

**INTEGRATED MODEL OF PUBLIC POLICY FORMULATION
BY STAKEHOLDERS IN THE THAI RICE STRATEGY
IMPLEMENTATION**

Wareerat Srisathidwattana

**A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Public Administration
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ABSTRACT

Title of Dissertation	INTEGRATED MODEL OF PUBLIC POLICY FORMULATION BY STAKEHOLDERS IN THE THAI RICE STRATEGY IMPLEMENTATION
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The purpose of this study was to 1) to study the integrated model of public policy formulation by stakeholders in the implementation of the Thai rice strategy 2) to analyze factors influencing Thai rice public policy and 3) to develop an integrated model of public policy formulation by the stakeholders in the implementation of the Thai rice strategy.

This research was conducted adopting a qualitative approach. Data collection was done by studying and reviewing relevant literature, including in-depth interviews and observations of key informants. The researcher has divided the sample informants into 3 groups which can be seen as follows. 1) A group of nine (9) policy makers 2) A group of sixteen (16) policy adopters 3) A group of forty-six (46) stakeholders

In order to develop the model at the final stage, the researcher has adopted “Content Analysis” for data analysis. In addition, SWOT Analysis and also TOWS Analysis were adopted to identify strengths, weaknesses, opportunities, and threats, and later on to develop an integrated model of public policy formulations by stakeholders in the Thai rice strategy implementation.

The study of the public policy formulation by stakeholders in Thai rice strategy implementation indicated that, major of the policies formulated tends to focus on large-scaled production mainly for export, which consequently allows groups of capitalists to have a major influence on the political system. These capitalists usually come in the form of “interest groups”. While Thailand is still led by the monopolistic bureaucracy, it is difficult to deny that the government has the power to dominate the public policy process of formulation. Most of the public policy in Thailand usually offers solutions to the short-term problem. As a result, farmers tend to depend on the state policies, rather than learning to rely on themselves.

Regarding the factors influencing the public policy formulation by stakeholders in the Thai rice strategy implementation, it was found that in-equality of farmers' life quality is driven mainly by the different level of capital ownership. The capital in this case includes manpower, money (as capital investment), operating machines, (raw) materials for rice production, production inputs ownership and land ownership. These are all important factors in the formulation of rice public policy. The Thai rice supply chain is comprised of several stakeholders, beginning with the "farmers", the upstream unit of the rice supply chain.

In the development of an integrated model of public policy formulation by stakeholders in the implementation of Thai rice strategy, the first observation was the importance of reducing government interventions. The second one was the integration and collaboration between government agencies involving in Thai rice policy implementation. All this has to be put in action, in line with building the awareness, in effects and consequences of the government's action. This is an important system that will enhance the government's operating performance.

With rice research and development facing the budget problems, we can use farmers' cooperation as a tool to solve this problem. The use of technology should also be encouraged in rice production and management, for example, the development of geographical indications system. This is a sustainable solution to the problem of rice products and this also helps in enhancing the uniqueness of Thai rice. This can consequently help farmers improve their quality of life and reduce the dependency on the government's public policy. It is a long-term and sustainable solution to long-term policy issues.

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The dissertation of “The Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation” has finally and successfully been completed, and the author would like to extend thanks to a number of people who have generously contributed to the work presented in this dissertation, providing the author with information, pieces of advice, recommendation, feedback and comments, as well as inspiration and encouragement.

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Finally, the author wishes to dedicate this accomplishment and also to express her deepest gratitude to Mr. Ngi-tung Sae-tang and Mrs. Meaw Sristitwattana for all the motivation, inspiration, encouragement, love and care, and for making this learning and dissertation journey the most complete one.

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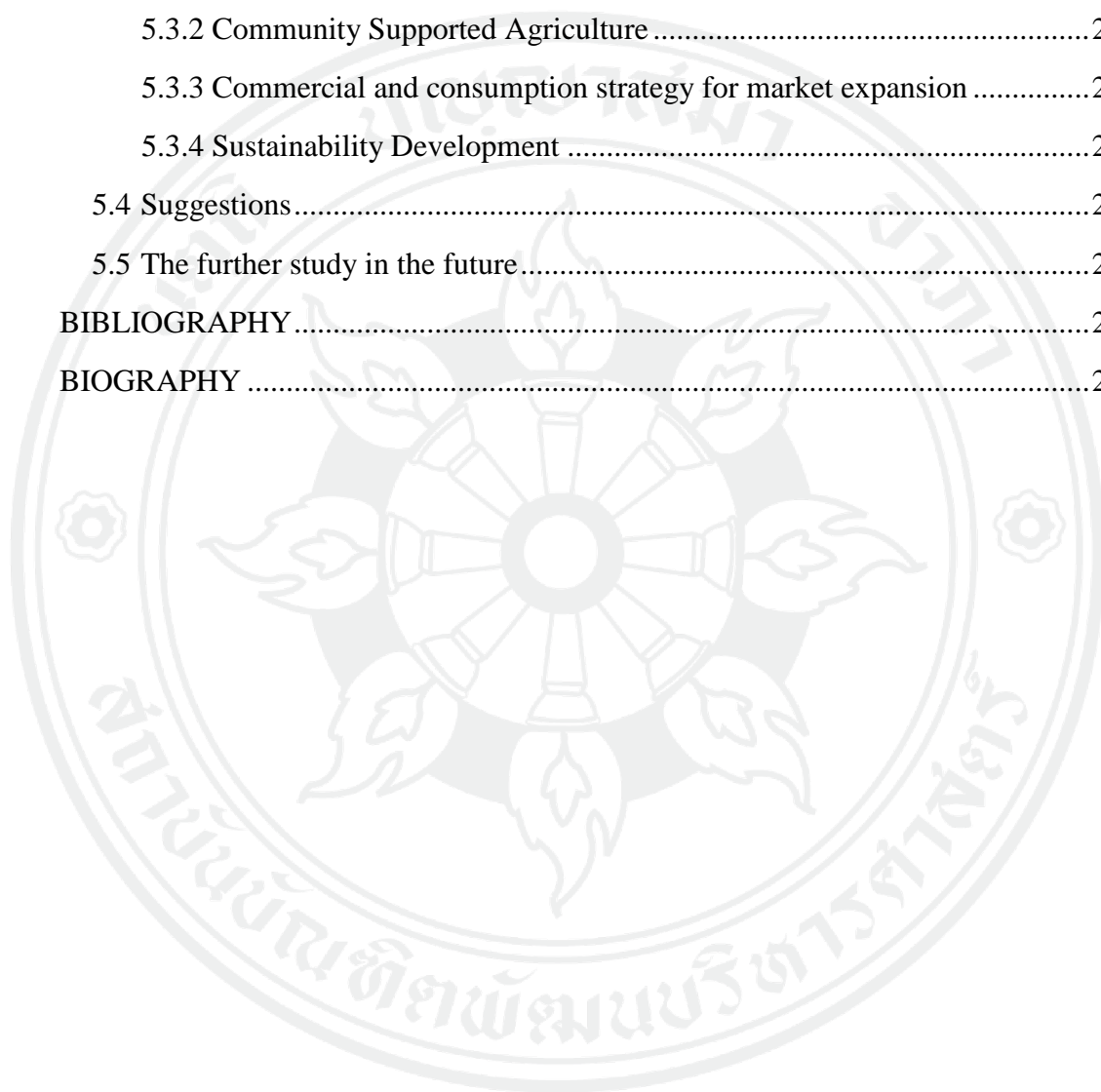
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CHAPTER 1

