Final Report

A Study Of Food Value Chains in the Context of COVID-19 Outbreak and Draft Strategic Plan for Sustainable Food Value Chain Development in the Southern Border Provinces of Thailand

SUBMIT TO

UNDP THIALAND

BY

Prince of Songkla University Science Park

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CHAPTER 1. INTRODUCTION

The area of the three southern border provinces is extremely fertile and has production potential to become a kitchen of the world, in particularly a world halal kitchen. Economic, social, and environmental issues in addition to disease outbreaks have undermined the area's potential for food security. This strategic framework for food security in the three Southern Border Provinces prepared is the result of the project “A Study of Food Value Chains in the Context of COVID-19 Outbreak and Draft Strategic Plan for Sustainable Food Value Chain Development in the Southern Border Provinces of Thailand”.

This food security strategy plan aims to inform the approaches of the relevant agencies in the area to implement and strengthen food security management of the area in a practical way. This is the starting point for building cooperation between various sectors and maintaining the potential of food production from the agricultural sector. To create food security at the community level is the cornerstone of access to quality and safe food with sufficient quantity for consumption of the people in the area and having access to adequate food at all times. If there is no risk of accessing food in the event of a sudden crisis, this will lead to sustainable development of the area.

This draft strategic framework for food security in the three Southern Border Provinces will benefit government agencies and other organizations involved in the agriculture and food sectors. It can be used as a guideline for operational planning as well as for educational institutions to participate in research and development of knowledge. This will drive the agricultural and food sectors to achieve maximum efficiency while strengthening agricultural organizations.

The working group was supported by Assistant Professor Kamron Pitaks and Mr.Vorasan Sobhon as advisors. Thank you to everyone who participated in drafting this strategic framework, as well as thanks to the various agencies that have contributed to providing information and suggestions. Finally, we would like to express our thanks to the UNDP Thailand under the budget of the Japanese government. We hope that this draft strategic framework will be implemented efficiently and sustainably.

Working Group
August 2021

CHAPTER 2. EXECUTIVE SUMMARY

The three southern border province area is an area with rich biodiversity. During normal circumstances, this area is a source of diverse food production that is sufficient to feed the local population and can generate huge income. However, due to the changing economic, social, environmental, and cultural conditions the food security and sustainability of the area has been affected negatively. For example, changes in technology, climate change and the emergence of new diseases such as COVID-19 are current challenges which the area faces. If the relevant agencies are unable to manage production systems throughout the food chain effectively and efficiently then the food security of the area will be affected.

The objective of this project is to study the socio-economic status of the three southern border provinces, including the preparation of food value chain mapping and food value chain analysis of agricultural products from upstream, midstream and downstream producers. Seven essential agricultural products were identified for further analysis by the working group. The second objective is to conduct a study of supply chain management which assess the potential of farmers and entrepreneurs in every supply chain. Emphasis is placed on problems and obstacles arising from the defects of the market mechanisms.

In the past, it was found that the roles and duties of food chain supervision in Thailand are under the supervision of various government agencies There are many different ministries and there are many related laws which lack unity, integration, and operational efficiency. This is a vital obstacle to promoting and supporting the agricultural industry. Although Thailand has a national food strategy framework as well as the National Food Board mechanism to direct food strategies, lack of concrete implementation is evident.

From this study, it was found that farmers in the three southern border provinces had the following main problems: lack of knowledge, technological innovation in agriculture along the supply chain; lack of coordination efficiency and lack of integration of different departments to develop and upgrade agricultural supply chains in the southern border provinces; and finally, the agricultural output is low and the standard of the product does not meet international standards. The most important finding of this study is that the three southernmost provinces do not have large enough upstream and midstream producers to generate high economic return, neither for rice and livestock which are the main products of the area.

This Draft Food Security Strategic Framework in the Southern Border Provinces outlines three main approaches and 16 activities that will lead to solutions to the problems derived from this analysis. Therefore, it can be said that this draft food security strategic framework is organized according to the current situation of the area. That is, the situation of the COVID-19 epidemic based on the Sufficiency Economy Philosophy and the main development strategy of the Southern Border Provinces Administrative Center (SBPAC) and other related agencies. At the same time, this strategic framework also takes into account compliance with the National Strategic Plan 2018-2037, which is hoped will lead to balanced and sustainable development of the area.

CHAPTER 3. OBJECTIVES OF THE STUDY

The objective is to understand the current situation of food value chain in the three southern border provinces, to assess socioeconomic impacts of COVID-19 on food value chain through consultative meetings/focus groups with farmers, food producers, government agencies, local governments, entrepreneurs, association of consumers, farmers, and businesspeople in each province. Lastly, the study aims to propose a draft strategic plan for sustainable food value chain development in three southern border provinces which is expected to be taken forward by relevant government and non-government agencies. Through this study, it aims to initiate development dialogues related to food system and food security that could lead to linkages and cooperation between different sectors, organizations, and agencies. These include

3.1 To conduct a study on the society, economy, and food industry chains of the three southern border provinces.

3.2 To draft a strategic framework and guidelines for building food security in the three southern border provinces

3.3 To initiate collaboration between the various agencies involved and create networks for management and building food security in the three southern border provinces

CHAPTER 4. METHODOLOGY

A committee set up by UNDP in partnership with the Food and Agriculture Organization (FAO), Prince of Songkhla University, bringing on board experts from both government and non-governmental bodies to provide advisory guidance throughout the development of the study. The working group was established to conduct this study with the following steps:

METHODOLOGY

The study will build on the previous and on-going work undertaken by the government, the local authorities, UN agencies, and other partners. The study will also benefit from the national level macroeconomic assessment of the COVID-19 impact on Thailand's economy and society, the focus of which includes food sector. A committee has been created by UNDP in partnership with the Food and Agriculture Organization (FAO), and the Prince of Songkhla University Science Park which brings together experts from both government and non-governmental bodies to provide advisory guidance throughout the development of the study.

This Study will implement three main research methods to collect data. Various data sources will be leveraged such as household surveys, agricultural and manufacturing surveys, labor force surveys, and other relevant surveys. Aside from desk review, consultations and interviews are expected across a wide range of stakeholders in southern border provinces. As can be seen from Table 1, the study will be benefited from FOA's framework of Sustainable food value chains of food. In particular, a mapping approach to understand food value chain in the southern border provinces.

Desk Research: an overview of food value chains in the three southern border provinces through desk review and secondary data analysis will be conducted. Data will be accessed via online databases and contacts with government offices in each province. This will provide foundational data for the study.

Quantitative: to compliment the data collected from desk research, quantitative research will also be conducted to assess the impact of COVID-19 on food value chains. Household surveys, labor force

surveys, agricultural and manufacturing surveys will be conducted in each province. The numerical data collected will be analyzed using descriptive statistics to provide a summary of the data, including averages and variability, and visualize and check for trends through graphs and tables.

Qualitative: an impact assessment of COVID-19 on food value chains will also be conducted through qualitative research, such as consultative meetings/focus groups with farmers, food producers, government agencies, local governments, entrepreneurs, association of consumers, famers, and businesspeople in each province. From these groups key informants will be chosen to participate in semi-structured interviews. This will enable the study to understand the opinions and experiences of key informants in each province and provide in-depth insight of the impact of COVID-19 on food value chains in the southern border provinces.

After implementing the three research approaches and analyzing the data collected, a strategic plan for sustainable food value chain development in the three southern border provinces will be created. The project team will then present the findings of the study to the committee.

Table 1. Methodological Steps & Main Deliverables

Component	***Methodology***	***Deliverables***
1. Food value chain mapping	• Framework of FAO's Sustainable food value chains of food • Desk research • Secondary data analysis; qualitative and quantitative	○ A quantitative and qualitative overview of food value chain; ○ Mapping of key players in food value chain; ○ identifying their challenges and opportunities.
2. Assessment of socioeconomic impacts on key stakeholders in	• Framework of FAO's Sustainable food value chains of	○ A qualitative impact assessment of COVID-19 on food consumption and

the value chain	food • Collecting various data source, surveys, and consultations that cover a wide range of stakeholders; • desk review and secondary data analysis	production.
3. Draft strategic plan	• Based on an analysis of deliverables from component #1 and component #2	○ A draft strategic plan of mitigating the overall impact of COVID-19 on key actors

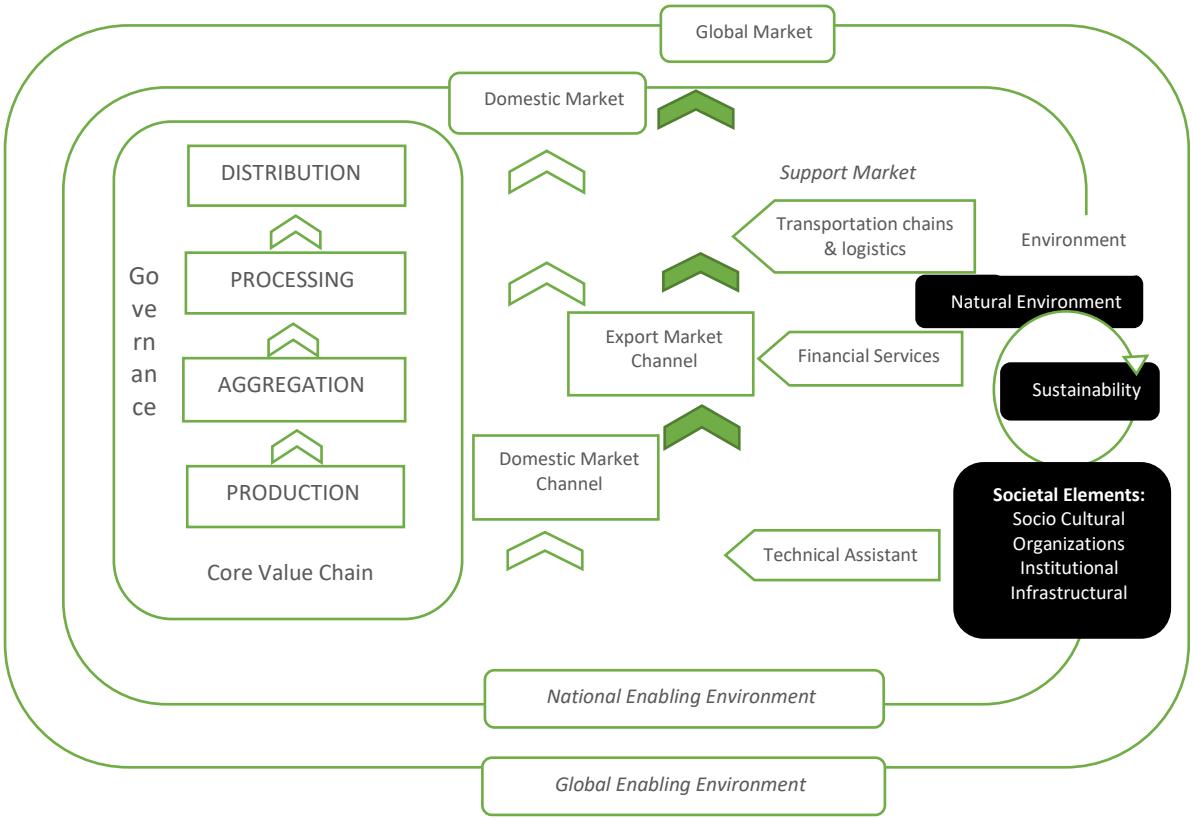
Component #1 - Food value chain mapping of the southern border provinces

To develop an analytical framework that provide insights into a comprehensive understanding of food value chain in the southern border, this study will employ a mapping approach which is adapted from a framework of sustainable food value chain framework (Neven, 2014). Figure 1 shows a mapping approach to understand food value chain in the southern border provinces. The data for mapping food value chain in the southern border provinces will be obtained from desk review and secondary sectoral sources. The food value chain shows different pathways of interventions from the governance of four core value chain functions (production, aggregation, processing, and distribution of whole sales and retail) to domestic and global market channels to national and global enabling environments. Using such mapping approach, the study will do:

- Analyst the implication of such value chain on the region's employment and income generation from the sector.

- Identify of key players across the core value chain function including vulnerable groups, identifying their challenges and opportunities.

Figure 1. Sustainable food value chains of food in the southern border provinces of Thailand



Source: Adapted from Neven, 2014

The framework above is built around the core value chain (VC). The VC actors in chain are distinguished into four functions: production (e.g. farming or fishing), aggregation, processing and distribution (wholesale and retail). These VC actors are those who produce or procure from the upstream level, add value to the product and then sell it on to the next level (domestic and international market. The aggregation step is especially relevant for food VCs in region, this function is usually taken on by producer groups, by intermediaries specialized in aggregation, by food processors, by food distributors (wholesalers or retailers). VC actors are mostly private-sector enterprises, but may include public-sector organizations such as institutional buyers (e.g. food-reserve agencies, etc. VC actors at a given level of the chain are heterogeneous,

they are distinct in terms of size, technology, goals etc. linking through a variety of channels to domestic and global markets.

Component #2 - **Assessment of socioeconomic impacts on key stakeholders in the value chain** To address the principle of "leave no one behind" of the sustainable livelihood, data collection, surveys, and consultations will cover a wide range of stakeholders in the region. Various data sources such as household surveys, agricultural and manufacturing surveys, labor force surveys, and other relevant rapid surveys will be leveraged. A qualitative data will be collected through consultative meetings/focus groups with farmers, food producers, government agencies, local governments, entrepreneurs, association of consumers, famers, and businesspeople in each province.

To analyze the scope and magnitude of both the current and expected impact of COVID-19 on the people's livelihood in a gender-disaggregated manner, the study will conduct a qualitative impact assessment of COVID-19 on food consumption and production. While analyzing the people's livelihood in a gender-disaggregated manner, this study will benefit from FAO's guidance on Gender-Disaggregated Data (FAO, 2013,2016) to provide information about gender gaps or to inform gender-sensitive policies. The data will be collected and tabulated separately for male and female respondent which will allow for an analysis of differences between men and women on various social economic dimensions.

