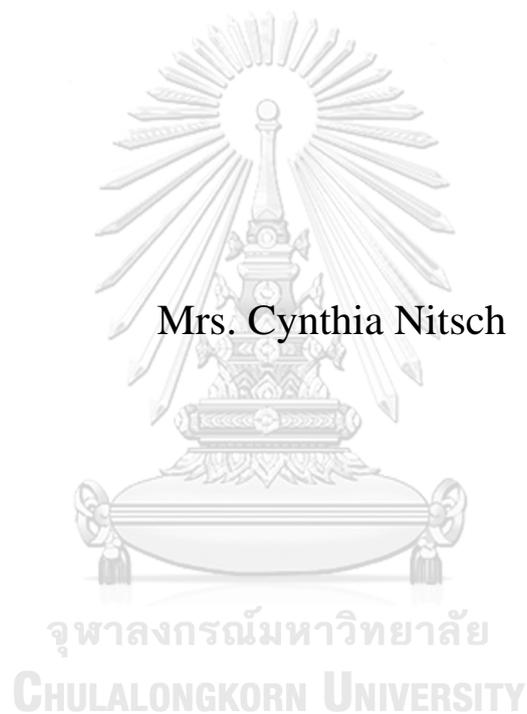


Environmental Displacement in Thailand's Disaster Policy and
Practice: A case study of Samut Chin

Mrs. Cynthia Nitsch



A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Arts in International Development Studies
Common Course
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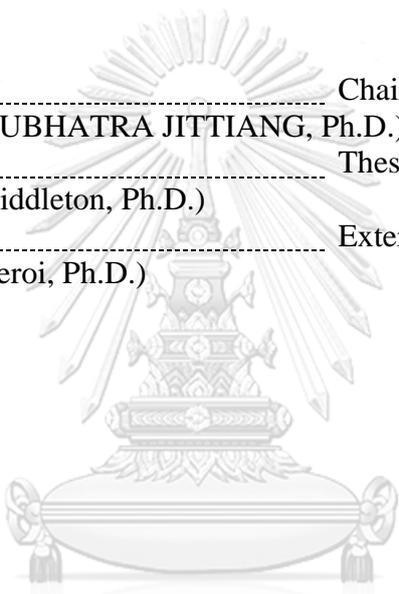
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By Mrs. Cynthia Nitsch
Field of Study International Development Studies
Thesis Advisor Carl Middleton, Ph.D.

Accepted by the FACULTY OF POLITICAL SCIENCE, Chulalongkorn
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การพลัดถิ่นด้านสิ่งแวดล้อมในนโยบายและการปฏิบัติว่าด้วยภัยพิบัติ:

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อ.ที่ปรึกษาหลัก : คาร์ล มิเดิลตัน

เนื่องจากโลกกำลังประสบกับภัยพิบัติบ่อยครั้งขึ้นเรื่อยๆ ทั้งอย่างกะทันหันและอย่างทีละน้อยๆ เกิดจำนวนชุมชนที่ต้องเผชิญกับการพลัดถิ่นเพิ่มขึ้นอย่างรวดเร็ว ครอบคลุมความร่วมมือระหว่างประเทศบางกรอบจึงเสนอคำจำกัดความและส่งเสริมแนวทางที่ยึดหลักสิทธิมนุษยชนในการจัดการกับการเคลื่อนย้ายที่เกิดจากภัยพิบัติด้านสิ่งแวดล้อม อย่างไรก็ตาม ในเวทีระหว่างประเทศยังไม่มีข้อกำหนดทางกฎหมายหรือนันทามติใด ๆ เกี่ยวกับการช่วยเหลือคนกลุ่มนี้ จากการขาดข้อตกลงเกี่ยวกับการจำกัดความกลุ่มผู้พลัดถิ่นแต่ละรัฐจึงถูกปล่อยให้สร้างและใช้คำจำกัดความและนโยบายของตนเองเพื่อช่วยเหลือกลุ่มผู้พลัดถิ่นที่ประสบกับช่องโหว่นี้ และเสี่ยงต่อการละเมิดสิทธิมนุษยชน รัฐจึงต้องรับผิดชอบในการปกป้องสิทธิและบรรเทาความเสียหายจากภัยพิบัติเหล่านี้

การวิจัยนี้ได้ศึกษากรณีของชุมชนบ้านขุนสมุทรจีน จังหวัดสมุทรปราการ ซึ่งมีระดับน้ำทะเลที่สูงขึ้นทำให้หมู่บ้านเหล่านี้ถูกน้ำท่วมเป็นประจำ ภัยพิบัตินี้ทำให้ชุมชนบ้านขุนสมุทรจีนจำเป็นต้องย้ายบ้านออกไปจากฝั่งทะเลหรือย้ายที่อยู่อย่างถาวร งานวิจัยชิ้นนี้ได้มีการสัมภาษณ์ในหมู่บ้านเพื่อทำความเข้าใจและประเมินความรุนแรง นอกจากนี้ยังมีการวิเคราะห์กฎหมายและนโยบายเกี่ยวกับภัยพิบัติเพื่อกำหนดการจัดหมวดหมู่ให้กับผู้พลัดถิ่นจากสิ่งแวดล้อมและความช่วยเหลือที่ได้รับ โดยศึกษานโยบายที่เหมาะสมจากหน่วยงานด้านภัยพิบัติทั้งในระดับประเทศและระดับจังหวัดและเปรียบเทียบกับประสบการณ์ของผู้พลัดถิ่นในชุมชนบ้านขุนสมุทรจีนแล้ว ผลการวิเคราะห์นโยบายแสดงให้เห็นได้ชัดว่าพวกหน่วยงานภาครัฐไม่ได้พิจารณาและแก้ไขจุดอ่อนทั้งหมดอย่างเพียงพอ แม้ว่านโยบายด้านภัยพิบัติของประเทศไทยจำนวนมากมีแผนและทรัพยากรที่พร้อมจะสนับสนุนภัยพิบัติตลอดเวลาก็ยังไม่ได้รับการตอบรับที่เพียงพอจากผู้พลัดถิ่นจากสิ่งแวดล้อมทั้งผู้พลัดถิ่นระยะสั้นและระยะยาว

ช่องว่างในนโยบายภัยพิบัตินี้จะนำไปสู่ช่องว่างในการคุ้มครองสิทธิมนุษยชนและเพิ่มความเสียหายต่อผลกระทบจากภัยพิบัติสาขาวิชา การพัฒนาระหว่างประเทศ

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As the world is experiencing more frequent disasters, sudden and slow-onset, the number of communities facing displacement is rapidly increasing. Some international frameworks suggest definitions and promote human rights-based approaches to dealing with mobility caused by environmental concerns, however, there is no legal term nor general consensus on how to label this group of people. With a lack of agreement on how to categorize those displaced on the international stage, nations are left to create and implement their own definitions and policies to assist. Displaced groups experience specific vulnerabilities and are at risk of human rights violations. The responsibility to protect rights and alleviate vulnerabilities falls on states. Looking at a small village in the Samut Prakan province of central Thailand, Samut Chin, sea-level rise is inundating much of the village each year. Families are moving their homes farther from the coastline or relocating altogether. Interviews were conducted in the village to understand and assess the severity of specific vulnerabilities. An analysis was made of disaster laws and policies to determine the categorization given for environmentally displaced persons and what resources were allocated to them. After examining the appropriate policies established by both national and provincial disaster agencies and comparing them to the experiences of those facing displacement in Samut Chin, it is evident that they do not adequately consider and address all vulnerabilities. While many of Thailand's disaster policies have plans and resources readily available to support during the immediate disaster response, there is insufficient recognition given to those affected by gradual environmental degradation or those facing long-term displacement. This gap in disaster policy will surely lead to a gap in the protection of human rights and the reduction of vulnerabilities. By identifying deficits in categorization and allocations in policy this information can be used to change existing policies. It can also benefit civil society, humanitarian organizations, and advocacy groups by highlighting specific areas that environmentally displaced people desperately need assistance.

Field of Study:	International Development Studies	Student's Signature
Academic Year:	2020	Advisor's Signature

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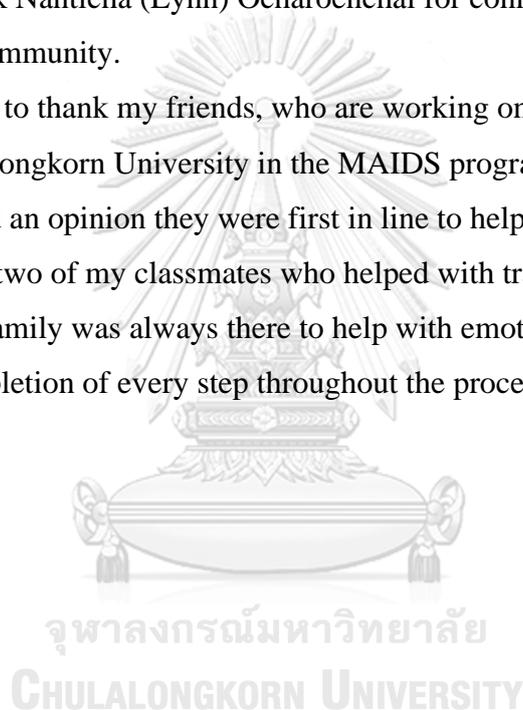


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Chapter One- Introduction

1.1 Problem Statement

Environmental displacement is becoming an increasing concern globally. As the climate continues to change, communities all over the world are facing more and more disasters, slow onset, as well as sudden, more frequently. These disasters lead to a type of forced migration. Thailand is no exception to this phenomenon. It was reported by the Internal Displacement Monitoring Center that in 2017, 18.8 million people were displaced internally throughout the globe, due to environmental reasons. 8.6 million of those were in East Asia and the Pacific. In 2019, 61,000 were environmentally displaced within Thailand (IDMC). These numbers only reflect those displaced internally. While internal displacement is the most common for the environmentally displaced, international displacement also exists, meaning the true number of environmentally displaced persons is even higher. In 2020, the Ecological Threat Register (ETR) predicted that by 2050, tens of millions of Thais will be displaced (Maneechote, 2020). Thailand is ranked as the fifteenth country to have experienced the most climatic disasters between the years 1990 and 2019 with 166 disasters, 68 of which were floods. According to the ETR, Thailand can be categorized as having “medium exposure” to threats of natural disaster.

Specifically looking at the Gulf of Thailand in the central region of the country just south of Bangkok, there is a clear example of how sea-level rise and continued development in farming and infrastructure are causing communities to relocate or adapt to a changing landscape. In the village of Samut Chin in the Samut Prakan province, the coastline is now an entire kilometer farther inland than it used to be thirty years prior. Some residents have had to move their homes up to eight times over the past thirty years (Picone, 2015). They are running out of dry land to rebuild on, causing some families to relocate altogether. Some residents own deeds on land that is completely submerged into the gulf. This has taken a toll on the community in several ways. The impacts are felt most obviously financially, and physically on this community, but that does not mean they are limited to those types of impacts.

Also, along the coast of the Gulf of Thailand, villages in the Bang Khun Thian District, of Bangkok, specifically in the Ta Kam subdistrict, are facing severe coastal erosion, as well. This area is known for aquaculture farming of shrimp and blood cockles. As the sea level rises, many farmers are having to implement a variety of measures to protect their livelihoods. Studies have been conducted to assess the financial impacts these adaptations have cost (Jarungrattanapong and Manasboonphempool, 2008). It was concluded that an average accumulated cost between the years 1993 and 2007 was 1,506,219 baht (43,824 USD) per farm. These adaptations were still not sufficient and many members of the communities are losing significant income each year. This has and will continue to result in the loss of jobs and homes.

A third area along the coast is the Laemsing District in Chanthaburi Province. It has been reported that between the years 1993 and 2004 the sea level rose 10.5mm on average a year. Due to the rise in sea level, local fishing villages are prone to severe flooding, especially during high tides. This has led to damaged infrastructure, residences, and again, aquaculture farming. Jirawat Paneng and Mokbul Morshed Ahmad assessed the specific vulnerabilities to this area in 2017. This is another example of communities facing displacement or the risk of displacement.

Environmental displacement is still a relatively new area of study. While there are several definitions offered, there is no universal agreement on how to classify this group of people. Lyster and Burkett argued in 2017 that because of this lack of classification, there is a lack of understanding of the complexities and vulnerabilities of the situations involved with those facing displacement. Frameworks exist to support states in creating and implementing policies to protect environmentally displaced persons, but many scholars believe that those non-binding agreements and mandates are insufficient (Myers, 1993, Lyster and Burkett, 2017). Without a clear understanding of the vulnerabilities and needs that this group faces, states and authorities are handicapped at creating and implementing the necessary policies and procedures to adequately protect them.

According to a report, produced by Climate Central, Bangkok will be under water in thirty years due to sea-level rise (Burton, 2019). Those suffering from

internal displacement due to environmental degradation will skyrocket if this happens. What is happening in Samut Chin in Samut Prakan, Bang Khun Thian District, and Laemsing District in Chanthaburi needs to be taken seriously and policy needs to reflect the promotion of protecting the appropriate vulnerabilities these communities are experiencing. The actions taken now to protect those in these coastal villages will need to be expanded on to encompass the potential vulnerabilities that could arise in the greater region. Actions need to be taken to ensure the rights of vulnerable groups are protected. A clear understanding of who these groups are and what their needs are must be established to create appropriate actions and measures. A lack of classification leads to a lack of policy which leads to a lack of protection.

This thesis has examined the challenges environmentally displaced communities are facing. It looked at the categorization of EDPs in policy, and how this vulnerable group is struggling to be labeled. An assessment of the specific vulnerabilities that communities living along the Gulf Coast of Thailand experience is compared against the policies and action plans implemented by the state. This thesis took Samut Chin as a case study because they have already gotten to the point of having to relocate, for some families, multiple times. This research specifically looks at how the Thai government defines or does not define this group of people and what they are doing to assist in protecting their human rights and alleviating potential vulnerabilities. The Thai government's response is compared to what international frameworks and conventions promote and recommend states to do. The purpose of this thesis is to assess the needs, understand what responses have been implemented to address those needs, understand why there is a lack of classification and how that has or hasn't resulted in a lack of protection.

1.2 Conceptual Framework

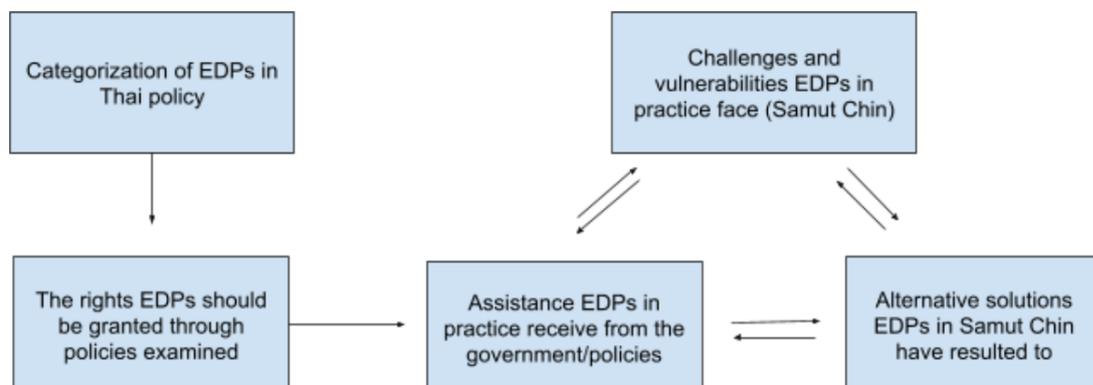


Figure 1

Environmental displacement has been an issue for many years, but it has recently become an increasingly important discussion topic concerning policies and action plans. As climate change continues to alter the environment that society lives in, an urgent need for action becomes more necessary. Not only does an active role need to be taken in implementing practices that curb climate change, but strategies also need to be established to assist those whose lives have already been completely disrupted by this change. While it may be clear to see why policies need to protect and assist those forced to relocate due to environmental concerns, establishing those policies, is not as clear.

There is plenty of debate about what to call this group of people, even on the international stage. This makes categorizing them in policy inconsistent between states (Myers, 1993). Regardless, states must define and categorize them in some way. How Thailand chooses to categorize or not categorize environmentally displaced persons in disaster prevention and mitigation policies will result in certain assistance and resources being available to them. Many frameworks exist focusing on the protection of human rights and alleviation of vulnerability. By identifying how this group is categorized in policy, the assistance, protection, and rights that they are entitled to and by which institutions can be understood. It determines who is included and excluded. States may oversimplify the situation and not considering every element (Scott, 1998). This label or categorization not only helps define the state and citizen relationship, but also defines the perception society and civil society have

towards those included (Janmyr and Mourad, 2018). This will be applied to the community of Samut Chin. This will show, in policy, what they should be granted by the state in the form of assistance, protection, and rights.

Once categorization is established and the corresponding policies are created, a state should measure the efficiency of these conceptions. As highlighted by the UN Guiding Principles on Internal Displacement, protecting human rights should be the focus of nations' plans and policies. To protect such rights, those plans need to address and compensate for vulnerabilities. An assessment of the specific vulnerabilities that EDPs are experiencing should be understood. Communities living on the coast typically rely on the natural environment for several things. Their vulnerabilities may be specific to their gender, livelihoods, socioeconomic status, level of physical development, etc. (Jayawardhan. 2017). By assessing the biggest obstacles EDPs face in relocating or not relocating, their specific vulnerabilities are highlighted.

Certain vulnerabilities will need to be identified. Specific types of vulnerabilities can be pulled from the vulnerability capacities index (VCI) (Mustafa et al, 2010). Those include material vulnerabilities, institutional vulnerabilities, and attitudinal vulnerabilities. Material vulnerabilities indicate what resources they personally have or don't have accessible to better cope with the impacts of displacement. Institutional vulnerabilities address resources that are tied to their social network. Attitudinal vulnerabilities examine how EDPs perceive their position and their ability to participate in solutions. In the table below, these vulnerabilities and how they are measured are displayed.

