-year-old female participant, elder)

6.6.3 Moderately Negative

This tone conveyed a somewhat pessimistic sentiment, though not as intensely negative as a highly negative one. The voices of the participants I engaged with primarily emphasised their long-term concerns, particularly those about water scarcity. I classified these sentiments as moderately negative, as I observed that the participants had become accustomed to these challenges.

Water scarcity is a problem for both tap water and drinking water. The quality of tap water is poor, so we rely on groundwater as an alternative. We have to buy drinking water, which costs 12 baht per bucket. Everyone is waiting for tap water from the provincial waterworks. (Nires, 78-year-old male participant, elder)

Sometimes it floods, and sometimes it does not. If it floods, rice production from the fields is reduced. For example, a few years ago, I only got two bags of rice from 50 *Rai* of paddy fields due to flooding. (Audon, 59-year-old male participant, assistant *Phuyaiban*)

Women's experiences of water scarcity reflect gendered divisions of labour, where responsibility for household water management exposes women more directly to climatic variability.

6.6.4 Very Negative

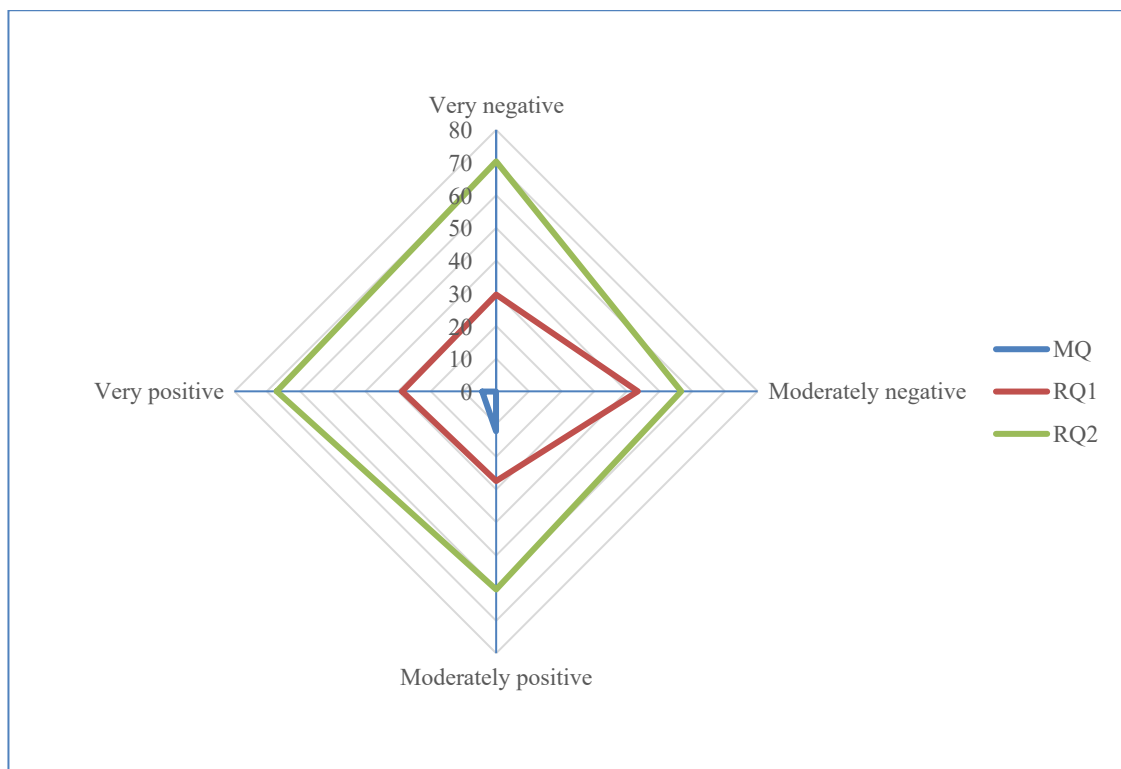
This voice powerfully conveyed negative feelings, attitudes, or opinions. This sentiment was clear as participants spoke with a firm tone and confidence, sharing the harsh realities they faced, especially regarding climate change, weather patterns, and their adverse effects. For example, a woman vividly recalled memories from her youth.

In the past, we could work outside when it rained, but now we can't. When I was young, I used to play in the rain with my friend, Buaban, but now I can't because lightning and storms have become more severe. We used to drink rainwater. Rainwater is currently contaminated, and it's not safe to drink due to environmental pollution. (Sathaporn, 56-year-old female participant, farmer)

6.6.5 Summary of Sentiment Analysis

Figure 26 illustrates the sentiment analysis outcomes of this study, encompassing both villages. The sentiments identified are primarily categorised as positive and negative, further subdivided into four specific subtypes. The results of the sentiment analysis were visualised through a radar chart to display the matrix of these four categories. The numerical values within the graph represent the percentage frequency of each sentiment, derived from participants' verbatim responses related to each research question.

Figure 26: Sentiment Results of Research Fieldwork



Regarding RQ2, which examined the factors influencing women's participation in climate change adaptation and how these factors could be developed to promote greater engagement within their communities, the participants' expressions were predominantly negative. They raised problems and concerns related to climate change through multiple avenues. In RQ1, their expressions shifted to a spectrum ranging from moderately positive to moderately negative, attributed to their having experienced both positive and negative aspects of climate change adaptation. Conversely, the MQ indicated that participants predominantly experienced positive emotions, with no adverse reactions to

the capacity-building initiatives designed to facilitate climate change adaptation. These levels of sentiment provided nuanced insights into the emotional tones conveyed in participants' narratives.

6.7 Chapter Summary

This chapter presents the findings from fieldwork research conducted in two villages, focusing on the factors that influence their involvement, perceptions, and decision-making regarding climate change adaptation. The chapter is organised into six sections: critical discourse, code emergence, three main findings related to the two sub-research questions, the primary research question, and sentiment analysis.

The critical discourse on climate change adaptation revealed that while many women in the study villages were unfamiliar with the term “climate change,” they recognised its impacts through personal experiences such as droughts and floods. Participants shared both their perceptions and practical adaptation strategies. Awareness levels varied, with younger participants generally having greater familiarity due to educational exposure. Communication challenges were noted, as simplifying technical language helped improve understanding among villagers. Adaptations in daily life included adjusting work routines to cope with extreme heat, while broader challenges such as the pandemic and air pollution from crop burning significantly affected both livelihoods and health.

The research identified five main themes. Three of these themes were complex, affecting women's livelihoods and their capacity, specifically through economic challenges, social dynamics, gender roles in community development, and resource management. The theme of climate perception and adaptive capacity explored how women perceive and respond to climate change. In contrast, the collective resilience theme examined how women can collaboratively strengthen their capacity within the village. Women, in particular, emerged as key carriers and transmitters of this knowledge, utilising it to adapt to changing weather patterns, manage natural resources, and support their families' well-being.

Their decisions regarding the adaptation process, which incorporates lived experience and traditional wisdom, demonstrated a dynamic and continuous evolution. Although challenges remain, emerging adaptive practices indicate a gradual shift towards long-term

environmental and social resilience. One theme, climate perception and adaptive capacity, further influenced women's adaptation strategies and perceptions through intergenerational learning about climate change and experience. These strategies showcased their resilience and capacity-building efforts, tailored to meet the specific needs and circumstances of women in each village, collectively contributing to broader community initiatives and practices.

Key insights from the two villages indicated that women's roles and access to resources are fundamental to their strategies for adapting to climate change. In BLPTM12, *Phuyaiban* and her team played a crucial role in supporting women's participation and decision-making in the village. Their leadership facilitated initiatives, starting with the establishment of a herbal garden that provided food, medicine, and contributed to the village's carbon sink. Trust and respect in leadership were significant factors that influenced women's engagement in these activities in the villages. By contrast, in BMM5, women predominantly oversaw vegetable cultivation and sold produce at the local marketplace. Utilising generational agricultural knowledge, they demonstrated resilience and learned how to adapt their practices to the effects of climate change.

Throughout the research process, women in both villages demonstrated emotional and psychological dimensions. Positive emotions were associated with successful adaptation efforts and achievements by women, whereas negative emotions indicated ongoing challenges and the detrimental effects of climate change.

Building on the results, the next chapter discusses the findings in comparison to existing literature and related aspects.

Chapter 7 Discussion

This chapter interprets the findings from Chapter 6 within the context of the research questions, theoretical framework, and relevant literature. It explores the implications for understanding gender dynamics in climate change adaptation in Thailand's *Isan* region.

This chapter begins with a summary of the research findings and then examines them in relation to the existing body of literature. It then deliberates on the implications for theory and policy.

7.1 Summary of the Findings

This thesis employed PAR and a mixed-methods process across five phases of fieldwork. It incorporated ten specific methods: introductory meetings, surveys, life-story interviews, in-depth interviews, seasonal calendars, transect walks, ecological mappings, *So-Leh* discussions, workshops, and fieldwork journals involving 194 participants from the two villages in Khon Kaen Province. A thematic analysis approach was used to develop a coding system. These code groups were analysed to answer each research question. The following sections summarise these themes and their implications for climate change adaptation.

7.1.1 Key Findings I: Economic Challenges, Social Dynamics and Gendered Roles in Community Development, and Resource Management.

Agricultural practices, the primary source of income in both villages, were heavily impacted by climate change. In response, support from universities and local authorities became crucial, especially in sharing knowledge and providing subsidies for skill development programmes aimed at boosting resilience. These efforts improved villagers' ability to form and maintain productive groups within their communities. However, the COVID-19 pandemic disrupted local economies, as government restrictions on travel and gatherings caused income losses in BMM5 and hindered the gathering of women's groups in BLPTM12.

Despite these challenges, the villagers' learning and development, rooted in historical community dynamics and cultural traditions, shaped their perceptions and responses to

climate change. They drew on local wisdom and collective practices, which guided adaptation strategies over generations. These patterns evolved, influenced by social cohesion and beliefs in spirits, which were integral to *Isan* traditions and agricultural practices.

The findings highlighted gender dynamics in each village, particularly how women and men collaborated in their adaptation efforts. The villagers' belief in the importance of community resources, such as community forests and communal lands, was evident. In both villages, community forests served as carbon sinks and provided essential resources, a role that was particularly significant in BLPTM12. In BMM5, land allocation for non-chemical vegetable farms formed a key strength of local livelihoods, providing a primary source of income and promoting sustainable agricultural practices. Both villages faced challenges with access to clean drinking water, with BLPTM12 also struggling with irrigation.

Exploring participants' emotional expressions provided more profound insights into how these challenges and opportunities shaped their lived experiences of adapting to climate change. Sentiment analysis revealed a mix of concerns and resilience. Negative sentiments were prevalent, reflecting ongoing environmental and economic challenges. Participants expressed concerns over deteriorating rainwater quality, increasing storm severity, persistent water scarcity, and the impact of flooding on agriculture. Additionally, the loss of local traditions, such as drinking rainwater, further contributed to their sense of decline. However, optimistic tones emerged in discussions about communal land farming and secure jobs that maximised resource efficiency and provided economic support for families that demonstrated their ability to adapt despite ongoing challenges.

These perceptions were crucial for understanding how women implemented adaptation measures, leading to the following key findings on understanding women's perceptions of climate change and adaptation strategies at the village level.

7.1.2 Key Findings II: Climate Perception and Adaptive Capacity

Women in the studied villages employed diverse strategies to adapt to climate change. The findings mainly focused on two aspects: agricultural practices and building resilience to sustain their livelihoods.

For agricultural and farming practices, the villagers, especially in BMM5, employed

various adaptation strategies. These included using solar panels for water pumping, managing chemical use in farms, and relying on local wisdom-based practices such as using nets to protect crops from sunlight, practising crop rotation, selecting drought-resistant crops, and monitoring weather pattern changes. These measures helped to mitigate climate risks and maintain agricultural productivity.

In BLPTM12, villagers faced serious challenges because of drought and extreme heat. They relied on water sources from a neighbouring village, making these conditions especially hard. Villagers developed local adaptation strategies to address these issues by modifying their farming methods and daily routines to ensure survival. Recognising that climate and weather patterns were beyond their control, they adjusted their daily practices to remain resilient in the face of environmental uncertainty.

These adaptive strategies not only helped villagers cope with climate variability but also shaped their perceptions and emotional responses to climate change. Sentiments regarding adaptation efforts were mixed, ranging from moderately positive to moderately negative, reflecting both successes and struggles. Positive sentiments were associated with a deep sense of pride and satisfaction in community achievements. For instance, participants in BMM5 expressed pride in their pioneering farming practices and their adaptabilities, drawing on the wisdom they had gained.

The adaptabilities shared by women villagers in the studied areas underscore the critical role of perception and experiential learning in shaping their responses to climate change. However, while resourceful and context-specific, these practices highlighted underlying challenges such as financial constraints and the need for enhanced knowledge. These findings led to the development of adaptive abilities that strengthen and ensure sustainable and resilient responses to climate change.

7.1.3 Key Findings III: Collective Resilience

Empowering women to make decisions about climate change adaptation through self-driven initiatives and the application of generational knowledge plays a crucial role in enhancing their competencies. The local resources, together with an improved understanding of climate change, empowered women in the two villages to make informed decisions regarding climate change, each adopting two distinct approaches. In BLPTM12, women took the initiative to transform a community forest into a herbal garden focused on reforestation and the preservation of local herbal knowledge. One of

the main challenges faced by the community in pursuing this strategy was budget constraints. However, the women, along with other villagers, overcame this by using locally sourced, affordable materials. For instance, they created signs for the trees and herbs in the garden from bamboo stakes instead of more costly iron stakes. Additionally, they hoped to expand the project further by developing a walkway within the garden and were actively seeking support from the local government for future development.

In BMM5, women opted to maintain their traditional methods for addressing climate change, expressing satisfaction with the techniques they had acquired over time. These methods involved adapting conventional agricultural practices and ancestral knowledge to support their livelihoods.

Taken together, women in both villages demonstrated a positive sentiment of empowerment through collaborative decision-making and their ability to identify and pursue opportunities for adaptation. Although situated within the same province, each village's distinct context influenced the pathways women chose in their adaptation efforts. Building on these insights, the following section discusses how these findings relate to and expand upon existing literature, highlighting both consistencies and new perspectives on women's adaptive strategies in climate-vulnerable regions.

7.2 Discussion of the Findings in Relation to the Existing Literature

This section critically compares the perceptions and adaptive strategies of women in the studied villages, as identified by the research question, with those documented in other regions, highlighting both commonalities and distinctions. It also evaluates the effectiveness of capacity-building initiatives, underscoring the unique contributions of this study to the broader literature. Through this comparative analysis, I sought to identify gaps in existing knowledge and propose directions for future research.

7.2.1 Climate Change Concept

The lived experiences of women villagers in the two villages have significantly influenced their responses to climate change, leveraging their practical knowledge and understanding of the issue. Although numerous participants were unfamiliar with the specific term "climate change," they acknowledged its effects through direct encounters with extreme weather phenomena, such as rising temperatures, droughts, and increased

rainfall. Their understanding was shaped by lived experience rather than formal education or media exposure.

Climate change is a somewhat ambiguous term in its meaning. Although perceptions of climate change varied among locals in the *Isan* region, their understanding aligns with the global definition. Participants' reflections, based on their prior experiences, revealed a general lack of awareness and uncertainty about climate change, which was perceived as challenging to understand by locals. However, after participating in this research, the participants expressed a clearer understanding of climate change compared to their previous knowledge. Through their involvement in the project and engagement in various research methods, they came to recognise the concept of climate change through observable shifts in weather patterns and long-term impacts, such as drought, flooding, and extreme heat phenomena, which they had experienced.

Based on participants' observations, many indicated that climate change results from both human activities and natural phenomena. Their understanding aligns with the definition provided by the IPCC (2019). This thesis offers supporting evidence consistent with prior studies (e.g., Suwanmontri, 2018), suggesting that participants either acquired new knowledge through the project or possessed pre-existing awareness that was subsequently enhanced. Continuous education and sustained engagement are therefore essential to enable farmers to build the capacity for sustainable adaptation to climate change.

In addition, the findings of this study differ from those of Muttarak and Chankrajang (2014), who observed that women are more inclined than men to voice concerns about global warming and to engage in climate-relevant behaviour. In contrast, this study revealed that both men and women collaborated freely to express their concerns and share their practices regarding climate change.

Although climate change remains an unfamiliar concept for many villagers, participation in this research and exposure to Thailand's climate change policies have helped clarify key issues. This suggests that increased knowledge and education can foster greater climate awareness and support informed decision-making at the local level.

Furthermore, this study uniquely identifies the role of local market dynamics and the vulnerability of adaptation efforts to global economic disruptions. This factor has received limited attention in previous research.

7.2.2 Economic Challenges, Social Dynamics and Gendered Roles in Community Development and Resource Management

Three main themes emerged from the findings that influenced the lifestyles of local women in the villages: economic challenges, social dynamics, and gendered roles in the community and resource management. This section critically examines both the commonalities and contextual nuances of these themes in relation to existing literature, to understand their impacts on the everyday lives of local women.

Women in the village actively participated in both the decision-making and implementation of adaptation strategies, often working collaboratively with men. This finding aligns with Björnberg and Hansson (2013), who emphasised the importance of local adaptation strategies that are gender-sensitive to prevent the exacerbation of gender disparities. The findings of this study reinforce that inclusive, gender-sensitive approaches are essential for effective climate adaptation. However, this thesis contributes a unique perspective by situating these dynamics within the specific socio-cultural context of the *Isan* region, illustrating how local norms and traditions influence women's adaptive strategies. These nuances enhance our understanding of how gender dynamics operate within specific cultural contexts.

The empirical findings reveal that livelihood practices in the study villages cannot be understood through conventional distinctions between agricultural and non-agricultural activities. Households were characterised by diversified income sources, mobility, and strong village ties, indicating that adaptation strategies were embedded within broader processes of rural transformation. This pattern is consistent with Rigg's analysis, which conceptualises rural livelihoods as increasingly multi-local, relational, and shaped by market integration and social obligations rather than by farming alone (Rigg, 2001; 2019). The findings also demonstrate that adaptation practices were strongly structured by gendered responsibilities, particularly women's reproductive and community roles in maintaining food security, household wellbeing, and resource management. These dynamics resonate with Lapanun's (2003) observation that women's environmental engagement frequently emerges from everyday care and subsistence responsibilities, through which domestic labour becomes central to collective responses when resource conditions become unstable. Importantly, however, the present study extends this insight by showing how such roles are not only politically activated in moments of conflict, but also operate as routine mechanisms of climate adaptation and resilience.

Similarly, these results underscore the critical importance of understanding the local *Isan* context, where socio-cultural influences significantly shape women's adaptive strategies. This finding is consistent with Yadav and Lal (2018) and Khalil et al. (2019), who highlighted that although women are often portrayed as victims of climate change, they also play vital roles as agents of change.

This thesis contributes to the existing literature by suggesting that while higher education enhances climate change awareness, experiential learning, shared community knowledge, and active participation are equally vital (Muttarak & Chankrajang, 2014). Thus, adaptive capacity can be strengthened not only through formal education but also through participatory processes that engage local knowledge and lived experience. In line with the findings of Boyland and Johnson (2018), who observed that girls show a strong interest in climate education but often lack platforms to be heard, this research highlights the need to create supportive and inclusive spaces that foster women's leadership potential.

Community development in the studied villages is sustained by kinship-based cohesion and traditional practices, which continue to shape local responses to climate-related challenges. One illustrative example is the *Boon Bung Fai* ritual, which honours *Phaya Thaen*, highlighting the enduring role of cultural knowledge in responding to environmental uncertainties. While traditional beliefs initially attributed natural phenomena to spiritual forces, participation in this research helped villagers reframe their understanding of climate change and its repercussions.

Although traditional beliefs initially attributed natural phenomena to spiritual forces, participation in this research enabled villagers to reframe their awareness of climate change consequences. This shift highlights the crucial role of education and awareness in fostering more informed and context-specific adaptation strategies. These findings align with Traiyut et al. (2024), who emphasised the significance of indigenous knowledge, local perceptions, and community participation in shaping effective climate adaptation, particularly within developing countries such as Thailand.

This figure can be compared with the findings of O'Neil and Domingo (2015), who emphasised the importance of supportive environments, role models, and formal education in fostering women's leadership. However, the findings of the current study

expand on this by highlighting the value of experiential learning and shared community knowledge, thereby complementing their emphasis on formal education.

Interestingly, while previous studies (e.g., Nchanji et al., 2025) suggested that cultural norms could hinder women's participation in adaptation efforts, this thesis found that traditional beliefs, such as those related to the supernatural, did not impede women's adaptive capacities. Instead, cultural practices coexisted with, and at times supported, adaptation initiatives.

In BMM5 in particular, women's long-standing reliance on wisdom and experiential knowledge influenced their climate adaptation practices. This finding is in agreement with those of Goli et al. (2023), who demonstrated that adaptation behaviours among women rice farmers in Iran were influenced by perceived vulnerability, severity, self-efficacy, and response effectiveness.

Sustainability considerations also shaped adaptation strategies, particularly in the management of natural resources. Access to community forests and land use allocation, often grounded in kinship ties, facilitated cooperative resource management. In BLPTM12, community forests provided essential resources, including food, medicine, and carbon sinks. In BMM5, access to farmland and water resources enabled villagers to return to farming during the pandemic, thereby mitigating economic hardship. These findings support those of Curran and Meijer-Irons (2014), who demonstrated that land ownership influences migration patterns and enhances resilience to climate change, particularly in rural, agrarian contexts such as northeastern Thailand.

Furthermore, participants noted a predominantly negative connection between COVID-19, air pollution, and climate change. Although the pandemic temporarily reduced global carbon emissions due to lockdowns, it also diverted attention and resources away from long-term climate initiatives, which could hinder progress toward sustainable energy systems. This observation reflects those of the findings of Fang et al. (2013) and Fu et al. (2016), who demonstrated that climate change influences PM2.5 levels, underscoring the importance of effective emissions control measures.

The economic strain caused by the pandemic further disrupted local livelihoods, particularly in BMM5, where produce sales at the market were severely affected. In response, women drew upon local resources and traditional knowledge to mitigate income loss and support household resilience.

Notably, the timing of this research during the COVID-19 pandemic provided a unique perspective on the immediate economic impacts of global crises on climate adaptation efforts. The pandemic worsened existing socio-economic challenges for women. In BMM5, women faced significant income losses due to market closures, while in BLPTM12, women's groups were unable to organise secondary income-generating activities, further restricting their economic opportunities.

Nevertheless, the reduction in economic activity during the pandemic contributed to a temporary decline in environmental issues, such as air pollution. These findings corroborate previous research by Azcona et al. (2021), which highlighted that women faced heightened economic vulnerabilities during the pandemic. Similarly, reports from the World Bank (2022a, 2022b) emphasised that women particularly those from vulnerable groups bore a disproportionate share of the economic burden during this period.

This thesis examined the influences of resilience, community development, and sustainability on the lives of local women in a village context. It highlights how increased knowledge and education about climate change can foster greater awareness and more informed decision-making. These findings contribute new insights to the existing body of knowledge by underscoring the role of local market dynamics and the vulnerability of adaptation efforts to global economic disruptions. They also emphasise the resilience demonstrated by women in both villages. The following section will explore research on perceptions of and adaptation to climate change.

7.2.3 Climate Perception and Adaptive Capacity

Women in both villages actively engaged in two primary adaptation strategies: adjusting agricultural practices and modifying daily routines. These strategies reflect how women perceive climate change and adopt practical measures to strengthen their resilience and promote sustainability.

In BMM5, agricultural adaptation practices were particularly prominent. Women participants demonstrated how the use of solar panels for water pumping, the transition to drought-resistant crops, and the application of generational knowledge, such as crop rotation and weather pattern observation, underscore the enduring value of traditional wisdom in climate adaptation. These strategies illustrate how women in BMM5 are actively overcoming environmental and structural barriers.

Similarly, Carvajal-Escobar et al. (2008) emphasised the importance of gender equity in enabling effective adaptation processes. Women's active participation in adaptation efforts underscores the vital role of community resilience. These findings also align with Terry's (2009) call to reduce gender-specific barriers to strengthen women's adaptive capacities.

The findings of this research corroborate those of studies such as Pratiwi et al. (2017), which documented increased engagement of women in climate change initiatives within rural Indonesia. This aligns with observations of active involvement of women in village-level adaptation efforts. Nonetheless, Bhattarai et al. (2020) highlighted gender-specific disparities in adaptation, particularly the disproportionate burden of household management duties that women bear. Conversely, the results of this study indicate that while men generally undertake physically demanding tasks, women contribute significantly to the workforce through supportive roles.

Although Shodieva et al. (2014) argued that traditional gender roles hinder women's contribution to adaptation strategies in Uzbekistan, findings from *Isan* suggest a contrasting perspective. In both villages, traditional responsibilities related to market management, food production, and the involvement of women in decision-making and leadership roles within adaptation activities fostered positive outcomes. This underscores the importance of understanding cultural nuances when analysing gender dynamics in adaptation to climate change.

This thesis presents that *Isan* women are aware of climate risks, particularly drought and extreme heat and show a strong willingness to adapt. This supports Lebel et al.'s (2014) conclusion that women often perceive greater climate-related risks and place a higher value on risk management practices. Beyond agricultural strategies, women in both villages, especially in BLPTM12, adjusted their daily routines to cope with climate-related challenges. These adjustments were frequently influenced by proximity to water sources, which are vital for rice farming and household needs. Challenges such as rising electricity and water costs highlight vulnerabilities exacerbated by climate change. Disruptions caused by extreme weather events, including droughts and hot weather, further emphasise the urgent need for local government support, particularly in enhancing water supply systems. Women's modifications to farming schedules reflect adaptation strategies grounded in experiential learning. While these practices demonstrate resilience, they also highlight the limitations of informal adaptations in the face of increasing

climatic variability.

This thesis highlights the importance of incorporating women's knowledge, experiences, and adaptive strategies into comprehensive climate change policies. Recognising and valuing women's contributions in enhancing resilience and fostering an inclusive and effective climate change adaptation framework are needed. The following section will discuss how women respond to climate change through their initiatives.

7.2.4 Collective Resilience - Collective Action and common management

This section examines women's adaptation strategies to scale up their efforts in each village. It then provides a comparison of how each villager's contexts shape to support or challenge them.

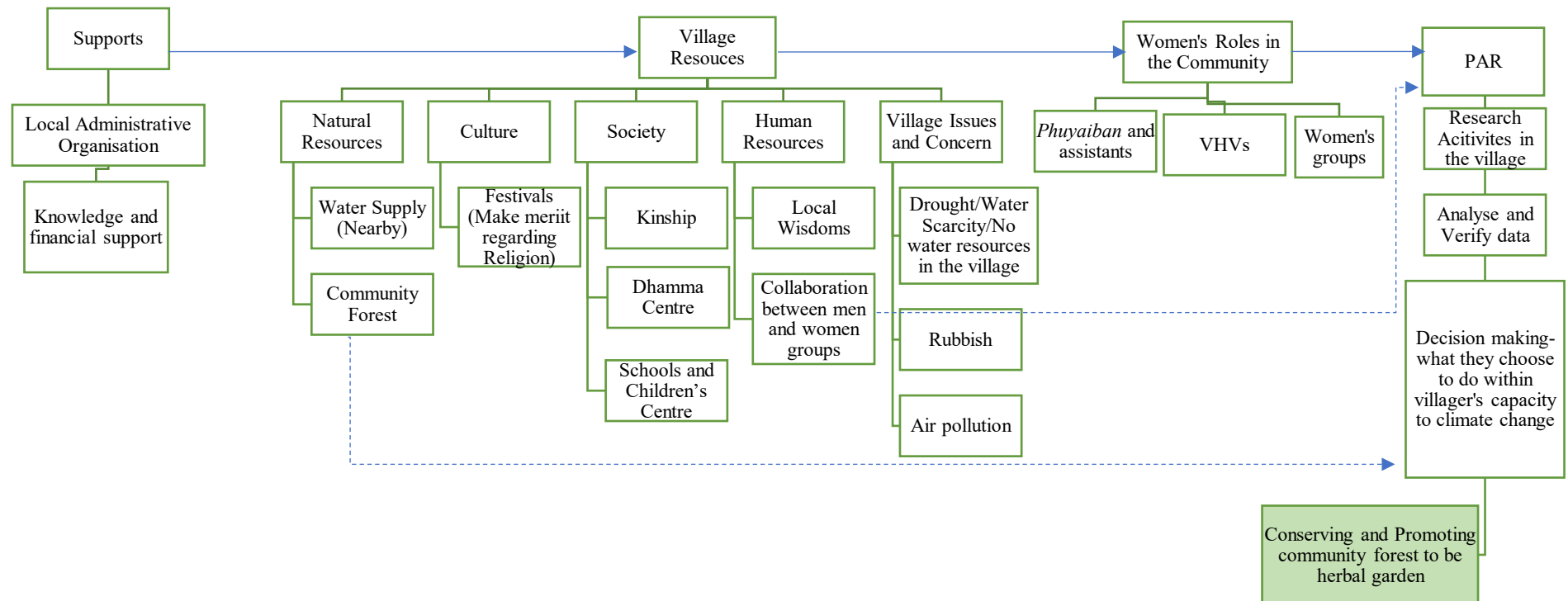
Resilience, defined as the ability to withstand or rapidly recover from adverse conditions, is closely connected to economic livelihoods, external organisational support, pandemic impacts, and welfare systems. Women in both villages demonstrated their capacity to respond to climate change through self-initiated actions. While women in BLPTM12 adopted project-based adaptation strategies, such as transforming a community forest into a herbal garden, women in BMM5 continued to rely on traditional agricultural practices and generational knowledge to sustain their livelihoods. Their efforts reflect a critical intersection of conventional wisdom, innovation, and proactive decision-making, underscoring their pivotal role in fostering community resilience.

A comparison between the two villages is particularly evident in their use of village resources, the level of external support, and the roles women play in adaptation strategies (see Figures 27 and 28). Figure 27 presents a comprehensive overview of BLPTM12's structure, highlighting its resources, support systems, challenges, and community roles. The village benefits from strong local administrative backing and possesses abundant resources, including community forests, cultural traditions, social institutions, and human capital grounded in local wisdom and women's collaboration. Significant challenges include water scarcity, waste management, and air pollution. Women play vital roles through health volunteering and leadership activities. The community engages in PAR to analyse data and make informed decisions, such as transforming the community forest into a herbal garden to promote sustainable climate change adaptation.

Figure 28 illustrates BMM5's integrated approach to sustainable agriculture and development, highlighting local resources, support systems, and participatory decision-making. The village receives support from a petroleum company conducting groundwater surveys, local administrative bodies, and academic institutions that assist with knowledge dissemination and market access for non-chemical produce. BMM5 leverages natural resources such as swamps and allocated land, alongside cultural and social assets including festivals, temples, and kinship networks. Human resources comprises local agricultural experts and a group dedicated to chemical-free farming. Through PAR, the community analysed their situation and chose not to initiate new projects; instead, they decided to maintain their existing agricultural adaptation strategies.