A semi-structured interview guide will be designed which consists sets of open-ended questions on the extent to which COVID-19 had impacted people's livelihood, including impacts on workers in food service sector either those in the region or returnees from abroad and other parts of Thailand, farmers and fishermen, food entrepreneurs, consumers, and environmental dependent actors. This assessment of socioeconomic impacts covers different aspects of key players in the value chain functions of food in the southern border provinces. These include, but are not limited to the following:

- **Input suppliers** – input cost, input availability and accessibility, demand, sales volumes, and price, and financial and production aspect.
- **Producer** – Input affordability, availability, and accessibility, sales prices and volume, harvest and impacts on livelihood

- **Retailer and Wholesales** – Food supply and demand, transportations, sales volume of food, and price

An assessment of existing social protection mechanism and economic remedy for each key stakeholder related to food system in the region will be carried out to assess the effectiveness and inclusivity of the intervention. Such assessment would be important to consider when making policy recommendation. Activities included:-

4.1 Desk review. Study the economic and social secondary documents, including the related research studies reports (Stakeholder Analysis) of the situation and food chains of the area.

4.2 Situation & problem analysis of the food management system in Thailand and the three southern border provinces by reviewing the related problems including research studies (Environmental analysis). It uses the Strengths, Weaknesses, Opportunities and Threat Analysis (SWOT) principles to analyze the issues to assess the state of the area in the face of various crises, and to map the existing food industry chains in the area.

4.3 Data collection. The team worked in the southern border provinces by meeting with the relevant agencies such as the Southern Border Provinces Administrative Center, Provincial Administrative Organization, Provincial Statistical Office, Provincial Agriculture Office, Provincial Fisheries Office, and Provincial Agriculture Council to collect information and statistics of agricultural products in all three provinces. In addition to meetings with relevant agencies, the working group met with local farmers to discuss and exchange information on agriculture and discuss the impact of various crises on the agricultural sector.

4.4 Meeting with stakeholders. The team met with the private sector and related government sectors of 150 people on the 2-4 March 2021, to brainstorm ideas for drafting a strategy regarding the food value chains. Also, it allowed the team to build networks, seek common ground, and gather plus exchange information about the food industry in the southern border provinces. There was also discussion on the direction

of food industry development in the three southern border provinces.

4.5 Data analysis. After studying the data from the field and exchanging opinions, the team worked together to select the most relevant data which would be used for the food security strategic framework for the three southern border provinces.

4.6 Draft food security framework. The chosen data was analyzed and studied at an in-depth level and a draft food security framework strategy was begun.

4.7 Brainstorming meeting. The team presented a draft strategic framework to ten experts from the relevant agencies on April 26, 2021, to review and receive feedback on the draft strategy. This feedback was then implemented by editing the draft food security framework strategy, incorporating the feedback of the experts.

CHAPTER 5. CONCEPTUAL FRAMEWORK FOR PREPARATION OF THE FOOD VALUE CHAINS IN THE CONTEXT OF COVID-19 OUTBREAK AND DRAFT STARTEGIC PLAN FOR SUSTAINABLE FOOD VALUE CHAIN DEVELOPEMNT IN THE THREE SOUTHERN BORDER PROVINCES OF THAILAND

The development direction of the three southern border provinces according to the Southern Border Provinces Development Strategic Plan 2020-2022 has a conceptual framework of development based on the foundation of Thai society under a multicultural society. With a focus on creating good people, the local community plays a strong role in the development of economic stability and competitiveness. Thus, there is enough food, no matter what crisis the society is in. A focus on environmentally friendly development under the participation and management of the government in accordance with the local population, is needed. There is a need to implement a development system that does not destroy or use resources to produce beyond replacement or recovery capacity.

The framework of this food security strategy has been developed because the area of the 3 southern border provinces has been deeply affected by the epidemic of corona virus 19 (Covid-19). Moreover, this area has faced an unrest situation for more than 17 years, both of which have had direct and indirect effects. Both have affected the economy and society of the three southern border provinces for people of all generations and ages. Therefore, the preparation of the strategic plan is another important step, which is consistent with the development direction of the southern border provinces. The principle of the draft framework preparation is to provide a work plan for relevant departments that can be used as a guideline for planning operations, forge participation from all sectors, and complete integration into operations on the basis of academic principles. When implemented, these principles will achieve the highest results, resulting in sustainability by various agencies, both the private and public sectors, working together to achieve the agreed goals.

CHAPTER 6. THE IMPORTANCE OF SUSTAINABLE FOOD VALUE CHAINS AND STRATEGIC PLAN IN THE THREE SOUTHERN BORDER PROVICES OF THAILAND

The three southern border provinces have faced an ongoing conflict for a period of 17 years, affecting the lives of people in the area, both economically and socially. The way of life and livelihood of the people has been abnormal due to living with paranoia and fear. With the spread of COVID-19 in the 2020, the lives of people in the area has become extremely more difficult. The recent lockdown and the ongoing unrest in the area has resulted in higher prices of goods due to logistic challenges and inaccessibility in the area.

Food value chains and security issues are therefore an issue that Thailand has given importance to. The national development plans, as well as the Southern Border Provinces Development Strategic Plan include food value chains and food security issues in the plans. Furthermore, the United Nations has set "Eliminating hunger food security, improving nutrition and promoting sustainable agriculture" as the second goal that Thailand has pursued since 2016.

Therefore, the preparation of strategic plans for food security in the three southern border provinces is one of the main components of the framework and development guidelines. These are consistent with the development plan of the southern border provinces, which is under the responsibility of the Southern Border Provinces Administrative Center (SBPAC). This plan can be used as a directive in development issues that should be emphasized and integrated into implementation to ensure that the three southern border provinces have sufficient and safe food. This includes eliminating poverty according to the development goals of the Southern Border Provinces Development Strategy of the Southern Border Provinces Administrative Center (SBPAC) and the United Nations Sustainable Development Goals within Thailand.

The planning of this framework was based on a SWOT analysis (strengths, weaknesses, opportunities, and obstacles) of the agricultural and other relevant sectors. All elements of development connected to the strategic issues have been thoroughly considered. In addition, the working group analyzed the food value chains of seven main agricultural commodities. These were selected from the analysis of stakeholders within the food chain and will allow them to know where the product was made and where it was shipped. This can be used as a tool to set goals for the area. There must focus on the implementation of the plan to achieve results within the time frame of the plan, in order for sustainable growth and development goals to be achieved successfully.

CHAPTER 7. DEVELOPMENT CONTEXT OF THE THREE SOUTHERN BORDER PROVINCES

7.1 Global trends of change

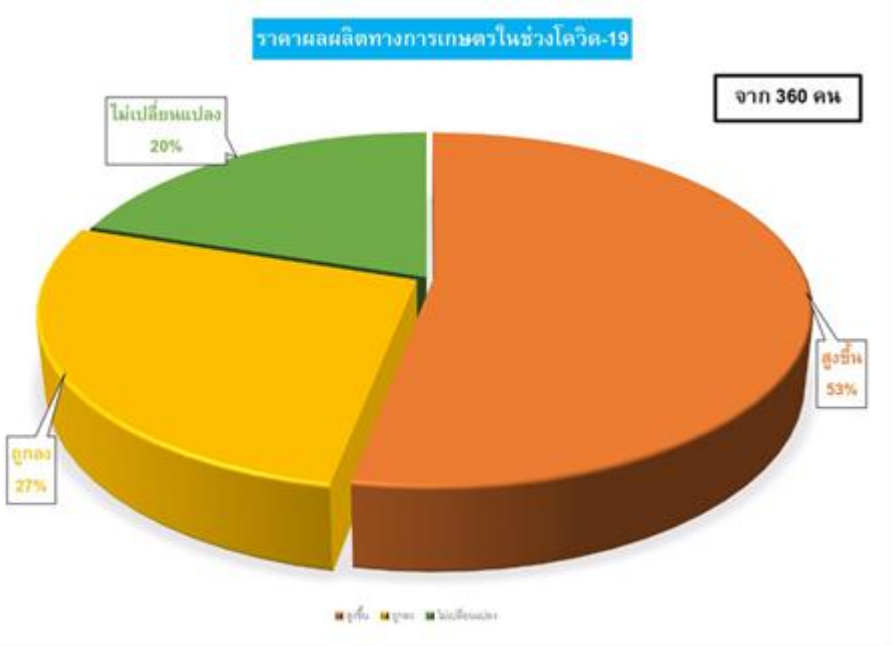
Global change trends cover the scope of the major changes that are taking place on a large scale and which are expected to affect in the future. There are interrelated issues of many dimensions and levels ranging from, the way of life of the people to the sum of the country. The global trend that will affect and cause changes in the economy, society, culture, including the lives of people in society. Therefore, global changes will affect countries and regions. Change is an important issue that must be analyzed and find ways solutions to correct it in a timely manner. Failure to do so will result in damage to the nation and society. Anticipating short-term, medium-term, and long-term outcomes, such changes include rapid technological changes. Geographic and climatic changes, economics, international politics, urbanization, and the spread of disease (SARS, avian influenza, COVID-19), among others, are all important factors that must be taken into consideration in the context of the environment. The environment of the country and area will be considered in the design of this food security strategy.

7.2 Impacts and trends of change due to the COVID-19 pandemic

The crisis of the Covid-19 outbreak that has spread in the past year has affected all countries around the world. All countries are facing severe disruption of economic activities as well as numerous social consequences, especially amongst vulnerable people within society. Some of the people in this group are the main income earners in the family. Vulnerable groups often work outside the system and thus lack stability in work and income. Within the three southern border provinces, most of the population depend on farming to support their families. The COVID-19 outbreak which has spread since the beginning of 2020 has severely impacted the economy and society of the three southernmost provinces, with many people (who are the main bread winner of their families) lost their jobs, causing economic activity to halt. Furthermore, unable to go to work due to lockdown in Malaysia, many of whom are the main bread winners of their families lost their jobs and returned to Thailand. Some Thai workers in Malaysia couldn’t return to Thailand in time and were stranded there, many are still stranded in Malaysia after strict lockdowns in various states. The results of the public opinion survey in the southern border provinces on the impact of the coronavirus

(Covid-19) epidemic situation and government measures, by the Southern Conflict and Cultural Diversity Research Center Institute of Peace Studies Prince of Songkhla University (11 June 2020), showed that more than 75% of the people were affected by their occupation, 83.6 percent said their income was reduced. A further 18.2 percent still had access to welfare and remedial assistance from the government, but were still able to live with help from others in their communities. For the most part, 47.8% thought that the appropriate time to accept the situation was about 1-4 weeks.

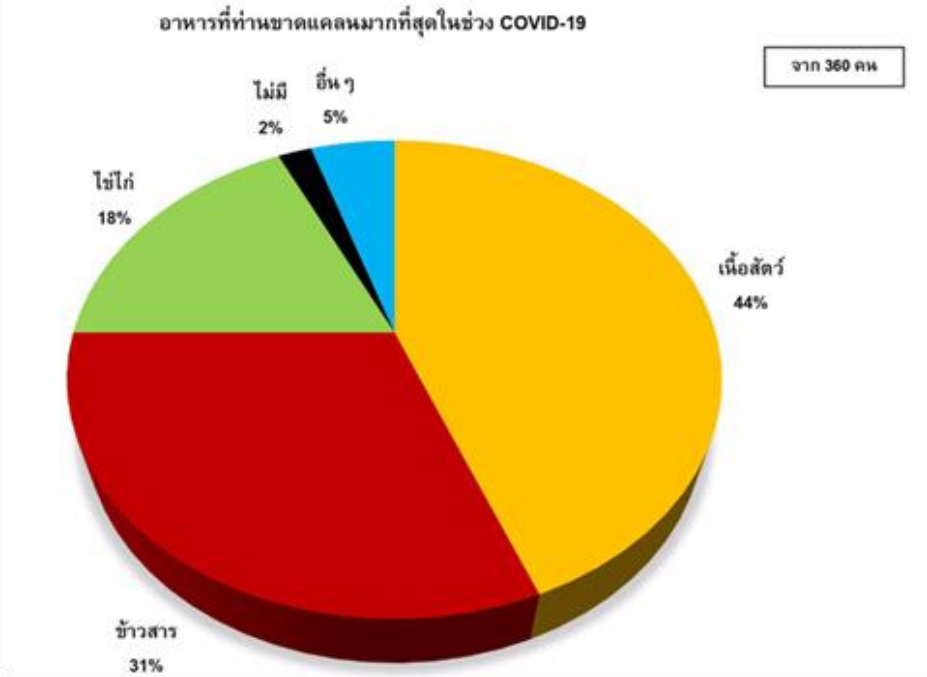
The project working group has conducted an online survey with a total of 360 respondents and the results were as follows:



53% of respondents said as a result of the COVID-19 crisis, the price of agricultural products increased, but 27% saw that the price of agricultural products decreased, and 20% saw that the price remained unchanged.

In regard to places to buy food, in the most part, 58% of respondents would buy food at a flea market, 23% would buy it from a grocery store, and 16% would buy it from a convenience store.

Survey respondents rated the food that was most needed during the Covid-19 crisis; was rice 45%, followed by meat, chicken eggs and dry food, respectively.



Survey respondents chose the food that was most deprived during the COVID-19 crisis. This was meat (44%), followed by rice and eggs, respectively, and 2% believed there was no shortage of food.