Table 1- Types of Vulnerabilities

Vulnerability	Measurable Aspect
Material	<ul style="list-style-type: none"> • Means of income • Education • Physical Assets (house, land, etc.)

Institutional	<ul style="list-style-type: none"> • Familial Dependency • Community Connections • Village Infrastructure
Attitudinal	<ul style="list-style-type: none"> • Ability to Communicate (with leaders) • Sense of Involvement/Inclusion • Sense of Empowerment

Table 1

As these vulnerabilities are identified, the severity of each one is weighed and commonality is established between families, a comparison to the assistance given from the state can be done. This comparison will assess the efficiency of the policies in alleviating the most relevant ailments this group is experiencing. In the study, Mustafa's three categories of vulnerability seemed to cover all types of vulnerabilities experienced. The three categories were broad enough to encompass all predicted and experienced vulnerabilities.

If the state's actions are not sufficient to address community vulnerabilities, individual mechanisms are most likely being done to bridge the gap. EDPs in Samut Chin have already found alternative solutions to these gaps. They have turned to other resources or organizations for resources. These alternative solutions were evaluated for their sustainability and effectiveness. There could be other consequences of these new solutions that could lead to future complications. Examining what EDPs are doing on their own to bridge the gaps, gives insight into what the state needs to change in their categorizations and implemented policies.

1.3 Research Questions

- How does the categorization of environmentally displaced persons within Thailand's disaster preparedness and response law, policy, and plans address

the needs and vulnerabilities of affected community members along the Gulf of Thailand facing sea-level rise?

- How does the Thai government categorize EDPs (*EDPs-in-policy*), and what support and process are they entitled to?
- What are the vulnerabilities of *EDPs-in-practice* face?

How do *EDPs-in-practice* respond to these vulnerabilities through seeking state support and other means?

1.4 Research Objectives

- To understand how the categorization of environmentally displaced persons in Thailand's disaster policies address the needs and vulnerabilities of communities facing displacement, because of coastal erosion and sea-level rise.
- To analyze the categorization of EDPs in Thailand's disaster policies and assess the assistance is given to them.
- To assess the vulnerabilities and specific needs of those facing environmental displacement in practice.
- To understand how EDPs use state and non-state support to address those vulnerabilities.

1.5 Methodology

Data collection for this research was a combination of policy analysis and semi-structured interviews. The first unit of analysis is the family, specifically families in Samut Chin who have had to relocate or are contemplating relocation.

The second unit of analysis is the policies that exist currently. The following table will demonstrate the objectives of the data collection, the type of data collected, as well as the methods and the tools used for analysis.

Table 2- Methods of Data Collection

Question	Data needed	Data source	Research tool	Data analysis
How does the Thai government categorize EDPs (<i>EDPs-in-policy</i>), and what support and process are they entitled to?	Categorization in the current Thai govt policy	Policy on the Thai govt website, policies from Samut Prakan disaster plan	Document review	Document analysis
What are the vulnerabilities of <i>EDPs-in-practice</i> face?	An understanding of the actual challenges that EDPs face	People who have been or are facing displacement	Semi-structured interviews	Interpretive analysis
How do <i>EDPs-in-practice</i> respond to these vulnerabilities through seeking state support and other means?	A list of examples for both policy support and alternative means	People who have been displaced and have tried to obtain support from government resources or alternative means	Semi-structured interviews	Interpretive analysis

Table 2

1.5.1 Document Analysis of Thailand's Disaster Policies

To answer the first question “How does the Thai government categorize EDPs (*EDPs-in-policy*), and what support and process are they entitled to?” The document analysis will examine existing publicly available policies. The analysis sought to identify what label EDP’s are given in the policies, and how people are categorized in this group. The analysis then looked at how the policies addressed specific predicted vulnerabilities. The national policies produced by the Department of Disaster Preparedness and Mitigation (DDPM) as well as, the provincial policies implemented by Samut Prakan were examined. National policies were published in English and Thai. Provincial policies were only be published in Thai. These policies were translated to English for this study. The analysis also identified what assistance is granted to those who fall under this label. Shown in the table below are the policies used and their jurisdictions.

Table 3- Policies included in document Analysis

Policy	Agency	Jurisdiction
Disaster Prevention and Mitigation Act 2007	Thailand’s Department of Disaster Prevention and Mitigation	National
Disaster Risk Management Plan of Thailand 2015	Thailand’s Department of Disaster Prevention and Mitigation	National
Strategic National Action Plan on Disaster Risk Reduction 2010-2019	Thailand’s Department of Disaster Prevention and Mitigation, Asian Disaster Preparedness Center, and the United Nations International Strategy for Disaster Reduction	National

Samut Prakan Province Disaster Risk Management Plan 2020	Provincial Office of Samut Prakan	Provincial
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Table 3

In order to analyze these policies consistently and strategically, a series of questions was created to highlight the information needed to assess their categorizations and allocations to those included in such categories. The series of questions were divided into descriptive and analytical sections. In the concluding analysis of this thesis, the findings from this document analysis will be compared to the actual vulnerabilities that environmentally displaced communities are facing. Therefore, the questions asked to reflect the specific hardships and vulnerabilities that the community of Samut Chin is predicted to experience. Due to the length of some of the documents, a sorting method was needed to pinpoint specific subjects. Once the questions were established, keywords were drawn from them and were used as codes to search the policies. (The list of questions and codes can be found in appendixes four and five.)

As mentioned previously, the provincial policy of Samut Prakan was only published in Thai. A translator was needed for this analysis. The codes were given to the translator with an explanation of the analysis questions. The translator found relevant quotes within the document and translated them from Thai to English. From those quotes, the analysis was conducted by the author.

1.5.2 Semi-Structured Interviews Assessing Vulnerabilities

To answer the second question, “What are the vulnerabilities of *EDPs-in-practice?*” semi-structured interviews were conducted. These interviews were conducted with members of Samut Chin. They included the current community official along with the retired community official, a community organizer, and a local teacher (table four). Except for the principal, all interviewees had lived in the village for more than ten years. The goal was to interview representatives of roughly ten families that have some experience with displacement. Unfortunately, physically going to the village was not an option with the current global pandemic. Interviews had to be conducted on Zoom and via telephone, therefore, the number of participants

was severely limited. Thankfully, those interviewed had abundant knowledge on the situation of the entire village and could give insight into the lives of the community as a whole. Interviewees ranged in age, occupation, and gender. The structure of the interviews is displayed in appendix one. This interview consisted of questions that addressed the three categories of vulnerabilities from the VCI; material, institutional and attitudinal. The VCI is originally a quantitative approach to measuring vulnerability. This study used the same concepts, but in a qualitative approach to understand the relevance of each vulnerability and leave an opportunity for more of them to be mentioned by participants, that may not have already been considered.

Table 4- Interviewees for Vulnerability Assessment

Code	Position	Date	Method	Language
1	Community Organizer	June 29, 2021	Phone	Thai
2	Local Teacher	June 29, 2021	Zoom	Thai
3	Current Community Official	June 29, 2021	Phone	Thai
4	Retired Community Official	July 5, 2021	Phone	Thai

Table 4

In light of the current pandemic, alternative methods of data collection in Samut Chin had to be prepared and implemented, because physically visiting the village was not an option. This could have been done in several ways, but the option chosen was that interviews were conducted via zoom and phone calls. With the help

of a journalist, Nanticha Ocharoenchai, a few contacts were made. Those contacts lead to a few more contacts. Some complications did arise from this plan. There were a few technical issues, and sometimes the connections were not clear. Some participants agreed to set up an interview but did not follow through at the time arranged.

Having a definition of environmental displacement is not easily agreed upon. For the purpose of this study, there must be a potential definition. To determine who should be included in this group, families, and individuals will need to fit certain criteria. EDPs- in- practice will need to:

- Currently, live or have lived near the coast
- Be planning to move, have a family member from their immediate household who has moved or have already moved themselves
- Has moved/or will move because of environmental concerns (rising sea level)

Many people in this village may not realize the root cause of their migration is related to environmental concerns. They may relate it to financial instability. Many may feel that they had to move because their main source of income is no longer sufficient. Follow-up questions were asked to understand the root causes of their migration.

1.5.3 Semi-Structured Interviews Assessing Assistance in Practice

To answer the third question, “How do *EDPs-in-practice* respond to these vulnerabilities through seeking state-support and other means?” again, semi-structured interviews were conducted. Because the participants who were answering the second question were the same as the people answering the third, the questions (listed in Appendix two) were asked at the same time as the questions about their vulnerabilities. For both the second and the third sections, the interviews were conducted with the help of a translator who was familiar with the study and understood the objectives. The following table displays who was included in these semi-structured interviews. Three of the participants overlap with the previous section. The last participant is Professor Watanachai Chumak from Dhonburi Rajabhat University. He has worked in the village for many years and helped to establish a community-based tourism project

within the village. Because Dr. Chumak is not living in the village, a new set of questions was created for his semi-structured interview, which can be found in appendix three

Table 5- Interviewees for Assessing Assistance in Practice

Code	Position	Date	Method	Language
1	Community Organizer	June 29, 2021	Phone	Thai
3	Current Community Official	June 29, 2021	Phone	Thai
4	Retired Community Official	July 5, 2021	Phone	Thai
5	Lecturer at Dhonburi Rajabhat University	July 5, 2021	Zoom	Thai

Table 5

This research is heavily qualitative. The analysis is of written and spoken discourse. It is explanatory in the sense that seeks to understand the reality of the existing policy and its repercussions (Wellington & Szczerbiński, 2007). By examining what is and comparing it to what it should be, based on further data collection from EDP's-in-practice, the final analysis tends to be more normative. It aspires to understand what adequate policy should look like if the actual vulnerabilities of EDP's- in- practice were to be considered. This research is interpretive because it attempts to understand the motives and behaviors of state

actors and policy, as well as, the individuals and families affected by environmental degradation.

Participants will be referred to by their roles in the community. Data collected from each step is presented in a summary that is broken down by theme. This allows for common responses to being identified. After each participant's responses are presented, an overarching conclusion for each section was created. The concluding chapter examines each element of the conceptual framework and identifies the causality and relationships between them.

1.6 Significance of Research

The purpose of this study is to identify the needs of environmentally displaced people and find potential policies that alleviate their vulnerabilities to the best of their ability. By examining the existing policies and the actuality of the vulnerabilities of EDPs in practice, gaps are revealed and therefore the necessary changes are evident. By clearly identify what needs to be changed and why, this study can be useful to policy makers, or other actors who can influence policy makers. Convincing policy makers to change existing laws, is not be an easy task. Civil society, NGO's and other organizations can also use this information to help meet the needs of EDPs. This research highlights potential areas where more studies need to be conducted.

This study also adds to discussions existing in academia. This case study highlights how the politics of categorization helps society and states to understand the vulnerabilities of environmentally displaced people. Reversely, by understanding those vulnerabilities, appropriate categorizations can be created. This will be especially useful in understanding these particular concepts concerning gradual environmental degradation.

1.7 Ethical Issues

The subject of this research was not particularly sensitive. Interview participants were not exposing intimate details about their lives that may put them in any type of uncomfortable or dangerous situation. Interviewees were quite open and comfortable speaking about their personal financial situation. All participants were voluntarily interviewed. Participants were told from the beginning that if they felt uncomfortable talking about a certain subject, they did not have to answer. They were also told that if they wanted to stop the interview at any time they could. Before the interview was conducted an explanation of the purpose for this research and interview was given to participants. Participants were asked if they wanted to remain anonymous. None of them had any concerns with being named, however only their first names and their positions in the community are used.

There is a risk that my preconceived ideas could have affected my findings and conclusions. To prevent bias, I tried to present my findings and disclose my methods as transparently as possible. The goal is to remain objective. Data is displayed honestly and clearly.

1.8 Limitations

There are several limitations to this study. The first, and perhaps most relevant, is the pandemic. Thailand seems to be going through continuous waves of outbreaks. Data collected could have been more thorough or abundant had interviews been conducted in the village. Due to the uncertainty of when the pandemic will end and the time limits on this research, waiting until the situation got better was not an option; therefore, other methods had to be taken, which limited data collection. Those who were able to participate in the interviews were in roles of leadership in the community. Because participants had to have access to certain technology, the number of interviewees was greatly limited. Due to the position of the participants in the community, the perspective of vulnerabilities may not represent the entirety of the village. Those in a leadership role may have access to more information and be more participatory in decision-making.

The second limitation was the language barrier. A translator was needed for the document analysis, therefore opportunities for information to be overlooked existed. For the interviews, none of the participants spoke English. A translator was needed for all interviews. There is always room for details to be lost in translation. The translators used were familiar with the subject and objectives of this study, in hopes that they were able to relay important details as accurately as possible.

. Ideally, interviewing members of the government who worked with disaster management at the national and provincial levels would have expanded the understanding of how the law views EDPs. Unfortunately, no government officials responded when contacted.

The last limitation is that the goal of this research was to identify the vulnerabilities that EDPs- in practice must overcome and compare that to the assistance that the existing disaster policies do or do not provide. This case study is only of one specific village. Many communities in Thailand are facing displacement for various reasons. They may have other vulnerabilities that were not discovered in this study. While this research does result in possible recommendations for future policies or policy adjustments, a larger study will need to be conducted to grasp the entire reality of EDPs in Thailand.

1.9 Structure of Thesis

First, this thesis will discuss existing literature on three subjects; the categorization of EDPs. The vulnerabilities of EDPs and environmental displacement in Asia. Then, the gaps in the literature will be identified. After the literature review, findings from the document analysis of Thailand's disaster policies will be presented and analyzed. Next, the findings from semi-structured interviews from the community about their specific vulnerabilities will be presented and analyzed. The last content chapter will be a presentation of the findings from interviews about the assistance granted by government and non-state methods. Lastly, there will be a conclusion and analysis of all three findings and their relationship to one another. This chapter will also discuss the study's outcomes and how it compares to previous studies and possible recommendations to state and non-state actors.



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Chapter Two- Literature Review

This section will examine the literature that has been produced about environmental displacement. It will explore the challenges with defining this group of people on the international stage (Section 2.1) and how that relates to the state level. It will also look into what vulnerabilities environmentally displaced communities are facing (Section 2.2). Lastly, the literature review will map what has been studied specifically in Asia with migration and environmental degradation or climate change (Section 2.3).

2.1 Conceptualizing the Categorization of Environmental Displacement

There is much debate at defining and labeling people who are displaced by environmental causes. Having clear parameters of who is at risk and what situations put them at risk in this type of displacement is necessary to understand who should be included or excluded from policies created to protect or assist. In 1993, Myers discussed the definition and challenges to the definition of ‘environmental refugees’ in the article *Environmental Refugee in a Globally Warmed World*. At the time that this article was written, there were an estimated ten million environmental refugees in the world. Myers explains that this number may be lower than actuality, because of the unconventional category of ‘environmental refugee.’ The article argues that those dealing with economic displacement could overlap with environmental displacement, once consideration is given to the root of the causes of the economic instability. This has later been expanded on by the IOM, which will be discussed shortly. Given that this article was written a few decades ago, the purpose was to explore the scope and severity of the phenomena of environmental refugees in hopes to promote policy to fight against global warming, now called climate change, to reduce the growing numbers of displacement. As time has passed, it can be seen that having policies that address the problem is necessary, but having policies to protect those already in this situation is equally necessary.

Lyster and Burkett argue in the article *Climate-Induced Displacement and Climate Disaster Law: Barriers and Opportunities* (2017), that the lack of definition in the academic world, results in a lack of definition in the political world, resulting in a lack of policy that adequately addresses the vulnerabilities that this group of people faces. Reversing this idea, maybe a lack of understanding of the specific vulnerabilities results in a lack of categorization. This leads to the question of how do states determine categorizations and why? What influences their definitions? Lyster and Burkett suggest that the lack of a clear definition in international frameworks contributes to the lack of adequate policy at the state level.

Ramlogan has some slightly contradictory points to Myers, Lyster, and Burkett, while also agreeing on some aspects. Ramlogan argued in the article *Environmental Refugees; a review* (1996) that more recognition has been given to this category of people. The article stated that a definition was being carved out on the academic and political stages. Ramlogan claims that environmental refugees can now be placed into “several well-defined groupings” (pg. 81). He points out that El-Hinnawi from the UN defined the term ‘environmental refugee’ as “people who have been forced to leave their traditional habitat, temporarily or permanently, because of marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life.” This definition seems straightforward and clear, but it leaves room for a large number of situations and a large number of people. This does support Myers' argument that the severity of environmental displacement is extreme, because of the number of people that it encompasses. Ramlogan explains some of the other definitions that have been developed since El-Hinnawi's definition in the 1980s. It should be noted that the specific term “refugee” would imply that legally this group of people should be entitled to similar protections and rights that political refugees are granted. The term “environmental refugee” or “climate refugee” is not a legally recognized title, even on the international stage (Atapattu, 2018). Therefore, those displaced by environmental degradation and disaster are at the mercy of their governing state's definition, categorization and policies.

The categories that Ramlogan proposes for environmental refugees, weigh heavily on the types of environmental disruptions. The first being ‘disaster.’ This is an abrupt change that inhibits society from continuing as it was previously; cyclones, earthquakes, etc. Many states have policies that when something is declared a ‘disaster,’ certain funds and agencies are deployed to assist and those affected are entitled to certain provisions. The criticism is that this category is too restrictive. It may not include situations when a hazard becomes a disaster. Slow-onset disasters may not be recognized legally the same as sudden ones. It should also be recognized that overdevelopment, or inadequately built infrastructure paired with a storm, may lead to a disaster, that just a storm on its own would not. A situation is not a disaster until human life is disrupted. The second category being “long-term environmental degradation or biological disruption” (pg. 83). Unlike the previous category, this is broad and can cover many different situations. The third, and perhaps least obvious category, is environmental displacement as a result of development of infrastructure. The development of dams, roads, etc., can change the availability of resources found in the environment, leading to loss of livelihoods, and land. All of these categories could potentially overlap in some manner.