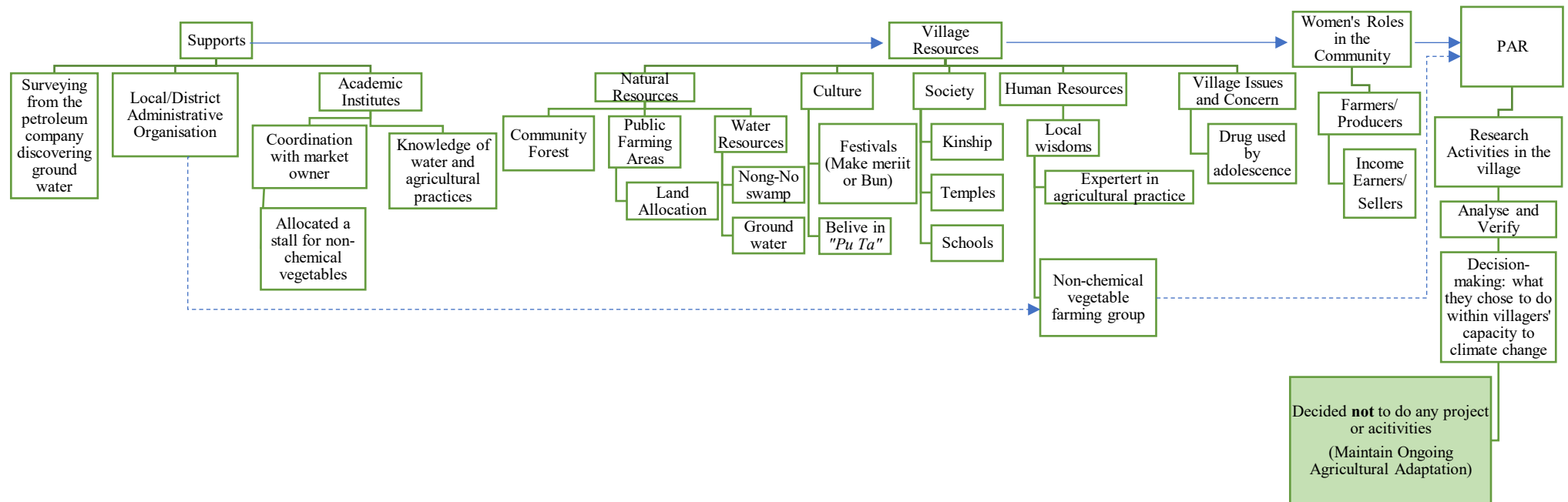
The primary distinction between the two villages lies in the fact that women in BMM5 benefit from the availability of water resources, agricultural expertise, and well-established market access. These factors have facilitated the formation of a resilient agricultural group, providing women with stable employment and income-generating opportunities. Their active engagement in agriculture not only enhances their economic resilience but also consolidates their role in local climate adaptation strategies. By employing traditional farming techniques such as crop rotation, these women promote long-term sustainability while mitigating climate-related risks.

Figure 27: Comprehensive Framework for Understanding How Women's Agency Influences Local Adaptive Strategies of BLPTM12



Notes. Diagram produced by the author.

Figure 28: Comprehensive Framework for Understanding How Women's Agency Influences Local Adaptive Strategies of BMM5



Notes. Diagram produced by the author

The capacity to participate in market-oriented agriculture bolsters women's decision-making authority, as financial independence allows them to contribute more actively to household and community-level strategies. However, despite the agricultural successes in BMM5, structured leadership roles for women beyond farming activities remain limited within the village.

In contrast, BLPTM12 faces significant water scarcity, which limits its potential for agricultural development. Despite this challenge, women hold crucial leadership roles within the village, including positions as VHS and other key community roles. Their active participation in decision-making has fostered strong engagement in research processes and climate adaptation initiatives.

A notable example of women's leadership in BLPTM12 is their management of the community forest, the village's primary natural resource. Women have taken the initiative to protect and develop this forest, transforming it into a sustainable source of herbal medicine and a centre for environmental preservation. This initiative not only functions as an effective adaptation measure but also strengthens community cohesion through collaborative resource management. The emphasis on leadership and environmental stewardship in BLPTM12 reflects a broader pattern observed in rural communities, where women often assume critical roles in managing shared resources amid limited economic opportunities.

In BLPTM12, women adopted a project-based adaptation strategy by transforming a community forest into a herbal garden. This project demonstrated their ability to identify and address local needs with minimal financial resources. Their innovative use of affordable materials, such as bamboo stakes for labelling herbs, reflects a high degree of resourcefulness despite budget constraints.

This initiative contrasts with previous studies, such as those by Ashrafuzzaman et al. (2023), who emphasise the importance of financial resources, education, and supportive policies in enhancing women's adaptive capacities. Despite limited external support in BLPTM12, participants completed their initiative, underscoring the significance of local knowledge and community engagement in adaptation efforts.

Despite their enthusiasm for this initiative, women in BLPTM12 faced significant barriers in scaling up their projects. Their aim to expand the herbal garden through partnerships with local government agencies highlighted the potential of community-led adaptation

efforts. As Habtezion (2013) suggests, linking local adaptation initiatives with institutional frameworks is essential for achieving long-term sustainability. Furthermore, research activities conducted in both villages underscored the importance of climate change knowledge in enhancing adaptive capacity, aligning with the findings of Banerjee et al. (2019).

In contrast, women in BMM5 primarily leveraged their generational knowledge, such as crop rotation, to enhance their adaptive capacity. This reliance on traditional agricultural practices exemplifies adaptive continuity, where conventional methods effectively address environmental changes. A key contribution of this thesis is bridging the gap between gender and generational knowledge in climate adaptation. Life-story interviews with elderly women provided valuable insights into the generational knowledge of BMM5. Moreover, integrating modern techniques, such as advanced irrigation systems, could further strengthen resilience and promote long-term agricultural sustainability. Although the absence of new adaptation initiatives may suggest limited innovation, it also highlights the resilience and sustainability inherent in well-established practices.

Promising strategies for enhancing climate resilience in BMM5 include the adoption of solar-powered irrigation systems and the use of nets to protect farms. Although abundant sunlight in *Isan* is often viewed as a climatic challenge, it can be harnessed as a sustainable energy source. By reducing farming costs and minimising environmental impacts, solar-powered irrigation aligns with the findings of Figueiredo and Perkins (2013) and Lebel et al. (2014), who highlight the significance of localised knowledge. These scholars emphasise that locally driven, participatory methods tend to be both equitable and effective, as they are grounded in the practical knowledge and coping mechanisms developed within community settings for sustainable adaptation.

Not all adaptation strategies observed in the villages align with findings from previous studies. For example, Siddika (2008) reported that women in flood-prone areas often adapt by changing food habits and seeking credit loans. In contrast, women in BMM5 maintained traditional food practices and did not mention the need for loans, likely reflecting their adaptable farming methods. However, as participants noted, greenhouses are necessary to protect their crops and maintain their livelihoods, as detailed in Chapter 4. This distinction highlights that women's proactive strategies vary significantly according to local economic conditions and livelihood security.

Mainstreaming women's perspectives in climate adaptation extends beyond agricultural practices to include political engagement. Christoff et al. (2017) suggest that climate adaptation programmes in Southeast Asia have the potential to enhance women's social status and political participation. However, findings from both villages indicate that women's political involvement is primarily limited to participation in local elections. Strong kinship networks appear to reduce political competition, but they may also boost the inclusion of women in decision-making roles due to increased familiarity. Although this study did not observe significant political mobilisation related to climate adaptation, it underscores the need for policies that encourage broader participation of women in governance structures.

The differences between the two villages underscore the importance of customised capacity-building strategies tailored to local contexts. While BLPTM12 demonstrates the advantages of project-based innovation, BMM5 highlights the strength of traditional practices alongside the necessity of integrating modern technology to ensure future resilience.

Both approaches affirm women's agency in climate adaptation and align with critical theory perspectives on empowerment and emancipation. By enabling women to lead adaptation efforts, these findings challenge customary gender norms and reinforce women's roles as key drivers of rural development. The subsequent section analyses gender disparities and the involvement of women in decision-making and participation concerning climate change adaptation activities within both villages.

7.2.5 Comparative Insights on Gender and Climate Change Adaptation

Women's contributions to climate adaptation extend beyond traditional gender roles, positioning women as key agents of change. While BLPTM12 emphasised institutional leadership and adaptation initiatives, BMM5 highlighted women's economic roles in supporting agricultural adaptation.

Women's active contributions, especially leadership, in their villages are essential drivers of local resilience in both villages. Their roles as VHVs, leaders, and economic agents underscore their active engagement in shaping adaptation strategies. These findings support studies that suggest that in climate adaptation efforts, women can be key agents of change. Existing literature often notes the underrepresentation of women in leadership roles within climate adaptation initiatives (Yadav & Lal, 2018; Khalil et al., 2019). This

thesis broadens and deepens the understanding of how women in two Thai villages can take leadership roles in community-led strategies.

Situated within the broader body of literature, these findings emphasise both points of convergence and distinctive contributions, especially in comprehending the gendered aspects of climate change adaptation in the *Isan*.

These insights confirm the significance of localised adaptation practices and provoke essential inquiries regarding the power dynamics involved in climate adaptation processes. This section examines how men and women participate in daily tasks, decision-making, and climate adaptation strategies, revealing distinct yet complementary contributions (see Table 10). The table illustrates the collaboration between men and women as well as their distinctive roles in leadership, decision-making, and climate adaptation aspects.

Table 10: Comparative Gender Dynamics in Climate Change Adaptation in BLPTM12 and BMM5

Aspects	Significant Women's Contributions	
	BLPTM12	BMM5
Collaboration and Roles	- Women and men collaborate in festivals and daily tasks. - Men handle physically demanding work. - Women contribute through traditional skills like food preparation and caregiving. - Women serve as leaders and health volunteers.	- Men handle physical hard farm labour. - Women excel in caregiving. - Women are the sole market sellers. - Women monitor market demand and adjust farming practices to meet market need.
Leadership and Decision-Making	- A woman has led the village for over a decade. - Women are included in decision-making for village development projects.	- Women dominate market activities and are key economics workers. - Women adjust crops to meet future demands.

Aspects	Significant Women's Contributions	
	BLPTM12	BMM5
	- Women have gained recognition in decision-making due to their expertise and contributions.	- Men are less involved in sales.
Climate Adaptation	- Women's leadership and active roles in the village - Women are key agents in driving community initiatives	- Women employ their experience and knowledge in farming. - Women's economic and social contributions position them as key agents in resilience to climate change.

Note: Table compiled by the author.

7.2.5.1 Collaboration and Roles

Building on the previous village-specific discussions (Sections 7.2.1 and 7.2.2), this section presents a comparative analysis of gender dynamics in climate adaptation. It summarises the main patterns and differences between the two villages, emphasising women's leadership, economic decision-making, and roles in climate resilience efforts.

In both villages, although men and women collaborated in cultural and daily activities, their roles remained distinct. In BLPTM12, men were responsible for physically demanding tasks involving handicrafts, such as creating canvases for parades, while women contributed through traditional skills like food preparation and caregiving. Similarly, in BMM5, men handled intensive farm labour, including crafting for the *Boon Bung Fai*, whereas women were responsible for caregiving and market activities. Although men were explicitly excluded from selling, participants noted that selling was not their strength. This gender-based specialisation highlights the different but complementary roles men and women play in sustaining agricultural livelihoods.

Women play significant roles in festivals, daily activities, and community health initiatives, often relying on traditional knowledge and caregiving skills to support their villages. In both BLPTM12 and BMM5, women's monitoring of market demand and adjustment of farming practices ensured food security and economic stability for their households. These roles demonstrated the women's ability to manage both household and

financial responsibilities, which positioned them as essential contributors to local adaptation efforts.

Another significant role for women is serving as VHVs. These VHVs provide essential assistance with healthcare practices, including basic health checks, recording health data, and reporting to professionals when necessary. For instance, during the COVID-19 pandemic, VHVs encouraged villagers to follow government measures and assisted in vaccine campaigns. Their work underscores the recognition of women's essential contributions to community well-being and resilience, particularly during periods of crisis.

Certain activities involve both men and women working together, recognising the unique strengths each gender brings. Participants reported that collaboration occurs during the festivals celebrated throughout the year. Throughout the research activities, participants revealed that typically, men and women help each other to complete village tasks because working together makes the process faster and more efficient. This research is in line with Alston (2007), who found that gendered roles in a patriarchal agricultural system led to different responsibilities and impacts for men and women. These findings suggest that, while traditional gender roles persist, collaborative practices provide opportunities for both men and women to enhance community resilience through the complementary use of their skills.

7.2.5.2 Leadership and Decision-Making

In contrast to the previous sections that focus on village-specific dynamics, this part examines the wider leadership roles of women in adaptation, comparing their influence in decision-making in BLPTM12 and BMM5. It emphasises the differing levels of women's involvement in formal leadership and their economic decision-making authority in both contexts.

Women's leadership is more pronounced in BLPTM12, where a woman has led the village for over a decade, overseeing development projects and community-driven initiatives such as the herbal garden. Their participation in decision-making processes has been recognised due to their expertise and contributions, allowing them to shape village development. In BLPTM12, women's leadership extends beyond caregiving and economic activities into formal decision-making roles. A notable example is the *Phuyaiban*, a woman who has held the position for over a decade, made possible by a change in the *Phuyaiban* rule that allows her to serve until the age of 60. Her leadership

was evident during the fieldwork, where she actively participated in surveys, organised introductory meetings, and coordinated activities efficiently.

In contrast, women in BMM5 predominantly engage in market activities rather than formal leadership roles. Their economic influence extends beyond household responsibilities, as they select crops based on anticipated market trends and demand. This decision-making highlights women's agency in shaping local adaptation strategies, even without official political positions. The women utilise their generational agricultural knowledge to maintain farming practices and adapt to environmental changes. Their ability to modify crop choices based on experience and market demands strengthens their role in supporting village resilience.

The differing leadership dynamics observed between the two villages demonstrate how structural opportunities and cultural recognition influence women's pathways to impact climate change adaptation initiatives.

7.2.5.3 Women's Role in Climate Change Adaptation/Women's Participation in Natural Resource Management and Climate Adaptation

Based on the discussions on women's adaptation, this section explores the proactive roles of women in both villages, comparing how their economic and social responsibilities shape climate resilience. The section examines the influence of community-oriented initiatives and strategies on sustained adaptive capacity.

According to Chauhan and Kumar (2016), gender roles have a significant influence on adaptive responses. Women's substantive engagement in climate adaptation is evident in both villages, albeit in different ways. In BLPTM12, women's leadership has led to community-driven adaptation initiatives, such as establishing a herbal garden after learning exchanges with other communities. Their decision to adopt and expand this initiative demonstrates their agency, local knowledge, and commitment to strengthening community resilience.

Beyond climate adaptation initiatives, women also contribute significantly to economic resilience through skill development groups, a common practice in *Isan* villages. These groups enable women to participate in income-generating activities, such as producing and distributing local goods and services. However, by 2024, villagers expressed eagerness to resume these initiatives, highlighting their significance for livelihoods and economic independence. A study by Shodieva et al. (2014) noted that gender roles often

limit women; however, this research found that in *Isan*, gender roles do not necessarily restrict women's capacity for adaptation.

Marketing experience is a vital skill among the women of BMM5. They strategically plan their production based on future price trends. For instance, if the price of a vegetable drops, they might grow it immediately in anticipation of a future price rise. Their observations also include customer preferences and emerging trends, such as the increasing demand for high-value vegetables like red oak lettuce, green oak lettuce, and kale. By adapting their crops according to market insights, they maintain stable incomes and contribute to food security.

While women's participation in adaptation activities appears visible, feminist political ecology cautions against equating participation with empowerment. Agarwal (2010) distinguishes between nominal inclusion and effective voice in governance processes. Similarly, Rocheleau et al. (1996) argue that gendered labour roles often position women as resource managers without redistributing decision-making authority. The findings from this study suggest that women's adaptive leadership operates within, rather than fully transforming, existing gender hierarchies.

The findings showing that women play central roles in both household-level adaptations and community initiatives align with broader evidence from natural resource management research. Studies consistently demonstrate that when women participate meaningfully in resource-related groups, collaboration improves, rule compliance strengthens, and environmental outcomes often become more sustainable particularly when institutional arrangements encourage inclusion and support women's leadership. In the Thai context, recent policy developments have opened limited yet meaningful opportunities in community forestry, which women's groups in several villages are increasingly utilising in practice.

These insights underscore that women's economic and social contributions are not peripheral but central to building adaptive capacity, challenging assumptions about passive gender roles in rural adaptation contexts.

7.2.5.4 Relation of Sentiment Analysis and Climate Change

The sentiment analysis is a valuable addition to incorporate into the discussion. As Iniguez-Gallardo et al. (2021) discussed, recognising the wide range of emotional

reactions can improve the development of climate communication strategies that effectively address various emotional triggers. Lebel and Lebel (2018) described farmers as experiencing worry, frustration, and fear when facing the risks of significant losses. They also felt excitement when taking risks, and happiness and relief when they achieved success and profit. The act of caring for fish often brought a sense of contentment, which positively reinforced their monitoring and risk management practices. These arguments align with this study, as challenges made people feel negative emotions, while adaptation and success in their lives made them feel positive emotions. This emphasises how the emotional tones of participants influence their adaptation strategies, and community dynamics can add further depth to the analysis.

To further explore these implications, the following section analyses the findings through the perspective of critical theory, alongside the main methodological approaches used in this study.

7.3 Critical Theory Implications

Critical theory enables us to understand and challenge the power dynamics that impact women's ability to manage climate-related challenges. The PAR approach promotes a bottom-up process that empowers local communities. These frameworks emphasise ways to encourage collaboration and foster real change in the *Isan* region. This section examines these contributions more closely, beginning with the role of critical theory in shaping both the theoretical and practical aspects of this study.

7.3.1 Contributions to the Critical Theory

This research aligns with critical theory by emphasising empowerment as a process-oriented, holistic, and context-specific redistribution of power between men and women, as suggested by Tandon (2016). Critical theorists argue that empowerment must be understood as both a structural and relational process (Cornwall, 2016; Parpart, 2014). This thesis reinforces this perspective by illustrating how women's participation in climate adaptation not only challenges traditional systems of domination but also underscores the importance of collaboration with men in fostering equitable and sustainable solutions. Rather than viewing empowerment as a solely individual process,

this research demonstrates that it is inherently collective, requiring cooperation between genders to implement effective adaptation strategies (Kabeer, 1999; Agarwal, 2010).

This study broadens climate discourse beyond Western-centric paradigms by integrating local practices and values, supporting arguments by Arora-Jonsson (2011), and Habtezion (2013) and Tandon (2016). While existing research on gender and climate adaptation focuses on structural inequalities in Western policy frameworks (MacGregor, 2010; Arora-Jonsson, 2011), this study highlights how economic pressures, societal norms, and environmental conditions shape women's perspectives in the *Isan* region.

Furthermore, an examination of Thailand's top-down climate change policies reveals that they often overlook local needs, reinforcing criticisms of centralised governance models that fail to consider intersectional vulnerabilities (Ribot, 2010; Nightingale, 2017). In response, community-led approaches, especially those that amplify women's voices, become vital mechanisms for effective adaptation. This finding is consistent with earlier research that highlights women's knowledge in strengthening resilience through locally driven initiatives (Djouidi et al., 2016; Rao et al., 2019).

The application of PAR in this study further underscores the importance of inclusive research methodologies that actively engage women and integrate their knowledge into adaptation strategies. Scholars such as Chambers (1997) and Kindon et al. (2007) argued that PAR enables marginalised groups to assert agency in knowledge production, challenging the traditional researcher–researched hierarchy. This thesis contributes to this discourse by demonstrating how PAR facilitated deeper engagement within communities, revealing critical insights into how women navigate and negotiate their roles in climate adaptation.

Furthermore, the study demonstrates how participatory methodologies can be crucial in co-creating knowledge that is both locally relevant and actionable. This supports the idea that research should not only examine social realities but also foster transformative change (Freire, 1970; Gaventa & Cornwall, 2006).

The subsequent section synthesises these findings, highlighting key themes regarding women's adaptive responses. By integrating local knowledge with critical theoretical insights, this thesis advances the discourse on gender-inclusive climate adaptation and the role of participatory methodologies in fostering resilience strategies.

7.3.2 Reflection on the Process of PAR

Women participants were empowered to make decisions based on their needs during the village workshops. A key feature of the PAR process in this thesis was its dynamic and flexible nature. I often had to respond, adjust, and manage the process to suit participants' timetables, particularly in response to unexpected events. This methodology was not a linear, step-by-step procedure; instead, it moved back and forth depending on the situation, requiring me to prioritise participants' availability over my own schedule.

Based on my experiences in BLPTM12 and BMM5, I realised that PAR demanded a continuous process of adaptation and responsiveness to impromptu situations. This fluidity was contingent upon the unique conditions and needs of each village. It became evident that the PAR methodology galvanised the villagers in both communities to acknowledge and address climate change based on their lived experiences. Participants collaboratively deepened their understanding of their circumstances and made decisions about whether and how to enact changes, guided by their competencies and preferences.

One of the most meaningful takeaways from using this methodology was understanding the need to go beyond rapport-building and truly engage as a partner with participants. During the two-month fieldwork period, I established strong connections with the participants, effectively becoming part of their families. This closeness not only facilitated fieldwork activities but also significantly aided the transcription process, as I could easily recognise speakers' voices from the recordings.

The consistent application of PAR within the *Isan* region aligns with prior research, underscoring its advantages in enhancing community participation. Established investigations, notably within the health sector in *Isan* by Nilvarangkul et al. (2013, 2015, 2016), have illustrated the methodology's capacity to promote community engagement and empowerment. My findings align similarly with those of Sena et al. (2018), who emphasise the importance of PAR in promoting community involvement and informed decision-making. They also corroborate the observations of Suttisa (2005) and Hunchaisri et al. (2012), who demonstrated that participatory approaches foster civic participation and enhance local practices. Additionally, I observed outcomes comparable to those reported by Suwanmontri et al. (2018) and Godden et al. (2020), particularly concerning the potential of PAR to empower women in climate adaptation initiatives.

This thesis highlights the growing recognition that women are key agents of change. By situating the findings within the broader context of critical theory and utilising insights

gained through PAR, this study highlights the importance of integrating community-driven initiatives. These reflections facilitate the formulation of practical and policy recommendations that prioritise local voices and endorse sustainable adaptation strategies.

In reflecting on sample size and demographics, three demographic features shaped the findings:

- Age structure: with a high share of elders, women over 40 articulated adaptation memory and practice, possibly amplifying traditional knowledge relative to youth-led digital strategies.
- Role composition: in the interviews, women share their thoughts on both public and private spaces. In other mixed gender research activities, men focus on public space.
- Village contrasts: BLPTM12's water scarcity and temple-forest leadership versus BMM5's irrigated, market-integrated livelihoods shape distinct adaptation logics.

Therefore, transferability is analytic rather than statistical; the study illuminates mechanisms that comparable Isan villages may share under similar demographic and livelihood conditions. The subsequent section translates these theoretical insights into practical strategies designed to enhance the participation and resilience of women in climate change adaptation.

7.4 Policy Implications and Recommendations

The importance of inclusive policy frameworks that recognise women as agents of change is emphasised. However, for best practices to be effective, they must be supported by responsive policies. In this study, “policies” refer to government regulations, initiatives, and frameworks that impact local communities, as expressed during fieldwork. Ensuring that policies are aligned with local needs is crucial for their effectiveness and sustainability. This section first describes how women encounter climate change policy challenges at the local and national levels, and subsequently presents recommendations derived from the findings.

One major challenge is the implementation of government-led programmes. Reforestation campaigns, aimed at increasing carbon sinks, often overlook local ecological conditions. Participants from BLPTM12 expressed frustration about receiving

tree species unsuited to their environment. This highlights the necessity of tailoring climate policies to local contexts by incorporating community input during planning and implementation (Denton, 2002; Curran & Meijer-Irons, 2014). While villagers were willing to engage in reforestation, they stressed the importance of selecting appropriate plant species.

In contrast, BMM5 effectively leveraged local strengths, such as access to water resources and external support, to enhance climate resilience. Secured employment, accumulated knowledge, and specialised training have fortified their adaptive capacities. A notable example is the adoption of solar-powered agricultural practices, a relatively advanced technology in rural Thailand, which significantly reduced costs and labour. This case demonstrates that integrating climate-resilient technologies can mitigate economic burdens and promote sustainability. However, access to solar power in both agricultural and household settings remains limited due to high installation costs.

To strengthen women's adaptive capacities, national and sub-district plans should incorporate and support gender-responsive budgeting, participatory planning, and initiatives that promote local adaptation. In BLPTM12, custom training programmes could empower women with the skills required to manage climate risks effectively. Although government plans and budgets allocate subsidies for sustainable practices such as herbal gardens, bureaucratic barriers hinder timely access to these resources. Participants recommended establishing knowledge-sharing platforms across villages to facilitate the exchange of successful strategies and enhance community resilience.

Policy recommendations emerging from this thesis stress the need for comprehensive adaptation strategies that actively involve all stakeholders, particularly women, in decision-making processes. This aligns with Denton (2002), who argued that sustainable development must integrate gender perspectives. Women's participation and awareness are vital, given their central roles in village economies and environmental management. Incorporating *Isan*-specific contexts into policy frameworks and amplifying women's voices can enhance adaptive capacities and improve climate resilience.

Strengthening external organisational support is also vital. Universities and local governments could collaborate to deliver targeted training on sustainable farming and resource management. Additionally, integrating traditional knowledge with modern technologies, such as social media and solar-powered irrigation, which have been successfully applied in BMM5, can further enhance adaptation strategies. This aligns with

the arguments of Traiyut et al. (2024), who advocated for the inclusion of local knowledge and community voices in sustainable development and climate policies. These findings also support the study by Flores-Palacios (2016), who recommended incorporating the perspectives of people affected by climate change in both research and policymaking to ensure their insights and aspirations are central to understanding and addressing climate change challenges. Currently, responses tend to be top-down and often fail to adequately consider the traditional knowledge, worldviews, values, beliefs, and practices of those impacted by climate change.

From a broader perspective, this study contributes to global discussions on climate justice by highlighting women's roles in local adaptation efforts. Empowering women strengthens community resilience while addressing broader inequalities in resource management and decision-making. These findings support international frameworks such as the Paris Agreement, which advocates for gender-sensitive approaches to climate action.

Women's ability to take the initiative in adaptation efforts is vital for addressing each village's specific needs. If the sub-district administrative organisation could provide greater technical or financial support to villages, their potential for sustainable development and climate adaptation would be significantly improved. Meanwhile, the women of BMM5 demonstrate economic agency by balancing agricultural production with market sales. Their hands-on approach allows them to monitor market trends and adapt farming strategies accordingly, exemplifying a dynamic model of adaptive decision-making. This aims to quantify the economic benefits of combining traditional and modern adaptation practices in rural farming communities.

Furthermore, the agricultural practices in BMM5 can serve as a model for neighbouring villages or communities aiming for self-sufficiency, income stability, and food security. Their approach provides valuable lessons for reducing climate risks and overcoming economic downturns, especially in the post-pandemic period. Local authorities could partner with these thriving farming communities to allocate budgets and promote sustainable vegetable cultivation. Supporting the shift to non-chemical farming in areas supplying wholesale markets would not only boost farmers' incomes but also lead to healthier outcomes for both producers and consumers.

This discussion underscores the essential roles of women and emphasises the necessity for policies that acknowledge and support their contributions to climate change

adaptation. Successful local initiatives and practices in village-level development can be maintained even amidst increasing climate uncertainties. Enhancing external organisational support through knowledge-sharing and capacity-building programmes can further boost local efforts. Supporting such initiatives with strategic budget allocations and policy measures would not only strengthen local resilience but also promote broader climate justice goals, aligning with international frameworks such as the Paris Agreement.

Based on the findings and discussions in this thesis, three key recommendations for government action at both national and local levels are proposed: promote gender inclusivity in planning; enhance local resource management; and raise awareness.

Firstly, it is advisable that government agencies, especially local authorities, prioritise that women are inclusive in decision-making across all stages of climate adaptation planning, strategies, and projects. These agencies should enable women to access decision-making platforms and promote female participation in development programmes such as agricultural extension initiatives. Furthermore, capacity-building initiatives focused on women can strengthen resilience at the community level. Additionally, to reduce reliance on top-down policies, local organisations should have the authority to develop local action plans independently, without solely depending on national policies. Local policies should be tailored to address local issues.

Secondly, I recommend enhancing local resource management to promote sustainable use of community forests and land resources, tailoring conservation and agricultural initiatives to local ecological contexts. This is complemented by capacity-building programmes that develop tailored initiatives for women, focusing on sustainable farming practices, entrepreneurial skills, and climate resilience. This strengthens local government collaboration by establishing partnerships among local governments, universities, local wisdom experts, and communities to provide technical and financial support for grassroots adaptation projects.

Finally, raising awareness of climate change at the local level through women's agencies and their networks, such as local schools and VHV groups in the sub-district and province, is imperative. For instance, the collective initiative of BLPTM12 may be expanded and promoted as an educational centre for the younger generation, including primary and high school students within the village and neighbouring areas. Furthermore,

in BMM5, where non-chemical agriculture has been thriving, empowering women's agencies to assume a leading role in practical agricultural knowledge can help maintain employment stability and offer learning opportunities for both youth and other farmers.

7.5 Chapter Summary

Through examples such as agricultural practices, the implementation of solar power in BMM5 and community-led forest initiatives in BLPTM12, the research illustrated that women's agency is pivotal in building resilience. However, systemic barriers, such as local policies and inadequate financial support, limit women's full participation and the effectiveness of adaptation efforts. These persistent challenges highlight the need for a critical rethinking of adaptation frameworks.

In response, this chapter proposed three core policy recommendations: (1) promoting genuine gender inclusivity by embedding women's participation and leadership into climate adaptation planning at all levels, (2) strengthening local resource management through context-specific interventions, and (3) partnerships between government agencies, academic institutions, and communities. This chapter argues for a transformative shift toward community-led, gender-responsive, and knowledge-integrated adaptation policies. The next chapter concludes the thesis by synthesising its key contributions, reflecting on its limitations, and proposing pathways for future research and action.

Chapter 8 Conclusion

This chapter summarises the principal scopes investigated in this research and underscores its contributions to climate change and the gendered perspective. In addition to the findings, this chapter provides recommendations and practical implications directed at improving women's capacity for climate change adaptation. These recommendations may assist policymakers, local authorities, and researchers specialising in climate and environmental sciences. The chapter also discusses limitations that may affect the research's results. Recognising these constraints, the thesis offers avenues for future research to address these matters and strengthen the validity and reliability of subsequent findings.

8.1 Significance of the Study

Women in the two villages in the *Isan* region of Thailand have perceived and adapted to climate change. Their roles in fostering resilience through traditional knowledge and innovative practices are emphasised in community resilience. By showcasing their contributions and leadership, it advocates for greater recognition and support for women's roles in climate action. This research underscores the importance of developing local capacities to address climate change. It demonstrates how empowering women can enhance community resilience and sustainability.

Despite challenges such as unpredictable weather, limited resources, and disruptions caused by unforeseen events like the pandemic and air pollution, women showed agency, resilience, and creativity in adapting to environmental changes. Their strategies, based on both traditional knowledge and locally adapted innovations, included enhancements to herbal gardens, the adoption of climate-resilient farming methods, and modifications in household routines. These efforts not only maintained livelihoods under challenging conditions but also strengthened community networks and knowledge-sharing practices. These insights underscore the crucial need for climate change policies to extend beyond technocratic solutions and adopt gender-sensitive and culturally rooted approaches.

While focused on the *Isan* region, the study's insights and recommendations have broader relevance for other rural communities worldwide that face similar climate challenges. It

offers a model for integrating gender perspectives into climate adaptation.

This thesis aligns with the key United Nations' Sustainable Development Goals (SDGs), specifically SDG 13 on climate action. Two of this goal's targets are to strengthen adaptive capacity and resilience, and improve climate change planning and management for women, youth, and marginalised communities in least developed and small island nations (UN, n.d.). It contributes to elevating efforts to promote other SDGs, such as SDG 5 on gender equality and SDG 11 on sustainable cities and communities, at the local level in Thailand and other regions.

Building on these findings, this study emphasises the necessity of integrating gender-sensitive approaches into climate change policies to promote women's empowerment through decision-making processes. Empowering women not only strengthens their individual and collective action but also fosters sustainable development at the community level. Ultimately, this study emphasises the incorporation of local knowledge, traditions, and gender equity into climate change adaptation strategies and policies.

8.2 Contributions to the Knowledge

This research significantly advances the academic discourse on climate change adaptation by exploring the intersections of gender and local decision-making in Thailand. While existing literature frequently addresses gender or adaptation in isolation, this study offers a nuanced understanding of how gender dynamics influence adaptive strategies within rural communities, especially in the *Isan* region, thereby advancing existing scholarship in multiple significant areas.