INTRODUCTION

1.1 Background

The 21st century has brought a number of dynamic changes to the economic, social, environmental, technological and political realms. These changes have given Thai people a wider range of options and opportunities, but at the same time introduced new risks and threats. Thailand has been active in establishing and translating the United Nation's Sustainable Development Goals 2030 (SDGs) into national policy goals, developing mechanisms to strategically drive the country forward, facilitating the country's development with social, economic and environmental dimensions in mind. However, Thailand still faces the problem of growing inequality between the rich and the poor and also problems of the unequal distribution of revenue. With no clear vision, no further development strategy, and no further implementation of policies designed to facilitate sustainable growth and reform, it is more than likely that Thailand will suffer from further deterioration and the exacerbation of existing inequalities. Although the Thai government has established guidelines, rules and regulations that will help support the country's development, most of these policies are short-term; plans that aim to tackle immediate problems. Seemingly perpetual political conflict, as well as changing leadership (from one government to another) have further exacerbated difficulties in establishing long-term policies.

"The National Strategy", first written in accordance with "The Constitution YR2017", Chapter 6: State Policy, Clause 65, mentions that, "The State shall establish the national strategy as a goal for the country's sustainable development, applying the principles of good governance to serve as a framework for the preparation of various plans." The goal of this strategy is to set the framework and guidelines for all state agencies to follow in order to achieve the country's vision by 2037. Under the concept of "Stability-Wealth-Sustainability", all state agencies are responsible for achieving

the goals that are set out in the national strategy. The formulation of public administration policies, the national economic and social development plan, nationwide policies regarding national security and any other plans must comply with the national strategy. It is the cabinet's responsibility to oversee and support all state agencies to implement national strategies.

However, in recent decades, Thailand has not moved in-keeping this vision and strategy. Constant changes in leadership have meant difficulties and challenges in establishing long term growth. New leadership has typically only push forward its own policies and campaigns to attract votes, resulting in short-term initiatives to tackle immediate problems. The country is therefore in a serious need of a long-term vision and mission which will remain constant. The formulation of policies has to be consistent with the country's vision and mission and it is the cabinet's responsibility to ensure that this mission is accomplished. The establishment of the country's vision, mission and long-term goals is thus crucial.

In Thailand a lack of public participation and stakeholders' involvement in the formulation of the national strategy is another important issue. The national strategy was formed by those in power (the Cabinet, including the National Council for Peace and Order [NCPO]). Previous research and studies indicate that Thailand's approach to policy formulation and implementation largely remains top-down, with limited levels of public participation. Stakeholders have not been included in the process of policy formulation; those that are involved are those who stand to gain from the implementation of certain policies.

From a conceptual stand point, policy implementation is the result of the balance of power, flowing from the top down, as well as from the bottom back to the top. This means that, although the government is the key policy maker in-charge of establishing strategy and plans, at the same time, the needs of citizens and other stakeholders have to be considered, as these are the people facing the problems/issues the policies are designed to solve. Stakeholders include those officials (or local agents) who have a role in supporting local populations. Officials possess knowledge, experience, and skills and are fully aware of the results of policy implementation. They also play an important role in helping local populations find solutions and make decisions. Policies do not always have to be fully established by a country's top

management. Public participation has to be encouraged, meaning that, local officials (at the provincial, district and sub-district levels) and other local stakeholders must be encouraged to participate or take part in the policy formulation process. Local agents, according to Hjern & Porter (1981, PP.210 - 217), consist of a wide range of people, including public and private sectors, and so on. Policy formulation processes and implementation can vary, however, but must keep local agents and stakeholders involved at all levels.

Chanakan Pandeumwong (2016) states that good public policies should be based on public participation and co-operation among all stakeholders. When locals (local officials and other local agents) participate in the political arena, it will encourage locals to educate themselves on public policy and the formulation process. The power of public participation from those who are not government officials will thus play a critical role in driving Thailand's communities – and society as a whole – forward. The traditional paradigm, based upon the top-down approach, mentioned above, may no longer function well. All stakeholders should be encouraged to take part in the common learning process, to participate in the process of policy formulation and decision-making. They should be allowed, and entitled to, set the direction and goals included in the national strategy.

Professor Dr. Praves Wasee (2009) states that participatory public policy formulation processes should be adopted as tools or approaches to “open the social space, as well as to widely open the intellectual space”, meaning that, all parties involved should be allowed and encouraged to participate in public policy formulation. Public policies should not be established only by a few policy makers, but instead, a wide range of stakeholders should be provided with an opportunity to propose and formulate policies and implementation strategies. Good public policies are those that bring in “fairness” and “righteousness” to society; those that bring social benefits to all. Good public policies are those that serve all Thai people, following His Majesty King Bhumibol Adulyadej's intentions laid out in his Accession Speech in front of the Grand Audience of venerable monks and Brahmins, members of the royal family, cabinet ministers, members of parliament, judges, military officers and civil servants, in which he stated, “I shall reign by Dhamma, for the benefit and happiness of all the Thai people.” If the Participatory Public Policy

Process (PPPP of P4) can be implemented it lead to an intellectual, social and moral development along these lines.

Thailand's economy has always been based on the agricultural sector. It is also the primary political base that all political parties focus as they can attract majority of the votes in the Senate. It is therefore not a surprise that most political parties focus on gaining the votes of groups of “farmers, planters and agriculturists” at election time. For decades, the agricultural sector has been an important force driving Thailand's economic growth. According to the Office of Agricultural Economics, Thailand possesses 138 million “rai” of agricultural land, accounting for 43% of all the land areas in the country (Office of Agricultural Economics, 2015). The majority of the Thai population is involved in the agricultural sector. As Thailand recognized the significance of its agricultural sector, a number of agricultural development plans have been established, including the latest (12th) National Economic and Social Development Plan (2017 – 2021).

Agricultural development plans have been established in accordance with national economic and social development plans, which have focused on the development of farmers; encouraging them – and other agriculturists – to work to achieve the realization of self-reliant agricultural communities, following His Majesty King Bhumibol Adulyadej’s “Philosophy of Sufficiency Economy” model. The adoption of the “Philosophy of Sufficiency Economy” model has been an important step in the country’s development and the transition from traditional farming to modern agricultural practices. However, there are a number of lingering constraints to the country's ongoing agricultural development, including the an aging society, changes in the natural environment, and issues surrounding food security and energy consumption, changes in the national economy, social and political issues, and unequal regional development. As such, there is a strong need for an effective action plan to cope and mitigate the aforementioned issues.

The agricultural sector plays is not only the major source of food, but also the main source of employment and income for a majority of the Thai population. Rice is considered as the most important economic crop in Thailand and is also the country’s major export product. One fifth of Thailand's total land area, approximately 70 million of rai, is allocated and classified as rice fields. Most of the fields are scattered

throughout the country, outside the irrigation area. There are nearly four million farmers in Thailand, with an average annual rice production of 30 million tons, generating about 200,000 million baht of income per year, not including domestic consumption worth 230,000 million baht per year. The total value of rice production in Thailand is approximately 430,000 million baht a year. Unfortunately, the majority of Thai farmers are still poor, with low levels of income compared to other professions. According to a survey, farmers land holdings are decreasing while rice production cost are increasing. In 2014, the cost of rice production was estimated at 4,323 – 5,968 baht per rai while net returns (per rai) are likely to decrease, and farmers' debt (baht per household) is increasing.