CHAPTER 8. FRAMEWORK FOR THE STRATEGIC PLAN OF FOOD SECURITY IN THE THREE SOUTHERN BORDER PROVINCES OF THAILAND

8.1 Summary of the relevant development plans

The essence of the various plans involved in the preparation of this strategic plan for food security in the southern border provinces, is in line with the national and local-level plans, which direct national development in Thailand. There are 6 major plans, consisting of:

8.1.1 National Strategic Plan 2018-2037

8.1.2 Master Plan under the National Strategy on Agriculture Issues 2018-2037

8.1.3 Agricultural Development Plan during the 12th National Economic and Social Development Plan 2017-2021

8.1.4 Special Master Plan under the National Strategy as a result of the COVID-19 Situation 2021-2022

8.1.5 Southern Border Provinces Development Strategy 2020-2022

8.1.6 The framework of the National Economic and Social Development Plan No. 13 B.E. 2023-2027

The significant contents can be summarized as follows:

PLANS	Content related to Food Security
1. National Strategic Plan B.E. 2018 - 2037	**Building Competitiveness** 1. Developing economic performance, promoting trade and investment, developing into a national trade 2. Development of manufacturing and service sectors, to build a strong and sustainable production base and promote smallholder farmers towards sustainable agriculture that is environmentally friendly. 3. Development of entrepreneurs and community economy. Aims to develop entrepreneurial skills to raise labor productivity and develop SMEs to international standards. 4. Development of special economic areas and cities, developing special economic zones, borders, and developing the relevant city systems.

	Creating equal opportunities and socially equal 1. Build stability and reduce economic and social inequality 2. Strengthening social institutions cultural capital and community strength
	Building growth on the quality of life that is environmentally friendly 1. Organize a system to conserve, restore and prevent the destruction of natural resources. 2. Set up an efficient water management system in all 25 river basins, focusing on the integrated adjustment of the flood management system. 3. Development and use of environmentally friendly energy 4. The development of eco-industrial cities and eco-friendly cities. 5. Participating in reducing global warming and adapting practices to fight climate change. 6. Use of economic tools and fiscal policy for the environment.
2. Master Plan under the National Strategy on Agriculture Issues 2018-2037	1. Local identity agriculture promotes and develops unique products by applying local wisdom, technology, and innovation. Registration and protection of rights for goods and products, development of quality standards of goods and products and strengthening of farmers and communities. To develop indigenous identity including creating identity or origin story, differentiate and stand out, and create a brand for indigenous identity agricultural products and promote these products both at the national level and for export overseas. 2. Safe agriculture develop quality standards and safety certification systems at various levels, including traceability to be accepted by both domestic and international markets. Promote and support the production of quality agricultural products that meet safety standards, increase the ability to access food thoroughly and safely, and raise awareness of producers and consumers. Emphasize the importance of safe agriculture and promote the expansion of the consumer market for safe agricultural products, including supporting organic farming from the organic level, the villagers' way of life, in order to extend to commercial organic farming that meets organic farming standards at both national and international levels. 3. Bio-agriculture supports the conservation of agricultural bio-resources to lead to production and expanded results to create added value, to promote research and development of knowledge and to apply innovations from local wisdom and environmentally-conscious technologies. Will process products from biodiversity, promote and support the

	production, processing and development of products from agricultural and bio-resource bases. This includes developing links to the industrial sector and using the sustainable farming base to take advantage and extend to bio-agricultural products, as well as promoting the cultivation of medicinal plants as economic plants appropriate and promote the utilization of agricultural waste raw materials for use in bio-related industries and energy. 4. Processed agriculture supports ▪ Promote the use of raw materials and agricultural products to be processed into new products by applying technology and innovation ▪ Adoption of modern technology and innovations in quality control and safety, tracking products ▪ Research and development focusing on branding and protect intellectual property rights ▪ Promoting research and development of animal breeding ▪ Increase the efficiency of agricultural production both quantitatively and qualitatively which is environmentally friendly ▪ Developing potential farmers to access and utilize technology and innovation agriculture, space process in accordance with the market demand ▪ Develop an agricultural information database system and a system for monitoring ▪ Promotion and expansion of agricultural products and agricultural products in various forms, increasing the efficiency of trade services and facilitating the speed of entrepreneurs, and the development of agricultural logistics systems to reduce procedures and delivery time
3. Agricultural development plans during the National Economic and Social Development Plan	**Strategy 1: Strengthen farmers and farmer institutions** 1. Expanding agricultural results according to the philosophy of sufficiency economy 2. Enhance pride and stability in agricultural occupation 3. Promote sustainable agriculture with practical results 4. Develop the knowledge of farmers to become professional farmers 5. Strengthen and connect networks of farmers and farmer institution

	Strategy 2: Increase the efficiency of agricultural product management throughout the supply chain. 1. Promote the production of agricultural products to meet the market demand 2. Promote the management of agricultural supply chains 3. Add value of agricultural products. 4. Establish a center and develop the agricultural market system. 5. Promote sustainable food security 6. Support cooperation between the public and private sectors. 7. Support the management of risks that will affect agricultural crops. 8. Promote border trade development of special economic zones and international cooperation.
	Strategy 3: Increase the competitiveness of the agricultural sector with technology and innovation. 1. Promote and support research in agricultural technology and innovation. 2. Develop agricultural information technology and systematically link information. 3. Promote the utilization of research, technology and innovation.
	Strategy 4: Sustainable Management of Agricultural Resources and Environment 1. Restoration and conservation of agricultural resources 2. Promote environmentally friendly agriculture 3. Water resource management 4. Management of agricultural arable land 5. Build agricultural immunity against climate change
	Strategy 5: Develop a government management system 1. Development of government agricultural personnel improve the structure of government agencies and work process 2. Amendment of the law and regulations related to agriculture
4. Special Master Plan under the National Strategy as a result of the COVID-19 Situation 2021 – 2022	1. Upgrading the country's capacity to support long-term sustainable growth (Future Growth) by focusing on preparation and promoting competitiveness of the main economic engines (Growth Engines) of Thailand. Under the new global economic landscape changes, creative and quality tourism along with high value agriculture, food industry and modern automotive industry is needed.
5. Southern Border Provinces Development Strategy 2020-2022	1. Develop human resources to be able to develop people in all dimensions and all ages to be good, skillful and quality people. It will connect youth from school to career pursuit, developing essential career and English communication

	skills. Knowledge of a third language while preserving the local language will enable the population to become highly skilled, innovative, entrepreneurial thinkers, modern farmers and others, with a career according to their own aptitude. 2. Environmentally friendly development under the participation and management of the government in accordance with the area. Implement a development system that does not destroy or does not consume resources in production beyond renewable/renewable capacity.
6. The framework of the National Economic and Social Development Plan No. 13 B.E. 2023-2027	1. Agriculture and high-value processed agriculture 2. SMEs, community enterprises and social enterprises Sustainable growth 3. Circular Economy and Low Carbon Society 4. Reducing risks from natural disasters and climate change

It can be seen that in all the above-mentioned national development strategies, there is a connection with the main goal of creating stability and happiness for farmers, through development guidelines on various issues.

Food security is consistent with the National Strategic Plan on the framework for building competitiveness on issues in the building of competitiveness and development of the manufacturing and service sectors. There is a need to build a strong and sustainable production base and promote smallholder farmers to sustainable agriculture, environmentally friendly and under the Master Plan. It will be in line with the Agricultural Safety and Processed Agriculture programe. Agricultural The development plan will be related to the second strategic issue, increasing the efficiency of agricultural product management throughout the supply chain. The third strategic issue is to increase the competitiveness of the agricultural sector with technological innovation.

The second strategy for the Development of Southern Border Provinces 2020-2022 is: developing the quality of life according to the potential of the area according to the way of the community towards prosperity under strategy number one, Economic Development. Adjusting the foundations at the household level "To combine occupations" to create a career and the main income from Agriculture creates value by adhering to an agricultural master plan that is consistent with the community. Such as indigenous identity agriculture, which promotes the production of products arising from local problems or growing/growth in a locality which are unique and desired by consumers. For example, promoting

the cultivation of ylang-ylang fragrant rice in Tak Bai District, Narathiwat Province, Khao Budi, Mueang District, Yala Province. Furthermore, promoting the production of quality sea-po longkong, Rangae district, Narathiwat province, Ban Sai Khao quality durian production, Khok Pho district, Betong district durian production, Bannang Sata district, Yala province, and expansion of the Betong chicken production network, etc.

Processed agriculture is initiated at the community level by establishing a strong and sustainable community enterprises by developing quality production (Halal standards and FDA standards) by the SBPAC as the center of coordination. In addition to academic departments (local universities) to bring research into practice, to coordinate with the private sector and entrepreneurs to set up a sustainable marketing system. In 2019, there were more than 30 prototype enterprises, such as Banana Processing Enterprise, Na Pradu Subdistrict, Khok Pho District, Pattani Province. Finally, the framework of the National Economic and Social Development Plan No. 13, 2023-2027, strategy no. 1. Thailand is a Tier 1 country leading in agricultural products and high-value processed agricultural products. The agricultural sector and the agricultural processing industry are highly important sources of income and employment in the nation.

8.2 Socio-economic status of the three southern border provinces

8.2.1 Topography

Located at the southern end of the country, the Thai-Malaysian border is 258 km long, covering the northern and eastern parts of the region border the Gulf of Thailand. The length of the coast is 172.1 km. The area is forested and mountainous with rich ecological diversity. It is a land that has a long history. It has a total area of approximately 10,936 square kilometers or about 6.8 million rai, thus the area has different geographical

characteristics and ecosystems as well. The southern border provinces are therefore home to a variety of natural landmarks such as beaches, waterfalls, mountains, forests. For example, Bang Lang Dam, Budo-Sungai Padi National Park, Hala Bala Forest Sanctuary, and Ao Manao-Khao Tanyong National Park

Table 1: Area of the 3 southern border provinces

Province	Area (square km)	Area (Million Rai)	Area adjacent to Malaysia
Narathiwas	4,475.430	2.79	Kelantan and Perak
Pattani	1,940.356	1.21	-
Yala	4,521.078	2.8	Perak and Kedah
TOTAL	**10,936.864**	**6.8**	

Most of the area is agricultural land accounting for 52.9% of the area, with the Sankalakhiri mountain range stretching across the region from Songkhla to Narathiwat. There are important rivers such as, the Pattani River, Thepha River, Yaring River, Saiburi River, Bang Nara River, and Su-ngai Kolok River.

Climate

Southern border provinces near the equator has a tropical climate, the average temperature is 27 degrees Celsius with high rainfall. Narathiwat has the highest average rainfall of 2,494.47 milliliters per year. It rains all year round in the three southern border provinces. The land of the area geographically consists of mountains, rivers and coastlines, which are connected together.

Water source

The main watershed of the region is the Pattani River Basin and Bang Nara Basin, with a total area of 6,471 sq km. The Pattani, Sai Buri, Bang Nara, Ko-lok and Tak Bai are the main rivers of the southern border provinces with the combined water volume equal to 3,858 cubic meters/year. Bang Lang Dam is a large water reservoir, which can store 2,672 cubic meters of water, providing sufficient water supply throughout the year.

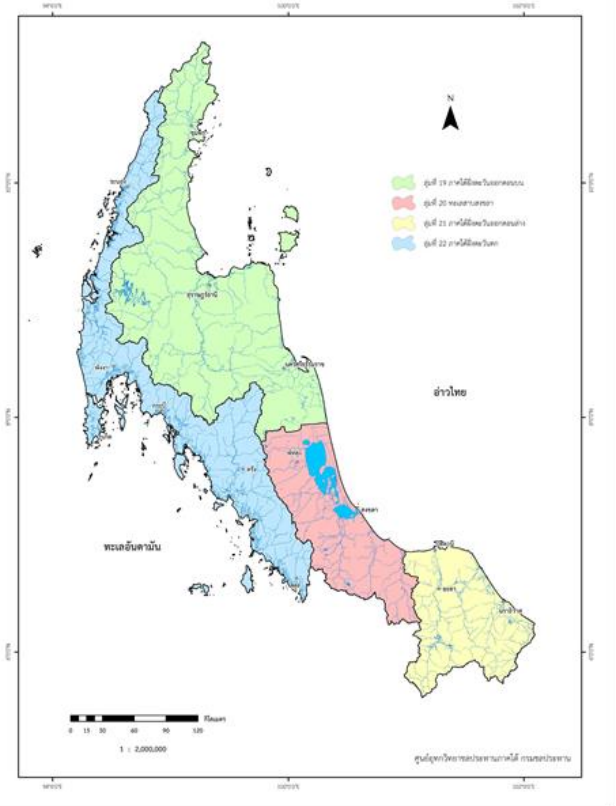
Land use

The southern border provinces have a total area of 6.9 million rai (2.1% of the country) of which 3.5 million rai is agricultural area. This is mainly used for planting rubber, oil palm, fruit trees and rice fields, accounting for 52.9% of the total area. 1.73 million rai of the area is forest, with Bala-Hala forest being the largest forest in the region. Mangrove forests make up 0.22 hundred thousand rai (0.33% of the region, 1.5% of the country), and other used areas account for 1.66 million rai or 24.5 percent of the region.

Natural resources

1. Soil, most of the soil conditions are complex slopes, the key soil problem is sandy soils. Sour soil and saline soil are distributed in coastal lowlands and peat swamp forests in Pattani and Narathiwat provinces. There is also the problem of shallow soil amongst most of the steep slopes in Yala Province. The problem of soil resource affects the use of land for agriculture.

2. Water sources, there are three large watersheds consisting of:



- Pattani River Basin has an area of 4,973 square kilometers. Covering the area of Yala Province and Pattani Province. It is the watershed of the Pattani River.
- Bang Nara River Basin has an area of 1,498 square kilometers. It covers the area of Mueang District, Yi Ngo District, Rangae District, Tak Bai District, to Pru Toh Daeng until the Gulf of Thailand at Tak Bai District, Narathiwat Province. It has its headwaters from Hala-Bala and Budo Mountains and has been developed as an irrigation project area according to the royal initiative to provide water for agricultural use. It prevents saltwater and sour water invading the area and also prevents the area from widespread flooding.

- Sai Buri River Basin covers an area of 4,600 square kilometers covers the area of Narathiwat Province Pattani Province and Yala Province. The Sai Buri River is the main river that originates from the Sankalakhiri mountain range flowing south into the Gulf of Thailand. At present, the Saiburi River is important for local fishermen near the watershed, such as raising snapper and tilapia fish in cages.