The IOM has proposed several key terms that attempt in establishing some defining categories. Instead of using the term ‘refugee,’ the IOM refers to this group as environmental migrants. They define environmental migrants as “persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move within their country or abroad.” (IOM, 2011: 33 in IOM, 2014:13). This is a broad overarching definition that again, may not be specific enough for categorization purposes. The IOM clarifies further by creating a difference between environmental displacement and disaster displacement. They suggest that environmental displacement can be defined as, “persons who are displaced within their country of habitual residence or who have crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one” (IOM, 2011:34 in IOM,

2014:13). This can be tied back to Myer’s argument that the causes of relocation can overlap, such as economic, political and environmental. The IOM suggests that “disaster displacement is defined as, situations, where people are forced or obliged to leave their homes or places of habitual residence, in particular as a result of or to avoid the effects of disasters triggered by natural hazards. Such displacement may take the form of spontaneous flight or an evacuation ordered or enforced by authorities. Such displacement can occur within a country, or across international borders.” (The Nansen Protection Agenda, 2015)

The Nansen Initiative is a state lead consultative group, focused on giving states the ability to work together at creating and developing mechanisms to protect those displaced by various types of disasters. The initiative proposes definitions for sudden-onset disasters, slow-onset disasters, internally displaced persons, and cross-border displacement in the context of disasters and the effects of climate change. These definitions overlap with those of the IOM. The Nansen Initiative specifically makes a point to clarify that the term “climate refugee” is not a legally recognized category and was not used by the initiative. While these definitions are useful and the platform for states to collaborate is necessary, this does not provide clear instruction on what categories states should use for those displaced and what assistance should be given to them.

Myers, Lyster, and Burkett’s arguments are perhaps valid, in the idea the those displaced internationally are not recognized or defined consistently in international frameworks, however, it could be argued that this does not hold for frameworks addressing internal displacement. Continuing the examination of how international frameworks define and label those affected by disaster and facing potential displacement, Matthew Scott and Albert Salamanca draw attention to the 1998 UN Guiding Principles on Internal Displacement’s definition. In the chapter titled “Internal displacement in the context of disasters and climate change in Asia and the Pacific” in the book, *Climate Change, Disasters, and Internal Displacement in Asia and the Pacific* (2021), the definition of internal displacement provided by the UN Commission on Human Rights is as follows;

Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized State border. (UN OHCHR 1998)

Scott and Salamanca point out that this is a broad definition for all internally displaced persons. While it applies to those affected by environmental concerns, it has been primarily used to address those displaced as a result of conflict. The UN Guidelines on Internal Displacement set out a human rights-based approach to conceptualizing policies and procedures for which states should adopt in their national policies. This does not look the same in all states who have ratified these principles. There is also room for interpretation with this definition. Sudden disasters pose an obvious motivation for displacement; at times prolonged and others temporary. Slow on disasters created by climate change such as droughts, sea-level rise, etc., are more difficult to measure and perhaps not instantaneous. The connection of climate change and environmental degradation with the term “disaster” is not particularly straightforward and leads to ambiguity in policy.

Displacement caused by slow-onset disasters has started to gain more attention on the international stage, especially recently. Cecilia Jimenez-Damary, the Special Rapporteur on the human rights for internally displaced persons, conducted a thematic report specifically on displacement in the context of slow-onset adverse effects of climate change. (2020). This report pulls on the definitions of the slow-onset disaster from the United Nations Framework Convention on Climate Change from 2012,

Slow-onset events are defined as “events that evolve gradually from incremental changes occurring over many years or from an increased frequency or intensity of recurring events” (FCCC, 2012).

Jimenez- Damary suggests that slow-onset disasters and sudden-onset disasters can be related. Approaches taken by the state, to mitigate or protect the

rights of those affected should be comprehensive enough to include both events as well as situations where they overlap. Having a definition for the events that lead to displacement is important for defining environmental displacement however, creating a category for those who are displaced sets parameters for how states are expected to assist. Therefore, defining the event is only part of the process. This report also points out that mobility from slow-onset disasters may appear differently than sudden-onset disasters. Due to the gradual nature of slow-onset disasters, residents may have time to prepare for relocation. Policy makers could potentially exclude groups of people from assistance because they weren't seen as being forced to leave in the traditional sense.

Looking more specifically on how the state decides to categorize people or resources, two things that may also overlap in the state's perspective, James Scott explains in *Seeing like the state: How certain schemes to improve the human condition have failed* (1998), how governments have long tried to simplify reality. They take a complex system and reduce the scope of vision to narrow down on controllable assets that benefit their agenda. This results in many aspects of this complex system being left out of the state's view entirely. The reality of mobile groups of people is not simple or consistent. Of course, states would enjoy stationary residents that could be easily counted and measured. How does a state benefit from a group of displaced citizens? What level of jurisdiction is responsible for them? How can and should they be counted for?

In 2008, Polzer and Hammond wrote in the article *Invisible Displacement*, about how groups of people are categorized and events that allow them to be visible or invisible to certain institutions. In response to understanding the state's interests, Polzer and Hammond suggest that the methods of categorizing internally displaced persons may be a result of their desire to avoid the responsibility of having to establish a policy for assistance and protection. How a state chooses to categorize could reflect their desire to see or purposefully not see groups of people.

Janmyr and Mourad took a look at Syrian refugees and how their categorization affected them in reality. In the article *Modes or Ordering: Labelling*,

Classifications, and Categorization in Lebanon's Refugee Response. Different labels or categorizations allow for a person to be able to do certain things, how they are perceived by society as a whole, as well as what rights and protections they are entitled to. The term “refugee” is not legally applicable to EDPs, which could be an indication of certain states’ desires not to want to take responsibility for granting certain rights and resources to this group.

International frameworks have provided numerous reports and conventions that can be useful in providing ways for states to protect human rights in the context of environmental displacement. How states chose to implement those frameworks into their policy may be problematic. Inconsistent categorization has led to insufficient laws and policies that do not alleviate or eliminate the vulnerabilities of environmentally displaced persons. There is a correlation between vulnerability and the politics of categorization. Policy should address vulnerabilities, but without appropriate categorization, the state cannot establish those policies. Could an understanding of vulnerabilities contribute to more comprehensive categorization? What challenges hinder categorization?

2.2 Conceptualizing the Vulnerabilities of Environmental Displacement

The discussion on vulnerability has been a topic for quite some time. In 2004, Ben Wisner and co-authors gave a working definition in the book *At Risk: natural hazards, people's vulnerability and disasters*. Wisner's definition for vulnerability in the environmental context is “the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard (an extreme natural event or process)” (Wisner, 2004, pg.11). They claim that there are many variables to consider; one's socioeconomic status, gender, age, occupation, etc. These variables will determine the level of risk a person or community is at and how well they are equipped to handle a massive disruption to their homes, lives, and livelihoods, such as a natural disaster.

Jirawat Panpeng conducted a study on the vulnerabilities of fishing villages experiencing a sea-level rise, in the article *Vulnerability of Fishing Communities from*

Sea-Level Change: A Study of Laemsing District in Chanthaburi Province, Thailand. This gives specific insight into what variables contributed to the severity of the risk this community was experiencing. This is a rural community. Much of the population relies on fishing and aquaculture as their source of income. Their reliance on natural resources results in a low capacity for adaptation. This results in a higher level of vulnerability.

To understand how to use policy or create policy, there must be an understanding of what vulnerabilities and needs the environmentally displaced have. Jayawardhan examined the relationship between vulnerability and climate change, which inevitably covers climate-induced displacement, in her paper, *Vulnerability and Climate Change Induced Human Displacement*. She compares situations in the United States, Bangladesh, and Somalia. All three states are in different levels of development, but all three experience some type of continuous ailment presented by climate change. She focused on the socioeconomically vulnerable and argues that policy needs to go further to help protect this group. Jayawardhan argues that existing inequalities contribute to unequal vulnerabilities during climate disasters and displacement. Policies need to address racial, social, and economic injustices. Physical infrastructure alone is not enough to reduce vulnerabilities.

These articles and arguments all suggest that a state's policy should consider potential vulnerabilities and reducing potential risks to those displaced. Combining this concept with the idea that how a state categorizes these groups of people allows for certain resources and assistance to be given. Specific vulnerabilities that environmentally displaced groups experience should be taken into consideration in how policies define and categorize this group.

2.3 Environmental Displacement in Asia

Displacement in Thailand and Asia due to environmental concerns has been explored in a few different ways. Douglas Bardsley and Graeme Hugo discuss migration in Thailand from the north-eastern part of the country in the article, *Migration and climate change: examining thresholds of change to guide effective*

adaptation decision-making (2010). It is explained that migration from this region is circular and generational. Much of the population in this area engage in agricultural livelihoods. As the dry season comes, much of the younger generation goes to the city. They come back to help during the harvest, but once their parents pass, they will most likely not return and will sell off the land. It is also stated that a large portion of the population in this area lives below the poverty line. This socioeconomic status and dependence on the land for income makes them more vulnerable and results in migration as a means of adaptation. The study concludes that if states can identify and accept the cycle of migration that is emerging from climate change and implement appropriate interventions, it is possible to alleviate some of the risks and vulnerabilities that this group would have otherwise faced.

Carl Middleton and Orapan Pratomlek discuss, in the chapter *Flooding disaster, people's displacement, and state response: a case study of Hat Yai municipality* (2021), the effectiveness of physical and soft infrastructural mechanisms that were established to alleviate the effects of flooding in a more urban area. This chapter adopts a human rights-based approach to assessing these particular communities and their situation. They argue that physical infrastructure is not enough to effectively alleviate risks, it must be combined with soft infrastructure and policies. Overall, the mechanisms put in place in Hat Yai seem to be working, but there are still a few communities that are at risk of flooding and potential displacement and, therefore, whose rights are in jeopardy. The communities most at risk are again, the poorer communities, which relates to the same observations Bardsley and Hugo made about the north- east.

Bardsley and Hugo (2010) argue that while it is important to help communities become more resilient where they are and avoid relocating, migration is inevitable and could be considered as an effective form of adaptation, and policy should focus on ways to protect or assist those groups. Middleton and Pratomlek are not disagreeing with this point, but their study focused more on what was done to keep communities safe and able to remain where they are. It is important to point out that the types of environmental issues causing the potential relocation in these two case

studies are very different. Neither of these cases focuses on a community that is facing imminent or complete displacement.

Keeping with the human rights-based approach, Collette Mortreux et al. (2018) assesses the political agenda states have for planning or not planning resettlement of vulnerable communities. A framework is proposed in the article *Political economy of planned relocation: A model of action and inaction in government responses*, demonstrating the consequences of government intervention versus non-intervention. Mortreux et al. argue that many times action and inaction occur simultaneously. A result of inaction leads to individual adaptation methods, potentially causing already vulnerable groups to be subjected to more risk. Disaster, slow-onset or sudden, can have impacts on human rights even if not intentional. The state is the primary institution responsible for protecting those rights. Their actions and their inactions have a direct effect on whether or not those rights can be maintained.

Mortreux's arguments and perspective overlap with approaches used by Bardsley, Hugo, Middleton, and Pratomlek. All three of these studies have very different focuses. Bardsley and Hugo and Mortreux focus on how migration is used as an adaptation mechanism and how that can alleviate potential vulnerabilities or exacerbate them if policy and action are not taken. All can agree that it is the state that is responsible for protecting human rights even in situations caused by environmental concerns. Simply suggesting that the state should take action is one thing, but *how* should they? It is important to understand how a state does or does not acknowledge these vulnerable groups. The way a state categorizes environmentally displaced people correlates to how the state will or will not act in an attempt to preserve their rights.

2.4 Knowledge Gaps

Gaps in literature can be seen in all of the three subjects explored; the categorization of environmentally displaced persons, the vulnerabilities of environmentally displaced persons, and displacement in Asia. While several scholars and international conventions suggest labels and definitions for EDPs there is a lack

of agreement on how to categorize them. There seems to be a gap in literature that explores how this lack of universal agreement translates into practice. Vulnerabilities have been discussed and examined in many case studies, but have not necessarily been compared to how policy and categorization of EDPs in policy address those specific vulnerabilities in practice. Many studies have been done in Asia that examine the various effects of sudden and slow-onset disaster and their effects on displacement. These studies have also addressed the vulnerabilities that EDPs face, but again they have not connected that with understanding how laws view their specific vulnerabilities as a result of their categorization or their lack of one. This gap could be and should be explored from various angles and with different case studies, all of which experiencing their own types of vulnerabilities and set of policies. This study will attempt to contribute to the conversation and perhaps motivate more research and knowledge to be conducted to close the gap.

Chapter Three- Analyzing the Categorization of EDPs in Thailand's Disaster Policies

3.1 Introduction

The purpose of this chapter is to understand how Thailand's disaster laws and policies view environmentally displaced groups of people in their disaster management law. Once it is understood how they categorize or don't categorize this group, their assistance given is then identifiable. The assistance granted to displaced groups of people should be based on the specific vulnerabilities that such a group faces and protect against potential violations of human rights. This analysis will examine how Thailand's disaster policies view EDPs and their vulnerabilities and what is necessary, by law, to alleviate them. In section 3.1 an introduction is given to Thailand's disaster laws, plans and policies, and the international conventions that the state has chosen to adopt in their own laws. In section 3.2 an analysis of the findings in each policy is presented. In section 3.3, how those findings contribute to the categorization of EDPs is analyzed. Lastly, in section 3.4 an overarching conclusion on how Thailand's disaster laws and policies categorize EDPs and what resources they are allocated, because of this categorization, is conducted.

Thailand's disaster policies are structured around several international and regional frameworks involved in disaster risk reduction and climate change; the Hyogo Framework for Action, which is now replaced by the Sendai Framework for Disaster Risk Reduction (SFDRR), the United Nations Framework Convention on Climate Change and the Kyoto Protocol (UNFCCC), and the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) (Department of Disaster Prevention and Mitigation, 2015). The SFDRR sets forth a list of goals that nations should adopt to achieve distinct outcomes.

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural,

educational, environmental, technological, and institutional measures that prevent and reduce hazard, exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience. (DDPM, 2015)

The outcomes that the SFDRR promotes are to significantly reduce loss of life, livelihoods, health, economic assets, social assets, cultural assets, and environmental assets among all levels of society; the individual, business, community, and nation (DDPM, 2015). The UNFCCC is mainly focused on climate change mitigation and facilitating cooperation between all stakeholders to contribute to establishing procedures and practices that aim to reduce the impacts of climate change to encourage sustainable development (DDPM, 2015). The AADMER aims to provide mechanisms for regional participation and cooperation in the event of disasters and emergency response (DDPM, 2015).

The laws and policies used in this analysis will consist of three national documents; the Disaster Prevention and Mitigation Act of Thailand, 2007, Disaster Risk Management Plan of Thailand, 2015, Strategic National Action Plan on Disaster Risk Reduction (SNAP), 2010- 2019, and one provincial policy; Samut Prakan Province Disaster Risk Management Plan, 2020. The structure of Thailand's disaster policies and procedures is rather decentralized. The main source and guidance of disaster risk reduction start with the national Department of Disaster Prevention and Mitigation (DDPM) which is structured and dictated by the Disaster Prevention and Mitigation Act. From there each province is responsible for establishing its own disaster management agencies and policies that align with the guidelines created by the DDPM and their appropriate laws and policies. The provincial policy that is selected for this analysis is Samut Prakan. The village of Samut Chin, the case study that will be examined in the following chapters, is located in the province of Samut Prakan, directly south of Bangkok. This village is facing continuous sea-level rise caused by climate change as well as coastal erosion from loss of mangrove forests, over-development up the river, and aquaculture. This community has had to relocate

inland many times in the past thirty years, and many residents have left the village altogether.

3.2 Policy Document Analysis

The following sections describe the information found in each of the laws and policies. The findings are presented in a narrative format based on the codes and descriptive questions supplied in appendices four and five. The following table briefly displays the codes used and how it appears in each document.