Theoretically, this research advances scholarship by integrating gender and climate adaptation discourses, offering a comprehensive framework for understanding how women's agency influences local adaptive strategies. It challenges the conventional tendency to treat gender as an add-on rather than a central factor in adaptation processes. By situating findings within regional and global contexts, this study enriches international discussions on gender-sensitive adaptation practices.

Methodologically, this study is among the first to apply PAR to climate change through the adaptation perspective in the *Isan* region. Instead of relying on external assessments, the research actively engaged local communities in the decision-making process, ensuring

that the findings accurately represented the needs and perspectives of participants. This bottom-up, participatory approach contrasts with more top-down models and emphasises the importance of tailoring climate adaptation policies to specific local contexts. The use of mixed methods, incorporating ten distinct data collection tools, further strengthened the validity and reliability of the findings, aligning with the arguments of Bryman (2016) and Creswell and Clark (2017), who emphasise that integrating qualitative and quantitative data enhances research validity. This mixed-methods approach reduced bias and enabled a richer, more integrated understanding of participants' experiences. Additionally, the *So-Leh* discussion was employed as a method to collect data and create a conducive environment for participants in the *Isan* region. This method suited each context of the people's livelihoods, aligning with the importance of integrating traditional knowledge with modern technical information, ensuring public participation, and addressing the differentiated effects of climate change on various groups within the community (Flores-Palacios, 2016).

The study also demonstrates methodological rigour by ensuring consistency between the collected data, analysis, and results, thereby enhancing the trustworthiness and reproducibility of the research. Conducting in-person participation during the ongoing pandemic enabled a deeper, contextually grounded engagement with participants, thereby further enriching the data quality.

Practically, this research offers insights into community-driven adaptation strategies, emphasising the roles of cultural practices, economic resilience, and women's leadership in enhancing adaptive capacity. The study emphasises the significance of traditional knowledge and intergenerational experiences in shaping effective local responses to climate-related risks. By showcasing diverse perspectives across different geographical areas within the same province, the research underlines the heterogeneity of climate impacts and adaptive responses even within relatively small regions.

Geographically, the study was conducted across different geographical areas to represent the varying effects of climate change risk even within the same province. The recruitment process for participants of varying ages, genders, and locations ensured a broad range of perspectives.

The strengths of this research include its integrated theoretical framework, rigorous methodological design, systematic data collection and analysis, careful participant

recruitment, and clear presentation of findings. This study provides a valuable foundation for future research and policymaking on gendered climate change adaptation, both within Thailand and in broader comparative contexts. While recognising its contributions, the limitations of this research will be discussed in the following section.

8.3 Limitations of the Thesis

This study is subject to several limitations that ought to be duly acknowledged. These limitations encompass three principal dimensions: geographic scope, methodological approach, and theoretical framework.

Firstly, the study's geographic scope and sample were limited to two villages in the *Isan* region, specifically within Khon Kaen Province. While the data provided valuable insights into local adaptation practices, the findings may not fully represent the diversity of adaptation strategies across other regions of Thailand, where ethnic, religious, and cultural contexts vary significantly. Consequently, the generalisability of the findings may be constrained by the scope of the study. To address this limitation, future research should expand to different regions of Thailand to capture a more comprehensive picture of climate change adaptation. Moreover, while this study highlights how local contexts, traditional wisdom, and cultural practices shape adaptation across generations, women's adaptation strategies may differ based on the specific socio-economic conditions of each community.

Secondly, although this thesis employed a mixed-methods approach, it relied heavily on qualitative data collection to explore villagers' experiences. While qualitative methods allow for a deep, context-rich understanding, they limit the extent to which the findings can be generalised to broader populations. Future studies could enhance generalisability by incorporating broader quantitative statistical surveys alongside qualitative insights. Nonetheless, significant efforts were made in this study to ensure transparency and rigour throughout the research process, thereby enhancing credibility and reliability.

Thirdly, although this study did not explicitly employ feminist theories, it adopted an emancipatory approach within its methodological framework that aligns closely with feminist principles, particularly in its focus on empowerment, voice, and structural change. Feminist theory always incorporates an emancipatory framework, aiming to

liberate individuals from gendered constraints and inequalities. This involves challenging existing social structures and norms that perpetuate oppression and advocating for greater equality and freedom for all, including women, men, and those who do not identify within traditional gender binaries. While feminist theories could have offered additional analytical depth in unpacking gendered power relations, this study primarily drew on Critical Theory. This theoretical choice was intentional, as it emphasises empowerment, agency, and structural transformation, aligning with the study's aim to highlight women's decision-making autonomy and collective resilience.

Lastly, the limited availability of research on climate change adaptation experiences in the *Isan* region posed another challenge. To address this gap, the researcher drew on studies from other areas, including Southeast Asia, Asia, and Africa, where climate change impacts and adaptation practices are well-documented. While this approach enriched the study, there remains a possibility that some relevant literature was overlooked, which could have further reinforced the research findings. Nevertheless, this thesis aimed to include as much information as possible about local adaptation practices to enhance the broader understanding of climate change.

Acknowledging these constraints is essential for understanding the study's scope, applicability, and areas for future research. Despite these limitations, this thesis provides valuable contributions to the understanding of gender-related issues in climate change adaptation in rural Thailand and provides a strong foundation for future investigations.

8.4 Recommendations for Future Research

While this thesis has offered valuable insights into gender dynamics in climate adaptation in Thailand, further exploration into related areas is necessary to deepen understanding and bolster gender-responsive adaptation strategies. Future research should build on these findings to examine regional variations and long-term impacts that can inform more inclusive and effective climate policies. The following key areas are recommended for further investigation:

Firstly, future research should expand the examination of gender dynamics in climate adaptation across diverse regions of Thailand. Comparative studies would help identify patterns, regional variations, and contextual factors that shape gender roles and responses

in climate adaptation. A broader analysis could reveal nuanced insights into the socio-cultural and economic determinants that either facilitate or hinder effective adaptation practices. Combining qualitative and quantitative methods in a comparative regional framework would offer a deeper understanding of how gender roles intersect with local environmental and cultural landscapes. Such research could facilitate the development of tailored, gender-inclusive adaptation strategies that address the unique needs of different communities.

Secondly, investigating the sustainability and enduring outcomes of women-led adaptation initiatives in rural communities is crucial. Although this thesis conducted fieldwork twice in 2023 and 2024, understanding the long-term consequences is a critical element that I would like to follow up with the participants, particularly after the thesis is submitted. This investigation aims to assess the sustainability of the initiatives undertaken by BLPTM12.

Thirdly, long-term research on women-led initiatives could provide evidence for sustainable policy development by identifying which strategies remain effective over time. Future research could expand this study by examining gendered adaptation strategies in other parts of Thailand or climate-vulnerable regions of Southeast Asia, or by employing longitudinal methods to assess the long-term impact of community-led initiatives. By understanding the strengths and challenges associated with women-led efforts, policymakers and practitioners can better support and scale up successful adaptation models. Furthermore, exploring alternative research methods, such as participatory mapping or ethnographic fieldwork, could offer different insights into how local knowledge influences adaptation practices.

Lastly, to enhance participation, researchers should apply methods tailored to the specific cultural and social context of each area, such as the *So-Leh* discussion, which fosters a friendly and culturally appropriate environment. This is because different regions across Thailand have distinct characteristics, including dialects, cultures, and norms. Future studies could explore context-specific methods that align with local livelihoods and ways of life. Exploring alternative research methods could enrich future studies. Given the diverse dialects, cultures, and social norms across different regions of Thailand, adapting participatory methods to suit local contexts would enhance engagement and data richness.

8.5 Chapter Summary

This thesis focuses on leveraging women's contributions to local climate resilience in the *Isan* region of Thailand. It emphasised the role of women in fostering resilience through traditional knowledge and innovative practices. The chapter provided recommendations and practice implications for enhancing adaptive practices adopted by women in response to climate change.

The research advances academic discussions on climate change adaptation by examining how gender influences local decision-making in Thailand. It is among the first to use PAR to study climate adaptation in *Isan*. The thesis integrates ten methods, enhancing research validity and providing a comprehensive understanding of gendered adaptation practices. It emphasises the importance of community-driven initiatives and local agency in climate resilience. This study has some limitations, including geographic scope and a heavy reliance on qualitative methods, which may limit its generalisability.

To extend the examination, further research could explore regional variations in gendered adaptation strategies, assess the long-term impacts of women-led initiatives, and apply comparative regional analyses to strengthen policy recommendations. Additionally, employing alternative research methods could provide richer insights into local knowledge and adaptation practices. A deeper understanding of these dimensions will help refine adaptation strategies that are both context-specific and inclusive.

8.6 Final Reflection and Closing Statement

The questions and doubts I had about women and climate change during my time in Thailand have been explored and revealed through this thesis. I am proud to call this work one of my masterpieces, and I hope it inspires others or sparks new ideas.

In Thailand, climate change is frequently discussed in purely environmental terms, often overlooking its broader social implications. However, climate change is a cross-cutting issue that intersects with multiple dimensions of society. I chose to study women's adaptation experiences because women's realities in Thailand are often misjudged or overlooked, particularly in regions like *Isan*. Although some may perceive the *Isan* region as less affected by climate-related issues than other parts of the world, this perception

underscores the importance of focusing research there.

While women in *Isan* often have strong voices within familiar domains such as household responsibilities and farming practices, their engagement with unfamiliar topics or broader decision-making processes is more complex. They need space to listen, reflect, express their thoughts, and make informed choices.

The PAR approach enabled me to actively listen to participants, respect their rights, and empower them to make decisions based on their needs and capacities. Throughout this research journey, unexpected stories and insights emerged, enriching this thesis in ways I had not anticipated. This participatory approach is not only applicable to climate change issues but can also inform broader development initiatives, including Thailand's four-year national plan. Meaningful engagement requires more than listening; it demands a genuine shift of power to local communities, recognising them as stakeholders rather than mere participants.

This thesis makes a substantive contribution to the growing body of research on gender and climate adaptation in Thailand. It calls for a shift toward more participatory, inclusive, and intersectional approaches in climate adaptation efforts. As climate change continues to challenge vulnerable communities, recognising and supporting women's roles in adaptation will be essential for achieving sustainable and resilient futures.

While this research has its limitations, it opens the door for future studies to explore regional variations, assess long-term adaptation outcomes, and develop innovative, context-sensitive methodologies that further strengthen gender-responsive adaptation strategies. Ultimately, empowering marginalised voices in climate adaptation is not just a research imperative; it is a necessary step toward more equitable, sustainable, and effective climate resilience efforts in Thailand and beyond.

Recognising and supporting women's local knowledge and leadership is not only essential for building resilient communities but also for reimagining a more equitable and sustainable response to climate change and other topics. As climate challenges intensify, the voices and experiences of local people and especially women, must move from the margins to the centre of plans and policies. I firmly believe that a transformation begins at the grassroots, driven by those who turn adversity into innovation, and tradition into pathways for sustainability.

The quiet resilience of rural women reveals a profound lesson: Sustainable adaptation is not merely about surviving change but about reshaping futures with wisdom, agency, and hope.

This thesis reflects both a personal and scholarly exploration of the interwoven themes of gender, climate change, and local resilience in the Thai context. The insights shared here will contribute to academic discussions, national policies, and practical efforts toward more inclusive, equitable, and sustainable climate adaptation strategies. As climate challenges continue to evolve, empowering local voices, particularly those of women, minorities, and the vulnerable, remains essential for shaping a resilient future.

As a native *Isan* woman and a plan and policy analyst, this research is more than an academic contribution; it is a call to action. I firmly believe that all voices deserve to be heard. This research is a step toward building a future for Thailand to be inclusive, resilient, and equitable, where every story matters and every village, a small dot in the country, has the power to shape its own destiny.

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Appendices

Appendix A: Ethics Approval



Auckland University of Technology Ethics Committee (AUTEC)

10 February 2023

Marilyn Waring
Faculty of Culture and Society

Dear Marilyn

Re Ethics Application: **22/378 Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand**

Thank you responding to AUTEC's conditions.

Your ethics application has been approved for three years until 10 February 2026.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the [Auckland University of Technology Code of Conduct for Research](#) and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online <http://www.aut.ac.nz/research/researchethics>

For any enquiries, please contact ethics@aut.ac.nz
(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: Wilalak Malwong

Appendix B: Participant Information Sheets



Participant Information Sheet

For In-depth Interviews

Date Information Sheet Produced:

20 February 2023

Project Title

Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

An Invitation

My name is Wilailak Maiwong, my nickname is Plaatie, and I am a PhD student in the School of Public Health and Interdisciplinary Studies, Auckland University of Technology, New Zealand. I kindly invite you to be part of my study: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand. I will be the main researcher of this study. My supervisors are Professor Dame Marilyn Waring at AUT and Professor John F Smith at Khon Kaen University. Your participation is voluntary. You can withdraw or leave this study at any time prior to completion of data collection for any reason and without any explanation.

I am interested in this research because I am also a civil servant I have been working for Office of the National Economic and Social Development Council, Thailand as a senior plan and policy analyst but now I am on a study leave in New Zealand. My job responsibilities are mainly about climate change issues which is a global concern for all sectors especially in Khon Kaen province and your place which suffered from its impacts, severe floods and droughts, recently. This is the reason that I would like to learn with you.

This study may not only benefit you and your village but also other people or villages in Isan region. This study is a requirement for my doctoral degree which is sponsored by a Royal Thai Government Scholarship.

What is the purpose of this research?

This main purpose of my research is to better understand and increase Isan women's involvement in climate change adaptation plans and practices.

Thailand intends to increase its ambitious on climate change by launching plans, policies and Climate Change Act. Although these documents show how to adjust to climate change in various ways, none of them considers women's roles or gender issues. I consider climate change is not a gender-neutral issue, as women suffer more from climate change impacts than men and play key roles for their households and communities in adapting to climate change. Therefore, I want to explore "How women can enhance their capacities to respond to climate change adaptation in the Isan?"

The findings of this research may also be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You are being invited to participate in **in-depth interviews** because I want to understand your experiences, practice, knowledge and perspectives about climate change impacts and your adaptation to its impacts.

For my study I want to talk with women who; 1) have been living and working in their own farms in either Ban Lao Pho Thong or Ban Mor villages; 2) are in the three age groups; 18-40, 41-60 and more than 60 years old who use both Thai language and Isan, and 3) are willing to participate and are available between February – May 2023.

How do I agree to participate in this research?

In the introductory meeting I will ask for volunteers to participate in in-depth interviews. If you wish to volunteer, please let me know at the meeting so I can get your contact details. If you need more time to decide you can contact me in the next week, by phone, in-person, email etc. I will then answer any further questions you have about this research. I will give you a consent form to read and sign.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as

belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will have face to face interviews with you, to understand your experiences, perceptions, and perspectives on the issue of women's involvement in climate change adaptation. The questions will cover 3 main parts; (1) general information about the villages and climate conditions (2) Women's contribution in the village and (3) COVID-19 impacts.

During interviews, you can refuse to answer any questions you do not want to answer. You can withdraw at any time you want before and after data collection and without any explanation. You can use your anonymous nickname for this interview.

I will transcribe the conversation I have with you and then I will send the transcripts back to you for checking or making any changes. The final summary report of the study will be sent to you electronically, or in hard (paper) copy, if you prefer. The in-depth interviews will take place between February – May 2023 and it will take around 1.0 - 1.5 hours each.

What are the discomforts and risks?

I do not anticipate any physical or mental discomfort or risk for you in this research.

How will these discomforts and risks be alleviated?

In the unlikely event that you experience distress, or, feel uncomfortable about any question, the interview will be stopped; you can decline to answer any questions which you might find distressing or leave the interview without consequences. You can also ask me to stop the audio-recording, or note-taking, and leave the interview any time you want.

What are the benefits?

A major potential benefit at village level from this research is increased understanding of women's involvement in community decision-making and action on climate change impacts. This could also contribute to local community/district and higher-level development plans to other villages and other areas in Isan and potentially at national level. As researcher I will benefit by gaining a doctorate's degree.

How will my privacy be protected?

You will be asked to decide if you want your identity withheld or would like to be identified. If you want to keep your input confidential you can choose a pseudonym/nickname to be used to protect your identity, in any presentation/publication of results. Your identity will be known only by the primary researcher and will be kept strictly confidential.

After interview a transcription of our interview will be sent to you via email or LINE for correction. If you do not want to receive this transcription, you can choose not to do so. Your interview data will only be accessed by me and my supervisors.

What are the costs of participating in this research?

There are no money costs for you to participate. It will only cost you 1.0 -1.5 hours for the interview. I will provide a "gin khaew" lunch or snack box and a small gift as thanks for your participation.

What opportunity do I have to consider this invitation?

You can accept my invitation for you to participate at the Introductory meeting, or, you need more time to decide you can contact me up to one week after the meeting.

Will I receive feedback on the results of this research?

If you wish to be informed of the study outcomes, you will be provided with a one - or two -page (electronic or paper) copy of the research findings via LINE or email or postal address once my thesis is publicly available. You will also be offered the URL link to the thesis so you can access both summary and/or the full thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz, and +64 9 921 9999 ext 9661.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Wilailak Maiwong (PhD student)

Faculty of Health and Environmental Sciences, School of Public Health and Interdisciplinary Studies

Auckland University of Technology (AUT) North Campus, 90 Akoranga Drive, Northcote, Auckland, New Zealand

Email: plaa_wilaima@hotmail.com; cng5737@autuni.ac.nz

Phone number: +66 85 000 7569 (Thailand) or +64 21 059 1937 (New Zealand)

Project Supervisor Contact Details:

Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz

Professor John F Smith, Email: johnsm@kku.ac.th

Approved by the Auckland University of Technology Ethics Committee on 10 February 2023, AUTEK Reference number 22/378

เอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัย

สำหรับการสัมภาษณ์เชิงลึก

วันที่จัดทำเอกสารฉบับนี้:

20 กุมภาพันธ์ 2566

ชื่อโครงการวิจัย

การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
ในภาคตะวันออกเฉียงเหนือของประเทศไทย

คำกล่าวเชิญ

สวัสดีค่ะขอแนะนำตัวนะคะ ชื่อจริงนางสาววิไลลักษณ์ ไหมวงศ์ ชื่อเล่นชื่อปลาหรือปาร์ตั้นะคะ เป็นนักศึกษาปริญญาเอกตอนนี้กำลังเรียนอยู่ในภาควิชาสาธารณสุขและสหวิทยาการศึกษา มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology) ประเทศนิวซีแลนด์ ปาร์ตืออยากเชิญ น้อง/พี่/ป้า/น้า เข้าร่วมการศึกษาเรื่องการศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทยในครั้งนี้ค่ะ

ในการวิจัยครั้งนี้ปาร์ตี้จะเป็นผู้วิจัยหลัก โดยมีอาจารย์ที่ปรึกษาสองท่านคือ ศาสตราจารย์ เดม แมริสัน แวร์ริง และศาสตราจารย์จอห์น เอฟ สมิธ จากมหาวิทยาลัยขอนแก่นค่ะ การเข้าร่วมของการนี้เป็นแบบสมัครใจ น้อง/พี่/ป้า/น้า สามารถถอนตัวหรือออกจากกรวิจัยได้ตลอดเวลาตลอดช่วงที่เก็บข้อมูลนี้ค่ะ โดยไม่จำเป็นต้องแจ้งเหตุผล การวิจัยนี้ไม่เพียงแต่ น้อง/พี่/ป้า/น้า และชุมชนได้รับประโยชน์โดยตรง แต่รวมถึงบุคคลและชุมชนอื่นๆ ในภาคอีสานจะได้รับประโยชน์จากการวิจัยครั้งนี้ด้วยค่ะ

สาเหตุที่สนใจอยากทำวิจัยเรื่องนี้เพราะว่าปาร์ตี้รับราชการเป็นนักวิเคราะห์นโยบายและแผน ข้าราชการพิเศษสังกัดสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ สำนักงานรัฐมนตรี แต่ตอนนี้ลาศึกษาต่อที่ประเทศนิวซีแลนด์อยู่ค่ะ ซึ่งหน้าที่หลักเกี่ยวกับประเด็นด้านการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งเป็นประเด็นที่ทั่วโลกให้ความสำคัญกับทุกภาคส่วน โดยเฉพาะในจังหวัดขอนแก่นและในพื้นที่อาศัยของ น้อง/พี่/ป้า/น้า ซึ่งได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างมากเมื่อเร็ว ๆ นี้ ทั้งจากน้ำท่วมและภัยแล้ง เลยทำให้ปาร์ตี้สนใจที่จะศึกษาและเรียนรู้ไปพร้อมกับ น้อง/พี่/ป้า/น้า ทุกคนค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตั้นะคะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

วัตถุประสงค์ของการวิจัยในครั้งนี้

วัตถุประสงค์หลักของการวิจัยนี้คือการทำความเข้าใจที่มากขึ้นและการสร้างการมีส่วนร่วมของผู้หญิงในแผนงานและการดำเนินการด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ จากที่ประเทศไทยได้มุ่งมั่นในการดำเนินงานด้านการเปลี่ยนแปลงสภาพภูมิอากาศโดยการจัดทำแผน นโยบาย และ พระราชบัญญัติว่าด้วยการเปลี่ยนแปลงสภาพภูมิอากาศ ถึงแม้ว่าแผนและนโยบายเหล่านั้นจะแสดงในเรื่องการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศไว้หลายแนวทาง แต่ในด้านของบทบาทของผู้หญิงยังไม่มีกรกล่าวถึงมากเท่าไร ปาร์ตี้คิดว่าปัญหาการเปลี่ยนแปลงสภาพภูมิอากาศมีความไม่เท่าเทียมระหว่างหญิงชาย เพราะผู้หญิงได้รับผลกระทบมากกว่าผู้ชาย และผู้หญิงเรามีบทบาทสำคัญในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศทั้งในครัวเรือนและชุมชน เพราะอย่างนี้ปาร์ตี้เลยต้องการที่จะค้นหาว่าผู้หญิงเราสามารถที่จะเพิ่มขีดความสามารถในการปรับตัวเพื่อตอบสนองต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคอีสานได้อย่างไรบ้าง

ในระดับหมู่บ้านในภาคอีสาน หรือภาคตะวันออกเฉียงเหนือของประเทศไทย การวิจัยนี้ยังต้องการค้นหาว่าผู้หญิงมีความสนใจในการมีส่วนร่วมของชุมชนมากน้อยเพียงใด โดยทำการเปรียบเทียบระหว่างสองชุมชนที่เป็นกรณีศึกษา การวิจัยในครั้งนี้ปาร์ตี้ต้องการที่จะทำการวิจัยครั้งนี้เพื่อเรียนรู้ไปพร้อมกันทุกท่าน ดังนั้นบทบาทของปาร์ตี้คือผู้เข้าร่วมวิจัยคนหนึ่งเช่นกันค่ะ โดยผลการศึกษาในการทำวิจัยครั้งนี้จะนำไปเผยแพร่ในการตีพิมพ์ทางวิชาการและการนำเสนองานทางวิชาการด้วยค่ะ

เหตุใดจึงเป็นคนที่เหมาะสมในการวิจัยครั้งนี้และจึงถูกเชิญเข้าร่วมงานวิจัยในครั้งนี้

น้อง/พี่/ป้า/น้า ได้ถูกเชิญเข้าร่วมการสัมภาษณ์เชิงลึก เพราะว่าปาร์ตี้อยากจะรู้เกี่ยวกับประสบการณ์ การทำงาน ความรู้และมุมมองเกี่ยวกับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศ และการปรับตัวของ น้อง/พี่/ป้า/น้า ต่อผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศ ค่ะ

ในการศึกษานี้ ปาร์ตี้จะขอพูดคุยกับ น้อง/พี่/ป้า/น้า ที่ 1) อยู่อาศัยและทำงานในฟาร์มของตัวเองในบ้านหม้อ ตำบลคูคำ และบ้านเหล่าโพหนอง ตำบลบ้านหว้า นะคะ 2) อยู่ใน 3 ช่วงอายุระหว่าง 18-40 41-60 และมากกว่า 60 ปี ที่สื่อสารได้ทั้งไทยและอีสานค่ะ และ 3) สามารถเข้าร่วมได้ในช่วงเดือนเมษายนถึงพฤษภาคม 2566 ค่ะ

จะตอบรับเข้าร่วมการวิจัยครั้งนี้ได้อย่างไร

ในการประชุมแนะนำโครงการ ปาร์ตี้จะขอความร่วมมือเพื่อเป็นอาสาสมัครที่สมัครใจเข้าร่วมการสัมภาษณ์เชิงลึก ถ้า น้อง/พี่/ป้า/น้า ต้องการที่จะเข้าร่วม สามารถบอกปาร์ตี้ในการประชุมนะคะ แล้วปาร์ตี้จะเข้าไปคุยขอรายละเอียดการติดต่อของน้อง/พี่/ป้า/น้า นะคะ แต่ถ้าเกิดว่า น้อง/พี่/ป้า/น้า ยังไม่แน่ใจต้องการเวลาสักนิดเพื่อจะตัดสินใจ ก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ จะทางโทรศัพท์ พูดคุยส่วนตัว อีเมลล์ หรือช่องทางอื่น ๆ ก็ได้ค่ะ ปาร์ตี้ยินดีที่จะตอบคำถามที่เกี่ยวกับการวิจัยนี้มาก ๆ ค่ะ จากนั้นถ้า น้อง/พี่/ป้า/น้า ตัดสินใจเข้าร่วมปาร์ตี้จะให้ น้อง/พี่/ป้า/น้า อ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยนะคะ

การเข้าร่วมของ น้อง/พี่/ป้า/น้า ในการวิจัยครั้งนี้เป็นแบบสมัครใจ (ไม่บังคับ) และไม่ว่า น้อง/พี่/ป้า/น้า จะเข้าร่วมหรือไม่เข้าร่วมก็จะมีผลได้หรือผลเสียใด ๆ กับ น้อง/พี่/ป้า/น้า นะคะ สามารถที่จะถอนตัวจากการวิจัยได้ตลอดเวลาในระหว่างการทำวิจัยนี้ค่ะ ถ้า น้อง/พี่/ป้า/น้า เลือกจะถอนตัวจากการวิจัย น้อง/พี่/ป้า/น้า ก็จะ

ได้รับการเสนอจากปาร์ตี้ว่าข้อมูลที่ให้มาก่อนจะสามารถใช้ได้หรือไม่ หรือให้นำออกไปทั้งหมดคะ แต่ถ้าเกิดว่าน้อง/พี่/ป้า/น้า ถอนตัวภายหลัง จากที่ปาร์ตี้ได้ผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้นะคะ

จะเกิดอะไรขึ้นในการศึกษานี้

จะเป็นการสัมภาษณ์ต่อตัวตนกับ น้อง/พี่/ป้า/น้า แต่ละคนนะคะ เพื่อที่จะได้เข้าใจเกี่ยวกับประสบการณ์ ความคิดและมุมมองต่อการมีส่วนร่วมของผู้หญิงในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ โดยคำถามมี 3 ส่วนคะ ประกอบด้วย (1) ข้อมูลทั่วไปเกี่ยวกับหมู่บ้านและสภาพภูมิอากาศ (2) ข้อมูลทั่วไปเกี่ยวกับหมู่บ้านและสภาพภูมิอากาศ และ (3) ผลกระทบของโควิด -19

ในระหว่างการสัมภาษณ์ น้อง/พี่/ป้า/น้า สามารถที่จะปฏิเสธไม่ตอบคำถามใด ๆ ที่ไม่อยากตอบได้คะ และยัง สามารถที่จะถอนตัวจากการสัมภาษณ์ได้ตลอดเวลาตามที่ต้องการเลยคะ ทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ คะ และยังสามารถใช้ชื่อเล่นสมมุติในการสัมภาษณ์ได้ด้วยคะ ถ้าไม่อยากเปิดเผยตัวตนให้คนอื่นรู้คะ

ปาร์ตี้จะเป็นคนถอดเทปบทสัมภาษณ์ของแต่ละคน และปาร์ตี้จะส่งบทสัมภาษณ์ น้อง/พี่/ป้า/น้า แต่ละคนเพื่อให้ตรวจสอบความถูกต้องหรือตรวจสอบว่าต้องการเปลี่ยนแปลงอะไรหรือไม่จากบทสัมภาษณ์ที่ถอดเทปมาหรือเปล่า ส่วนสรุปผลการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ป้า/น้า เป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือป็นท์ก็ได้คะ) ถ้า น้อง/พี่/ป้า/น้า อยากได้คะ การสัมภาษณ์นี้จะมีช่วงเดือนเมษายนถึงพฤษภาคม 2566 นั้นคะ คาดว่าจะใช้เวลาประมาณ 1.0 – 1.5 ชั่วโมงสำหรับต่อคนคะ

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะคะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการอย่างไร

ถ้าเกิดว่ามีเหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ น้อง/พี่/ป้า/น้า เกิดความไม่สบายใจที่จะตอบคำถามใด ๆ การสัมภาษณ์จะหยุดทันทีคะ น้อง/พี่/ป้า/น้า สามารถปฏิเสธที่จะตอบคำถามได้เลย หรือออกจากสัมภาษณ์ได้ทุกเมื่อ โดยไม่มีผลกระทบใด ๆ คะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึก และออกจากสัมภาษณ์ได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษานี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่ชุมชนอื่นๆ และท้องถิ่นอื่นๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็ได้จะประโยชน์จากการวิจัยนี้คือได้รับปริญญาเอก

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

น้อง/พี่/ป้า/น้า สามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติ เพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษานี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง น้อง/พี่/ป้า/น้า สามารถเลือก

หรือคิดชื่อสมมุติเองได้เลยค่ะว่าอยากให้ชื่ออะไร ซึ่งสมมุติที่คิดมานั้นจะใช้ในผลการศึกษาและการตีพิมพ์ด้วยค่ะ โดยชื่อสมมุตินั้นจะมีเพียงปาร์ตี้ที่รู้ค่ะและจะเก็บความลับไว้ค่ะ

หลังจากที่ปาร์ตี้ถอดเทปที่สัมภาษณ์ น้อง/พี่/ป้า/น้า แล้ว ปาร์ตี้จะส่งบทสัมภาษณ์ให้ทางอีเมลล์ หรือทางไลน์ (LINE) เพื่อให้ตรวจสอบความถูกต้องนะคะ แต่ถ้า น้อง/พี่/ป้า/น้า ไม่ต้องการที่จะเช็คเทป กับออกปาร์ตี้ได้ค่ะ ซึ่งเทปการสัมภาษณ์จะมีเพียงปาร์ตี้และอาจารย์ที่ปรึกษาเท่านั้นที่จะดูได้ค่ะ

มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้ไหม

ไม่มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้เลยนะคะ เพียงแค่ น้อง/พี่/ป้า/น้า กรุณาสละเวลา 1.0 - 1.5 ชั่วโมง ในการเข้าร่วมสัมภาษณ์เชิงลึกนี้เท่านั้นค่ะ แต่เพื่อเป็นการแสดงความขอบคุณ น้อง/พี่/ป้า/น้า ที่สละเวลาเข้าร่วมการวิจัย ปาร์ตี้ได้เตรียมอาหารกลางวัน อาหารว่าง และของตอบแทนเล็กๆ น้อยๆ ให้ทุกท่านด้วยนะคะ

สามารถตอบรับการเชิญในโอกาสไหนได้บ้าง

น้อง/พี่/ป้า/น้า สามารถตอบรับการเข้าร่วมการวิจัยครั้งนี้ในการประชุมแนะนำโครงการที่จัดขึ้นนี้ได้เลยนะคะ หรือว่าถ้า น้อง/พี่/ป้า/น้า ต้องการเวลาในการคิดตัดสินใจก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ

จะได้รับอะไรตอบกลับจากการวิจัยครั้งนี้ไหม

ถ้า น้อง/พี่/ป้า/น้า อยากได้ผลการศึกษาของการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ป้า/น้า เป็นเอกสารสรุปผล 1 - 2 หน้าค่ะ (เป็นไฟล์หรือปริ้นท์ก็ได้ค่ะ) สำเนาของผลการศึกษาของวิทยานิพนธ์สามารถส่งให้ น้อง/พี่/ป้า/น้า เมื่อได้รับการตีพิมพ์แล้วนะคะ สามารถส่งผ่านทางไลน์ (LINE) หรืออีเมลล์ หรือ ไปรษณีย์ ก็ได้นะคะ น้อง/พี่/ป้า/น้า จะได้รับลิขสิทธิ์สำหรับผลการศึกษาแบบสรุปหรือวิทยานิพนธ์แบบทั้งเล่มให้ได้ด้วยนะคะ

ถ้ามีข้อข้องใจเกี่ยวกับการศึกษาต้องทำยังไง

ถ้ามีข้อข้องใจเกี่ยวกับรูปแบบของการโครงการวิจัยนี้ สามารถที่จะแจ้งในโอกาสแรกได้ที่ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ เดม แมริลีน แวริงจ์ อีเมลล์: marilyn.waring@aut.ac.nz โทรศัพท์หมายเลข +64 9 921 9999 ต่อ 9661

ข้อกังวลเกี่ยวกับการจัดการวิจัย สามารถแจ้งได้ที่เลขานุการของคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ อีเมลล์: ethics@aut.ac.nz โทรศัพท์ +64 921 9999 ต่อ 6038

จะติดต่อใครเพื่อขอข้อมูลเพิ่มเติมเกี่ยวกับการวิจัยครั้งนี้

ขอให้เก็บเอกสารชี้แจงแก่ผู้เข้าร่วมวิจัยฉบับนี้ และเอกสารแสดงความยินยอม ไว้เป็นหลักฐานนะคะ น้อง/พี่/ป้า/น้า สามารถติดต่อทีมวิจัยได้ตามด้านล่างนี้ค่ะ

รายละเอียดการติดต่อนักวิจัย:

นางสาววิไลลักษณ์ ไหมวงษ์ (นักศึกษานิพนธ์เอก)

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ได้รับอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งไคแลนด์

เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378



Participant Information Sheet

For Life Story Interviews

Date Information Sheet Produced:

20 February 2023

Project Title

Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

An Invitation

My name is Wilailak Malwong, my nickname is Plaatie, and I am a PhD student in the School of Public Health and Interdisciplinary Studies, Auckland University of Technology, New Zealand. I kindly invite you to be part of my study: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand. I will be the main researcher of this study. My supervisors are Professor Dame Marilyn Waring at AUT and Professor John F Smith at Khon Kaen University. Your participation is voluntary. You can withdraw or leave this study at any time prior to completion of data collection for any reason and without any explanation.