Normally, all three basins have sufficient water supply throughout the year, however, there are lowland areas near the watershed that are at risk of repeated flooding.

3. Forests, in 2018, the three southern border provinces had forest areas of 1.73 million rai, most of them were evergreen forests which cover mountain ranges such as the rainforest in the Hala Bala Wildlife Sanctuary of Yala and Narathiwat Provinces. Forest area tends to decrease, partly from the encroachment of the land for agriculture especially rubber and oil palm plantations. Mangrove forest areas, which is an important source of food and nursery for aquatic animals, with an area of 0.02 million rai of forest, are exclusively found in Pattani and Narathiwat provinces. In addition, there is also the only intact peat swamp forest area in Thailand, namely To Daeng peat swamp forest, in Narathiwat province.

8.2.2 Economic status

economic overview

- The economy in the three southern border is small. The value of regional products for the year 2017 was 141,844 million baht, or 0.9% of the country's Gross Domestic Product.
- The economic structure still depends on the agricultural sector. In 2017, the agricultural sector accounted for 31.1% of the sector's product. The agricultural economic activities are important because most of the population is engaged in agriculture. The Southern border economy tends to shrink steadily, partly due to the price of para rubber which has declined since 2011 to the present and dramatically affects the value of agricultural production
- Average income per population has a tendency to decline. In 2017, the product per population (GRP per capita) was 80,144 baht per person per year which is about 2.8 times lower than the national

average. The average income per capita is 96,867 baht per person per year. Narathiwat Province had the lowest value at 61,765 baht per person per year, and lowest in the Southern provinces.

sectoral economy

- Agricultural sector

  Agricultural production in the southern border provinces is still the same, with little processing to create added value. In 2017, agricultural products were valued at 44,048 million-baht, accounting for 31.1% of the sector's product value. The expansion of the agricultural sector contracted by 7.9 percent in comparison to the previous year. The average growth rate of the agricultural sector during the past 5 years (2013-2017) contracted by 2.3 percent. Due to the situation of para rubber prices and the demand for para rubber in the world market tends to decline due to the economic slowdown, including less privatization to add value and shortage of agricultural labor. The major agricultural production activities of the sector consist of rubber, oil palm, marine and coastal fisheries, livestock and fruit trees.

Oil palm, there is a total of 98,325 rai of oil palm plantations in the area, with Narathiwat having the most planting area of 66,656 rai, followed by Pattani at 23,200 rai and Yala with the least oil palm area at 8,469 rai. The oil palm productivity in the southern border provinces are very low at only 2,232 kg per rai of Fresh Fruit Bunches (FFB).

Fisheries, the southern border provinces are important fishery source in the region. In 2017, 80,979 tons of fish were caught or 32.3% of the country's fishery, worth 8,595 million baht, a decrease from 145,989 tons in 2013. However, fisheries in the area suffer from a decrease in the number of aquatic animals due to the depletion of resources and an increase of illegal fishing from outside the waters. As for coastal aquaculture, white vannamei shrimp farming is the main source, with a total cultivable area of 1,897 rai with a yield of 3,593 tons. Pattani has the most cultivable area. However, the culturing continues to suffer from outbreaks of emergency mortality (EMS) and climate variability which effect the amount of shrimp production in the area.

Agricultural land utilization, in 2017, the southern border provinces, there are 3.45 million rai or 2.31 percent of the country's agricultural utilization area. Narathiwat has the most agricultural utilization area of

1.41 million rai. As for the size of farm owned per household, only 15.58 rai per household, which is lower than the national level with a farm size of 21.29 rai per household. Notably, Pattani has the least agricultural land area of 0.75 million rai and farm size of 8.20 rai per household.
Irrigation system per agricultural area, within the southern border provinces, there are 0.73 million rai of irrigated area, accounting for 21.04 % of the agricultural area. Most of the irrigated areas are in the Pattani River Basin, which is an important rice cultivation area in the region. Pattani Province has the most irrigated area of 0.44 million rai, accounting for 58.54% of the province's agricultural area, and Yala province has the least irrigated area at 0.04 million rai.

- *Industry*

Most of industries in southern border provinces are primary agricultural processing industry. Main industries consist of food processing, rubber processing and rubber wood processing industries. However, since 2 0 1 3 , industries in the three southern border provinces are in a slowdown, the growth rate is very low compared to the national level with an average growth rate of -0. 2 percent (Office of the National Economic and Social Development Council).

However, the Thai government has approved policies to develop the southern border provinces as a specific economic area, to encourage investment from the private sector to create jobs, generate income and improve people's quality of life in the area and nearby areas. Beginning in the areas of Nong Chik District Pattani Province, Su-ngai Kolok District Narathiwat Province, and Betong District, Yala Province, these will be model cities under "Three Facets: Secure, Wealthy and Sustainable" project.

The goal for Nong Chik of Pattani Province to become "Advanced Agricultural Industry City" development model, Betong District of Yala Province for **"Sustainable Development City**, while Su-ngai Kolok in Narathiwat Province to be **"International Border Trade City".** In addition, there will be investment opportunities in agricultural industries such as food processing, biomass power, fertilizer production from waste materials of the oil palm industry, as well as the development of the three southern border provinces to be a **Halal Food Industry Hub.**

- *Border trade*

In the first 10 months of year 2020, border trade between Thailand and Malaysia was 198,646 million baht, decreased of 14.67% compared to the same period of 2019. Most of imported and exported products were agricultural products from the area.

Main imported products were lumber, fermented cow leather and coconut, while main exports were local agricultural products such as fruit, vegetables, and livestock, which passed through the four border areas, namely the Su-ngai Kolok, the Tak Bai, Bukit-Ta and Betong checkpoints.

8.2.3 Population and society

- *Population demography*

The population of the three southern border provinces is 2,069,454 people, with an increasing of 0.81% from 2018. Narathiwat Province has highest population of 808,020; 0.69% increased. Pattani Province has 725,104 population with an increase of 0.98%. And 536,330 population of Yala Province with 0.75% increased in 2018.

Population by gender, a total 1,043,916 female population or 50.44% and 1,025,538 male population, represents 49.56%.

Population by Age, there are 1,277,255 people of labor force out of 2,069,454 people or 61.72 %. A total of 522,584 people or 25.25% are children, 240,354 people or 11.61% are elders and 29,261 people or 1.41% unclassified.

The highest proportion of the labor force is in the range of 60-65%, followed by the childhood population, range of 16-26%. The elderly is in the range of 11-19% and unclassified not more than 9%.

- *Population distribution*

Population by gender and density, in 2019, a total area of the southern border provinces is 10,936 square km. In 2018, there are 222.37 people per square km. It increases from 220.12 per square km compared to 2017.

- *Demographic changes*

Number of births and deaths classified by gender, in 2019, new births were 32,747 births, decreased of 3.50% and 12,416 deaths

- *Labor information*

Population by labor force status, a total population of aged 15 years and over is 1,319,284 people with 866,850 people or 65.70% of labor force. Another 34.29% or 452,434 people are not in the labor force. Current labor force is 865,768 people or 99.87% of the total labor force, 844,415 people or 97.53 are employed and 21,353 people or 2.46% unemployed.

Unemployment rate, considering the unemployment rate by provinces in the southern region in 2019, it was found that Narathiwat Province had the highest unemployment rate at 4.11%, Pattani Province 2.00% and Yala Province 0.65%

- *Statistics of the elderly*

Elderly, in 2019, population aged 60 and over were 11.61% of the total population is elderly.

Elderly by provinces, population and percentage of population aged 60 years and over

There are 90,816 people of the total population of Narathiwat aged 60 and over or 6.57% of population of the southern Thailand or it was 11.24% of the total population in Narathiwat Province.

In Pattani Province, 86,050 people of the total population aged 60 and over accounted for 6.23% of the southern Thailand and it was for 11.87% of the total population of Pattani while in Yala Province, there are 63,488 people accounted for 4.59% of the total population aged 60 years and over in the southern region and accounted for 11.84 percent of the total population in Yala Province.

Elderly by gender, population aged 60 years and over

There are 240,354 people of population aged 60 years and over with 134,817 females or 56.09% and 105,537 males or 43.91%.

Source: National Statistical Office, Ministry of Digital Economy and Society. Branch statistics data (online).
Retrieved from:
http://statbbi.nso.go.th/staticreport/page/sector/th/01.aspx (July 2020)

8.2.4 Education

Educational institutions at tertiary level consist of 8 institutes located in the three southern border provinces. The institutes are separated under the Ministry of Higher Education, Science Research and Innovation and 1 autonomous University, namely Prince of Songkhla University, Pattani Campus, 5 public Universities, namely Princesses of Narathiwas University, Yala Rajabhat University, Yala Community College, Pattani Community College, and Narathiwat Community College come under the Institute of Physical Education, Ministry of Tourism and Sports. In addition, there is one Institute of Physical Education campus in Yala, and one private university, the Fatoni University. Finally, there are nineteen (19) colleges in the area under the Office of Vocational Education office.

The average number of years of schooling for the population has increased but is still lower than the national average. The number of academic years was 8.90 years, an increase from 2013, which had an average of 8.63 years, but still lower than the national average of 9.62 years. The highest average number of academic years was 9.30 and Narathiwat had the lowest average academic year of 8.20. Educational achievement was at a low level, with the results of the O-NET exam in M3 (4 core subjects) in the 2017 academic year was 34.0%. However, this an increase compared to the year 2013 with an average score of 31.71%. It is still below the national average of 41.78 and has a threshold of less than 50%. In all subjects, due to the impact of the unrest, teaching was incomplete, and at the secondary level, especially in Islamic private schools, religious courses were taught in conjunction with academic courses in which the local dialect was used. This contributed to limited learning and building an understanding of the lesson.

8.2.5 Public health

There are health care facilities that provide services covering all areas in the three southern border provinces. There are 33 government hospitals, comprising 1 Center Hospital, 4 General Hospitals, 28 Community Hospitals and 319 Tambon Health Promoting Hospitals.

Populations of the three southern border provinces had more access to health services. In 2017, the proportion of population per medical doctor was 3,243, which was higher than the national proportion of 1,870 and improved compared to 2013 when the population per medical doctor was 3,835. Pattani Province had a population-to-doctor ratio maximum at 3,621 people. Narathiwat and Yala had medical doctor at 3,587 and 2,523 respectively. Medical personnel were still concentrated in the provincial city, district, especially Yala, due to the location of the central hospital within the region with capacity more than 500 beds.

The rate of morbidity with preventable non-communicable diseases (NCDs) tends to increase. The morbidity rate with preventable non-communicable diseases including cancer, high blood pressure, heart disease, diabetes and stroke dropped from 10,658 per 100,000 population in 2013 to 4,243 per 100,000 population in 2017/ The top three morbidities among people in the southern border provinces were hypertension, heart disease and diabetes, with rates of 1,530, 1,300 and 794 cases per 100,000 population. Yala province was the highest preventable NCDs morbidity rate at 4,973 people per 100,000 people.

Maternal mortality rate is falling and infant mortality rate tends to increase. The rate of maternal mortality from childbirth in 2017 was 43.6 per 100,000 live births. This is a higher rate than the national level of 21.8, down from 2013 at 48.0 per 100,000 live births. Narathiwat had the highest maternal mortality rate at 48.3 per 100,000 live births followed by Pattani and Yala at 44.2 and 38.2, respectively.

The infant mortality rate in 2017 was 10.1, higher than the national rate of 5.9 per thousand live births, and increased from 2013 at a rate of 9.8 per 100,000 live births. Narathiwat had the highest infant mortality rate at 11.5. followed by Pattani and Yala provinces, with rates of 10.2 and 8.6, respectively, partly due to maternal health care during pregnancy and newborned care.

8.2.6 Poverty and unemployment

Today, the population of the Southern Border Provinces sits at 2.01 million people and is home to the two poorest provinces of Thailand, Pattani and Narathiwat with poverty rates of 29.72% and 25.53% respectively (World Bank). Thailand is one of the world's most unequal countries (Credit Suisse) and between 2015 and 2017, the largest increase in poverty nationally was in the Southern region (World Bank).

The region has experienced conflict for a number of years rooted in different historical and contemporary issues. The modern conflict has seen the growth of extreme perspectives that have promoted a culture of violence on one side, and a militarized approach to conflict resolution on the other, resulting in over 13,000 deaths since 2004. Cultural inequality has played a part in the conflict in the south of Thailand, alongside poverty and a lack of opportunities and education.

Table 2: Top 10 Poverty rate in Thailand

1. Pattani 29.72%	2. Narathiwat 25.53%
3. Mae Hongsorn 25.26%	4. Tak 21.13%
5. Kalasin 20.21%	6. Sra Kaew 18.74%
7. Pattalung 18.67%	8. Chainart 17.89%
9. Angthong 17.32%	10. Ranong 16.43%

Source: Office of the National Economic and Social Development Council, 2020

In addition, it was found that people in the southern border provinces have high unemployment rate, especially Narathiwat Province, at 5.01%, followed by Pattani and Yala at 1.76% and 0.66%

8.2.7 Infrastructure/communication network

- There are 6 main roads, link to each other in the region and connect to Thailand-Malaysia border and Singapore
- Train, there is train route linking Bangkok through the southern region (Hat Yai Junction) to the southern border (Yala and Narathiwat-Su-ngai Kolok) and connect to Kelantan State, Malaysia, but at present there is no cross-border route.
- There 3 ports which are fishing port and the Pattani Sea Cargo Terminal and the Narathiwat pier
- There are 3 airports; Pattani Airport used for military service and 2 commercial airports; Narathiwat airport and Betong airports in Yala

8.2.8 Utility services

- There is hydroelectric power plant from Bang Lang Dam in Bangnang-Star district, Yala Province and biomass power plants scattered throughout the region.
- Community internets cover 63.2% of the area

8.2.9 Thailand-Malaysia border checkpoint

There are 4 border check point in the three southern border provinces:

- Betong checkpoint, Yala province
- Bukit-Ta checkpoint, Narathiwat Province
- Su-ngai Kolok check point, Narathiwat Province
- Tak Bai check point, Narathiwat Province

8.3 Food situation in the three southern border provinces

The three southern border provinces are very fertile as a regional food producer, which produces a variety of agricultural products such as rubber, rice, palm oil, coconuts, coastal fisheries, livestock, and fruit trees.