Table 6- Findings from Codes in Policies

Code	DPM Act 2007	DRMP 2015	SNAP 2010-2019	SPPDRMP 2020
Disaster	“...fire, storm, strong wind, flood, drought, epidemic in human, epidemic in animals, epidemic in aquaculture, and epidemic in plants and other public disaster either natural disasters or human-made disasters, accidents or all other incidents that effect to life, body or properties of the people, of the government...”	“...fire, storm, flood, drought, human epidemics, animal epidemics, aquatic animal epidemics, and plant epidemics, including any type of hazard that has a negative effect on general public, be it induced by nature activity, human activity, accidents or any other incident which is harmful to life, body of people or inflicts damage on property of the people or of the state...”	“...flood, typhoon/hurricane, tsunami, earthquake, landslide, drought, fire, explosion, accident, epidemics, pests, and civil unrest”	“Disaster means public disastrous occurrence which are form fire, storm, flood, drought, seasonal drought, hail, wildfire, pandemic from insect ... and other disaster both happen naturally and man (or animal) made which cause harm to life, bodily injury to people or property”
Climate Change	N/A	Recognizes international understanding of CC	As something that contributes to the risk	Climate change contributes to

		impacting frequency and intensity of disasters	Thailand faces with natural disasters	intensity and frequency, as well as increasing risk
Slow onset/sea level rise/coastal erosion	N/A	Contributes to “sea-level rise,” “coastal erosion” etc. to climate change-impacts on society (social, economic, development)	N/A	Coastal erosion from mangrove deforestation leaves coastline more vulnerable to storms and storm surge
Relocation/displacement	N/A	Emergency, evacuation	N/A	Emergency, evacuation
Rehabilitation	N/A	“An effort to manage the negative consequences of disasters with a view to restore livelihoods of communities affected by disaster to their state prior to an occurrence of disaster. This effort includes provision of mental health/immediate psychosocial support to those affected by disaster as well as encouraging and helping them, where necessary and appropriate. Cope with and adapt to changes”- sited many times, delegates which gov. institutions are responsible for which part of rehabilitation	“Rehabilitation” is the goal of post disaster management	Mentioned in short-term, medium-term, and long-term sections Focus is on rehabilitating livelihoods, health, agriculture, etc
Shelter/housing	Responsibility of temporary shelters is designated	Temporary	N/A	Temporary, short term
Livelihoods/occupation	N/A	Emphasis on reestablishing livelihoods (used in a	N/A	Specific agencies are designated in

		broader sense than occupation)		the province to help support livelihoods
Assistance	N/A	Emergency, short term	“Post Disaster Management takes the form of needs assessment, recovery assistance measures, victim assistance networks, sanitary measures, financial measures, basic facility restoration, initial monitoring, and assessment measures, etc.”	Mostly used in the context of monetary assistance, see “loans/grants”
Grants/loans	N/A	Guidelines for Economic Recovery and Economic Strengthening Intervention-responsible for distributing funds (includes terms such as “emergency” and “short term”) The Ministry of Finance is responsible for creating an economic recovery action	N/A	Monetary assistance is given in the case of loss of limbs, disabilities, or deaths Monetary assistance is granted to property when a “disaster” or “state of emergency” is declared
Other Stakeholders	Focuses on delegating responsibility between national and provincial disaster agencies	Encourages involvement of those affected by disaster, specifically delegates what agencies are responsible for which part of recovery	Much of this policy is focused on requesting cooperation between state and non-state	Designates which stakeholders are responsible for which part of recovery

			actors, there is quite a bit of detail as to how non-state actors should be involved in recovery	
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Table 6

3.2.1 Disaster Prevention and Mitigation Act of Thailand, 2007

The Disaster Prevention and Mitigation Act, 2007 (DPM Act) is published by Thailand's Department of Disaster Prevention and Mitigation, consequently, it is a national law. The law defines disaster on the first page of the document in section four as follows,

“Disaster” means any of these disasters; fire, storm, strong wind, flood, drought, epidemic in humans, epidemic in animals, epidemic in aquaculture, and epidemic in plants and other public disasters either natural disasters or human-made disasters, accidents or all other incidents that effect to life, body or properties of the people, of the government. And in this regard, air threats and sabotages are also included. (DDPM, 2007)

There is no specific term designated to label persons displaced by a disaster. Any reference to victims of disaster is simply “those affected.” Quite a few of the code words or phrases that were used for pulling information from the document were not used such as, climate change, slow onset, sea-level rise, coastal erosion, relocation, rehabilitation, livelihoods, occupation, assistance (in the form of something given to “those affected”), and grants/loans. Shelters were referred to in section twenty-seven on page seven. In this section, the act is assigning the powers that directors and designated officers have during the disaster mitigation process. The use of shelters is combined with the word “temporary,” therefore, it can be deduced that this is only concerning the moment a disaster happens, not long term. When it comes to examining the stakeholders involved in this law, the entire document is more

or less focused on describing how the responsibility of disaster management is spread amongst the different levels of government. The law instructs provincial and district governments to form their own policies and agencies in accordance with the national plan. The act does not define what nor how other agencies should be involved.

3.2.2 Disaster Risk Management Plan of Thailand, 2015

The Disaster Risk Management Plan of Thailand, 2015 is another national policy published by the Department of Disaster Prevention and Mitigation. This policy mimics the previous one in its definition of disaster,

Section 3.3 The scope of disaster specified in this National Plan conforms with the definition of “disaster” contained in Article A of the Disaster Prevention and Mitigation Act B.E. 2550 (2007) as follows: “Disaster means fire, storm, flood, drought, human epidemics, animal epidemics, aquatic animal epidemics, and plant epidemics, including any type of hazard that has a negative effect on general public, be it induced by nature activity, human activity, accidents or any other incident which is harmful to life, body of people or inflicts damage on property of the people or of the state, including air threat and sabotage actions” (DDPM, 2015).

Again, the only terms used to describe displaced or disrupted groups would be the phrases “victims of disaster” or “those affected.” This policy does acknowledge international understandings of climate change and its direct effect on the frequency and severity of natural disasters. It mentions how the change in weather patterns and seasons caused by climate change impacts not only sudden disasters, but also slow onset ones such as coastal erosion, sea-level rise, droughts, etc. (Sections 1.1, 1.3, 1.5). These sections also discuss how these disruptions have an impact socially, economically, and on overall development. The specific terms “slow onset” or

“environmental degradation” were not used, although as stated, specific events that could be classified as slow-onset were recognized when discussing the impacts of climate change. The word “relocation” was used only in the context of an emergency evacuation. The term “rehabilitation” was found in the document many times. In the terminology section “rehabilitation” is defined as

An effort to manage the negative consequences of disasters with a view to restore the livelihoods of communities affected by disaster to their state prior to an occurrence of disaster. This effort includes provision of mental health/immediate psychosocial support to those affected by disaster as well as encouraging and helping them, where necessary and appropriate. Cope with and adapt to changes (DDPM, 2015).

This policy lays out guidelines for how to navigate the different stages of disaster risk reduction. Throughout the document, rehabilitation is used in the descriptions of how different government departments are responsible for rehabilitating various aspects of society, such as infrastructure, public health, mental health, religious and other community properties, agriculture, environment, as well as residential housing. This also shows which institutions should be available for those affected by a disaster in their recovery processes. The term shelter is used in more than one section, but again, it is combined with the word “temporary.” The terms “livelihoods” and “occupation” are both used often, with more emphasis on “livelihoods.” The policy does not specifically clarify that there is a distinction between occupation and livelihoods, however, the term “livelihood” seems to be understood as a manner in acquiring basic life necessities, which can be accomplished with more than just an occupation. The term “assistance” is used, but it is also combined with terms such as “emergency” or “short term,” nothing indicating assistance for permanent relocation or resettlement.

As stated earlier, the different governmental departments that are involved in disaster risk reduction and recovery are defined. This policy does allow other types of stakeholders’ involvement to be recognized. Specifically, the policy encourages

involvement from not only government agencies, but the actual communities affected. “Chapter 6 Disaster Recovery -Involvement of disaster-affected people in decision – making process to encourage an adoption of, and participation in steps and actions to be taken” (DDPM, 2015, pg. 103). On page 106 under the section of *Guidelines for Economic Recovery and Economic Strengthening Intervention*, this policy supports the use of monetary assistance for those affected by disasters.

...include offering grants, subsidies, co-funding, loans, compensation, moratorium, prolonging the grace and repayment periods; tax deduction or interest rate reduction; setting up disaster risk reduction and management trust fund as well as other types of funding such as vocational rehabilitation funds, funds for agricultural sector rehabilitation, low-interest-rate loans for start-up businesses, short – term emergency loans, etc. (DDPM, 2015)

It then states that the Ministry of Finance is responsible for creating an economic recovery action plan and is to be assisted by the Ministry of Commerce.

3.2.3 Strategic National Action Plan on Disaster Risk Reduction (SNAP), 2010-2019

The Strategic National Action Plan on Disaster Risk Reduction is the third national policy that will be analyzed. This plan is prepared by the Department of Disaster Preparedness and Mitigation with the assistance of the Asian Disaster Preparedness Center (ADCP) and funded by the United Nations International Strategy for Disaster Reduction. This plan does not give a clear-cut definition of what disaster is, as the previous two provide, but it does list different events that can be categorized as disasters; flood, typhoon/hurricane, tsunami, earthquake, landslide, drought, fire, explosion, accident, epidemics, pests, and civil unrest (pg. 8). This policy references the term “climate change” once as something that contributes to the risk Thailand faces with natural disasters. Quite a few codes were not found in this particular policy,

such as slow onset, sea-level rise, coastal erosion, relocation/displacement, shelter, livelihoods/occupation, and grants/loans.

Under the Compulsory Action Plan of SNAP, there are four components that agencies are required to plan for; prevention and mitigation, preparedness, emergency response management, and post-disaster management. Under post-disaster management, the term “rehabilitation” is used as a goal for this component, but no specific guidelines are laid out in this section. On page eleven the term “assistance” is used as follows, “Post Disaster Management take the form of needs assessment, recovery assistance measures, victim assistance networks, sanitary measures, financial measures, basic facility restoration, initial monitoring and assessment measures, etc.” Lastly, this policy does take the time to specify which stakeholders should be involved in disaster risk reduction efforts. These include government agencies such as civil services, armed services, state enterprises, provincial and district administrations, local administrative offices, as well as, private organizations and agencies, non-government organizations and foundations, universities and academia, Thai citizens/civil society, and international and bilateral development organizations. These stakeholders are encouraged to work cooperatively and synergistically. The main focus of this policy is to establish what needs to be done by whom.

3.2.4 Samut Prakan Province Disaster Risk Management 2020

The Samut Prakan Province Disaster Risk Management Plan, 2020, is published by the Samut Prakan Provincial administration and encompasses the province and its districts. This policy lists ten events that can be categorized as a disaster, listed here in order of highest to lowest risk; road accidents, fire accidents, floods, storm, chemical hazards, landslide, human communicable disease, a water accident, tsunami, storm surge, earthquake, and building collapse. The policy also mimics the DPM Act with defining disaster as,

Disaster means public disastrous occurrence which are form fire, storm, flood, drought, seasonal drought, hail, wildfire, pandemic from insect ... and other

disaster both happen naturally and man (or animal) made which cause harm to life, bodily injury to people or property (SPPDRM, 2020).

In the first chapter of the document the policy recognizes climate change as a cause of frequent storms and states that the province's location to the gulf creates increased risk. The policy designates which districts are at the highest risk. This policy does not reference the terms "slow onset" or "sea-level rise." It does however use the term "coastal erosion." It states that mangrove areas close to the Chao Praya River are affected by coastal erosion, reducing the amount of mangrove area yearly, causing the reduction of coastal soil and wave guard. This creates a vulnerability to tsunami and storm surges. This plan does not discuss permanent relocation. It does reference evacuation, but only in the event of sudden emergencies. The code "shelter" was found but only combined with the word temporary and not alluding to any long-term resettlement.

The policy discusses rehabilitation frequently throughout. In each of the recovery stages, short-term, medium-term, and long-term sections, the policy designates which agency is responsible for the rehabilitation of specific societal aspects; livelihoods, health, agriculture, etc. Specific agencies are designated in the province to help support livelihoods in chapter seven, this is also tied into agencies listed in rehabilitation. Monetary assistance is given in the case of loss of limbs, disabilities, or deaths (chapter 2, pg. 37). It is also noted that monetary assistance is only given when the province declares a state of emergency. Lastly, in chapter three, the policy dictates which stakeholders are responsible for specific aspects of disaster management.

3.3 Analysis of Categorization in Policies

This section will synthesize the content analysis above to examine the representation of the key coding words. Each of the following sections (3.3.1 – 3.3.10) will focus on one code and how policies view this element concerning categorizing *EDPs-in-policy*.

3.3.1 Disaster (definition)

The definition of disaster is fairly consistent among all policies. Because of how disaster management is structured within Thailand, it is fitting that the policies would adopt similar definitions to the word “disaster.” This overarching definition recognizes that events that lead to damage of life and property should be considered disasters. While this would appear to easily include situations of slow-onset disaster, such as coastal erosion and sea-level rise, which are consistently causing property damage and severely impacting life, upon further examination it does not. This could be considered a grey area, but as the list of included disasters is presented, slow-onset disasters are not listed. Much of the focus in the categorization of disaster in Thailand’s policies are on sudden disasters. Sudden disasters do result in displacement, but perhaps not as permanent as slow-onset disasters. By keeping such a narrow scope on disaster, many situations and therefore many vulnerable groups will be over looked and excluded (Scott, 1998). A simple definition allows states to be exempt from providing assistance to larger numbers of people. Whether or not that is intentional, it is the result.

3.3.2 Climate Change

Climate change is acknowledged in three of the four policies studied the Disaster Risk Management Plan (2015), the Strategic National Action Plan (2010-2019), and the Samut Prakan Disaster Risk Management Plan (2020). The policies use multiple international conventions understandings of how climate change impacts the severity and frequency of disasters. In the DRMP there is even recognition given to the impact climate change has on slow-onset disasters, such as coastal erosion. This recognition and acknowledgment could have influenced the state’s understanding and categorization of disaster, unfortunately, it did not. Because it does not, again it leaves many groups facing environmental displacement excluded from receiving support (Scott, 1998).

3.3.3 Slow onset/sea level rise/coastal erosion

In two of the policies, “sea-level rise,” or “coastal erosion” were not mentioned at all. The term “slow onset” was not used by any of the four policies. In the Disaster Risk Management Plan and the provincial policy, some reference was given to this concept in other terms, however mostly in connection to climate change. The policies realize that climate change can cause these types of concerns and that they leave communities perhaps more vulnerable to storms and other sudden disasters. Without these terms being related to a disaster, those facing displacement from them are again, not included.

3.3.4 Relocation/displacement

While “relocation” is referenced in all policies, it is only in the sense of a temporary means of assistance. It is used with the words “evacuation” and “emergencies” only. Therefore, once again, it is clear that the focus is on sudden disasters. There is no reference given to permanent relocation. This shows that the policies are focused on returning life to normal. Those who cannot return to their homes, especially those whose homes have faced slow, but continuous, environmental degradation, do not benefit from the assistance of evacuation nor a “return to normalcy” focus.

3.3.5 Rehabilitation

The provincial policy and the Disaster Risk Management Plan did specifically designate certain agencies to help rehabilitate and reconstruct specific community elements, such as individual homes, public infrastructure, agriculture, etc. Quite a bit of these policies were focused on rehabilitation efforts and plans during the recovery stages. Other policies do mention it as well, but not as in-depth as the provincial plan

or DRMP. The delegation and detail given in this policy are quite useful. They pay attention to alleviate quite a few of the predicted vulnerabilities that displaced groups face. Unfortunately, rehabilitation in this sense is geared at those who are attempting to remain or return to their homes. It may be beneficial to temporarily environmentally displaced persons, unfortunately, these resources and institutions are not available to those facing permanent displacement.

3.3.6 Housing/shelter

Similar to relocation, the terms “housing” and “shelter” are mentioned briefly in all policies, however only in the context of an emergency and temporary. This type of shelter or housing may be beneficial to those temporarily displaced and attempting to return to the disaster location. This can alleviate potential vulnerabilities for those people, but not for those permanently displaced. w

3.3.7 Livelihoods/occupation

It seems as though all policies recognize that livelihood is more than just occupation. It is used in an understanding that a livelihood is the means to acquire basic life needs. All of these policies promote different methods and institutions to establish the rehabilitation of livelihoods as efficiently as possible. None of the policies recognized that disaster, sudden or slow onset, may result in loss of occupation specifically. Reestablishing livelihoods reduces the impacts of several vulnerabilities. More attention could have been given to the reestablishment of occupations, as they play a vital role in reducing potential material vulnerabilities. The focus on livelihoods in these policies is encouraging, although there doesn't seem to be an exact plan as to how to do this. Perhaps, through the rehabilitation of many societal aspects, communities can recover their livelihoods. These areas overlap. Once again, the focus on livelihoods is in reference to rebuilding what already existed and returning life to normal. This focus excludes those who cannot return.

3.3.8 Assistance

Assistance is not mentioned in the Disaster Prevention and Mitigation Act. It is mentioned in the Disaster Risk Management Plan (2015) and the Strategic National Action Plan (2010- 2019). These plans use the term in combination with other words such as temporary or emergency. By combining these terms, it, again, restricts how and when assistance is granted. By restricting the *how* and *when* results in a restriction of *who*. The provincial policy discusses in more detail the types of assistance given, such as monetary, but includes conditions in which it is to be used. Understandably, the province needs to be detailed in how assistance is given, but it is limiting and unclear. This results in EDPs being excluded from many of the types of assistance granted.

3.3.9 Grants/loans

Monetary assistance could have been a bit more straightforward in quite a few of the policies. The provincial policy and the DRMP may have given the most specific instructions on how they would disburse, or how they wouldn't disburse funds. Much of it came down to the event that caused damage and the ability of residents to prove it. If something was declared a "disaster" monetary assistance seems to be more readily available. As mentioned earlier, the categorization of disasters is limiting. Again, "grants" and "loans" are quite conditional. These two terms coincided with "assistance." The specifications of *how* and *when* result in who is included. Like many of the other terms, it is not useful or inclusive of EDPs.

3.3.10 Stakeholder (local, provincial, civil society, etc.)

. The provincial policy, SNAP, and DRMP all command the cooperation of civil society, non-government organizations, and other stakeholders. This could be due to a lack of capacity of the government to completely cover all elements of

disaster management. The DRMP is the only policy to specifically declare that those affected by disasters are to have the capacity to contribute to the recovery process. Involving those affected by disaster and other non-state actors allows for assistance and support to be given that meets the specific vulnerabilities of the groups receiving it. This can be in the form of physical needs being met as well as attitudinal needs in the sense of empowerment (Mustafa et al, 2010).

Overall, slow-onset disaster is not as recognized in these policies as sudden disasters. This seems to have an impact on the type of assistance and resources allocated to those affected by disasters. There is a lot of focus on rehabilitating communities to how they were pre-disaster. There is not much consideration given to permanent relocation. The vulnerabilities of those facing sudden disasters are well understood, but those facing slow onset will not benefit from these policies the same.