Rice is classed as a “political crop” in that – as mentioned earlier – the majority of political parties have focused on gaining support from groups of farmers. Most government administrations have recognized the importance of rice farmers due to the fact they constitute one of the biggest populations in Thailand. As a result, various political parties have tried pursue rice price policies in order to help support groups of Thai farmers and gain their support.

Although various administrations have established policies to help alleviate various problems in the agricultural sector – and especially to help Thai famers - there a number of problems and issues still exist in this sector. Implementing rice policy strategies in such a complex and diverse context and in a rapidly changing environment, in tandem with a globalization (which encompasses a fluctuating world economy, unstable political circumstances, various social, and technological changes), have had an impact on the result of the particular policy roll-out. It is therefore crucial for relevant parties to find appropriate ways to effectively and efficiently implement strategies in a consistent and timely manner. To successfully implement the rice strategy, it is important to have all the relevant stakeholders involved in the policy formulation process.

Public policy patterns and approaches have varied depending on the government administration and its senior officials. Overall, however, policy formulation and strategy processes have not taken stakeholders needs and regional contexts into account or included them in the strategy and policy making process. As

a result, the issues and problems facing Thai farmers problems have not been effectively or efficiently addressed.

Based on the above background the researcher is therefore interested in conducting research on an integrated model of public policy formulation which includes relevant stakeholders, which a specific focus on implementation of the Thai rice strategy. The thesis aims to analyze and develop a model to establish more effective rice policies and strategies. To do this, the thesis will analyze the relevant factors related to the Thai rice strategy, policy formulation, and implementation analyzing selected strengths-weaknesses-opportunities-[and] threats (SWOT Analysis).

The research herein aims to develop a rice-focused public policy formulation model that is contextually relevant, recognizing the needs of relevant stakeholders in various areas. The contribution of the research to existing literature on the topic is that it will connect relevant parties, strengthen rice-related networks, reduce political and bureaucratic dominance, and also to help formulate short-term, medium-term and long-term rice-related policies and strategies to sustain the Thai rice system. This will lead to an increase in Thai farmers' levels of self-reliance and consequently, improved quality of livelihoods.

1.2 Research Objectives

This thesis, a "Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation" includes the following objectives:

1.2.1 To study the "Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation";

1.2.2 To analyze public rice-policy, strategy formulation and implementation by stakeholders;

1.2.3 To develop an "Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation".

1.3 Scope of Study

1.3.1 Scope of Content

The thesis will analyze Thailand's public rice-focused policies strategies from the past to present day. It will also analyze internal and external factors and their impact on Thailand's rice policy formulation in order to develop an integrated approach towards rice policy formulation and implementation by stakeholders.

1.3.2 Scope of Area

Using the rice field sizes of each region in Thailand, the researcher selected the areas in which the actual stakeholders, meaning, the rice farmers then farming areas with the highest volume of rice paddies (based on the "Land Use Statistics 2003 – 2013" data collected by Office of Agricultural Economics Ministry of Agriculture and Cooperatives (2013)), the researcher selected the survey areas:

- 1.3.2.1 Central region: Supanburi and Pra Nakorn Sri Ayutthaya.
- 1.3.2.2 Northern region: Phitsanulok and Chiang Rai.
- 1.3.2.3 Northeastern region: Surin and Ubon Ratchathani.
- 1.3.2.4 Southern region: Songkhla and Pattalung.

1.3.3 Scope of Population

The analysis divides research subjects into three groups:

- 1.3.3.1 **Group of 9 policy makers** – includes government officials and academics;
- 1.3.3.2 **Group of 16 state officials that adopted the policy** (from 8 sampled provinces mentioned above).
- 1.3.3.3 **Group of 46 stakeholders directly relevant to policy implementation** – including private rice-trading agents, rice mills, private rice traders, and rice farmers from 8 sampled provinces.

Details are shown in Table 1.1

Table 1.1 Scope of Population

Population	Descriptions	Number of Persons
Policy Makers	Government officials and academics	9
Policy Adopters	Government officials	16
Stakeholders	Private-sector rice-trading agents, rice mills, private rice traders, and rice farmers	46

1) The researcher randomly selected the number of stakeholders from ranges of private rice-trading agents (i.e. stakeholders from the Thai Rice Exporters Association, Thai Rice Mills Association, Thai Agriculturists Association and the Thai Rice Association) for in-depth interviews;

2) The researcher also randomly selected a number of rice farmers, as well as rice traders, for focus-group interviews. Rice farmers and rice traders are those from 8 sampled provinces in 4 regions, classified as a major area of rice cultivation and distribution.

2.1) Central region: Supanburi and Pra Nakorn Sri Ayutthaya.

2.2) Northern region: Phitsanulok and Chiang Rai.

2.3) Northeastern region: Surin and Ubon Ratchathani.

2.4) Southern region: Songkhla and Pattalung.

Table 1.2 Respondents' Profile (for Focus-Group Interviews)

Region and Province	Respondent	Number of Persons
Central Region		
Supanburi	Rice mills	1
	Rice traders	1
	Rice farmers	3
Pra Nakorn Sri Ayutthaya	Rice mills	1
	Rice traders	1
	Rice farmers	3
Northern Region		
Phitsanuloke	Rice mills	1
	Rice traders	1
	Rice farmers	3
Chiang Rai	Rice mills	1
	Rice traders	1
	Rice farmers	3
North-Eastern Region		
Surin	Rice mills	1
	Rice traders	1
	Rice farmers	3
Ubon Ratchathani	Rice mills	1
	Rice traders	1
	Rice farmers	3
Southern Region		
Songkhla	Rice mills	1
	Rice traders	1
	Rice farmers	3
Pattalung	Rice mills	1
	Rice traders	1
	Rice farmers	3

1.3.4 Time period of the study

Research was conducted between August 2016 and May 2018.

1.4 Expected Benefits

1.4.1 To highlight the problems, issues and concerns faced by relevant agencies during its operations, as well as to study the details of public policies and strategies related to Thai rice by implementation stakeholders;

1.4.2 To learn more about Thai rice public policies and the impact on stakeholders;

1.4.3 To develop an integrated model of public policy formulation by stakeholders of the Thai rice strategy;

1.4.4 Adoption of the model by relevant agencies such as the Department of Rice, Ministry of Agriculture and cooperatives in policy formulation and implementation to achieve a higher level of operational efficiency;

1.4.5 To develop a model of stakeholder-focused public policy formulation for Thai rice strategy which can be used in the next stages of policy formulation.

1.5 Key Terms and Definitions

“Policy makers” refers to: a) government officials directly in charge of rice policy and strategy formulation; b) political actors; c) academics, and; d) researchers involved in the policy formulation process.

“Policy adopters” are government officials directly responsible for the implementation of government policies and strategies;

“Stakeholders” are those parties directly affected by the implementation of public policies, both positively and/or negatively. These include rice farmers, rice traders, rice mills, and rice exporters, etc.;

“Paddy traders” are those who purchase paddy (un-milled rice) from farmers, and sell it to the rice mills;

“Rice” refers to all types of paddy, white rice, par-boiled rice, as well as rice products acquired from the rice milling process.