I am interested in this research because I am also a civil servant I have been working for Office of the National Economic and Social Development Council, Thailand as a senior plan and policy analyst but now I am on a study leave in New Zealand. My job responsibilities are mainly about climate change issues which is a global concern for all sectors especially in Khon Kaen province and your place which suffered from its impacts, severe floods and droughts, recently. This is the reason that I would like to learn with you.

This study may not only benefit you and your village but also other people or villages in Isan region. This study is a requirement for my doctoral degree which is sponsored by a Royal Thai Government Scholarship.

What is the purpose of this research?

This main purpose of my research is to better understand and increase Isan women's involvement in climate change adaptation plans and practices.

Thailand intends to increase its ambitious on climate change by launching plans, policies and Climate Change Act. Although these documents show how to adjust to climate change in various ways, none of them considers women's roles or gender issues. I consider climate change is not a gender-neutral issue, as women suffer more from climate change impacts than men and play key roles for their households and communities in adapting to climate change. Therefore, I want to explore "How women can enhance their capacities to respond to climate change adaptation in the Isan?"

The findings of this research may also be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You were identified by the majority of villagers in the introductory meeting, so, you are being invited to participate **life story interviews** because you are a respectful person who has been living in this village (Ban Lao Pho Thong in Ban Wa sub-district or Ban Mor in Ku Kum sub-district) for a long time. You could provide fruitful information about the village which might not be written elsewhere.

Your experiences, practice, knowledge and perspective you are going to share here will not only be valuable to your village members who might not know their village story back then, but it also benefits on village developments. I am going to focus especially on what changes you have noticed in climate, (animals, fish, insects, crops, trees, the river, the forest) because your information will help the local planners to understand more deeply the story of the village to provide suitable programmes for local contexts.

How do I agree to participate in this research?

If you wish to take part in life story interviews please let me know in person immediately so I can get your contact details. If you need more time to decide you can contact me in the next week, by phone, in-person, email etc. I will then answer any further questions you have about this research. I will give you a consent form to read and sign.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will have face to face interviews with you, to share your experiences, knowledge and village story of your life. The questions will consist of 2 main parts: (1) general information about the villages and (2) Natural resources, environment and climate conditions.

During interviews, you can refuse to answer any questions you do not want to answer. You can withdraw at any time you want before and after data collection and without any explanation. You can use your anonymous nickname for this interview.

I will transcribe the conversation I have with you and then I will send the transcripts back to you for checking or making any changes. The final summary report of the study will be sent to you electronically, or in hard (paper) copy, if you prefer. The in-depth interviews will take place between February – May 2023 and it will take around 1.0- 1.5 hours each.

What are the discomforts and risks?

I do not anticipate any physical or mental discomfort or risk for you in this research.

How will these discomforts and risks be alleviated?

In the unlikely event that you experience distress, or, feel uncomfortable about any question, the interview will be stopped; you can decline to answer any questions which you might find distressing or leave the interview without consequences. You can also ask me to stop the audio-recording, or note-taking, and leave the interview any time you want.

What are the benefits?

A major potential benefit at village level from this research is increased understanding of women's involvement in community decision-making and action on climate change impacts. This could also contribute to local community/district and higher-level development plans to other villages and other areas in Isan and potentially at national level. As researcher I will benefit by gaining a doctorate's degree.

How will my privacy be protected?

You will be asked to decide if you want your identity withheld or would like to be identified. If you want to keep your input confidential you can choose a pseudonym/nickname to be used to protect your identity, in any presentation/publication of results. Your identity will be known only by the primary researcher and will be kept strictly confidential.

After interview a transcription of our interview will be sent to you via email or LINE for correction. If you do not want to receive this transcription, you can choose not to do so. Your interview data will only be accessed by me and my supervisors.

What are the costs of participating in this research?

There are no money costs for you to participate. It will only cost you 1.0 -1.5 hours for the interview. I will provide a "gin khaew" lunch or snack box and a small gift as thanks for your participation.

What opportunity do I have to consider this invitation?

You can accept my invitation for you to participate by telling me directly, or you need more time to decide you can contact me up to one week.

Will I receive feedback on the results of this research?

If you wish to be informed of the study outcomes, you will be provided with a one - or two -page (electronic or paper) copy of the research findings via LINE or email or postal address once my thesis is publicly available. You will also be offered the URL link to the thesis so you can access both summary and/or the full thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz, and +64 9 921 9999 ext 9661.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTC, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Wilailak Maiwong (PhD student)
Faculty of Health and Environmental Sciences, School of Public Health and Interdisciplinary Studies
Auckland University of Technology (AUT) North Campus, 90 Akoranga Drive, Northcote, Auckland, New Zealand
Email: plaa_wilaima@hotmail.com; cng5737@autuni.ac.nz
Phone number: +66 85 000 7569 (Thailand) or +64 21 059 1937 (New Zealand)

Project Supervisor Contact Details:

Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz
Professor John F Smith, Email: johnsm@kku.ac.th

Approved by the Auckland University of Technology Ethics Committee on 10 February 2023, AUTEK Reference number 22/378

เอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัย

สำหรับการสัมภาษณ์เชิงชีวประวัติ

วันที่จัดทำเอกสารฉบับนี้:

20 กุมภาพันธ์ 2566

ชื่อโครงการวิจัย

การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
ในภาคตะวันออกเฉียงเหนือของประเทศไทย

คำกล่าวเชิญ

สวัสดีค่ะขอแนะนำตัวนะคะ ชื่อจริงนางสาววิไลลักษณ์ ไหมม่วง ชื่อเล่นชื่อปลาหรือที่ปาร์ตี้ค่ะ เป็นนักศึกษาปริญญาเอกตอนนี้กำลังเรียนอยู่ในภาควิชาสาธารณสุขและสหวิทยาการศึกษามหาวิทยาลัยเทคโนโลยีแห่งไอล์แลนด์ (Auckland University of Technology) ประเทศนิวซีแลนด์ ปาร์ตี้อยากเชิญ คุณตา/คุณยาย เข้าร่วมการศึกษาเรื่องการศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทยในครั้งนี้ค่ะ

ในการวิจัยครั้งนี้ปาร์ตี้จะเป็นผู้วิจัยหลัก โดยมีอาจารย์ที่ปรึกษาสองท่านคือ ศาสตราจารย์ เดม แมริสัน แวร์ริง และศาสตราจารย์จอห์น เอฟ. สมิธ จากมหาวิทยาลัยขอนแก่นค่ะ การเข้าร่วมของการนี้เป็นแบบสมัครใจ คุณตา/คุณยาย สามารถถอนตัวหรือออกจากกรวิจัยได้ตลอดเวลาตลอดช่วงที่เก็บข้อมูลนี้ค่ะ โดยไม่จำเป็นต้องแจ้งเหตุผล การวิจัยนี้ไม่เพียงแต่ คุณตา/คุณยาย และชุมชนได้รับประโยชน์โดยตรง แต่รวมถึงบุคคลและชุมชนอื่นๆ ในภาคอีสานจะได้รับประโยชน์จากการวิจัยครั้งนี้ด้วยค่ะ

สาเหตุที่สนใจอยากทำวิจัยเรื่องนี้เพราะว่าปาร์ตี้รับราชการเป็นนักวิเคราะห์นโยบายและแผน ข้าราชการพิเศษสังกัดสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ สำนักงานรัฐมนตรี แต่ตอนนี้ลาศึกษาต่อที่ประเทศนิวซีแลนด์อยู่ค่ะ ซึ่งหน้าที่หลักเกี่ยวกับประเด็นด้านการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งเป็นประเด็นที่ทั่วโลกให้ความสำคัญกับทุกภาคส่วน โดยเฉพาะในจังหวัดขอนแก่นและในพื้นที่อาศัยของคุณตา/คุณยาย ซึ่งได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างมากเมื่อเร็ว ๆ นี้ ทั้งจากน้ำท่วมและภัยแล้ง เลยทำให้ปาร์ตี้สนใจที่จะศึกษาและเรียนรู้ไปพร้อมกับ คุณตา/คุณยาย ทุกคนค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตี้ค่ะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

วัตถุประสงค์ของการวิจัยในครั้งนี้

วัตถุประสงค์หลักของการวิจัยนี้คือการทำความเข้าใจที่มากขึ้นและการสร้างการมีส่วนร่วมของผู้หญิงในแผนงานและการดำเนินการด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ จากที่ประเทศไทยได้มุ่งมั่นในการดำเนินงาน

ด้านการเปลี่ยนแปลงสภาพภูมิอากาศโดยการจัดทำแผน นโยบาย และ พระราชบัญญัติว่าด้วยการเปลี่ยนแปลงสภาพภูมิอากาศ ถึงแม้ว่าแผนและนโยบายเหล่านั้นจะแสดงในเรื่องการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศไว้หลายแนวทาง แต่ในด้านของบทบาทของผู้หญิงยังไม่มีการกล่าวถึงมากเท่าไร ปาร์ตี้คิดว่าปัญหาการเปลี่ยนแปลงสภาพภูมิอากาศมีความไม่เท่าเทียมระหว่างหญิงชาย เพราะผู้หญิงได้รับผลกระทบมากกว่าผู้ชาย และผู้หญิงเรามีบทบาทสำคัญในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศทั้งในครัวเรือนและชุมชน เพราะอย่างนี้ปาร์ตี้เลยต้องการที่จะค้นหาว่าผู้หญิงเราสามารถที่จะเพิ่มขีดความสามารถในการปรับตัวเพื่อตอบสนองต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคอีสานได้อย่างไรบ้าง

ในระดับหมู่บ้านในภาคอีสาน หรือภาคตะวันออกเฉียงเหนือของประเทศไทย การวิจัยนี้ยังต้องการค้นหาว่าผู้หญิงมีความสนใจในการมีส่วนร่วมของชุมชนมากน้อยเพียงใด โดยทำการเปรียบเทียบระหว่างสองชุมชนที่เป็นกรณีศึกษา การวิจัยในครั้งนี้ปาร์ตี้ต้องการที่จะทำการวิจัยครั้งนี้เพื่อเรียนรู้ไปพร้อมกันทุกท่าน ดังนั้นบทบาทของปาร์ตี้คือผู้เข้าร่วมวิจัยคนหนึ่งเช่นกันค่ะ โดยผลการศึกษาในการทำวิจัยครั้งนี้จะนำไปเผยแพร่ในการตีพิมพ์ทางวิชาการและการนำเสนองานทางวิชาการด้วยค่ะ

เหตุใดจึงเป็นคนที่เหมาะสมในการวิจัยครั้งนี้และจึงถูกเชิญเข้าร่วมงานวิจัยในครั้งนี้

ในการประชุมแนะนำโครงการ ชาวบ้านส่วนใหญ่เห็นว่าคุณตา/คุณยาย มีความเหมาะสม ดังนั้น คุณตา/คุณยาย ถูกเชิญเข้าร่วมการสัมภาษณ์เชิงชีวประวัติ เพราะว่าคุณตา/คุณยาย เป็นบุคคลที่เป็นที่เคารพนับถือของคน และอาศัยอยู่ในหมู่บ้านแห่งนี้มานาน ซึ่งคุณตา/คุณยาย จะสามารถช่วยให้ข้อมูลที่เป็ประโยชน์เกี่ยวกับหมู่บ้านซึ่งอาจไม่เคยมีการบันทึกไว้ที่ไหนเลย

ซึ่งจากประสบการณ์ แนวปฏิบัติ ความรู้ และมุมมองของ คุณตา/คุณยาย ที่จะเล่าให้ฟังนี้ไม่เพียงแต่จะมีคุณค่าต่อสมาชิกในหมู่บ้านผู้ที่อาจจะไม่เคยทราบเกี่ยวกับประวัติของหมู่บ้านในอดีต แต่ยังเป็นประโยชน์ต่อการพัฒนาชุมชนด้วย โดยเฉพาะการเปลี่ยนแปลงต่าง ๆ ที่เกิดขึ้นเกี่ยวกับสภาพภูมิอากาศ (เช่น สัตว์เลี้ยง ปลา แมลง ต้นไม้ แม่น้ำ ป่าไม้) เพราะว่าข้อมูลที่ คุณตา/คุณยาย จะเล่าให้ฟังจะช่วยให้นักวางแผนท้องถิ่นได้เข้าใจมากยิ่งขึ้นเกี่ยวกับเรื่องราวของหมู่บ้านเพื่อที่จะช่วยพัฒนาหมู่บ้านในสอดคล้องกับบริบท

จะตอบรับเข้าร่วมการวิจัยครั้งนี้ได้อย่างไร

ถ้า คุณตา/คุณยาย ตกลงที่จะเข้าร่วมการสัมภาษณ์เชิงชีวประวัตินี้ แจ้งปาร์ตี้ได้เลยนะคะ แต่ถ้าเกิดว่า คุณตา/คุณยาย ยังไม่แน่ใจต้องการเวลาสักนิดเพื่อจะตัดสินใจก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ จะทางโทรศัพท์ ทูตคุยส่วนตัว อีเมลล์ หรือช่องทางอื่น ๆ ก็ได้ค่ะ ปาร์ตี้ยินดีที่จะตอบคำถามที่เกี่ยวกับการวิจัยนี้มาก ๆ ค่ะ จากนั้นถ้า คุณตา/คุณยาย ตัดสินใจเข้าร่วมปาร์ตี้จะรบกวนให้ คุณตา/คุณยาย อ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยนะคะ

การเข้าร่วมของ คุณตา/คุณยาย ในการวิจัยครั้งนี้เป็นแบบสมัครใจ (ไม่บังคับ) และไม่ว่า คุณตา/คุณยาย จะเข้าร่วมหรือไม่เข้าร่วมก็จะมีผลได้หรือผลเสียใด ๆ กับคุณตา/คุณยาย นะคะ สามารถที่จะถอนตัวจากการวิจัยได้ตลอดเวลาในระหว่างการทำวิจัยนี้ค่ะ ถ้า คุณตา/คุณยาย เลือกจะถอนตัวจากการวิจัย คุณตา/คุณยาย ก็จะได้รับทราบจากปาร์ตี้ว่าข้อมูลที่ให้มาก่อนจะสามารถใช้ได้หรือไม่ หรือให้นำออกไปทั้งหมดค่ะ แต่ถ้าเกิดว่า คุณตา/คุณยาย ถอนตัวภายหลัง จากที่ปาร์ตี้ได้ผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้นะคะ

จะเกิดอะไรขึ้นในการศึกษานี้

จะเป็นการสัมภาษณ์ต่อตัวตนกับ คุณตา/คุณยาย นะคะ เพื่อที่จะได้เข้าใจเกี่ยวกับประสบการณ์ ความรู้ ประวัติของท่าน โดยคำถามมี 2 ส่วนค่ะ ประกอบด้วย (1) ข้อมูลทั่วไปเกี่ยวกับหมู่บ้านและสภาพภูมิอากาศ และ (2) ทรัพยากรธรรมชาติ สิ่งแวดล้อม และสภาพภูมิอากาศ

ในระหว่างการสัมภาษณ์ คุณตา/คุณยาย สามารถที่จะปฏิเสธไม่ตอบคำถามใด ๆ ที่ไม่อยากจะตอบได้นะคะ และยังสามารถที่จะถอนตัวจากการสัมภาษณ์ได้ตลอดเวลาตามที่ต้องการเลยคะทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ ค่ะ และยังสามารถใช้ชื่อสมมุติในการสัมภาษณ์ได้ด้วยคะ ถ้าไม่อยากจะเปิดเผยตัวตนให้คนอื่นรู้คะ

ปาร์ตี้จะเป็นคนถอดเทปบทสัมภาษณ์ของแต่ละคน และจะส่งบทสัมภาษณ์แต่ละคนเพื่อให้ตรวจสอบความถูกต้องหรือว่าต้องการเปลี่ยนแปลงอะไรหรือไม่จากบทสัมภาษณ์ที่ถอดเทปมาหรือเปล่า ส่วนสรุปผลการวิจัยนี้ จะส่งให้คุณตา/คุณยาย เป็นเอกสารสรุปผล 1-2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) ถ้าคุณตา/คุณยาย ยากได้ การสัมภาษณ์นี้จะมีช่วงเดือนเมษายนถึงพฤษภาคม 2566 นี้นะคะ คาดว่าจะใช้เวลาประมาณ 1.0 – 1.5 ชั่วโมงสำหรับนะคะ

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะคะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการยังไง

ถ้าเกิดว่ามีเหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ คุณตา/คุณยาย เกิดความไม่สบายใจที่จะตอบคำถามใด ๆ การสัมภาษณ์จะหยุดทันทีคะ คุณตา/คุณยาย สามารถปฏิเสธที่จะตอบคำถามได้เลย หรือออกจากการสัมภาษณ์ได้ทุกเมื่อโดยไม่มีผลกระทบใด ๆ ค่ะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึก และออกจากการสัมภาษณ์ได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษาวิจัยครั้งนี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่ชุมชนอื่นๆ และท้องถิ่นอื่นๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็ได้จะประโยชน์จากการวิจัยนี้คือได้รับปัญญาเอก

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

คุณตา/คุณยาย สามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติเพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษาครั้งนี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง คุณตา/คุณยาย สามารถเลือกหรือคิดชื่อสมมุติเองได้เลยคะว่าอยากให้ชื่ออะไร ซึ่งสมมุติที่คิดมานั้นจะใช้ในผลการศึกษาและการตีพิมพ์ด้วยคะ โดยชื่อสมมุตินั้นจะมีเพียงปาร์ตี้ที่รู้คะและจะเก็บความลับไว้คะ

หลังจากที่ปาร์ดีถอดเทปที่สัมภาษณ์ คุณตา/คุณยาย แล้ว จะส่งบทสัมภาษณ์ให้ทางอีเมลล์ หรือทางไลน์ (LINE) เพื่อให้ตรวจสอบความถูกต้องนะคะ แต่ถ้า คุณตา/คุณยาย ไม่ต้องการที่จะเช็คเทป กับบอกปาร์ดีได้ค่ะ ซึ่งเทปการสัมภาษณ์จะมีเพียงปาร์ดีและอาจารย์ที่ปรึกษาเท่านั้นที่จะดูได้ค่ะ

มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้ไหม

ไม่มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้เลยคะ เพียงแค่ คุณตา/คุณยาย กรุณาสละเวลา 1.0- 1.5 ชั่วโมง ในการเข้าร่วมสัมภาษณ์เชิงลึกนี้เท่านั้นคะ แต่เพื่อเป็นการแสดงความขอบคุณ คุณตา/คุณยาย ที่สละเวลาเข้าร่วมการวิจัย ปาร์ดีได้เตรียมของตอบแทนเล็ก ๆ น้อย ๆ ให้คุณตา/คุณยาย ด้วยนะคะ

สามารถตอบรับการเชิญในโอกาสไหนได้บ้าง

คุณตา/คุณยาย สามารถตอบรับการเข้าร่วมการวิจัยครั้งนี้กับปาร์ดีได้เลยคะ หรือว่าถ้าต้องการเวลาในการคิดตัดสินใจ ก็สามารถติดต่อปาร์ดีได้ภายในสัปดาห์หน้านะคะ

จะได้รับอะไรตอบกลับมาจากการวิจัยครั้งนี้ไหม

ถ้า คุณตา/คุณยาย อยากได้ผลการศึกษาของการวิจัยนี้ ปาร์ดีจะส่งให้ น้อง/พี่/ป้า/น้าเป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) สำเนาของผลการศึกษาของวิทยานิพนธ์สามารถส่งให้ คุณตา/คุณยาย เมื่อได้รับการตีพิมพ์แล้วนะคะ สามารถส่งผ่านทางไลน์ (LINE) หรืออีเมลล์ หรือ ไปรษณีย์ ก็ได้นะคะ คุณตา/คุณยาย จะได้รับสิ่งสำคัญสำหรับผลการศึกษาแบบสรุปหรือวิทยานิพนธ์แบบทั้งเล่มให้ได้ด้วยนะคะ

ถ้ามีข้อข้องใจเกี่ยวกับการศึกษาต้องทำยังไง

ถ้ามีข้อข้องใจเกี่ยวกับรูปแบบของการโครงการวิจัยนี้ สามารถที่จะแจ้งในโอกาสแรกได้ที่ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ เดม แมริลิน แวร์ริง อีเมลล์ marilyn.waring@aut.ac.nz โทรศัพท์หมายเลข +64 9 921 9999 ต่อ 9661

ข้อกังวลเกี่ยวกับการจัดการวิจัย สามารถแจ้งได้ที่เลขานุการของคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ อีเมลล์ ethics@aut.ac.nz โทรศัพท์ +64 921 9999 ต่อ 6038

จะติดต่อใครเพื่อขอข้อมูลเพิ่มเติมเกี่ยวกับการวิจัยครั้งนี้

ขอให้เก็บเอกสารชี้แจงแก่ผู้เข้าร่วมวิจัยฉบับนี้ และเอกสารแสดงความยินยอม ไว้เป็นหลักฐานนะคะ คุณตา/คุณยาย สามารถติดต่อทีมวิจัยได้ตามด้านล่างนี้คะ

รายละเอียดการติดต่อนักวิจัย:

นางสาววิไลลักษณ์ ไหมวงษ์ (นักศึกษาปริญญาเอก)

มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology : AUT)

ที่อยู่ Auckland University of Technology

North Campus, 90 Akoranga Drive, Northcote, Auckland, 0627 New Zealand

อีเมลล์ : plaa_wilaima@hotmail.com หรือ cng5737@autuni.ac.nz

หมายเลขโทรศัพท์: +66 85 000 7569 (ไทย) หรือ +64 21 059 1937 (นิวซีแลนด์)

รายละเอียดการติดต่อที่ปรึกษาโครงการวิจัย:

ศาสตราจารย์ เดม แมริลิน แวร์ริง	อีเมลล์: marilyn.waring@aut.ac.nz	และ
ศาสตราจารย์จอห์น เอฟ สมิธ	อีเมลล์: johnsm@kku.ac.th	

ได้รับอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งไคแลนด์
เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378



TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

Participant Information Sheet

For Seasonal Calendar

Date Information Sheet Produced:

20 February 2023

Project Title

Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

An Invitation

My name is Wilailak Malwong, my nickname is Plaatie, and I am a PhD student in the School of Public Health and Interdisciplinary Studies, Auckland University of Technology, New Zealand. I kindly invite you to be part of my study: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand. I will be the main researcher of this study. My supervisors are Professor Dame Marilyn Waring at AUT and Professor John F Smith at Khon Kaen University. Your participation is voluntary. You can withdraw or leave this study at any time prior to completion of data collection for any reason and without any explanation.

I am interested in this research because I am also a civil servant I have been working for Office of the National Economic and Social Development Council, Thailand as a senior plan and policy analyst but now I am on a study leave in New Zealand. My job responsibilities are mainly about climate change issues which is a global concern for all sectors especially in Khon Kaen province and your place which suffered from its impacts, severe floods and droughts, recently. This is the reason that I would like to learn with you.

This study may not only benefit you and your village but also other people or villages in Isan region. This study is a requirement for my doctoral degree which is sponsored by a Royal Thai Government Scholarship.

What is the purpose of this research?

This main purpose of my research is to better understand and increase Isan women's involvement in climate change adaptation plans and practices.

Thailand intends to increase its ambitious on climate change by launching plans, policies and Climate Change Act. Although these documents show how to adjust to climate change in various ways, none of them considers women's roles or gender issues. I consider climate change is not a gender-neutral issue, as women suffer more from climate change impacts than men and play key roles for their households and communities in adapting to climate change. Therefore, I want to explore "How women can enhance their capacities to respond to climate change adaptation in the Isan?"

The findings of this research may also be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You are being invited to participate **seasonal calendar** activity because you have been living here, you know very well about activities, patterns and the changes of your village so I want to work with you in sharing this information.

For my study I want to learn and work with villagers who; 1) have been living and working in their own farms in either Ban Lao Phon Thong or Ban Mor villages; 2) use both Thai language and Isan, and 3) are willing to participate and are available between February – May 2023.

How do I agree to participate in this research?

In the Introductory meeting I will ask for volunteers to participate in seasonal calendar. If you wish to volunteer, please let me know at the meeting so I can get your contact details. If you need more time to decide you can contact me in the next week, by phone, in-person, email etc. I will then answer any further questions you have about this research.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as

belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will have a group activity with you and your neighbours, to work and identify patterns of the seasonality of agricultural and non – agricultural activities, variations, key stakeholders and to show workload between men and women and other aspects. This activity will take place in the community hall or convenient place in your village.

During participating the activity, you can leave or withdraw from the activities at any time before and after data collection and without giving me any explanation, permission and any consequence.

The final summary report of the study will be sent to you electronically, or in hard (paper) copy, if you prefer. This activity will take place between February – May 2023 and it will take around 1.5- 2.0 hours. The number of participants for this activity are around 15 to 20 participants in each village.

What are the discomforts and risks?

I do not anticipate any physical or mental discomfort or risk for you in this research.

How will these discomforts and risks be alleviated?

In the unlikely event that you experience distress, or, feel uncomfortable about any question, the activity will be stopped; you can decline to answer any questions which you might find distressing or leave the activity without consequences. You can also ask me to stop the audio-recording, or note-taking, and leave the activity any time you want.

What are the benefits?

A major potential benefit at village level from this research is increased understanding of women's involvement in community decision-making and action on climate change impacts. This could also contribute to local community/district and higher-level development plans to other villages and other areas in Isan and potentially at national level. As researcher I will benefit by gaining a doctorate's degree.

How will my privacy be protected?

You will be asked to decide if you want your identity withheld or would like to be identified. If you want to keep your input confidential you can choose a pseudonym/nickname to be used to protect your identity, in any presentation/publication of results. Your identity will be known only by the primary researcher and will be kept strictly confidential.

What are the costs of participating in this research?

There are no money costs for you to participate. It will only cost you 1.5 -2.0 hours for this activity. I will provide a "gin khaew" lunch or snack box and a small gift as thanks for your participation.

What opportunity do I have to consider this invitation?

You can accept my invitation for you to participate at the introductory meeting, or you need more time to decide you can contact me up to one week after the meeting.

Will I receive feedback on the results of this research?