3.4 Conclusion

As it has been pointed out in the analysis that the laws and policies are created with sudden disasters and their appropriate vulnerabilities in mind, communities facing slow-onset disasters and environmental degradation, such as coastal erosion and sea-level rise, will not be able to access all of the resources and assistance allocated in these policies. Several labels for environmentally displaced groups of people are being proposed on the international stage, and those definitions do include victims of climate change and environmental degradation. Unfortunately, Thailand's disaster laws and policies do not provide a clear label for environmentally displaced persons.

While there is no definition or clear "category" of environmentally displaced persons in Thailand's disaster policies, there is a more abstract understanding. Temporarily displaced groups are considered and assistance and support are heavily geared towards this group. Unfortunately, the limiting definition and categorization of disaster result in exclusions of those facing permanent displacement. These groups will not be entitled to the assistance laid out in the policies, because of this

categorization and its exclusions. The largest hurdle that EDPs in Thailand will have to face is the categorization of disasters, which has implications for the categorization of environmentally displaced people.



Chapter 4- Assessing the Vulnerabilities of Environmentally Displaced Persons in Practice

4.1 Introduction

In this chapter, the experience of environmentally displaced persons and their specific vulnerabilities will be examined. At the beginning of this thesis, it was mentioned, that the community in question, Samut Chin, has been facing a shrinking land mass for the better part of the past fifty years. Climate change has caused an increase in sea-level rise. Development along the Gulf of Thailand and the Chao Praya River has left the shoreline weak resulting in continuous coastal erosion. The weak shoreline and high sea level leave the village at higher risk and more vulnerable to storms coming in from the gulf. Figure two shows the changes in the coastline since the year 1952¹. The shoreline has eroded more than an entire kilometer in the past fifty years.

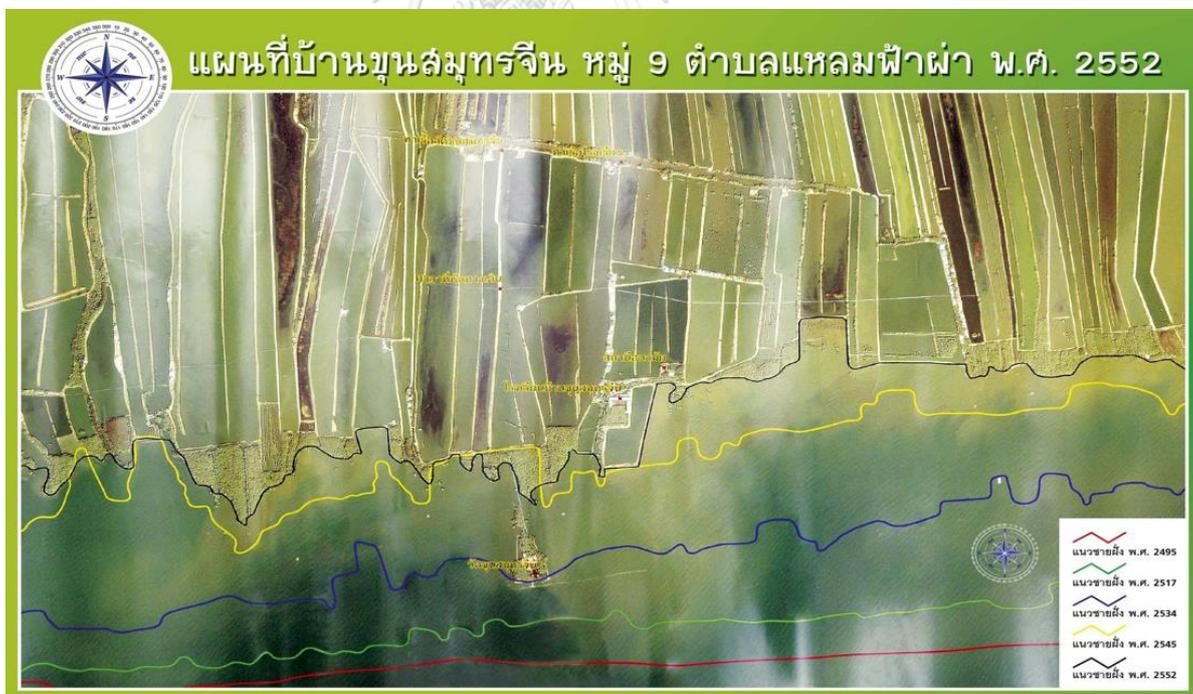


Figure 2

¹ 2495 per the Thai calendar

Figure Two- “Map of Ban Khun Samut Chin, Village No. 9, Laem Phap Subdistrict, 2009” Red line- 1952, Green line- 1974, Blue line- 1991, Yellow line- 2002, Black line- 2009

Many families have had to move their homes farther inland up to eight times. Much of the population has moved away completely. The only structure of the village that hasn't had to physically relocate is the Buddhist temple, Wat Khun Samut Trawat (figure two). This temple has only remained as a result of consistent conservation methods implemented by the monks who reside there along with the villagers (Ocharoenchai, 2021). Several potential vulnerabilities could influence community members' lives if they choose to remain in Samut Chin, or relocate.



Figure 3

Figure three- Image of the Buddhist Temple, Wat Khun Samut Trawat

The following sections will present the reality of those vulnerabilities and an analysis of those findings. In section 4.2 the findings from the interviews will be presented. In section 4.3 an analysis of the interviews will be conducted. In the last

section 4.4, a conclusion will be made about the vulnerabilities and needs of those facing displacement in Samut Chin.

4.2 Community Experience

The following section is a presentation of the experiences that various members of the community and their families have reported. These sections are divided into themes but are presented from each participant's perspective.

4.2.1 Community History

The community organizer gave a brief history of the village to supply some context for his answers to the questions asked. Roughly fifty to sixty years ago Samut Chin was a vibrant dense community. Now there are only seventy households left. A series of bad storms in the years 1962, 1989, 1997, 2005, and 2017 (2505, 2532, 2540, 2548, and 2560 as per the Thai Calendar) combined with a lack of protection due to sea-level rise and coastal erosion, gave motivation for members of the community to start relocating. For eight to nine months of the year, the weather patterns cause higher tides, which continuously cause more and more erosion to the coast line. Many people have given the reason for coastal erosion and loss of land as to why they relocate. Many also use the loss of occupation as a motive. He did mention that many don't leave until an opportunity arises elsewhere, such as a child going off to school; parents will follow, the younger generation marries someone from another village or they receive a better job offer. Many times, these motives and opportunities overlap. Those who have relocated out of the village have moved all over Thailand from Chiang Mai to Bangkok to the south or nearby villages. They have all remained within the country to his knowledge (Interview 1, June 2021).

The current community official explained that the village has been around for at least 200 years, but there are no records past 300 years. There are two ethnicities in

the community, Thai and Thai Chinese. Neither of these is considered minorities. According to him, fifty percent of the community has relocated in the past fifty to thirty years. He gave similar information as the community organizer, that those who left remained in Thailand but have moved all over the country. He states that the main reasons for relocation are property damage and occupational loss (Interview 3, June 2021).

4.2.2 Physical Assets

The community organizer owns their home, but the land is considered public space. They have had to move their home back three times in the past thirty years. Currently, the tide does not flood his house, but it does come up halfway on the cement pillars that it stands on, which are four meters tall. This happens most of the year. The coastline is considered to be fifty to a hundred meters from his home, depending on the tides and weather patterns. He owns boats and motorbikes, which he can park in a safe place that doesn't flood. He explained that he needs to keep his home close to the shoreline, because he is a fisherman (Interview 1, June 2021).

When asked about assets that members of the community owned, the current community official explained that eighty to ninety percent of the village does not own land, they either build on public land or rent land. Most deeds are now underwater. He also mentioned that many villagers have sold land to investors to afford to reconstruct their homes farther from the coastline. Now those investors have control over parts of the coastline, which poses a problem for cooperation in conservation (Interview 3, 2021).

The community organizer also explained a bit about some of the issues legally that the village faces when it comes to land ownership. In general, once the water reaches overall public space, which many residents live on, they will have to either move away entirely or rent land from a private owner. As also mentioned by the current community official, many residents have sold off inundated land to afford to rebuild homes elsewhere. Those investors are not always members of the community.

There is inconsistency in legal ownership and rights to land. According to the marine department, land underwater is not countable. According to the other departments, land underwater is still ownable. The community organizer wishes for consistency in law and that all land in the village be made public. There have been complications with trading and selling land that is now, or at times underwater. When there is private ownership involved, especially when those owners don't live in the area, conservation is stunted. For conservation efforts to be effective, there needs to be consistency along the shoreline (Interview 1, June 2021).

4.2.3 Occupation and Education

The community organizer is considered the community educator and plays various roles for the village. Samut Chin has a homestay program where tourists can come and visit the village, see the coastal erosion and stay with local families. The community organizer meets with the tourists and educates them on the issues that the community is dealing with. He is also part of a broader conservation group called the Upper Gulf of Thailand Conservation Network affiliated with the Chumchon Foundation who works on conservation projects in the area. The community organizer consults with the Environment in Marine Science and Tourism department of Burapha University in the nearby province of Chonburi (Interview 1, June 2021).

The current community official has been the head of Samut Chin for the past four years. His mother was the headman of the village before him, his uncle before her, and his grandfather before him. His job is to look after the well-being of the community. While he is responsible for many issues that arise, most of his time is spent focusing on environmental degradation and the ecotourism program (homestay). He is thirty-nine years old and has lived in the village his entire life. He holds a bachelor's degree in public administration. His brother has a bachelor's degree in marketing, but works for the provincial administration office. Both of his parents have high school diplomas (Interview 3, June 2021).

The retired community official's current source of income is shrimp farming. Unfortunately, over the years the profit of shrimp farming has steadily decreased. In 2011, when major floods impacted Bangkok and the great region, much of her farm

was destroyed. The flood water contaminated the water and soil. She did not receive any compensation and she ended up having to sell some of her land to pay off debts. Her highest level of education was only until the fourth year of primary school. When she became chief of the village, she later completed high school. She has learned how to make candles, desserts, and food preserves, but has never used those skills to obtain an income. Her husband works for the sub- district and still receives a consistent salary. Her two sons and their families still live in the village, including the one son who is the current village headman. The family has purchased a house outside of the community so they can send the grandkids to another school (Interview 4, July 2021).

The main source of income for the village overall is currently the homestay program, which started approximately fourteen years ago. Before that, and currently, with the pandemic, the main source of income is fishing. Thankfully, the coastal erosion does not impact fishing, but it does impact cultivation. Sea temperature and contaminated water impacts fishing yields. Because much of the community is considered public land, only twenty to thirty percent of the village participates in farm fishing. Overall, in order of most common, the main sources of income are tourism, fishing, and general labor. The majority of community members over sixty years old have only primary school educations. Members under sixty have up to ninth grade or high school. Many who pursue college educations, do not return to Samut Chin (Interview 3, 2021).

4.2.3.1 Local Education

Education seemed to be a reappearing theme in the conversations being had among members of the community. It plays a role in vulnerability as well as in the decision-making process of those facing environmental displacement. A local teacher, who has been working in the village for the past three years, explained more about the public education system in Samut Chin. She does not live in the village, but in a neighboring one. Before her employment in Samut Chin, she worked at a much larger provincial school. She was able to provide insight into the challenges and obstacles that a public school encounters in a village that is slowly, but consistently, eroding into the sea (Interview 2, June 2021).

The school building in Samut Chin has had to be relocated three times so far. In the year 1997 (2540 per the Thai calendar) the existing school was destroyed by a storm. The relocation and construction have been funded by the Ministry of Education. The current building is raised two meters off of the ground by concrete pillars. The sea often reaches under the building, especially during high tide. Students can access the building by water on raised platforms or barriers. Unfortunately, for staff who do not live in the village, there is quite a high cost and time devoted to coming and going from the school. Due to the geographical location of the school, and the rising sea level, the local teacher has to make five transfers between boats, cars, and walking to get to the school every day. It costs her about 200 baht (roughly six USD) per day. The building has running water supplied by the municipal. They do need to keep a reserve as the community cuts off running water periodically to refill the supply. The electricity was set up and is maintained by the vocational school nearby. At the moment, when the tide comes in, there is no effect on utilities (Interview 2, June 2021).

There are only four students who attend this school. There are more children in the community, but if their parents can afford to send them elsewhere, they typically do. The school is difficult to access and this results in it not being particularly desirable for students or staff. Teachers are brought in on a four-year contract, while management is on a one-year contract. Housing is provided for staff, but many chose not to use it because it is not in a preferable location. Most teachers and management employees leave after their contract is completed, therefore the school experiences a relatively high turnover rate. The standard teacher-student ratio is one to twenty-five. Because there are so few children, the school has one to two teachers at a time. Those teachers then have to cover all subjects. The limited staff and limited budget result in a limited curriculum. This also adds to the motivation for parents to send their students elsewhere. The Ministry of Education does not recommend or encourage shutting the school down or combining it with another school because it would be too difficult for these students to reach another school and education is mandatory in Thailand (Interview 2, June 2021).

The curriculum does cover some of the issues that the village experiences. Provinces in Thailand have programs within their education system that integrate specific topics to that location. In Samut Prakan, the schools teach about small-scale fishing and conservation. In Samut Chin, there is a heavy emphasis on mangrove conservation. This is very applicable to these students. Their homes are on the coast and if the mangrove forest disappears, they are no longer protected from the waves and sea-level rise. The community and school have conservation projects that the students participate in. They are also taught various skills that are dependent upon their location and the resources available to them, such as food preservation, specifically shrimp paste, etc. (Interview 2, June 2021).

The reconstruction of the public school and the inconvenience of location, have resulted in a decrease in attendance. This decrease has resulted in a decrease in staff, which has had a negative impact on the curriculum, as teachers are expected to cover all subjects. Public education is an essential part of community development and empowerment. Unfortunately, coastal erosion has created an inadequacy in education in the village of Samut Chin (Interview 2, 2021).

4.2.4 Family Connections

The community organizer has lived in Samut Chin for the past thirty years after marrying a woman raised in the village. His wife's family was one of the founding families of the community (Interview 1, June 2021). He has eleven family members that have resided in the village in total. Four to five of them have left permanently for family reasons. Six to seven remain in the community. He has one son, who works as a mechanic in the village; bringing in about 500 baht (roughly 15.25 USD) per day. His wife runs one of the homes for the homestay project but is currently not working, because of the pandemic.

For the current community official, there are seven people in his household; his parents, his own family, and his brother's family. His parents have had to move their house eight times, three of which have been while he has been alive. Thankfully, they have been able to remain on land that they own. All of the men in his household work

and earn an income. His father works for the sub-district government (Interview 3, June 2021).

The retired community official was the headman of the village before her son took over a few years ago. She has lived in the village since she was born, sixty-five years ago. Her family has lived in the village for many generations. Her great-grandparents on her mother's side immigrated from China, but her father's side is Thai. Many members of her family have moved away from Samut Chin, and at one point she left as well. Her family members moved to other villages in the province, Bangkok, or farther Phuket and other southern provinces. She went to Bangkok for a little while with her family, where eventually she adjusted to a different lifestyle. In the end, she missed home and she and her aunt moved back to Samut Chin (Interview 4, July 2021).

4.2.5 Community Infrastructure

When asked about the infrastructure in the village, the community organizer stated that there has been an improvement in this area over the past twenty years. Previously the village collected rain water, but now there is running water. Electrically has had to constantly be redone over the years. The original electric poles can now be seen a kilometer out in the gulf and are used as landmarks to show the progress of the degradation to the coast. Power does go out periodically, but the lifestyle of the village is not dependent on this to function. The community organizer feels that in general community infrastructure has improved as the homestay project became more successful (Interview 1, June 2021).

When asked about infrastructure, the current community official explained that no roads are going through the village. There is one main road that leads to it, but the rest of the village is only accessible by boat, bike, or foot on top of barricades and raised platforms. He did elaborate to say that the running water to the village is not consistent and comes and goes. There are also complications with the phone connections not working (Interview 3, June 2021).

The community official gave more insight into the adaptation methods that have been attempted. There have been concrete, mud, and bamboo sea walls built. The mud soil barricade reaches between two and four meters high. It extends three kilometers long across several villages. It was built by land and farm owners. Various funders have contributed to the concrete and bamboo walls and mangrove reforestation. Those donors include the community itself, students, government, and foundations (Interview 3, June 2021).

Many of the retired community official's answers about infrastructure and community communication confirmed the concerns raised in other interviews. She did mention that her biggest concerns about the hazards that the village is encountering are for her house and her family, mainly her grandkids. She talked about how the electricity is not safe and with the constant flooding, she is very concerned about the safety of her grandkids. She also mentioned that the health care in Samut Chin was not sufficient. There is a physical clinic, but keeping trained staff has proven to be difficult, similar to the situation of the public school (Interview 4, July 2021).

4.2.6 Awareness

According to the community organizer, the village does not need a warning system for reoccurring weather changes and patterns, because the community is accustomed to these fluctuations. If a large storm is predicted to strike, the meteorological department posts online three to four days in advance. The network that the community organizer is a part of also has the capacity to send messages among members to help warn of inclement weather. He also described how the shrimp and fish exhibit a behavioral change when something is about to occur (Interview 1, June 2021).

The current community official gave a bit more information about the warning systems in place. Previously, there were no systems established for high water. Now the Navy publishes a calendar of predicted sea-level rise and tides. This calendar is disbursed among the community. There is a text system created by the government,

but run by communities along the gulf in the disaster area. Once a village representative receives the warning, they inform the rest of the community. The current community official explained that the village does have communication with the district and provincial governments through the Line app (Interview 3, June 2021).

When asked about community involvement and how the community organizer felt whether or not he could voice his concerns, he explained that being a leader of the community he not only has the capability, but also facilitates opportunities for others to be involved. Samut Chin hosts townhall style meetings that everyone is welcome to join. Many decisions made with seeking assistance or taking action to help the community are made by the community as a whole (Interview 1, June 2021).