CHAPTER 2

CONCEPTS, THEORIES, AND RELEVANT STUDIES

In the study of “The Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation”, the researcher has gathered a number of scholars’ concepts, research findings, and theoretical frameworks from various documents, academic journals and research related to rice policies, public policies on rice and the formulation of public policies. This research has enabled the researcher to adopt relevant guidelines in order to identify a suitable conceptual framework and research methodology. Details of the structure are as follows:

2.1 Rice trade in Thailand

- 2.1.1 Route of rice from rice farmer to consumer
- 2.1.2 Role of middlemen in paddy trading
- 2.1.3 Rice trade by the mill
- 2.1.4 Role of broker (Yong) in rice market
- 2.1.5 Rice trade pattern between Thai and foreign buyers

2.2 The Current Situation of Thai Rice

- 2.2.1 The current situation of Rice Producers and Major Rice Consumers
- 2.2.2 Critical situation in rice-producing and consumer countries
- 2.2.3 The Current Situation of Thai Rice Export
- 2.2.4 Factors that affect Thai rice export

2.3 Rice policy in Thailand

- 2.3.1 History of rice policy in Thailand
- 2.3.2 Rice policy in the era after change of government
- 2.3.3 Integrated rice production and marketing plan

2.4 Thai Rice Strategy

- 2.4.1 Thai Rice Strategy No. 1 (2007-2011)
- 2.4.2 Draft Thai Rice Strategy No. 2 (2016-2016)
- 2.4.3 Thai Rice Strategy No. 3 (2017-2021)

2.5 Public policy

2.5.1 Public policy process

2.5.2 Public policy implementation

2.6 Stakeholder

2.6.1 Stakeholder analysis

2.6.2 Stakeholders in public policy

2.6.3 Interest and pressure groups in public policy

2.7 Related research

2.1 Rice Trade in Thailand

2.1.1 Route of Rice from Rice Farmer to Consumer

Figure 2.1 Represents the route from rice farmer to consumer. Part of the rice from the paddy (from the rice farmer) will be grinded at a small mill into rice for household consumption. The rest of the paddy rice will be sold to a medium-sized mill or a paddy trader to sell to a mill. Part of the rice from a mill will be consumed in nearby areas and the rest will typically be sent to Bangkok, which is the storage and distribution center from which rice is distributed to other domestic consumers via middlemen or “yong”. Rice to be exported is done in large quantities. Large mills and exporters in Bangkok use ‘yong’ as brokers or contact agents.

However, the aforementioned pattern of rice trading is relevant only for general rice trading, not specialized or rare rice-types such as parboiled rice, white rice etc. Special rice types/breed trading differs from the regular rice trade, particularly at the point of purchase from the farmer. Mills for specialized rice will be typically be located in the same area as the paddy. The mill will purchase directly from the yong, who will usually have a long-term relationship with the paddy owner, the contract of which extends from the farm-export. All mills are meticulous about rice quality. Although rice farmers, mills, wholesale stores and exporters are long-term customers, it is not popular for farmers to sell rice without passing through a yong. The yong reduces communication difficulties, arranges delivery and tracks payments.

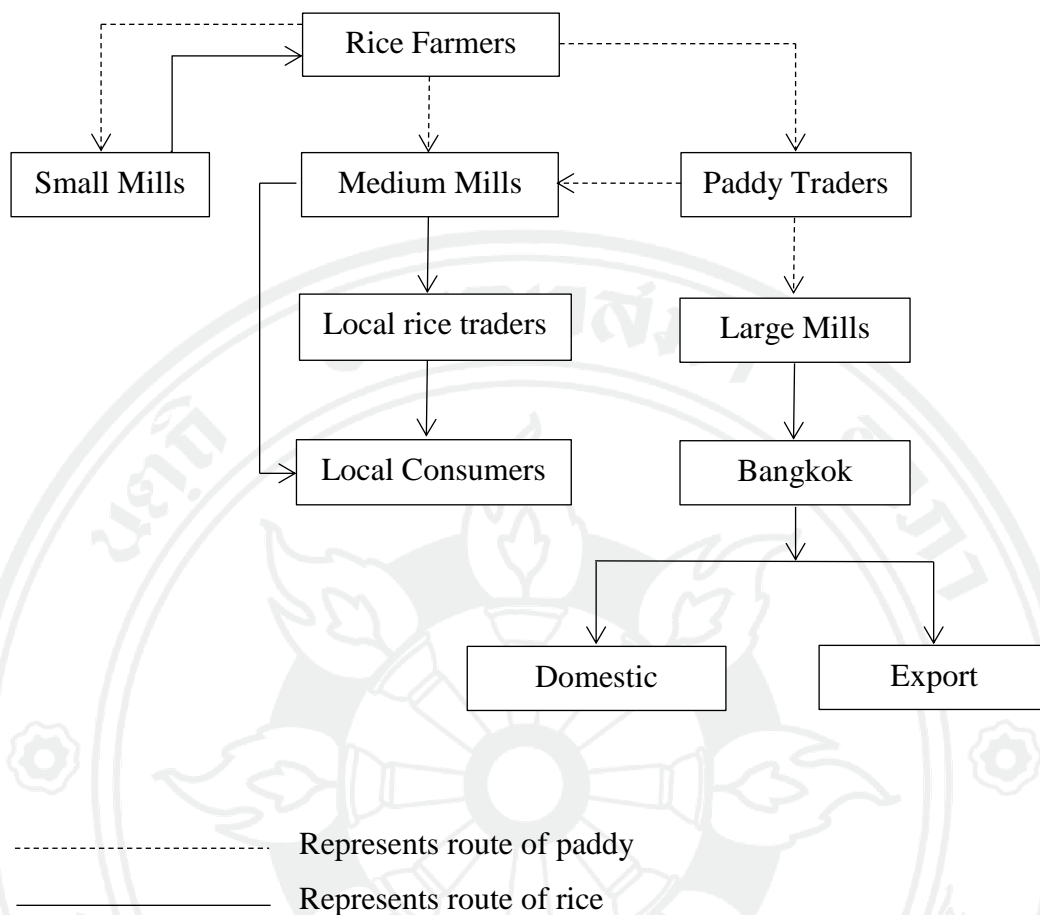


Figure 2.1 Route of rice from rice farmer to consumer and exporter
Source: Ammar, 1990

2.1.2 Role of Middlemen in Rice Trading

Mills use middlemen to buy paddy from many farmers, which is then sold back to the mills. This method is used as each farmer will not usually have much rice to sell. Middlemen can be divided into three major categories including; un-milled rice traders within villages; paddy traders from outside villages, and; paddy brokers in villages.

Paddy traders within villages are usually retailers or wealthy rice farmers who use his/her own pick-up truck to buy rice from other paddies in the area which is then sold directly to a mill. For this middleman, most earnings come from delivery fees. Some retailers keep the collected rice in a barn for price speculation purposes.

Paddy traders from outside villages usually buy from paddies in very spacious areas from the central, northeastern and/or lower-northern region. Higher amounts of paddies are needed to sell to medium and large mills and large mills near Bangkok. Some of the merchants have deals with mills according to purchase orders, and some of these have their own barns or warehouses. Sometimes this type of paddy trader is called a “barn”. These two types of traders also provide loans to farmers from time to time, both in cash and/or in kind with seeds, fertilizers, and pesticides, etc. Loans will be returned after harvest in cash with (relatively high) interest or deducted as debt.