8.3.1 Paddy field

At present, the three southern border provinces have a rice cultivation area of 158,557 rai with harvested area of 155,970 rai and 59,439 tons yield. The average yield is 1,133 kg per rai.

Rice is a crop that important to the economy, culture and society of farmers in the three southern border provinces after rubber and fruit trees. Although it is not a major economic product of the region, it is important in ensuring food security for households throughout the region. However, the situation of farming in the region is declining because rice production has low average rice yield per rai, while the cost of rice production is increased and limited of land for rice cultivation. There are many limitations faced to rice production; inappropriate land for rice farming is the main factor. These include acidic and salined soil that lead to low yields per rai. Farmers turned their land to other cash crops that provide higher yields and higher price. This led to more than 30,000 rai of agricultural land has been abandoned, resulting in the purchase of rice from other provinces for local consumption valued at least 2,000 million baht per year.

8.3.2 Longkong

Longkong is a prominent and famous fruit tree of the three southern border provinces with an area 112,078 rai and 109,075 rai of harvested area. A total yield is 25,070 tons with an average yield per rai of 831 kg per rai. The planting area tend to decline slightly because of low price, causing farmers turn to other cash crops. The province that grows and produces the most longkong is Narathiwat. The land area and yield of longkong have continuously. Although the three southern border provinces are dominated by Longkong, their yield per rai is lower than other provinces. This is because longkong planting in the three southern border provinces is based on traditional practices. Unlike other provinces that are managed professionally and better management.

8.3.3 Palm oil

Palm oil has long been a major economic backbone of Southeast Asia economies, notably Indonesia, Malaysia and Thailand. In Thailand most of palm oil plantations are in the south with a total area of 6,102,850 Rai (976,456 ha). Out of it, 98,325 rai of planted areas are in the three southern border provinces with 2,846 kg per rai, which is a very low compared to other part of southern Thailand. Narathiwat Province has the largest planted areas of 66,656.25 Rai (10,665 ha).

8.3.4 Coconut

There are 101,588 Rai of coconut plantation in the three southern border provinces with 62,140 metric tons, with an average yield of 1,837 kilograms per rai. Pattani has the most planting area with an area of 60,560 rai, followed by Narathiwat, 35,482 rai, and the least is Yala with an area of 5,546 rai.

8.3.5 Rambutan

Rambutan is another cash crop of eastern and southern Thailand. Half of planted areas are the south. A total area of Rambutan in the three southern border provinces are 31,804 rai or 11.3% of the country, with a yield of 10,380 tons. Narathiwat has the most areas of Rambutan with small areas in Yala and Pattani provinces. However, in each province planted areas are decreasing due to the low price of rambutan in comparison to the price of other fruit like durian and mangosteen.


8.3.6 Durian

The three southern border provinces are an area with quality durian, there are well-known local durian, with a planted area of 88,952 rai, yielding 33,132 tons, or about 12.5% of the country and one-fourth of the southern region. Yala Province has the highest planted areas and high productivity areas, followed by Narathiwat Province.

Although the southern border provinces have 12.5% of whole country planted areas, but produces only 6% of the country's total productivity. This highlights the problems in managing planted durian tree in the southern border provinces. Measures need to be taken to increase durian productivity by focusing on local durian, as well as creating greater marketing values and opportunities.


8.3.7 Mangosteen

Mangosteen is a future economic crop, because over the years price of mangosteen has increased double. Mangosteen is planted in more than half of the country's southern region, nearly 54%, while the southern border provinces account for only 7.0% of the country's planted areas, with most of the planted areas located in Narathiwat province.

A total area of planted mangosteen areas are 31,036 rai and harvested areas of 29,781 rai, 9,864 tons of productivity with an average of 1,153 kg. per rai.

In terms of total productivity, it is found that the productivity in the three southern border provinces are low compared total production of the country. Mangosteen has had a downward trend similar to other economic crops and was in the same direction as the total production of the country.

Table 3: Planted areas, yield and yield per rai of major crops in the three southern border provinces

No.	Crop	Planted area (Rai)	Harvested area (Rai)	Productivity (MT)	Productivity/Rai
1.	Paddy	158,557	155,970	59,439	1,133
2.	Longkong	112,078	109,075	25,070	831
3.	Palm Oil	98,325	75,300	101,312	3,846
4.	Coconut	101,588	101,491	62,140	1,837
5.	Rambutan	31,804	30,881	10,380	1,110
6.	Durian	88,952	80,318	33,132	1,214
7.	Mangosteen	31,036	29,781	9,864	1,153

Source: *Agricultural Statistics of Thailand 2016, Office of Agricultural Economics*

8.3.8 Livestock

Most of the people in the three southern border provinces practice Islam and main agricultural occupation is raising animals in combination with the cultivation of cash crops. This is normally domesticated animals which conforms to religious principles, such as, goat, cow, duck and chicken. Most of them raised for household consumption and used for religious ceremonies.

The district Livestock Office report that in 2020 in the three southern border provinces chickens are raised the most (2,965,769 chickens). Pattani raised the most at 1,031,375 chickens.

A total of 217,974 cattle raised in the three southern border provinces. Narathiwat province raised the most cattle at 95,121. In addition, there are 173,714 goats raised in the southern border provinces where 75,047 are raised Yala.

However, the quantity of livestock is still insufficient for consumption in the area due to the shortage of good breeds and foot and mouth diseases. The lack of knowledge in farm management is also a key factor for livestock production. Betong chicken has been recognized by consumers locally and nationally. It is raised in Yala province, but there are limitations faced for example quality breeding which is a barrier in increasing quality and quantity productivity to meet market demand.

Table 4: Number of livestock in the southern border provinces

No	Livestock	Quantity
1.	Cattle	217,974
2	Buffalo	5,970
3.	Pig	24,503
4.	Goat	173,714
5.	Sheep	22,677
6.	Chicken	2,965,769
7.	Duck	918,561

Source: District Livestock Office 2020
Compiled by: Information and Statistical Data Group Information and Communication Technology Center, Department of Livestock Development.

Table 5: Number of livestock per province in the southern border provinces

Province	Cattle	Buffalo	Pig	Goat	Sheep	Chicken	Duck
Pattani	63,158	1,662	3,575	47,326	15,011	1,031,375	297,105
Yala	59,695	1,801	8,494	75,047	4,287	918,623	307,696
Narathiwas	95,121	2,507	6,464	51,341	3,379	1,015,771	313,760

Source: District Livestock Office 2020
Compiled by: Information and Statistical Data Group Information and Communication Technology Center, Department of Livestock Development

8.3.9 Fisheries

Among the agricultural sectors of Thailand, fisheries play a significant role in providing food security and export earnings. Fishery production in the three Southern Border Provinces come from four (4) sub-sectors, namely: marine capture fisheries, inland capture fisheries, coastal aquaculture, and freshwater aquaculture. Pattani and Narathiwat provinces are source of coastal, brackish and freshwater aquaculture while Yala is solely from freshwater fisheries.

Table 6: Total of freshwater production of Yala Province in 2020

Fishery	No. of fishermen	Raising area (Rai)	Productivity (MT)	Distribution of produce in the province	distribution of produce outside province	Expected of production in the next year
Freshwater Pomfret	24	6.52	3.58	3.58	-	2.60
Chinese fish	63	9.82	12.53	12.53	-	20.64
Catfish	1408	195.78	336.49	336.49	-	356.44
Carp	82	22.89	15.27	15.27	-	29.51
Tilapia	646	169.85	154.16	154.16	-	225.58
Climbing perch	11	3.38	0.60	0.06	-	2.02
Other fresh water Fishes	91	18.15	13.07	13.00	-	24.16
Total	**2,325**	**426.39**	**535.70**	**535.09**	**-**	**660.95**

Source: Yala Provincial Office of Agriculture and Cooperatives, 2020




8.4 Food Value Chain Analysis

Based on the guideline of the Value Chain Analysis (VCA) written by Hawkes and Ruel (Hawkes and Ruel 2011), the value chains comprise of two key components; value and chain. of value chains comprises of two key concepts: value and chain. For agricultural products, value addition can also take place through differentiation of a product based on food safety and food functionality. Price of the resultant product shows its incremental value. The term chain refers to a supply chain indicating the process and the actors involved in the life cycle (from conception to disposal) of a product.

The study conducted in the three Southern Border Provinces used primary data to investigate marketing channels rather than conducting value chain analysis. After studying basic information of the three Southern Border Provinces, the study team visited relevant food production stakeholders. Meetings were held with relevant agencies in the area. These included provincial agricultural, statistic, industrial, and administrative organization, governor offices, plus the Southern Border Provinces Administrative Center offices, farmer groups, provincial agricultural councils, and related agricultural entrepreneurs. The aim of these visits was to listen and gather information on issues related to agriculture and food production including the impact of Covid-10 on the local socio-economic situation. In addition, stakeholder workshops were held between 2-4 March 2021. The workshop objectives were to present findings from the study and jointly analyze the data collected from the stakeholders. At the workshops, the linkage map of the food value chain of each agricultural commodity (agreed by stakeholders) was discussed and prioritized main crop production chains. The participants selected seven (7) main agricultural products, for further food supply chain analysis. Below is list of agricultural products: 1. Rice 2. Chicken egg 3. Vegetable 4. Livestock 5. Fisheries 6. Banana 7. Oil Palm.

FOOD AND FRUITS

In general, the marketing channels start with growers and end on consumers. Growers perform production activities while some of them are also involved in harvesting. It found that the majority of rice farmers sell their produce to middlemen. Middlemen act as a bridge between growers, sale agents and exporters. Sale agents finance middlemen' activities while middlemen facilitate farmers by paying in-advance for the crop at fruiting stage. Middlemen mostly harvest, assemble and store

fruits while sometimes they grade, pack, transport and sell through sale agents or exporters at the wholesale market.

Sale agents play a key role in the supply chain by controlling the quantity and information about prices more than any other actor. They sell their produce to wholesalers, other terminal markets, exporters, and retailers. Retailers sell their product to local consumers. It is important to mention that exporters require a license to export. Besides a license, experience, middlemen and capital to entry in the business are some of the pre-requisites of becoming a successful exporter.

In the observation of the study team on supply chain of food and fruits found that growers sell out most of their produce to middlemen (80 %), followed by wholesaler (15%) and terminal markets (5%)

LIVESTOCKS

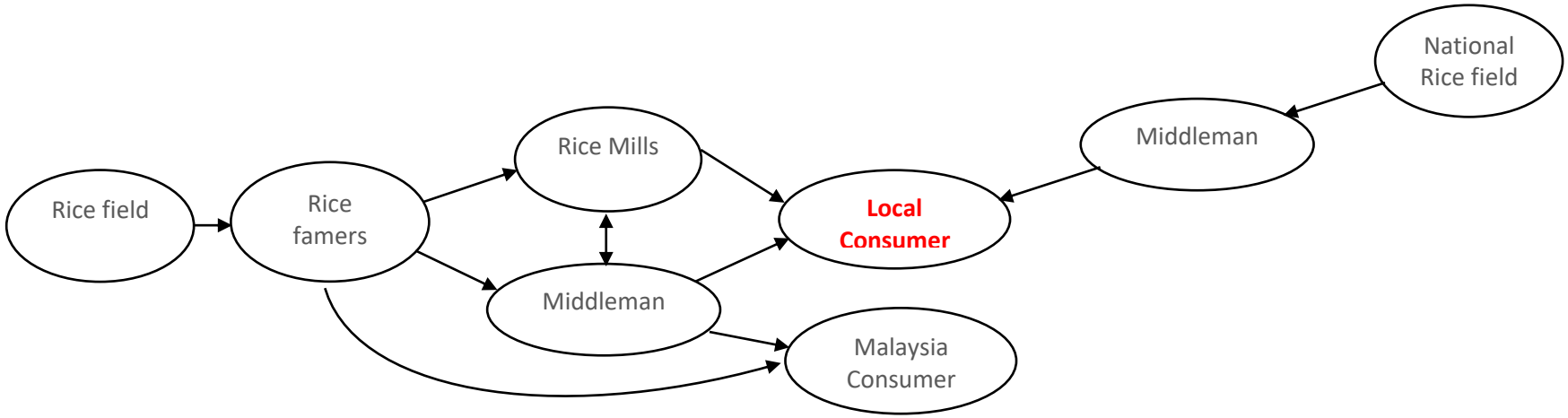
External factors of livestock including cattle market, through consultation during field visits and workshops conducted, based on SWOP analysis found that this agribusiness has significant opportunity if we could minimize the threats of livestock raising in the southern border provinces with supporting factor of the fact that cattle beef and other live stocks meet become source of protein for people in the three southern border provinces and buying power of people in neighbor country (Malaysia) has dramatically increased.

Malaysia has become one of the world's largest beef importers. In this regard, there is high potential for significant growth in the regional meat processing industry. However, the studied found that prices and costs of beef in Thailand in general were high, including higher of transportation costs and immigration restriction into Malaysia due to the expansion of Covid-19l; as a result, growth of exports to Malaysia was slow.