The community organizer also expressed how over-development up river is also contributing the erosion along the coast. There have been many dams built along the Chao Praya River, which disrupts the flow of sediment. He says that there are plans for at least seven more dams to be built. Combine the lack of sediment with the deforestation of mangroves and the rising sea level, the coast will continue to erode. The community organizer feels that there needs to be better regulation in development and cooperation between government agencies (Interview 1, June 2021).

4.2.7 Reasons For or Against Relocation

As for himself, the community organizer has several reasons for staying in Samut Chin. He claims that at his age, moving would not be ideal. His highest level of education is only primary school and he fears finding employment elsewhere would be challenging. His current form of income, due to the pandemic is fishing, therefore he needs to live near the sea. Before Covid- 19, he earned an income from the homestay project and guest lecturing at the University. Periodically, he works with private schools conducting project-based learning. Kids from these schools would come to the village and learn about weather patterns and how to interpret changes in the weather and the sea. All of these are associated with Samut Chin and the specific challenges that this community endures. He receives training from the network that he

is part of, but most of his knowledge has been acquired through life experiences. He is considered one of the community leaders and is very involved in decisions and interactions with government officials and public relations (Interview 1, June 2021).

When the current community official was asked why he has stayed his answer came down to three factors; his family owns land in the village, his family is here and he has a responsibility as a leader (Interview 3, June 2021).

Most of the retired community official's family members and other members of the community moved out of Samut Chin to find better work opportunities, mainly in factories. They didn't have enough education to advance to higher-paying jobs, and eventually, some moved back to Samut Chin. Many of her family members decided to leave originally after their homes were destroyed. They couldn't afford to rebuild their homes and decided to look for better job opportunities elsewhere. She feels that she could easily find a reason to leave again, but she has now been fighting for the village for so long; she fears that if everyone continues to leave, there will be nothing left. She feels a connection to the land and history of the village (Interview 4, July 2021).

4.2 Analysis of Vulnerability in Samut Chin

The following analysis pulls from the three types of vulnerabilities discussed in the vulnerabilities and capacity index; material, institutional and attitudinal (Mustafa et al, 2010). The information gathered from the interviews will be assessed collectively and qualitatively.

4.3.1 Material Vulnerabilities

Types of material vulnerabilities are physical assets, education, and sources of income. Many of the families in Samut Chin have similar capacities. Examining their responses to the questions asked about material vulnerabilities an assessment can be made about how their skills and assets support remaining in Samut Chin or relocation.

Previously, the main types of occupation in Samut Chin were very dependent on its location; fishing and shrimp farming. Residents need to remain close to the shoreline to continue working. Currently, many residents who have remained are a part of a community-based tourism program; the homestay (Interview 1, June 2021). This again is very dependent on their location. Fishing has been able to continue, even with coastal erosion, but shrimp farming has seen a significant decrease in productivity and consistency. The homestay program has been successful, because of the erosion and its draw for tourists. Unfortunately, Covid-19 has proven that it may not be as reliable as once hoped. Much of the community has only primary or high school educations (Interview 3, June 2021). They are trained to work in the fishing or farming industry. Those who seek higher education, typically tend to relocate, while those who don't, mainly the older generation, have fewer opportunities to leave (Interview 1, June 2021, Interview 3, June 2021, Interview 4, July 2021). Some have left to go work in factories in the cities, but found that their lack of higher education prevented them from advancing in other careers. The retired community official mentioned that it was a struggle to keep the younger generation in Samut Chin and that when they go away for school they do not return, this could be attributed to the lack of opportunity within the village to obtain a desirable occupation to support a sustainable livelihood (Interview 4, July 2021). Relocation from the village at any age may be contributed by this.

Continuing in the theme of education, the public school in Samut Chin is struggling to aid in alleviating vulnerability to the community. The erosion presents challenges to the actual structure of the building. The erosion also makes reaching the school a challenge for students, teachers, and management (Interview 2, June 2021). As families choose to send their students elsewhere, it adds another layer of obstacles to the success of the school. The budget is dependent on the number of students; as the attendance decreases, the budget decreases, and the allocation of teachers decreases. This results in an insufficient curriculum. The students who rely on public schools, whose parents cannot afford to send them out of the community, are not receiving a well-rounded education (Interview 2, July 2021). They are being taught valuable skills and lessons that are relevant to where they are, but these attainments

will not assist their capacity to establish a reliable livelihood if they have to relocate in the future.

For assets, many of the residents own their own homes, but not the land that they live on (Interview 3, June 2021). Many used to own land that is now underwater. Not owning the land that their homes are on is an obvious vulnerability. At any time, they may be forced to leave, especially if they are renting the land from a private owner. Some members of the community had to sell their partially or fully inundated land to afford to rebuild their homes farther in land. All of the people interviewed spoke of how the water reaches the base of their homes currently (Interview 1, June 2021, Interview 3, June 2021, Interview 4, July 2021). If the water continues to rise and they need to rebuild again, they may not have the assets available to monetize.

Occupation, education, assets, and overall means of acquiring a livelihood are all impacted by the erosion and rising sea level in Samut Chin. This leaves the families in this community incredibly vulnerable. Their lack of education or training in other skills leaves them reliant on their location. Their education and training also result in what occupations are available to them. As their homes and land are in jeopardy of being destroyed by the sea, they are struggling to maintain or acquire safe shelter, especially if they have had to monetize assets previously to fund reconstruction. Relocating is an option, but the quality of life elsewhere is not guaranteed to be an improvement as they have not obtained the training and skills needed to prosper elsewhere.

4.3.2 Institutional Vulnerabilities

Institutional vulnerabilities can be considered how an individual relies on and receives support from established social institutions around them, such as family and community. Familial dependency can weigh heavily into one's ability to remain in one place or relocate to another. Community support, both physical and social can impact decisions. The effects on public infrastructure can leave families vulnerable to not being able to obtain basic life necessities. A lack of a warning system through the village can leave some residents more vulnerable to high tides and inclement weather.

All of the community members interviewed mentioned that some family members have moved away at some point (Interview 1, June 2021, Interview 2, June 2021, Interview 3, June 2021, Interview 4, July 2021). Nearly all families have been divided by the decision to relocate or remain in Samut Chin. Some participants explained that the reason they stay is to help support their families, such as older parents (Interview 3, June 2021). The retired community official had a great desire for the younger generation to remain in the village (Interview 4, July 2021). These ties to the family have kept individuals from leaving. Ties to families have also encouraged individuals to relocate. As mentioned by the community organizer and the current community official, many times children will grow up and seek higher education outside of the village. In many instances, the parents or other family members will follow their children (Interview 1, June 2021, Interview 3, June 2021). Not all families in the village have this type of opportunity.

In terms of community infrastructure and development, several factors leave Samut Chin's families vulnerable. Touching back on the challenges that the public school encounters, erosion is leaving the availability of public education in jeopardy (Interview 2, June 2021). The building itself is not easily accessible on foot. It has also been reconstructed three times. The village as a whole is very inaccessible. There is only one main road that reaches the village. Navigation throughout is quite difficult. The city's electricity poses a safety hazard to the residents (Interview 4, July 2021). Healthcare is not sufficient. All of this can be attributed to the geographical location of the village and continuous sea-level rise, leaving residents vulnerable. It should be mentioned that some of the infrastructure, such as running water has improved over the years (Interview 1, June 2021). Many of the interviewees claim this to be a result of the homestay project and the need for running water and internet for tourists (Interview 1, June 2021, Interview 3, June 2021, Interview 4, July 2021).

The village has managed to work out an adequate system for warning residents of high water and inclement weather (Interview 1, June 2021). Over time, many have learned how to read the weather patterns and understand which times of the year the tides are higher. They also have the calendar supplied to them periodically which helps to predict the rise in tides. When a storm is potentially directed towards their

community, established networks communicate to the village. The size of the population promotes their ability to exchange information rather quickly among residents. Overall, the members of Samut Chin have a fairly concrete understanding of their situation and how to know when problems will arise.

Considering family and community, several vulnerabilities can be spotted. Family connections either encourage relocation or encourage stagnation. Many families end up split to some degree (Interview 4, July 2021). Familial support can sway a decision, but it can also reduce support not only financially, but also emotionally and mentally, creating vulnerability. Some residents may feel that they can't stay or leave, because of family connections, putting them in undesirable positions (Interview 3, June 2021). The infrastructure and development of this village have been disrupted or limited by coastal erosion. The safety concern and lack of healthcare create a clear vulnerability for those who stay (Interview 4, 2021). The warning system, organized by the government, network, and community has proven to be beneficial in reducing vulnerability that could arise from inadequate communication.

4.3.3 Attitudinal Vulnerabilities

Attitudinal vulnerabilities can be assessed by examining how individuals of the community feel that they are a part of the solution to their problem. Is there an opportunity for them to voice their concerns or suggestions? This is more or less measuring their attitude toward their situation and their hopefulness for resolution. This can be assessed through understanding their role in the 'big picture' and understanding what they feel would be necessary to alleviate their situation and therefore their vulnerabilities.

All of the participants that were interviewed are involved with community decision-making; they are or were at one point leaders, in some manner, of the community. There is a chance that their views on opportunities for voicing concerns may be slightly biased. The village holds regular town hall meetings and everyone

from the community is welcome to join (Interview 3, June 2021). It was stated that certain decisions are made by the community as a whole. Only those involved in the homestay project have a say in what happens with the funds raised from the project (Interview 1, June 2021). These funds are typically used for mitigation projects to prevent more erosion from happening. Those interviewed have all spoken with district and provincial agencies, though they feel their requests have gone unanswered (Interview 1, June 2021, Interview 2, June 2021, Interview 3, June 2021, Interview 4, July 2021). From the information gathered and examining the community level, it seems that there are adequate means of communication between members of the community and leadership. There seems to be an opportunity for communication between community and government, but perhaps a lack of impact.

When asked about what needs to be done to help the community, everyone agreed that a proper sea wall needed to be constructed. The retired community official states that the village has plans for how to save the village, but needs funding from either the government or an alternative donor (Interview 4, July 2021). The community realizes that the erosion is not only a result of rising sea levels and deforestation of mangroves but also from over-development up river. The community organizer desires more cooperation between different government agencies and corporations (Interview 1, 2021). How this can be achieved is not a simple statement. In general, they feel that there is a solution, it is just a matter of getting all of the right actors and stakeholders involved.

There is a sense of inclusion within the community and among community leaders when it comes to communication. On the village level, there is not a great amount of vulnerability in being able to spread ideas. While there are means of communication between the village and the province, requests and ideas seem to go unheard. The village has requested assistance from all levels of government and many private foundations. More will be discussed in the next chapter. Overall, there is an opportunity for empowerment, but that does not necessarily result in an alleviation from attitudinal vulnerability if those opportunities yield no outcomes.

4.4 Chapter Summary

There are vulnerabilities spread among all three of the subtypes of vulnerability used in this assessment; material, institutional and attitudinal. The families in this village that are facing environmental displacement have specific needs that the state or non-state actors should consider in their policies and assistance given. Some vulnerabilities may play a more significant role in the decision-making process of relocation or remaining in Samut Chin. Communication within the village does not seem to contribute negatively to vulnerability. The village has managed to create a system to not only inform its members, but also grant them the capacity to voice concerns and ideas to leaders (Interview 1, June 2021, Interview 3, June 2021). This reduces institutional vulnerability and attitudinal vulnerability to a point. The warning systems give residents time to prepare for potentially bad situations, but that is not enough to alleviate all vulnerability if they don't have the means to do something about it. Empowering members of the community to be a part of decision-making creates inclusion, and perhaps boosts morale, but does not solve tangible problems if those solutions are not acted upon.

Material vulnerability seems to be the most severe of all three types. Coastal erosion has a direct and indirect effect on all aspects of obtaining a sustainable livelihood. This vulnerability has a very clear connection to the decision-making process for relocation. The cost of continuously having to move homes farther inland may be greater than simply relocating altogether. Erosion creates a problem, relocation may be a solution while education, family, and occupation present either opportunities or obstacles to achieving that solution. While all three types of these vulnerabilities overlap and influence one another, it is the material vulnerability that creates the most hardships for the families in Samut Chin.

Chapter Five- Support Sought by EDPs in Practice from State and Non-State Actors to Alleviate Vulnerability

5.1 Introduction

This chapter will look at what type of assistance has been given to those facing displacement from Samut Chin. This will be from the perspective of EDPs- in practice. It will also examine how beneficial that assistance has been to those in the village, based on their experiences of what they need to alleviate vulnerabilities and what they have received. Governments and their appropriate agencies are not able to assist EDPs entirely and sufficiently on their own. Other entities such as civil society, the private sector, and academics often provide additional support. This chapter will also examine what other types of assistance this village has sought or received beyond the scope of Thailand's disaster policies. It will examine how this particular group has or hasn't found the means to acquire a sustainable livelihood and overcome their specific vulnerabilities. By understanding how the families of Samut Chin have found support and what that support has been, a comparison between reality and policy can be assessed in further chapters.

In section 5.2, a presentation of the findings from interviews with families in Samut Chin about government and non-state assistance will be provided. In section 5.3, an analysis of both types of support will be conducted. In the last section, 5.4, a conclusion will be drawn about what support is or isn't being provided.

5.2 Types of Support Received

This section will present the information given by interviewees about the different types of support that the village has received, how they have received it and by whom.

5.2.1 Mitigation Support

When asked what assistance he and other families of the village have received from government agencies, the community organizer was quick to explain that many agencies and officials have come into the village and promised many great things, mostly in the form of addressing the erosion problem, but fail to deliver. Roughly nine years ago, a large sea wall was supposed to be built, but it has yet to happen (Interview 1, June 2021). However, there was an academic interest in the village that brought some mitigation-type support in the form of a sea wall. The current community official pointed out that no one knew about Samut Chin and their situation until about thirty years ago when a professor from Chulalongkorn University, Dr. Thanawat started researching coastal erosion in the area. Dr. Thanawat did facilitate the construction of a partial sea wall (Interview 3, June 2021). It is a 250-meter-long wall that cost roughly five million baht. Unfortunately, in 2008 all construction on this project stopped for some unknown reason. The retired community official says that it was funded by the National Research Council of Thailand. She spoke of how those who can afford to build concrete barriers on their own do, but it is funded by individual residents for their property (Interview 4, July 2021). Therefore, the sea wall that was created by Dr. Thanawat and the residents who have built their own, a portion of the coast line has some protection, but it is not consistent.

The retired community official elaborated a bit more on different types of assistance that have been granted to the community over the past few decades. She spoke of how the village was gifted sausage sandbags to help build a wall by government officials, but they were too weak and ineffective. Eventually, the community said they no longer wanted them. During other floods, the government has also supplied empty bags to individual homes to make sandbags for protection. She expressed that it wasn't until the last few years that the government has even tried to help the community mitigate the erosion. An official from the Ministry of Interior that over saw Samut Chin, called him Udon, was trying to advocate for a better sea wall for the village, but his post expired and he was relocated elsewhere (Interview 4, July 2021.)

Dr. Chumak explained that after the sausage sandbags were no longer being provided or wanted the district shifted its budget and focus to bamboo barriers. Unfortunately, these barriers don't last very long and after about three years they break apart. This creates another issue for the community, as they now have bits of bamboo debris all over the shore (Interview 5, July 2021).

A combination of state, private, and academic actors have attempted to provide physical barriers to reduce the impacts of the waves coming in from the gulf. This may have helped save the shoreline to an extent, which may have helped residents to remain in the village longer, but efforts have not been cohesive or conclusive. Leaders of the village have a plan to build a concrete wall that is long enough and potentially connects to neighboring villages, unfortunately, they do not have the financing or an interested donor to do so at the moment (Interview 4, July 2021).

5.2.2 Emergency and Financial Assistance

The current community official explained how some financial assistance has been provided by the provincial disaster agency. He explained that twenty years ago there was zero monetary support. There has been no support or assistance given in the past or the present to those who had to relocate, because the relocation is not considered "forced" (Interview 3, June 2021). As far as reconstructing homes that are destroyed by erosion or bad storms, families are only granted assistance when the event is declared a "disaster." There are some obvious grey areas here. A normal storm can have a much greater impact on this village, because the erosion has left them vulnerable. These normal storms may not be considered disasters. The current community official did mention how the Thai Red Cross has been known to help with supplying goods when storms impact the village (Interview 3, June 2021). Some monetary support can be given by the sub-district. An evaluation must be made of the homes in question, but money is only given to rebuild the homes as they were; where they were. Even moving the home meters farther inland, is considered relocation. This

assistance is also only granted to homes when it is provided, not to any commercial or agricultural properties (Interview 3, June 2021. Interview 4, 2021).

The retired community official said that once a bad storm hit the village and financial support was given to rebuild, in the amount of 3000-5000 baht (roughly ninety to 150 USD) for renovations; this did not cover all expenses. She feels that government support has not been enough. She also mentioned, similarly to the current community official (Interview 3, June 2021), that compensation when disasters do happen only focuses on residential homes. Farmers and business owners have not received compensation, because many do not own the land that they were using. When denied support, she blamed the reason on politics (Interview 4, July 2021). The community organizer and the current community official both mentioned that financial and emergency support has been denied to the families of Samut Chin, because the disaster policies and plans of Samut Prakan do not include specific disasters, such as the sea-level rise and coastal erosion (Interview 1, June 2021, Interview 3, June 2021).

5.2.3 Adaptation Support

Dr. Watanachai Chumak from the Dhonburi Rajabhat University was invited to Samut Chin in 2004 to see if the village had the potential for creating a community-based tourism project (Interview 5, July 2021). According to the community organizer and many of the other villagers, the homestay project has proven to be the most useful in helping them to adapt to their situation and remain living in Samut Chin as it provides many forms of support (Interview 1, June 2021). The exact year that the project started is a little unclear; every participant has given a different answer.

