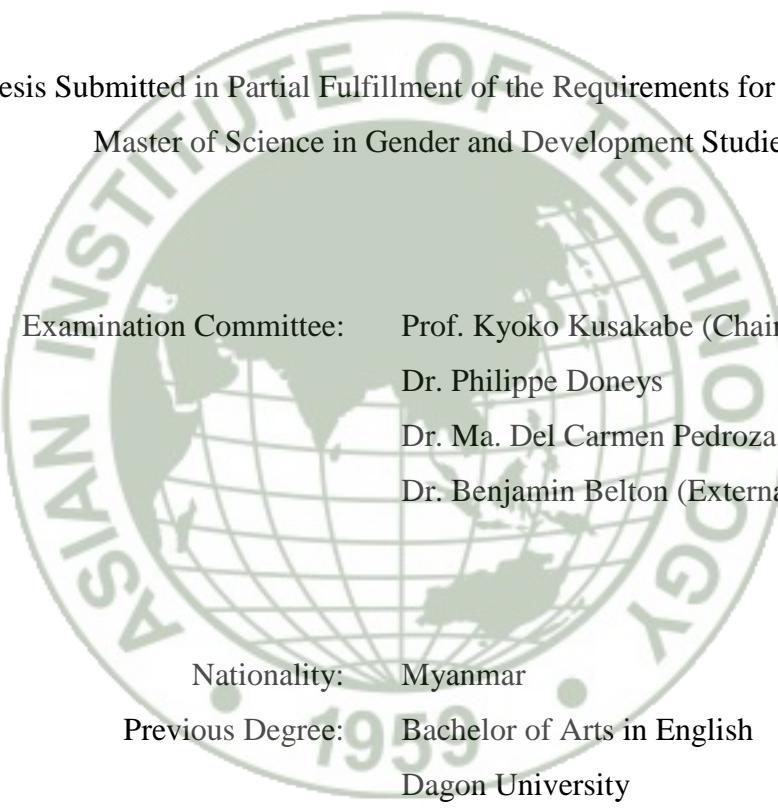


**ASSESSING THE IMPACTS OF TRIPLE CRISES ON THE MEN AND
WOMEN OWNED SMALL-SCALE DRIED FISH PRODUCTIONS: A
CASE STUDY IN AYEYARWADY REGION, MYANMAR**

by

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A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Gender and Development Studies



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Author's Declaration

I, A Myint Zu, certify that the research conducted for this thesis has complied with the guidelines set forth by the Asian Institute of Technology (AIT). The work presented in this thesis is entirely my original study, and any outside sources used in this thesis have been cited.

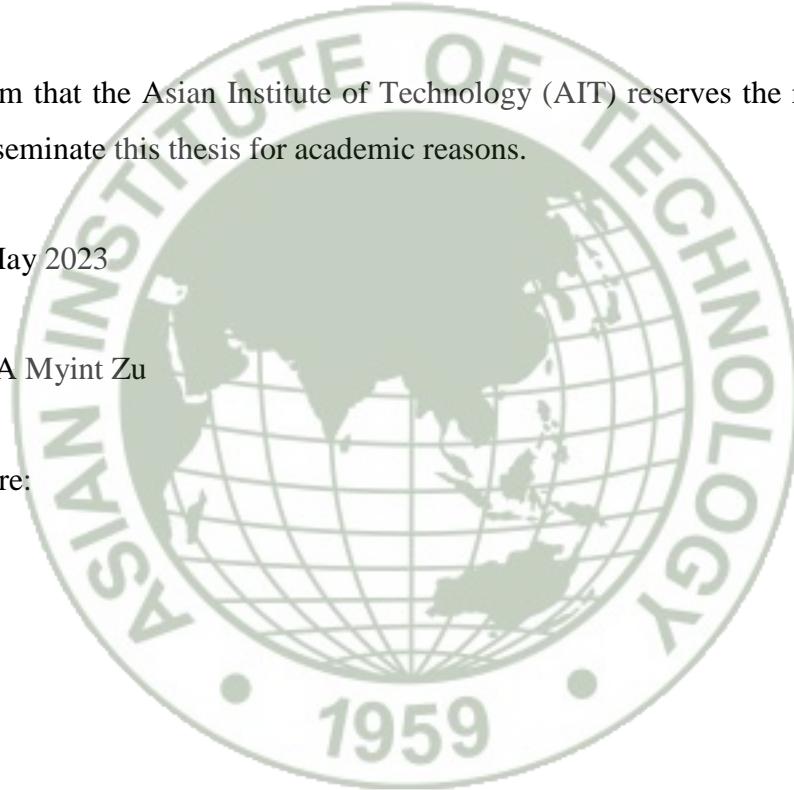
To the best of my knowledge, all information and findings in this thesis are true and faithful. I certified that this work is unique and has not been submitted to another institution to earn a different degree or qualification.

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Abstract

The present study aims to investigate the impacts of the Covid-19 pandemic crisis, the political crisis, and the energy crisis on the women-led small-scale dried fish production businesses and men-led small-scale dried fish production businesses and their coping strategies to adapt to the effects of the Crises. Qualitative research methodology has used to reveal gendered impacts of crises.

The research finding indicates that many small-scale dried fish production businesses were affected by the different interruptions of the crises. The crises created not only business operational obstacles but also financial hardships. However, many small-scale dried fish production businesses have created various adaptation strategies to cope with the impacts of crises. Changing the selling method or channel, selling dried fish by adjusted price, using credit and saving, and traveling at a safe time were the common strategies to adapt to the impacts of different crises. The variant marketing strategies, the habit of avoiding potential risks, and lack of adequate business operating cash flow differentiate in receiving the effects between men-led and women-led business. Similarly, the financial availability, access, and willingness to take credit have led to disparate coping mechanisms by the gender of the businesses' owner.

This research contributes to the fisheries and gender literature by evaluating the impacts of crises, coping mechanisms, and the factors that influence the crises' effects and adaptive capacity of the small-scale dried fish production businesses led by men and women. Understanding the influence factors helps to develop the factors mitigate the similar crises' effects in the future.

Key words: Crises, impacts, copings, dried fish, gender

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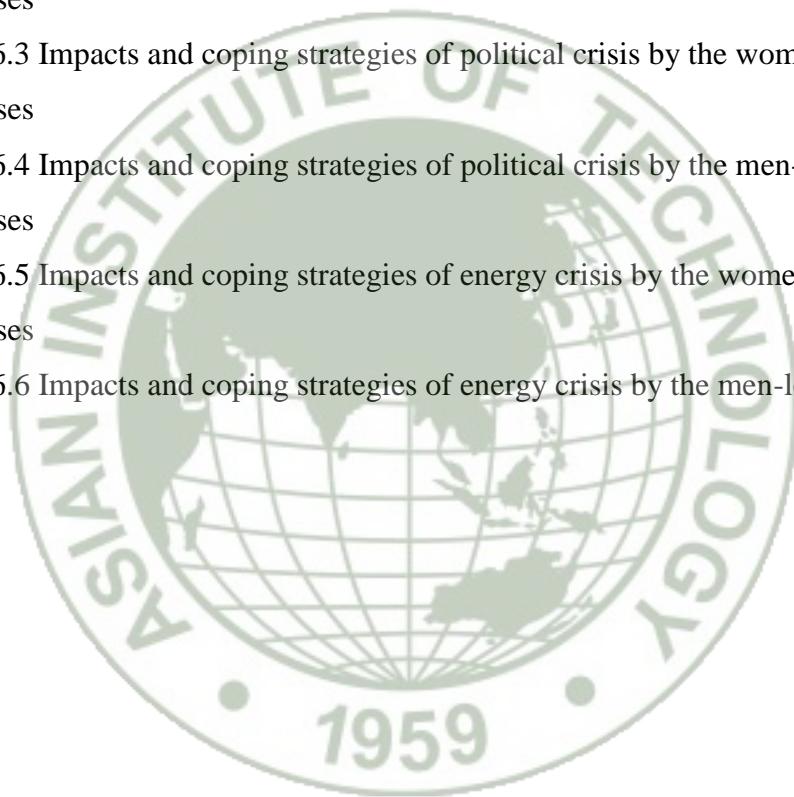
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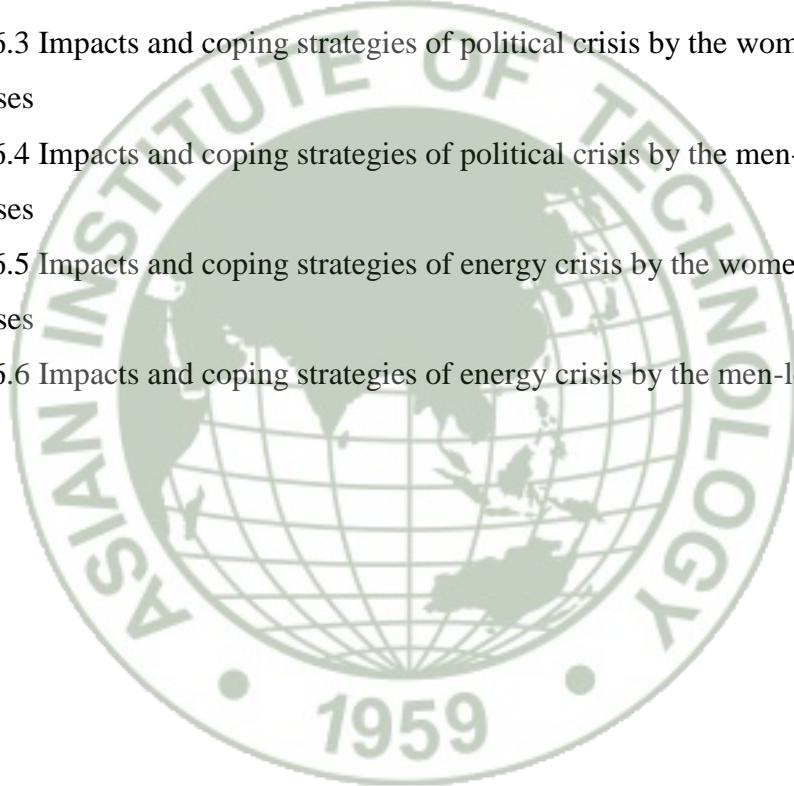
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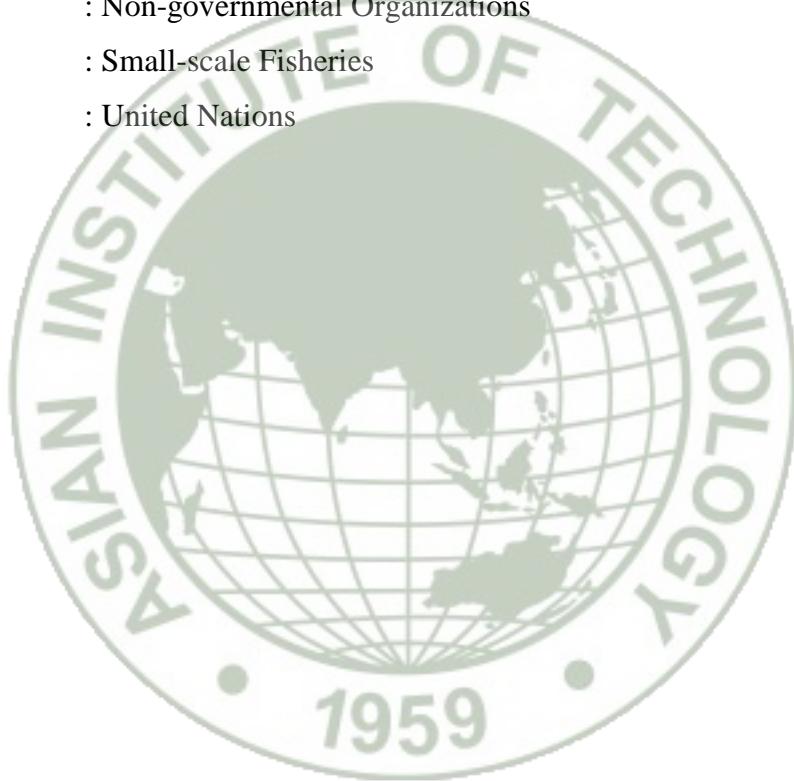
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List of Abbreviations

DF	: Dried Fish
DFM	: Dried Fish Matter
GDP	: Gross Domestic Product
IDI	: In-depth Interview
IMF	: International Monetary Fund
KII	: Key Informant Interview
MMK	: Myanmar Kyat Currency
NGO	: Non-governmental Organizations
SSF	: Small-scale Fisheries
UN	: United Nations



CHAPTER 1

Introduction

1.1 Background of the Study

The fishing industry is crucial to Myanmar's economic development, income and employment generating, and the security of its food supply (Tezzo et al, 2018). The fishery is the third-largest export-earning sector in Myanmar after forestry and agriculture (Win, 2004). In 2015-2016, Myanmar fisheries generated 5.59 million metric tons, of which 1.58 million metric tons came from inland capture fisheries, 1.01 million metric tons from freshwater aquaculture, and 3 million metric tons came from marine fish (Soba, 2017). Moreover, geographically, Myanmar is enriched with a vast network of tributaries, big rivers, and coasts. There are three main coasts in Myanmar. Rakhine State's coastline confronts the Indian Ocean, Ayeyarwady division faces the Bay of Bengal, and Tanintharyi division faces the Andaman Sea. These extensive sections of the coastline supply 213,720 km² of the continental shelf with nutrient and life-rich water (Win, 2004). There are a hundred and frothy fishing sites along the three coasts of Myanmar (Tint, 2020).

With a massive area for fish resources from both inland and coastal habitats, the fishing industry is one of the most crucial sectors in Myanmar (Tint, 2020). Among the three coasts, Ayeyarwady is the largest delta region in Myanmar, and it has a long coastline that stretches from the Bay of Bengal to the west. Ayeyarwady region has many fishing grounds, and Ayeyarwady region is one of the most famous and productive fishing ground in Myanmar. Not only inland but also offshore fisheries. Fish production in Ayeyarwady is one of the most significant commercial activities as a source of income for Myanmar both in domestic and export markets. The Ayeyarwady region is in the Ayeyarwady River delta, and it produces different kinds of fishery products such as fresh fish, dried fish, prawn, dried pawn, fish paste, and fish sauce. The local market has a high demand for various types of dried fish produced in the Ayeyarwady (Tin, 2020).

The chain of dried and processed fish is crucial for ensuring food security in Myanmar. According to data from household income and expenditure survey in 2006, the average annual consumption of fish and fish products in Myanmar is 21 kilograms. Meanwhile,

according to the review of fish consumption patterns from a nationally representative household survey conducted in Myanmar in 2010, an average of 6.5kg/capita of dried and processed fish products were consumed annually. This account made up about 34% of the total fish consumption (Lin et al, 2020). Furthermore, processed fish is frequently the only supply of fish in the high land part of Myanmar. Moreover, dried fish is consumed as a replacement for fresh fish during the dry season while there is a insufficiency of fresh fish or raw fish. The consumption of different fish and fish products (fish paste, dried fish, and fermented fish) outpaces the consumption of other animal protein sources (meat and egg) on a scale of 10 to 1 (Soba, 2017).

Fisheries employ over 3.2 million people in Myanmar, making it a substantial contributor to employment with 2.4 million part-time jobs and 800,000 full-time jobs. Even though fishing and aquaculture are primarily performed by men, women are also very important in fisheries sector (Soba, 2017). In all three subsectors such as marine fisheries, inland fisheries, and aquaculture, women are hugely involved in post-harvest activities. Women make up most of the labor force in processing and retail commerce, which support a sizeable portion of the land-based labor force. Moreover, women also place as important role in many wholesale trading enterprises (Tezzo et al, 2018).

1.2 Statement of the Problem

The covid-19 pandemic has rapidly spread in Myanmar starting from 2020. It is a multifaceted human crisis that has an impact not only on health but also on the economy (MDN, 2020b). Myanmar has suffered serious effects from conflict, insecurity, and displacement on their lives and means of subsistence due to the political changes in Myanmar. Businesses and enterprises continue to report significant declines in sales and profits, tight cash flow, and disruptions in the availability of inputs. In September 2021, there was a significant drop in the value of the Myanmar Kyat currency, which lead increment in import expenses across the board, including fuel and other essential industry inputs (World Bank, 2022). Therefore, the energy crisis, the military coup, and its impacts together with the devastation caused by the Covid-19 pandemic has led to extensive human suffering for the people in Myanmar. Moreover, Myanmar's triple crises affect the country's economy and livelihood of people in Myanmar.

The impacts of covid-19 and political uncertainty on the fish value chain have worsened over the years. The study by (Hoong et al) mentioned that the effects of covid-19 on the

dried fish value chain were more severe in 2021 than in 2020 since there were also political situation changes in Myanmar at the beginning of 2021 (Hoong et al, 2021). The study of MDN described that the long-term effects of covid-19 can lead to the unforeseeable vulnerability of small-scale fishers and coastal communities. Moreover, due to the compression in demand and travel restrictions, the pandemic disrupted local food production, manufacturing, and fishing industries. Different scales of food producers were affected by various difficulties (MDN, 2020b). Two-thirds of the processing business such as dried fish, fried shrimp, and dried shrimp has to close due to the limited availability of fresh fish during the study period in 2021 (Hoong et al, 2021). In addition, despite the many impacts of covid-19 pandemic along the fish value chain and fish processing enterprises at various scales, the impacts, and its consequences of the triple crises on the households of small-scale dried fish have been less highlighted.

It is seen that there is a difference in gender in receiving the impacts of crises. For example, women have seen a higher disruption in their job than men due to the pandemic since small businesses managed by women are probably vulnerable (Carli, 2020). Similarly, the impacts of high oil prices on the country's economic crisis vary for men and women in terms of their access to the workforce (Fofana, 2015). Furthermore, since the military coup in Myanmar, women's incomes have decreased more than their household incomes (UN Women, 2022). In addition, gender considerations are crucial since the crises disproportionately impact women and children (Campbell et al, 2021). Causes of disruptions, perceived impact level, and coping strategies are likely to be varied by gender. However, it is not clear that what are the effects of the different crises on the men-owned and women-owned small-scale dried fish productions, and their adaptability and challenges to cope with the impacts of crises.

1.3 Objectives of the Study

1.3.1 *General objective*

This study aims to understand the impacts of the political turmoil, energy crisis, and covid-19 pandemic crisis on small-scale dried fish production businesses run by men and women, and their challenges to cope with the impacts of crises.

1.3.2 *Specific objectives*

The specific objectives of the study are as follows:

1. To explore the effects of the political turmoil, energy crisis, and covid-19 pandemic crisis on small-scale dried fish production businesses led by men and women and to identify the differentiation of impacts by gender.
2. To study how and why coping mechanisms differ between men and women small-scale dried fish producers to adapt to the impacts of political turmoil, energy crisis, and covid-19 pandemic crisis.
3. To identify what factors influence the crises impact, and coping mechanisms of the small-scale dried fish businesses led by men and women and how these factors influence the impacts of crises and coping mechanisms.

1.4 **Research Questions**

1.4.1 *General research question*

The general research question of the study is " How do political turmoil, energy crisis, and covid-19 pandemic crisis affect small-scale dried fish production businesses run by men and women, and how do small-scale dried fish production businesses cope with the impacts of crises?"

1.4.2 *Specific research questions*

This study aims to answer the following specific research questions:

1. What are the effects of political turmoil, energy crisis, and covid-19 pandemic crisis on small-scale dried fish production businesses led by men and women? How do crises impact small-scale dried fish production businesses. Do crises impact women and men business owners differently? Why?
2. Do coping mechanisms differ between men and women in small-scale dried fish producers to adapt to the impacts of the political turmoil, energy crisis, and covid-19 pandemic crisis? If not, why? If it is different, how and why is it different?
3. What are the factors that influence the crises impacts and coping mechanisms of the small-scale dried fish businesses between men-led and women-led. How do the factors influence the impacts of crises and coping mechanisms?

1.5 Rationale of the Study

The fisheries sector plays a vital role in Myanmar's economy and culture. At least 60% of the animal protein consumed in Myanmar comes from fish (Khin et al, 2020). Similarly, dried fish consumption is also as high as fresh fish. Myanmar's national average dried fish consumption accounts for 22.6 percent of the total dietary protein, which 31.5 percent coming from inland species and 23.5 percent from marine species. Therefore, dried fish production plays an important role in nutrition and food safety since dried fish consumption as a traditional staple food that enriches protein is relatively high in Myanmar (Lin et al, 2022). However, Myanmar has been facing a political and economic crisis, and it is disrupting the livelihoods of people (World Bank, 2022). On the other hand, the crises effects on men and women-owned small-scale dried production enterprises are still unclear. Knowing how recent political and economic changes have affected men and women-owned small-scale dried production enterprises will help us to learn how to support them in the future. In addition, this study will help to understand how energy crisis, recent political turmoil, and global covid-19 pandemic crisis impact the men and women-owned small-scale dried production businesses.

Follow by September 2021, the inflation rate in Myanmar has been skyrocketed due to food and fuel price increases rapidly. Meanwhile the depreciation of the Myanmar Kyat currency raised the cost of imports than food as well. Furthermore, such situations increase the use of emergency coping strategies dramatically (World Bank, 2022). During the ongoing crisis, people become to adopt different customary coping strategies. Making alternative income becomes one of the coping mechanisms (Hoong et al, 2021). Even though income diversification cannot guarantee that will be secured sustainable livelihoods, income diversification is a key tactic for preserving and enhancing rural livelihoods and reducing the risk of poverty (Kusakabe & Myae, 2019, Demurger et al, 2010). Moreover, it is critical to comprehend the complexity of the internal small-scale business' nature and the family (Ronning & Kolvereid, 2006). Therefore, it becomes essential to be aware of how the owners of small-scale dried fish productions change their income streams and diversify their income sources on which bias during the crises.

Additionally, the results of this study evaluate the impacts of the triple crisis on men-owned and women-owned small-scale dried fish production, gender differences in

making alternative strategies, and their challenges to cope with the crises impacts. Moreover, the findings of this research can be used by the government and non-government agencies in order to improve small-scale dried fish households' resilience and adaptive capacity and to be better prepared for similar challenges and threats in the future.

1.6 Scope and Limitations of the Study

The study focused on the different effects of the energy crisis, political crisis, and global COVID-19 crisis on the local small-scale dried fish production businesses run by men and women in the Ayeyarwady region. The study assessed the impacts of crises, the coping mechanisms, and the challenges faced by men and women who are small-scale dried fish producers to cope with the crises in the three villages where there are a lot of dried fish production businesses. Even though there will be different sizes of dried fish businesses in our study area, this study targeted only small-scale dried fish processing businesses.