Paddy brokers in villages act as an intermediaries to procure paddies for paddy traders from outside villages or the barn, who are often outsiders. This type of broker uses a motorcycle as the vehicle to bring paddy samples to middlemen and the barns for consideration, then arrange meetings between rice farmers and the barns (for the purposes of arranging trade agreements). This brokers earnings will be compensation; approximately 10-20 baht per wagon.

2.1.3 Rice Trade by the Mills

Mills process paddy into processed rice (ready for consumption) before sending to various consumer groups. In addition to processing paddy, the mills are also buyers, sellers, storage facilities and carriers. In this thesis, mills are divided into three types according to production capacities; small mills, medium-sized mills and large mills. Each type of mill plays a different roles in rice trading (Amman Siamwala & Viroj Na Ranong, 1990). These differences are described below.

Small mills have a production capacity under five tons per day. Small mills are usually located in the same village as that of agricultural production. A ‘small mill’ may be a grocery merchant or wealthy rice farmer who sometimes act as middleman; buying paddy and other agricultural crops. Small mill produced rice is typically consumed by farmers. Rice farmers will bring rice into the mill in small quantities (such as two-three sacks). The income of small mills is derived from a grinding service fee. Bran and broken rice from the grinding process are often sold as animal feed. Many small mills engage in other agricultural businesses such as pig farming as a major source of income.

Medium-sized mills have a production capacity between 5-20 tons per day, and play an important role in providing rice grinding services for provincial markets, and making sales to wholesalers and/or major consumers. Part of the income of medium-sized mills comes from the difference in un-milled and milled-rice prices as well as the sales of rice bran and broken rice. In addition, income is derived from speculation, from keeping paddy and processing it for sale at a higher price. Medium-sized mills will have barn or warehouse to keep all their paddy.

Large mills have a production capacity of 20 tons per day and buy large amounts of paddy from traders or have mill representatives (“Long Ju”) buy paddy from middle markets or middlemen. Large mills will sell large quantities of rice to exporters through brokers and have warehouses or large storage buildings. In addition to paddy processing, large mills usually export rice and have close relationships with commercial banks and government agencies due to their needs for high circulating funds.

2.1.4 Role of Broker (Yong) in the Rice Market

Intermediaries between the mills and exporters or domestic wholesalers will trade through a broker called a “Yong”. Most Yongs have stores located in Bangkok, near Song Wat and Ratchawong. Yongs will also act as a mill representatives to sell rice to exporter or domestic wholesaler (Yi Pua) Each day, a Yong will receive rice samples from contacted mills which he/she then sorts by type and quality, separating them into small packages which are then given to employees of the Yong (called “Keng Ki” or “pao bi”) who offer them to a “Yi Pua” of a “Long Ju” or procurement manager of an export company. A Keng Ki will report on the agreement, report the demands of wholesale stores or export companies to a Long Ju of a Yong’s store. Then, the Yong will be responsible for delivering the rice between buyer and seller to match the agreed-upon quantity and quality. The mill is responsible for shipping costs from the mill to the yi pua’s or exporter’s warehouse. A Yong will send Keng Ki to check the rice quantity and quality together with an exporter’s warehouse manager (a “Guang Jung”).

Apart from responsibilities in the quantity and quality between buyer and seller, a Yong is also responsible for payments between both parties. The buyer will

pay the mill via the Yong within specified period. In addition to the brokerage fee of 0.75percent of rice price per trade, a Yong can also profit from changes in rice prices over time. In the last 10 years, there have been many Yong-owned stores that have stockpiled rice for the purposes of speculation.

2.1.5 Rice trade patterns between Thai and foreign buyers

Thai rice export companies sell rice to foreign buyers in three forms: to private buyers, to governments (of buyer countries) and to export companies who supply rice on behalf of the Thai government for sale to governments from buyer countries. In forms one and two, sales can be conducted via an international broker, who is a specialized contact with buyers and sellers around the world, and a source of information on rice.

When trading, broker companies do not inform exporters in advance about their employers. The seller will only know when contract is made. Trading will conducted on a F.O.B (Free on board) price bass. The buyer is responsible for transportation, freight and insurance costs. Foreign buyers submit financial documents (a L/C or Letter of Credit) to the exporter via a commercial bank. While the paddy was being transferred to Chalom Ship - Thai medium or large-sized loading ship – then to the larger sized one, an international surveyor company should be present, which must be stated in the trade contract and signed quality assurance document.

The sales of rice to governments (of buyer countries) can be done using two methods; sales through a broker and direct sales. Sales through brokers follows a similar process to sales to a private buyer.

Direct sales to governments are done in several ways, including at auction (including to Malaysia, Indonesia, Philippines, Iraq and Senegal), long-term relationship sales, and trades; through the exchange of goods, often conducted with socialist countries with foreign currency problems. Sales through the exchange of good is not a likely scenario in the Thai context as rice buyer countries can often only offer products which are not popular in the Thai market.



Figure 2.2 Thai Rice Marketing Route
Source: Agricultural Futures Trading Knowledge Development Center

2.2 The Current Situation of Thai Rice

2.2.1 The current situation of Rice Producers and Major Rice Consumers

(Source: Department of Internal Trade, December 2017, (Note: the exchange rate at the time of writing was USD \$1 = THB 32.9901).

2.2.1.1 Marketing

Farmer Assistance Measures for Farmers in the Production Year 2017/18 The resolution of the Cabinet meeting approved 4 measures in total 8 projects as follows:

- 1) Project to promote the good quality of jasmine rice or Hom Mali Rice (Rice Department)
- 2) Agricultural Extension Program (Rice Department)
- 3) Organic Rice Production Project (Department of Rice)
- 4) Annual Rice Insurance Program Year 2017 (Bank for Agriculture and Agricultural Cooperatives)
- 5) Integrated Rice and Rice GAP (Rice Department)

6) Land Rehabilitation and Reducing Rice Planting Under the Production Plan and Integrated Rice Marketing. (Production) in 2017/18; 3 projects

- Fertilizer for Rice Plant Project (Department of Livestock Development)

- The Second Plant Variety Promotion Project, 2018 (Department of Agriculture)

- Secondary Fertilizer Plant Project, Secondary Year 2016 (Department of Land Development)

2.2.1.2 Prices

1) Price that farmers sell to the domestic market;

The average daily price of paddy rice was 10,726 baht per ton, up from 10,497 baht per ton last month;

The 15 percent average moisture content of paddy in December was 7,588 baht per ton, down from 7,875 baht per ton the preceding month; a drop of 3.64 percent.;

2) Wholesale prices in the Bangkok market

Jasmine rice 100 percent, new (1st floor) December 2017 averaged 27,500 baht per ton, up from 26,150 baht the previous month; a 5.16 percent increase;

White rice 5 percent (new) December 2017 averaged 11,375 baht per ton, down from 11,530 baht per ton the preceding month; a drop of by 1.34per cent.

3) Export price of FOB

The average price of jasmine rice or Hom Mali rice in December 2017 was USD \$1,029 per ton (33,947 baht / ton), up from USD\$997 per ton (32,918 baht / ton) in the preceding month; a rise of 3.2 percent (THB 1,029 per ton);

The average price of white rice was USD\$386 per ton or THB 12,734 in December 2017, down from USD \$392 per ton in the preceding month; a drop of THB 209 per to,.