The community organizer explained that there are about twenty homes involved currently. Ten percent of the cost for a tourist to come and stay goes into a community fund. The rest of the price is given to the family. This fund is used to help lessen the strain of the challenges that erosion creates. He said that the fund raised over 150,000 baht (a little over 4,500 USD) in the first year. The profits from the

project have been able to conserve about ten rai of mangrove forest and invest in community boats. Only the families who participate in the homestay project are involved in the decision-making process as to what that fund is used for (Interview 1, June 2021). Some of these projects are technically another form of mitigation support; however, they are maintained by a new livelihood that has grown from adaptation efforts. The current community official also discussed the homestay project and how it has become the main source of income for the village, before the pandemic (Interview 3, June 2021). Before the homestay project fishing and shrimp farming were the main industries in Samut Chin (Interview 4, July 2021).

In the retired community official's opinion, Dr. Chumak from Dhonburi Rajabhat University has brought in the most help with the community-based tourism project. This project helps those who chose to remain in Samut Chin gain a more stable income and promotes infrastructural development. Only as the village started bringing in money and recognition with the success of the tourism, the government started paying more attention, although sufficient support has not begun (Interview 4, July 2021).

Focusing more on the community-based tourism project, Dr. Chumak explained the benefits of the project for Samut Chin. There are four specific ways that tourism has helped. The first, and perhaps most obvious, is the economic impact. Tourism has brought jobs to the community and provided a new source of income. The second impact is social. With tourists coming in, the community has been able to and needed to maintain the grounds and infrastructure of the village. This not only benefits the tourists, but also the residents of the community, aiding in their safety and alleviating potential vulnerabilities. The third benefit being the environment. The tourism project has funded mangrove reforestation and other conservation efforts. A healthier environment helps to support the livelihoods of the community. The last benefit that Dr. Chumak mentioned was for history and culture. The tourism project is helping to preserve tradition and culture in the community. Tourists want to learn about the village and its past, this helps to maintain knowledge of the history of the land and the people. Members of the community cook traditional food and make handmade crafts to sell to the tourists. The goal of the project is to shift the main

source of income from fishing to a more self-sufficient source; tourism (Interview 5, July 2021).

As academics and tourists have started to spread awareness about the village, quite a few foundations and charity organizations have come through in recent years (Interview 4, July 2021, Interview 5, July 2021). Most of the help they have received has been focused on educating the community about how to adapt to sea-level rise. The current community official explained that none of the foundation's help has been related to relocation (Interview 3, June 2021).

With the help of Dr. Chumak, this village has found a way to adapt their livelihoods and occupations to benefit from their situation. By doing this they have been able to create the necessary means for some families in the village to remain in their homes. They have also been able to replant mangroves and help to start generating a healthier shoreline.

5.2.4 Requested Assistance

The retired community official had briefly mentioned some letters that she sent to various agencies requesting help. She explained how she wrote to many levels of the government asking for assistance for the village when she was the headman. She even wrote to the late King Bhumibol describing the village's situation and requesting support. She believes the letter did not reach him or he would have helped in some way (Interview 4, July 2021).

Dr. Chumak has worked with the families in Samut Chin and expanded on the retired community official's effects to request assistance. In 1987, she began trying to request help on behalf of not only the village, but also the coastal region Samut Chin belongs to. He explained that the only government department to respond was the Department of Marine and Coastal Resources. Their support came in the form of mangrove reforestation (Interview 5, July 2021).

Dr. Chumak spoke of how she not only sent letters to almost every government agency and department, but she also sent letters to foundations all over the world such as the Bill & Melinda Gates Foundation, the Climate Reality Project, founded by former Vice President of the United States, Al Gore, and others. Dr. Chumak had copies of all of the letters sent, as well as the letters received back. They all more or less read the same, “I’m sorry to hear about your situation, but we are unable to help you at this time.” In 2007, a letter was sent to the UN Secretary asking for support from other nations, but again, the request was fruitless. A few news sources have done stories on the village, which has increased awareness. Some charities have come in and done small projects, but no one has provided sustainable solutions to the erosion problem. None of the assistance has addressed relocation (Interview 5, July 2021).

Both the community organizer and the current community official discussed the laws in the province’s disaster policies. They feel that the policies and plans would be able to help with the village’s troubles if certain types of disasters were included. The community organizer says that the village and the networks that he is part of have initiated hundreds of proposals to the province and national governments to change the law to include this type of slow-onset disaster. Unfortunately, they have yet to be rewritten (Interview 1, June 2021, Interview 3, June 2021).

5.3 Analysis of Assistance from State and Non-State Actors

This section is divided into two parts. The first part will assess the assistance and support given by the government and their appropriate agencies. The second part will assess the assistance given by non-state actors that the village has received as well as other methods used to alleviate their vulnerabilities and adapt to their situation, for those who chose to stay.

5.3.1 Government Assistance

Overall, government assistance seems to be inadequate in supporting the households in Samut Chin. Considering disaster agencies and resources, any assistance that has been given has been by the district or provincial level. Monetary assistance is only given when something is declared a disaster and proof of damage can be given. This limits the amount of help these residents can receive. Because the coastal erosion and high sea-level rise create exposure for this village, a normal storm has a much more severe impact than it would on other communities. These normal storms are not considered disasters; therefore, compensation is not received. High tides and a consistently rising sea level, have not been enough of a reason to receive monetary assistance in reconstruction, let alone relocation. In the few events that monetary assistance was granted to those whose property was damaged, the amount given was quite minimal and was only given with the understanding that it was to rebuild what already existed, in the place that it already existed. No compensation has been given to help those who lost their farming or commercial properties. Not compensating nonresidential property has an impact on the families of Samut Chin's ability to maintain livelihoods.

The province and the sub-district have made several attempts and created budgets for mitigation efforts. The use of sausage sand bags and bamboo barriers has not been effective in the experiences of the residents of Samut Chin. Some even feel that those attempts created more problems. The only other government agency that has attempted to help the village, is the Department of Marine and Coastal Resources with their efforts focusing on mangrove reforestation. These mitigation attempts are not directly related to relocation or displacement; however, they can contribute to reducing the need to relocate. Unfortunately, these mitigation efforts have not proven effective in preventing coastal erosion enough to alleviate the challenges and vulnerabilities that lead to migration. Community leaders feel that the village is too small for the government to justify spending the money in creating a larger more durable sea wall. Community leaders feel a larger more durable sea wall would be effective in saving the coast and consequently alleviating those vulnerabilities.

5.3.1.1 Non-Disaster Policies to Consider

This study strictly focused on disaster risk management in Thailand and its related policies. While disaster management and procedures have a direct impact on alleviating or reducing vulnerabilities of those displaced by environmental degradation, other government agencies also contribute to this. During the conversations with members of the community, a few areas of concern appeared. These areas pointed to other government agencies and their laws that could and should also be considered. In figure four, these areas of concern are mapped out. The departments responsible and their parenting agencies are listed in the table found in appendix six. It should be noted that the policies and laws listed reflect specific vulnerabilities that the community of Samut Chin is facing and that was revealed in the interviews. Therefore, there are other potential areas and legislature that could be examined that were not revealed and are not listed below.

Figure Four- Additional Policies

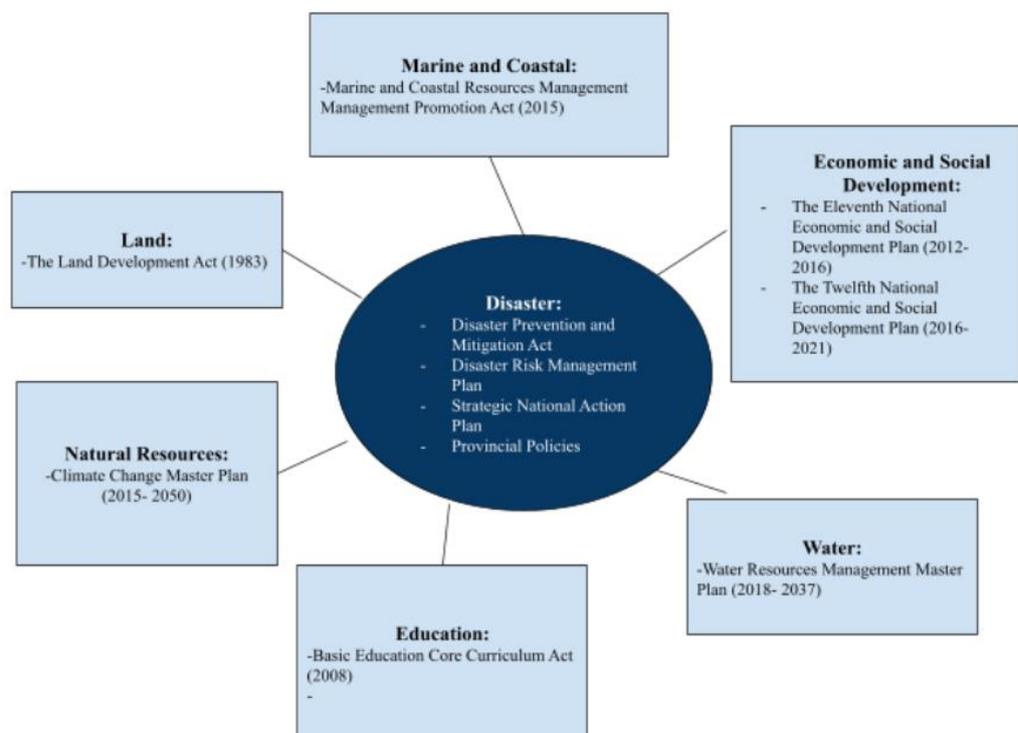


Figure 4

When speaking with the retired community official, the only government agency to respond to requests for support and actively participate in preventing the sea-level rise in Samut Chin was the Department of Marine and Coastal Resources. Their policies, laws, and efforts aimed at mitigating coastal erosion can impact the material vulnerabilities of EDPs (Interview 4, July 2021). According to the community organizer, the erosion that Samut Chin is dealing with can be traced, not only to climate change but also to overdevelopment up river (Interview 1, June 2021). The main development on the Chao Praya River that would disrupt water and sediment flow, would be dams and infrastructure for regulating water resources. In this case, laws and policies produced by the Office of Natural Water Resources can affect causing or reducing coastal erosion, which would then have an impact on all vulnerabilities experienced by the residents of Samut Chin. Climate change can be seen as a significant role in Samut Chin's specific situation. Thailand's Climate Change Master Plan, the Eleventh and Twelfth National Economic and Social Development Plans, all consider climate change and its long-term effects on the economy and social well-being of the nation. These may be more indirect, but they do create an opportunity for reducing or alleviating all types of vulnerabilities of those in Samut Chin, as well as other vulnerable communities.

Some areas of concern can be found that are not directly related to mitigating the effects of sea-level rise and coastal erosion. As mentioned by the local teacher, the public school in Samut Chin has challenges with staffing and therefore curriculum (Interview 2, June 2021). Legally, all children must have access to education in Thailand. The quality of and access to education can directly impact material, institutional and attitudinal vulnerabilities. Potential legislature that influences this comes from the Office of Basic Education Commission. In multiple interviews, issues with land ownership and its influence on EDPs were uncovered (Interview 1, June 2021, Interview 3, June 2021). Some residents own land that is currently underwater. There is inconsistency on how to claim land that is partially, or periodically inundated. Laws and policies that regulate land ownership and the rights granted to those who own, can have an impact on the material vulnerabilities of EDPs. The community organizer pointed out that coordination and cooperation between

government agencies is necessary for a sustainable solution to be found (Interview 1, June 2021).

5.3.2 Alternative Assistance

As shown in the interviews, the village has attempted to seek out assistance from many different sources, not strictly government agencies. The retired community official wrote letters to foundations, intergovernmental organizations, NGOs, and media companies all over the world. While this did bring awareness to Samut Chin, it did not bring sustainable solutions. Most of the organizations were unable to help. Smaller foundations did participate in some mitigation activities, as well as educational activities. The members of the community appreciate these initiatives, but they do not feel that they have made a lasting impact on reducing the challenges and vulnerabilities that they are dealing with.

Most everyone in Samut Chin feels that the village has benefited the most from the community-based tourism brought in by the help of Dr. Chumak. This project has used the village's unique situation as a means to generate a relatively sustainable source of income. As Dr. Chumak pointed out, the project offers a new type of occupation that helps those who no longer find fishing and shrimp farming profitable. The influx of tourists requires a certain standard of infrastructure, that also benefits those who live in the community. It creates a way to maintain culture and tradition. It also contributes to a healthier environment, which again, benefits those who live in this environment. The home stay project has created means for the community to maintain a sustainable livelihood. They can acquire their basic needs more easily, because of it.

5.4 Conclusion

Assistance in relocation has not been addressed in either government or non-government support. However, both sources of support have attempted to mitigate the problem that causes displacement. Some attempts at mitigation have been helpful, but not permanent. The village feels as though there is a solution, it is just a matter of finding the funding for it. For compensation of property damage, according to the

interviewees, government support could have been more beneficial, had the conditions of the policies and assistance been more inclusive. Community leaders want to see a change in how the laws are written. In discussions with the members of the community, it is clear that multiple government agencies have the potential to help alleviate vulnerabilities of EDPs, beyond the scope of disaster risk reduction. While the assistance granted may not have been enough, the residents of Samut Chin have not simply accepted their circumstance as final. Petitions have been made to government agencies to change the laws. Requests have been sent to just about every imaginable entity that could do something.

Despite their lack of support, the community has found a way to create a more sustainable life in Samut Chin. While the home stay project raises funds to help with mitigation efforts that reduce the need for relocation, it also benefits the community in adapting to their situation. While they are still geographically and physically vulnerable, this project allows them to alleviate some of the material, institutional, and attitudinal vulnerabilities that they experience. The sustainability of this solution is being tested as the nation battles the seemingly never-ending outbreaks of Covid-19. During normal times, this project does help to lessen the economic, social, and environmental impacts of coastal erosion, but it won't be enough to completely reduce the need for relocation and it has no benefit to those who do choose to relocate.

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Chapter Six- Conclusion, Discussion, and Recommendations

This chapter will conclude all the previous chapters. It will then hold those conclusions against previous understandings in literature. It will discuss the significance of the research as well as, provide recommendations for not only future studies, but also for actions various stakeholders could take to blend policy with practice.

6.1 Conclusion

This section will examine the three main concepts of the overarching framework and the connections between them. First, it will summarize how categorization impacts state's understandings and organizations of EDPs and how that impacts their position in laws and policies. Scoping down, this section will continue to explore specifically how Thailand's disaster policies categorize environmental displacement and what that categorization allows for in the allocation of resources and support. In section 6.1.2, a summarization of the vulnerabilities found in a case study of Samut Chin will be conducted. In section 6.1.3, how those vulnerabilities are met as families in the village attempt to seek support from government and non-state mechanisms will be concluded. Lastly, how those three sections relate to and influence one another will be examined.

6.1.1 Categorization in Thailand's Disaster Policies

Referring back to international frameworks and agencies' definitions and understandings of environmental displacement, several definitions have been proposed. The IOM uses the term "environmental migrant," which includes,

Persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move within their country or abroad." (IOM, 2011: 33 in IOM, 2014:13).

The Nansen Initiative's definition overlaps with the IOM's. The UN Commission on Human Rights includes displacement from "natural or human-made disasters" for the term "internal displacement." None of these definitions are accepted universally as a label for environmental displacement. It is clear in Thailand's disaster laws and policies that there is no adoption of any term proposed. Any categorization of

environmentally displaced persons in Thailand's disaster laws and policies is labeled as "those affected." This label is not defined in policies, nor elaborated upon.

The phrase "those affected" implies an event or action. While groups facing displacement seems to be exempt from categorization in Thailand's disaster laws and policies, the events that lead to someone being *affected* have been categorized. In the national policies that overarch the nation's disaster management strategy, the definition of disaster is as follows,

"Disaster" means any of these disasters; fire, storm, strong wind, flood, drought, epidemic in humans, epidemic in animals, epidemic in aquaculture, and epidemic in plants and other public disasters either natural disasters or human-made disasters, accidents or all other incidents that effect to life, body or properties of the people, of the government. And in this regard, air threats and sabotages are also included. (DDPM, 2007)

A list of included disasters is provided in the Strategic National Action Plan as, flood, typhoon/hurricane, tsunami, earthquake, landslide, drought, fire, explosion, accident, epidemics, pests, and civil unrest (DDPM, 2019).

The disaster in question for this case study is not a sudden event. Coastal erosion and sea-level rise can be considered natural and perhaps, also human-made disasters when considering the human contribution to development and climate change. Regardless of the source of such an event, slow-onset disasters cause continuous damage that can lead to severe impacts and disruptions to human life and development, potentially resulting in displacement. The UNFCCC defines slow onset events as "events that evolve gradually from incremental changes occurring over many years or from an increased frequency or intensity of recurring events" (FCCC, 2012). The Special Rapporteur on the Human Rights for Internally Displaced Persons, calls on states to include the impacts from both sudden and slow-onset events in their efforts to mitigate and protect human rights in policy and procedures (Jimenez-Damary, 2020). Specifically looking at Thailand's disaster laws and policies, the understanding of disaster is clear and the disaster in question should fit into that

understanding, however, slow-onset disasters do not seem to be included in the categorization of disaster. If the disaster in question is not included, the groups of people being displaced from that disaster are not included.

Should the inclusion of disaster be altered, Thailand's disaster laws and policies do provide some assistance that could be beneficial to alleviating predicted vulnerabilities of those affected, and possibly displaced, by coastal erosion. The national plans call on many institutions and departments within the government to assist in the rehabilitation of all societal functions. Support is given to restoring livelihoods, infrastructure, economies, mental health, etc. The policies and plans call on stakeholder involvement beyond the scope of the government and encourage participation from those affected in decision-making. Thailand's disaster laws and policies consider aspects of all three types of vulnerabilities; material, institutional and attitudinal.