The marketing channels of live stocks are the same to with food and fruits, start with growers and end on consumers. Details are described in the following section

8.4.1 Food Value Chain Analysis of seven (7) main agricultural products in the three southern border provinces.

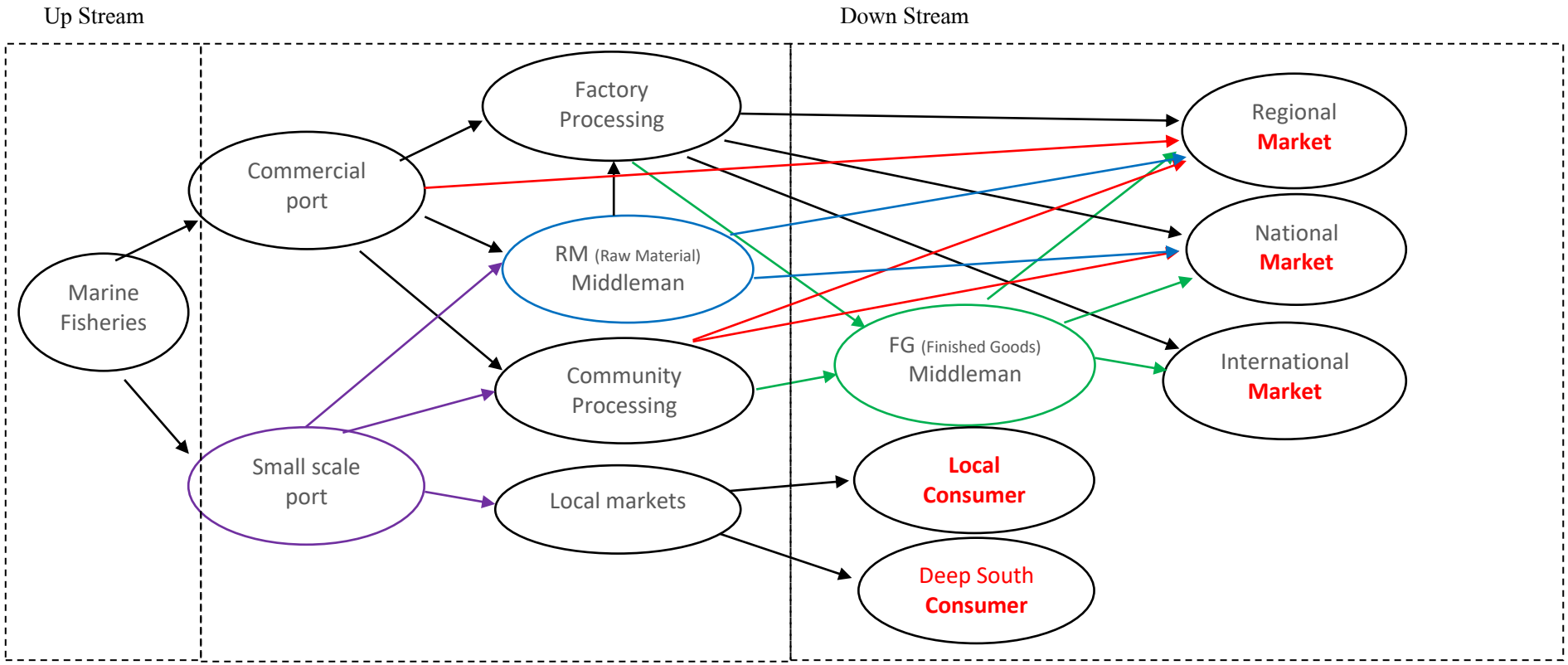
8.4.1.1 Rice



Most of the farmers in the three southern border provinces cultivate indigenous varieties of rice, such as majanu, Mue Lor, Horm Kradang Nga, Seribu Gantang which is preferred by Malaysian consumers in areas adjacent to the Thailand-Malaysia border. Most of the rice farmers cultivate and harvest rice for local consumption.

There are some farmers who exclusively cultivate and harvest rice for sale. Harvests are sent to community rice mills and used for family consumption as well as selling locally or to Malaysia through middlemen and directly to Malaysian consumers.

8.4.1.2 Fisheries



- **Marine Fisheries**

In the three southern border provinces, there are only 2 provinces that engage in Marine Fisheries, namely Narathiwat and Pattani which has districts adjacent to the sea. However, in Yala province there are no districts adjacent to the sea. There are two types of Marine Capture Fisheries; commercial fisheries and local fisheries.

Commercial fisheries: After fishing and vessels return to the commercial fishing port, the fish will be unloaded from the fishing vessels to the port for sorting.

- **Processing plant:** Processing factories are located both

inside and outside the three southern border provinces. Processing plants receive fish based on a standard size for production of various products, such as canned fish from sardines. The fish is also used for starting raw material to produce other forms of products, such as Surimi. After being processed, these fish products will be sold to various markets inside and outside (including international markets) the three southern border provinces through middlemen or dealers.

- **Middlemen:** middlemen buy fish at fishing ports in Pattani and

Narathiwat provinces to sell in local markets in their area or to sell to other markets within Thailand, such as markets in Songkhla, Phatthalung, Samut Sakhon Provinces.

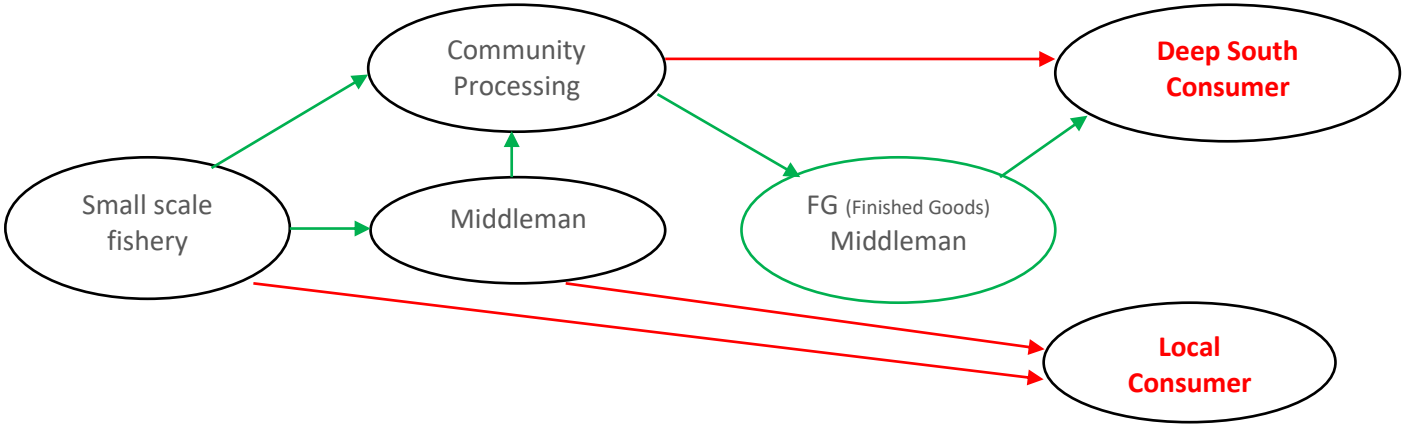
- **Remains:** After the best fish (according to size and quality standards) are selected at the commercial

port, the remaining fish are sold to local markets. Local villagers carry out processing to produce ready-to-cook products such as dried fish, dried squid, and sun-dried fish, which will be distributed to markets in the three southern border provinces or sold to markets outside the area (Songkhla or Phatthalung). Middlemen often buy and sell popular ready-to-cook products, selling to local, national and even international markets.

Small Scale Fisheries or Local fishing: Based on FAO definition, Small Scale Fisheries refers to traditional fisheries (as opposed to commercial fisheries), which involve fishing households using relatively small amounts of capital and energy. They use relatively small fishing vessels (if any), making short fishing trips close to shore. Fish from these fisheries are mainly for local consumption, for subsistence of the households themselves and commercial gain at local markets. Fish caught is normally sold to the following three markets:

- Local market, this local market allows buyers and sellers of fish caught by local fishermen where buyers or consumers in the area can purchase and consume fresh fish.
- Community Based Primary Processing, the fish caught will be collected and sold to entrepreneurs for primary processing, such as grilled or roasted fish, sun-dried fish, and dried shrimp. These products will be sold in local markets, and through middlemen to markets outside of the three southern border provinces (e.g. the local provinces of Songkhla, Phatthalung, and Satun). Selected products will also be sold to the Malaysian market.

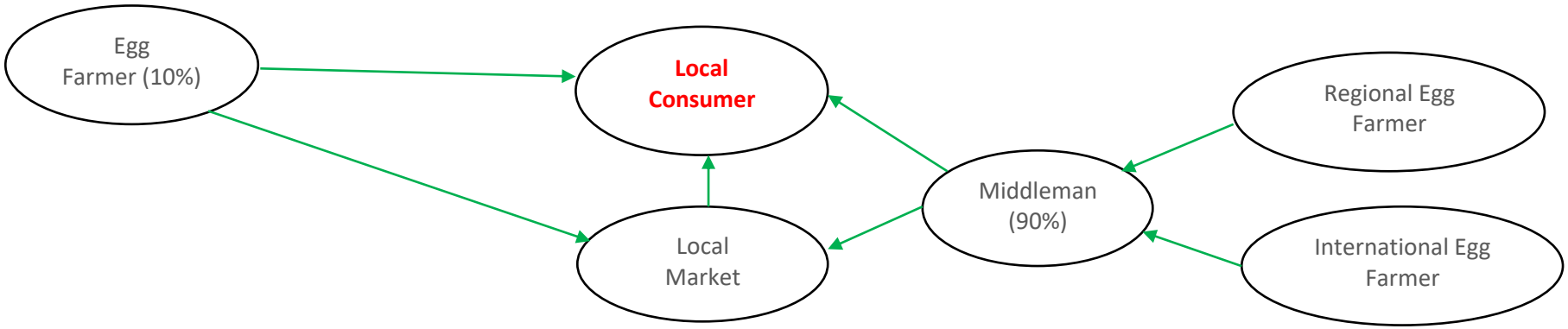
- **Freshwater fisheries**



Freshwater fisheries in the three southern border provinces is exclusively economic fish farming. There are two types of freshwater aquaculture; tilapia, snapper cage culture and fish culture in the clay pond such as catfish. Fish are sold through the following channels:

- Sell direct to consumers in the area;
- Sell to middlemen for the wider market in the three southern border provinces;
- Fishermen sell raw fish to villagers to process to other forms of fish and sell in local markets or to middlemen in the area.

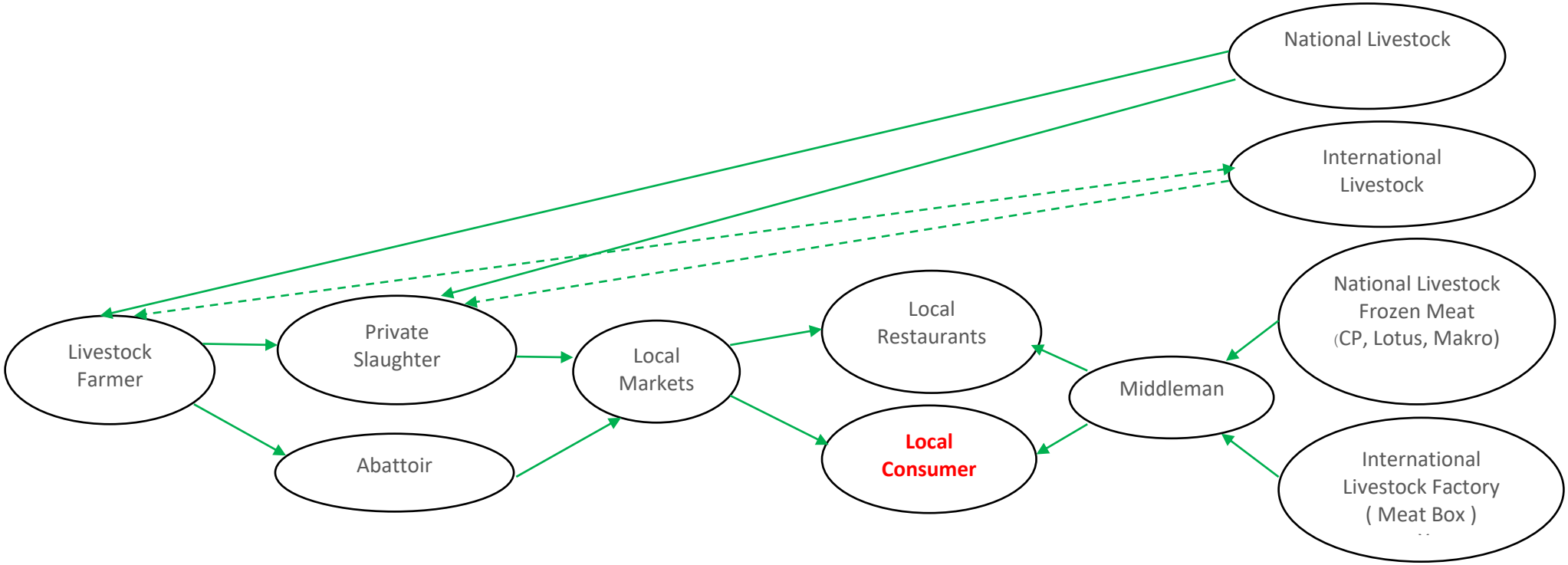
8.4.1.3 Chicken eggs



Most of chicken egg farmers are smallholder farmers, either independent or under contract with large companies. Independent farmers will sell directly in the local market, whereas contracted farmers will sell to the company. The amount of chicken eggs available within the three southern border provinces is not enough for local consumption.

Due to the shortage of chicken eggs in the three southern border provinces, middlemen from outside the area (e.g. Songkhla and Patthalung) sell eggs in the area to cover the shortage. There are also some middlemen who smuggle chicken eggs from Malaysia, and sell at cheaper prices.

8.4.1.4 Livestock



At present, farmers who raise cattle, goats and sheep in the three border provinces are mostly small farmers with either independent or groups who form or are involved in cooperatives of farmers to have larger numbers and better negotiation power. Normally, farmers who raise livestock will raise them for local consumption and religious ceremonies.