There are different types of processed fish in Myanmar, such as dried fish, dried shrimp, smoke fish, fish or shrimp paste, fish sauce, fermented fish, and shrimp (Lin et al., 2020). However, the study did not cover every type of processed fish. The study only targets sun-dried fish processors. The other limitation of the study is that it covers only (22) dried fish producers from three different villages in Pyapon town, under the Ayeyarwady region. The researcher could not cover the whole village from Pyapon Town. Due to the limited time and financial resources, we were forced to limit our efforts to this area.

Moreover, the initial purpose of the study was to select 11 male and 11 female dried fish production business owners. However, the research was conducted during the fishing season. Most of the males from the dried fish production households were going fishing in the sea. Therefore, the researcher recruited the spouses of the male owners to participate in the study on behalf of their husbands. The wives of the male dried fish producers are also the ones who are engaged in the dried fish production businesses of their husbands, and they have a certain amount of knowledge about their husbands' businesses. However, there is a limitation to this research, as there could be a difference in perception and knowledge between male owners and their wives. The data gathering was difficult since dried fish production areas are far away from the downtown, and

most respondents were busy with their business activities and current security concerns in Myanmar.



CHAPTER 2

Literature Review

The objective of this chapter is to explain gender in fisheries, the nature of dried fish production, and the role of women in dried fish production. Next, it expresses the problems and challenges of women business owners. It explains the concept of dried fish consumption and nutritional security. Moreover, it described gender and cultural norms in Myanmar. Therefore, this chapter provides a quick conceptual understanding of crises and their impacts, coping mechanisms, income diversification, and potential challenges to coping with the different crises. Eventually, the conceptual framework for this study will be described at the end.

2.1 Gender in fisheries

Men, women, and children all have daily tasks that are well defined in most of the fishing communities. Men have traditionally done the actual fishing, while women serve as support personnel. However, women are more prevalent in a variety of fisheries-related jobs, from boat owners to processors or traders (Browne, 2002). Nevertheless, the official fishing statistics frequently neglect to take into consideration women's contributions in terms of employment, output, food security, foreign exchange, livelihood, and environmental effect, even though they play a significant role in fisheries (Bradford, 2019). Basically, both men and women are employed at every level of the value chain for fisheries, despite the widespread belief that the sector is a man-dominated industry, although gender roles change depending on geographical, ecological, economic, and cultural variables (Bradford, 2019).

Moreover, women have historically worked in the pre- and post-harvest activities of many fisheries, especially on processing and marketing the catch (Bennett, 2015). Fish is frequently dried, smoked, salted, or fried by women to be sold or traded at local markets. Furthermore, some women are successful business owners who rent out their fishing boats to male fishermen (Bradford, 2019). Furthermore, the time and mobility of women who work in the fishing industry are limited by household responsibilities since women have also had to take care of the family's food, health, and educational needs rather than participate in fishing activities (Bennett, 2015). The study by Bradford also mentioned that although men and women both participate in invertebrate

collection, men have more time to spend on gathering catch and can make crucial relationships that boost marketing potential (Bradford, 2019).

2.2 Dried fish production

A significant portion of the world's fishing catch is preserved by using easy methods like sun-drying, salting, fermentation, and smoking, especially in the Global South. We refer to the group of foods as "dried fish", which is broadly defined as any aquatic animal product that has gone through processing to allow it to be kept as food at room temperature for a certain amount of time without any special industrial packaging (Belton et al., 2022). Dehydration, weight loss, and nutrient concentration occur because of drying, which is convenient for storage and transportation (Berenji, 2020). In Bangladesh's coastal region, fish drying is the largest fish processing activity and has a significant positive impact on nutrition and livelihoods, particularly for poor and marginalized communities in inland and coastal areas (Mitu et al., 2021).

Post-harvest value chains for dried fish are frequently ignored and unreported in official statistics. As a result, there are very few accounts of the dried fish economy (Belton et al., 2022). Furthermore, fishing communities need to pay attention to postharvest losses since postharvest losses have a negative impact on the fishing communities' finances and the amount of protein that is readily available to a large share of the population (Siddhnath et al., 2022). Fish and fish products are easy to decompose without adding any preservatives or processing measures. Therefore, it is necessary to reduce the water to the barest minimum as much as possible to preserve the fish and ensure the quality of the product (Siddhnath et al., 2022). When fish are dried, their moisture content is reduced to the proper level under sanitary, controlled conditions. This method is typically used to preserve an abundance of fish for storage over a longer period in many countries, and it is most likely to be the oldest technique for handling fish (Siddhnath et al., 2022).

2.2.1 Women in dried fish production

Millions of people, especially women, who make up the majority of workforce in many locations in fish drying and processing (Belton et al., 2022). Women play as a significant role in Myanmar's fishery value chains since they predominate in fish processing and marketing (Khin et al., 2020; ILO, 2015). The study of Soba also mentioned that fish processing is a female-dominated activity, and women are usually

involved in processing dried and fermented fish as well as fish sauce (Soba, 2015). The study by the ILO (2015) also describes women as mainly working in artisanal processing while men predominate in industrialized and oriented processing. Furthermore, small-scale fisheries are frequently at risk because the fishers and dried fish producers are socially and politically marginalized and economically underprivileged (Berenji, 2020). Many workers in the dried fish value chain come from marginalized groups such as lower castes, widows, refugees, and members of certain religious groups (Belton et al., 2022).

2.3 Problems and challenges face by women business owners

Women used to face several difficulties either starting a business or operating a business, and many contend that significant obstacles prevent them from starting or expanding their business. The difficulties include not getting enough capital (Orhan, 2001), necessary training, and gender discrimination (Muhammad, 2010). Many businesswomen frequently allege that they experience both overt and covert discrimination (Orhan, 2001). Research also indicates that women business owners confront unique obstacles when accessing and building networks. The fact that women may not be as welcome in social networks could be one explanation for this. Moreover, women business owners may also be prohibited from accessing networks because of deeply ingrained and institutionalized social structures, business practices, and social norms. Furthermore, women business owners may find it difficult to establish male networks, as evidenced by the fact that women business owners tend to be younger than those owned by males (Neergaard, 2005).

Women's ability to consistently improve their production is subjected to several restrictions. Unfavorable governmental and regulatory environments, poor networks with support services, and insufficient access to market knowledge, technology, and capital are a few of them. The necessity to participate in a competitive market with quick technological advancements and globalization of production, commerce, and financial flows further exacerbates these restrictions (Muhammad, 2010). Women business owners confront more challenges than men do, even though many of the limitations affect both genders equally. Businesses run by women tend to be smaller and grow more slowly than those run by men, which indicates that women face more barriers to being successful entrepreneurs. This is because discriminatory socio-cultural

norms and practices are strongly ingrained in policy and legal frameworks as well as institutional support systems (Muhammad, 2010).

2.4 Dried fish consumption and nutrition security

Fish have always been crucial to food security, from the earliest hunter-gatherers to the modern era. Population expansion, urbanization, and rising standards of living contribute to the increase in demand for fish (Muzari, 2016). Health problems are more prevalent in developing countries because of the lack of food. Malnutrition and hunger are the most devastating problems in the world (Siddhnath et al., 2022). Globally, fish is a key source of animal protein for more than one billion people, especially in areas where other sources of protein are limited or expensive. In East Asia and Africa, fish is also important since fifty percent of the animal protein needed by the four hundred million people who live in some of the world's poorest nations comes from fish (Bene, 2006). The inclusion of fish in the human diet can help lower the risk of malnutrition and non-communicable diseases (Muzari, 2016). Fish has also frequently been offered as a vital commodity in exchange for other basic foods during times of famine, preventing populations from starving or being forced to migrate. In 1902, local Massa populations were able to survive by trading dried fish for sorghum with traveling Peul merchants (Bene, 2006).

It's common to assume that fish is consumed exclusively or primarily in fresh form. However, many people in Myanmar consume processed fish a lot, including dried and fermented fish; consumption of dried fish accounts for 34% of fish consumed (Lin et al., 2020). In Myanmar, dried fish is a reliable source of food. However, there are numerous qualities, grades, and processing techniques based on regions and seasonality (Lin et al., 2020). Moreover, it is remarkable that dried fish still has the same nutritional value as fresh fish and, in some cases, even maintains higher quality standards (Berenji, 2020). The nutritional value of dried and fermented fish products has been shown by nutrient content analyses, which typically profile the micronutrient, protein, fatty acid, fiber, ash, and moisture contents of goods sold in local markets (Belton et al., 2022). The omega-3 and antioxidant qualities of fresh fish are present in dry fish, which is regarded as a healthy food for people to consume. Dry fish is a great protein source with fewer calories than other foods like beef. In comparison to animal meat, which has

twice as many calories and significantly less protein, 100 grams of dried fish has 300 calories and 80 percent protein (Siddhnath et al., 2022).

This nutritional profile of dried fish leads the sellers and producers of dried fish to make dried fish a convincing choice for consumers looking to increase their intake of healthy food (Siddhnath et al., 2022). Dried fish is important for the nutrition of the most vulnerable people because of its availability at a fair price and because it can be divided into small portions (Berenji, 2020; Lin et al., 2020). According to the research, the contribution of dried fish to the portion of micronutrients consumed by the poor in some parts of South and Southeast Asia is huge (Siddhnath et al., 2022). Dried fish is more readily available than fresh fish for rural households in the Central Dry Zone of Myanmar (ILO, 2015). Processed fish is particularly important in the dry season when the availability of fresh fish is limited. In upland areas of Myanmar, where processed fish, primarily dried fish, fish paste, and fish sauce are the only sources of fish, in addition, the fish supply chain is crucial for ensuring food security (Huang et al., 2020).

2.5 Gender and cultural norms in Myanmar

In Myanmar, women and men are affected by cultural norms and associated social practices throughout their lives, from the most deeply personal to the practical organization and valuing of paid and unpaid work, education opportunities, health status and services, and involvement in community development and national affairs (Thein, 2015). The patriarchal nature of Myanmar society teaches that men are born with power, glory, and holiness but women are not, which places men above women in family, community, and social structure. Gender inequality and the oppression of women in Myanmar are caused by cultural norms. Gender hierarchy is a product of culture in Myanmar, and women experience oppression, marginalization, exclusion, and discrimination in social, political, economic, and religious areas (Nwe, 2009).

Furthermore, there have not been female leadership figures in public life, and there has never been a women's movement in Myanmar that has fought for more rights for women (Smith, 2006). Additionally, it demonstrates how societal and cultural norms influence people's perceptions of men's and women's roles and values, which influences their prospects in life. Women are frequently held responsible for what are perceived as vanishing cultural norms since they are the "carriers and keepers of culture", and this can be a barrier to the attainment of women's rights and gender equality (Thein, 2015).

Gendered norms influence ideas about where men and women can be, what they can do, and when they can do it to be considered "good and acceptable" men and women. In addition, these norms also steer conceptions of the work and livelihood prospects available to men and women (Thein, 2015).

2.6 Crises and gender issue in the time of crises

Since 1780, the term "crisis" has been used to refer to a new sense of time that both signified and intensified the end of an era (Koselleck & Richter, 2006). A crisis can be defined as any circumstance or period that will result in a tumultuous and dangerous situation that affects an individual, a group, or the entire community. Crisis can also refer to a transition towards something worse or completely different. Crises are unfavorable changes in human or environmental affairs. Crisis appears as a key concept in all human and social sciences to characterize epochs or structures (Koselleck & Richter, 2006). In 1819, the King of Westphalia referred to a simple change as "political crisis" from the term "crisis" to describe an actual civil war situation where citizens' allegiance was divided (Koselleck & Richter, 2006). The term "crisis" in medical concepts does not refer to a political crisis. The term "crisis" in medicine refers to every person in the country being affected by the illness; many people fear that it will eventually have a negative outcome. In addition, depending on where the symptoms of crisis were first or most clearly felt, composite terms changed (Koselleck & Richter, 2006).

Pre-existing gender inequality and discrimination present difficulties for women and girls, both during and after crises. Many suffer from severe challenges because of crises such as increased insecurity, limited mobility, sexual abuse, exploitation, and gender-based violence (GBV). Moreover, there is a smaller percentage of women-owned firms that survive across all nations during and after the crises. Women appear to be capable of passing the requirements, acquiring the necessary skills, securing admittance, or establishing a business, but they fall short of persevering and ultimately moving forward (Pines, 2010). According to CARE International (2017), women's livelihoods are also disproportionately impacted compared to men's (Lafreniere, 2019). For example, women have historically had difficulty getting loans, and the economic crisis made matters worse. Moreover, the importance of women entrepreneurs was hardly considered until the late 1970s. All signs point to the fact that women are more affected

by the crisis than men are since women experience a variety of consequences related to the operation of inequality and exclusion (Pines, 2010). Due to abrupt changes in gender roles and relationships, pre-existing gender disparity and discrimination sometimes become worse during emergencies. Gendered social norms place restrictions on women's lives and choices by affecting their capacity to decide, offer solutions, and take the initiative (Lafreniere, 2019).

2.6.1 The impacts of political crisis

A political crisis could harm many sectors of the country, especially the economy. In the study by Huang et al. (2011), it was described that the stock market can be severely impacted by a political crisis (Huang et al., 2011). Furthermore, due to the military-political crisis in Ukraine, the infrastructure and educational institutions have suffered, the basic economic indicators have declined, and the quality of life for Ukrainians has also decreased (Shevchenko, 2019). Sousa et al. 2019 stated that government commitments and political crises hurt food security. Economic growth is known to increase food security, while political shocks and crises can reverse these benefits (Sousa et al. 2019). In Kenya, a larger portion of the rural population experienced dramatic declines in earnings, spending, and expenses for consumption through political and civil conflict after Kenya's 2007 presidential election (Dupas & Robinson, 2012). In addition, the political crisis not only disrupts the economy of the country but also affects other important indicators of people's well-being, such as social, infrastructure, education, and food security.

In Myanmar, conflict and political uncertainty continue to have a significant economic impact on lives and livelihoods in many areas of the country. Because the enforcement of severe trade license requirements and foreign exchange restrictions has exacerbated foreign currency shortages and postponed necessary external adjustments, trade-exposed businesses have also encountered a more challenging operating environment. Given the ongoing effects of the Myanmar currency depreciation, logistical challenges, and persistently high global prices, inflation is expected to stay high in Myanmar (World Bank, 2020). Furthermore, life and livelihoods continue to be intensely impacted by conflict, insecurity, and displacement. Since February 2021, there have been approximately 760,000 force relocations due to conflict and unrest. Families in conflict zones are facing decreasing incomes, rising commodity prices, and food

shortages (World Bank, 2020). According to the study by UN Women, almost seven out of ten women described how, since the military coup, their household income has decreased. The incomes of women's own households have decreased more than those of their households (UN Women, 2022).

Political crises and subsequent armed conflicts increase not only economic downturns but also security issues. Civil wars and regional conflicts that pit communities along racial, religious, or ethnic lines have largely replaced combat that was previously primarily limited to military engagements between national armies (Ward & Marsh, 2006). As a result, large numbers of civilian populations suffer harm. There were about 103 armed conflicts between 1989 and 1997 in 69 different nations. Even though both men and women can die during the conflict, women and girls still experience a wide range of crippling effects. According to the United Nations report from 2002, women and children are disproportionately targeted and constitute the majority of all victims of modern armed conflicts (Ward & Marsh, 2006). Since the mid-1990s, hundreds of women have been repeatedly raped in Myanmar's Shan state, where the government has been violently putting down local uprisings (Ward & Marsh, 2006). Insecurity and fear among women are rising after the military takeover in Myanmar. One in three women report feeling unsafe at night, even in their own homes. Moreover, half of the women are afraid to leave their ward or village, even in the daytime. (UNDP, 2022).

2.6.2 The impacts of global pandemic crisis

Millions of people around the globe are anticipated to become infected by the coronavirus disease COVID-19 in 2019. A sudden, quick, and unprecedented crisis brought on by the COVID-19 pandemic has affected almost every aspect of people's lives. According to the International Monetary Fund (IMF), the global economy contracted by 4.9% in 2020 due to the pandemic crisis (Lee & Shahar, 2022). Because of the pandemic crisis, many people fell into poverty. Production capacity was reduced due to the virus infection of workers and restrictions on activities to limit the spread of the virus. The negative supply shock that affects the economy eventually gives way to a demand shock (Suryahadi, 2020). Businesses are being forced to shut down or scale back operations; markets and supply chains have been disrupted; millions of people have lost their jobs, and some have even lost their livelihoods (Morse & Anderson, 2020).

Employment was significantly impacted by the spread of COVID-19, which resulted in work schedule adjustments, furloughs, and work from home arrangements (Reichelt et al., 2021). Similarly, because of the pandemic's restrictive lockdowns, production, consumption, employment, and the supply chain have all decreased, which has had an impact on the global economy (Shrestha et al., 2020). Furthermore, the COVID-19 epidemic has a profound impact on the entire global food system. There are a wide range of effects on the producers, workers, and consumers of aquatic food. The restrictions of COVID-19 made changes to domestic food value chains, decreased levels of production, immobilized migrant fishers and fish workers, and fluctuated consumer and producer prices (Belton et al., 2021).

The COVID-19 pandemic has influenced the health industry as well as socioeconomic, with women being particularly vulnerable (Taufika et al., 2022). The COVID-19 pandemic is escalating pre-existing inequalities and amplifying the effects of social, political, and economic systems (Morse & Anderson, 2020). Compared to other economic downturns, the effects of the current COVID-19 crisis on women and men are likely to be very different (Alon et al., 2020; Carli, 2020). Having an immediate detrimental impact on women's employment, COVID-19 and its changes may also have wider implications for gender inequality. Evidence shows that women may be more negatively impacted by the changes in COVID-19 (Reichelt et al., 2021). Previous research described that the COVID-19 pandemic crisis has a disproportionately negative impact on women's economic and productive lives compared to men.

Nowadays, women make up a similar percentage of labor force participation as men in many industrialized nations, but women are still responsible for a disproportionate amount of childcare and housework, including cleaning and cooking. Due to the closure of schools during times of severe COVID disease, there has been a significant increase in demand for childcare responsibilities. Mothers are likely to be more impacted than fathers based on how childcare responsibilities are currently distributed to many families (Alon et al., 2020). For instance, since the start of the pandemic, mothers in the U.S. have cut back on their work hours more than fathers (Reichelt et al., 2021). The majority of unpaid care work was performed by women before the COVID-19 pandemic; however, new research indicates that the crisis and its related impacts have significantly increased the burden on women (Power, 2020).

The pandemic has made it harder for women to advance. Women have experienced more work disruption than men due to increases in childcare and other responsibilities. (Carli, 2020). Moreover, the study by Carli also stated that small businesses run by women are likely to be particularly vulnerable. Since the start of the pandemic, women have typically encountered a variety of challenges and issues, such as losing their livelihoods, serving as the support system for their families, and being the target of gender-based violence (Taufika et al., 2022). The effects of the COVID-19 global recession will cause an instant decline in women's income and labor force participation (Morse & Anderson, 2020). Additionally, the effects on women's economic security and livelihoods lasted much longer than compared to men's, while men's economic activity quickly returned to pre-crisis levels after preventative measures subsided (Morse & Anderson, 2020).

2.6.3 The impacts of energy crisis

Since 2003, there has been an increase in the price of crude oil on the world market, which has been extremely volatile recently. Additionally, major oil products' prices, including those for gasoline, heating oil, liquefied petroleum gas, and jet fuel, have experienced a significant price increase compared to crude oil prices (Fofana, 2015). There have been significant disruptions in the energy market since the COVID-19 outbreak. A global energy crisis that began in 2022 and has affected economies all over the world (Berahab, 2022). The Ukraine conflict and rising global oil prices have led to a sharp increase in domestic fuel and transportation costs. In Myanmar, the cost of fuel in the local market increased by about 70% during the first half of 2022 (World Bank, 2022). According to estimates, the global economy and value chain will probably lead to a worse economic depression than the 2008 financial crisis (Shrestha et al., 2020). Higher energy costs will keep up more inflation, which can have a burden on domestic implication. As a result, many industries continue to feel the effects of high oil and gas prices, particularly in public transportation (Berahab, 2022).

The increment in oil costs will affect economic growth as well as the impoverished and vulnerable populations in developing countries. Therefore, concern has been raised about the effects of the rise in oil prices on weak and vulnerable populations in developing countries after the 2007–2008 surge. The results of the simulations indicate that the energy crisis of 2007–2008 slowed South Africa's GDP growth and had a

negative impact on employment and earnings (Fofana, 2015). Oil price shocks can cause an increase in food prices and production. Food insecurity and poverty levels in India have increased because of the oil price shock (Varghese, 2017). According to a study of South Africa, men's and women's economic opportunities are impacted differently by the effects of high oil prices on the South African economy (Fofana, 2015). Unlike a normal household, poor households typically experience a greater impact from oil price shocks. Poor people who lack access to land, who work in the informal sector, and some households led by women are more vulnerable (Varghese, 2017).

2.7 Coping mechanisms

People develop coping and adaptation strategies when they experience negative events in life or when they need to address their needs alternatively. According to Snel & Staring (2001), coping strategies are all the carefully considered actions that people or households in low socioeconomic status use to cut back on their expenses or generate extra income. Numerous studies on the famine in Africa have revealed that people will create self-insurance measures or coping strategies to reduce risks to their food security and livelihoods if they live in circumstances that put their primary source of income in danger (Corbett, 1988). The study of Susilo et al. (2021) explained that Indonesian seasonal fishermen are likely to suffer socioeconomic issues during the off-fishing seasons. Therefore, they create an effective coping strategy to deal with the problem (Susilo et al., 2021). Furthermore, in the study of Bangladesh and Africa, several actions were taken by aquatic food value chain actors to support business operations in response to the challenges of COVID-19 (Belton et al.). Besides, coping and adaptation strategies appear to be varied and diverse. In the literature, there are numerous categorizations and typologies of coping mechanisms (Snel & Staring, 2001).

Moreover, the producers of aquatic food value chains in Asia and Africa adapted to the impacts of COVID-19 by cutting production costs, locating alternative inputs, diversifying company ventures, utilizing social capital, borrowing, looking for other jobs, and lowering food consumption. Specifically, coping mechanisms can be roughly divided into proactive and reactive actions. The most usual reactive adaptations are (1) temporarily pausing or shortening the duration of operations; (2) minimizing operating costs (by firing or hiring fewer employees, reducing the wage of workers, or using less

expensive production inputs); (3) sourcing alternative inputs to unavailable items; (4) purchasing supplies in bulk and stockpiling them; (5) offering items at a discount; (6) borrowing money for working capital; and (7) paying bribes to enable business operations. These reactive adjustments are frequent, especially for smaller businesses with limited and narrow resources. On the other hand, larger businesses were more likely to (1) utilize digital platforms for alternative marketing, (2) operational diversification, (3) institutional innovations, and (4) extend trade credit to clients to maintain demand (Belton et al., 2021).