The average price of white rice was USD \$375 per ton (THB 12,371 per ton), down from USD \$379 per ton in the preceding month; it was reduced by USD\$ 142 per ton in the previous month.

Parboiled 5 percent rice averaged USD \$392 per ton (THB 13,031 per ton), in December 2017, down from \$401 per ton in the preceding month; a drop of 2.24 percent from the preceding month.

2.2.2 Rice Situation in Major Producing and Consumer Markets

2.2.2.1 Vietnam

The Vietnamese Government plans to reform rice production in the long term by focusing on the value added instead of quantity of rice sold to achieve sustainable development in the production and export of rice from 2017-2020. It is planning to develop Vietnam's rice export market with a vision which extends to 2030. The Vietnamese Government identified one of the main targets as reducing the amount of rice exports but increasing the value. By the end of 2020, it is expected that Vietnam's annual rice export volume will be about 4.5-5.0 million tones, which will generate some USD \$2,200-2,300 million.

From 2021-2030, Vietnam's annual rice exports will fall to about 4 million tones, but with increased value; to USD\$ 2,300-2,500 million (annually). The Vietnamese Government also plans to restructure its rice export products.

Fragrant rice, special rice, and Japanese rice exports, make up the largest proportion (40 percent) of Vietnam's rice exports. The export of glutinous rice and white rice is equal to approximately 25 percent. Meanwhile, high quality rice, high value organic rice, high-nutrition rice, and products made of rice accounted for 10 percent of exports.

Mr. Chan Kong Tang, Deputy Director, Institute of Policy and Strategy for Agriculture and Rural Development, Ministry of Agriculture and Rural Development of Vietnam, has said that there is currently no national plan for the export of rice. Many provinces have developed high-quality rice products utilizing technologically advanced production methods and Vietnam has used rice as a geographical indicator (geographical indications (GI)) such as Hai Ha rice and Dien Bien rice.

Many local rice brands are protected by the state policies including glutinous rice. In the Hai Chueng province, Dong Juea, sticky rice and jasmine rice in the provinces. Companies Developed a brand for their business and rice products.

In recent years, high quality rice varieties have been developed to meet market demands. Rice exporters are increasingly trying to find new ways to penetrate high-end rice markets, along with ways to improve rice production. In the Mekong Delta, there are 10-12 brands of privately produced rice.

In addition to developing high quality rice, Vietnam also is developing rice products for traditional rice markets and expanding its export markets to Africa. Vietnam and many other rice producing countries have experienced many problems, including increases in the salinity of water and issues related to climate change. Due to these issues, rice production methods and techniques must adapt to changing weather conditions (Bangkok Business Journal, January 2018)

2.2.2.2 Cambodia

The Cambodian Government has issued a range of measures to help rice producing farmers. Wong Saiyavisut, Deputy Minister of Economy and Finance, the Office of Foreign Trade Promotion, who spoke at a meeting with private sector representatives related to new agricultural cooperatives on August 14, 2017, stated the following:

- 1) The Cambodian Government will take various measures to make the price of paddy rice lower than that of neighboring countries;
- 2) Due to high infrastructure and transportation costs, the buyers, whether they are mills, middlemen or brokers are buying rice from farmers in order to maintain profitability in each sale;
- 3) The state has entrusted relevant provincial and local authorities with price assistance; to negotiate prices for farmers, to obtain higher prices and transport rice to farmers without any charge;
- 4) Over the past several months, the government has approved USD \$50 million and USD \$30 million for low interest loans to mill owners for the purchase of rice and for loans to build silos and paddy fields, respectively. The government expects that this should improve rice prices;

5) The current price of jasmine rice at the mills sits at 7,400-7,500 baht per ton and plain white rice at 5,400-5,500 baht per ton (Office of Foreign Trade Promotion, Phnom Penh, October 2017);

2.2.2.3 Indonesia

The Indonesian Government has cancelled rice-price ceiling regulations after a protest by retailers and wholesalers. Trade Minister Enggartiasto Lukita said that all stakeholders would be invited for a revision of Ministerial Regulation No.47 / 2017, which references the price of rice purchased from farmers and sold to consumers. Lukita claimed that such regulations were not approved by the Ministry of Law and Human Rights;

Lukita promised to consider all stakeholders in controlling rice prices. Although the government has the power to regulate, changes must be discussed before rules are imposed. Lukita invited representatives from the Ministry of Agriculture, Ministry of Trade, Police Department, the Competition Regulatory Commission (KPPU), distributors, sellers, and rice mills for discussions in which a deal was reached. Soon after, the Indonesian Government announced the abolition of the grain price ceiling. The abolition of such rules is the result of the acquisition of rice warehouses of major Indonesian rice producers that sell medium and premium quality rice and protests from affected rice traders. (www.riceonline.com)

2.2.3 The current situation of Thai Rice Export

Below is a summary of the Thai rice export situation in various categories:

Table 2.1 Comparisons of the Export Volume of Thailand's 5 Major Exporters

Country	2015	2016	1 Jan- 20 June 16	1 Jan- 20 June 17	Δ%
Thailand	9.79	9.88	4.61	5.33	15.6
India	10.94	10.04	4.92	5.08	3.1
Vietnam	6.61	4.86	2.38	3.04	27.3
Pakistan	3.96	3.96	2.09	1.38	-33.7
USA	3.45	3.52	1.48	1.80	22.2
Total	34.75	32.26	15.48	16.63	7.4

Unit: Millions of Tons of rice

Source: <http://www.thairiceexporters.or.th/Press%20release/2017/TREA%20Press%20Release%20Thai%20Rice%20Situation%20&%20Trend%202017-03022017.pdf>

Table 2.2 The Quantity of Thai Rice Exported between the Years 2015 and 2016

Type of Rice	2015	2016	Jan-May 2016	Jan-May 2017	Δ%
White head rice	4,787,696	4,562,648	2,161,883	1,992,947	-7.8
White broken-milled rice	206,716	242,459	85,145	137,684	61.7
Jasmine rice or Hom Mali rice	1,405,761	1,560,585	600,319	654,085	9.0
Jasmine broken-milled rice	581,471	804,147	409,613	345,948	-15.5
Parboiled rice	2,316,900	2,142,589	820,032	957,835	16.8
Sticky rice	124,191	164,787	67,338	88,355	31.2
Sticky broken-milled rice	248,644	274,379	75,439	115,354	52.9
Thai fragrant rice	124,401	131,694	61,816	92,872	50.2
Total (tons)	9,795,780	9,883,289	4,281,585	4,385,082	2.4
Value (Million Baht)	155,912	154,434	66,472	65,065	-2.1
Unit Price (ton/baht)	15,916	15,626	15,525	14,838	-4.4
Value (million USD)	4,613	4,401	1,878	1,869	-0.5
Unit Price (USD / MT)	471	445	439	426	-3.0

Unit: Tons of rice

Source: Information and Communication Technology Center Office of the Permanent Secretary in cooperation with the Customs Department, January 2018