The slaughtering methods are divided into two types:

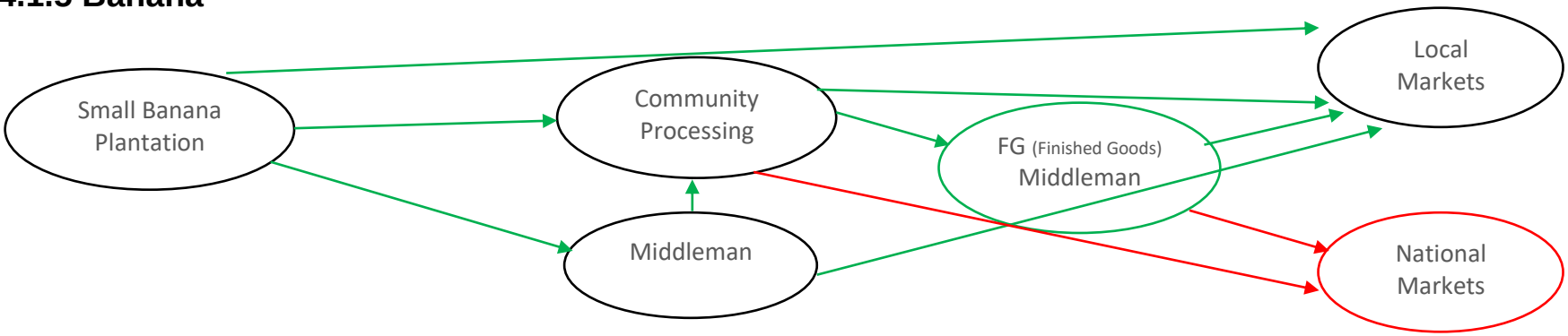
1. Standard slaughter house
2. Residential slaughter area

Meat sold to local markets is usually for restaurant operators and local consumers. However, due to the high demand of meat for consumption in the three southern border provinces (religious ceremonies and festivals) – cattle, goats, sheep are imported from outside the area. Meat is usually imported from Ratchaburi, Tak, and Khon Kaen provinces, and some is even from Myanmar. Cattle brought from outside of the three southern border provinces will be raised to increase size and weight before sale, in the form of slaughtered meat and live cattle, to the local market and Malaysia.

With a high demand of meat verses a short supply, it creates room for middlemen to provide frozen or box meat from national and international suppliers to be sold for local consumption:

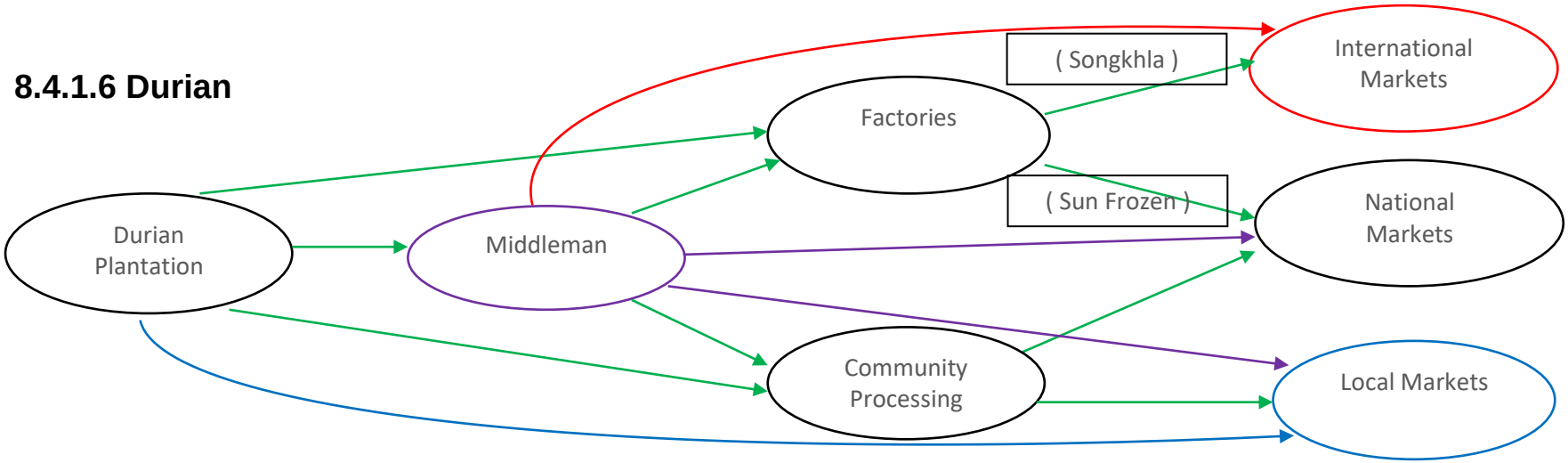
- National suppliers include CP, Macro, Tesco-Lotus, etc
- International suppliers include India, Australia, New Zealand

8.4.1.5 Banana



Small banana farmers grow bananas and harvest their produce for sale in the local market. There are also smallholders which form groups with the purpose to process bananas into other forms of products. These added value products are sold to local markets and middlemen whom sell onto large retail stores in the nation, such as Macro, Tesco-Lotus, Tops, Big C etc.

8.4.1.6 Durian

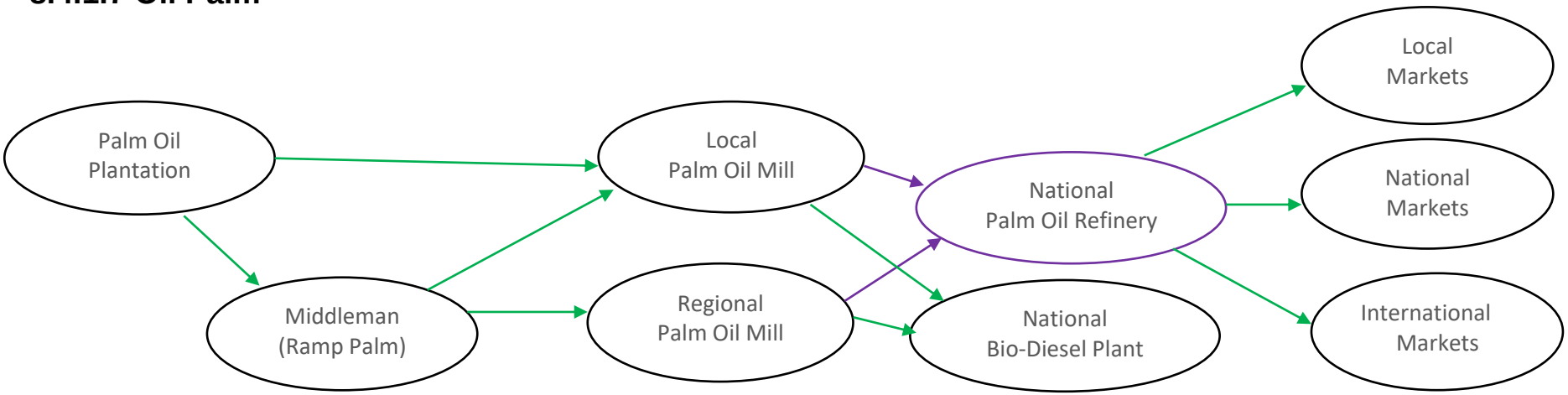


Harvested durian from the southern border provinces is sold to middlemen, local markets, and directly to durian processing factories. To sell durian to factories, durian produce must go through quality control processes. The produce is selected and screened according to the factories quality standard and needs. Currently they are sent to two processing factories in: Thepha District, Songkhla Province (foreign owned) and in Yi Ngo District, Narathiwat Province (Thai owned). Durian roducts from these factories are sold to local, national and international markets (including Malaysia and China).

Middlemen buy durian from farmers for local consumption and to export to international markets. To sell to international market, durian is sold in the form of fresh produce, and the remaining durian produce will be sold to the factories in Thepha and Yingo.

Durian produce is also sold to local entrepreneurs, who process it into during chips in order to create added value products which are sold within the three southern border provinces and to outside buyers in nearby provinces.

8.4.1.7 Oil Palm



Palm Oil farmers harvest Fresh Fruit Bunches (FFB) according to the quality standards set by the mill and sell to mills in Narathiwat and Pattani provinces. They either sell directly to the mill or through middlemen called “RAMP”. There are 2 mills within the area; Bachok Cooperative in Narathiwat and Palm Pattana in Pattani. There are some farmers, which sell FFB to other mills in Patthalung and Krabi depending on prices of the mills.

The mill processes the produce into crude palm oil (CPO) and Kernel Palm Oil (KPO), then sell the CPO/KPO to refinery factories for consumption and packing. The packaging is usually 1 kg plastic bag or 1 liter bottles to be sold to local markets, modern trade department stores, retail stores etc. Alternatively, it is sold in large jerry-cans or tanks. Refined palm oil is also used for biodiesel for energy production.

8.5 Analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) of agricultural products in the three southern border provinces

The following SWOT derived from desk studies, team members, interviews, discussion and from participants at the stakeholders worksop.

STRENGTHS

1. The geography and climate of the three southern border provinces has great potential for producing a wide variety of agricultural products due to its biodiversity. This gives the region an advantage over other regions in the country
2. Agricultural products and the food is diverse which is important to the social economy, politics and security of the three southern border provinces
3. Farmers have local agricultural knowledge that has been inherited from previous generations and have many years of experience in agricultural production and have the ability to transform agricultural objects into value-added products, especially fisheries and livestock sectors.
4. There are higher education institutions that are centers of knowledge in the three southern border provinces.

WEAKNESSES

1. Most small-scale farmers in the region (70%) are poor
2. Most of small-scale farmers are lack their own land for agricultural cultivation
3. There are many agencies and laws involved in the food chain which leads to complicated management, lack of unity, and lack of integration in implementation
4. Minimal access and use of technology to manage their own produce
5. Inefficient water management, which causes water shortage problems in agricultural production
6. Agricultural products such as rice and fruit, are produced in unsuitable areas resulting in high production costs
7. Insufficient animal feed for raising livestock (e.g. cows, goats, sheep)

8. Lack of mechanism for sharing information and exchanging knowledge among stakeholders, both the public and private sectors.
9. Farmers and related private sectors lack supports (eg fertilizer and machinery) to meet agricultural quality and safety standards
10. Investment in Research Technology development and innovation in agriculture and food is still very low. Both from within the public and private sector
11. The government's support policy focuses only on large scale farming, such as land with an area of 400 rai or more

OPPORTUNITIES

1. Food is an essential commodity with high potential market and demand is increased during the covid-19 crisis
2. A renewed commitment from the Thai government to develop the region through special economic development zones
3. A large labour force in the three southern border provinces which could enter the agricultural sector
4. Development of regional transport infrastructure in the three southern border provinces will increase the level of access of agricultural products delivery
5. Due to the location of the three provinces, there is potential access to markets in southern ASEAN countries

THREATS

1. Ongoing insurgency in the three southern border provinces.
2. Agriculture careers are unpopular and not attractive to the new generation. At present, most of farmers are elderly people and tend to decrease steadily.
3. Natural disasters e.g. flooding, high temperature, new viruses affect levels of agricultural production
4. Agricultural production technology has changed rapidly, while farmers have been unable to adapt to the changes
5. Ineffective policies and coordination by government agencies
6. Unstable prices of agricultural prices

8.6 Framework of the Strategic Plan for Sustainable Food Value Chain and Food Security Development in the three Southern Border Provinces of Thailand

8.6.1 Definition of food security

Food Security, as defined by the Food and Agriculture Organization of the United Nations (FAO), is “a state in which all people, at all times, have the physical and economic ability to access adequate, safe and nutritious food to meet food needs and satisfactions for a healthy and energetic life”. Based on its definition, following are specific four dimensions of food security:

- *Availability:* The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).
- *Food access:* Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).
- *Utilization:* Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met. This brings out the importance of non-food inputs in food security.
- *Stability:* To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.

8.7 Food Security Framework for the Southern Border Provinces

8.7.1 Vision & Objectives

Vision:

"The three southern border provinces can produce safe and quality food, which is sufficient for all the population in the midst of any crisis"

Objectives:

1. To improve resource management in each stage of food production within the southern border provinces
2. To conduct research and training on effective practices in food production supply chains within the southern border provinces
3. To develop structures which enable effective information sharing and coordination amongst the private sector, government agencies and small-scale farmers within the southern border provinces
4. To enable access to technology for small scale farmers to increase food production effectiveness within the southern border provinces
5. To establish support networks to sustain food security within the southern border provinces during normal and crisis situations

9.7.2 Strategy for Moving Forward 2022-2026 (5-year plan)

Raising the Capacity for Knowledge and Innovation

- Conduct quality research and development initiatives
- Training on effective agricultural practices
- Create a culture of continuous learning for small scale farmers e.g. conduct regular forums and discussions
- Provide financial assistance to small-scale farmers to access new agricultural technologies
- Streamline local higher education goals to meet the needs of the agricultural sector
- Attract, retain and develop high/world-class know-how

Strengthening Institutional Capacity

- Address identified weaknesses
- Set up a Deep South coordination mechanism amongst all stakeholders for effective communication e.g. joint meetings between government agencies and provincial authorities
- Initiate smart partnerships between the private sector, government and farmers to develop and nurture small and medium sized initiatives

Make the Deep South a Premier food production region

- Agricultural Land Use Zoning- to address the issue of mismatched land by pairing the land used with the suitable conditions (e.g. crops, climate and geography).
- Land allocation scheme for those who do not have land for agriculture activities
- Rehabilitation of abandoned land for agricultural production.
- Improve irrigation infrastructure to increase agricultural production
- Facilitate the implementation of sustainable and organic agricultural practices of small-scale farmers
- Adoption of national and international standards (e.g. GAP, Halal, RSPO)
- Create a unique brand to promote agricultural produce from the region to national and international markets.
- Register local agricultural products under the Geography Indication (GI), such as Khao Ma Janu, Khao Hom Kradang-Nga, Khao Seribu Gantang

WORKPLAN (5 years : 2022 - 2026)