According to the study in Kenya, there are three categories in total of coping mechanisms used by households to deal with the impacts of the COVID-19 crisis. The first was coping with the property or resources already present within the household, such as reducing food portions or meals, selling possessions or livestock, and taking out loans. The second method of coping involves soliciting support from friends and family, as well as other members of the social network. Receiving assistance from outside sources like the government, non-government organizations, or politicians as a last method (Xu et al., 2022) We have observed that borrowing from different sources is a coping strategy for poor households when a crisis strikes unexpectedly. (Rabbani & Hasan, 2021).

Moreover, during the outbreak of the pandemic in Indonesia, fishers have used a variety of adaptation techniques, such as delivering seafood directly to customers and switching their target species to those that are more in demand and more expensive (Susilo et al., 2021). Furthermore, income diversification is an essential coping mechanism for the rural poor in Africa, and its prevalence is rising among all segments of the rural population (Bryceson, 1999). Income diversification lowers the vulnerability of a person's source of income, and it is positively correlated with both wealth and a person's capacity to cope with shocks. Rural households can protect themselves from the occurrence of such situations through income diversification (Schwarze & Zeller, 2005). Individuals or groups frequently migrate to other areas to meet their material needs; therefore, migration becomes a coping mechanism. International migration can also be seen as a way for an individual or household to cope with hardships like poverty and insecurity. Indeed, people who have experienced economic insecurity have migrated throughout history (Snel & Staring, 2001). On the

other hand, internal migration from cities to rural areas also becomes one of the coping mechanisms to deal with the loss of a job (World Bank, 2022).

Households in Myanmar are cutting on non-food expenditures, borrowing money from friends and family, and selling household assets to cope with rising food prices and fuel costs following the depreciation of the Myanmar Kyat currency due to political instability (World Bank, 2022). In Mali, the prospect of violence decreased the willingness of fishers to serve as river transporters during the conflict. However, Malian fishermen carried on with their task largely unscathed. Additionally, fishermen have adjusted their working hours to avoid fishing at night, which is thought to be particularly hazardous. By changing their sources, fish sellers were able to keep selling, although they were still attacked at marketplaces. Similarly, due to the conflict and violence in Mali and Nigeria, the medicine manufacturers and veterinarians have ceased business; therefore, the retailers of animal health products and veterinarians purchase from outside suppliers (Kimenyi et al., 2014).

The energy crisis and higher oil prices have increased input costs and inflation. In Pakistan, both consumers and producers immediately reduce their demand for oil by switching to other goods or products or by switching their fuel source in response to an energy crisis (Malik, 2008). According to the Sensis polls of 2006, 45% of Austria's urban households reported needing to cut expenses to deal with rising fuel prices; about 30% of the households tried to spend less on entertainment and eating out; and another 22% tried to drive less. Furthermore, 19% of people were skipping vacations, and 11% were eating less. The most difficult adjustment to increasing energy prices has been felt by households with low or modest earnings, and they have reduced spending to cope with the higher energy prices (Dodson & Sipe, 2008). Similarly, 79.6% of households in the study cut their spending on non-energy commodities to obtain the necessary domestic energy (Jatau, 2011).

The features of households have a substantial impact on the adoption of coping mechanisms. Adoption of coping mechanisms was highly influenced by gender (Jatau, 2011). Similarly, the study by Xu also mentioned that men and women have different ways of coping to withstand the impact of different crises. In the study of Kenya, while female-headed households rely more on social networks, male-headed households manage using household resources. For instance, male household heads are more likely

to sell assets to deal with an economic shock, while women household heads are more likely to receive help from the social network and other family members (Xu et al., 2022). As the UN Women report mentioned, since the military takeover, 63.2% of women have taken out loans from other sources, compared to 12.4% of men and 24.4% of joint borrowers. Apart from taking loans, reducing non-food expenditure, selling assets, and using savings are the major coping strategies for income reduction after the military coup (UN Women, 2022).

2.8 Income diversification

Income diversification can be defined as the process by which households build increasingly varied sources of income by combining increasingly diverse resources and assets. Ronning & Kolvereid (2006) defined the concept of income diversification as a situation where the household depends on income from a variety of sources. According to Barrett et al. (2001), only a few people derive all their income from a single source or hold all of their property in the form of a single asset. Moreover, diversification reflects how poor people manage the risks associated with their sources of income in stagnating rural economies.

Furthermore, diversification occurs for both "good" and "bad" reasons. (Niehof, 2004). The study of Wouterse & Taylor (2008) stated that there are two types of motivations for income diversification: "push" and "pull". Push factors driving diversification are frequently associated with risk reduction because households need to struggle to end poverty. Pull factors refer to households' attempts to take advantage of complementary activities such as crop-livestock integration (Wouterse & Taylor, 2008). Farming families may choose to diversify their income streams for a variety of reasons. Firstly, consider it as a means of making up for lower income from smaller or less productive farms. Secondly, the household diversifies their income to stabilize household income. In addition, the most obvious justification for income diversification is to use all available sources of income to economically provide for the family (Ronning & Kolvereid, 2006).

There are two different overlapping processes taking place for income diversification. Finding alternative sources of income is the first strategy for coping. The second stage involves selling off assets to raise money (Niehof, 2004). According to the study in Africa, diversification of income into non-farm activities has become a crucial

livelihood strategy for rural households in Africa (Wouterse & Taylor, 2008). Previous literature has described how migrant household members can encourage investments in new ventures by giving rural households both financial security in the form of remittances and income security. Additionally, rural households that cannot access credit frequently find themselves in a tight financial situation where they are unable to invest in non-essential activities (Wouterse & Taylor, 2008). The study of Ronning and Kolvereid (2006) stated that the farm household also looked for other sources of income outside of the farm. Moreover, many farm households depend on multiple sources of income. (Ronning & Kolvereid, 2006).

According to the research done in India, women were unable to take advantage of an income-generating scheme because of their traditional gender roles. Women engage in a variety of gender-specific livelihood activities such as secret saving, borrowing, and lending rice among themselves and other women in the community, needing assistance from relatives for cash-earning activities, and bartering home-produced goods with visiting traders. Furthermore, women's work has increased in both subsistence and cash crop farming to produce enough money for food, while men predominate in the wage economy (Niehof, 2004). Women are less likely to own land and may have lower educational attainment. Therefore, women's access to productive resources and participation in decision-making are frequently dominated by men. In addition, diversification is generally a better option for men than women in rural areas. Furthermore, men can often take advantage of diversification opportunities that women cannot because of cultural restrictions. (Oluwatayo, 2009). Research has revealed the important role and contribution of small-scale fisheries (SSFs) to the economy. Men and women have different opinions about the process of generating livelihoods. Therefore, men and women will approach risk in different ways depending on their position in the livelihood system (Niehof, 2004).

2.9 Conceptual framework

From the literature review, we continue to see the importance of dried fish in terms of income generation and nutrition security after observing the vital role of fresh fish consumption. Besides, dried fish consumption in Myanmar is relatively high and plays a vital role in the daily diet. In addition, from the literature, we have seen the important role and contribution of dried fish to the economy, poverty, and food security through

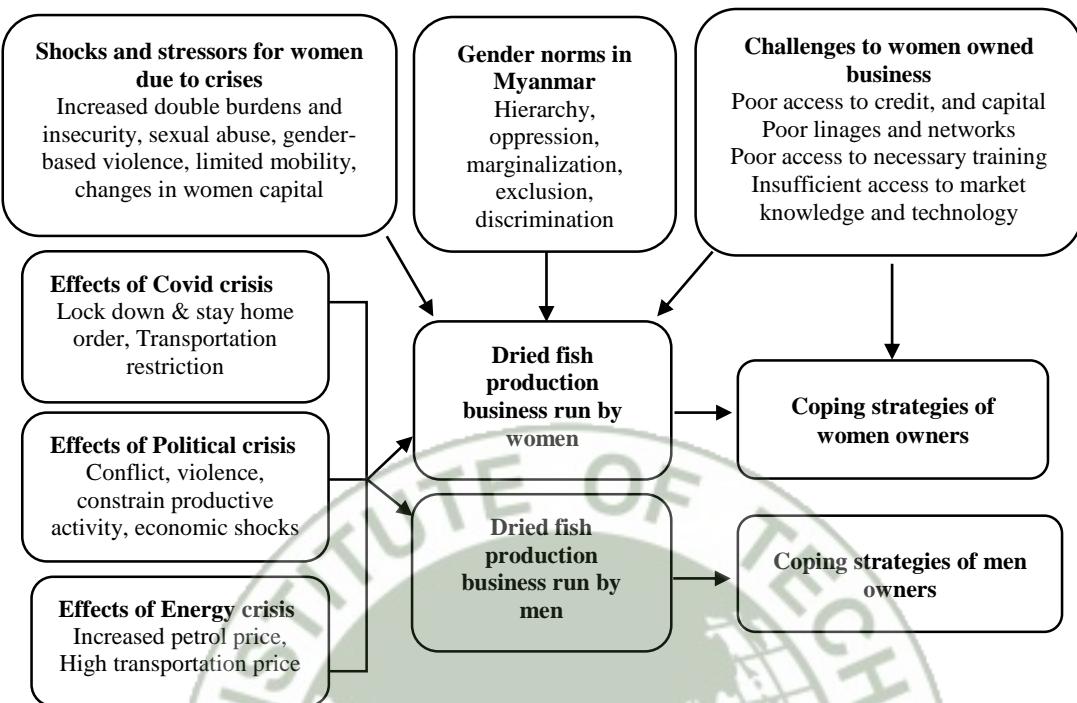
production and consumption links. Moreover, we have seen that the participation of women is significantly higher in dried fish processing and marketing. There are numerous important factors that influence the livelihoods of small-scale dried fish men and women producers since many of the small-scale dried fish producers are in the vulnerability group. However, there are also many threats and stressors that can create disruptions to dried fish production and marketing due to unexpected crises like the COVID-19 pandemic rather than regular bias.

Nowadays, not only the COVID-19 pandemic crisis but also other crises such as political crises, financial crises, economic crises, and energy crises have burdened people's lives in different aspects by creating various disruptions. Moreover, looking at the impacts of crises through a gender lens, it is found that different crises have different impacts based on gender. Men and women receive the impacts and risks of crises differently. On the other hand, those crises affect dried fish production by disrupting access to raw materials, processing, and selling dried fish products.

Furthermore, it is seen that people are likely to encounter one or more crises at the same time. The COVID-19 pandemic crisis and other different crises like political crises and energy crises may have many negative impacts on small-scale dried fish production households and dried fish production. On the other hand, it has been learned that many people have come up with diverse coping strategies to withstand the negative effects of these crises. In addition, the ability to generate adaptation strategies for small-scale dried fish production households can also be different by gender and type of crisis. Regarding the gender issue, it is clearly seen that women have been more affected by the crisis compared to men. Women are more likely to receive shocks and stressors due to the crisis. Moreover, even in normal situations, women business owners face many obstacles due to gender relations and gender norms; this situation becomes worse in times of crisis.

Conceptual framework (See figure 2.1) summarizes impacts of each of the crisis that may affect on the dried fish production business led by men and women, and the coping mechanisms to withstand the specific impact of each crisis on dried fish production.

Figure 2.1 Conceptual framework



CHAPTER 3

Methodology

This chapter aims to give an overview of the research and its framework. This chapter contains five sections. The first section explains the research approach, and the second section describes the study area. Sampling and sample size are illustrated in the third section. In the fourth section, data sources and data collection techniques are revealed. In addition, the last section explains the data analysis.

3.1 Research approach

This study aims to observe the different impacts of the energy crisis, political turmoil, and COVID-19 pandemic crisis on small-scale dried fish production businesses run by men and women, and their challenges in coping with the impacts of crises. Therefore, the data from the primary and secondary sources used in the study. The qualitative research method was applied in this study to get a deeper and more in-depth understanding of the impacts of the crisis on the small-scale dried fish production business run by men and women. In this study, primary data were collected using different qualitative methods like semi-structured in-depth interviews (IDI) and key informant interviews (KII). Additionally, secondary data is used to fill up whenever necessary.

3.2 Study Area and Selection of villages

3.2.1 Study Area

The study area was selected based on three criteria.

1. The area where dried fish is mainly produced.
2. The area where dried fish are producing from sun drying method.
3. The area where small-scale dried fish producers exist.

Therefore, field research and interviews were conducted in the Ayeyarwady region, Pyapon district, Pyapon Township, and Pyapon town. The study area is shown in Figure 3.1. The research was selected for the Ayeyarwady region purposefully since the region plays an important role in the fishery sector. The Ayeyarwady region is in the center of the coastal region, with a land area of 35,138 square kilometers and 152,038 square kilometers of fishing grounds. The Ayeyarwady region has important coastal resources,

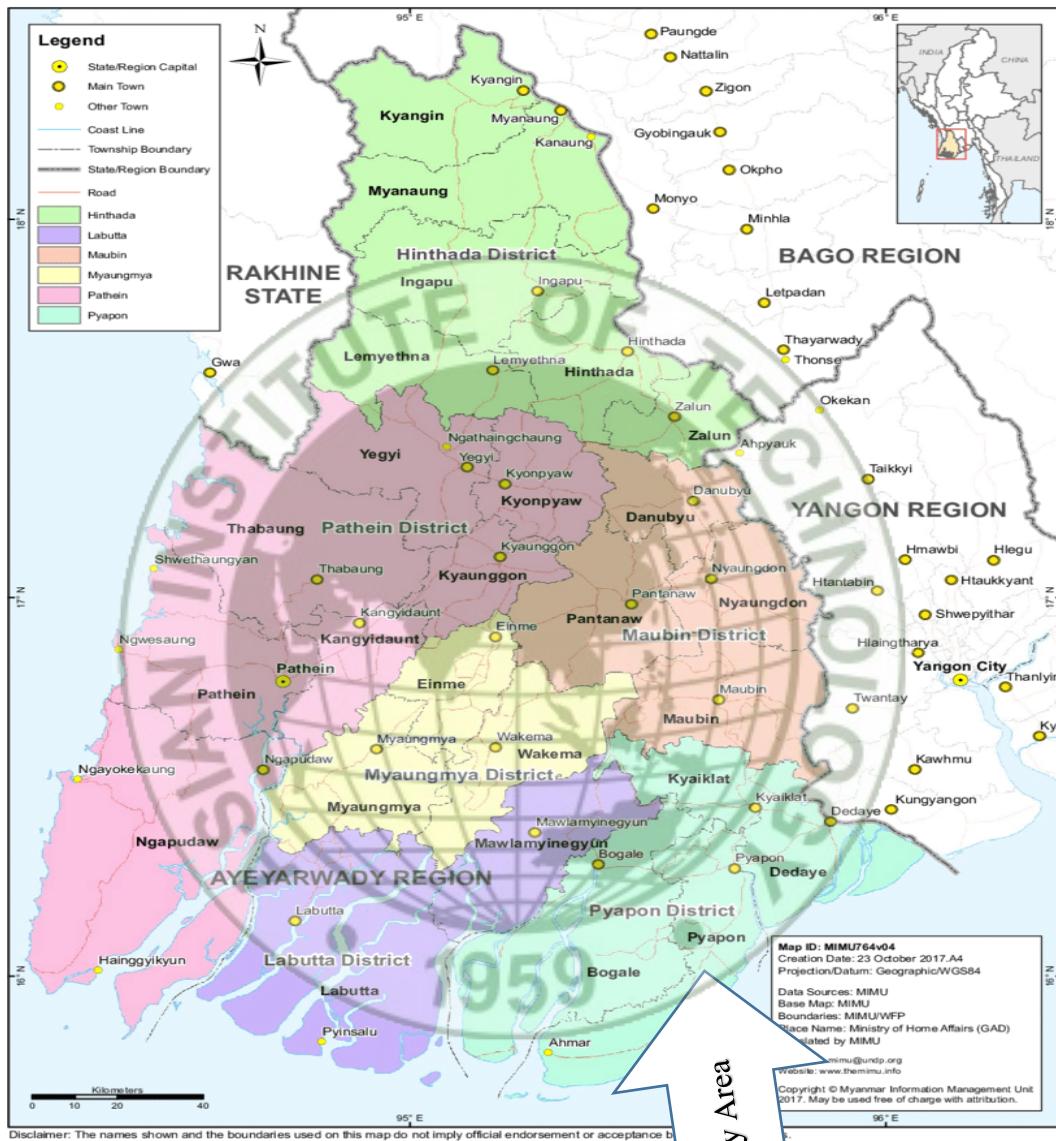
particularly fisheries, which have significantly contributed to the income of rural Delta households. The local families use the fish they catch for meals and as a side job. There are primarily two types of fisheries covered by the fishing industry. These are inland and marine fishing, respectively (Oo, 2018).

One of the main production centers for fisheries and aquaculture in Myanmar is the Ayeyarwady Delta (AD) (Johnstone, 2012). The AD has the highest land production in Myanmar and makes up around 3.2% (22,000 km²) of Myanmar. Flat topography and reasonably high annual rainfall of up to 5,000mm make the area ideal for agriculture, and there is an abundance of water resources that support fishing (Khin, 2020). Specifically, the seasonal lakes, ponds, and tributaries that arise each year as monsoon floodwaters throughout the Ayeyarwady Delta start to recede in late August, which marks the start of the fishery season, have historically been the largest sources of freshwater fish in lower Myanmar (Champbell, 2019). The Ayeyarwady region is primarily dependent on fisheries, which account for about 56% of regional government revenues (Khaing, 2018). Ayeyarwady has the greatest fishing grounds and produces fish, prawn, fish paste, dried fish, dried prawn, and fish sauce (Tint, 2020). In addition, the Ayeyarwady Delta offers an essential system for people and food production with large-scale aquaculture operations and diverse and complex value chains for fisheries products (Johnstone, 2012). After agriculture, the fisheries sector is the most significant one in the Ayeyarwady Delta since it offers landless people the chance to earn a living through fishing and the processing of fishery products (Oo, 2018).

Pyapon township is situated between latitude 16° 17' N and longitude 95° 40' E. According to 2014 census data, there are 295 villages under 52 village tracts in Pyapon town. Specifically, Pyapon District is made up of Dedaye Township, Kyaiklat Township, Bogalay Township, and Pyapon Township. When comparing the catch composition, Pyapon Township and the villages in Bogalay Township had the greatest catchment volumes (Oo, 2018). Pyapon is the eastern Delta's commercial hub, and Pyapon township serves as a center for both fresh and dried fish production. Fish supply for dried fish produce comes from Pyapon itself and from the surrounding areas of Pyapon. Many processors produce dried fish, fish paste, and fish sauce, and many dried fish traders from Yangon and other townships get their supply from Pyapon township. Moreover, various types of dried fish are produced from fresh water, salt water, and

aquaculture, three of which can be found in Pyapon Township (ILO, 2015). In addition, the researcher tried to represent the nature of dried fish production in Pyapon town by selecting three villages.

Figure 3.1 Study Area



source: <https://reliefweb.int/organization/mimu>

3.2.2 Selection of villages

Many of the villages under Pyapon town mainly produce dried fish. The sun-dried process is the most popular dried fish production method in Pyapon Town. The researcher selected the villages that produce dried fish by drying fresh fish on racks. Furthermore, the villages were selected purposefully in three different locations based

on travel time and distances to explore whether the impact of crises depends on the transportation mode and distance from Pyapon town, where dried fish marketing is mainly done, to get a better picture of the study township, and to get sufficient contexts and themes. Therefore, the study's geographic setting was deliberately chosen to be Kyon Ka Dun village, Chaung Wa village, and Aung Hlaing village. However, there are also a few significant differences between each village, as follows:

1. Kyon Ka Dun village is the nearest dried fish production area to Pyapon Town among the selected three villages. It took 50 minutes by car to reach Kyon Ka Dun village. There are about (800) households in Kyon Ka Dun village.
2. Chaung Wa village is the second closest village to Pyapon town among the selected villages; however, the roads are muddy, and it can also be accessed by car. It is also about one and half hours from Pyapon. Moreover, Chaung Wa village is the largest village in the sample villages, and it is composed of (1000) households.
3. Aung Hlaing village is the farthest village from Pyapon town among the selected villages. Although the road condition is tough, it is accessible by car from Pyapon town to Aung Hlaing village. However, it took more than two and half hours from Pyapon to Aung Hlaing village. There are about (500) households in Aung Hlaing village.

3.3 Sampling Design and Sample Size

The suitable sample size was not mentioned by qualitative methodologists in any study (Marshall et al., 2013), and the sampling and sample size for this study were chosen using a purposive sampling technique to achieve a rich and manageable amount of data for the study. The data collection was stopped when the interview responses became repetitive.

Therefore, a total of 28 respondents were recruited for this study. For the in-depth interviews, a total of 22 businesses that run small-scale dried fish production businesses led by men and women were selected. Men and women-led business means not only men and women are doing the business, but also the people who do the activities relating to the business. Specifically, a male-led business means that throughout the process of producing dried fish, such as acquiring raw materials, recruiting labor, processing dried fish, and marketing, are carried out by the decision of the male

business owner. In the same way, a dried fish production business run by women means that the entire business's activities are solely controlled by the woman owner. Only those who are exclusively self-led in the dried fish processing business were selected as research participants, even if the business is owned by the family.

Therefore, the research included businesses that are supervised or led by a male or female owner, even if family members are involved in the dried fish production. For example, a business owned by a couple but operated only by a man and his spouse does not involve them in making decisions related to the business, even though she works in the dried fish production business. To compare the different responses between male and female dried fish processors, half of the sample size (11 businesses) were male-run dried fish processing small-scale firms, and the other half (11 businesses) were run by females. Those who could participate in the interview from the male-led and female-led dried fish production businesses were interviewed in this study. In addition, out of 11 male-led businesses, 7 male business owners participated themselves, and 4 wives of the male business owners participated on behalf of their husbands in the study. For the 11 women-led businesses, the women leaders themselves participated. From Aung Hlaing village, 8 respondents participated. 7 people from each village participated; a total of 14 people participated from Chaung Wa village and Kyon Ka Dun village.

Moreover, years of working experience was set as a selection criterion. Since the crisis began three years ago, dried fish producers who have at least two years of dried fish production experience were included in the study. According to the literature review, many businesses might have closed down because of the crisis; therefore, dried fish production businesses that have temporarily stopped dried fish production due to the crisis were also included in the study sampling. For the in-depth interviews, to avoid bias in the selection of respondents, the researcher listed down the people who meet the selection criteria, and they were selected randomly from the list. For the key informant interviews, one community leader from each village was selected. Furthermore, dried fish traders are also important actors in the dried fish value chain, and they were included as interviewees in this study.

Table 3.1 Sampling Design and Sample size

Respondent's criteria		Working experiences	Data collection method	Sampling method	No. of Interviews
	gender				
Men led business	Men	>2years	Semi-Structured in-depth interview	Purposive	7
Men led business	Women	>2years	Semi-Structured in-depth interview	Purposive	4
Women led business	Women	>2years	Semi-Structured in-depth interview	Purposive	11
Dried fish traders	-	-	Key Informant Interview	Purposive	3
Village leaders	-	-	Key Informant Interview	Purposive	3
Total Respondents					28

Source: Interview data:2023

3.4 Data Source and Data Collection Method

The necessary information was compiled from both primary and secondary sources in accordance with the goals of this study. Semi-structured in-depth interviews and key informant interviewers were used to gather primary data. Additionally, whenever necessary, secondary data was gathered from various sources.