Table 2.3 Major Thai rice importer countries between 2015-2017

Country	2015	2016	Jan-May 2016	Jan-May 2017	percentΔ
Benin	805,765	1,421,050	465,235	579,334	24.5
China	958,368	1,033,503	444,321	577,775	30.0
South Africa	568,751	573,497	211,093	248,367	17.7
Philippines	821,088	308,726	148,206	219,042	47.8
Ivory Coast	542,923	696,444	357,497	207,942	-41.8
Cameroon	449,297	502,254	245,177	202,341	-17.5
USA	431,719	470,881	189,368	199,071	5.1
Angola	330,186	328,038	98,236	186,381	89.7
Mozambique	314,846	341,631	102,818	177,075	72.2
Japan	282,613	325,436	140,120	138,506	-1.2
Others	4,290,225	3,881,829	1,879,514	1,649,247	-12.3
Total	9,795,780	9,883,289	4,281,585	4,385,082	2.4

Unit: Tons of rice

Source: Information and Communication Technology Center Office of the Permanent Secretary in cooperation with the Customs Department, January 2018

2.2.4 Factors that Affect Thai Rice Exports

In the second half of 2017, the Thai Rice Exporters Association expected the export situation to improve, expecting major markets in the African region to buy. Asia still needs to import rice to offset short falls in rice supply. Meanwhile, the Middle East market – both Iran and Iraq – are back buying more rice from Thailand. It is expected that this year will be a challenging year for Thai rice exporters. The Thai Rice Exporters Association has gathered the factors expected to affect Thai rice exports. These are discussed below.

2.2.4.1 Positive factors

1) The Thai Government has a state-to-state (G2G) rice sales agreement that requires further negotiation. Bangladesh, Sri Lanka, Iran, and Iraq have expressed their intentions to buy rice from Thailand. There is also a chance that Thailand will win the Philippines rice auction.

2) The Thai Government continues to drain rice from state stocks. As a result, there is a supply of rice to be consumed overseas such as in the African market, resulting in a decline in government stock prices. Normally, this would increase buyer confidence;

3) Thailand's rice export prices are not that different from those of competing countries. It can still compete.

4) Major competitors such as Vietnam and India have received a large number of orders. There is a chance for Thailand to market its rice in the normal markets.

5) Increased demand for rice in many countries is due to recent weather, which has not been favorable for cultivation, with many natural disasters, including those in Bangladesh and Sri Lanka;

6) Oil prices have increased, resulting in increased revenues and purchasing power for oil-dependent countries. This will benefit Thai rice exports.

2.2.4.2 Negative factors

1) The shortage of workers in ports and the effects of the Royal Decree on the Management of Foreign Workers, 1973, has resulted in large numbers of vacancies in ports which has delayed the delivery of rice shipments;

2) Appreciation, the volatility of the Thai baht, and various financial policies of consumer countries have provided challenges for the export market;

3) The rice output of many countries is expected to increase. Many countries' policies are based on domestic production, including agricultural subsidies to increase domestic yields and reduce dependence on imported rice. As a result, the demand for rice has decreased, in places such as Indonesia, the Philippines, and Nigeria;

4) Various factors can prevent Thai rice imports including hygiene standards, taxation rules and import quotas.

2.3 Thailand's Rice Policy and Strategy

Due to an agreement under the World Trade Organization (WTO), the majority of countries have established policies to help support domestic farmers and

agricultural producers. Agricultural price subsidies are also applied in Thailand, following the General Agreement on Tariffs and Trade (GATT). Policy intervention has affected the rice trade market. Rice prices are usually low at the beginning of the season due to the large number of available produce, but prices rise late in the season, bringing farmers increased income. One of the main reasons for Thailand's price subsidy on rice is that it is the nation's major export product.

The objective of this is to study explain the patterns of Thailand's rice policies, with reference to the relevant agencies involved in order to understand the overall development of rice management in Thailand.

A timeline of Thailand's rice policy can generally be divided into the following eras:

- 1) Pre-period of the Siamese Revolution in 1932 and the changes of government;
- 2) Post-period of the Siamese Revolution in 1932 and the changes of government;

After the Siamese Revolution in 1932, Siam was transformed from an absolute monarchy to a constitutional monarchy. Major rice policy changes were often triggered by economic and political changes, both domestically and internationally.

2.3.1 History of Rice Policy in Thailand

In the Ayutthaya period, the majority of rice traders were Chinese settlers who migrated to the area around the Gulf of Thailand. Rice-trading in the Ayutthaya period was mostly done via a "mediator" or so-called "middleman". In this system the middleman would purchase rice from the farmers in local districts and have it transported to Ayutthaya where it was sold to the major merchants or millers. Rice trading with foreign countries was done by "Chinese junk ships" or in areas where the junk ships congregated. Trade policies were then formulated and controlled by Treasury Department. Rice exporting was done by either the Siamese or foreign traders who would purchase rice and resell it to foreign consumers. Foreign merchants included the Portuguese, Dutch, French, Malay, Malaccan, Javanese, Cambodian, Manila, Japanese, and Chinese.

During the Thonburi period, Siam engaged in an active war with Myanmar. The role of commerce was minimal. Rice trading with foreign countries was still under the control of the Treasury Department (today, the Ministry of Finance). During the Thonburi period, a food shortage emerged, and the Siamese had to purchase rice at the expensive prices from foreign traders for domestic consumption. Trade with Chinese merchants, thus, continued to grow.

During the Rattanakosin era (1782 – 1882), King Rama I established Bangkok as the capital city of Siam. The position of Chief Commander Agricultural Department still existed and was tasked with supplying food to the royal army during the war. One of the major responsibilities of Agricultural Department was to collect the so-called “rice tail”; referring to rice that was collected by Agricultural Department as a tax. However, the rice tail policy was abolished during the reign of King Rama III, when money was collected as tax instead of rice. This tax was considered as “rice farms fees”. In 1825, Siam, together with England, signed the "Burney Treaty" which enabled free trade between Siamese and English traders. The treaty was the first formal agreement of the Rattanakosin period. The treaty, however, did not include paddy trading, which was exclusively reserved for domestic consumption.

During the reign of King Rama IV, Siam changed its commercial policies to focus on promoting trade. In 1855, Siam signed the “Bowring Treaty” with Britain, which brought about tremendous economic changes in the country, connecting Siam to the world of capitalism for the first time. As a result of the treaty, the warehouse and tax systems were terminated. The Bowring Treaty positioned rice as the main commodity. Rice trading fees were collected, replacing the “Pak Rueu Fees” (docking fees). The introduction of rice trading fees were designed to benefit the economy. It is from this period that rice became the nation’s major export product.

Rice trade during the reign of King Chulalongkorn saw a proliferation government agencies. The feudal system was abolished and the Department of Agriculture was upgraded to the ‘Ministry’ of Agriculture on April 1, 1892. From 1911 - 1912 a drought caused crops to fail. In the year 2459, the Ministry of Commerce set up a rice testing station on the Rangsit Canal called the ‘Rangsit Experimental Rice Canal’ (now the Pathumthani Rice Research Center). The station

covered some 1,000 rai. The price of rice in the world market was only half the price of rice from Java and the United States. Thai officials promoted rice quality by organizing the country's first rice competition at the first agricultural and commercial show. By the end King Rama V's reign, weather conditions had improved, significantly increasing rice exports, resulting in Thailand's first ever trade deficit.