If you wish to be informed of the study outcomes, you will be provided with a one - or two -page (electronic or paper) copy of the research findings via LINE or email or postal address once my thesis is publicly available. You will also be offered the URL link to the thesis so you can access both summary and/or the full thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz, and +64 9 921 9999 ext 9661.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTC, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Wilailak Maiwong (PhD student)
Faculty of Health and Environmental Sciences, School of Public Health and Interdisciplinary Studies
Auckland University of Technology (AUT) North Campus, 90 Akoranga Drive, Northcote, Auckland, New Zealand
Email: plaa_wilaima@hotmail.com; cng5737@autuni.ac.nz
Phone number: +66 85 000 7569 (Thailand) or +64 21 059 1937 (New Zealand)

Project Supervisor Contact Details:

Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz
Professor John F Smith, Email: johnsm@kku.ac.th

Approved by the Auckland University of Technology Ethics Committee on 10 February 2023, AUTEK Reference number 22/378

เอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัย

สำหรับกิจกรรมปฏิทินฤดูกาล

วันที่จัดทำเอกสารฉบับนี้:

20 กุมภาพันธ์ 2566

ชื่อโครงการวิจัย

การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
ในภาคตะวันออกเฉียงเหนือของประเทศไทย

คำกล่าวเชิญ

สวัสดีค่ะขอแนะนำตัวนะคะ ชื่อจริงนางสาววิไลลักษณ์ ไหมม่วง ชื่อเล่นชื่อปลาหรือที่ปาร์ตั้นะคะ เป็นนักศึกษาปริญญาเอกตอนนี้กำลังเรียนอยู่ในภาควิชาสาธารณสุขและสหวิทยาการศึกษา มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology) ประเทศนิวซีแลนด์ ปาร์ตียากเชิญ น้อง/พี่/ลุง/ป้า/น้า/อา เข้าร่วมการศึกษา เรื่องการศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทยในครั้งนี้ค่ะ

ในการวิจัยครั้งนี้ปาร์ตี้จะเป็นผู้วิจัยหลัก โดยมีอาจารย์ที่ปรึกษาสองท่านคือ ศาสตราจารย์ เดม แมริสัน แวร์ริง และศาสตราจารย์จอห์น เอฟ. สมิธ จากมหาวิทยาลัยขอนแก่นค่ะ การเข้าร่วมของงานนี้เป็นแบบสมัครใจ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถถอนตัวหรือออกจากงานวิจัยได้ทุกเวลาตลอดช่วงที่เก็บข้อมูลนี้ค่ะ โดยไม่จำเป็นต้องแจ้งเหตุผล การวิจัยนี้ไม่เพียงแต่ น้อง/พี่/ลุง/ป้า/น้า/อา และชุมชน ได้รับประโยชน์โดยตรง แต่รวมถึงบุคคลและชุมชนอื่นๆ ในภาคอีสานจะได้รับประโยชน์จากการวิจัยครั้งนี้ด้วยค่ะ

สาเหตุที่สนใจอยากทำวิจัยเรื่องนี้เพราะปาร์ตี้รับราชการเป็นนักวิเคราะห์นโยบายและแผนชำนาญการพิเศษสังกัดสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ สำนักงานรัฐมนตรี แต่ตอนนี้ลาศึกษาต่อที่ประเทศนิวซีแลนด์อยู่ค่ะ ซึ่งหน้าที่หลักเกี่ยวกับประเด็นด้านการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งเป็นประเด็นที่ทั่วโลกให้ความสำคัญกับทุกภาคส่วน โดยเฉพาะในจังหวัดขอนแก่นและในพื้นที่อาศัยของ น้อง/พี่/ลุง/ป้า/น้า/อา ซึ่งได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างมากเมื่อเร็ว ๆ นี้ ทั้งจากน้ำท่วมและภัยแล้ง เลยทำให้ปาร์ตี้สนใจที่จะศึกษาและเรียนรู้ไปกับ น้อง/พี่/ลุง/ป้า/น้า/อา ทุกคนค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตั้นะคะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตั้นะคะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

วัตถุประสงค์ของการวิจัยในครั้งนี้

วัตถุประสงค์หลักของการวิจัยนี้คือการทำความเข้าใจที่มากขึ้นและการสร้างการมีส่วนร่วมของผู้หญิงในแผนงาน และการดำเนินการด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ จากที่ประเทศไทยได้มุ่งมั่นในการดำเนินงานด้านการเปลี่ยนแปลงสภาพภูมิอากาศโดยการจัดทำแผน นโยบาย และ พระราชบัญญัติว่าด้วยการเปลี่ยนแปลงสภาพภูมิอากาศ ถึงแม้ว่าแผนและนโยบายเหล่านั้นจะแสดงในเรื่องการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ไร้หลายแนวทาง แต่ในด้านของบทบาทของผู้หญิงยังไม่มีกรกล่าวถึงมากเท่าไร ปาร์ตี้คิดว่าปัญหาการเปลี่ยนแปลงสภาพภูมิอากาศมีความไม่เท่าเทียมระหว่างหญิงชาย เพราะผู้หญิงได้รับผลกระทบมากกว่าผู้ชาย และผู้หญิงเรามีบทบาทสำคัญในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศทั้งในครัวเรือนและชุมชน เพราะอย่างนี้ ปาร์ตี้เลยต้องการที่จะค้นหาว่าผู้หญิงเราสามารถที่จะเพิ่มขีดความสามารถในการปรับตัวเพื่อตอบสนองต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคอีสานได้อย่างไรบ้าง

ในระดับหมู่บ้านในภาคอีสาน หรือภาคตะวันออกเฉียงเหนือของประเทศไทย การวิจัยนี้ยังต้องการค้นหาว่าผู้หญิงมีความสนใจในการมีส่วนร่วมของชุมชนมากน้อยเพียงใด โดยทำการเปรียบเทียบระหว่างสองชุมชนที่เป็นกรณีศึกษา การวิจัยในครั้งนี้ปาร์ตี้ต้องการที่จะทำการวิจัยครั้งนี้เพื่อเรียนรู้ไปพร้อมกันทุกท่าน ดังนั้นบทบาทของปาร์ตี้คือผู้เข้าร่วมวิจัยคนหนึ่งเช่นกันค่ะ โดยผลการศึกษาในการทำวิจัยครั้งนี้จะนำไปเผยแพร่ในการตีพิมพ์ทางวิชาการและการนำเสนองานทางวิชาการด้วยค่ะ

เหตุใดจึงเป็นคนที่เหมาะสมในการวิจัยครั้งนี้และจึงถูกเชิญเข้าร่วมงานวิจัยในครั้งนี้

น้อง/พี่/ลุง/ป้า/น้า/อา ได้ถูกเชิญเข้าร่วมการทำกิจกรรมปฏิทินฤดูกาล เพราะว่าทุกคนอยู่อาศัยในหมู่บ้านนี้ รู้จักกิจกรรม รูปแบบ และการเปลี่ยนแปลงที่เกิดขึ้นในหมู่บ้านแต่ละปีเป็นอย่างดี ดังนั้นปาร์ตี้อยากจะร่วมเรียนรู้ในการแลกเปลี่ยนข้อมูลกับ น้อง/พี่/ลุง/ป้า/น้า/อา ทุกคน

ในการศึกษานี้ ปาร์ตี้จะเรียนรู้และทำงานร่วมกับ น้อง/พี่/ลุง/ป้า/น้า/อา 1) อยู่อาศัยและทำงานในฟาร์มของตัวเองในบ้านหม้อ ตำบลคูคำ และบ้านเหล่าโพหนอง ตำบลบ้านหว้า นะคะ 2) สามารถสื่อสารได้ทั้งไทยและอีสาน และ 3) สามารถเข้าร่วมในช่วงเดือนเมษายนถึงพฤษภาคม 2566 ได้ค่ะ

จะตอบรับเข้าร่วมการวิจัยครั้งนี้ได้อย่างไร

ในการประชุมแนะนำโครงการ ปาร์ตี้จะขอความร่วมมือเพื่อเป็นอาสาสมัครที่สมัครใจเข้าร่วมกิจกรรมปฏิทินฤดูกาล ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา ต้องการที่จะเป็นอาสาสมัคร สามารถบอกปาร์ตี้ในการประชุมแนะนะ แล้วปาร์ตี้จะเข้าไปคุยขอรายละเอียดการติดต่อของ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ แต่ถ้าเกิดว่า น้อง/พี่/ลุง/ป้า/น้า/อา ยังไม่แน่ใจต้องการเวลาสักนิดเพื่อจะตัดสินใจก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ จะทางโทรศัพท์ ทุตคุยส่วนตัว อีเมลล์ หรือช่องทางอื่น ๆ ก็ได้ค่ะ ปาร์ตี้ยินดีที่จะตอบคำถามที่เกี่ยวกับการวิจัยนี้มาก ๆ ค่ะ จากนั้นถ้า น้อง/พี่/ลุง/ป้า/น้า/อา ตัดสินใจเข้าร่วมปาร์ตี้จะให้ น้อง/พี่/ลุง/ป้า/น้า/อา อ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยนะคะ

การเข้าร่วมของ น้อง/พี่/ลุง/ป้า/น้า/อา ในการวิจัยครั้งนี้เป็นแบบสมัครใจ (ไม่บังคับ) และไม่ว่า น้อง/พี่/ลุง/ป้า/น้า/อา จะเข้าร่วมหรือไม่เข้าร่วมก็จะมีผลได้หรือผลเสียใด ๆ กับ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ สามารถที่จะถอนตัวจากการวิจัยได้ตลอดเวลาในระหว่างการทำวิจัยนี้นะคะ ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา เลือกจะถอนตัวจาก

การวิจัย น้อง/พี่/ลุง/ป้า/น้า/อา ก็จะได้รับทราบการเสนอจากปาร์ตี้ว่าข้อมูลที่ให้มาก่อนจะสามารถใช้ต่อได้หรือไม่ หรือให้นำออกไปทั้งหมดค่ะ แต่ถ้าเกิดว่า น้อง/พี่/ลุง/ป้า/น้า/อา ดอนตัวภายหลัง จากที่ปาร์ตี้ได้ผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้นะคะ

จะเกิดอะไรขึ้นในการศึกษานี้

กิจกรรมนี้จะเป็นการทำกิจกรรมกลุ่มร่วมกันกับ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ เพื่อที่จะได้ช่วยกันดูว่ารูปแบบของฤดูกาลเกษตรและนอกเกษตรในหมู่บ้านของเรามีกิจกรรมอะไรในรอบปีนั้นๆ บ้าง มีอะไรที่สำคัญ ใครมีส่วนเกี่ยวข้องกับบ้าง เพื่อจะดูว่างานคนในหมู่บ้าน เช่น อย่างผู้ชาย หรือ ผู้หญิงในหมู่บ้านมีส่วนเกี่ยวข้องกับอย่างไร รวมถึงในช่วยในดูในมุมมองอื่น ๆ ที่เกี่ยวข้องด้วยค่ะ กิจกรรมนี้จะจัดขึ้นในศาลาประชาคมหมู่บ้าน หรือสถานที่ที่ น้อง/พี่/ลุง/ป้า/น้า/อา เห็นว่าสะดวกนะคะ

ในระหว่างการทำกิจกรรม สามารถที่จะปฏิเสธไม่ตอบคำถามใด ๆ ที่ไม่อยากจะตอบได้ค่ะ และยังสามารถที่จะถอนตัวจากการกิจกรรมได้ตลอดเวลาตามที่ต้องการเลยคะทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ ค่ะ และยังสามารถใช้ชื่อเล่นสมมุติในกิจกรรมได้ด้วยค่ะ ถ้าไม่อยากจะเปิดเผยตัวตนให้คนอื่นรู้คะ

ส่วนสรุปผลการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ลุง/ป้า/น้า/อา เป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา อยากได้ กิจกรรมนี้จะมีช่วงเดือนเมษายนถึงพฤษภาคม 2566 นี้คะ คาดว่าใช้เวลาประมาณ 1.5 - 2.0 ชั่วโมงสำหรับคะ โดยจำนวนผู้เข้าร่วมในกิจกรรมนี้ประมาณ 15 - 20 คน

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะคะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการยังไง

ถ้าเกิดว่าไม่เหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ น้อง/พี่/ลุง/ป้า/น้า/อา เกิดความไม่สบายใจที่จะร่วมกิจกรรม การทำกิจกรรมจะหยุดทันทีคะ น้อง/พี่/ป้า/น้า สามารถหยุดหรือออกจากกิจกรรมได้ทุกเมื่อ โดยไม่มีผลกระทบใด ๆ ค่ะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึกได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษาวิจัยครั้งนี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่ชุมชนอื่นๆ และท้องถิ่นอื่นๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็ได้จะประโยชน์จากการวิจัยนี้คือได้รับปัญญาเอก

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

น้อง/พี่/ลุง/ป้า/น้า/อา สามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติ เพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษานี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง น้อง/พี่/ลุง/ป้า/น้า/อา สามารถเลือกหรือคิดชื่อสมมุติเองได้เลยคะว่าอยากให้ชื่ออะไร ซึ่งสมมุติที่คิดมานั้น จะใช้ในผลการศึกษาและการตีพิมพ์ด้วยคะ โดยชื่อสมมุตินั้นจะมีเพียงปาร์ตี้ที่รู้คะและจะเก็บความลับไว้คะ

มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้ไหม

ไม่มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้เลยคะ เพียงแค่ น้อง/พี่/ลุง/ป้า/น้า/อา กรุณาใช้เวลา 1.5 – 2.0 ชั่วโมง ในการเข้าร่วมกิจกรรมนี้เท่านั้นคะ แต่เพื่อเป็นการแสดงความขอบคุณ น้อง/พี่/ลุง/ป้า/น้า/อา ที่สละเวลา เข้าร่วมการวิจัย ปาร์ตี้ได้เตรียมอาหารกลางวัน อาหารว่าง และของตอบแทนเล็ก ๆ น้อย ๆ ให้ทุกท่านด้วยคะ

สามารถตอบรับการเชิญในโอกาสไหนได้บ้าง

น้อง/พี่/ลุง/ป้า/น้า/อา สามารถตอบรับการเข้าร่วมการวิจัยครั้งนี้ในการประชุมแนะนำโครงการที่จัดขึ้นนี้ได้เลยคะ หรือว่าถ้าต้องการเวลาในการคิดนิตินิ่งก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ

จะได้รับอะไรตอบกลับมาจากการวิจัยครั้งนี้ไหม

ถ้า น้อง/พี่/ป้า/น้า อยากได้ผลการศึกษาของการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ป้า/น้า/อา เป็นเอกสารสรุปผล 1 – 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) สำเนาของผลการศึกษาของวิทยานิพนธ์สามารถส่งให้ น้อง/พี่/ลุง/ป้า/น้า/อา เมื่อได้รับการตีพิมพ์แล้วนะคะ สามารถส่งผ่านทางไลน์ (LINE) หรืออีเมลล์ หรือ ไปรษณีย์ ก็ได้นะคะ น้อง/พี่/ลุง/ป้า/น้า/อา จะได้รับสิ่งค่าสำหรับผลการศึกษาแบบสรุปหรือวิทยานิพนธ์แบบทั้งเล่มให้ได้ด้วยนะคะ

ถ้ามีข้อข้องใจเกี่ยวกับการศึกษาต้องทำยังไง

ถ้ามีข้อข้องใจเกี่ยวกับรูปแบบของการโครงการวิจัยนี้ สามารถที่จะแจ้งในโอกาสแรกได้ที่ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ เดม แมริลีน แวร์ริง อีเมลล์ marilyn.waring@aut.ac.nz โทรศัพท์หมายเลข +64 9 921 9999 ต่อ 9661

ข้อกังวลเกี่ยวกับการจัดการวิจัย สามารถแจ้งได้ที่เลขานุการของคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งไคแลนด์ อีเมลล์ ethics@aut.ac.nz โทรศัพท์ +64 921 9999 ต่อ 6038

จะติดต่อใครเพื่อขอข้อมูลเพิ่มเติมเกี่ยวกับการวิจัยครั้งนี้

ขอให้เป็นเอกสารชี้แจงแก่ผู้เข้าร่วมวิจัยฉบับนี้ และเอกสารแสดงความยินยอม ไว้เป็นหลักฐานนะคะ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถติดต่อทีมวิจัยได้ตามด้านล่างนี้คะ

รายละเอียดการติดต่อกับทีมวิจัย:

นางสาววิไลลักษณ์ ไหมวงษ์ (นักศึกษาระดับปริญญาเอก)
มหาวิทยาลัยเทคโนโลยีแห่งไคแลนด์ (Auckland University of Technology : AUT)
ที่อยู่ Auckland University of Technology
North Campus, 90 Akoranga Drive, Northcote, Auckland, 0627 New Zealand
อีเมลล์ : plaa_wilaima@hotmail.com หรือ cng5737@autuni.ac.nz
หมายเลขโทรศัพท์: +66 85 000 7569 (ไทย) หรือ +64 21 059 1937 (นิวซีแลนด์)

รายละเอียดการติดต่อที่ปรึกษาโครงการวิจัย:

ศาสตราจารย์ เดม แมริลีน แวริง อีเมลล์: marilyn.waring@aut.ac.nz และ
ศาสตราจารย์จอห์น เอฟ สมิธ อีเมลล์: johnsm@kku.ac.th

ได้รับอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งไคคแลนด์
เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378



Participant Information Sheet

For Transect walk and Ecological mapping

Date Information Sheet Produced:

20 February 2023

Project Title

Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

An Invitation

My name is Wilailak Malwong, my nickname is Plaatle, and I am a PhD student in the School of Public Health and Interdisciplinary Studies, Auckland University of Technology, New Zealand. I kindly invite you to be part of my study: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand. I will be the main researcher of this study. My supervisors are Professor Dame Marilyn Waring at AUT and Professor John F Smith at Khon Kaen University. Your participation is voluntary. You can withdraw or leave this study at any time prior to completion of data collection for any reason and without any explanation.

I am interested in this research because I am also a civil servant I have been working for Office of the National Economic and Social Development Council, Thailand as a senior plan and policy analyst but now I am on a study leave in New Zealand. My job responsibilities are mainly about climate change issues which is a global concern for all sectors especially in Khon Kaen province and your place which suffered from its impacts, severe floods and droughts, recently. This is the reason that I would like to learn with you.

This study may not only benefit you and your village but also other people or villages in Isan region. This study is a requirement for my doctoral degree which is sponsored by a Royal Thai Government Scholarship.

What is the purpose of this research?

This main purpose of my research is to better understand and increase Isan women's involvement in climate change adaptation plans and practices.

Thailand intends to increase its ambitious on climate change by launching plans, policies and Climate Change Act. Although these documents show how to adjust to climate change in various ways, none of them considers women's roles or gender issues. I consider climate change is not a gender-neutral issue, as women suffer more from climate change impacts than men and play key roles for their households and communities in adapting to climate change. Therefore, I want to explore "How women can enhance their capacities to respond to climate change adaptation in the Isan?"

The findings of this research may also be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You are being invited to participate **transect walk and ecological mapping** activities because you have been living here, you know very well about your village so I want to work with you in surveying around your village to see what the natural resources, environment and other aspects in the village are and how these were changed.

For my study I want to learn and work with villagers who; 1) have been living and working in their own farms in either Ban Lao Phon Thong or Ban Mor villages; 2) use both Thai language and Isan, and 3) are willing to participate and are available between February – May 2023.

How do I agree to participate in this research?

In the introductory meeting I will ask for volunteers to participate in transect walk and ecological mapping activities. If you wish to volunteer, please let me know at the meeting so I can get your contact details. If you need more time to decide you can contact me in the next week, by phone, in-person, email etc. I will then answer any further questions you have about this research.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to

ได้รับการเสนอจากปาร์ตี้ว่าข้อมูลที่ให้มาก่อนจะสามารถใช้ได้หรือไม่ หรือให้นำออกไปทั้งหมดคะ แต่ถ้าเกิดว่าน้อง/พี่/ป้า/น้า ถอนตัวภายหลัง จากที่ปาร์ตี้ได้ผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้นะคะ

จะเกิดอะไรขึ้นในการศึกษานี้

จะเป็นการสัมภาษณ์ต่อตัวตนกับ น้อง/พี่/ป้า/น้า แต่ละคนนะคะ เพื่อที่จะได้เข้าใจเกี่ยวกับประสบการณ์ ความคิดและมุมมองต่อการมีส่วนร่วมของผู้หญิงในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ โดยคำถามมี 3 ส่วนคะ ประกอบด้วย (1) ข้อมูลทั่วไปเกี่ยวกับหมู่บ้านและสภาพภูมิอากาศ (2) ข้อมูลทั่วไปเกี่ยวกับหมู่บ้านและสภาพภูมิอากาศ และ (3) ผลกระทบของโควิด -19

ในระหว่างการสัมภาษณ์ น้อง/พี่/ป้า/น้า สามารถที่จะปฏิเสธไม่ตอบคำถามใด ๆ ที่ไม่อยากตอบได้คะ และยัง สามารถที่จะถอนตัวจากการสัมภาษณ์ได้ตลอดเวลาตามที่ต้องการเลยคะ ทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ คะ และยังสามารถใช้ชื่อเล่นสมมุติในการสัมภาษณ์ได้ด้วยคะ ถ้าไม่อยากเปิดเผยตัวตนให้คนอื่นรู้คะ

ปาร์ตี้จะเป็นคนถอดเทปบทสัมภาษณ์ของแต่ละคน และปาร์ตี้จะส่งบทสัมภาษณ์ น้อง/พี่/ป้า/น้า แต่ละคนเพื่อให้ตรวจสอบความถูกต้องหรือตรวจสอบว่าต้องการเปลี่ยนแปลงอะไรหรือไม่จากบทสัมภาษณ์ที่ถอดเทปมาหรือเปล่า ส่วนสรุปผลการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ป้า/น้า เป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือปิ่นท์ก็ได้คะ) ถ้า น้อง/พี่/ป้า/น้า อยากได้คะ การสัมภาษณ์นี้จะมีช่วงเดือนเมษายนถึงพฤษภาคม 2566 นั้นคะ คาดว่าจะใช้เวลาประมาณ 1.0 – 1.5 ชั่วโมงสำหรับต่อคนคะ

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะคะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการอย่างไร

ถ้าเกิดว่ามีเหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ น้อง/พี่/ป้า/น้า เกิดความไม่สบายใจที่จะตอบคำถามใด ๆ การสัมภาษณ์จะหยุดทันทีคะ น้อง/พี่/ป้า/น้า สามารถปฏิเสธที่จะตอบคำถามได้เลย หรือออกจากสัมภาษณ์ได้ทุกเมื่อ โดยไม่มีผลกระทบใด ๆ คะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึก และออกจากสัมภาษณ์ได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษาวิจัยครั้งนี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่ชุมชนอื่นๆ และท้องถิ่นอื่นๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็ได้จะประโยชน์จากการวิจัยนี้คือได้รับปริญญาเอก

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

น้อง/พี่/ป้า/น้า สามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติ เพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษานี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง น้อง/พี่/ป้า/น้า สามารถเลือก

withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will have two group activities, men and women, starting with transect walk which is walking around the village and key resources in your village (such as water resources or forest) to explore and collect substances about the village. Then you will ask to develop ecological mapping showing the main features of the village from the transect walk.

During participating these activities, you can leave or withdraw from the activities at any time before and after data collection and without giving me any explanation, permission and any consequence.

The final summary report of the study will be sent to you electronically, or in hard (paper) copy, if you prefer. This activity will take place between February – May 2023 and it will take around 1.5- 2.0 hours. The number of participants for this activity are around 15 to 20 participants in each village.

What are the discomforts and risks?

I do not anticipate any physical or mental discomfort or risk for you in this research.

How will these discomforts and risks be alleviated?

In the unlikely event that you experience distress, or, feel uncomfortable about any question, the activity will be stopped; you can decline to answer any questions which you might find distressing or leave the activity without consequences. You can also ask me to stop the audio-recording, or note-taking, and leave the activity any time you want.

What are the benefits?

A major potential benefit at village level from this research is increased understanding of women's involvement in community decision-making and action on climate change impacts. This could also contribute to local community/district and higher-level development plans to other villages and other areas in Isan and potentially at national level. As researcher I will benefit by gaining a doctorate's degree.

How will my privacy be protected?

You will be asked to decide if you want your identity withheld or would like to be identified. If you want to keep your input confidential you can choose a pseudonym/nickname to be used to protect your identity, in any presentation/publication of results. Your identity will be known only by the primary researcher and will be kept strictly confidential

What are the costs of participating in this research?

There are no money costs for you to participate. It will only cost you 1.5 -2.0 hours for this activity. I will provide a "gin khaew" lunch or snack box and a small gift as thanks for your participation.

What opportunity do I have to consider this invitation?

You can accept my invitation for you to participate at the introductory meeting, or you need more time to decide you can contact me up to one week after the meeting.

Will I receive feedback on the results of this research?

If you wish to be informed of the study outcomes, you will be provided with a one - or two -page (electronic or paper) copy of the research findings via LINE or email or postal address once my thesis is publicly available. You will also be offered the URL link to the thesis so you can access both summary and/or the full thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz, and +64 9 921 9999 ext. 9661.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, ethics@aut.ac.nz, (+649) 921 9999 ext. 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Wilailak Maiwong (PhD student)

Faculty of Health and Environmental Sciences, School of Public Health and Interdisciplinary Studies

Auckland University of Technology (AUT) North Campus, 90 Akoranga Drive, Northcote, Auckland, New Zealand

Email: plaa_wilailma@hotmail.com; cng5737@autunl.ac.nz

Phone number: +66 85 000 7569 (Thailand) or +64 21 059 1937 (New Zealand)

Project Supervisor Contact Details:

Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz

Professor John F Smith, Email: johnsm@kku.ac.th

Approved by the Auckland University of Technology Ethics Committee on 10 February 2023, AUTEK Reference number 22/378

เอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัย

สำหรับกิจกรรมเดินสำรวจหมู่บ้าน และจัดทำแผนผังหมู่บ้าน

วันที่จัดทำเอกสารฉบับนี้:

20 กุมภาพันธ์ 2566

ชื่อโครงการวิจัย

การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
ในภาคตะวันออกเฉียงเหนือของประเทศไทย

คำกล่าวเชิญ

สวัสดีค่ะขอแนะนำตัวนะคะ ชื่อจริงนางสาววิไลลักษณ์ ไหมม่วง ชื่อเล่นชื่อปลาหรือที่ปาร์ตี้จะคะ เป็นนักศึกษาปริญญาเอกตอนนี้กำลังเรียนอยู่ในภาควิชาสาธารณสุขและสหวิทยาการศึกษา มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology) ประเทศนิวซีแลนด์ ปาร์ตี้อยากเชิญ น้อง/พี่/ลุง/ป้า/น้า/อา เข้าร่วมการศึกษา เรื่องการศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทยในครั้งนี้ค่ะ

ในการวิจัยครั้งนี้ปาร์ตี้จะเป็นผู้วิจัยหลัก โดยมีอาจารย์ที่ปรึกษาสองท่านคือ ศาสตราจารย์ เดม แมริสัน แวร์ริง และศาสตราจารย์จอห์น เอฟ. สมิธ จากมหาวิทยาลัยขอนแก่นค่ะ การเข้าร่วมของงานนี้เป็นแบบสมัครใจ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถถอนตัวหรือออกจากงานวิจัยได้ทุกเวลาตลอดช่วงที่เก็บข้อมูลนี้ค่ะ โดยไม่จำเป็นต้องแจ้งเหตุผล การวิจัยนี้ไม่เพียงแต่ น้อง/พี่/ลุง/ป้า/น้า/อา และชุมชน ได้รับประโยชน์โดยตรง แต่รวมถึงบุคคลและชุมชนอื่นๆ ในภาคอีสานจะได้รับประโยชน์จากการวิจัยครั้งนี้ด้วยค่ะ

สาเหตุที่สนใจอยากทำวิจัยเรื่องนี้เพราะว่าปาร์ตี้รับราชการเป็นนักวิเคราะห์นโยบายและแผนชำนาญการพิเศษสังกัดสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ สำนักงานรัฐมนตรี แต่ตอนนี้ลาศึกษาต่อที่ประเทศนิวซีแลนด์อยู่ค่ะ ซึ่งหน้าที่หลักเกี่ยวกับประเด็นด้านการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งเป็นประเด็นที่ทั่วโลกให้ความสำคัญกับทุกภาคส่วน โดยเฉพาะในจังหวัดขอนแก่นและในพื้นที่อาศัยของ น้อง/พี่/ลุง/ป้า/น้า/อา ซึ่งได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างมากเมื่อเร็ว ๆ นี้ ทั้งจากน้ำท่วมและภัยแล้ง เลยทำให้ปาร์ตี้สนใจที่จะศึกษาและเรียนรู้ไปกับ น้อง/พี่/ลุง/ป้า/น้า/อา ทุกคนค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตี้จะคะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

วัตถุประสงค์ของการวิจัยในครั้งนี้

วัตถุประสงค์หลักของการวิจัยนี้คือการทำความเข้าใจที่มากขึ้นและการสร้างการมีส่วนร่วมของผู้หญิงในแผนงานและการดำเนินการด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ จากที่ประเทศไทยได้มุ่งมั่นในการดำเนินการ

ด้านการเปลี่ยนแปลงสภาพภูมิอากาศโดยการจัดทำแผน นโยบาย และ พระราชบัญญัติว่าด้วยการเปลี่ยนแปลงสภาพภูมิอากาศ ถึงแม้ว่าแผนและนโยบายเหล่านั้นจะแสดงในเรื่องการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศไว้หลายแนวทาง แต่ในด้านของบทบาทของผู้หญิงยังไม่มีกล่าวถึงมากเท่าไร ปาร์ตี้คิดว่าปัญหาการเปลี่ยนแปลงสภาพภูมิอากาศมีความไม่เท่าเทียมระหว่างหญิงชาย เพราะผู้หญิงได้รับผลกระทบมากกว่าผู้ชาย และผู้หญิงเรามีบทบาทสำคัญในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศทั้งในครัวเรือนและชุมชน เพราะอย่างนี้ปาร์ตี้เลยต้องการที่จะค้นหาว่าผู้หญิงเราสามารถที่จะเพิ่มขีดความสามารถในการปรับตัวเพื่อตอบสนองต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคอีสานได้อย่างไรบ้าง

ในระดับหมู่บ้านในภาคอีสาน หรือภาคตะวันออกเฉียงเหนือของประเทศไทย การวิจัยนี้ยังต้องการค้นหาว่าผู้หญิงมีความสนใจในการมีส่วนร่วมของชุมชนมากน้อยเพียงใด โดยทำการเปรียบเทียบระหว่างสองชุมชนที่เป็นกรณีศึกษา การวิจัยในครั้งนี้ปาร์ตี้ต้องการที่จะทำการวิจัยครั้งนี้เพื่อเรียนรู้ไปพร้อมกันทุกท่าน ดังนั้นบทบาทของปาร์ตี้คือผู้เข้าร่วมวิจัยคนหนึ่งเช่นกันค่ะ โดยผลการศึกษาในการทำวิจัยครั้งนี้อาจนำไปเผยแพร่ในการตีพิมพ์ทางวิชาการและการนำเสนองานทางวิชาการด้วยค่ะ

เหตุใดจึงเป็นคนที่เหมาะสมในการวิจัยครั้งนี้และจึงถูกเชิญเข้าร่วมงานวิจัยในครั้งนี้

น้อง/พี่/ลุง/ป้า/น้า/อา ได้ถูกเชิญเข้าร่วมการทำกิจกรรมเดินสำรวจหมู่บ้าน และจัดทำแผนผังหมู่บ้าน เพราะว่าน้อง/พี่/ลุง/ป้า/น้า/อา อาศัยที่นี่และรู้ทุกอย่างเกี่ยวกับหมู่บ้านแห่งนี้เป็นอย่างดี ดังนั้น ปาร์ตี้จึงอยากจะร่วมสำรวจรอบ ๆ หมู่บ้านร่วมกับ น้อง/พี่/ลุง/ป้า/น้า/อา เพื่อจะดูว่าทรัพยากรธรรมชาติ สิ่งแวดล้อม และสิ่งต่าง ๆ รอบหมู่บ้านเป็นอย่างไร มีอะไรที่เปลี่ยนแปลงไปจากเดิมไหม

ในการศึกษานี้ ปาร์ตี้จะเรียนรู้และทำงานร่วมกับ น้อง/พี่/ลุง/ป้า/น้า/อา 1) อยู่อาศัยและทำงานในฟาร์มของตัวเองในบ้านหม้อ ตำบลคูคำ และบ้านเหล่าโพงาม ตำบลบ้านหว้า นะคะ 2) สื่อสารได้ทั้งไทยและอีสาน และ 3) สามารถเข้าร่วมในช่วงเดือนเมษายนถึงพฤษภาคม 2566 ได้ค่ะ

จะตอบรับเข้าร่วมการวิจัยครั้งนี้ได้อย่างไร

ในการประชุมแนะนำโครงการ ลาดี้จะขอความร่วมมือเพื่อเป็นอาสาสมัครที่สมัครใจเข้าร่วมกิจกรรมปฏิทินฤดูกาล ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา ต้องการที่จะเป็นอาสาสมัคร สามารถบอกปาร์ตี้ในการประชุมแนะนะ แล้วปาร์ตี้จะเข้าไปคุยขอรายละเอียดการติดต่อของ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ แต่ถ้าเกิดว่า น้อง/พี่/ลุง/ป้า/น้า/อา ยังไม่แน่ใจต้องการเวลาสักนิดเพื่อจะตัดสินใจก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ จะทางโทรศัพท์ พูดคุยส่วนตัว อีเมลล์ หรือช่องทางอื่น ๆ ก็ได้ค่ะ ปาร์ตี้ยินดีที่จะตอบคำถามที่เกี่ยวกับการวิจัยนี้มาก ๆ ค่ะ จากนั้นถ้า น้อง/พี่/ลุง/ป้า/น้า/อา ตัดสินใจเข้าร่วมปาร์ตี้จะให้ น้อง/พี่/ลุง/ป้า/น้า/อา อ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยนะคะ

การเข้าร่วมของ น้อง/พี่/ลุง/ป้า/น้า/อา ในการวิจัยครั้งนี้เป็นแบบสมัครใจ (ไม่บังคับ) และไม่ว่า น้อง/พี่/ลุง/ป้า/น้า/อา จะเข้าร่วมหรือไม่เข้าร่วมก็จะมีผลได้หรือผลเสียใด ๆ กับ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ สามารถที่จะถอนตัวจากการวิจัยได้ตลอดเวลาในระหว่างการทำวิจัยนี้นะคะ ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา เลือกจะถอนตัวจากการวิจัย น้อง/พี่/ลุง/ป้า/น้า/อา ก็จะได้รับทราบจากปาร์ตี้ว่าข้อมูลที่ได้มาก่อนจะสามารถใช้ต่อได้หรือไม่ หรือให้นำออกไปทั้งหมดค่ะ แต่ถ้าเกิดว่า น้อง/พี่/ลุง/ป้า/น้า/อา ถอนตัวภายหลัง จากที่ปาร์ตี้ได้ผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้นะคะ