3.4.1 Primary Data collection

The semi-structured in-depth interviews and key informant interviews were applied to collect detailed information about the impacts of the energy crisis, political crisis, and global pandemic crisis on the small-scale dried fish production business run by men and women differently, and the influence factors which influence the effects of crises

and their coping strategies to withstand the impacts of crisis. Men and women dried fish producers who run their businesses themselves and their spouses were asked to answer the effects of each crisis on dried fish production, how to cope with those effects, and what challenges there are to cope with the effects of each crisis. The impacts of each crisis on dried fish processing and sale were analyzed separately since the ways in which each crisis created difficulties in obtaining raw materials and selling dried fish may not be the same. The flexibility of semi-structured, in-depth interviews allowed for new responses and suggestions from the participants. In order to get more detailed information about the village and the difficulties in the dried fish production business in the village, key informant interviews were conducted with the community leaders from each of the villages. The researcher used face-to-face interviews to obtain the detailed necessary data from the interview guidelines to observe the field situation by herself.

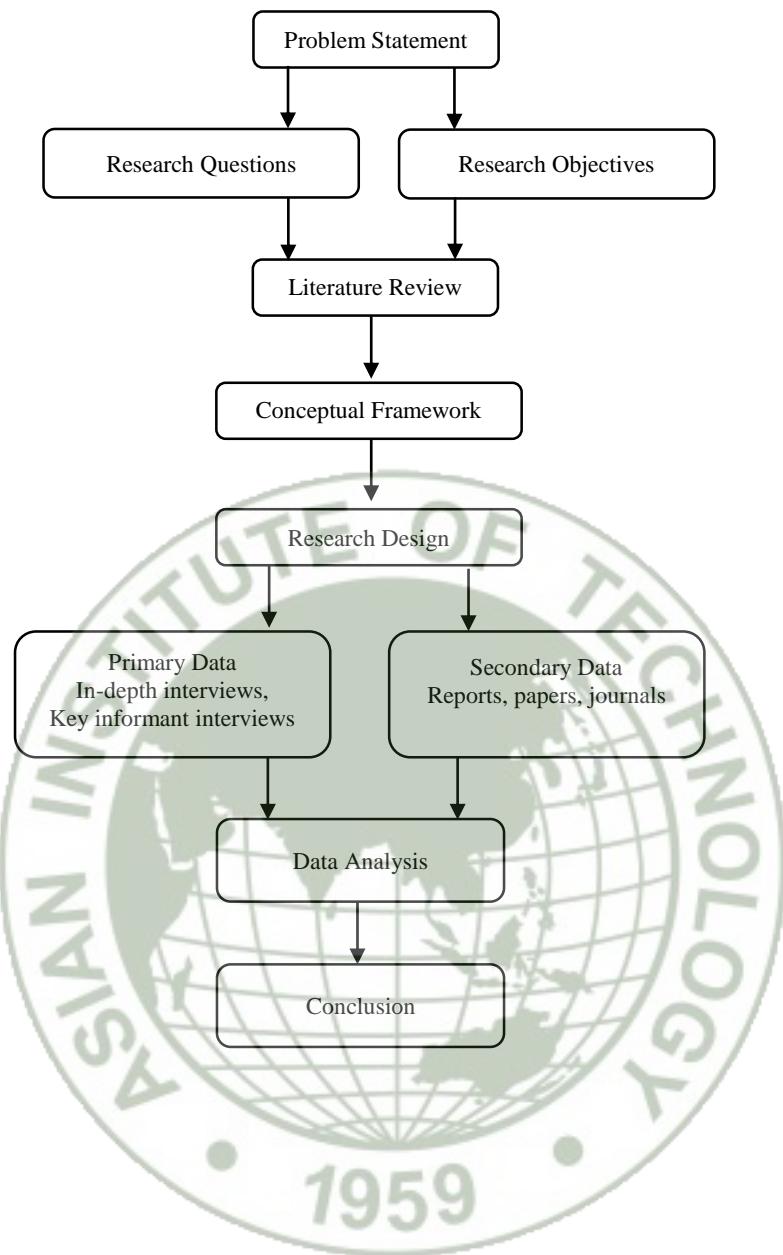
3.4.2 Secondary Data collection

The secondary data were gathered from a variety of sources such as books, reports, thesis, and journal article.

3.5 Data Analysis

Qualitative data analysis was used to analyze the primary data and field data gathered from semi-structured interviews. The analysis of quotations and statements is part of qualitative data analysis. Qualitative statements and quotations were analyzed using qualitative statement analysis, such as narrative analysis. Moreover, the qualitative analysis tool named Atlas.ti provided by DFM was used in the implication for qualitative data analysis.

Figure 3.2 Overall Research Framework



CHAPTER 4

Profile of Study Area and Demographic Information of Respondents

This chapter includes six main sections. The first section explains the profile of the study area, and the second section continues to explain the role of dried fish in the study area. The third section provides background information on the respondents. The fourth section describes the comparison of women-led small-scale dried fish production businesses and men-led small-scale dried fish production businesses that participated in the study. Furthermore, the fifth section explains the women in the small-scale dried fish production businesses. In addition, the last section provides a summary of the whole chapter.

4.1 Study Area

The profiles of the study area explain each of the study villages' geographical information, demographic characteristics, economic activities, and the nature of dried fish production in the study villages. Since three villages from Pyapon Township were selected for the study to meet the requirements of the study, geographical information, demographic characteristics, economic activities, and the nature of dried fish production in Aung Hlaing village, Kyon Ka Dun village, and Chaung Wa village are described in this section. The information provided in this section was derived from the KII interviews with community leaders in the villages.

4.1.1 *Profile of the Aung Hlaing Village*

Aung Hlaing is a village situated in the Nauk Mee village tract, Pyapon Township, Pyapon District, Ayeyarwady Region, Myanmar. Aung Hlaing village is placed between latitude 15° 84' N and longitude 95° 56' E. Aung Hlaing village is located about 35 miles from Pyapon town. Villagers can use a van or motorcycle in any season to travel from their village to Pyapon town or any other place. Anyhow, traveling by motorcycle is a popular mode of transportation for the people from Aung Hlaing village to other places. Moreover, from Aung Hlaing village to Pyapon town, it is about 30 miles; it takes about 2.5 hours by van and about 2 hours by motorcycle because of the poor road condition. As for the mobile network, normal phone calls can be made perfectly, but the internet lines are not very good. Moreover, Aung Hlaing village is a village that consists of 500 households.

Aung Hlaing is a seaside village, and the majority of the population in the village mainly depends on catching fish and shrimp seasonally. Fishers are also engaged in the work of drying fish and shrimp. Since fishers from Aung Hlaing village mainly depend on the sea, they process salt-water dried fish and dried shrimp. The raw materials needed to make dried fish and shrimp are available in the village. At the stage of selling dried fish and shrimp, they sell to different places, such as traders from the village and traders from outside of the village who come to them and trade to Yangon.

Regarding seasonality, fishing, dried fish, and dried shrimp production can be done only in the dry season; therefore, during the rainy season, fishers diversify their income during the off-fishing season. Furthermore, on the one hand, there are people who rely on fishing, dried fish, and shrimp production as their own businesses. On the other hand, there are people who work as casual labor on the fishing boats and dried fish and dried shrimp production businesses since they cannot afford startup capital for the businesses. Some people do not engage in fishing themselves. They buy dried fish and dried shrimp from the fishermen and trade them to other places. There are also good shops that sell extra parts for fishing gear and boat accessories. Although there is no restaurant, there are shops that sell the basic ingredients needed for cooking, such as rice, meat, vegetables, and fruits. In addition, there are people who migrate to other regions and states for work. Such migrants are mainly from households that rely on casual work for their income.

4.1.2 Profile of the Chaung Wa Village

Chaung Wa is situated in the Day Da Lu village tract, Pyapon township, Pyapon District, Ayeyarwady Region, Myanmar. Chaung Wa is a village placed between latitude 16° 01' N and longitude 95° 64' E. Chaung Wa village is located about 24 miles from Pyapon town. People can use a van or motorcycle in any season to travel from their village to Pyapon town or other places. However, the population mainly depends on the motorcycle for transportation from Chaung Wa to other places. The roads leading to the village are earthen roads; therefore, it takes over an hour by van and about an hour with a motorcycle. Mobile networks and internet networking are accessible in Chaung Wa village. There are more than 1,000 households occupied in Chaung Wa village.

It is found that people from Chaung Wa village work in a variety of jobs. The majority of the population employs casual labor in different sectors. Agriculture is one of the livelihood activities for the people in Chaung Wa village. Moreover, there are shops that sell fishing equipment needed for fishing and shops that sell wood and bamboo used in making rafts. Some of the people run small dry goods shops and vegetable and meat vendors. As Chaung Wa village is located near the sea and side by side with the river, there are many households working in the fishing industry. Furthermore, producing dried fish, dried shrimp, fish paste, and shrimp paste is also an important business for people from Chaung Wa village. Those types of dried fish and dried shrimp production businesses source fresh fish and shrimp by operating bamboo raft fishing (kyarr phong fishery) in the sea. Tiger rafting fishing is also the main fishing method for many of the households in Chaung Wa village.

The tiger raft fishing business means that people who do not own boats make rafts to catch fish, and they rent boats to drag their rafts to the fishing places in the sea. The male fisher on the rafts is also responsible for not only fishing but also making dried fish and shrimp. After they had stored certain quantities of dried fish and dried shrimp, the dried fish and shrimp were sent to the village by ferry boats. There are people from other states and regions who came to work on the rafts, as well as people from the village. However, fishing with rafts is not a year-round activity; therefore, raft fishing also takes a temporary break during the rainy season. Regarding the size of businesses, various types of businesses can be found in Chaung Wa village. There are tiger raft owners who operate many rafts, and there are also small-scale business owners who manage only one or two rafts. In the selling process, the raft owners sell their goods, such as dried fish, dried shrimp, fish paste, and shrimp paste, to local traders in their own village and to traders from outside of the township.

4.1.3 Profile of the Kyon Ka Dun Village

Kyon Ka Dun village is situated in the Kyon Ka Dun village tract, Pyapon Township, Pyapon District, Ayeyarwady Region, Myanmar. Kyon Ka Dun village is placed between latitude 16° 06' N and longitude 95° 62' E. Kyon Ka Dun village is located about 19 miles from Pyapon town. Kyon Ka Dun is a village that has good road conditions since Kyon Ka Dun village is located on the sides of the main road. Therefore, it is accessible to Kyon Ka Dun village not only with a van but also with a

motorcycle in any season. However, motorcycling is the common mode of transportation for the people from Kyon Ka Dun village. There are many streams and ponds around the village of Kyon Ka Dun. Mobile networks and internet work are perfectly attainable in Kyon Ka Dun village. Kyon Ka Dun is a large village with about 800 households.

The occupational structure in Kyon Ka Dun village is complex and diverse since there are many households in the village. A variety of occupations, such as paddy farmers, dried fish production businesses, dried fish trading businesses, government staff, food vendors, and casual workers, can be found in Kyon Ka Done village. However, Kyon Ka Done village is also surrounded by a river and lakes. There are two types of dried fish production businesses in Kyon Ka Done village. Those two types are: (1) freshwater dried fish production; and (2) saltwater dried fish production. Salt-water dried fish producers' source raw fish from the sea by fishing themselves. Meanwhile, fresh-water dried fish producers procure raw fish from other fishers who catch fish from rivers and lakes near their village. In the process of selling, salt-water dried fish producers sell dried fish only to the dried fish traders in the village. However, freshwater dried fish producers normally sell their products to Yangon.

4.2 The role of dried fish in the survival strategies

It is found that the role of the dried fish production business is essential for their livelihoods. The dried fish processing business is the source of income for the households, whether their business is headed by a female or male. Although they faced many difficulties due to various crises, the dried fish producers did not stop their dried fish production business. There are hardly any other secondary occupations. The main reason for continuing the dried fish production business is the lack of other occupational skills and financial resources.

A 43-year-old female dried fish producer from Aung Hlaing village explained her situation as follows:

"There were many changes in these years. Besides, fishing activities are more challenging because of these changes like political situation and inflation. However, I can't stop operating this dried fish production business since this is the only business I can do."

A 43-year-old male dried fish producer from Aung Haling village also reported his occupational skill in a negative way, as follows:

“I haven’t stopped the dried fish production business since I cannot stop. This business is the only one business which household rely on and I am not profession at any other work expect for this business.”

However, fishing is suspended during the months of heavy rains, not only for the people who source fresh fish by fishing but also for the people who procure fresh fish from other fishermen. There are two main reasons for stopping dried fish production during rainy seasons. Firstly, it is not safe to go fishing in the rainy seasons since their boats do not have the ability to face strong wind and rain. Secondly, sun drying does not work well during the rainy season. In addition to those who find fresh fish themselves, they temporarily break the dried fish production. Similarly, those who procure fresh fish also took a break during the rainy season.

4.3 Respondents Profile for In-Depth Interviews

This section explains the background information of the respondents who participated in the study. Specifically, this section describes the social characteristics, age group of respondents, literacy status, profile of the respondents in their business, and years of respondents' experiences in the dried fish production business. The information provided in this section was derived from the in-depth interviews. For the in-depth interviews, a total of 22 respondents from three villages participated in the study. Out of 22 respondents, 11 were female, 7 were male, and the rest were female.

Table 4.1 Participants information of the in-depth interviews

No	Business leading status	Vill-age	Sex	Age	Marital status	Occupation	Relation to head of household
1	Male-led	AH	M	42	Married	DF producer	Head
2	Male-led	AH	M	35	Married	DF producer	Head

3	Male-led	AH	F	32	Married	DF producer/home maker	Spouse
4	Male-led	AH	M	43	Married	DF producer	Head
5	Female-led	AH	F	38	Married	DF producer	Spouse
6	Female-led	AH	F	43	Married	DF producer	Spouse
7	Female-led	AH	F	40	Widow	DF producer	Head
8	Female-led	AH	F	42	Married	DF producer	Spouse
9	Male-led	KKD	M	50	Married	DF producer	Head
10	Male-led	KKD	M	58	Married	DF producer	Head
11	Female-led	KKD	F	58	Widow	DF producer	Head
12	Female-led	KKD	F	64	Married	DF producer	Spouse
13	Female-led	KKD	F	64	Widow	DF producer	Head
14	Female-led	KKD	F	48	Married	DF producer	Spouse
15	Female-led	KKD	F	40	Married	DF producer	Spouse
16	Male-led	CW	M	52	Married	DF producer	Head

17	Male-led	CW	F	42	Married	DF producer/ home maker	Spouse
18	Male-led	CW	F	46	Married	DF producer/ home maker	Spouse
19	Male-led	CW	F	33	Married	DF producer/ home maker	Spouse
20	Male-led	CW	M	55	Married	DF producer	Head
21	Female- led	CW	F	57	Married	DF producer	Spouse
22	Female- led	CW	F	27	Married	DF producer	Spouse

4.3.1 Social characteristics of respondents

The respondents who participated in the study were married and widows. It is observed that the married category represents the significant marital status of the people who are engaged in the dried fish production business in this study. Unmarried and divorced people did not participate at all in the study. In fact, 11 women who led the dried fish production businesses participated. Out of 11, three women are widows. Except for these three widows, the rest of the women led their businesses, and they do not define themselves as household heads. In Myanmar, it is customary to consider only males as the head of the household, even though females play the main role in the family's life. Specifically, women consider either their father or their husband to be the head of the household. Women tend to see themselves as the head of household only when their father or husband are not present. The study found that respondents' relationships with the household head reflect the traditions of Myanmar. All the males who participated in the study are heads of household.

4.3.2 Occupation of the respondents by gender

When it comes to occupations, the people who participated in the study were found to be mainly engaged in dried fish production. It was found that the spouse of the male

dried fish producers was mainly responsible for the domestic activities, and they also helped in the dried fish production when they had free time.

4.3.3 Age group of respondents

According to Myanmar's existing Labor Law and the new Child Rights Law adopted in July 2020, the minimum working age is 14 years old; however, children under the age of 18 were excluded from this study. In addition, respondents' age groups were mainly classified into three significant groups. That age group was 18–30 years old (young age group), 31–59 years old (middle age), and 60 years and above (elderly age). Ages between 31 and 59 can be defined as middle age or working active group. Since Myanmar has a pension system at the age of 60, people after 60 can be defined as an age group that is no longer active in the workplace or an elderly group. The age group was dominated by respondents from 31 to 59 years old. Among the twenty-two respondents, there were seven males involved, and those seven male respondents were also from a prominent age group (31 to 59 years old).

4.4 Comparison of business profile between men and women led businesses

4.4.1 Differences in labor force between businesses run by men and women

The study found that there were no permanent workers hired annually since dried fish production is a seasonal business in the study area. However, temporary workers were often hired depending on the type of work during the dried fish production season. It has been observed that the dried fish production, which goes to the sea for the entire fishing season, often hires workers through a piece-rate payment system. Out of the 22 businesses that participated in the study, 15 businesses responded that they hired temporary workers by type of work, especially for fishing activities, while the rest of the businesses were run by family workers only. Of the 15 businesses that responded that they had to hire temporary labor, 10 (67%) were male-led businesses, while only 5 (33%) were female-led dried fish production businesses. Table 4.2 provided the number of workers differences between male and female-led businesses. The total number of workers included not only temporary hired labor but also family workers. In addition, it was observed that the small-scale businesses that participated in the study tended to need 4–7 workers in order to run their businesses. However, the number of workers used in female-led dried fish production businesses was lower than in male-led dried fish production businesses.

Table 4.2 Differences in the number of workers by male and female led businesses

Total workers (Including family workers)	Male-led (No.)	Female-led (No.)
4	18%	36%
5	10%	54%
6	18%	10%
7	54%	0%

Source: Interview Data, 2023

4.4.2 *Gender differences in average working capital*

It was observed that the small-scale dried fish production from the study has to use 2,500,000 MMK to 5,000,000 MMK on average in order to run their business per season. The average working capital included the costs to obtain raw materials, fishing net preparation costs, transportation costs, and labor expenses. The average working capital has an effect depending on the number of hired workers, and it was also found that there were differences between women-led businesses and men-led businesses. Table (4.3) describes that women-led dried fish production businesses have lower working capital compared to male-led dried fish production businesses. It was discovered that only female-led businesses were found in the working capital range of 25 lakhs to 30 lakhs. Furthermore, the number of female-led businesses has gradually decreased in the categories of working capital greater than 35 lakhs, and there were no women-led businesses in the categories of 50 lakhs of working capital.

Table 4.3 Differences in average working capital by male and female led businesses

Average working capital	Male-led business (%)	Female-led business (%)
2,500,000 MMK	0%	27%
3,000,000 MMK	0%	27%
3,500,000 MMK	36%	18%
4,000,000 MMK	9%	18%
4,500,000 MMK	9%	10%
5,000,000 MMK	46%	0%

Source: Interview Data, 2023

4.5 Women in the small-scale dried fish processing businesses

In the dried fish production activities, it was significantly seen that many women were likely to participate in the post-harvesting activities like cutting fish, drying fish, and selling dried fish. Moreover, in this research, it was observed that women are not only involved in post-harvest activities but also in management roles. Women who participated in the research were also engaged in activities such as preparation for fishing, seeking capital or credit, purchasing inputs necessary for fixing boats and fishing gear, buying required ingredients for processing dried fish, and recruiting labor for fishing or drying fish. Therefore, in general, women are found widely in almost all of the processes of dried fish production except fishing.

Both men and women were involved in various stages of the dried fish production activities in Aung Hlaing village. However, women were more dominant in most of the dried fish production activities, as described in Table (4.4). Dried fish producers in Aung Haling village acquire fresh fish by fishing. Since fishing in the sea is a job only men can do, women in Aung Hlaing village do not participate in the process of getting fish at all. In the same way, the method of catching fish in Chaung Wa village is fishing in the sea by rafts; therefore, it was also found that women were not involved in fishing activity in Chaung Wa village. Specifically, women do not participate in the fishing or drying of fish due to the nature of dried fish processing in Chaung Wa village. Fishing in the seas with rafts means staying in the sea for several months, and they continuously do the work of fishing and drying fish in the sea. Therefore, fishing, and drying fish were exclusively done by men. Therefore, it does not mean that only women carry out the post-harvesting activities; labor participation changes depending on the nature of dried fish production.

About half of the households that participated in the study had children under 10 years of age. However, in either male-led or female-led businesses, childcare was the responsibility of women. Moreover, it is seen that domestic work such as washing clothes, house cleaning, and cooking were mainly done by women, regardless of gender or who was leading the business.

A 32-year-old woman from a male-headed business explains the nature of their households and her duties as follows:

“When my husband comes back from fishing, I must do the cutting and drying fish. Usually, I do it alone. If I cannot handle many, I must call some assistant maid from the village. Since he is a man, he doesn't help with housework. But because I am a woman, I have to do all the work at home and I do not mind at all every work on land is woman's job, meanwhile he does his work in the sea.”

27 years old women who runs a small-scale dried fish production business on her own proudly expressed about how she manages her household responsibilities and business at the same time as the following.

“I manage everything, I am the one who manages business and I also do household work. I am tired sometimes, but it is fine because I do have only small family.”

Many small-scale dried fish production business households have to borrow from other people because they do not have enough money to use recurring money for the business. We have seen the prominent role of women in the process of taking credit from others. There were no men to be found in the process of borrowing money.

A 43 years' old female respondent expressed in the following way regarding to the accessing credit.

“I cannot ask my husband to go and find credits. I am the one who have to borrow money whenever we need money for the business or other expenditures.”

Table (4.4) explains how labor division was done among women-led small-scale dried fish production businesses and men-led small-scale dried fish production businesses. Some of the tasks in the business were performed by men in the men-led business and by women in the women-led business. Domestic activities were usually done by women, whether in male-led businesses or female-led businesses. In the activities of seeking capital or taking credit, both males and females were involved in the men-led business. However, it is seen that only women usually work this activity in the women-led small-scale dried fish production business. In addition, women are widely involved in many tasks and activities, apart from fishing.