Unfortunately, it should be noted that these policies do not recognize or provide specific support for permanent displacement. This is a concern for those affected by not only slow-onset disasters, but also sudden. Those affected by sudden disasters may be more likely and have the capacity, to return to their original residence eventually, but there is still the potential that that may not be an option. Permanent displacement requires long-term solutions and assistance. Thailand's disaster laws and policies focus their support and assistance on the immediate recovery or on returning life to how it originally was. For those who cannot return, there is a lack of assistance.

Several areas of concern can be spotted in Thailand's disaster laws and policies. The first being the categorization of disasters, which has a direct impact on vulnerable groups of people being included or excluded from assistance. Slow onset disasters are not as clear and easily defined as sudden, but their impacts are disruptive and potentially permanent. This points into the second gap in policy, its lack of recognition to permanent displacement. Responsibility for rehabilitation and recovery is delegated among various departments within the government; however, those responsibilities are for immediate response or recreating communities as they once

were. For the residents of Thailand experiencing slow-onset disaster and permanent displacement, Thailand's disaster policies will not address their potential vulnerabilities and needs, as a result of how these policies categorize disasters and those affected.

6.1.2 Vulnerabilities in Practice

To understand what Thailand's disaster laws and policies should include helping alleviate the vulnerabilities of those confronting displacement, the reality of the situation needed to be understood. The residents of Samut Chin were able to give insight into the specific needs and concerns their specific circumstances brought them. The vulnerabilities were broken down into three types (Mustafa et al, 2010). Monetary assets and their ability to acquire them, such as education, occupation, etc. can highlight their potential material vulnerability. Familiar dependency and support, community stability, both physical and social, can highlight their potential institutional vulnerability. Empowerment, opportunity, and inclusion in decision-making can highlight their potential attitudinal vulnerabilities.

Material vulnerabilities seem to be the most concerning to residents of Samut Chin. When it comes to relocating or staying, material concerns are the strongest. Some stay because they own homes and land. Others leave because they have lost their land and homes to the sea. Some residents have left to find better work opportunities. Some residents feel that they cannot leave because they need to be close to the sea for their chosen occupation. A lack of education and training results in a lack of occupational opportunities.

Institutional vulnerabilities are also a concern for residents, even if it is not as severe as the material. Most everyone who lives in the village currently has had a family member leave. Some residents leave because they rely on or need to support a family that is choosing to leave. Some residents resist relocation, because they rely on or need to support a family that is still in the community. Community infrastructure and social support seemed to be less of a potential vulnerability in Samut Chin. That

may be a result of an adaptation method they adopted to better their situation, which will be discussed in the next section.

Attitudinal vulnerabilities exist, but are not as intense as the other two. Within the community, members are educated on what is happening, empowered to speak about their concerns and suggestions to community leaders and participate in the decision-making process. The community as a whole can communicate with provincial governments. They do not feel that there is this same opportunity at the national level. Unfortunately, the community also feels as though their requests often go unheard by policymakers.

6.1.3 Assistance in Practice

Disaster laws and policies in Thailand have aided the community of Samut Chin, but minimally. In the case of an official disaster, according to policy, some residents have been given monetary assistance to reconstruct residences, but only as they were before the “disaster.” Those who received grants felt that they were not enough to actually help and still needed to spend money out of pocket when rebuilding. There has been no money or assistance given to relocating homes farther inland. Any time a home was moved back, the cost was covered by the residents. Sandbags have been given when inclement weather was predicted. The sub-district and provincial governments have attempted to mitigate the problem with the use of sausage sandbags, bamboo walls, and mangrove reforestation. The biggest obstacle this community faces in obtaining assistance from disaster agencies is that coastal erosion is not classified as a disaster. The community has created numerous petitions to change the law to include erosion. All attempts have proven unsuccessful.

The community reached out to many different organizations and foundations trying to seek support that was not being given by government officials. While some small projects have occurred, the community feels that nothing substantial has been done. Ultimately, the village feels as though they are not receiving assistance and resources needed from either government or non-government entities. However, there

has been one source that has proven to benefit in reducing vulnerability in the village; the homestay project.

Brought in by Professor Watanachai Chumak from the University of Dhonburi Rajabhat, the homestay project has created opportunities for community members that wish to stay in Samut Chin. The benefits and opportunities from this project help to alleviate material vulnerability by supplying an alternative source of income. Money from the project goes to helping the environment, which helps to protect physical assets and assists residents in establishing a sustainable livelihood. It helps to alleviate institutional vulnerabilities by promoting community infrastructure and conserving social and traditional culture in the community. As the village gains recognition, their collective voice is being heard by government officials, therefore alleviating attitudinal vulnerabilities as the community feels more empowered. The support that this project has provided only helps in reducing vulnerabilities for those who chose to stay.

6.1.4 Relationship between policy and practice

The residents of Samut Chin are facing displacement from a slow-onset disaster. They have clear vulnerabilities that affect their capacity to maintain sustainable livelihoods. These vulnerabilities contribute to their decision-making process on whether staying or leaving is the best option for them. They have to weigh the costs and benefits of either choice. Regrettably, their situation does not find itself included in Thailand's disaster laws and policies and their categorization of a disaster or those affected. Not only are slow-onset disasters not included in the categorization of disaster, but permanent displacement also is not acknowledged or considered in rehabilitation efforts. This lack of inclusion leads to vulnerable groups, such as those in Samut Chin, looking for alternative sources of assistance. Much of the focus has been on methods of mitigating the problem that is causing displacement, as a means to avoid it. A surprising element of self-sufficiency has appeared to assist the community the most in reducing vulnerabilities and; therefore, reducing the need to relocate for some members of the village.

Protecting human rights is a responsibility that falls on the state. As vulnerable groups find themselves in need of protection, in an ideal system, those rights should be covered by laws, policies, and procedures. No government has fully managed to include all marginalized groups, but this shouldn't stop them from trying. Multiple government agencies could contribute to reducing and alleviating specific vulnerabilities of environmentally displaced persons. The lack of categorization for EDPs specifically in Thailand's disaster policies has resulted in a lack of assistance given to alleviate vulnerabilities. This inadequacy produces a deficiency in the protection of human rights.

6.2 Discussion

This section will discuss how the outcomes of this research correlate with previous understandings in literature. Second, it will consider the contributions and significance the research presents.

6.2.1 Theoretical implications

The findings from this research are in line with and support previous claims made in literature. Considering the categorization of a "disaster" in Thailand's disaster policies, James Scott's ideas in *Seeing like the state: How certain schemes to improve the human condition have failed* (1998) that states take complicated situations and oversimplify them is demonstrated. This oversimplification leads to exclusion and oversites. The limiting categorization of a disaster excludes events that should indeed be considered disasters, which results in vulnerable groups not receiving the necessary assistance.

Many academics have pointed out the difficulty of labeling and defining environmental displacement. As Myers wrote his article *Environmental Refugee in a Globally Warmed World* (1993), some migrants may relocate, because of economic motivations, but their root cause of economic strain may be a result of environmental concerns. This can be seen in the research done in Samut Chin, as many relocated for

better opportunities. As the environment influences many aspects of life, the cause of displacement may be disguised as something else, even though that reason is linked to their environment. Overall, this study supports the idea that categorization of environmental displacement is not straightforward, it is difficult to determine parameters for this group, and the way a state oversimplifies its categorizations leads to exclusions.

As states over simplify categorizations in their policies, such as how Thailand has oversimplified the term “disaster,” it consequently leads to oversimplifying those included in consideration of “those affected.” This creates a box or a set of parameters that only allows those implementing policies to see selectively. Resources and support are then limited to only those included in this line of vision. As those affected by disasters, outside of the categorization, face specific vulnerabilities they have to turn to other methods of support. The lack of support from the state or non-state actors can create more vulnerabilities, not only just overlook them. How EDPs seek their support and what support they seek gives insight into what and who should be included in those policies in practice.

6.2.2 Contributions and significance of research

The information learned through this research can be significant in several ways. The most obvious is that it can be used by policymakers or those who influence policymakers to change the appropriate elements of Thailand’s disaster laws to be more inclusive. Not only can they suggest specific changes, but they can also advocate for policies to include specific assistance that can reduce the main vulnerabilities, such as material. The perspectives of those directly affected can be taken into consideration when implementing changes.

As mentioned in the previous section, this research supports existing theories and understandings. It takes the concept and applies it to reality. This study also shows that more research needs to be done in understanding the relationship between slow-onset disasters, environmental displacement, and disaster policies. While

international conventions, such as the Sendai Framework for Disaster Risk Reduction and the United Nations Framework Convention on Climate Change, are paying more attention to the social effects of climate change and environmental degradation, studies such as this help to support the claims that policies and states need to include slow-onset disaster in their disaster management plans. This demonstrates how a lack of categorization and gap in policies can lead to vulnerabilities being overlooked and; therefore, human rights being put at risk.

Civil society, NGO's and non-state actors can use this information in assisting communities like Samut Chin. As mentioned, there are many groups all over Thailand, as well as the world, that have similar vulnerabilities that are not being addressed by states and their policies. These agencies can advocate for the communities, but they can also cater their services and support to be more focused on addressing the material and institutional vulnerabilities.

6.3 Recommendations

To the state;

The existing disaster policies are constructed in a manner that could easily allow for material, institutional and attitudinal vulnerabilities to be reduced. Starting at the national level, simple alterations to the existing policies would have a meaningful impact. As the national policies adopt changes, provincial and district should follow suit under Thailand's disaster management strategy. First, the definition and categorization of a disaster should be expanded to be more inclusive of what disasters are considered in the policy. Based on the actual definition of a disaster, slow onset, more specifically coastal erosion, is an event that causes an "effect to life, body or properties of the people, of the government" (DDPM 2007). However, in the current policy, it is not reason enough for resources and institutions to be made available to those experiencing it. The categorization should be broadened to include more events that impact vulnerable groups, as it is the state's responsibility to protect and promote human rights.

Secondly, more focus should be put on those who are permanently or facing permanent displacement. The policies currently have strong procedures and call for cooperation amongst agencies for rehabilitating sudden disaster-affected communities. Regrettably, there is no acknowledgment or assistance given to those who cannot return to their original community. The case of Samut Chin is not the only community in Thailand facing permanent displacement as climate change continues to impact their ability to remain in their homes. This is an unavoidable situation that needs to be addressed in policy.

To civil society;

The community of Samut Chin has received support in various forms; in mitigation and adaptation. There have been many efforts made to reduce the impacts of sea-level rise and coastal erosion in the village. Educational and informational support has been given to residents, which helps them to feel more aware of and in control of their situation. They have learned to adjust their sources of income to more sustainable solutions. While these efforts have alleviated some of the stresses this community is experiencing, long-term sustainable support could be improved upon.

There is one particular area where assistance is desperately needed. Families are facing displacement and relocation even with the previous efforts listed. No assistance has been directed at helping those who inevitably need to leave. Providing training in occupations that aren't reliant on the coast and marine environment would alleviate material vulnerabilities. Networks have been established to help with communication and the flow of knowledge about weather and climate change in the region. Similar networks could be established to support and maintain connections between those who stay and those who relocate. Also, when communities and groups establish networks, their voice is louder and creates more opportunities for awareness and change. Efforts could and should be focused on long-term solutions to displacement, whether that is to prevent it or to accept it and account for potential complications that EDPs will experience.

To academia;

As shown by Dr. Chumak's and Dr. Thanawat's projects in Samut Chin, academics can play a role in providing support to villages and families facing environmental displacement. Their contributions have been some of the most effective and have created opportunities for more areas of development. Experiences from one village can and should be taken to help assist similar communities. As academics show their support, other entities and forms of support will follow. Samut Chin learned from Dr. Chumak they were able to create their own support system. The dissemination of knowledge and information can create sustainability. Encouraging coordination between various government agencies could help to alleviate vulnerabilities that are not as obvious, but still impactful.

Directions for Future Study;

For real change to occur, information and data collection needs to be thorough and abundant. This was a very small case study. Changing state policies will require ample proof and reason that it needs to change. There are several potential case studies in the central region of Thailand, not far from Bangkok or Samut Chin. There are many potential case studies throughout the entire nation. The focus of this research was on a village experiencing coastal erosion and sea-level rise. Many other slow-onset disasters affect communities in Thailand. For policies to be comprehensive and inclusive, all types of disasters need to be considered. Future studies could continue the exploration of specific vulnerabilities for different types of slow-onset disasters and compare them against one another to provide a more thorough understanding of what types of assistance need to be included in policies if the term "disaster" is to be expanded upon.

Future studies could examine more about why the categorization of environmentally displaced persons in Thailand's disaster policies has been created this way. This study would need to look deeper at the history of the policies. An understanding of which stakeholders were involved in the creation of the categories and what motivations each stakeholder may have had would give insight into the formulation of the categorization. The understanding of why something is created a certain way in law will give clarity as to how to change or adjust said policy.

Non-disaster-related policies and laws should also be taken into consideration when examining how the Thai government views EDPs.

A broader study could be done looking more closely at the correlation between international frameworks and their understandings of EDPs and the impacts they have on state's understandings of EDPs. Many nations sign and ratify these international conventions, but implement their objectives differently. This could be done on a regional or global scale. Including a state's categorization of internal displacement and its implications of environmental displacement against international frameworks would help to complicate the motives and understand the potential gaps states have in categorizing this group.



Appendix 1 – Semi-Structured Interview with EDPs in Samut Chin (Vulnerabilities)

Initial Questions

- How long have you lived in Samut Chin?
- How many generations has your family been here?
- Who from your family has relocated? When?
- Where did you or your family members decide to relocate to? Why?
- What made you or your family members decide definitively to move or to stay?

Material Vulnerabilities

- What are your sources of income? Do you have sources other than your main occupation?
- What is your occupation and is it dependent on your location?
- Has your occupation been affected by sea-level rise?
- What is your highest level of education?
- Are you trained to do any other type of occupation?
- What type of assets do you possess? (Savings, land, vehicles, etc.)
- How close are you physically to the coastline?
- How often does the water reach your home?
- How high off the ground in your home/land?

Institutional Vulnerabilities

- How many household family members earn an income?
- Are you or any of your family members a minority?
- How many people from your family live in Samut Chin?
- Have any family members had to move? Why?
- Are you a part of any organization that may have assisted? (religious, ethnic, etc.) How many people in your household are members?

- Do you have access to community infrastructure, such as water, electricity, internet, hospitals, etc.? Is there something you do not have access to that you used to have?
- Are you informed when the tide is coming or potentially high water? If you are, how much time do you have before it happens?

Attitudinal Vulnerabilities

- Can you discuss your situation, and the community's situation, with members of leadership?
- Are you a part of community decisions?
- Who can you contact to discuss the situation; district leaders, regional leaders, national leaders?
- What do you feel are the biggest safety hazards due to the sea level rising?
- What do you think can be done to reduce the impacts?

Appendix 2- Semi-Structured Interview with EDPs in Samut Chin (Government and Alternative Support)

- Have you tried to seek support from the government? If so, which level (district, provincial or national)
- What support did they give you?
- Was the support that you received, from government resources enough? Why or why not?
- If you didn't receive any support, what reason did officials give?
- Have you sought support from other sources? Who? What support did you receive?
- Was the support you received from alternative sources enough? Why or why not?
- What do you feel would be the best solution to your situation?

Appendix 3- Semi-Structured Interview with Professor from Dhonburi Rajabhat University

- When and why did your research start in Samut Chin?
- What specifically has your research been about?
- Have you seen any assistance given to help the relocation of families in Samut Chin?
- How involved has the provincial government been in assisting this community?
- How involved has the district government been in assisting this community?
- How involved has the national government been in assisting this community?
- How has the community sought support?
- What NGOs have worked in Samut Chin and how have they helped?
- What alternative means has the community used to maintain their livelihoods?

Appendix 4 - Codes Used to Search Policies

- Disaster (definition)
- Climate Change
- Slow onset/sea level rise/coastal erosion
- Relocation/displacement
- Rehabilitation
- Housing/shelter
- Livelihoods/occupation
- Assistance
- Grants/loans
- Stakeholder (local, provincial, civil society, etc.)

Appendix 5 - Questions used for analysis

Descriptive:

- Which institution created the policy?

- What jurisdiction does it cover?
- How is disaster defined?
- Is there a specific term that the policy uses to label EDPs?
- Are there any parameters for who is included in this label?
- What resources are allocated to this group of people?

Analytical:

Material Vulnerabilities

- How does the policy view livelihood (means of gaining basic life necessities) and occupation?
- Does the policy consider the loss of livelihood, if so, how?
- Does the policy provide monetary assistance, how?
- Does the policy account for the physical reconstruction of homes and personal property?

Institutional Vulnerabilities

- How does the policy account for family relocation?
- Does the policy coordinate with civil society groups, if so, how?
- How does the policy account for community infrastructure and reconstruction?

Attitudinal Vulnerabilities

- How does the policy promote community input in decision-making and reconstruction/relocation plans?
- How does the policy arrange communication between individuals and varying levels of government?

Appendix 6- Additional Policies and their Appropriate Departments

Policies/Laws	Department	Ministry
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Marine Coastal Resources and Management Promotion Act (2015)	Department of Marine and Coastal Resources	Ministry of Natural Resources and Environment
The Land Development Act (1983)	The Land Department	Ministry of Interior
Climate Change Master Plan (2015- 2050)	The Office of Natural Resources and Environmental Policy and Planning	Ministry of Natural Resources and Environment
Basic Education Core Curriculum Act (2008)	Office of Basic Education Commission	Ministry of Education
Water Resources and Management Master Plan (2018- 2037)	Office of National Water Resources	Office of Prime Minister
The Eleventh National Economic and Social Development Plan (2012- 2016)	National Economic and Social Development Board	Office of the Prime Minister
The Twelfth National Economic and Social Development Plan (2016- 2021)	National Economic and Social Development Board	Office of the Prime Minister



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