Strategy	Action	Timeframe					Main Responsible Agency	Responsible Agency	Targeted Areas
		2022	2023	2024	2025	2026			
1. Raising the Capacity for Knowledge and Innovation									
	1.1 Conduct quality research and development initiatives	■	■				Universities	Provincial agricultural offices	3 provinces
	1.2 Training on effective agricultural practices	■	■	■	■	■	Provincial agricultural offices		3 provinces
	1.3 Create a culture of continuous learning for small scale farmers e.g. conduct regular forums, discussion, and discussion	■		■		■	Universities	Provincial agricultural offices	3 provinces
	1.4 Provide financial assistance to small-scale farmers to access new agricultural technologies	■					Financial institutions (Agricultural bank and Islamic bank)		3 provinces
	1.5 Streamline local higher education goals to meet the needs of the agricultural sector	■	■	■	■	■	universities		3 provinces
	1.6 Attract, retain and develop high/world-class know-how	■	■				universities		3 provinces
2. Strengthening Institutional Capacity									
	2.1 Set up a Deep South coordination mechanism amongst all stakeholders for effective communication e.g. joint meetings between government agencies and provincial authority	■					SBPAC	Provincial Administrative Organization	3 provinces
	2.2 Initiate smart partnerships between private sector, government and farmers to develop and nurture small and medium sized initiatives	■					SBPAC	Provincial Administrative Organization	3 provinces

WORKPLAN (5 years : 2022 - 2026)

Strategy	Action	Timeframe					Main Responsible Agency	Responsible Agency	Targeted Areas
		2022	2023	2024	2025	2026			
3. Make the Deep South a Premier food production region									
	3.1 Agricultural Land Use Zoning- to address the issue of mismatched land by pairing the land used with the suitable conditions (e.g. crops, climate and geography)	■	■	■	■	■	Provincial Agricultural Office		3 provinces
	3.2 Land allocation scheme for those who do not have land for agriculture activities	■					Narathiwas Agricuktural Office		Narathiwas province
	3.3 Rehabilitation of abandoned land for agricultural production	■					Provincial Agricuktural Offices		Narathiwas province Pattani province
	3.4 Improve irrigation infrastructure to increase agricultural production	■					Irrigation office		Narathiwas province
	3.5 Facilitate the implementation of sustainable and organic agricultural practices of small-scale farmers	■					Provincial agricultural offices	universities	3 provinces
	3.6 Adoption of national and international standards (e.g. GAP, Halal, RSPO)	■	■	■	■	■	Provincial agricultural office Provincial Islamic Committee Provincial health offices	universities	3 provinces
	3.7 Create a unique brand to promote agricultural produce from the region to national and international markets.			■	■	■	SBPAC	Provincial Administrative Organizations Office of SME promotion	3 provinces
	3.8 Register local agricultural products under the Geography Indication (GI), such as Khao Ma Janu, Khao Hom Kradang-Nga, Khao Seribu Gantang	■	■				Provincial agricultural offices		3 provinces

CHAPTER 9. STRATEGY IMPLEMENTATION

In order to implement the proposed strategy and actions, it is recommended to establish a working committee consisting of representatives from different related organizations, agencies, non-governmental organizations and grass-root organizations.

The strategy is also recommended to present or share with government agencies e.g. Southern Border Provinces Administrative Centre (SBPAC), Provincial Administrative Organization (PAO), and other government agencies to request for financial and other forms of support.

Proposed Working Group

1. Representative from SBPAC
2. Representative from the Provincial Agricultural Office
3. Representative from universities and Education Institutions
4. Representative from local farmers
5. Representative from the Provincial Islamic Committee
6. Representative from Civil Societies
7. Representative from the Provincial Commerce Office
8. Representative from the Provincial Fisheries Office
9. Representative from the Provincial Strategic Office
10. Representative from the Provincial Administrative Organization (PAO)
11. Representative from the Provincial Agriculture Council
12. Representative from the Provincial Health Office
13. Representative from the Provincial Industrial Office
14. Representative from Financial Institutions
15. Representative from the Provincial Livestock Office
16. Representative from the Provincial Industrial Council Office

The Prince of Songkla University Science Park will take responsibility to bring forward the strategy to the related agencies and stakeholders for implementation over the next 3 years.

CHAPTER 10. EXPECTED IMPACTS OF THE STRATEGY IMPLEMENTATION

The strategic framework presented here is based on the study, information gathering and brainstorming sessions from stakeholders throughout the food value supply chain. Employment opportunities in the agricultural and industrial sectors from the implementation of this framework is expected. Farmers will gain knowledge, technology and innovation through interaction with universities, and government agencies in order to produce quality agricultural products which are secured and safe for people in the area.

CHAPTER 11. ANNEXES

Annex 1

SUMMARY OF STAKEHOLDR'S MEETINGS

Problems and Solutions to Food Value Chains in the three Southern Border Provinces of Thailand
at Narathat Conference Room 1, Imperial Narathiwat Hotel
Tuesday, 02 March 2021

Background

Narathiwat is one of provinces that imports lots of products from other provinces or from outside areas, this includes food, vegetables, fruits, livestock and rice. Narathiwat province grows minimal rice and raising small numbers of livestock. Besides being farmers, most of them have additional occupation.

Seribu Gantang and Kradang Nga fragrant rice is cultivated and sold to neighboring country (Malaysia) rather than being sold within the province. The COVID-19 outbreak in Thailand has severely impacted the economy and society nationally and the three southern border provinces, with many people lost their jobs people (usually the bread winner of their families), causing economic activity to stall. Furthermore, unable to work (due to lockdown) has led to food shortages in the area. A lack of effective water management for rice cultivation is a major problem that has affected rice production and other farming. In addition, another problem regarding agricultural production in Narathiwat is the lack of information from government agencies, for example access to financial support, agricultural & technology information. There are very few people who can access to information to support and increase their knowledge in agricultural production.

With the above mentioned, following agricultural products identified at the stakeholder's workshop in Narathiwat were: rice, vegetables, chicken/duck eggs, palm oil and fruit (longkong, rambutan, durian, etc).

MAIN PROBLEMS IDENTIFED

Participants at the workshop had identified 3 main problems in the food value chain of Narathiwat province. These are:

1. Knowledge & skill in agricultural technology of farmers is low;
2. Lack of strong relationship between government agencies and the local farmers;
3. Labor shortage due to migration to work in neighboring country (Malaysia)

RECOMMENDATIONS

With constraints and problems identified and discussed at the workshop, the following recommendations are:

1. Introduce appropriate agricultural technology to be used in farming operations;
2. Add value of agricultural products to farmers;
3. Create product quality standards (GMP, ISO, Halal) and improve product packaging;
4. Knowledge development for farmers, for example management of production costs and marketing;
5. Apply the philosophy of sufficiency economy;

WORKSHOP IN NARATHIWAS On 2 March 2021

Problems and Solutions to Food Value Chains in the three Southern Border Provinces of Thailand
at Nam Proud 2 meeting room, CS Hotel, Pattani
Wednesday, 03 March 2021

BACKGROUND

Pattani province is a province that mainly engages in the fishing industry and agriculture. The population earns income from related fishing and agricultural industries. However, there are limitations to the fishing industries, such as the monsoon season, unclear fishing boundaries and inappropriate fishing laws.

There are also limitations to other farmers who grow vegetables, fruit, and rice. These include knowledge, lack of skills and technology for agricultural development which prevent farmers from increasing the value of their agricultural products. In addition, farmers often do not have sufficient land for agricultural production, this results in them leaving agricultural activities and abandoning land.

The demand of local consumption in Pattani is high compared to the quantity produced in the province, therefore Pattani has to import agricultural products from outside of the province. In the case of a nation or region wide lock down (due to the COVID-19 outbreak), travelling and transportation is prohibited thus a food shortage is created. The following are in high demand; dried food, chicken eggs, instant food, fresh seafood, and etc.

MAIN PROBLEMS IDENTIFED

Four (4) main problems identified during the stakeholder's workshop:

1. Inappropriate laws and regulation which affect farmers;
2. Fishing areas and regulations are unclear;
3. Insufficient agricultural land;
4. Not enough technology is used in agriculture production

RECOMMENDATIONS

Below are the recommendations from participants at the workshop:

1. Strengthening community organization;
2. Declaration the 3 southern border provinces to be a World Halal Kitchen;
3. Development of skills in sustainable farming (e.g. organic agriculture);
4. Applying Sufficiency Economy Theory to agriculture activities;
5. Set up a Seed Bank;
6. Improvement of water management;
7. Working towards Palm Oil Certification, for example Roundtable Sustainable Palm Oil-RSPO standard;

WORKSHOP IN PATTANI On 3 March 2021

Problems and Solutions to Food Value Chains in the three Southern Border Provinces of Thailand
at Pimmada Conference Room Park View Yala Hotel
Thursday, 04 March 2021

BACKGROUND

Yala is considered as a high food security area. Yala can grow vegetables and other agriculture fruit trees as well as raising livestock. Studies and the information compiled found that even in emergencies such as the COVID-19 outbreak, Yala is able to provide sufficient food for its local population.

However, Yala still needs to increase agricultural knowledge and skills increase productivity, this includes agricultural technology. There is a need to form a group (or groups) of farmers which form farmer cooperatives in order to develop quality products with local identity, and add value to products.

MAIN PROBLEMS IDENTIFED

There are four (4) main problems in the food value chain in Yala:

1. Misunderstanding of the new generation regarding the agricultural sector;
2. Lack of knowledge of technology use in agricultural production;
3. Lack of knowledge of sustainable agriculture;

RECOMMENDATIONS

The following are recommendations from participants at the workshop:

1. Organize a project to support the new generation to enter the agricultural sector (Young Smart Farmer);
2. Promote agricultural production from up-stream, mid-stream and down-stream;
3. Enhance agricultural knowledge for new generations of farmers;
4. Knowledge development of technology use in agricultural production;

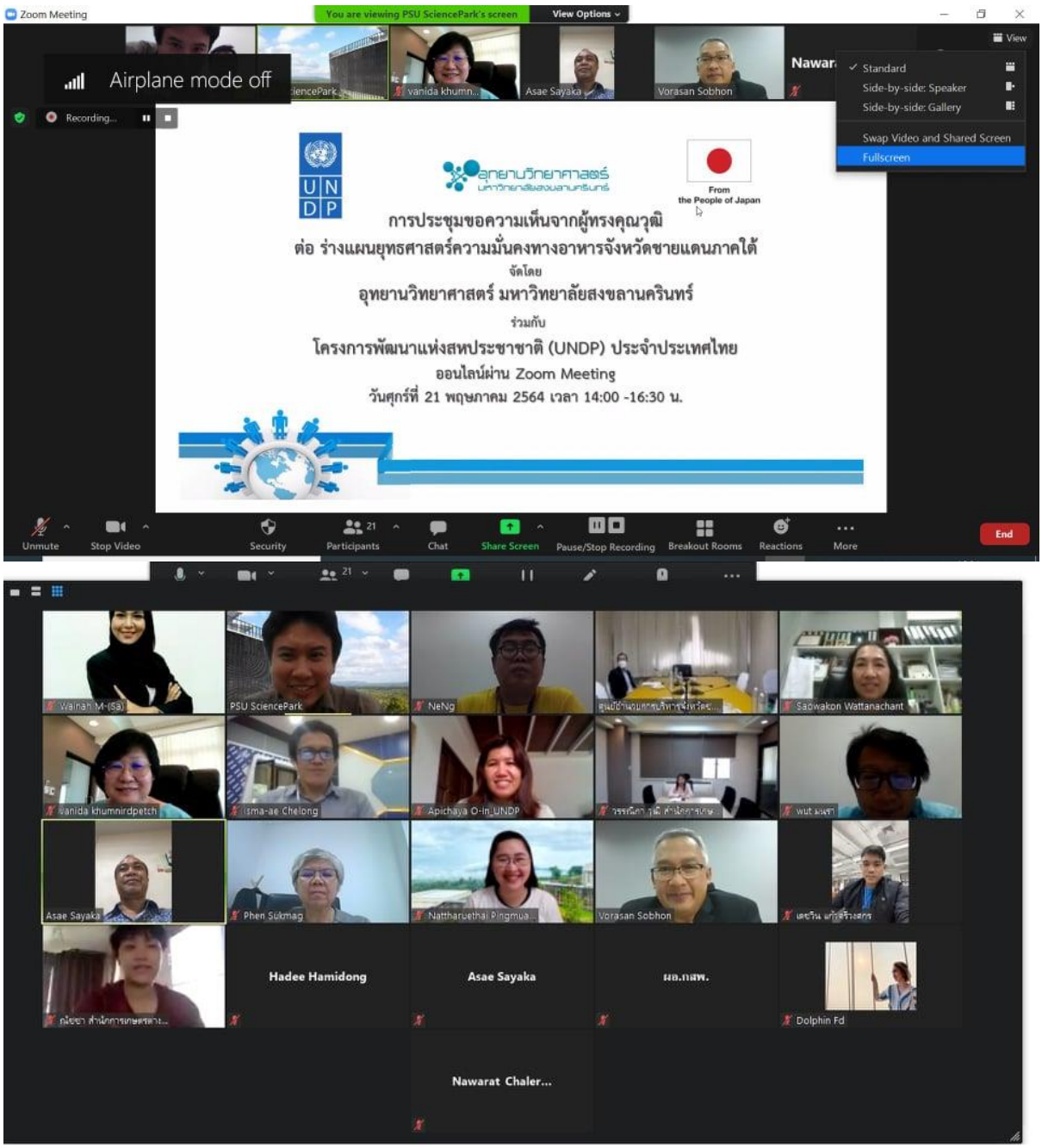
5. Enhance coordination among agriculture related agencies, for example the Department of Fisheries, Provincial Agricultural Office and other departments;
6. Provide access to financial resources, both public and private;

WORKSHOP IN YALA On 4 March 2021

Reviewed draft stretagic plan

by Experts from Yala Rajabhat University, Princess of Narathiwas University, Prince of Songkla University,
The Southern Border Provinces Administrative Centre (SBPAC) and Bureau of Foreign Agricultural Affairs (BOFAA) Office of Permanent Secretray Ministry of Agriculture and Cooperatives

Via Zoom Meeting On 21 June 2021



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