Table 4.4 Division of labor between men-led and women-led business

	male -lead		female-lead		Overall	
	Male	Female	Male	Female	Male	Female
domestic work (cooking/washing /cleaning)	0%	100%	9%	91%	5%	95%
childcare/elderly care	0%	100%	20%	80%	10%	90%
Southing capital / credit	45%	55%	0%	100%	20%	80%
purchasing inputs	91%	9%	0%	100%	55%	45%
hiring labors	91%	9%	9%	91%	50%	50%
fishing/sourcing fish	91%	9%	68%	32%	77%	23%
cutting fish	55%	45%	16%	84%	64%	36%
drying fish	74%	36%	16%	84%	59%	41%
marketing	55%	45%	0%	100%	23%	77%

Source: Interview Data, 2023

4.6 Chapter summary

To sum up, the profile of the study explained that dried fish production is one of the important livelihoods for the people in the study area. However, there were different ways of getting raw materials and different ways of selling dried fish. According to the profile of the respondent, the marital status of the respondents who were involved in the dried fish production business was mainly married. Many of the respondents are middle-aged people, and they have many years of working experience in the dried fish production business. Furthermore, it was found that dried fish producers only focused on dried fish production, and there were no alternative secondary occupations. Moreover, women were found to be responsible for domestic work whether they led the businesses or not, and many of the women who led dried fish production defined themselves as spouses of the household head. It was literally highlighting the idea of men as the head of household, which is a tradition in Myanmar. Moreover, it is observed that regardless of their working experiences in the dried fish production industry, women-led businesses are slightly smaller than men-led businesses since women-led dried fish production businesses have a lower labor force and average working capital.

CHAPTER 5

Impacts of Crises

Myanmar has been affected by various crises, such as the COVID-19 pandemic crisis, the political crisis, and the energy crisis, since 2020. The aim of this chapter is to examine how small-scale dried fish production businesses were impacted by the effects of the COVID-19 pandemic crisis, the political crisis, and the energy crisis. Moreover, this chapter continues to discuss how and why crisis effects differ between women-led small-scale dried fish production businesses and men-led small-scale dried fish production businesses.

5.1 The impact of crises

5.1.1 *The impact of Covid-19 crisis and gender differences*

The COVID-19 has occurred throughout Myanmar, and its subsequent illnesses, travel restrictions, and stay-at-home orders have created difficulties and disruptions for many sectors in Myanmar. Among the various sectors, small-scale dried fish producers have been greatly affected by the COVID-19 crisis. Specifically, this study observed that there were no major disruptions due to COVID-19 in the procurement of raw materials or the processing of dried fish. However, due to the travel restrictions and stay-at-home orders, dried fish producers cannot go to Yangon in person to sell dried fish. Similarly, dried fish prices decreased since many traders could not come to the dried fish producers because of the travel restrictions, and stay-at-home orders led to lower demand.

Interestingly, it is seen that there was no difficulty in getting raw fish, purchasing the necessary raw materials, recruiting labor, or producing dried fish. Since dried fish producers in the study area source raw materials from their villages and places close to the village, there were no issues acquiring raw materials for the dried fish processing. Going out to the sea for fishing was able to continue as before the COVID-19 pandemic. Moreover, many necessary accessories for boat servicing were also available in the village. The availability of raw materials such as fresh fish and salt was easy, even during intense times.

A 35-year-old male dried fish producer who lives in the Aung Hlaing village shared his dried fish production experiences during the severe time of the COVID-19 pandemic as follows:

"Even now, or even in the time when the COVID-19 virus was severed, there were no difficulties in other activities except for selling dried fish. I can buy what we need for the dried fish production, like salt. In the past century, dried fish producers used other chemical products to maintain the freshness of dried fish. But people started to prefer natural dried fish made with salt. The color of dried fish is not pretty anymore, but buyers like it. We are no longer as busy buying that chemical product as before. As a fishing village, there are shops that sell things related to fishing nets and boats. I can buy accessories needed for fixing fishing gear or repairing fishing boats. Otherwise, I must go to Pyapon daily for the necessary items.

A 52-year-old woman dried fish producer who lives in the Chaung Wa village explained the following regarding acquiring raw materials, hiring labor, and processing:

"It was not difficult to manage to get raw materials since I can buy as much as I want in the village. There is no special ingredient needed for dried fish production. Labor availability was also the same, and there were no difficulties. There were no obstacles in the process of going out to sea for fishing. Apart from the marketing, the other activities were fine".

A 50-year-old dried fish producer who lives in the Kyon Ka Dun village described his business nature of getting raw materials and producing dried fish in the following way:

"I don't do fishing by myself; I usually buy fish from other fishers to make dried fish. My village is surrounded by lakes and rivers, and there are many fishermen who sell fish. Normally, many fishermen come to me whenever they catch fish. If I need it more urgently, I go to their places to buy fish. Since they were located around my village, there were no difficulties. There are also many wage laborers available in my village, so there were no difficulties during COVID-19's intense time.

"However, there were difficulties in the process of selling fish due to the COVID-19 travel restriction".

In addition, the lack of difficulties in obtaining raw materials and processing dried fish was seen in either male-led dried fish production businesses or female-led dried fish production businesses. Furthermore, according to the answers of the respondents, all of the participants from different locations felt that there were no negative impacts on acquiring raw materials or hiring labor due to the COVID-19 crisis.

However, many of the dried fish producers faced difficulties marketing dried fish because of COVID-19 travel restrictions. As described in Chapter 4, there are two types of selling methods. The first method was selling to the traders from the village or to the traders who came to the village. The second method was trading to Yangon by own arrangement. Many traders who used to come were not able to come to the villages due to the COVID-19 travel restriction, and then the demands became less and less. Some of the traders who came to the village controlled the dried fish prices, and the dried fish prices were not as good as before. Similarly, many small-scale dried fish processors who used to sell to Pyapon town or Yangon in person were not able to go to the town for selling. Therefore, they could not set the price as they wanted.

A 40-year-old female dried fish producer who lives in the Aung Hlaing village and who used to sell dried fish to Yangon wholesale centers explained her business nature and her difficulties in dried fish marketing in the following way:

"Normally I used to go to the trading center from Yangon to sell my dried fish. But, because travel restrictions were set due to COVID-19, it became difficult for me to go to Yangon easily. If you want to go, you can go, but there is a 2-week quarantine after you travel to Yangon or outside of the township. Therefore, everyone who used to sell to Yangon stopped marketing dried fish to Yangon until travel restrictions were over".

A 35-year-old male dried fish producer who lives in the Aung Hlaing village and used to sell dried fish to the traders who came to the village explained his dried fish selling experiences as follows:

"Traders did not come to the village for a few months during Covid. When they came, they did not offer a good price. Anyway, I have to sell it because if I store the dried fish for a longer time, the weight of the dried fish will be reduced, and there will be no profit at all".

A 64-year-old female dried fish producer who lives in the Kyon Ka Dun village and used to sell dried fish to Yangon also explained the following about the difficulties related to selling dried fish:

"When the government restricted traveling from township to township, there were no choices apart from following their rules and regulations. Actually, I usually go to Yangon to sell dried fish. But, because of the travel restrictions, I am no longer able to sell to Yangon. On the other hand, there were fewer traders who came to the village compared to normal times, so the price of dried fish decreased. Luckily, inflation was not that high in 2021. Therefore, although the income decreased, the situation was not too bad".

A 42-year-old male dried fish producer who lives in the Aung Hlaing village expressed how the price was lower during COVID-19 and why as follows:

"For selling, there is a difficulty. During Covid-19, the price was reduced. For example, one type of dried fish with 12,000 MMK–13,000 MMK per viss dropped to 8,000 MMK–9,000 MMK per viss because of the lower demand during the COVID-19 pandemic."

Furthermore, it was found that storage time and the weight of the dried fish are inversely correlated. Therefore, the longer the storage time, the lower the weight of the dried fish. Such a condition drove dried fish producers to sell their dried fish at the prevailing price.

In addition, the COVID-19 crisis has caused significant disruptions in the sale of dried fish. When analyzing each response and answer of the men-led and women-led businesses who participated in the study, it was discovered that there was a difference in the marketing preferences; female-led businesses reported that they tend to sell to Yangon and outside of the township, while men-led businesses stated that they were

likely to sell to the traders from the village and traders who came to the village. It was found that women-led businesses that usually sell dried fish to Yangon or outside of the township were more affected by the effects of the COVID-19 crisis. Besides, those who usually sell in their township were dried fish businesses led by men, and they answered that getting a lower price was one of the effects.

5.1.2 *The impact of political crisis and gender differences*

A year after the intense outbreak of COVID-19 in Myanmar, political changes have occurred in the country. Due to the political instability that occurred in Myanmar, many parts of the country have suffered explosions and violence. However, according to the interview results, the study area is far away from the city, and as a result, there were no violence, fights, or revolutions in the study villages. Moreover, it was discovered that the processes of obtaining raw materials and processing dried fish were not impacted by the political crisis. This is because acquiring raw materials and drying fish are activities that take place in the village and near the village. However, there were impacts discovered in the process of marketing dried fish.

Many respondents reported that political instability has hindered the mobility of traders, and the lack of demand has decreased the price of dried fish.

A 32-year-old woman, the spouse of the male dried fish producer, who lives in the Aung Hlaing village, stated the following about how the price of dried fish was affected due to the political instability:

"The traders were reluctant to come to the village due to the political instability. Actually, there was no violence or fighting in the village. Our village is very peaceful. But the traders are from far away. They might face insecurity issues along the way to our village. Then, when the traders did not come, the demand decreased, which reduced the dried fish price".

Due to the political instability, it was found out that there were security and safety limitations for the people who sell to Yangon. Before the coup, most of the dried fish producers were able to travel to Yangon anytime with any transportation method. After the coup, it was observed that many dried fish producers suffered insecurity because of the increase in robbery cases along the way to Yangon. It was risky to travel during the

evening and nighttime. Moreover, the travel time was longer than usual due to the several checkpoints between Yangon and Pyapon.

A 48-year-old female dried fish producer from Kyon Ka Dun village who sells dried fish to traders from Yangon explained how the traveling situation changed before and after the coup and how it affected her business operation.

"In the past, I could travel to Yangon at any time to sell dried fish. There were no problems traveling to Yangon, either day or night. But it is not like that now. I was worried all the time about what would happen on the way to Yangon. It was not as free as it used to be. And there are a lot of checkpoints between townships. Soldiers are checking people's identities along the way to Yangon. So, I do not go to Yangon as often as I used to. On the one hand, the dried fish price here is not good. I cannot travel to Yangon as before".

About insecurity, a 42-year-old male dried fish trader from Kyon Ka Dun village shared his neighbor's experiences with fear as follows:

"The dried fish producer near my house lost about 1,000,000 MMK due to the robbery by armed men. I am not talking about politics; I am talking about just the difficulties of small-scale dried fish producers. Sometimes, they asked people to stop their cars and take the things they wanted."

Furthermore, the 64-year-old woman dried fish producer from Kyon Ka Dun village shared her experiences regarding the political crisis in the following ways:

"I do not dare to go to Yangon to sell dried fish since there were fights and gunshots in Yangon, so I stopped dried fish production."

A 40-year-old female dried fish producer who lives in Aung Hlaing Village explained the problems and difficulties caused by the political instability as follows:

"There was difficulty expanding the market. Normally, if I do not like the price offered from the Yangon trading center, then I change the market. I went to Mandalay, Monywa, and Naypyitaw. Previously, I could go

everywhere I wanted. Now, I cannot go because of the political instability."

Almost all of the participants remarked that the political crisis has affected the market and prices of the dried fish production industry. Not only the female-led businesses but also the male-led dried fish production businesses suffered from price decreases, lower demand, and unsafety issues due to political instability.

5.1.3 *The impact of energy crisis and gender differences*

The unstable internal political situation and the international political situation have caused fuel prices to increase exponentially starting from late 2021. The rise of fuel price is seen to have a huge impact on small-scale dried fish producers. The study observed that the incensement of fuel prices has hugely affected the small-scale dried fish production through the process of acquiring fish and selling.

Transportation vehicles' rental charges also increase because of the fuel price. Therefore, small-scale dried fish producers who have to rent vehicles for transportation were highly impacted. Increased travel expenses and transportation charges are hugely affecting business operations and profitability.

A 42-year-old female dried fish producer from Aung Hlaing village shared her stressful experiences, which are given below.

"Last year, when we hired a Tawlarjee (tricycle) to load dried fish from shore to our place, I paid only 15,000 MMK to carry the goods. Now, I have to pay 25,000 MMK for the same distance and quantities. I really don't understand why the price of motor fuel has gone up. Because of this much increase, people do not dare to ride motorcycles, and the boat rental services also do not dare to rent the boat inclusive of fuel costs."

Fishers faced difficulties catching fish due to the increased price of fuel. Furthermore, the small-scale dried fish producers who buy fish from fishermen have to pay a higher price for the fish.

A 58-year-old male dried fish producer from Kyon Ka Dun village explained the effects of the energy crisis on the fishery sector in the following way:

"I don't catch fish by myself for dried fish production; I buy from other fishers. Even though I don't directly need to use fuel for fishing, the fishers have to use the fuel for fishing; therefore, they raise the selling price of raw fish. It is not a surprise. No matter who buys fish and makes dried fish, or those who fish themselves, they were affected by the increase in the price of fuel. The transportation price was also increased."

Many of the respondents expressed increased commodity prices as one of the effects of the energy crisis. It is observed that commodity price increases have extensive negative impacts on the business, not only in the business operation but also in the process of raising startup capital to buy or repair the necessary equipment.

A 43-year-old female dried fish producer who lives in the Aung Hlaing village described as follows how much boat equipment's price increased in the year of the energy crisis:

"In the past, the prices of screws and screw nuts were nothing. But now, even for a single screw, it is over 1000 MMK. Similarly, Honda's wheels cost only 1800 MMK previously; this year, they are over 3000 MMK. Before coup, an original good-quality pinion was 7500 MMK; now, even a bad-quality pinion costs over 10000 MMK."

All of the saltwater dried fish producers from the study area are those who catch fish by themselves from the sea. People who catch fish from the sea have to use fuel to run their fishing boats. Fishers have to use a lot of fuel, depending on the area they want to sail. Fishermen were not able to use the fuel as before due to the rise in fuel prices. Therefore, rising fuel prices have been seen as an intense distraction to fishers by narrowing the boundaries within which boats can sail.

Regarding the fuel price increase, a 35-year-old male dried fish producer from Aung Hlaing village expressed his story in a negative way.

"The cost of a bottle of fuel was only 1000–1200 MMK before; now a bottle of fuel costs 2500 MMK. Previously, we were able to change and move the fishing points if we could not catch the fish at one point. Now

with this higher fuel price, we cannot afford the fuel much, and we cannot sail wherever we sail before."

A 52-year-old male dried fish producer from Chaung Wa village who sources fish from tiger raft fishing revealed his business expenses as follows:

"Last year, the price of one drum of fuel was only over 200,000 MMK to 300,000 MMK. Now, it is around 500,000 MMK to 600,000 MMK. Let me explain it to you in detail. Last year, boat rental prices were about 400,000 MMK, but now they are 800,000 MMK, which is twice the usual price."

Looking back to the effects of the energy crisis, which has affected the entire dried fish production value chain, not only women-led small-scale dried fish production businesses but also men-led small-scale dried fish production businesses were impacted by the effects of high fuel prices, which burden business working capital and the transportation cost by making them double. Specifically, it was found that if the businesses continue to operate as usual, it has the effect of increasing working capital, and there is an impact of reducing the area of fishing when the businesses are not able to run as usual. Only a few women-led businesses responded that they have difficulties increasing their business' expenses due to the increase in fuel prices, and some of the women-led businesses have reduced their fishing area and temporarily closed their businesses.

5.1.4 Comparison of total business closures by the crises

As described above, the study has described how various crises have affected women-led and men-led small-scale dried fish production businesses. Especially the table (5.1) presents the detailed numbers of the businesses that temporarily stopped dried fish production during the intense times of various crises. Out of 22 businesses, 5 businesses (23% of the participating businesses) stopped dried fish production during COVID's intense time, 3 businesses (14% of the participating businesses) stopped after the coup, and 1 business (4% of the participating businesses) stopped after the rise in fuel prices. It has been observed that the military government has issued more security regulations, such as curfews, than the COVID-19 travel restrictions and stay-at-home orders. Therefore, businesses that stopped producing dried fish during a severe COVID-19

period operated again when COVID-19 travel restrictions expired. Similarly, businesses that stopped small-scale dried fish production for a while due to political instability resumed when the political situation stabilized in late 2021. Dried fish producers did not shut down their businesses permanently due to the crises within the years 2020–2022, and they reran the dried fish production depending on the situation.

Table 5.1 Share of businesses which stopped dried fish production by gender

	Total num of businesses	Male-led	Female-led
Covid-19 crisis	22/5 (23%)	1(20%)	4(80%)
Political crisis	22/3 (14%)	1(33%)	2(67%)
Energy crisis	22/1(4%)	0(0%)	1(100%)

Source: Interview Data, 2023

5.2 Reasons for women and men difference in receiving impacts of crises

Many women-led and men-led dried fish production businesses have been affected in different ways due to the COVID-19 global pandemic crisis, political crisis, and energy crisis. It was found that the effects between male-led and female-led businesses appeared to be subtle. When analyzing why the impacts of the crises differed between male and female owners, it was observed that there were three main reasons. Firstly, women-led and men-led businesses have unsimilar selling practices and marketing preferences. Secondly, women dried fish producers do not have enough business turnover. As a third reason, women dried fish producers were more likely to avoid potential risks and shocks due to the crisis.

5.2.1 *Market preferences*

Depending on the differences in the market, the effects of crises have been found to be different. For example, dried fish production businesses that sell to Yangon and outside of the township suffered more transport and security problems than businesses that sell within the township. Furthermore, the study observed that there was a significant difference between male and female-led businesses in terms of selling practices and marketing preferences. Many men-led dried fish production businesses tend to sell to traders nearby. Out of 11 male-led dried fish production businesses that participated in the study, 9 male-led dried fish production businesses reported that they usually sell to traders from the village, surrounding area, and traders who came to the village; the

remaining 2 male-led dried fish production businesses stated that they sell to wholesale centers in Yangon.

A 52-year-old men dried fish producer who has experience in dried fish production for 5 years and who lives in the Chaung Wa village responded that he used to sell dried fish at the village for some reasons as follow:

“Even in normal times, I don't sell dried fish anywhere else. I only sell it to the traders who come here to buy dried fish so that I can get money right away. However, if I sell to traders from Yangon or other places, it takes time to get the payment. Moreover, I don't have to pay transportation costs and agent fees”.

A 35-year-old male dried fish producer who lives in the Aung Hlaing Township and has been in the dried fish production business for over 10 years explained his perception of dried fish selling points and his marketing preferences.

“Normally, I don't sell to Yangon. I sell to the traders nearby. The traders from other areas pay a higher price but if you recalculate in detail, the offer price is the same as the traders who came to the villages. Moreover, I don't have the extra time to go to the other places”.

Men dried fish producers remarked that it is more convenient to sell to the traders around them than to other areas for many reasons. For example, if they sell to other places, there will be a delay in the payment process, and they will have to pay broker fees and travel and accommodation expenses. Furthermore, having no extra time was seen as a reason for avoiding selling to places like Yangon.

On the other hand, unlike the men's dried fish producers, women's dried fish producers are more likely to sell outside of the township. Out of 11 female-led dried fish producers, 4 female-led dried fish production businesses reported that they sell at the village and near the village, and the other 8 female-led dried fish production businesses stated that they sell outside of the township.

A 43-year-old female dried fish producer who led dried fish production for 6 years and who lives in the Aung Hlaing village explained her perception about dried fish selling prices at the village level in the following way:

"I don't sell dried fish at the village since the price is low. Even if I cannot go too far, like to Yangon or other areas, I used to go to another town, such as Bo Ka Lay or Pyapon. Usually, I go to Bo Ka Lay town to sell dried fish."

A 40-year-old female dried fish producer who has had dried fish production experience for 3 years and who lives in the Kyon Ka Dun village explained the advantages of selling dried fish outside of the township as follows:

"The main reason for selling to Yangon is the dried fish price. The traders from Yangon's wholesale center offer higher dried fish prices more often. But if I don't like the offered price from the whole sale center, I can still sell to the different marketplaces in Yangon. I know many marketplaces in Yangon like Pa-Zun-taung-Zay, Thin-Gan-Gyun Zay, and Tarwe-Zay. So, there are various options if you can go to Yangon. However, you will only get price offers from the traders in the village here."

Therefore, according to the responses of female-led dried fish production businesses, the price given by the traders at the Yangon wholesale center is higher compared to the traders from the village and traders who come to the village, and being able to choose a variety of marketplaces to sell at Yangon is one of the reasons why most female dried fish producers sell outside of the township. This is because the price of dried fish is better in Yangon and the dry zone regions since many dried fish traders fetch higher prices.

While those who sell dried fish in the vicinity suffer from the effects of price suppression by the traders, the businesses that go to other places are disrupted by travel restrictions, transportation costs, and security problems. In addition, female dried fish producers tend to focus on the market where dried fish prices are higher, while male dried fish producers consider other factors other than price. Because of such different selling points and market preferences, the impacts of crises were affected differently.

5.2.2 *Insufficient working capital*

The increase in business expenses and working capital due to the crisis was also one of the significant impacts. For example, many small-scale dried fish producers faced difficulties due to high fuel prices. The skyrocketing price of fuel increased fishing expenses and transportation costs. However, it was found that many dried fish producers responded that they had increased their businesses expenses; meanwhile, some female dried fish producers reduced their area of fishing due to a lack of sufficient working capital. This means that there were dried fish producers who raised working capital and continued to operate their dried fish production businesses as usual. On the other hand, there were female dried fish producers who narrowed down their business operations or temporarily closed because they did not have enough money to add more working capital.

A 38-year-old female dried fish producer who lives in the Aung Haling village and who has experience in dried fish production for 10 years explained her financial situation relating to the business.

"The main issue is that as fuel prices rose, fishing became extremely difficult. We cannot go out fishing in the area as before because of the high fuel prices. Since I cannot afford to increase the cost of the fuel to sail as before, the fishing area was narrowed down a bit. Since 2021, the financial situation has deteriorated significantly. The rate of rising commodity and fuel prices was scary. During the severe time of COVID-19, it was difficult in the selling process, but one liter of fuel is cheaper than one liter of drinking water".

A 40-year-old female dried fish producer who lives in Aung Hlaing village and who has experience in dried fish production for 8 years responded in a negative way regarding the difficulties with initial investment and working capital due to the inflation and high fuel prices.

"The expenses for business became very high, especially this year. It was double spending on everything. The main problem is the increase in fuel prices. It is also raising the prices of other commodities. We cannot go many places for fishing since we cannot use more money for the cost of fuel, so we reduced the area of fishing compared to the past."

A 42-year-old female dried fish producer explained why she chose to stop dried fish production instead of continuing working dried fish production in the following ways:

"Although I have a fishing boat and equipment, I can no longer afford the working capital because the expenses, such as labor and fuel costs, have been increasing."

Considering the reasons for the differences between men and women in the impact of the crisis, it was observed that some of the women-led businesses do not have sufficient working capital as one of the reasons. Men-led dried fish production businesses were more affordable to use for working capital compared to women-led dried fish production businesses. Moreover, it was found that businesses with higher working capital suffered less from the impact of the crisis. In addition, it was discovered that women-owned businesses with limited working capital have suffered more from shrinking businesses and temporary closures of dried fish production than from continuing to operate as normal.