จะเกิดอะไรขึ้นในการศึกษานี้

กิจกรรมนี้จะเป็นการทำกิจกรรมกลุ่มร่วมกันกับ น้อง/พี่/ลุง/ป้า/น้า/อา โดยแยกเป็นสองกลุ่มนะค่ะ กลุ่มผู้ชาย และกลุ่มผู้หญิง โดยเริ่มจากกิจกรรมเดินรจหมู่บ้านก่อนว่าในหมู่บ้านเรามีทรัพยากรและสถานที่อะไรบ้าง อาจจะเป็นแหล่งน้ำ หรือป่าชุมชน เพื่อสำรวจและเก็บข้อมูลที่สำคัญในหมู่บ้าน จากนั้นแต่ละกลุ่มจะช่วยกัน ออกแบบแผนผังชุมชนแสดงลักษณะสำคัญ ๆ ในหมู่บ้านที่ได้จากการเดินสำรวจค่ะ

ในระหว่างการเข้าร่วมกิจกรรม สามารถที่จะปฏิเสธไม่ตอบคำถามใด ๆ ที่ไม่อยากจะตอบได้นะค่ะ และยังสามารที่จะถอนตัวจากการร่วมกิจกรรมได้ตลอดเวลาตามที่ต้องการเลยคะทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ คะ และยังสามารถใช้ชื่อเล่นสมมุติในการร่วมกิจกรรมได้ด้วยคะ ถ้าไม่อยากจะเปิดเผยตัวตนให้คนอื่นรู้คะ

ส่วนสรุปผลการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ลุง/ป้า/น้า/อา เป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา อยากได้ กิจกรรมนี้จะมีช่วงเดือนเมษายนถึงพฤษภาคม 2566 นี้ะคะ คาดว่าใช้เวลาประมาณ 1.5 - 2.0 ชั่วโมงสำหรับคะ โดยจำนวนผู้เข้าร่วมในกิจกรรมนี้ประมาณ 15 - 20 คน

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะค่ะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการยังไง

ถ้าเกิดว่ามีเหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ น้อง/พี่/ลุง/ป้า/น้า/อา เกิดความไม่สบายใจที่จะร่วมกิจกรรม การทำกิจกรรมจะหยุดทันทีคะ น้อง/พี่/ป้า/น้า สามารถหยุดหรือออกจากกิจกรรมได้ทุกเมื่อ โดยไม่มีผลกระทบใด ๆ คะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึกได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษาวิจัยครั้งนี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่ชุมชนอื่นๆ และท้องถิ่นอื่นๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็ได้จะประโยชน์จากการวิจัยนี้คือได้รับปริญญาเอก

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

น้อง/พี่/ลุง/ป้า/น้า/อา สามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติ เพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษารุ่นนี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง น้อง/พี่/ลุง/ป้า/น้า/อา สามารถเลือกหรือคิดชื่อสมมุติเองได้เลยคะว่าอยากให้ชื่ออะไร ซึ่งสมมุติที่คิดมานั้น จะใช้ในผลการศึกษาและการตีพิมพ์ด้วยคะ โดยชื่อสมมุตินั้นจะมีเพียงปาร์ตี้ที่รู้คะและจะเก็บความลับไว้คะ

มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้ไหม

ไม่มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้เลยคะ เพียงแค่ น้อง/พี่/ลุง/ป้า/น้า/อา กรุณาใช้เวลา 1.5 - 2.0 ชั่วโมงในการเข้าร่วมกิจกรรมนี้เท่านั้นคะ แต่เพื่อเป็นการแสดงความขอบคุณ น้อง/พี่/ลุง/ป้า/น้า/อา ที่สละเวลาเข้าร่วมการวิจัย ปาร์ตี้ได้เตรียมอาหารกลางวัน อาหารว่าง และของตอบแทนเล็ก ๆ น้อย ๆ ให้ทุกท่านด้วยนะค่ะ

สามารถตอบรับการเชิญในโอกาสไหนได้บ้าง

น้อง/พี่/ลุง/ป้า/น้า/อา สามารถตอบรับการเข้าร่วมการวิจัยครั้งนี้ในการประชุมแนะนำโครงการที่จัดขึ้นนี้ได้เลยคะ หรือว่าถ้าต้องการเวลาในการคิดนิตินึ่งก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ

จะได้รับอะไรตอบกลับจากการวิจัยครั้งนี้ไหม

ถ้า น้อง/พี่/ป้า/น้า อยากได้ผลการศึกษาของการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ป้า/น้า/อา เป็นเอกสารสรุปผล 1 – 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) สำเนาของผลการศึกษาของวิทยานิพนธ์สามารถส่งให้ น้อง/พี่/ลุง/ป้า/น้า/อา เมื่อได้รับการตีพิมพ์แล้วนะคะ สามารถส่งผ่านทางไลน์ (LINE) หรืออีเมลล์ หรือ ไปรษณีย์ ก็ได้นะคะ น้อง/พี่/ลุง/ป้า/น้า/อา จะได้รับสิ่งสำคัญสำหรับผลการศึกษาแบบสรุปหรือวิทยานิพนธ์แบบทั้งเล่มให้ได้ด้วยนะคะ

ถ้ามีข้อข้องใจเกี่ยวกับการศึกษาต้องทำยังไง

ถ้ามีข้อข้องใจเกี่ยวกับรูปแบบของการโครงการวิจัยนี้ สามารถที่จะแจ้งในโอกาสแรกได้ที่ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ เดม แมริลีน แวร์ริง อีเมลล์ marilyn.waring@aut.ac.nz โทรศัพท์หมายเลข +64 9 921 9999 ต่อ 9661

ข้อกังวลเกี่ยวกับการจัดการวิจัย สามารถแจ้งได้ที่เลขานุการของคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ อีเมลล์ ethics@aut.ac.nz โทรศัพท์ +64) 921 9999 ต่อ 6038

จะติดต่อใครเพื่อขอข้อมูลเพิ่มเติมเกี่ยวกับการวิจัยครั้งนี้

ขอให้เก็บเอกสารชี้แจงแก่ผู้เข้าร่วมวิจัยฉบับนี้ และเอกสารแสดงความยินยอม ไว้เป็นหลักฐานนะคะ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถติดต่อทีมวิจัยได้ตามด้านล่างนี้คะ

รายละเอียดการติดต่อนักวิจัย:

นางสาววิไลลักษณ์ ไหมวงษ์ (นักศึกษาปริญญาเอก)
มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology : AUT)
ที่อยู่ Auckland University of Technology
North Campus, 90 Akoranga Drive, Northcote, Auckland, 0627 New Zealand
อีเมลล์ : plaa_wilaima@hotmail.com หรือ cng5737@autuni.ac.nz
หมายเลขโทรศัพท์: +66 85 000 7569 (ไทย) หรือ +64 21 059 1937 (นิวซีแลนด์)

รายละเอียดการติดต่อที่ปรึกษาโครงการวิจัย:

ศาสตราจารย์ เดม แมริลีน แวร์ริง อีเมลล์: marilyn.waring@aut.ac.nz และ
ศาสตราจารย์จอห์น เอฟ สมิธ อีเมลล์: johnsm@kku.ac.th

ได้รับอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์
เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378



Participant Information Sheet

For Surveys

Date Information Sheet Produced:

20 February 2023

Project Title

Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

An Invitation

My name is Wilailak Malwong, my nickname is Plaatie, and I am a PhD student in the School of Public Health and Interdisciplinary Studies, Auckland University of Technology, New Zealand. I kindly invite you to be part of my study: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand. I will be the main researcher of this study. My supervisors are Professor Dame Marilyn Waring at AUT and Professor John F Smith at Khon Kaen University. Your participation is voluntary. You can withdraw or leave this study at any time prior to completion of data collection for any reason and without any explanation.

I am interested in this research because I am also a civil servant I have been working for Office of the National Economic and Social Development Council, Thailand as a senior plan and policy analyst but now I am on a study leave in New Zealand. My job responsibilities are mainly about climate change issues which is a global concern for all sectors especially in Khon Kaen province and your place which suffered from its impacts, severe floods and droughts, recently. This is the reason that I would like to learn with you.

This study may not only benefit you and your village but also other people or villages in Isan region. This study is a requirement for my doctoral degree which is sponsored by a Royal Thai Government Scholarship.

What is the purpose of this research?

This main purpose of my research is to better understand and increase Isan women's involvement in climate change adaptation plans and practices.

Thailand intends to increase its ambitious on climate change by launching plans, policies and Climate Change Act. Although these documents show how to adjust to climate change in various ways, none of them considers women's roles or gender issues. I consider climate change is not a gender-neutral issue, as women suffer more from climate change impacts than men and play key roles for their households and communities in adapting to climate change. Therefore, I want to explore "How women can enhance their capacities to respond to climate change adaptation in the Isan?"

The findings of this research may also be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You are being invited to participate **surveys** because I want to understand the general background and significant information about the village and climate change and you are a chief or staff of local municipality or administrative organisation or a village leader in either Ban Lao Pho Thong or Ban Mor villages.

How do I agree to participate in this research?

If you wish to volunteer, please let me know immediately. If you need more time to decide you can contact me in the next week, by phone, in-person, email etc. I will then answer any further questions you have about this research. I will give you a consent form to read and sign.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will have a face-to-face survey with you, to understand clearly about the village profiles and climate conditions. The questions will consist of 4 main parts; (1) socio-economic and demographic characteristic of the village (2) village's livelihoods (3) perceptions on climatic impacts and (4) women's role in a local development.

During this survey, you can reject to answer any enquiries you do not want to answer. You can withdraw at any time you want before and after data collection and without giving me any explanation, permission and any consequence.

The final summary report of the study will be sent to you electronically, or in hard (paper) copy, if you prefer. The surveys will take place between February – May 2023 and it will take around 1.0- 1.5 hours each.

What are the discomforts and risks?

I do not anticipate any physical or mental discomfort or risk for you in this research.

How will these discomforts and risks be alleviated?

In the unlikely event that you experience distress, or, feel uncomfortable about any question, the surveys will be stopped; you can decline to answer any questions which you might find distressing or leave the surveys without consequences. You can also ask me to stop the audio-recording, or note-taking, and leave the surveys any time you want.

What are the benefits?

A major potential benefit at village level from this research is increased understanding of women's involvement in community decision-making and action on climate change impacts. This could also contribute to local community/district and higher-level development plans to other villages and other areas in Isan and potentially at national level. As researcher I will benefit by gaining a doctorate's degree.

How will my privacy be protected?

You will be asked to decide if you want your identity withheld or would like to be identified. If you want to keep your input confidential you can choose a pseudonym/nickname to be used to protect your identity, in any presentation/publication of results. Your identity will be known only by the primary researcher and will be kept strictly confidential.

What are the costs of participating in this research?

There are no money costs for you to participate. It will only cost you 1.0 -1.5 hours for the surveys. I will provide a "gin khaew" lunch or snack box and a small gift as thanks for your participation.

What opportunity do I have to consider this invitation?

You can accept my invitation for you to participate immediately, or you need more time to decide you can contact me up to one week after the meeting.

Will I receive feedback on the results of this research?

If you wish to be informed of the study outcomes, you will be provided with a one - or two -page (electronic or paper) copy of the research findings via LINE or email or postal address once my thesis is publicly available. You will also be offered the URL link to the thesis so you can access both summary and/or the full thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz, and +64 9 921 9999 ext 9661.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Willailak Maiwong (PhD student)
Faculty of Health and Environmental Sciences, School of Public Health and Interdisciplinary Studies
Auckland University of Technology (AUT) North Campus, 90 Akoranga Drive, Northcote, Auckland, New Zealand
Email: plaa_willaima@hotmail.com; cng5737@autunl.ac.nz
Phone number: +66 85 000 7569 (Thailand) or +64 21 059 1937 (New Zealand)

Project Supervisor Contact Details:

Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz

Professor John F Smith, Email: johnsm@kku.ac.th

Approved by the Auckland University of Technology Ethics Committee on 10 February 2023, AUTEK Reference number 22/378

เอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัย

สำหรับการสำรวจข้อมูล

วันที่จัดทำเอกสารฉบับนี้:

20 กุมภาพันธ์ 2566

ชื่อโครงการวิจัย

การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
ในภาคตะวันออกเฉียงเหนือของประเทศไทย

คำกล่าวเชิญ

สวัสดีค่ะขอแนะนำตัวนะคะ ชื่อจริงนางสาววิไลลักษณ์ ไหมวงศ์ ชื่อเล่นชื่อปลาหรือปาร์ตั้นะคะ เป็นนักศึกษาปริญญาเอกตอนนี้กำลังเรียนอยู่ในภาควิชาสาธารณสุขและสหวิทยาการศึกษา มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology) ประเทศนิวซีแลนด์ ปาร์ตียอยากจะเข้าร่วมการศึกษา เรื่องการศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทยในครั้งนี้ค่ะ

ในการวิจัยครั้งนี้ปาร์ตี้จะเป็นผู้วิจัยหลัก โดยมีอาจารย์ที่ปรึกษาสองท่านคือ ศาสตราจารย์ เดม แมริลิน แวร์ริง และศาสตราจารย์จอห์น เอฟ. สมิธ จากมหาวิทยาลัยขอนแก่นค่ะ การเข้าร่วมของการนี้เป็นแบบสมัครใจนะคะ สามารถถอนตัวหรือออกจากกรวิจัยได้ทุกเวลาตลอดช่วงที่เก็บข้อมูลนี้ค่ะ โดยไม่จำเป็นต้องแจ้งเหตุผล การวิจัยนี้ไม่เพียงแต่ท่านและชุมชนได้รับประโยชน์โดยตรง แต่รวมถึงบุคคลและชุมชนอื่นๆ ในภาคอีสานจะได้รับประโยชน์จากการวิจัยครั้งนี้ด้วยค่ะ

สาเหตุที่สนใจอยากทำวิจัยเรื่องนี้เพราะว่าปาร์ตี้รับราชการเป็นนักวิเคราะห์นโยบายและแผนชำนาญการพิเศษสังกัดสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ สำนักงานรัฐมนตรี แต่ตอนนี้ลาศึกษาต่อที่ประเทศนิวซีแลนด์อยู่ค่ะ ซึ่งหน้าที่หลักเกี่ยวกับประเด็นด้านการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งเป็นประเด็นที่ทั่วโลกให้ความสำคัญกับทุกภาคส่วน โดยเฉพาะในจังหวัดขอนแก่นและในพื้นที่อาศัยของท่าน ซึ่งได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างมากเมื่อเร็ว ๆ นี้ หวังจากน้ำท่วมและภัยแล้ง เลยทำให้ปาร์ตี้สนใจที่จะศึกษาและเรียนรู้ไปพร้อมกับทุกคนค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตั้นะคะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

วัตถุประสงค์ของการวิจัยในครั้งนี้

วัตถุประสงค์หลักของการวิจัยนี้คือการทำความเข้าใจที่มากขึ้นและการสร้างการมีส่วนร่วมของผู้หญิงในแผนงานและการดำเนินการด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ จากที่ประเทศไทยได้มุ่งมั่นในการดำเนินการ

ด้านการเปลี่ยนแปลงสภาพภูมิอากาศโดยการจัดทำแผน นโยบาย และ พระราชบัญญัติว่าด้วยการเปลี่ยนแปลงสภาพภูมิอากาศ ถึงแม้ว่าแผนและนโยบายเหล่านั้นจะแสดงในเรื่องการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศไว้หลายแนวทาง แต่ในด้านของบทบาทของผู้หญิงยังไม่มีกรกล่าวถึงมากเท่าไร ปาร์ตี้คิดว่าปัญหาการเปลี่ยนแปลงสภาพภูมิอากาศมีความไม่เท่าเทียมระหว่างหญิงชาย เพราะผู้หญิงได้รับผลกระทบมากกว่าผู้ชาย และผู้หญิงเรามีบทบาทสำคัญในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศทั้งในครัวเรือนและชุมชน เพราะอย่างนี้ปาร์ตี้เลยต้องการที่จะค้นหาว่า ผู้หญิงเราสามารถที่จะเพิ่มขีดความสามารถในการปรับตัวเพื่อตอบสนองต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคอีสานได้อย่างไรบ้าง

ในระดับหมู่บ้านในภาคอีสาน หรือภาคตะวันออกเฉียงเหนือของประเทศไทย การวิจัยนี้ยังต้องการค้นหาว่า ผู้หญิงมีความสนใจในการมีส่วนร่วมของชุมชนมากน้อยเพียงใด โดยทำการเปรียบเทียบระหว่างสองชุมชนที่เป็นกรณีศึกษา การวิจัยในครั้งนี้ปาร์ตี้ต้องการที่จะทำการวิจัยครั้งนี้เพื่อเรียนรู้ไปพร้อมกันทุกท่าน ดังนั้นบทบาทของปาร์ตี้คือผู้เข้าร่วมวิจัยคนหนึ่งเช่นกันค่ะ โดยผลการศึกษาในการทำวิจัยครั้งนี้จะนำไปเผยแพร่ในการตีพิมพ์ทางวิชาการและการนำเสนองานทางวิชาการด้วยค่ะ

เหตุใดจึงเป็นคนที่เหมาะสมในการวิจัยครั้งนี้และจึงถูกเชิญเข้าร่วมงานวิจัยในครั้งนี้

ท่านได้ถูกเชิญเข้าร่วมการสำรวจ เพราะว่าปาร์ตี้อยากจะรู้เกี่ยวกับข้อมูลทั่วไปและข้อมูลสำคัญเกี่ยวกับหมู่บ้านและการเปลี่ยนแปลงสภาพภูมิอากาศ เนื่องจากท่านเป็นหัวหน้าสำนักงานหรือเจ้าหน้าที่ของเทศบาลตำบลหรือองค์การปกครองส่วนท้องถิ่นที่ดูแลพื้นที่ หรือเป็นผู้ใหญ่บ้านในหมู่บ้านที่ท่านทำการศึกษาวิจัยค่ะ

จะตอบรับเข้าร่วมการวิจัยครั้งนี้ได้อย่างไร

ถ้าท่านไม่ขัดข้องในการเข้าร่วม สามารถแจ้งความสมัครใจที่ปาร์ตี้ได้เลยนะคะ แต่ถ้าเกิดว่าท่านยังไม่แน่ใจ ต้องการเวลาสักนิดเพื่อจะตัดสินใจ ก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ จะทางโทรศัพท์ พูดคุยส่วนตัว อีเมลล์ หรือช่องทางอื่น ๆ เช่น ไลน์ ก็ได้ค่ะ ปาร์ตี้ยินดีที่จะตอบคำถามที่เกี่ยวกับการวิจัยนี้มาก ๆ ค่ะ จากนั้นถ้าท่านตัดสินใจเข้าร่วม ปาร์ตี้จะให้ท่านอ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยอีกฉบับนะคะ

การเข้าร่วมของท่านในการวิจัยครั้งนี้เป็นแบบสมัครใจ (ไม่บังคับ) และไม่ว่าท่านจะเข้าร่วมหรือไม่เข้าร่วมก็จะมีผลได้หรือผลเสียใด ๆ กับท่านนะคะ ท่านสามารถที่จะถอนตัวจากการวิจัยได้ตลอดเวลาในระหว่างการทำวิจัยนี้นะคะ ถ้าท่านเลือกจะถอนตัวจากการวิจัย ท่านก็จะได้รับการเสนอจากปาร์ตี้ว่าข้อมูลที่ให้มาก่อนจะสามารถใช้ต่อได้หรือไม่ หรือให้นำออกไปทั้งหมดค่ะ แต่ถ้าเกิดว่าท่านถอนตัวภายหลังจากที่ปาร์ตี้ได้ทำการสรุปผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้ค่ะ

จะเกิดอะไรขึ้นในการศึกษานี้

จะเป็นการสอบถามข้อมูลกับท่าน เพื่อที่จะได้เข้าใจเกี่ยวกับข้อมูลของหมู่บ้านและเงื่อนไขทางด้านสภาพภูมิอากาศ โดยคำถามมี 4 ส่วนค่ะ ประกอบด้วย (1) ข้อมูลด้านเศรษฐกิจ สังคม และประชากรของชุมชน (2) ความเป็นอยู่ของคนในชุมชน (3) การรับรู้ต่อผลกระทบด้านสภาพอากาศ และ (4) บทบาทของผู้หญิงต่อการพัฒนาชุมชน

ในระหว่างการสอบถามข้อมูล สามารถที่จะปฏิเสธไม่ตอบคำถามใด ๆ ที่ไม่อยากจะตอบได้นะค่ะ และยังสามารถที่จะถอนตัวจากการสัมภาษณ์ได้ตลอดเวลาตามที่ต้องการเลยคะทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ ค่ะ และยังสามารถใช้ชื่อเล่นสมมุติในการสัมภาษณ์ได้ถ้าไม่อยากจะเปิดเผยตัวตนให้คนอื่นรู้คะ

ส่วนสรุปผลการวิจัยนี้ ปาร์ตี้จะส่งให้ท่านเป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือปิ่นทักก็ได้คะ) การสำรวจข้อมูลนี้จะดำเนินการช่วงเดือนมีนาคมถึงพฤษภาคม 2566 นี้คะ คาดว่าจะใช้เวลาประมาณ 1.0 – 1.5 ชั่วโมงคะ

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะค่ะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการยังไง

ถ้าเกิดว่ามีเหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ท่านเกิดความไม่สบายใจที่จะตอบคำถามใด ๆ การสัมภาษณ์จะหยุดทันทีคะ ท่านสามารถปฏิเสธที่จะตอบคำถามได้เลย หรือออกจากกรสัมภาษณ์ได้ทุกเมื่อโดยไม่มีผลกระทบใด ๆ ค่ะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึก และออกจากการสัมภาษณ์ได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษาวิจัยครั้งนี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่ชุมชนอื่นๆ และท้องถิ่นอื่น ๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็ได้จะประโยชน์จากการวิจัยนี้คือได้รับปริญญาเอกคะ

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

ท่านสามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติ เพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษาครั้งนี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง ท่านสามารถเลือกหรือคิดชื่อสมมุติเองได้เลยคะ ว่าอยากให้ชื่ออะไร ซึ่งสมมุติที่คิดมานั้นจะใช้ในผลการศึกษาและการตีพิมพ์ด้วยคะ โดยชื่อสมมุตินั้นจะมีเพียงปาร์ตี้ที่รู้คะและจะเก็บความลับไว้คะ

มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยไหม

ไม่มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้เลยคะ เพียงแค่ท่านกรุณาสละเวลา 1.0- 1.5 ชั่วโมงในการเข้าร่วมนี้เท่านั้นคะ แต่เพื่อเป็นการแสดงความขอบคุณที่สละเวลาเข้าร่วมการวิจัย ปาร์ตี้ได้เตรียมของขวัญเล็ก ๆ น้อย ๆ ให้คะ

สามารถตอบรับการเชิญในโอกาสไหนได้บ้าง

ท่านสามารถตอบรับการเข้าร่วมการวิจัยครั้งนี้กับปาร์ตี้ได้โดยตรงเลยคะ หรือช่องทางอื่น ๆ ที่ระบุไว้ด้านล่างของเอกสารฉบับนี้นะค่ะ หรือว่าถ้าต้องการเวลาในการตัดสินใจก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์นี้นะคะ

จะได้รับอะไรตอบกลับมาจากการวิจัยครั้งนี้ไหม

ถ้าท่านอยากได้ผลการศึกษาของการวิจัยนี้ ปาร์ตี้จะส่งให้เป็นเอกสารสรุปผล 1- 2 หน้าค่ะ (เป็นไฟล์หรือป rint ก็
ได้ค่ะ) สำเนาของผลการศึกษาของวิทยานิพนธ์สามารถส่งให้ท่านเมื่อได้รับการตีพิมพ์แล้วนะคะ สามารถส่งผ่าน
ทางไลน์ (LINE) หรืออีเมลล์ หรือ ไปรษณีย์ ก็ได้นะคะ ท่านจะได้รับสิ่งสำหรับดูผลการศึกษาแบบสรุปหรือ
วิทยานิพนธ์แบบทั้งเล่มให้ได้ด้วยนะคะ

ถ้ามีข้อข้องใจเกี่ยวกับการศึกษาต้องทำอย่างไร

ถ้ามีข้อข้องใจเกี่ยวกับรูปแบบของการโครงการวิจัยนี้ สามารถที่จะแจ้งในโอกาสแรกได้ที่ที่ปรึกษาโครงการวิจัย
ศาสตราจารย์ เดม แมริลิน แวร์ริง อีเมลล์: marilyn.waring@aut.ac.nz โทรศัพท์หมายเลข +64 9 921 9999
ต่อ 9661

ข้อกังวลเกี่ยวกับการจัดการวิจัย สามารถแจ้งได้ที่เลขานุการของคณะกรรมการจริยธรรมในการวิจัยแห่ง
มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ อีเมลล์: ethics@aut.ac.nz โทรศัพท์ +64 921 9999 ต่อ 6038

จะติดต่อใครเพื่อขอข้อมูลเพิ่มเติมเกี่ยวกับการวิจัยครั้งนี้

ขอให้เก็บเอกสารชี้แจงแก่ผู้เข้าร่วมวิจัยฉบับนี้ และเอกสารแสดงความยินยอม ไว้เป็นหลักฐานนะคะ สามารถ
ติดต่อทีมวิจัยได้ตามด้านล่างนี้ค่ะ

รายละเอียดการติดต่อนักวิจัย:

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ได้รับอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์
เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378



Participant Information Sheet

For *So-Leh* Discussion

Date Information Sheet Produced:

20 February 2023

Project Title

Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

An Invitation

My name is Wilailak Malwong, my nickname is Plaatie, and I am a PhD student in the School of Public Health and Interdisciplinary Studies, Auckland University of Technology, New Zealand. I kindly invite you to be part of my study: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand. I will be the main researcher of this study. My supervisors are Professor Dame Marilyn Waring at AUT and Professor John F Smith at Khon Kaen University. Your participation is voluntary. You can withdraw or leave this study at any time prior to completion of data collection for any reason and without any explanation.

I am interested in this research because I am also a civil servant I have been working for Office of the National Economic and Social Development Council, Thailand as a senior plan and policy analyst but now I am on a study leave in New Zealand. My job responsibilities are mainly about climate change issues which is a global concern for all sectors especially in Khon Kaen province and your place which suffered from its impacts, severe floods and droughts, recently. This is the reason that I would like to learn with you.

This study may not only benefit you and your village but also other people or villages in Isan region. This study is a requirement for my doctoral degree which is sponsored by a Royal Thai Government Scholarship.

What is the purpose of this research?

This main purpose of my research is to better understand and increase Isan women's involvement in climate change adaptation plans and practices.

Thailand intends to increase its ambitious on climate change by launching plans, policies and Climate Change Act. Although these documents show how to adjust to climate change in various ways, none of them considers women's roles or gender issues. I consider climate change is not a gender-neutral issue, as women suffer more from climate change impacts than men and play key roles for their households and communities in adapting to climate change. Therefore, I want to explore "How women can enhance their capacities to respond to climate change adaptation in the Isan?"

The findings of this research may also be used for academic publications and presentations.

How was I identified and why am I being invited to participate in this research?

You are being invited to participate *So-Leh* discussion because you are an expert I want you will help to discuss and analyse the fieldwork we have got from the fieldwork activities together.

For my study I want to talk with villagers who; 1) have been living and working in their own farms in either Ban Lao Phon Thong or Ban Mor villages; 2) have participated in one of the activities in this research and I have seen that your performance is outstanding while collecting data; and 3) are willing to participate and are available between February – May 2023.

How do I agree to participate in this research?

If you wish to participate, please let me know immediately. If you need more time to decide you can contact me by phone, in-person, email etc. I will then answer any further questions you have about this research. I will give you a consent form to read and sign.

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as

belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

I will have a discussion with two groups, men and women, I will present all data I have gathered from all activities which you and other participants have involved and relevant secondary data from other (official) sources. Then, you will be invited to share your experiences, advise and interpret those data, you can discuss freely by using Isan dialect in *So-Leh* taking style.

During *So-Leh* discussion, you can withdraw at any time you want before and after data collection and without giving me any explanation, permission and any consequence. You can use your anonymous nickname for this discussion.

The final summary report of the study will be sent to you electronically, or in hard (paper) copy, if you prefer. The *So-leh* discussion will take place between February – May 2023 and it will take around 1.5- 2.0 hours.

What are the discomforts and risks?

I do not anticipate any physical or mental discomfort or risk for you in this research.

How will these discomforts and risks be alleviated?

In the unlikely event that you experience distress, or, feel uncomfortable about any question, the activity will be stopped; you can decline to answer any questions which you might find distressing or leave the activity without consequences. You can also ask me to stop the audio-recording, or note-taking, and leave the activity any time you want.

What are the benefits?

A major potential benefit at village level from this research is increased understanding of women's involvement in community decision-making and action on climate change impacts. This could also contribute to local community/district and higher-level development plans to other villages and other areas in Isan and potentially at national level. As researcher I will benefit by gaining a doctorate's degree.

How will my privacy be protected?

You will be asked to decide if you want your identity withheld or would like to be identified. If you want to keep your input confidential you can choose a pseudonym/nickname to be used to protect your identity, in any presentation/publication of results. Your identity will be known only by the primary researcher and will be kept strictly confidential.

What are the costs of participating in this research?

There are no money costs for you to participate. It will only cost you 1.5 -2.0 hours for this activity. I will provide a "gin khaew" lunch or snack box and a small gift as thanks for your participation.

What opportunity do I have to consider this invitation?

You can accept my invitation for you to participate immediately, or you need more time to decide you can contact me up to one week after the meeting.

Will I receive feedback on the results of this research?