5.2.3 Avoidance of potential risk

Some of the female dried fish producers who participated in the study reported that they have temporarily closed their businesses because of the crisis. However, it was found that there were fewer male dried fish producers who stopped their businesses. When reviewing the root cause of the temporarily closed businesses, it was observed that women dried fish producers want to avoid possible negative consequences of the crisis rather than cope with the difficulties and continue working.

A 43-year-old female dried fish producer from Aung Hlaing village acknowledged that she had stopped dried fish production temporarily during the intense period of the COVID-19 crisis.

"I stopped making dried fish because I am afraid of infection and disease. The disease was intense in downtown like Yangon."

A 42-year-old female dried fish producer from Aung Hlaing village reported that she stopped dried fish production temporarily in order to avoid the possible risks due to the crisis.

“Since we are a small-scale business, it is not convenient to take the risk for us.”

A 64-year-old female dried fish producer from Kyon Ka Dun village stated that she has stopped dried fish production because she is afraid of the spread of disease.

“In the first four years of starting a business, it was easy, and I stopped doing it during COVID-19 because I felt scared of disease infection.”

A 27-year-old female dried fish producer from Chaung Wa village stated that she stopped her dried fish production business temporarily since she did not dare challenge the possible impacts of COVID-19 crisis.

“I stopped dried fish production for about one year as soon as COVID-19 happened because I was worried that I would not be able to get the same profit as before”.

A 43-year-old male dried fish producer who lives in the Aung Hlaing village and who has had experience in dried fish production for over 4 years explained why he has to stop dried fish production temporarily because of the COVID-19 crisis.

“When the COVID-19 outbreak was started in Myanmar in 2020, I even made dried fish production for a while, but the sales were too low and there was no demand, so I decided to stop the business temporarily”.

A 52-year-old male dried fish producer who lives in Chaung Wa village explained his idea regarding temporarily closing his business in late 2021.

“During 2021, there were a few changes in Myanmar's political situation, so I want to wait and see how the economic situation changes, so I stopped producing dried fish for the entire year of 2021 and resumed production in 2022.”

In addition, women dried fish producers were not resistant to the economic changes to their businesses. Regardless of the business size, work experience, and location, there was a difference in the ability of women business owners to accept sudden shocks and continue to operate their businesses. Women owners temporarily stopped their dried

fish production business during the COVID-19 intense time due to factors such as the fear of infection and disease, the potential of not being able to recruit labor, and the potential difficulties faced in marketing dried fish.

5.3 Summary of the chapter

The study has observed that the crises have had significant impacts on the dried fish production community by causing disruptions throughout the dried fish production value chain. It is also seen that gender differences affect the impacts of crises. The COVID-19 crisis has mainly caused difficulties by limiting the buying and selling of dried fish, which has led to lower prices for dried fish.

Therefore, the inability to go to Yangon in person and the decline in the price of dried goods were seen as the major effects of the COVID crisis. However, the effects of the COVID-19 crisis differed for male-led businesses and female-led businesses. Women-led dried fish production businesses tended to sell to Yangon in person, and they faced more difficulties due to the trading limitations. Furthermore, some female-led businesses have closed down due to the fear of economic hardships and the risk of contracting the virus.

It was seen that the instability caused by political changes has caused difficulties in selling dried fish. Specifically, the political crisis has created market chaos due to security limitations in the sale of dried fish. However, when comparing male-led dried fish production businesses and female-led dried fish production businesses, women-led businesses suffered not only price decreases and insecurity in transportation but also market expansion, raw material sourcing, and temporary businesses stopping.

Furthermore, the study observed that the exorbitant increase in fuel prices increased the cost of transportation and raw materials, which doubled the cost of working capital. Women-led dried fish production businesses, which tend to have limited working capital, experienced reduced fishing areas. This means that the cost of operation was reduced compared to normal.

To sum up, both the dried fish production businesses led by men and women were affected by the impacts of crises. However, there were gender differences in receiving the effects of crises. The effects of the crisis differed slightly between women-led

businesses and man-led businesses because of the three main reasons: different selling points, insufficient working capital, and avoiding potential risks.



CHAPTER 6

Coping Strategies in Response during Crises

The study has observed how the COVID-19 pandemic crisis, the political crisis, and the energy crisis have created disruptions at some points through the value chain of dried fish production. It was found that due to the interruption created by the crisis, small-scale dried fish production businesses faced many difficulties in continuing to operate as normal. For this reason, on the one hand, some of the small-scale dried fish production businesses were found to be adjusted to cover the stressful financial and operational situation. Different coping mechanisms were created depending on the nature of the disruptions. However, it was discovered that there were still some difficulties that could not be solved even when coping strategies were issued to alleviate the impact of crises. On the other hand, some small-scale dried fish businesses did not need to cope with the situation since their businesses were hardly interrupted by the crisis. Therefore, this chapter explains what kinds of coping mechanisms were created by the crises and how and why coping strategies varied by gender.

6.1 Covid-19 crisis's coping strategies and gender

6.1.1 *Coping strategies with the Covid-19 crisis*

This study found that many of the small-scale dried fish producers who participated in the study have created adaptation strategies to cover the difficulties caused by the COVID-19 crisis. To cover the major effects of the COVID-19 pandemic, such as not being able to go to Yangon in person and a decrease in dried fish prices, changing selling methods and selling dried fish at a lower price were the common strategies for small-scale dried fish production businesses. Moreover, saving and taking credit were also coping mechanisms.

A 57-year-old female dried fish producer explained her situation and coping strategies in the following ways:

"During the COVID-19 intense time, I did not go to Yangon. I was off for in-person selling to Yangon for the entire year 2020. I changed the style of selling. I sent the goods with the car driver to the trading center, and the trader sent a voucher and money."

A 35-year-old male dried fish producer explained in the following ways how he coped with the disruption caused by the travel restriction rule during COVID time.

"As for my business, I did not go to the town to sell dried fish in the time of Covid. However, normally, traders give us 3,000 to 4,000 MMK. But in the time of Covid, many traders also did not come to our village. Therefore, I tried to sell to the traders who came to our village. And the trader who came to the village was paid less. So, I have to sell at a lower price."

A 32-year-old female housewife from the dried fish production business led by men explained their business coping strategies in the following ways:

"The transportation was difficult during the COVID time, and the demand became less and less. Furthermore, there were not many buyers, so I had to sell the dried fish at a lower price to wherever it was."

A 38-year-old female dried fish producer explained how she has to cope with the impact of COVID-19 crisis.

"Because of the travel restriction, the sellers cannot go to the selling points, and the buyers also cannot come to us, so the price of dried fish has fallen gradually. After a long period of travel restrictions and a lower dried fish price, the income has decreased. Therefore, I have to save to cope with these financial difficulties. When the expenses were not enough, not only with savings, then I had to take credit from a money lender."

A 40-year-old widow female dried fish producer reported that she has to use her own savings in order to cope with the financial hardships due to the COVID-19 crisis.

"I cannot go to Yangon, where I usually sell. Delivering the dried fish by trucks is not as good as selling it in person. Therefore, the income was reduced, and I have to spend my savings not only for household expenses but also for working capital."

A 64-year-old female dried fish producer who stopped dried fish production temporarily explained how she has coped with her financial difficulties.

"As I stopped dried fish production due to the fear of virus spread, our household no longer has any income. My husband doesn't have a job. He is disabled, and his health is not good. So, I have to use previous savings for the household's expenditures. When saving was not enough, I had to take credit."

Furthermore, this study discovered that some of the dried fish producers faced some difficulties with which they could not cope. The small-scale dried fish producers who usually sold to Yangon in person answered that although the alternative selling plan helped to continue marketing dried fish, there were difficulties in terms of market prices. The alternative selling method offered at prices is not as good as selling in person.

A 60-year-old male small-scale dried fish business owner also explained his experiences regarding the dried fish selling price during COVID-19 outbreak.

"When we were in the outbreak time of COVID-19, our family did not stop making dried fish. However, due to the travel restrictions, we were not able to go back and forth from our village to Yangon in order to sell dried fish. So, I have to ship dried fish from here. But...when I am not at the selling point, I am unable to control the price. They sold at the price they wanted to sell and paid back the money at the prices they wanted. I realized that I couldn't get the price I wanted. I only get the price given by the broker".

Regarding the market instability issue, a larger-scale male dried fish trader confirmed the following:

"We are not sure that our commodity will get a reliable profit if we do not sell dried fish and dried shrimp in person at the trading center. If you are lucky, then you can make a profit. The traders from the trading center sell the goods at a convenient price for them, and it is not under our control. We do not know at what price they sell to a third party. We only

got the offered price as they set it. Sometimes, our trading was not profitable at all".

Furthermore, the study found that only the traders from the whole sale center set the price of the goods, and the prices were defined after looking at the dried fish item and size. In addition, many of the dried fish producers face difficulties like price and weight exploitation from the traders from Yangon.

A 48-year-old female dried fish producer who has had experience in dried fish production for 10 years explained her situation as follows:

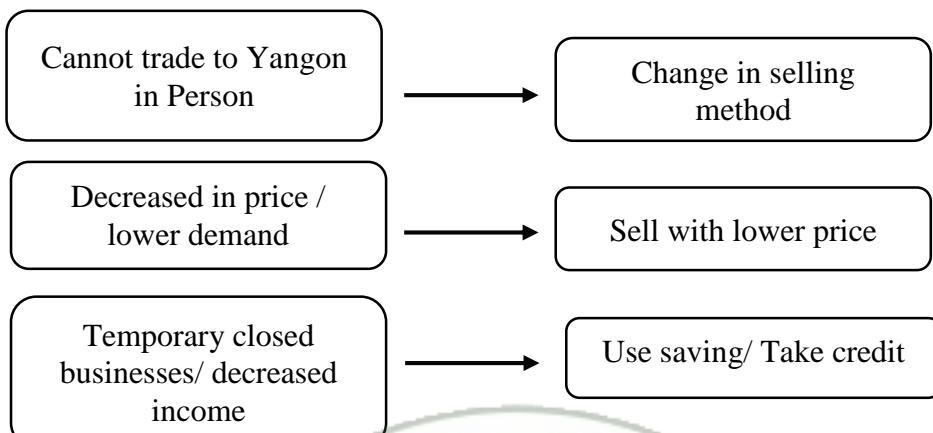
"It is better if I can sell in person. But now I only have the price they said, and I have no choice. Besides, there was a weight gap. For example, when I freighted 10 vis by car, they said the goods weighed only 8 or 9 vis. If I can go by myself, there is no such kind of issue."

6.1.2 Gender differences in coping strategies for the impacts of Covid-19 crisis

It is observed that many of the small-scale dried fish producers have created coping strategies to adjust to the negative situation due to the consequences of the COVID-19 crisis. The coping strategies can be divided into two categories: strategies to solve business operational difficulties and strategies to solve financial difficulties. In the business's operational coping strategies, changing selling methods and selling at a lower price were included. Furthermore, using their own savings and taking credit were the strategies they used to cope with financial difficulties.

The figure (6.1) illustrated the impacts caused by the COVID-19 crisis on women-led dried fish production businesses and how women-led dried fish businesses coped with those impacts of the COVID-19 pandemic crisis. As women owners were not able to trade to Yangon by themselves, they sold to other places or delivered dried fish to the trading center from Yangon by trucks. Furthermore, it was seen that there were dried fish businesses that were temporarily stopped due to the COVID-19 impacts; they used their savings and took credit. Similarly, it was found that the dried fish producers whose income has decreased due to the effects of the crisis used their own savings and took credit.

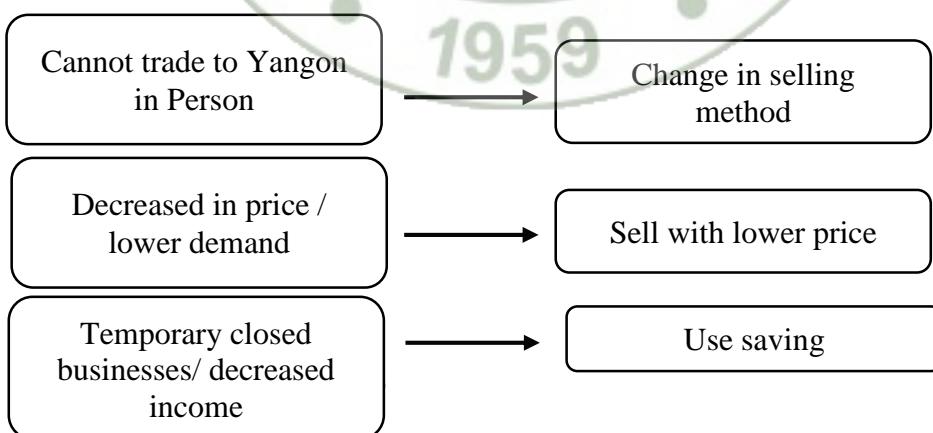
Figure 6.1 Impacts and coping strategies of Covid-19 crisis by the women-led businesses



Source: Interview Data, 2023

The problems created by the COVID-19 pandemic crisis for the dried fish production business run by men and how men dried fish producers coped with the impacts of the crisis are displayed in figure (6.2). Due to the inability to sell to Yangon in person, the situation was made convenient by changing the method of selling. Furthermore, selling dried fish at a lower price was a coping mechanism used to overcome the situation of lower demand and price decreases. In addition, it was seen that using savings to solve the difficulties during business closure.

Figure 6.2 Impacts and coping strategies of Covid-19 crisis by the men-led businesses



Source: Interview Data, 2023

The findings of the study suggested that women-led businesses faced both operational and financial difficulties. Furthermore, it is seen that there are no women-led small-

scale dried fish production businesses that have not coped with the difficulties that have risen. Meanwhile, some men-led small-scale dried fish productions were not coping because their businesses were not seriously affected by the COVID-19 crisis. All of the women-led businesses tried to cope with the difficulties they faced.

6.2 Political crisis's coping strategies and gender

6.2.1 *Coping strategies with the political crisis*

The study found that small-scale dried fish producers need to develop coping mechanisms to adapt to market price instability, lower demand, financial problems, and security issues caused by the political crisis. Therefore, coping strategies such as selling at lower prices and traveling only during the safe hours of the day became typical coping strategies with the political crisis.

A 35-year-old male dried fish producer explained how he has coped with the impacts of the political crisis.

"Because of the current political situation, all sectors have failed and are no longer being developed." The prices at the trading center are low. So, I must sell at a lower price. Although the profit will be less, the business will be able to continue".

A 57-year-old female dried fish producer also shared her experiences as follows:

"In the past, there were many buyers, but now they do not come frequently to the village because of too many checkpoints due to political instability. Only one or two came to the village. The demand became very low. Therefore, I have to sell the traders at a discount price since there are no longer buyers from outside of the village."

A 42-year-old male dried fish producer answered in the following ways about how the dried fish market has become unstable:

"Previously, the demand was really high. Thousands of viss of dried fish were previously stored by many dried fish traders. Now, the Dry Zone market for dried fish is totally chaotic because of the political situation in the Dry Zone area. Therefore, the traders only stored up to 100–200

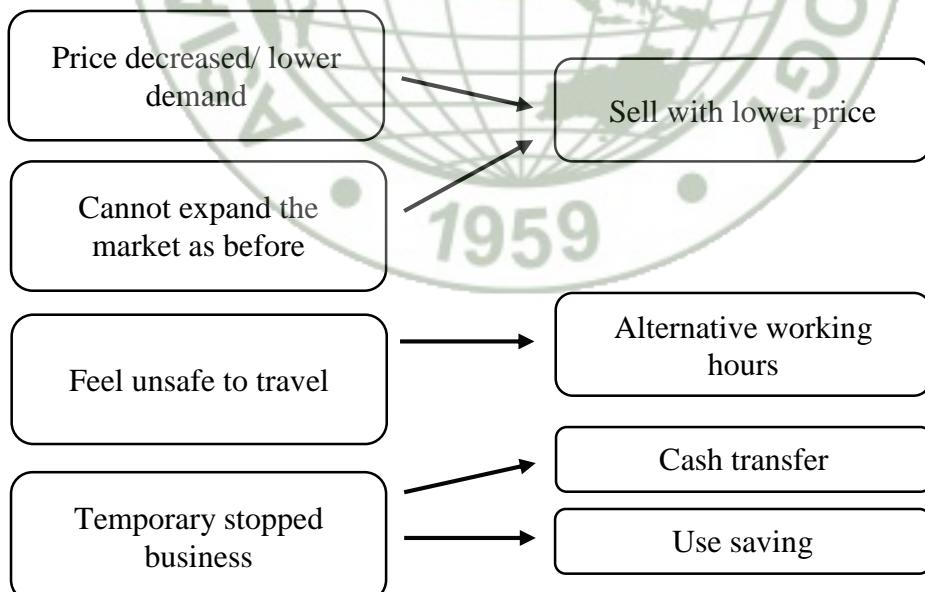
viss. This kind of situation made the dried fish prices instable. So, I do not trade with the traders from Ba-Yint-Naung trading center and just sell at a nearby place with a lower price."

In addition, the emergence of political instability one year after the outbreak of the COVID-19 pandemic crisis caused a huge impact on the dried fish production business. However, dried fish producers came up with coping strategies to adapt to the consequences of the political crisis.

6.2.2 Gender differences in coping strategies for the impacts of political crisis

The figure (6.3) described the impacts caused by political tumors on women-led dried fish production businesses and how women-led dried fish businesses coped with those impacts of the political crisis. Subsequent instability caused by political changes has caused the price of dried fish to fluctuate by reducing the demand for dried fish. It was observed that women's freedom of movement was limited. In order to overcome these limitations and continue to sustain their businesses, women dried fish producers were sold dried fish at a lower price and alternated working hours.

Figure 6.3 Impacts and coping strategies of political crisis by the women-led businesses



Source: Interview Data, 2023

A 43-year-old female dried fish business owner explained how her niece was helped to cope with the financial difficulties because of the coup in the following ways:

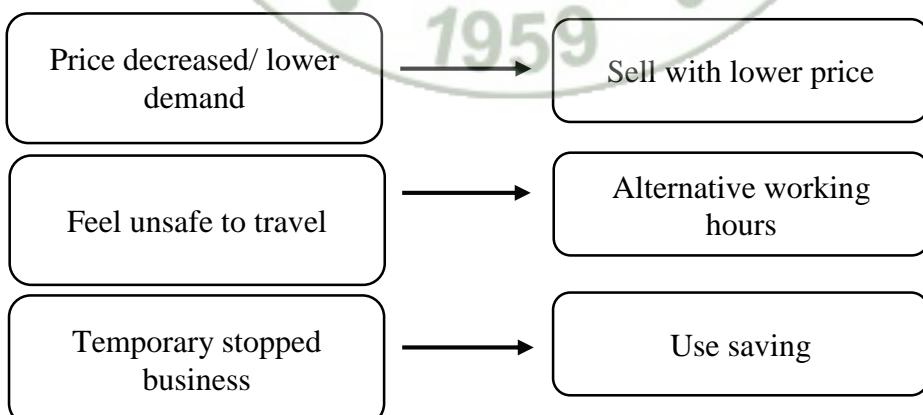
"I had to use cash transfers to cope with the financial difficulties during the political crisis. My niece's parents have been deceased since she was a child, and I am her mother's sister. She used to send some money during the political crisis. What a relief! If not, I will be in trouble".

A 40-year-old woman dried fish producer describes her dried fish market before the coup and how she had to alternate the operation plan in the following ways:

"Normally, if I do not like the price offered from the Yangon trading center, then I change the market. I went to Mandalay, Monywa, and Naypyitaw. Previously, I could go everywhere I wanted. Now, I cannot go because of the political instability. I had to sell it at a lower price at the Yangon trading center. But it is still better selling at lower prices than traveling to dangerous places."

The figure (6.4) shows the effects of political instability found in the male-led dried fish production business and how they have coped with those effects. The ways of dealing with the impacts of the political crisis on male-led dried fish production businesses were found to be simpler. Selling at a lower price, changing working hours, and saving money were found to be the coping strategies of male-led dried fish production businesses due to political impacts.

Figure 6.4 Impacts and coping strategies of political crisis by the men-led businesses



Source: Interview Data, 2023

6.3 Energy crisis's coping strategies and gender

6.3.1 *Coping strategies with the energy crisis*

Skyrocketing fuel prices have had a huge impact on the whole value chain of dried fish production that relies on fuel. The study found that the dried fish producers alternate the selling price of dried fish, diversify the household's income, and take credit for coping with the crisis caused by the rise in the price of fuel. Moreover, selling dried fish at a slightly higher price is also found to be one of the coping strategies to cover the rising fuel prices.

A 40-year-old female dried fish producer explains how business conditions and sales patterns have changed depending on fuel price conditions.

"Although the price at the trading center is not low, if I trade at the commodity center, I have to pay labor costs, broker fees, and transportation charges. This year, fuel prices doubled, and transportation charges were also doubled. That makes the price of dried fish price the same at trading center level and at village level. Therefore, I stopped selling to Yangon and changed the market."

A 42-year-old female dried fish producer explained how the business had been doing well in the past and how now her household's financial situation has changed due to the energy crisis. Because the price of fuel has gone up, there is not much profit left even after selling the dried fish; therefore, she and her household member have to work other jobs to earn extra money.

"In the past, the market price of dried fish was not very high, but financially we were okay. Now, inflation and fuel prices are high enough that we do not leave much money after selling dried fish. Since the income was not enough, me and my husband have to work as daily wage labor at the other business."

A 43-year-old male dried fish producer Aung Hlaing village expressed his alternative business plan to cope with the impacts of the energy crisis.

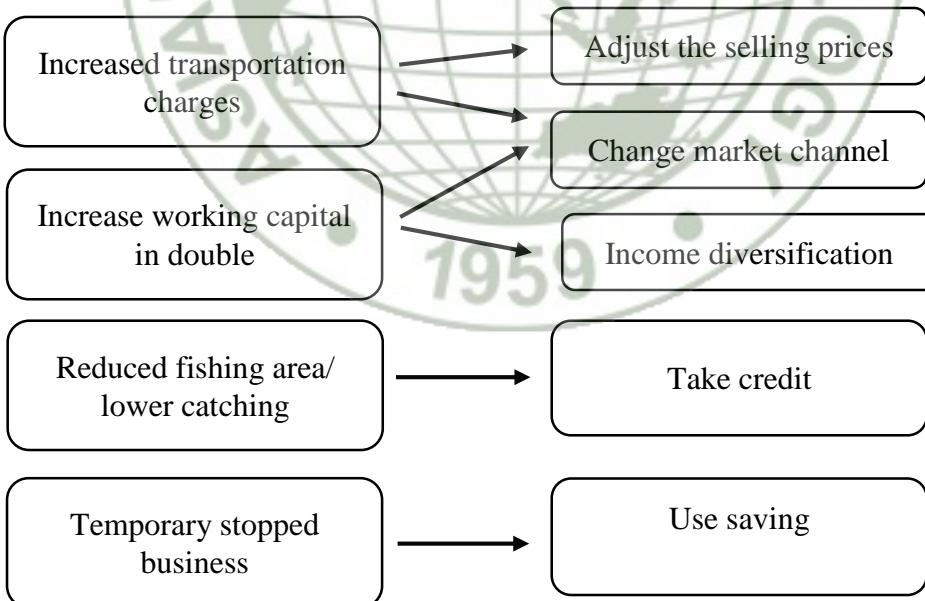
"One year ago, it was 3500 MMK, now it is 5000 MMK-6000 MMK for motorcycle rental price. The car rental price to Yangon was only

150,000 MMK before; now I must pay 250,000 MMK. I am not surprised at all because they also must pay a higher fuel price. Therefore, I set up higher selling prices. At first, per viss of Ngar Yant was about 20,000 MMK, and now I sell with 30,000 MMK per viss."