If you wish to be informed of the study outcomes, you will be provided with a one - or two -page (electronic or paper) copy of the research findings via LINE or email or postal address once my thesis is publicly available. You will also be offered the URL link to the thesis so you can access both summary and/or the full thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz, and +64 9 921 9999 ext 9661.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTECH, ethics@aut.ac.nz, (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows:

Researcher Contact Details:

Wilailak Maiwong (PhD student)

Faculty of Health and Environmental Sciences, School of Public Health and Interdisciplinary Studies
Auckland University of Technology (AUT) North Campus, 90 Akoranga Drive, Northcote, Auckland, New Zealand
Email: plaa_wilalma@hotmail.com; cng5737@autunl.ac.nz
Phone number: +66 85 000 7569 (Thailand) or +64 21 059 1937 (New Zealand)

Project Supervisor Contact Details:

Professor Dame Marilyn Waring, Email: marilyn.waring@aut.ac.nz
Professor John F Smith, Email: johnsm@kku.ac.th

Approved by the Auckland University of Technology Ethics Committee on 10 February 2023, AUTEK Reference number 22/378

เอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัย

สำหรับกิจกรรมสัปดาห์

วันที่จัดทำเอกสารฉบับนี้:

20 กุมภาพันธ์ 2566

ชื่อโครงการวิจัย

การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ
ในภาคตะวันออกเฉียงเหนือของประเทศไทย

คำกล่าวเชิญ

สวัสดีค่ะขอแนะนำตัวนะคะ ชื่อจริงนางสาววิไลลักษณ์ ไหมม่วง ชื่อเล่นชื่อปลาหรือที่ปาร์ตี้จะค่ะ เป็นนักศึกษาปริญญาเอกตอนนี้กำลังเรียนอยู่ในภาควิชาสาธารณสุขและสหวิทยาการศึกษา มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology) ประเทศนิวซีแลนด์ ปาร์ตียอยากเชิญ น้อง/พี่/ลุง/ป้า/น้า/อา เข้าร่วมการศึกษา เรื่องการศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทยในครั้งนี้ค่ะ

ในการวิจัยครั้งนี้ปาร์ตี้จะเป็นผู้วิจัยหลัก โดยมีอาจารย์ที่ปรึกษาสองท่านคือ ศาสตราจารย์ เดม แมริสัน แวร์ริง และศาสตราจารย์จอห์น เอฟ. สมิธ จากมหาวิทยาลัยขอนแก่นค่ะ การเข้าร่วมของงานนี้เป็นแบบสมัครใจ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถถอนตัวหรือออกจากงานวิจัยได้ทุกเวลาตลอดช่วงที่เก็บข้อมูลนี้ค่ะ โดยไม่จำเป็นต้องแจ้งเหตุผล การวิจัยนี้ไม่เพียงแต่ น้อง/พี่/ลุง/ป้า/น้า/อา และชุมชน ได้รับประโยชน์โดยตรง แต่รวมถึงบุคคลและชุมชนอื่นๆ ในภาคอีสานจะได้รับประโยชน์จากการวิจัยครั้งนี้ด้วยค่ะ

สาเหตุที่สนใจอยากทำวิจัยเรื่องนี้เพราะว่าปาร์ตี้ได้รับราชการเป็นนักวิเคราะห์นโยบายและแผนชำนาญการพิเศษสังกัดสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติ สำนักงานรัฐมนตรี แต่ตอนนี้ลาศึกษาต่อที่ประเทศนิวซีแลนด์อยู่ค่ะ ซึ่งหน้าที่หลักเกี่ยวกับประเด็นด้านการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งเป็นประเด็นที่ทั่วโลกให้ความสำคัญกับทุกภาคส่วน โดยเฉพาะในจังหวัดขอนแก่นและในพื้นที่อาศัยของ น้อง/พี่/ลุง/ป้า/น้า/อา ซึ่งได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างมากเมื่อเร็ว ๆ นี้ ทั้งจากน้ำท่วมและภัยแล้ง เลยทำให้ปาร์ตี้สนใจที่จะศึกษาและเรียนรู้ไปกับ น้อง/พี่/ลุง/ป้า/น้า/อา ทุกคนค่ะ

การศึกษานี้เป็นส่วนหนึ่งในข้อกำหนดในการได้รับปริญญาเอกของปาร์ตี้จะค่ะ โดยได้รับทุนการศึกษาจากสำนักงานสภาพัฒนาการเศรษฐกิจและสังคมแห่งชาติค่ะ

วัตถุประสงค์ของการวิจัยในครั้งนี้

วัตถุประสงค์หลักของการวิจัยนี้คือการทำความเข้าใจที่มากขึ้นและการสร้างการมีส่วนร่วมของผู้หญิงในแผนงานและการดำเนินการด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศ จากที่ประเทศไทยได้มุ่งมั่นในการดำเนินการ

ด้านการเปลี่ยนแปลงสภาพภูมิอากาศโดยการจัดทำแผน นโยบาย และ พระราชบัญญัติว่าด้วยการเปลี่ยนแปลงสภาพภูมิอากาศ ถึงแม้ว่าแผนและนโยบายเหล่านั้นจะแสดงในเรื่องการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศไว้หลายแนวทาง แต่ในด้านของบทบาทของผู้หญิงยังไม่มีกรกล่าวถึงมากเท่าไร ปาร์ตี้คิดว่าปัญหาการเปลี่ยนแปลงสภาพภูมิอากาศมีความไม่เท่าเทียมระหว่างหญิงชาย เพราะผู้หญิงได้รับผลกระทบมากกว่าผู้ชาย และผู้หญิงเรามีบทบาทสำคัญในการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศทั้งในครัวเรือนและชุมชน เพราะอย่างนี้ปาร์ตี้เลยต้องการที่จะค้นหาว่าผู้หญิงเราสามารถที่จะเพิ่มขีดความสามารถในการปรับตัวเพื่อตอบสนองต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคอีสานได้อย่างไรบ้าง

ในระดับหมู่บ้านในภาคอีสาน หรือภาคตะวันออกเฉียงเหนือของประเทศไทย การวิจัยนี้ยังต้องการค้นหาว่าผู้หญิงมีความสนใจในการมีส่วนร่วมของชุมชนมากน้อยเพียงใด โดยทำการเปรียบเทียบระหว่างสองชุมชนที่เป็นกรณีศึกษา การวิจัยในครั้งนี้ปาร์ตี้ต้องการที่จะทำการวิจัยครั้งนี้เพื่อเรียนรู้ไปพร้อมกันทุกท่าน ดังนั้นบทบาทของปาร์ตี้คือผู้เข้าร่วมวิจัยคนหนึ่งเช่นกันค่ะ โดยผลการศึกษาในการทำวิจัยครั้งนี้อาจนำไปเผยแพร่ในการตีพิมพ์ทางวิชาการและการนำเสนองานทางวิชาการด้วยค่ะ

เหตุใดจึงเป็นคนที่เหมาะสมในการวิจัยครั้งนี้และจึงถูกเชิญเข้าร่วมงานวิจัยในครั้งนี้

น้อง/พี่/ลุง/ป้า/น้า/อา ได้ถูกเชิญเข้าร่วมการพูดคุยแบบโสหล่ เพราะว่าทุกคนผู้มีความรู้ความเชี่ยวชาญ เลยจะขอเชิญทุกคนมาร่วมกันพูดคุยและวิเคราะห์ข้อมูลที่ได้จากการลงพื้นที่ด้วยกันค่ะในการศึกษานี้ ปาร์ตี้จะขอพูดคุยกับ น้อง/พี่/ป้า/น้า ที่ 1) อยู่อาศัยและทำงานในฟาร์มของตัวเองในบ้านหรือตำบลคู่ค้า และบ้านเหล่าโพหนอง ตำบลบ้านหว้า นะคะ 2) ได้เข้าร่วมหนึ่งในกิจกรรมวิจัยในครั้งนี้และในขณะเก็บ ข้อมูลปาร์ตี้เห็นว่าน้อง/พี่/ลุง/ป้า/น้า/อา เป็นบุคคลที่เข้าร่วมกิจกรรมได้เป็นอย่างดีค่ะ และ 3) สามารถเข้าร่วม ได้ในช่วงเดือนกุมภาพันธ์ถึง พฤษภาคม 2565 ค่ะ

จะตอบรับเข้าร่วมการวิจัยครั้งนี้ได้อย่างไร

ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา ตกลงที่จะเข้าร่วมการโสหล่ แจ้งปาร์ตี้ได้เลยนะคะ แล้วปาร์ตี้จะเข้าไปคุยขอรายละเอียดการติดต่อของ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ แต่ถ้าเกิดว่า น้อง/พี่/ลุง/ป้า/น้า/อา ยังไม่แน่ใจต้องการเวลาสักนิดเพื่อจะตัดสินใจก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ จะทางโทรศัพท์ พูดคุยส่วนตัวอีเมลล์ หรือช่องทางอื่นๆ ก็ได้ค่ะ ปาร์ตี้ยินดีที่จะตอบคำถามที่เกี่ยวกับการวิจัยนี้มากๆ ค่ะ จากนั้นถ้า น้อง/พี่/ลุง/ป้า/น้า/อา ยาย ตัดสินใจเข้าร่วมปาร์ตี้จะรีบกวโนให้ น้อง/พี่/ลุง/ป้า/น้า/อา อ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยนะคะ

ขอย้ำอีกครั้งว่าการเข้าร่วมของ น้อง/พี่/ลุง/ป้า/น้า/อา ในการวิจัยครั้งนี้เป็นแบบสมัครใจ (เลือกเอง) และไม่ว่าน้อง/พี่/ลุง/ป้า/น้า/อา จะเข้าร่วมหรือไม่เข้าร่วมก็จะมีผลได้หรือผลเสียใด ๆ กับ น้อง/พี่/ลุง/ป้า/น้า/อา นะคะ สามารถที่จะถอนตัวจากการวิจัยได้ตลอดเวลาในระหว่างการทำวิจัยนี้นะคะ ถ้า น้อง/พี่/ลุง/ป้า/น้า/อา เลือกจะถอนตัวจากการวิจัย น้อง/พี่/ลุง/ป้า/น้า/อา ก็จะได้รับการเสนอจากปาร์ตี้ว่าข้อมูลที่ให้มาก่อนจะสามารถใช้ได้หรือไม่ หรือให้นำออกไปทั้งหมดค่ะ แต่ถ้าเกิดว่า น้อง/พี่/ลุง/ป้า/น้า/อา ถอนตัวภายหลังจากที่ปาร์ตี้ได้ผลการศึกษาของการวิจัยแล้ว การลบข้อมูลไม่สามารถทำได้นะคะในเข้าร่วมปาร์ตี้จะให้ น้อง/พี่/ลุง/ป้า/น้า/อา อ่านและลงนามในหนังสือแสดงความยินยอมเข้าร่วมวิจัยนะคะ

จะเกิดอะไรขึ้นในการศึกษานี้

จะเป็นการพูดคุยกับ น้อง/พี่/ลุง/ป้า/น้า/อา แบบเป็นกลุ่มนะค่ะ ปาร์ตี้จะนำเสนอข้อมูลต่างๆ ที่ได้จากการทำกิจกรรมร่วมกันกับ น้อง/พี่/ลุง/ป้า/น้า/อา และข้อมูลที่เกี่ยวข้องจากแหล่งอื่น ๆ ด้วยค่ะ จากนั้นจะเชิญ น้อง/พี่/ลุง/ป้า/น้า/อา ให้ช่วยกันให้ความเห็น แลกเปลี่ยนประสบการณ์ ข้อเสนอแนะ และอธิบายข้อมูลเหล่านั้นร่วมกันค่ะ ซึ่ง น้อง/พี่/ลุง/ป้า/น้า/อา สามารถพูดภาษาอีสานตามที่เรารู้สึกในชีวิตรประจำวันได้เลยค่ะในระหว่างการสโเล่ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถที่จะถอนตัวจากการสนทนาได้ตลอดเวลาตามที่ต้องการเลยคะทั้งก่อนและหลังการเก็บข้อมูลโดยไม่มีผลใด ๆ ค่ะ และยังสามารถใช้ชื่อสมมติในการสนทนาได้ด้วยค่ะ ถ้าไม่อยากเปิดเผยตัวตนให้คนอื่นรู้คะส่วนสรุปผลการวิจัยนี้ ถ้าน้อง/พี่/ลุง/ป้า/น้า/อา ยากได้ ปาร์ตี้จะส่งให้ น้อง/พี่/ลุง/ป้า/น้า/อา เป็นเอกสารสรุปผล 1- 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) การสโเล่ครั้งนี้จะมีช่วงเดือนกุมภาพันธ์ถึงพฤษภาคม 2565 นี้นะคะ คาดว่าจะใช้เวลาประมาณ 1.5 – 2.0 ชั่วโมงสำหรับนะค่ะ

จะเกิดความไม่สะดวกและความเสี่ยงอะไรไหม

ไม่คิดว่าจะมีความเสี่ยงหรือความไม่สบายใจใด ๆ จากการเข้าร่วมวิจัยครั้งนี้ทั้งทางด้านร่างกายและจิตใจนะค่ะ

ถ้าเกิดว่ามีความไม่สะดวกหรือความเสี่ยงจะถูกจัดการยังไง

ถ้าเกิดว่ามีเหตุการณ์ไม่คาดคิดเกิดขึ้นทำให้ น้อง/พี่/ลุง/ป้า/น้า/อา เกิดความไม่สบายใจที่จะร่วมกิจกรรม การทำกิจกรรมจะหยุดทันทีคะ น้อง/พี่/ป้า/น้า สามารถหยุดหรือออกจากกิจกรรมได้ทุกเมื่อ โดยไม่มีผลกระทบใด ๆ ค่ะ และยังสามารถบอกปาร์ตี้ให้หยุดอัดเทป หรือหยุดจดบันทึกได้ทุกเมื่อคะ

อะไรคือประโยชน์ที่ได้รับ

ประโยชน์หลัก ๆ จากการศึกษาวิจัยครั้งนี้คือการเพิ่มการสร้างความรู้ความเข้าใจเกี่ยวกับการเข้าร่วมของผู้หญิงในระดับชุมชนต่อการตัดสินใจและการกระทำที่เกี่ยวกับผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ซึ่งจะช่วยสร้างการมีบทบาทในแผนพัฒนาชุมชนท้องถิ่น/อำเภอ หรือในระดับที่สูงกว่าไปสู่อื่นๆ และท้องถิ่นอื่นๆ ในภาคอีสานและในระดับประเทศ ในส่วนของปาร์ตี้ในฐานะนักวิจัยก็จะได้ประโยชน์จากการวิจัยนี้คือได้รับปัญญาเอก

ข้อมูลส่วนตัวของทุกคนจะถูกป้องกันอย่างไร

น้อง/พี่/ลุง/ป้า/น้า/อา สามารถตัดสินใจว่าจะเลือกเปิดเผยชื่อหรือตัวตน หรือ เลือกที่จะปิดบังตัวตน โดยใช้ชื่อสมมุติ เพื่อไม่ให้คนอื่นรู้ว่าเป็นใครในการศึกษานี้ได้คะ ซึ่งถ้าเลือกที่จะปิดบังตัวเอง น้อง/พี่/ลุง/ป้า/น้า/อา สามารถเลือกหรือคิดชื่อสมมุติเองได้เลยคะว่าอยากให้เป็นชื่ออะไร ซึ่งสมมุติที่คิดมานั้น จะใช้ในผลการศึกษาและการตีพิมพ์ด้วยคะ โดยชื่อสมมุตินั้นจะมีเพียงปาร์ตี้ที่รู้คะและจะเก็บความลับไว้คะ

มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยไหม

ไม่มีค่าใช้จ่ายอะไรในการเข้าร่วมการวิจัยนี้เลยคะ เพียงแค่ น้อง/พี่/ลุง/ป้า/น้า/อา กรุณาใช้เวลา 1.0 – 1.5 ชั่วโมงในการเข้าร่วมกิจกรรมนี้เท่านั้นคะ แต่เพื่อเป็นการแสดงความขอบคุณ น้อง/พี่/ลุง/ป้า/น้า/อา ที่สละเวลาเข้าร่วมการวิจัย ปาร์ตี้ได้เตรียมอาหารกลางวัน อาหารว่าง และของตอบแทนเล็ก ๆ น้อย ๆ ให้ทุกท่านด้วยนะค่ะ

สามารถตอบรับการเชิญในโอกาสไหนได้บ้าง

น้อง/พี่/ลุง/ป้า/น้า/อา สามารถตอบรับการเข้าร่วมการวิจัยครั้งนี้ในการประชุมแนะนำโครงการที่จัดขึ้นนี้ได้เลยคะ หรือว่าถ้าต้องการเวลาในการคิดนิดนึงก็สามารถติดต่อปาร์ตี้ได้ภายในสัปดาห์หน้านะคะ

จะได้รับอะไรตอบกลับจากการวิจัยครั้งนี้ไหม

ถ้า น้อง/พี่/ป้า/น้า อยากได้ผลการศึกษาของการวิจัยนี้ ปาร์ตี้จะส่งให้ น้อง/พี่/ป้า/น้า/อา เป็นเอกสารสรุปผล 1 – 2 หน้าคะ (เป็นไฟล์หรือปริ้นท์ก็ได้คะ) สำเนาของผลการศึกษาของวิทยานิพนธ์สามารถส่งให้ น้อง/พี่/ลุง/ป้า/น้า/อา เมื่อได้รับการตีพิมพ์แล้วนะคะ สามารถส่งผ่านทางไลน์ (LINE) หรืออีเมลล์ หรือ ไปรษณีย์ ก็ได้นะคะ น้อง/พี่/ลุง/ป้า/น้า/อา จะได้รับสิ่งสำคัญสำหรับผลการศึกษาแบบสรุปหรือวิทยานิพนธ์แบบทั้งเล่มให้ได้ด้วยนะคะ

ถ้ามีข้อข้องใจเกี่ยวกับการศึกษาต้องทำยังไง

ถ้ามีข้อข้องใจเกี่ยวกับรูปแบบของการโครงการวิจัยนี้ สามารถที่จะแจ้งในโอกาสแรกได้ที่ที่ปรึกษาโครงการวิจัย ศาสตราจารย์ เดม แมริลีน แวร์ริง อีเมลล์ marilyn.waring@aut.ac.nz โทรศัพท์หมายเลข +64 9 921 9999 ต่อ 9661

ข้อกังวลเกี่ยวกับการจัดการวิจัย สามารถแจ้งได้ที่เลขานุการของคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ อีเมลล์ ethics@aut.ac.nz โทรศัพท์ +64) 921 9999 ต่อ 6038

จะติดต่อใครเพื่อขอข้อมูลเพิ่มเติมเกี่ยวกับการวิจัยครั้งนี้

ขอให้เก็บเอกสารชี้แจงแก่ผู้เข้าร่วมวิจัยฉบับนี้ และเอกสารแสดงความยินยอม ไว้เป็นหลักฐานนะคะ น้อง/พี่/ลุง/ป้า/น้า/อา สามารถติดต่อทีมวิจัยได้ตามด้านล่างนี้คะ

รายละเอียดการติดต่อนักวิจัย:

นางสาววิไลลักษณ์ ไหมวงษ์ (นักศึกษาปริญญาเอก)
มหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ (Auckland University of Technology : AUT)
ที่อยู่ Auckland University of Technology
North Campus, 90 Akoranga Drive, Northcote, Auckland, 0627 New Zealand
อีเมลล์ : plaa_wilaima@hotmail.com หรือ cng5737@autuni.ac.nz
หมายเลขโทรศัพท์: +66 85 000 7569 (ไทย) หรือ +64 21 059 1937 (นิวซีแลนด์)

รายละเอียดการติดต่อที่ปรึกษาโครงการวิจัย:

ศาสตราจารย์ เดม แมริลีน แวร์ริง อีเมลล์: marilyn.waring@aut.ac.nz และ
ศาสตราจารย์จอห์น เอฟ สมิธ อีเมลล์: johnsm@kku.ac.th

ได้รับอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์
เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378

Appendix C: Consent Form



Consent Form

For In-depth Interviews

Project title: *Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand*

Project Supervisor: *Professor Dame Marilyn Waring and Professor John Francis Smith*
Researcher: *Wilailak Maiwong*

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated 20 February 2023
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ☐ I agree to take part in this research.
- ☐ I wish to receive and check the accuracy of transcription (please tick one): Yes ☐ No ☐
- ☐ I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐
- ☐ I wish to use a pseudonym to protect my identity throughout the research project (please tick one):
 Yes ☐ please provide your preferred pseudonym No ☐
- ☐ I wish to be identified in the research findings (please tick one): Yes ☐ No ☐

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....

.....

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee 10 February 2023 AUTEK Reference number 22/378

Note: The Participant should retain a copy of this form.

หนังสือยินยอม สำหรับการสัมภาษณ์เชิงลึก

ชื่อโครงการวิจัย: *การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย*

อาจารย์ที่ปรึกษา: *ศาสตราจารย์ เดม แมวรีลิน แวว์ริง และ ศาสตราจารย์ จอห์น เอฟ สมิธ*

นักวิจัย: *นางสาววิไลลักษณ์ ใหม่วงศ์*

- ☐ ข้าพเจ้าได้อ่านและเข้าใจข้อมูลสำหรับโครงการวิจัยจากเอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัยเป็นที่เรียบร้อยแล้ว ณ วันที่
- ☐ ข้าพเจ้ารับทราบแล้วว่าได้รับโอกาสในการที่จะตั้งคำถามและได้รับคำตอบเกี่ยวกับโครงการวิจัยครั้งนี้
- ☐ ข้าพเจ้ารับทราบว่า การจดบันทึกข้อมูลที่มีขึ้นระหว่างการสัมภาษณ์นั้นจะมีการบันทึกเทปและถอดเทปภายหลังจากการสัมภาษณ์เสร็จสิ้น
- ☐ ข้าพเจ้ารับทราบว่าการเข้าร่วมการศึกษาในครั้งนี้เป็นการเข้าร่วมแบบสมัครใจ (ไม่ได้ถูกบังคับ) และข้าพเจ้าอาจยุติการเข้าร่วมได้ทุกเมื่อ โดยไม่มีผลใด ๆ
- ☐ ข้าพเจ้ารับทราบว่าหากข้าพเจ้าถอนตัวจากการศึกษานี้ ข้าพเจ้าจะได้รับการเสนอทางเลือกระหว่างลบข้อมูลที่ระบุถึงตัวตนของข้าพเจ้าออกไป หรือ อนุญาตให้นำข้อมูลที่ได้รับจากข้าพเจ้าไปใช้ประโยชน์ในการศึกษาต่อได้ อย่างไรก็ตาม หากเมื่อผลการศึกษาได้ดำเนินการจัดทำเสร็จสมบูรณ์แล้ว การลบข้อมูลของข้าพเจ้าออกนั้นไม่สามารถกระทำได้
- ☐ ข้าพเจ้ายินดีที่จะเข้าร่วมโครงการวิจัยในครั้งนี้
- ☐ ข้าพเจ้ามีความประสงค์จะขอรับรายงานสรุปผลการที่ได้จากการวิจัยครั้งนี้ (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะใช้นามสมมติเพื่อไม่ต้องการเปิดเผยตัวตนของข้าพเจ้าตลอดการเข้าร่วมโครงการวิจัย (โปรดเลือก): ใช่ ☐ โปรดระบุนามสมมติที่ท่านประสงค์..... ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะเปิดเผยตัวตนของข้าพเจ้าในผลการศึกษาวิจัย (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐

ลายเซ็นผู้เข้าร่วม:

ชื่อผู้เข้าร่วม:

รายละเอียดข้อมูลสำหรับติดต่อของผู้เข้าร่วม (ตามความเหมาะสม):

.....
.....

วันที่:

เอกสารฉบับนี้ได้รับการอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378

หมายเหตุ: ผู้เข้าร่วมโครงการวิจัยโปรดเก็บรักษาแบบฟอร์มฉบับนี้ไว้



Consent Form

For Life Story Interviews

Project title: *Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand*

Project Supervisor: *Professor Dame Marilyn Waring and Professor John Francis Smith*
Researcher: *Wilailak Maiwong*

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- ☐ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ☐ I agree to take part in this research.
- ☐ I wish to receive and check the accuracy of transcription (please tick one): Yes ☐ No ☐
- ☐ I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐
- ☐ I wish to use a pseudonym to protect my identity throughout the research project (please tick one):
 Yes ☐ please provide your preferred pseudonym..... No ☐
- ☐ I wish to be identified in the research findings (please tick one): Yes ☐ No ☐

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

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Date:

Approved by the Auckland University of Technology Ethics Committee 10 February 2023 AUTEK Reference number 22/378

Note: The Participant should retain a copy of this form.

หนังสือยินยอม สำหรับการเชิงชีวิต

ชื่อโครงการวิจัย: *การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย*

อาจารย์ที่ปรึกษา: *ศาสตราจารย์ เดม แมวลิณ แว่วริง และ ศาสตราจารย์ จอห์น เอฟ สมิต*

นักวิจัย: *นางสาววิไลลักษณ์ ไหมวงษ์*

- ☐ ข้าพเจ้าได้อ่านและเข้าใจข้อมูลสำหรับโครงการวิจัยจากเอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัยเป็นที่เรียบร้อยแล้ว ณ วันที่
- ☐ ข้าพเจ้ารับทราบแล้วว่าได้รับโอกาสในการที่จะตั้งคำถามและได้รับคำตอบเกี่ยวกับโครงการวิจัยครั้งนี้
- ☐ ข้าพเจ้ารับทราบว่าการจัดบันทึกข้อมูลที่มีขึ้นระหว่างการสัมภาษณ์นั้นจะมีการบันทึกเทปและถอดเทปภายหลังจากการสัมภาษณ์เสร็จสิ้น
- ☐ ข้าพเจ้ารับทราบว่าการเข้าร่วมการศึกษาในครั้งนี้เป็นการเข้าร่วมแบบสมัครใจ (ไม่ได้ถูกบังคับ) และข้าพเจ้าอาจยุติการเข้าร่วมได้ทุกเมื่อ โดยไม่มีผลใด ๆ
- ☐ ข้าพเจ้ารับทราบว่าหากข้าพเจ้าถอนตัวจากการศึกษานี้ ข้าพเจ้าจะได้รับการเสนอทางเลือกระหว่างลบข้อมูลที่ระบุถึงตัวตนของข้าพเจ้าออกไป หรือ อนุญาตให้นำข้อมูลที่ได้รับการจากข้าพเจ้าไปใช้ประโยชน์ในการศึกษาต่อได้ อย่างไรก็ตาม หากเมื่อผลการศึกษาได้ดำเนินการจัดทำเสร็จสมบูรณ์แล้ว การลบข้อมูลของข้าพเจ้าออกนั้นไม่สามารถกระทำได้นั้น
- ☐ ข้าพเจ้ายินดีที่จะเข้าร่วมโครงการวิจัยในครั้งนี้
- ☐ ข้าพเจ้ามีความประสงค์จะขอรับรายงานสรุปผลการที่ได้จากการวิจัยครั้งนี้ (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะใช้นามสมมติเพื่อไม่ต้องการเปิดเผยตัวตนของข้าพเจ้าตลอดการเข้าร่วมโครงการวิจัย (โปรดเลือก): ใช่ ☐ โปรดระบุนามสมมติที่ท่านประสงค์..... ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะเปิดเผยตัวตนของข้าพเจ้าในผลการศึกษาวิจัย (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐

ลายเซ็นผู้เข้าร่วม:

ชื่อผู้เข้าร่วม:

รายละเอียดข้อมูลสำหรับติดต่อของผู้เข้าร่วม (ตามความเหมาะสม):

.....

วันที่:

เอกสารฉบับนี้ได้รับการอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์ เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378

หมายเหตุ: ผู้เข้าร่วมโครงการวิจัยโปรดเก็บรักษาแบบฟอร์มฉบับนี้ไว้



Consent Form

For So-Leh Discussion

Project title: *Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand*

Project Supervisor: *Professor Dame Marilyn Waring and Professor John Francis Smith*
Researcher: *Wilailak Maiwong*

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated 20 February 2023
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that identity of my fellow participants and our discussions in the focus group is confidential to the group and I agree to keep this information confidential.
- ☐ I understand that notes will be taken during the focus group and that it will also be audio-taped and transcribed.
- ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ☐ I understand that if I withdraw from the study then, while it may not be possible to destroy all records of the focus group discussion of which I was part, I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ☐ I agree to take part in this research.
- ☐ I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐
- ☐ I wish to use a pseudonym to protect my identity throughout the research project (please tick one):
 Yes ☐ please provide your preferred pseudonym..... No ☐
- ☐ I wish to be identified in the research findings (please tick one): Yes ☐ No ☐

Participant's signature:

Participant's name:

Participant's Contact Details (if appropriate):

.....

.....

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee 10 February 2023 AUTEK Reference number 22/378

Note: The Participant should retain a copy of this form.

หนังสือยินยอม สำหรับใส่เหล

ชื่อโครงการวิจัย: *การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย*

อาจารย์ที่ปรึกษา: *ศาสตราจารย์ เดม แมวลิณ แวรวิ่ง และ ศาสตราจารย์ จอห์น เอฟ สมิต*

นักวิจัย: *นางสาววิไลลักษณ์ ใหม่วงศ์*

- ☐ ข้าพเจ้าได้อ่านและเข้าใจข้อมูลสำหรับโครงการวิจัยจากเอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัยเป็นที่เรียบร้อยแล้ว ณ วันที่
- ☐ ข้าพเจ้ารับทราบแล้วว่าได้รับโอกาสในการที่จะตั้งคำถามและได้รับคำตอบเกี่ยวกับโครงการวิจัยครั้งนี้
- ☐ ข้าพเจ้าตระหนักดีว่า การระบุตัวตนของเพื่อนผู้เข้าร่วมโครงการและการสนทนากลุ่มนี้เป็นความลับ ข้าพเจ้ายินดีที่จะเก็บรักษาข้อมูลนี้เป็นความลับ
- ☐ ข้าพเจ้ารับทราบว่าการจดบันทึกข้อมูลที่มีขึ้นระหว่างการจัดทำการสนทนากลุ่มนั้น จะมีการบันทึกเทปและถอดเทปภายหลังจากการสัมภาษณ์เสร็จสิ้น
- ☐ ข้าพเจ้ารับทราบว่าการเข้าร่วมการศึกษาในครั้งนี้เป็นการเข้าร่วมแบบสมัครใจ (ไม่ได้ถูกบังคับ) และข้าพเจ้าอาจยุติการเข้าร่วมได้ทุกเมื่อ โดยไม่มีผลใด ๆ
- ☐ ข้าพเจ้ารับทราบว่าหากข้าพเจ้าถอนตัวจากการศึกษานี้แล้วนั้น ข้อมูลของข้าพเจ้าในระหว่างการเข้าร่วมการสนทนากลุ่มอาจจะไม่สามารถจัดออกได้ ข้าพเจ้าจะได้รับการเสนอทางเลือกระหว่างลบข้อมูลทิ้งหรือตัวต้นของข้าพเจ้าออกไป หรือ อนุญาตให้นำข้อมูลที่ได้รับจากข้าพเจ้าไปใช้ประโยชน์ในการศึกษาต่อได้ อย่างไรก็ตาม หากเมื่อผลการศึกษาได้ดำเนินการจัดทำเสร็จสมบูรณ์แล้ว การลบข้อมูลของข้าพเจ้าออกนั้นอาจไม่สามารถกระทำได้
- ☐ ข้าพเจ้ายินดีที่จะเข้าร่วมโครงการวิจัยในครั้งนี้
- ☐ ข้าพเจ้ามีความประสงค์จะขอรับรายงานสรุปผลการที่ได้จากการวิจัยครั้งนี้ (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะใช้นามสมมติเพื่อไม่ต้องการเปิดเผยตัวตนของข้าพเจ้าตลอดการเข้าร่วมโครงการวิจัย (โปรดเลือก): ใช่ ☐ โปรดระบุนามสมมติที่ท่านประสงค์..... ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะเปิดเผยตัวตนของข้าพเจ้าในผลการศึกษาวิจัย (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐

ลายเซ็นผู้เข้าร่วม:

ชื่อผู้เข้าร่วม:

รายละเอียดข้อมูลสำหรับติดต่อของผู้เข้าร่วม (ตามความเหมาะสม):

.....

.....

วันที่:

เอกสารฉบับนี้ได้รับการอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งไอคแลนด์

เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378

หมายเหตุ: ผู้เข้าร่วมโครงการวิจัยโปรดเก็บรักษาแบบฟอร์มฉบับนี้ไว้



Consent Form

For Surveys

Project title: *Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand*

Project Supervisor: *Professor Dame Marilyn Waring and Professor John Francis Smith*
Researcher: *Wilailak Maiwong*

- ☐ I have read and understood the information provided about this research project in the Information Sheet dated 20 February 2023
- ☐ I have had an opportunity to ask questions and to have them answered.
- ☐ I understand that notes will be taken during the interviews and that they will also be audio-taped and transcribed.
- ☐ I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study at any time without being disadvantaged in any way.
- ☐ I understand that if I withdraw from the study then I will be offered the choice between having any data that is identifiable as belonging to me removed or allowing it to continue to be used. However, once the findings have been produced, removal of my data may not be possible.
- ☐ I agree to take part in this research.
- ☐ I wish to receive a summary of the research findings (please tick one): Yes ☐ No ☐
- ☐ I wish to use a pseudonym to protect my identity throughout the research project (please tick one):
 Yes ☐ please provide your preferred pseudonym..... No ☐
- ☐ I wish to be identified in the research findings (please tick one): Yes ☐ No ☐

Participant's signature:

Participant's name:

Participant's Contact Details (If appropriate):

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.....

.....

.....

Date:

Approved by the Auckland University of Technology Ethics Committee 10 February 2023 AUTEK Reference number 22/378

Note: The Participant should retain a copy of this form.