6.3.2 Gender differences in coping strategies for the impacts of energy crisis

The figure (6.5) shows the effects of rising fuel prices on the women-led dried fish production businesses and how they dealt with the effects. Due to the increase in transportation costs, the selling prices of dried fish were increased by the dried fish producers as a coping strategy. Furthermore, in order to reduce transportation expenses, women dried fish producers have changed the selling point near them. Doubling the business expense in dried fish production was found to be the effect of the energy crisis, and to cover this effect, coping methods such as changing the place of sale and income diversification were found. The reduction in the fishing area led to a decrease in raw fish quantities and a decrease in income; therefore, taking credit was seen as a way to adapt to the impact of the energy crisis.

Figure 6.5 Impacts and coping strategies of energy crisis by the women-led businesses

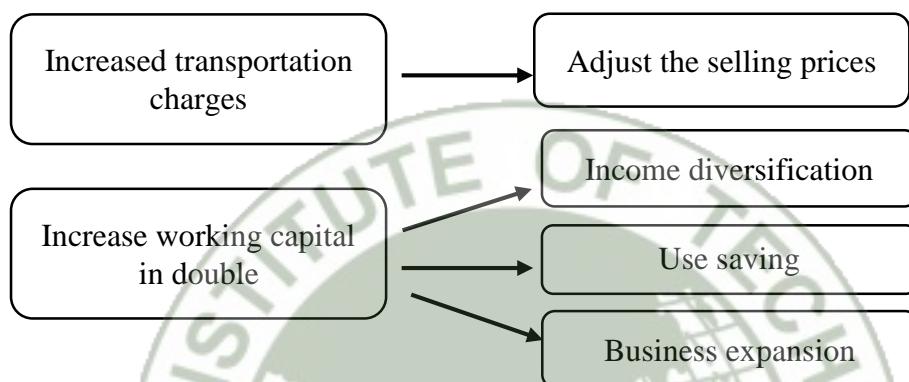


Source: Interview Data, 2023

The effects of the energy crisis on the male-led dried fish production businesses and their coping strategies to adapt to the impacts of the energy crisis are described in Figure

(6.6). The increase in transportation costs and the doubling of businesses working capital were seen as the effects of the energy crisis, and in order to solve these difficulties, male dried fish producers adjusted their dried fish selling prices, and income diversification became the coping strategy. Surprisingly, it was found that expanding business was one of the coping strategies when business working capital increased by double.

Figure 6.6 Impacts and coping strategies of energy crisis by the men-led businesses



Source: Interview Data, 2023

The energy price increase was a very painful crisis for small-scale dried fish production businesses. Although the prices of dried fish did not decrease, increasing the selling price of dried fish became the major coping mechanism in order to cover the fuel price increase. Furthermore, that coping mechanism was common both in the male-led dried fish production business and the female-led production business.

6.4 Reasons for women and men difference in coping strategies

Above, the study has discussed the methods and adaptation strategies used to solve the businesses operational difficulties and financial problems because of the impacts of the crises. A comparison between women-led dried fish production businesses and men-led dried fish production businesses shows that the ways in which they solved operational business problems are slightly similar. However, it is seen that women business owners were more likely to use credit, cash transfers from relatives, and income diversification in order to solve the financial difficulties faced by the impacts of the crisis. Meanwhile, men-led dried fish production businesses used only their own savings in order to cope with the financial difficulties faced by the impacts of the crisis.

There were three main reasons why men and women in business cope differently. First, women dried fish producers experienced more financial difficulties; therefore, they were more likely to take credit and use cash transfers to adapt to the impacts of the crisis. For the second reason, women business owners have better access to microcredit since microfinance institutions target women business owners. Lastly, men business owners prefer to avoid the risks of taking credit from a group of people.

6.4.1 *Financial constraint*

It was found that women-owned businesses have more financial difficulties compared to men-owned businesses. When analyzing the reasons why women-owned businesses were concerned with financial constraints, it was observed that women-owned businesses have a smaller business size in terms of working capital and the number of workers. Moreover, unpaid family workers were used in the women-led businesses rather than hired labor. Moreover, if we look at the market preference for selling dried fish, it was found that women-led dried fish production businesses tend to sell in distant places where the price of dried fish is higher instead of selling to places that are close. These factors highlight the extent to which women-led businesses can afford.

A 35-year-old female dried fish business owner explains why she has needed to take credit because she did not have enough capital to start the business.

"The selling price is too low because of the lower demand. I couldn't invest again for a while. When sales are low, there is no additional income and no extra savings. At that point, I'll have to take out a credit card with interest to fund the reinvestment."

Men-led businesses have a larger business size in terms of working capital and hired labor than women-led businesses. In addition, it was found that male-led businesses were operating better, and even if they wanted to increase working capital, they tended to use their own savings.

A 52-year-old male dried fish producer explained why he never took credit for the business, even when he needed to increase working capital.

"I don't know much about where we can take credit, and I'm not sure what kind of organization is providing credit because I haven't sought

credit at all. My business is doing well, and if I need to invest more money, I will do so with money I previously saved."

6.4.2 Access to micro credit

In analyzing whether the dried fish production businesses that participated in the study can access credit, loans, or other cash transfers to cope with the financial difficulties caused by crises, all of the dried fish production businesses led by male and female leaders acknowledged that they are accessible to different credit resources. Businesses can take credit, especially from two sources: microfinance with a lower interest rate and private money lenders with a higher private rate.

One of the reasons why men-led businesses are less likely to use credit is that many microfinance groups and organizations target women-led businesses more than men-led businesses. In the study area, microfinance institutions often ask groups of five women and one man to form a six-person team. Therefore, they provide credit to those group members. It is significantly seen that more businesswomen are welcome than male business owners.

A 42-year-old female dried fish producer explained the terms and conditions of taking cash credit from a microfinance institution.

"There are microfinance institutions where any business can apply for credit. But I don't know the names. It is difficult to pronounce. You can apply for 300,000 MMK regardless of whether you are a fisherman, a dried fish processor, or a food vendor. They will come to you to photograph your business. However, you need to have a group that contains six people. A total of five businesswomen and one businessman were present. They offer more female business owners than male business owners."

6.4.3 Trust issue to the group members

When reviewing the reasons why most men business owners were not willing to take credit, it was found that men business owners do not trust other members since microfinance institutions offer credit in groups.

A 42-year-old male dried fish producer explained why he did not take the credit in the following way:

"This year, two types of microcredits came to our village, which was called "Wine-Kyi-Choke." They provide credit to a group of three or six people. Group members are supposed to give warranties to each other. If one member is unable to repay, the remaining members must. I never apply it because it is too risky. You cannot trust people. Everybody is having financial problems nowadays."



CHAPTER 7

The Factors that Influence the Impacts of Crises and Coping Mechanisms

This chapter presents the findings from the interviews and subsequent data analysis on the factors that influence the impact of crises and the coping mechanisms of the small-scale dried fish production businesses.

7.1 The factors influencing the impacts of crises on small-scale DF production

The study found that there were factors that influenced the impacts of the crises and the coping mechanisms of the small-scale dried fish production businesses led by men and women. Financial situation, market information, and cultural norms were found to be the factors that influence the effects of the crisis and the adaptation capacity of the small-scale dried fish production businesses run by men and women.

7.1.1 *Cultural norms*

This study observed that in dried fish production, even though post-harvesting activities are not challenging for the small-scale dried fish production business led by women and it turns out that there is nothing problematic about leading women as a woman business owner. Women owners are able to work independently since post-harvest activities are women's dominant activities. However, it is seen that there are challenges for women business owners to manage the people who do the muscular activities in the sea, which are usually done only by men. As a business owner, it is important to have the ability to motivate and lead the business. The business can only be successful if the workers follow the owners' directions and obey their orders. However, women business owners faced problems of disempowerment in handling fishing activities. Women business owners encountered disobedience and disrespect from male laborers for being women. As a woman, there were difficulties in commanding the many male workers relating to male-dominated working activities.

Regarding this issue, a 40-year-old female small-scale dried fish business owner from Aung Hlaing village, where dried fish producers acquire raw fish by fishing, shared her experiences relating to the dried fish production business as follows:

"Because fishing in the sea is a male-dominated activity, there are differences between women-led businesses and men-led businesses. Men are more powerful, and workers are not denying the authority of male

owners. Although I am in charge of the entire company, my employees do not respect or listen to me. My brother-in-law works in the same industry as me, and because it is a men-led business, the employees respect him, and there is no waste in the workplace because the employees are afraid of my brother-in-law. But in my business, if I ask the workers to do something, some people say that they will do it later. They do not obey my commands. As a woman, it is a bit difficult to operate the entire business. Apart from that, for a woman business owner, there are no difficulties in drying and marketing fish."

Moreover, not only the workers but also most of the community believed that women were less likely to lead the businesses that contained fishing activities in the sea. It was significantly found that the underestimation of women's abilities to lead the business came even from community members.

A 54-year-old male community member of Chaung Wa village stated his experiences on the kyar paung business and the probability of women to lead kyar paung fishing and drying fish business as given below.

"Only about two or three women out of every hundred people are capable of leading the Kyar Phaung. The number of female business owners is not even significant. In Kyar Paung business, men do everything, such as fishing and drying. Men are more comfortable with each other. Normally, for women, it is not convenient to lead the Kyar Phaung. For example, in some households, there is no male household head, but there are sons who can help the mother with the Kyar Phaung work. Even for men, it is a difficult business to manage. If you cannot give the command in a clear way, then the workers will respond to you in a chaotic manner. In any case, it is not easy for a woman to lead sea activities".

The community assumes that women's professional skills and expert power in maritime activities are not as easy as women think. No matter how strong women are, it is not easy to handle sea activities, and people comment on them as inappropriate activities for women.

One of the dried fish traders who participated in the study stated his view in the following ways:

"It will not be easy for women to lead the fishing activities because women cannot come to the sea together with other male workers. If the company is led by a man, he can go fishing with other employees to better manage them in person. It's not about strength because it is not relevant for women to work in the sea with a lot of men".

A community member of the Aung Hlaing village also comments on the women's ability to handle the fishing activities in the sea.

"The expertise of the sea has become part of the brain; it needs to be tidy. Only the captain of the boat knows what kind of fish he can get from where. It is not convenient for women to work at the sea. They are more appropriate for land-based activities."

Some of the male dried fish producers consider that women are only reliable in the post-harvest activities rather than managing the entire dried fish production business. By looking at it, it was seen as a situation where women-led businesses were setting themselves apart from the leading roles of the businesses.

A 42-year-old male dried fish production business owner from Aung Hlaing village made the following comment about how women are more suitable for post-harvest activities:

"Men can also do the cutting, but they are not as precise as the women. Men typically do not perform well during the drying process, but the women took it slowly and carefully and got it right. So, it is better if a woman can lead the inland activities, but women do not know much about the fishing activities in the sea."

Moreover, this study discovered that gender norms and traditional beliefs in Kyar Phaung fishing discriminate against women. At the beginning of the fishing season, there is a custom of entrusting the rafts to the guardian spirits of the sea to protest and bless all of the activities in the sea. Furthermore, it was found that after the dedication

to the spirit, women were no longer allowed to board the rafts. That practice was more faithful in the past century and is still believed today.

A 57-year-old female small-scale business owner from Chaung Wa village stated the following regarding gender norms:

"No, no, women are not allowed to board the rafts after praying and entrusting them to the Ako-Shwe-Kin. It seems to be a tradition that women are no longer permitted to attend after praying to the spirit, and only men can."

A 27-year-old female small-scale dried fish production business owner from Chuang Wa village expressed her experiences in negative ways.

"How can I say that it is the norm? Women are not permitted to board on the rafts after the rafts have been dedicated to the invisible spirits, regardless of the owner or whoever, and women are not permitted to board on the rafts."

In addition, the study observed that women's abilities to lead businesses are limited because of societal standards and norms of what is appropriate for women to do. As a matter of fact, women-led businesses were facing constraints on their size, and women-led businesses relied on family workers.

7.1.2 Financial situation and number of occupations in the household

According to the research findings, many small-scale dried fish producers experienced financial problems due to the impact of the crises. On the other hand, it was observed that the ability to withstand the crises impacts and adaptation capacity were varied depending on the financial situation of the small-scale dried fish production households.

A 42-year-old male from the household who has a secondary occupation and is the owner of a dried fish production business that uses 5,000,000 MMK as working capital explained his financial situation compared with the other dried fish production businesses.

"Many dried fish producers faced financial difficulties as a result of the effects of the crises." Some dried fish producers needed to take credit to

solve business and household problems. But I didn't take any credit since I do not need it."

A 42-year-old woman who works in a dried fish production business led by her husband and which uses 4,500,000 MMK as working capital explained their business situation in relation to the crisis as follows:

"Neither COVID-19 nor the political situation had a significant impact on business." Everything was going well. Operating the business this year has cost more money. However, apart from a lower profit, it was not adversely affected. When the dried fish production was not profitable, we could also rely on the income of our son."

A 46-year-old female dried fish producer from a male-led business that spends 5,000,000 MMK for working capital and from a household that has a secondary occupation also explained their business situation in a positive way.

"During these three years, many businesses encountered difficulties, particularly those that did not have a sufficient initial investment." but for us, 2020 to 2021 was not difficult. Because commodity prices increased significantly in 2022, we will have to spend more money on the work. We were fortunate in that we had enough savings and did not need to borrow money."

A 64-year-old female dried fish producer who stopped dried fish production temporarily explained her family's financial situation relating to the number of occupations in the households. This business needed to use 2,500,000 MMK to run their entire business.

"Because I stopped producing dried fish because I was afraid of the virus spreading, our household no longer has any income. My husband is out of work. He is disabled, and his health is not good. As a result, I'll have to use previous savings to cover the household's expenses. When my savings were insufficient, I had to take credit."

It was found that some of the female dried fish producers are reluctant to borrow money from money lenders because of the high interest rate. However, when they faced financial difficulties, dried fish producers had to take credit with a higher interest rate because of their poor financial situation. Households that only rely on dried fish production without any other income within the household were seen as financially vulnerable.

A 38-year-old female dried fish producer from a household that solely relies on dried fish production explained financial difficulties in the following ways:

"Yes, I can take credit if I want. But the interest rate is high, so I don't want to take it. It is more like feeding the private money lender. And if they believe you, they will lend you 500,000 MMK to 1,000,000 MMK. If they don't believe you, it will be difficult to accept even 2000,000-3000,000 MMK. However, when faced with financial difficulties as a result of the crisis, I am forced to take out credit and pay a high interest rate. When the profit is insufficient to cover the expenses, I require funds."

One of the female dried fish producers reported that she was not able to continue the business due to the intense effects of the crisis and a lack of money to reinvest. Her answer reflects that she was no longer able to cope with the financial difficulties since there was no extra income except from dried fish production. It was found that when dried fish production was not working well at all, the financial circulation was completely stopped, and the dried fish production also stopped.

A 42-year-old dried fish producer responded to her financial situation and unavailability to continue the business in the following ways:

"Since we are the ones who do not have sufficient money to reinvest, it is not convenient to continue the business during the crisis. Both me and my husband work for this business. He goes fishing at sea, while I keep everything on land in order. If the business is not successful and profitable. It is all gone because we don't have additional income."

The finding suggested that there is a relationship between the financial situation of households and their ability to resist the impacts of crises and create adaptive capacity.

This is because households with a secondary occupation reported a better financial situation. They did not need to take credit since they have extra income from the other family members' occupations. Surprisingly, the dried fish production businesses that are financially stable and able to withstand the impacts of crises often report having a secondary occupation. On the other side, these businesses can use a large amount of working capital. Therefore, having a secondary occupation or having additional income helps businesses be able to spend more working capital as well as tolerate the effects of crises.

Furthermore, some of the female-led businesses reported that they need to use more family members, and which hinder the households to have secondary occupation.

"A 40-year-old widow dried fish producer explained that she needed assistance from her son in order to check the workers' performances in the sea and from her daughter to cut fish and dry fish. "Since I am a woman, I cannot go fishing. And I delegated authority to my son. He cannot get another job. My daughter has to help with cutting and drying fish. She is only 14 years old, but she contributes significantly to her mother's well-being. Everyone must assist my business because I am a widow."

A 48-year-old female dried fish producer reported the number of family members who engage in her dried fish production business in the following ways:

"There are five people in my family. Me, my husband, my son, my sister-in-law, and my sister, all of them work in this business. I can't do it by myself, and hiring help isn't an option. Working with strangers doesn't satisfy me. It is better to work with family members. I supervise who does what. Our family's income is solely derived from the dried fish production business."

In addition, according to the theme and context stated by the respondents, it was common to see that the financial situation of the male-led dried fish production businesses was stable, and they could spend a higher amount of working capital. However, most of the female-led dried fish production businesses have limited working capital, and they are facing financial hardships. Women-led dried fish production

businesses are mainly operated by family members and tend to have few opportunities to work outside of the dried fish production business. Therefore, women-led businesses were found to operate small businesses only with family workers. As for male-led dried fish production businesses, households' members are able to work on other income-generating occupations, which provided support when the dried fish production businesses faced the effects of the crisis.

7.1.3 Market information

According to the interview data, the right availability of market information and the ability to sell in the right places were found to be the factors that mitigated the impacts of the crisis. Many of the male dried fish producers were more likely to resist the effects of crises, which distort the price of dried fish. However, the female dried fish producers were found to be at a disadvantage in terms of obtaining prices.

All 22 participants acknowledged that there are many traders they are working with and that market information is accessible if they want it. The study found that no small-scale dried fish production businesses were provided with market information, but they tend to research the market information themselves. Moreover, all of the male-led dried fish production businesses owners stated that they sought the price of dried fish frequently. Meanwhile, out of 11 female-led businesses, three of the female-led dried fish production businesses reported that they had not investigated the market prices of dried fish. A 58-year-old female widow dried fish producer explains her marketing strategies in the following ways:

"No, I do not seek any market information or prices. I simply considered how to sell the item for profit that I purchased at certain prices; if I wanted to sell it faster, I reduced the prices. There's no need to look for market data."

A 64-year-old female dried fish producer responded about her practice of defining dried fish selling price in the following ways,

"If the size of the dried fish is large, the price will be high; if the size of the dried fish is small, the price will be low." "I established my own price and did not seek market prices."

A 27-year-old female dried fish producer explained how she set the price of dried fish without seeking information from other people,

"I set a price that I can sell on my own." "I don't care about other people, and I don't ask about other people's prices."

Looking at the responses of the women dried fish producers who do not inquire about market information, it was seen that they were more focused on setting the profitable price that they want to sell than checking the market price. Furthermore, their responses reflect that they do not have the proper marketing strategies.

Table 7.1 Share of businesses which sought market information by gender

Sources of market information	Num of male led businesses	Num of female led businesses
Trader	82%	37%
Neighboring DF producers	18%	50%
Relative	0%	13%

Source: Interview Data, 2023

The table (7.1) shows that the prices of dried fish were asked by the male and female led dried fish producers. It was found that most of the male dried fish producers usually check the dried fish prices from the traders, and some of them check the prices from the people who work in dried fish production businesses as well. However, it was discovered that over half of the female dried fish producers checked the dried fish prices of neighboring dried fish producers and their relatives. Only three of the women-owned businesses sought market information from traders. Other female dried fish owners reported that they usually get price information from neighboring dried fish producers and relatives.

A 38-year-old female dried fish producer from Aung Hlaing village stated as the following:

"Before I sell the commodity, I usually explore the dried fish price from the neighboring households who also make dried fish production. It only took a few seconds to know the price."

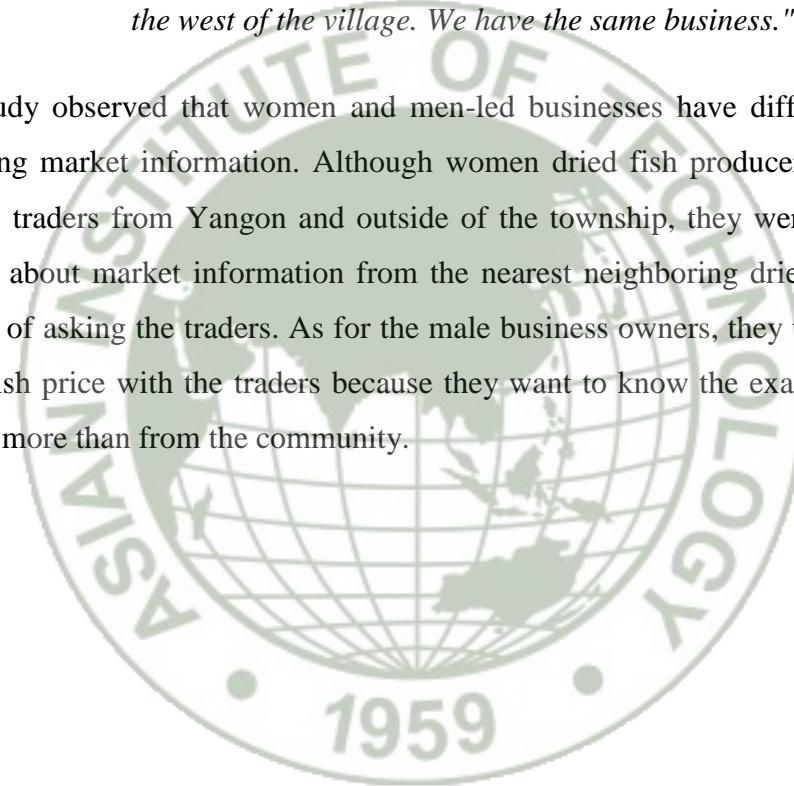
A 64-year-old female dried fish producer from Kyon Ka Dun village explained her method as the following.

"I usually check the prices of dried fish from nearby dried fish producers. Because my business is small, I don't take dried fish pricing seriously."

A 57-year-old female dried fish producer from Chaung Wa village explained how she sought dried fish market prices and from whom, as follows.

"Yes, I always sought market information from my sister, who lives in the west of the village. We have the same business."

The study observed that women and men-led businesses have different patterns of obtaining market information. Although women dried fish producers tend to sell to various traders from Yangon and outside of the township, they were more likely to inquire about market information from the nearest neighboring dried fish producers instead of asking the traders. As for the male business owners, they tend to check the dried fish price with the traders because they want to know the exact price from the traders more than from the community.



CHAPTER 8

Summary, Conclusions and Recommendations

8.1 Summary of findings

This research aims to study the impacts of political turmoil, the energy crisis, and the COVID-19 pandemic crisis on small-scale dried fish production businesses run by men and women and their challenges in order to cope with the impacts of crises. The study revealed that many small-scale dried fish production businesses were affected due to the impacts of the COVID-19 pandemic crisis, the political crisis, and the energy crisis. However, the effects of the crisis differ relatively between men-led dried fish production businesses and women-led dried fish production businesses. On the other hand, the small-scale dried fish production businesses also tried to find ways to adapt to the impacts caused by the COVID-19 pandemic crisis, the political crisis, and the energy crisis. The research also showed that men and women who own businesses have different ways of coping with the effects of crises.

The study found that the procurement of raw materials was less likely to affect the COVID crisis. Travel restrictions and stay-at-home orders have created obstacles for the dried fish producers, who used to sell dried fish to other places like Yangon. Furthermore, the demand for dried fish has decreased significantly as the traders who used to come to the village were not convenient to the village because of the restrictions. Therefore, dried fish producers have developed adaptation strategies to overcome the problem of not being able to sell dried fish as usual. Dried fish producers used methods such as selling dried fish to the traders from their village at a reduced price and transporting fish to the trading center by truck. Using such new coping strategies, dried fish producers were able to continue selling dried fish; however, they still faced price tag problems. Trading dried fish to the city by truck also encountered problems of not being able to get the price like trading dried fish in person; however, it was found that their problems could not be solved.

The political instability and tumors caused the dried fish market price chaos and decreased demand since the mobility of the traders was limited due to the safety issue. Although dried fish producers from the study area had no experience with robbery, explosions, or violence, it was observed that there were huge concerns about security issues when they were going to other places to sell dried fish. The instability of the

dried fish market, followed by the political situation, had affected the dried fish producers. In order to cope with the situation, dried fish producers were more likely to sell dried fish at lower prices and continue their business. Moreover, changes have been made in the prevention of security problems as a consequence of the political situation. In the past, dried fish producers were used to traveling anytime in order to sell dried fish; however, after the political instability, they only traveled during the daytime just to ensure their safety.

Furthermore, the study observed that the fishers either have to reduce the area that they sail out in the sea or use more fuel to catch more fish, which leads to a double cost for fishing. Therefore, not only those dried fish producers who source fresh fish from their own fishing but also dried fish producers who purchase raw fish from other fishers were affected by the increase in fuel prices. The rise in the price of fuel, which is the basic need for transportation, lifted the other commodity prices. Therefore, the other equipment prices were getting high due to price inflation. In the case of selling dried fish, it was observed that the high cost of transportation increased the business's recurring costs. In addition, the energy crisis has a huge negative impact on the dried fish industry by doubling the overall dried fish production cost. The small-scale dried fish producers coped with the price escalation in the cost of dried fish production by adjusting in selling prices to cover the effects of the energy crisis. Moreover, it has been found that some dried fish producers coped by diversifying their incomes as their profits decreased.

The study discussed that both small-scale dried fish production businesses run by women and small-scale dried fish production businesses run by men have suffered from the COVID-19 pandemic crisis, political crisis, and energy crisis. However, the ways of affecting the impacts were slightly different between women-led small-scale dried fish production businesses and men-led small-scale dried fish production businesses. Three main reasons were found for receiving the effects of the crisis differently. Market preferences, insufficient working capital, and avoidance of potential risks were the root causes of the different impacts between women-owned dried fish production businesses and men-owned dried fish production businesses. In the context of adapting to the effects of various crises, this typically involved changing the selling channel or method, adjusting the dried fish selling prices lower or higher, alternate working hours, income

diversification, taking credit, and using savings and cash transfers. However, men-led businesses coping methods and women-led businesses coping methods were found to be different due to financial constraints, access to credit, and trust issues. Moreover, the study discovered that the number of occupations in the household, access to market information, and cultural norms influence the effects of crises and coping strategies.

8.2 Conclusion

This research aims to understand the effects of the COVID-19 crisis, political crisis, and energy crisis on small-scale dried fish production businesses run by women and men. The foregoing chapters examined how each of the crises impacted the small-scale dried fish production value chain by creating operational and financial disruptions. Moreover, coping mechanisms used by small-scale dried fish production businesses were examined in this study. The semi-structured interviews allowed for a deeper understanding of the individual experiences of small-scale businesses by opening honest discussions, which also improved the interpretation and analysis of the results. The research topic on the effects of crises, coping mechanisms, and influence factors on crises impacts and responses was reviewed in the literature. Finally, an analysis of the results was given, along with the justifications for why there is a gender difference in receiving the impacts of the crisis and generating coping mechanisms.

This research's findings are relevant to the extensive study of the effects of the crisis on the fisheries sector, the vital role of women not only in the post-harvesting activities but also in the entire value chain of dried fish production, challenges faced by women business owners, gender discrimination, and cultural norms in Myanmar. The results can argue that the financial difficulties of women businesses owners faced is very similar to the (Orhan, 2001), necessary training and gender discrimination (Muhammad, 2010). This study also maintained the concept of (Lafreniere, 2019) that impact on women's livelihoods is greater than it is on men. Moreover, gender norms shaped perceptions of what men and women should be. Additionally, these norms influence the how men and women are seeing their options for employment and a way of life (Thein, 2015). The importance of society understanding why women business owners, like widows, are not recognized and disempowered by male workers and are unable to operate larger businesses is crucial. Women business owners have been disempowered by society to lead businesses. In addition, this study highlighted that the

effects of crises were felt by all small-scale dried fish production businesses. However, crisis impacts, and coping strategies were subtly different among participants by gender.

8.3 Recommendations

This study examines how small-scale dried fish producers have impacted due to the sudden crises and shocks and how they respond to those impacts, moreover, this study also evaluated the resilience status of small-scale dried fish producers by gender. This research contributes to the programs which want to develop the resilience status of small-scale dried fish producers in order to be able to adapt the impacts of crises and shocks easily in the future. Furthermore, this study contributes to the gender and fisheries literature by adding the information of why male-led and female-led businesses are received the impacts differently and coped differently, and the reasons of why women cannot do the larger businesses.

Based on the findings, it was observed that many small-scale dried fish producers from the study area were only depending on the dried fish production business as their main occupation. However, the work of dried fish production also relies on the season and cannot produce dried fish during the rainy season. Therefore, they have to use the savings they have saved for the year. In addition, both women-led business and men-led business are encouraged to seek secondary occupation not only in the off season but also in the dried fish production season. In this way, with the help of income from secondary business will be able to maintain the livelihood of the family during the off season and the sudden impacts of unexpected crises.

It was also found the price variation of dried fish rapidly when encountered crises. The reason for this is because the prices of dried fish are controlled by the traders not only from the villages but also from the outside of the villages. Therefore, small-scale dried fish producers are recommended to create a strong market by coordinating all of the small-scale dried fish producers in the area instead of selling at a lower price.

It is discovered that the weight of the dried fish was reduced if it kept of a long time, therefore, dried fish producers are likely to sell dried fish with discount price before the weight losses. Therefore, small-scale dried fish producers are encouraged to find ways

to maintain the weight of the dried fish for long term rather than selling with lower prices.

Although women participation in the post harvesting activities significantly, it was found that there were very few female-led small-scale dried fish production business. A certain degree of reluctance was found in the women leader to lead the activities which dominated by the men labor. Therefore, the community from the study area are strongly recommended to positively encourage women-led business. It will help the dried fish production industry by having more women leader who are knowledgeable about the whole process of the dried fish production business.



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APPENDIX A

In-Depth Interview Guidelines for Dried Fish Producers

Date of Interview

Village Name

Respondent ID

Gender

Age

Education Status

Marital Status

Could you tell me about your family employment briefly? (Number of family members, what did they do for living?)

How many years have you been working as a dried fish producer?

Who is the primary decision maker for the entire business operation. Who is the owner of the business?

Why are you in the business of producing dried fish as a lead?

Beside you, who in your family involve in this business? How do their duties differ from yours?

How much recurring money does your dried fish production businesses need?

How many motor vehicles does your household own? What kind of vehicles?

Does your business hire labor? Why? Temporarily or permanent labor? On which activities?

Do you process and sell dried fish individually? Or are there any group or association you corporate which is related to dried fish processing and marketing?

Where and how do you usually source raw fish? Fishing or buying from other fishers?

If you do fishing, please explain more about sourcing raw fish? Do yourself go for fishing or who go for fishing? Why?

If you buy fish, where and from whom do you usually procure fish? How and why?

Have you ever temporarily stopped dried fish production before? If yes or no, why?

What are the main raw materials for dried fish processing? How and where do you normally source raw materials for dried fish production? Why do you source raw materials from this source?

Did you ever faced difficulties in obtaining raw materials due to the covid-19's spread of disease, lock down, stay home order and travel restriction? How and why?

How do you manage about these difficulties in obtaining raw materials? What changes has been made due to these difficulties. Why did you manage so?

Are there any challenges to manage these difficulties? How and why?

Did you ever faced difficulties in obtaining raw materials due to consequences of " political crisis such as conflict and violence? How and why?

How do you manage about these difficulties in obtaining raw materials? What changes has been made due to these difficulties. Why did you manage so

Are there any challenges to manage these difficulties? How and why?

Did you ever faced difficulties in obtaining raw materials due to consequences of " energy crisis such as increase in petrol price and petrol shortage? How and why?

How do you manage about these difficulties in obtaining raw materials? What changes has been made due to these difficulties. Why did you manage so

Are there any challenges to manage these difficulties? How and why?

Where do you usually sell dried fish? To whom and why?

Did you ever faced difficulties in selling dried fish due to the covid-19's spread of disease, lock down, stay home order and travel restriction? How and why?

How do you manage about these difficulties for selling dried fish? What changes has been made due to these difficulties. Why did you manage so?

Are there any challenges to manage these difficulties due? How and why?

Did you ever faced difficulties in selling dried fish due to consequences of " political crisis such as conflict, violence and economic shocks? How and why

How do you manage about these difficulties for selling dried fish? What changes has been made due to these difficulties. Why did you manage so?

Are there any challenges to manage these difficulties due? How and why?

Did you ever faced difficulties in selling dried fish due to consequences of " energy crisis such as increase in petrol price and petrol shortage? How and why?

How do you manage about these difficulties for selling dried fish? What changes has been made due to these difficulties. Why did you manage so?

Are there any challenges to manage these difficulties due? How and why?

Are there any changes in dried fish production volume in these three years compared to ten years ago? How and why?

If reduced, how does reduction on dried fish production effect to your household income?

How do you cope with the impact on income? (Probe: Income diversification / reduce expense/ take credit). Why did you choose that way?

Are there any challenges in order to create coping strategies? if yes, why?

Have you ever received any training or meeting relating to the dried fish processing business?

If yes, From whom? What kind of training/meeting? What criteria do you need to have to attend this training or meeting?

If no, why?

Who do you usually ask if you want to know technical or market information relating to the dried fish production?

If yes, why do you ask them? If not, why you did not consult with anyone?

Are there any people who can advise you if you face difficulties in acquiring raw material, processing or marketing dried fish? If yes, who are they and why are they? If no, why?

Do you ever consult with other people when you face difficulties for your business? Who are they? If don't, why?

Are there any places (organization, corporative, person) where you can get a loan/credit (in different forms) for your dried fish production business? Who are they? What do you need to have to get a loan from them?

Did you ever need to take credit in the previous three years? why and why not?

APPENDIX B

Key Informant Interview Guidelines for Community Leaders

Name of the village?

How many households and population are there in this village?

How far (in miles) is it from Pyapon town?

What are the common modes of transportation from this village to Pyapon town? How long does it take?

Do this village have access to mobile network?

Do this village have access to internet network?

What are the main occupations of people in the village?

How many households work on dried fish production? (Any sizes)

How many small-scale dried fish production businesses are there in the villages? (Need to specify the definition of small-scale dried fish production). How many are run by women?

Are there any group or association which is related to dried fish processing and marketing as a group? If yes? How do that group work? (Who are organizers of that group? What do we need to become the group members of that group? What kinds of help members can ask for dried fish processing and marketing?)

Are there any dried fish processors who stopped dried fish processing business for any reasons? If yes, why?

Are there any migrant households in this village? Does migration is a common thing for this village? What kinds of households' member usually migrate for work?

Are there any group (or) corporative (or) women group related to dried fish production? Could you explain me more about the function of that groups?

Does this village get any cash/ input/ training from government or NGO/INGO relating to the dried fish production? If yes, could you explain me more about the process and how do they select the beneficial for the assistance?

Are there any sorts of conflict or violence due to the political instability since 2021?

Have you heard that people who produce dried fish have difficulties for dried fish production? If so, why and how?

Do you think women led dried fish business and men led dried fish business face the same difficulties? Are there any gender differences in facing difficulties?

APPENDIX C

Key Informant Interview Guidelines for Dried Fish Traders

Gender

Age

Name of the village?

How many years have you been living in this village?

How many years have you been trading dried fish?

If dried fish processors need money, can they get credit from you as a dried fish trader?
What kind of people do you lend money to?

Do you know where do female dried fish processors from this village usually sell dried fish? Why?

Do you know where do male dried fish processors from this village usually sell dried fish?
Why?

What kind of dried fish processors come to you and sell dried fish?

What difficulties do dried fish producers face because of covid-19 pandemic? Are there any differences in the difficulties faced by women and men dried fish producers? If yes, how and why?

What difficulties do dried fish producers face because of political turmoil? Are there any differences in the difficulties faced by women and men dried fish producers? If yes, how and why?

What difficulties do dried fish producers face because of energy price increment? Are there any differences in the difficulties faced by women and men dried fish producers? If yes, how and why?

APPENDIX D
Consent Form - English Version

**Accessing the impacts of Covid-19 crisis, Political crisis, and Energy crisis on
the men and women own small-scale dried fish production businesses**

Sample: Over (20) small-scale dried fish producers and (3) community leaders, (3) dried fish producers from Chaung Wa village, Kyun Ka Dun and Aung Haling villages, Pyapon town, Pyapon district, Ayeyarwady division.

My name is A Myint Zu and I am a master student of the gender and development studies in Asian Institute of Technology (AIT), Thailand. We are meeting you now to do a short interview which can help to understand the impacts of covid-19 crisis, political crisis, and energy crisis on your small-scale dried fish production business. Your responses will be kept completely confidential and combine responses with other dried fish processors. All of the results will be used only for the research purpose. Moreover, this research has already undergone an ethical review by AIT, therefore, we are prepared not to cause any harm to the respondents by participating in this research. The interview will take approximately 45minutes. Moreover, your participation is voluntary, and you can refuse to answer any questions at any time during the interview. Please sign this document if you understand the explanation and agree to participate in this research.

Name of village

Signature

Date

A Myint Zu

Name of student

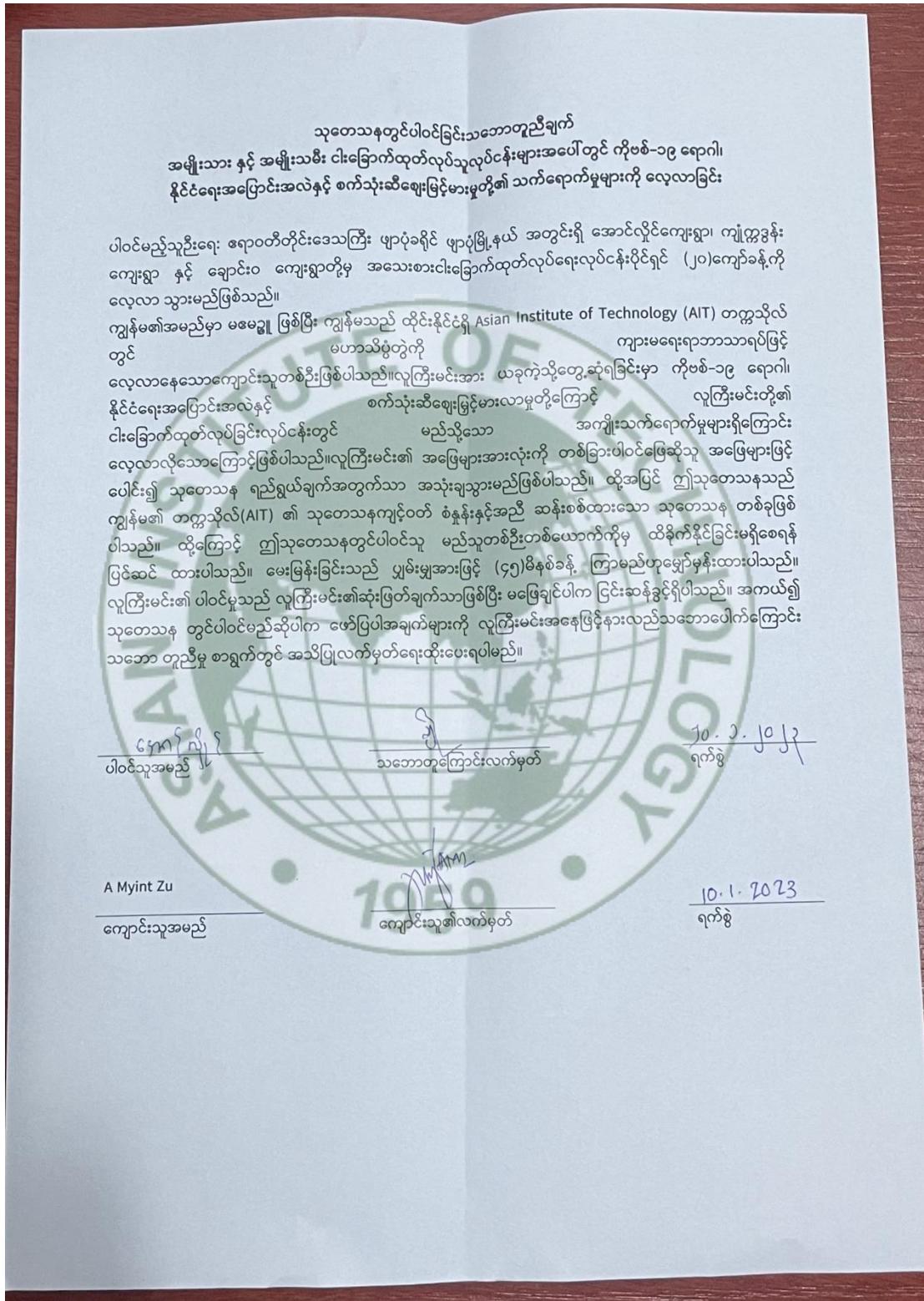
Signature

Date

APPENDIX E

Consent Form - Myanmar Version

Consent form sample with Burmese translation and participant signature



APPENDIX F

Certificate Of Research Ethics Review

DocuSign Envelope ID: C719243E-8737-41D6-8A99-C4CB44E28442

 **AIT**
Asian Institute of Technology

RESEARCH ETHICS REVIEW COMMITTEE

Postal Address: P.O. Box 4, Klong Luang Pathumthani 12120 Thailand

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<http://www.at.asia>

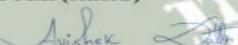
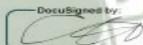
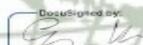
Ref. No.: RERC 2023/004 **20 January 2023**

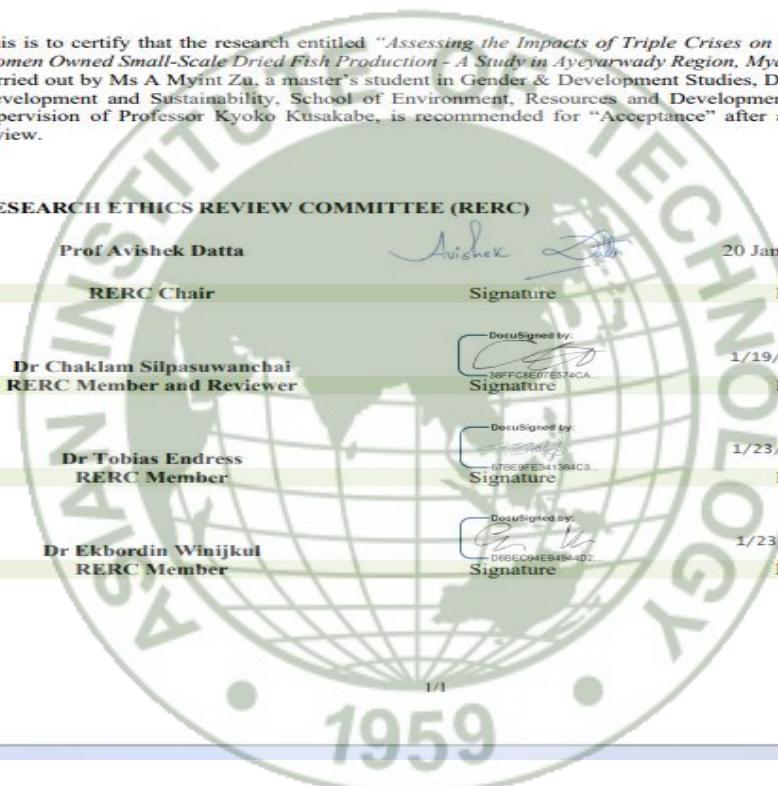
RESEARCH ETHICS REVIEW

CERTIFICATION

This is to certify that the research entitled *"Assessing the Impacts of Triple Crises on the Men and Women Owned Small-Scale Dried Fish Production - A Study in Ayeyarwady Region, Myanmar"* to be carried out by Ms A Myint Za, a master's student in Gender & Development Studies, Department of Development and Sustainability, School of Environment, Resources and Development, under the supervision of Professor Kyoko Kusakabe, is recommended for "Acceptance" after an expedited review.

RESEARCH ETHICS REVIEW COMMITTEE (RERC)

Prof Avishek Datta		20 January 2023
RERC Chair	Signature	Date
Dr Chaklam Silpasuwanchai RERC Member and Reviewer	 DocuSigned by 2023-01-19T07:57:42Z Signature	1/19/2023
Dr Tobias Endress RERC Member	 DocuSigned by 2023-01-23T07:57:43Z Signature	1/23/2023
Dr Ekbordin Winijkul RERC Member	 DocuSigned by 2023-01-23T07:57:44Z Signature	1/23/2023



APPENDIX G

Field Trip Images

In-depth interviews with women dried fish producers



Drying fish on the racks



Fishing gears



Daily wage labors at one of the trader's house



Dried fish market at the Pyapon Town