หนังสือยินยอม สำหรับการสำรวจ

ชื่อโครงการวิจัย: *การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อ**การเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย*อาจารย์ที่ปรึกษา: *ศาสตราจารย์ เดม แมวลิ้น แว่วริง และ ศาสตราจารย์ จอห์น เอฟ สมิต*นักวิจัย: *นางสาววิไลลักษณ์ ใหม่วงศ์*

- ☐ ข้าพเจ้าได้อ่านและเข้าใจข้อมูลสำหรับโครงการวิจัยจากเอกสารชี้แจงข้อมูลแก่ผู้เข้าร่วมโครงการวิจัยเป็นที่เรียบร้อยแล้ว ณ วันที่
- ☐ ข้าพเจ้ารับทราบแล้วว่าได้รับโอกาสในการที่จะตั้งคำถามและได้รับคำตอบเกี่ยวกับโครงการวิจัยครั้งนี้
- ☐ ข้าพเจ้าตระหนักดีว่า การระบุตัวตนของเพื่อนผู้เข้าร่วมโครงการและการสนทนากลุ่มนี้เป็นความลับ ข้าพเจ้ายินดีที่จะเก็บรักษาข้อมูลนี้เป็นความลับ
- ☐ ข้าพเจ้ารับทราบว่าการจดบันทึกข้อมูลที่มีขึ้นระหว่างการจัดทำการสนทนากลุ่มนั้น จะมีการบันทึกเทปและถอดเทปภายหลังจากการสัมภาษณ์เสร็จสิ้น
- ☐ ข้าพเจ้ารับทราบว่าการเข้าร่วมการศึกษาในครั้งนี้เป็นการเข้าร่วมแบบสมัครใจ (ไม่ได้ถูกบังคับ) และข้าพเจ้าอาจยุติการเข้าร่วมได้ทุกเมื่อ โดยไม่มีผลใด ๆ
- ☐ ข้าพเจ้ารับทราบว่าหากข้าพเจ้าถอนตัวจากการศึกษานี้ ข้าพเจ้าจะได้รับการเสนอทางเลือกระหว่างลบข้อมูลที่ระบุถึงตัวตนของข้าพเจ้าออกไป หรือ อนุญาตให้นำข้อมูลที่ได้รับจากข้าพเจ้าไปใช้ประโยชน์ในการศึกษาต่อได้ อย่างไรก็ตาม หากเมื่อผลการศึกษาได้ดำเนินการจัดทำเสร็จสมบูรณ์แล้ว การลบข้อมูลของข้าพเจ้าออกนั้นไม่สามารถทำได้
- ☐ ข้าพเจ้ายินดีที่จะเข้าร่วมโครงการวิจัยในครั้งนี้
- ☐ ข้าพเจ้ามีความประสงค์จะรับขอรายงานสรุปผลการที่ได้จากการวิจัยครั้งนี้ (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะใช้นามสมมติเพื่อไม่ต้องการเปิดเผยตัวตนของข้าพเจ้าตลอดการเข้าร่วมโครงการวิจัย (โปรดเลือก): ใช่ ☐ โปรดระบุนามสมมติที่ท่านประสงค์..... ไม่ใช่ ☐
- ☐ ข้าพเจ้ามีความประสงค์จะเปิดเผยตัวตนของข้าพเจ้าในผลการศึกษาวิจัย (โปรดเลือก): ใช่ ☐ ไม่ใช่ ☐

ลายเซ็นผู้เข้าร่วม:

ชื่อผู้เข้าร่วม:

รายละเอียดข้อมูลสำหรับติดต่อของผู้เข้าร่วม (ตามความเหมาะสม):

.....

วันที่:

เอกสารฉบับนี้ได้รับการอนุมัติจากคณะกรรมการจริยธรรมในการวิจัยแห่งมหาวิทยาลัยเทคโนโลยีแห่งโอ๊คแลนด์

เมื่อวันที่ 10 กุมภาพันธ์ 2566 หมายเลขอ้างอิง 22/378

หมายเหตุ: ผู้เข้าร่วมโครงการวิจัยโปรดเก็บรักษาแบบฟอร์มฉบับนี้ไว้

Appendix D: Questions



Set I : Semi – Structure Interview Questions

(For Life Story Interviews)

Project Title: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

Part I: General information about the villages

1. How long have you been living here?
2. How old are you now? If I may ask.
3. How many people and generations are there in your family?
4. Could you please tell me about your childhood?

Part II: Natural resources, environment and climate conditions

1. Do you think the temperature nowadays is still the same when you were young?
2. What's about the rainfall?
3. Could you please tell me a bit how rainfall was changed?
4. When you were young was the river /tree cover/forest/water shed different.
5. How do you think those natural resources or environment have been changed?
6. How these affect people's way of life?
7. Do you remember what any key events in the history of the village to do with climate change?
8. How did you manage those difficulties?
9. What are the your day to day activities?
10. What make your feel proud in your life?
11. What do you want to improve for having a better quality of life?

ชุดที่ 1: การสัมภาษณ์แบบกึ่งโครงสร้าง

(ใช้สำหรับการสัมภาษณ์เชิงชีวประวัติ)

ชื่อโครงการวิจัย: การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย

ส่วนที่ 1: ข้อมูลทั่วไปเกี่ยวกับหมู่บ้าน

1. ท่านอาศัยอยู่ที่หมู่บ้านนี้มานานเท่าไร
2. ตอนนี้ท่านอายุเท่าไร
3. ในครอบครัวท่านมีสมาชิกกี่คน และอยู่ด้วยกันกี่รุ่น
4. พอจะเล่าให้ฟังได้หรือไม่ว่าชีวิตสมัยวัยเด็กเป็นอย่างไร

ส่วนที่ 2: ทรัพยากรธรรมชาติ สิ่งแวดล้อม และสภาพภูมิอากาศ

1. ท่านคิดว่าอากาศทุกวันนี้เหมือนเมื่อตอนเป็นท่านเป็นเด็กหรือไม่
2. แล้วท่านคิดว่าปริมาณน้ำฝนเป็นอย่างไร
3. ช่วยเล่าให้ฟังหน่อยได้ไหมว่าปริมาณน้ำฝนเปลี่ยนแปลงไปอย่างไร
4. ทรัพยากรธรรมชาติ เช่น แม่น้ำ ลำคลอง ป่าไม้ ดินไม้ สัตว์ป่าน้ำ เปลี่ยนแปลงไปจากเมื่อตอนที่ท่านเป็นเด็กหรือไม่
5. ท่านคิดว่าทรัพยากรธรรมชาติหรือสิ่งแวดล้อมเหล่านั้นเปลี่ยนแปลงไปอย่างไร
6. แล้วชาวบ้านได้รับผลกระทบอย่างไร
7. ท่านจำได้หรือไม่ว่าจะไร่ว่ามีเหตุการณ์สำคัญ ๆ อะไรของหมู่บ้านเกี่ยวกับการเปลี่ยนแปลงสภาพภูมิอากาศ
8. แล้วท่านจัดการกับปัญหาเหล่านั้นอย่างไร
9. ในแต่ละวันท่านทำอะไรบ้าง
10. อะไรที่ทำให้ท่านรู้สึกภูมิใจในชีวิต
11. ท่านอยากจะทำอะไรเพื่อให้เกิดคุณภาพชีวิตที่ดีขึ้น



Set II: Semi – Structure Interview Questions

(For In-depth Interviews)

Project Title: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

Part I: General information about the villages and climate conditions

1. How long have you been living here? And how old are you now? If I may ask.
2. Are you married?
3. What do you do for your living? How long?
4. What does your partner do for your living? How long?
5. How many children do you have? Tell me a bit about what are they doing?
6. How many people and generations are there in your family?
7. What are the your day to day activities?
8. What make your feel proud in your life?
9. What do you want to improve for having a better life?
10. Have you heard about "Climate Change"? and What do you think about this word?
11. Do you think climate change impacts your way of life?
12. How did you do to lessen to impacts of climate change in the past?
13. Do you think what are activities impacted from climate change from your own experience?
14. How do you act to adapt to climate change?
15. What is the key point to get success if you want to adapt to climate change in this village?

Part II: Women's contribution in the village

1. What do you do in your free time? And why do you do this (these) activities?
2. Is there women's group in the village or in this the sub-district? And how is it organised?
3. What is your role in that group (if any)?
4. How often do you involve in the group or community activities?
5. Have you involved in the process of participation and decision making in the village level?
6. Which is the platform for people's participation in your village can be involved?

Part III : COVID-19 impacts

1. Have you suffered on COVID-19 impacts? And in what way?
2. How do you deal with its impacts?
3. Are there your family members or relatives coming back to the village since the lockdown?
4. What have they done for their livelihoods?

ชุดที่ 2: การสัมภาษณ์แบบกึ่งโครงสร้าง

(ใช้สำหรับการสัมภาษณ์เชิงลึก)

ชื่อโครงการวิจัย: การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย

ส่วนที่ 1: ข้อมูลทั่วไปเกี่ยวกับหมู่บ้านและสภาพภูมิอากาศ

1. ท่านอาศัยอยู่ที่หมู่บ้านนี้มานานเท่าไร และท่านอายุเท่าไร
2. ท่านแต่งงานหรือยัง
3. ท่านทำประกอบอาชีพอะไรและทำมานานเท่าไร
4. สามีท่านประกอบอาชีพอะไรและทำมานานเท่าไร
5. ท่านมีลูกกี่คน บอกได้ไหมว่าเขาทำอะไร
6. ในครอบครัวท่านมีสมาชิกกี่คน และอยู่ด้วยกันกี่รุ่น
7. กิจกรรมในแต่ละวันของท่านมีอะไรบ้าง
8. อะไรที่ทำให้ท่านรู้สึกภูมิใจในชีวิต
9. ท่านอยากจะพัฒนาเปลี่ยนแปลงอะไรเพื่อให้เกิดคุณภาพชีวิตที่ดีขึ้น
10. ท่านเคยได้อินเกี่ยวกับการเปลี่ยนแปลงสภาพภูมิอากาศหรือไม่ และท่านคิดอย่างไรกับคำนี้
11. ท่านคิดว่า การเปลี่ยนแปลงสภาพภูมิอากาศ มีผลต่อชีวิตท่านหรือไม่
12. ที่ผ่านมาท่านทำอะไรเพื่อลดผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศอย่างไร
13. จากประสบการณ์ที่ผ่านมาของท่านคิดว่ากิจกรรมอะไรบ้างที่ได้รับผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศ
14. ท่านปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศอย่างไร
15. อะไรคือสิ่งสำคัญที่จะทำให้ประสบความสำเร็จถ้าท่านต้องการที่ปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในหมู่บ้านของท่าน

ส่วนที่ 2: บทบาทของผู้หญิงในชุมชน

1. ท่านทำอะไรในเวลาว่าง และทำไมท่านจึงทำกิจกรรม (เหล่านี้) นี้
2. ในหมู่บ้านของท่าน หรือในตำบลของท่าน มีการรวมกลุ่มใด ๆ หรือกลุ่มของสตรีหรือไม่ ถ้ามีกลุ่มนั้น ๆ เกิดขึ้นได้อย่างไร
3. บทบาทในการเข้าร่วมกลุ่มของท่านคืออะไร (ถ้ามี)
4. ท่านเข้าร่วมการประชุมกลุ่มหรือการประชุมหมู่บ้านบ่อยแค่ไหน
5. ท่านเคยเข้าร่วมกระบวนการมีส่วนร่วมและการตัดสินใจของชุมชนหรือไม่
6. มีช่องทางใดบ้างที่เป็นพื้นที่สำหรับให้คนในชุมชนได้มีส่วนร่วม



ส่วนที่ 3: ผลกระทบของโควิด -19

1. ท่านได้รับผลกระทบจาก COVID-19 หรือไม่ อย่างไร
2. ท่านจัดการกับผลกระทบเหล่านั้นอย่างไร
3. มีสมาชิกในครอบครัวของท่านเดินทางกลับมายังหมู่บ้านตั้งแต่ช่วงล็อกดาวน์หรือไม่
4. พวกเขาเหล่านั้นทำอะไรเมื่อกลับมาที่หมู่บ้าน



Surveys

Project Title: Understanding Factors Affecting Women's Level of Involvement in Adaptation to Climate Change in Isan, the Northeastern Region of Thailand

Respondent

☐ Local administration chief/staff ☐ Village leader

Part I : Socio-economic and demographic characteristic of the village

1. Gender (people) Male Women
 2. Age range <18 18- 40 40- 60 > 60
 3. Household head (household) Male Women
 4. Household size (people) <4 5-6 More- than 6
 5. Education (people) None Primary Secondary Tertiary
 6. Number of land parcels (people)
 <5 rai 5-10 rai More than 10 rai
- Note: 1 rai equals 0.40 acres
7. Average annual income in Thai Baht (people)
 <40,000 40,001-100,000 100,001 – 150,000
 150,001 -200,000 200,000 and above
 8. Number of households living under poverty line
 9. Number of people registered into a social-welfare system for low-income people
 10. Do people can access to healthcare system
 11. Type of healthcare system
 12. Where is the nearest hospital
 13. How far from the village to nearest hospital
 14. What are the water resources for drinking and consuming
 - The cost of water per unit
 15. Percentage of households accessing to water supply system
 16. Percentage of households accessing to electricity
 17. Percentage of households having their own water closets/toilets



18. Number of Village Heath Volunteers.....
.....

Part II : Village's livelihoods

1. Villagers' main source of income/occupation (Household)
Agricultural sector..... Non-agricultural sector.....
2. Type of farming works (Household)
Rice..... Sugarcane..... Maize..... Casava..... Vegetable.....
Fishing..... Livestock.....
3. Land ownership (Household) Outright ownership..... Rent.....
No right on land.....
4. Land titles are mainly (%) Men..... Women.....
5. Proportion of men and women in the farm (%) Men..... Women.....
6. Off-farm income (Type) Skill workers ☐ Unskilled workers ☐
7. Market distance (km) ☐ <5 ☐ 5-10 More ☐ - than 10
8. Percentage of labours in farms (%) Men.....
Women.....
9. Farmer's group membership ☐ Yes, please state.....
☐ No.....
10. Percentage of men and women in farmer's group (%) Men.....
Women.....
11. Other Cooperative group memberships ☐ Yes.....
☐ No.....
And how is the role of women in that group

Part III : Perceptions on climatic impacts

1. Type of irrigation for farms (Rai) Irrigation system..... Rainfall only.....
Ground water..... Electric water pump.....
2. Use of fertiliser (Rai) Organic..... Chemical.....
3. Have you suffered from climate change disasters ☐ Yes..... ☐ No.....
4. Type of climate change impacts ☐ Floods..... ☐ Droughts.....
☐ High temperature..... ☐ Land slides.....
☐ Others.....

Note : Climate change impacts in this survey are referred to unpredictable or severe floods or droughts according to yearly announcement of department of disaster prevention and mitigation, Ministry of Interior, Thailand.

- In what way

- | Social | Economic | Environmental | Institutional |
|-----------------------------|--|--------------------------------------|--|
| Labour for farming | Cost of adaptation | Local resources | Land ownership |
| Adaptation belief | Access to Credit/
finance | Uncertainties of
weather patterns | Extension services |
| Reliance on fate | Debt | Water resources | Market |
| Royal Ploughing
Ceremony | Cost of farming
technology and
machinery | Soil fertility/Land | Government
subsidy, programme
and policy |

1. Current village leader ☐ Man ☐ Woman

2. Key success factor that man/women is being selected to be a village leader

.....

- | | | |
|---|---|---------------------------------|
| 3. Women's involvement in the village committee | ☐ Yes | ☐ No |
| 4. Role of women in village committee | ☐ Leader | ☐ Committee |
| | ☐ Village Health Volunteers | ☐ Member |
| 5. A particular women's group membership in the village | ☐ Yes | |
| | ☐ No | |
| 6. Women's involvement outside the village eg. sub-district | ☐ Yes | ☐ No |
| 7. Women's group membership outside the village | | |
| 8. Role of women outside the village | ☐ Leader | ☐ Committee |
| | ☐ Other | ☐ Member |



9. Activities in the village rely on women's participation (must have women's acts in those activities).....
10. Development programmes considers the gender balance between men and women proportion (in what way)
☐ Yes ☐ No
11. Women have had problems coming to join in any activities
☐ Yes ☐ No
12. The percentage of women presents in the meeting (%).....
13. When it comes to vote or making decision, women can decide by themselves without asking their partners ☐ Yes ☐ No
- How do you know



AUT

TE WĀNANGA ARONUI
O TĀMAKI MAKAU RAU

แบบสำรวจ

ชื่อโครงการวิจัย: การศึกษาปัจจัยที่ส่งผลกระทบต่อระดับการมีส่วนร่วมของผู้หญิงในด้านการปรับตัวต่อการเปลี่ยนแปลงสภาพภูมิอากาศในภาคตะวันออกเฉียงเหนือของประเทศไทย

ผู้ตอบคำถาม

☐ หัวหน้าหรือเจ้าหน้าที่ขององค์การปกครองส่วนท้องถิ่น ☐ ผู้นำชุมชน

ส่วนที่ 1: ข้อมูลด้านเศรษฐกิจ สังคม และประชากรของชุมชน

1. เพศ (จำนวนคน) ชาย หญิง
2. ช่วงอายุ <18 18- 40 40- 60 > 60
3. ผู้นำครอบครัว (จำนวนครัวเรือน) ชาย หญิง
4. ขนาดครัวเรือน (จำนวนคน) <4 5-6 มากกว่า 6
5. การศึกษา (จำนวนคน) ไม่ได้รับการศึกษา ประถมศึกษา
มัธยมศึกษา อุดมศึกษา
6. การครอบครองที่ดิน (จำนวนคน)
<5 ไร่ 5-10 ไร่ มากกว่า 10 ไร่
หมายเหตุ: 1 ไร่ เท่ากับ 0.40 เอเคอร์
7. รายได้เฉลี่ยต่อปี (จำนวนคน)
<40,000 40,001-100,000 100,001 – 150,000
150,001 -200,000 200,000 หรือมากกว่า
8. จำนวนครัวเรือนได้เส้นความยากจน
9. จำนวนคนที่ลงทะเบียนในระบบบัตรสวัสดิการแห่งรัฐ
10. ชาวบ้านเข้าถึงระบบรักษาพยาบาลทุกคนหรือไม่
11. ประเภทของระบบรักษาพยาบาล
12. สถานพยาบาลที่ใกล้ที่สุด
13. หมู่บ้านอยู่ห่างจากโรงพยาบาลเท่าใด



14. แหล่งน้ำในชุมชนเพื่อการอุปโภคบริโภค.....
 ต้นทุนน้ำต่อหน่วย.....
15. ร้อยละของจำนวนครัวเรือนที่สามารถเข้าถึงแหล่งน้ำเพื่อการอุปโภคบริโภคได้.....

16. ร้อยละของจำนวนครัวเรือนที่เข้าถึงไฟฟ้า.....

17. ร้อยละของครัวเรือนที่มีห้องน้ำที่ถูกละทิ้งขยะใช้.....

18. จำนวนของอาสาสมัครสาธารณสุขชุมชน (อสม.).....

ส่วนที่ 2 : ความเป็นอยู่ของคนในชุมชน

1. รายได้หลักหรืออาชีพของคนในชุมชนมาจาก (จำนวนครัวเรือน)
 ภาคการเกษตร..... นอกภาคการเกษตร.....
2. ประเภทของงานในฟาร์ม (จำนวนครัวเรือน)
 ปลุกข้าว..... น้ำตาล..... ข้าวโพดเลี้ยงสัตว์.....
 มันสำปะหลัง..... ปลุกผัก..... เลี้ยงปลา/ประมง.....
 ปศุสัตว์.....
3. การครอบครองที่ดิน (จำนวนครัวเรือน) มีกรรมสิทธิ์ในที่ดินทำกิน..... เข้าที่ดิน.....
 ไม่มีสิทธิ์ในที่ดินทำกิน/บุกรุก/พื้นที่สาธารณะ.....
4. สัดส่วนของกรรมสิทธิ์ในที่ดินเป็นของ (%) ผู้ชาย..... ผู้หญิง.....
5. สัดส่วนของผู้ชายและผู้หญิงในการทำงานในฟาร์ม (%) ผู้ชาย..... ผู้หญิง.....
6. การทำงานเพื่อหารายได้นอกภาคการเกษตร (ประเภท) ☐ แรงงานมีทักษะ ☐ แรงงานไร้ทักษะ
7. ระยะทางระหว่างหมู่บ้านถึงตลาด (กม.) ☐ <5 5-10 ☐ มากกว่า 10
8. ร้อยละของจำนวนจำนวนแรงงานในฟาร์ม (%) ผู้ชาย.....
 ผู้หญิง.....
9. มีกลุ่มสมาชิกเกษตรกรใด ๆ หรือไม่ ☐ มี, โปรดระบุ.....
☐ ไม่มี.....



10. ร้อยละของจำนวนผู้หญิงและผู้ชายในกลุ่มสมาชิกเกษตรกร (%) ผู้ชาย.....

ผู้หญิง.....

11. กลุ่มสมาชิกสหกรณ์/อื่นๆ ☐ มี โปรดระบุ.....

☐ ไม่มี.....

ถ้ามีบทบาทหลักของผู้หญิงในกลุ่มคืออะไร.....

ส่วนที่ 3 : การรับรู้ต่อผลกระทบด้านสภาพอากาศ

1. ความครอบคลุมของระบบน้ำที่ใช้ในฟาร์ม (ไร่) ระบบชลประทาน..... น้ำฝน.....

น้ำใต้ดิน..... ปิมน้ำไฟฟ้าจากแหล่งน้ำ.....

2. ประเภทของการใช้ปุ๋ย (ไร่) อินทรีย์..... เคมี.....

3. หมู่บ้านนี้เคยได้รับผลกระทบจากภัยพิบัติจากการเปลี่ยนแปลงสภาพภูมิอากาศหรือไม่ ☐ ใช่ ☐ ไม่ใช่

4. ประเภทของผลกระทบจากการเปลี่ยนแปลงสภาพภูมิอากาศที่ได้รับ

☐ น้ำท่วม..... ☐ ฝนแล้ง..... ☐ อุณหภูมิสูง.....

☐ ดินถล่ม..... ☐ อื่น ๆ.....

หมายเหตุ : ผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศในการสำรวจนี้หมายถึงเหตุการณ์ที่ไม่คาดการณ์หรือฝนตกอย่างหนัก หรือ ฝนแล้งอย่างหนัก ตามประกาศของกรมป้องกันและบรรเทาสาธารณภัยกระทรวงมหาดไทย

5. มีการปรับตัวเพื่อลดผลกระทบต่อการเปลี่ยนแปลงสภาพภูมิอากาศ ☐ ใช่..... ☐ ไม่ใช่.....

ในรูปแบบใด.....

○ ผู้ชายหรือผู้หญิงตัดสินใจในครัวเรือน.....

○ ทราบได้อย่างไร.....

○ ผู้ชายหรือผู้หญิงตัดสินใจในชุมชน.....

○ ทราบได้อย่างไร.....



6. อุปสรรคในการปรับตัวต่อผลกระทบด้านการเปลี่ยนแปลงสภาพภูมิอากาศ

ด้านสังคม	ด้านเศรษฐกิจ	ด้านสิ่งแวดล้อม	ด้านองค์กร
การใช้แรงงานในฟาร์ม	ต้นทุนด้านการปรับตัว	ทรัพยากรของท้องถิ่น	การครอบครองที่ดิน
ความเชื่อต่อการคิดที่จะปรับตัว	การเข้าถึงแหล่งเงินทุน	ความไม่แน่นอนในรูปแบบของสภาพอากาศ	การส่งเสริมการเกษตร
ความเชื่อในโชคชะตา	หนี้สิน	ทรัพยากรน้ำ	การตลาด
พิธีกรรมทางวัฒนธรรม	ต้นทุนของการใช้เทคโนโลยีและเครื่องจักรในฟาร์ม	สภาพดิน	การช่วยเหลือการสนับสนุนของภาครัฐ

อุปสรรคใดข้างต้น ที่ส่งผลกระทบต่อผู้หญิงมากกว่าผู้ชาย

.....

.....

ส่วนที่ 4 : บทบาทของผู้หญิงต่อการพัฒนาชุมชน

1. ผู้ใหญ่บ้านปัจจุบันเป็น ☐ ผู้ชาย ☐ ผู้หญิง

2. ปัจจัยแห่งความสำคัญที่ผู้ชายหรือได้รับคัดเลือกเป็นผู้ใหญ่บ้าน

.....

3. มีผู้หญิงเป็นคณะกรรมการหมู่บ้าน ☐ ใช่ ☐ ไม่ใช่

4. บทบาทของผู้หญิงในคณะกรรมการหมู่บ้าน ☐ ผู้นำ ☐ คณะกรรมการ/ผู้ช่วย

☐ อสม. ☐ สมาชิก

5. กลุ่มสมาชิกที่เป็นผู้หญิงโดยเฉพาะ ☐ มีโปรตระกูล

☐ ไม่มี

6. ผู้หญิงมีบทบาทในการเข้าร่วมกลุ่มนอกหมู่บ้าน เช่น ระดับตำบล ☐ มีโปรตระกูล

☐ ไม่มี



7. บทบาทของผู้หญิงนอกหมู่บ้าน ☐ ผู้นำ ☐ กรรมการหมู่บ้าน ☐ อื่นๆ ☐ สมาชิก
8. กิจกรรมในหมู่บ้านที่ต้องพึ่งผู้หญิงมีส่วนร่วม (ต้องมีผู้หญิงร่วมในกิจกรรมนั้นๆ จึงจะสำเร็จ).....
.....
9. ท่านคิดว่าโปรแกรมการพัฒนาได้คำนึงถึงความเท่าเทียมทางเพศระหว่างชายกับหญิงหรือไม่ (อย่างไร)
☐ ใช่ ☐ ไม่ใช่
10. ผู้หญิงได้ประสบกับปัญหาในการเข้าร่วมกิจกรรมใด ๆ ของหมู่บ้านหรือไม่ อย่างไร
☐ ใช่ ☐ ไม่ใช่
11. ร้อยละของจำนวนผู้หญิงในการประชุมหมู่บ้านโดยเฉลี่ย (96).....
12. เมื่อมีการลงคะแนนหรือการโหวตใด ๆ ผู้หญิงสามารถตัดสินใจด้วยตนเอง โดยที่ไม่ต้องถามสามีหรือคู่สมรส
☐ ใช่ ☐ ไม่ใช่
- ท่านทราบได้อย่างไร.....

Appendix E: Thematic Coding System

Table 11: Themes, Code Groups and Codes Used to Categorise Type of Codes

Themes	Code Group Names	Description	Codes	Frequency of codes
Collective Resilience	Initiative and Customary Practices	This code group contributes to enhancing the capacity of individuals or communities to adapt to climate change from the villagers' needs.	1. Maintain Ongoing Agricultural Adaptation 2. Conservation Project	30
Climate Perception and Adaptive Capacity	(1) Agriculture and Farming Practices	This code group encompasses codes related to the various agricultural and farming activities, methods, and practices within the community, including crop cultivation, livestock management, and related topics.	1. Alternative Energy in Farming 2. Cattle and Fishing 3. Chemical Usage Consideration 4. Farming Experience 5. Market Demand and Supply 6. Risk Management	41
	(2) Climate Experience Learning	This code group focuses on the community's experiences and responses to climate-related challenges, as well as their resilience strategies and adaptation efforts.	1. Adaptive Response to Climate Change 2. Adverse Weather Impact 3. Drought Experience 4. Flood Experience 5. Cost of Living 6. Natural Sign	98
Economic Challenges	(1) Economy and Livelihood	This code group focuses on the community's experiences and responses to climate-related challenges, as well as their resilience strategies and adaptation efforts.	1. Duration of Living 2. Economic and Social Changes 3. Festival and Weather Patterns 4. Non-Farming Working	39
	(2) External Organisational Support	This code group pertains to codes related to the support and assistance received by the community from external organisations or entities.	1. Academic Institution Support 2. Local Government Support 3. Royal Project Support	15
	(3) Pandemic Impacts	This code group addresses the impact of pandemic situations, such as COVID-19, on the villagers' daily life, job, and well-being.	1. Excess Supply Management 2. Income Loss 3. Market Closure 4. Opportunity During the Pandemic 5. Postponed Festival Due to Pandemic	18
	(4) Welfare	This code group pertains to codes related to the	1. Job Security	6

Themes	Code Group Names	Description	Codes	Frequency of codes
		well-being and living conditions of the community members, including access to necessities and social services.	2. Village Fund	
Social Dynamics and Gendered Roles in Community Development	(1) Community Issues and Concerns	This code group contributes to the different problems, challenges, and concerns faced by the community, covering a wide range of topics.	1. Budget Insufficiency 2. Climate Change Ignorance 3. Debt Problem 4. Lack of Local Wisdom 5. Plant Disease 6. Purchasing Drinking Water 7. Rainwater Quality Concern 8. Rubbish Problem 9. Water Resource Problem 10. Water Scarcity	33
	(2) Community and Society	This code group addresses the dynamics, relationships, and activities within the community, encompassing social, cultural, and communal aspects.	1. Climate Change Learning Method 2. Community Development 3. Family Size and Structure 4. Community interdependence 5. Having Local Wisdom 6. Technological Development 7. Comfort in <i>Isan</i> Discussion Style	27
	(3) Health and Well-being	This code group contributes to codes pertaining to factors affecting the physical and mental health, well-being, and healthcare practices within the community.	1. Covid19 Impact 2. Drug Use Problem 3. Health Issue	13
	(4) Historical Community Dynamics	This code group involves codes related to the historical and past conditions of livelihood, economic activities, and social dynamics within the community.	1. Childhood Memory 2. Traditional Way of Life 3. Natural Phenomena Change 4. Old-Day Transportation 5. Weather in the Past	56
	(5) Policy	This code group contributes encompasses codes related to government policies,	1. Government Policy 2. Political Campaign	10

Themes	Code Group Names	Description	Codes	Frequency of codes
		regulations, and initiatives that impact the community.	3. Reforestation Campaign	
	(6) Traditional and Cultural Practices	This code group consists codes related to the preservation, continuation, or transformation of traditional and cultural practices within the community.	1. Calendar Leap Year 2. Challenges in the Way of Life 3. Common Belief 4. Religious Practice 5. Restrictions on Festival 6. Spiritual Belief 7. Spiritual Ceremony 8. Village Tradition 9. <i>Isan</i> Festivals	42
	(7) Young Generation	This code group addresses the experiences, activities, and roles of the younger generation within the community.	1. Future Generation in Farming 2. Youth Participation 3. Absence of Youth Participation	7
	(8) Gender Disparities and Roles	This code group contributes highlights the differences in roles, responsibilities, and expectations between men and women.	1. Equal Collaboration between Genders 2. Men's Expertise 3. Men's Role in Village 4. VHVs 5. Women's Expertise 6. Women's Leisure Activities 7. Women's Role in Village	92
	(9) Participation	This code group pertains to codes related to the villagers' involvement and engagement in various activities, initiatives, and decision-making processes.	1. Community Women Group 2. Communication with Village Headmen 3. People's Participation in Village 4. Right to Vote 5. Trust in Leader	36
Resource Management	(1) Community Resources	This code group involves codes related to the various resources available within the community, including natural, human, and economic resources.	1. Community Forest 2. Community Forest Food Access 3. Community Forest Ranger 4. Community Forest Wildlife Presence 5. Equal Allocation of Land 6. Groundwater 7. Irrigation System 8. Land Ownership 9. Rainwater Farming Source	88

Themes	Code Group Names	Description	Codes	Frequency of codes
			10. Village Resource Management Right 11. Water Resource	
	(2) Environmental Concerns	This code group includes codes related to issues and challenges concerning the environment within or nearby the village.	1. Air Pollution Mitigation Measure 2. Air Pollution Problem 3. Community Impact from Outsider 4. Industrial Development 5. Source of Air Pollution	28

Note: Table compiled by the author.