During the reign of King Rama VII, before the change of government in 1927, a group of agricultural scientists led by Mr. Sittiporn Krishadakorn issued 'The Kasikorn Paper' to promote the development of modern production to increase agricultural productivity. Another rice crisis took hold, this time due to the global economic downturn, which caused the baht to harden and world rice prices to rise. In 1931, sections of the Ministry of Education were combined with those from the Ministry of Commerce to form a new Department of Agriculture under the Ministry of Commerce and Communications.

A change of government in 1932 caused bureaucratic reform and the establishment of the Ministry of Agriculture as a separate ministry, changing its name to the Ministry of Agriculture and Cooperatives, the Transfer of Land Registration, Department of Forestry, Department of Forestry and Department of the Ministry of Interior.

2.3.2 Rice Policy after the Change of Government

From 1932, Thailand became a democratic nation with the prime minister as the nation's leader. At the time, rice farmers were the main generators of wealth in the country. The price of rice fell, especially during the harvest seasons, when rice was in plentiful supply. The government intervened in order to alleviate the problem and stabilize rice prices. In the early years of Thailand's rice policies, production and marketing were clearly defined and separated. Production was the responsibility of the Ministry of Agriculture and Cooperatives. Policy was largely based on the Ministry of Commerce's recommendations. There was a lack of coordination between the involved ministries, resulting in rice management problems.

2.3.2.1 Rice Policy for Production:

The major rice production problems for Thailand have been poor product quality and a lack of resources and input (such as fertilizer and rice) available

to farmers. The main managing agency of rice production has been the Ministry of Agriculture and Cooperatives. The Department of Rice are the main policy makers in the field of rice production.

1) Rice Department Cooperation Plans with the Department of Agricultural Extension

In February 2008, the Rice Department and the Department of Agricultural Extension issued a memorandum of understanding (MOU) on joint national planning to promote and develop rice and farmers. The MOU includes research initiatives to determine appropriate technology to aid production and the establishment of the "Rice Community Center". Thailand's rice certification system has been verified according to the GAP (Rice Quality Management System)

2) Policies on Production and the Distribution of Fine Grains:

Farmers have to change their rice seeds every three years, leading to a risk of mutation and poor rice quality. Farmers can buy seeds from the Seed Center, Rice Research Center and various rice community centers around the country.

3) Organic Rice Promotion Policy

Organic rice sells at a good price and currently there is good demand for the product in the global market, which is increasing every year. Thailand has two marketing channels, in-direct and direct sales. In 2004, the government has developed a program to develop organic jasmine rice for the world market. The program involves coordinating local authorities and demonstrating of the production methods for organic jasmine rice. The program encourages farmers to adopt organic farming standards from the International Federation of Organic Agriculture (IFOAM) programs.

4) Farmer Policy:

Farmers are provided with two main forms of support:

(1) Credit Support Program: This program provides farmers access to a mutual fund, 'the Farmer Fund'. The fund is managed by agricultural cooperatives in each province;

(2) Specially priced fertilizer for farmers; Operated by the Bank of Thailand (BoT) and the National Fertilizer Public Company Limited,

(NFC), the initiative was first implemented in 2006 following a government policy designed to reduce production costs for farmers. However, the scheme has come under scrutiny, accused of exploiting loopholes, and it fake fertilizers have been provided, causing multiple problems.



Table 2.4 Timeline of Thailand's Rice Policy and Strategy

Timeline	Prime Minister	Policy	Related Parties	Description
1946	Mom Rajawongse Seni Pramoj	Rice Export Restriction Rice Export Prohibition	Rice Organization	Establishment of 'rice organization'. Rice collected and delivered to the United Nations as "fines" during the World War II, following the UN's Complete Treaty; obligation to pay fines ended in 1948;
1946	Mom Rajawongse Seni Pramoj	Premium Policy for Rice	Ministry of Economics (changed to Ministry of Commerce)	Collection of rice export fees (policy canceled in 1986);
11 March 1946	Major Kuang Apaiyawong (Commandant)	The Act on the Prevention and Suppression of Rice Quarantines (1946)	Ministry of Commerce	- Rice possession limited and sold directly to the government; - Government had the power to regulate the price and quantity of exports;
8 May 1946	Pridi Banomyong	Rice Trade Act (1946)	Ministry of Commerce	- Identification of rice-trading control areas; - Regulation of price and trading volumes;
25 August 1946	Rear Admiral Thawan Thamrongnavasawas		Rice Procurement Committee	Supply rice to the United Nations according to contractual agreement;

Timeline	Prime Minister	Policy	Related Parties	Description
16 September 1953	Field Marshal P. Pibulsongkram		Department of Rice	Establishment of the Department of Rice; responsible for research and development. Department consisted of four divisions and 10 experimental stations;
1955	Field Marshal P. Pibulsongkram	- Policy on Paddy Price Raise - Royal Decree on The Establishment of Public Warehouse Organization	Public Warehouse Organization	Founding of Public Warehouse Organization to buy and collect paddy from farmers; Implementation was not as successful as expected;
1958	Lieutenant General Thanom Kittikajorn	Low-interest Loan Scheme	Bank of Thailand	Rice exporters received financial support through the low-interest loan scheme to help reduce export costs. Collateral was required for scheme participants;
1962	Field Marshal Sarit Thanarat	Policy on Paddy Price Raise	Rice Reserves Board	Paddy purchased in restricted areas in which rice prices were very low.

Timeline	Prime Minister	Policy	Related Parties	Description
1966-1968	Field Marshal Thanom Kitti Kajorn	- Policy on Paddy Price Raise - Low-priced (White) Rice Scheme - Policy on Rice Reserve	-Farmer Assistance Committee -Rice Price Regulation Sub- committee	The Farmer Assistance Board founded to buy paddy rice. The public warehouse organization acted as the regional rice purchasing unit. White rice sold to foreign governments; remainder sold to the public by the Department of Internal Trade. Problems included insufficient storage for paddy;
21 October 1967	Field Marshal Thanom Kitti Kajorn		Department of Agricultural Extension	New knowledge and technology distributed to farmers;
1972	Field Marshal Thanom Kitti Kajorn		Department of Agriculture	Rice Department merged into the Department of Agriculture and downsized to the 'Division of Rice'.

Timeline	Prime Minister	Policy	Related Parties	Description
30 January 1973	Field Marshal Thanom Kitti Kajorn		Rice Policy and Trading Committee Farmer Assistance Committee Fund Management Committee assigned to support farmers with land acquisition	Five main committees made responsible for rice management and farmer support;
1974	Sanya Thammasak	Policy on Paddy Price Sustain	- Ministry of Agriculture and Cooperatives - Marketing Organization for Farmers - Public Warehouse Organization	Marketing Organization for Farmers founded, aiming to purchase paddy at a fixed prices. Paddy then be turned into white rice for export – based on quotas set by the Department of Foreign Trade – and domestic consumption (allocated and managed by the Public Warehouse Organization); Policies to sustain paddy prices suspended, replaced by the Rice Pledging Scheme (a similar policy was later adopted (in 2009) by the cabinet led by Abhisit Vejjajiva);

Timeline	Prime Minister	Policy	Related Parties	Description
1974	Sanya Thammasak	Farmer Welfare Fund Act (1974)		Revolving fund founded primarily to provide support to farmers;
1974	Sanya Thammasak		Petitions Committee (investigating farmer debt issues)	Committee group assigned to investigate farmer debt issues; Assignment ended when Central committee group, (during Mom Rajawongse Kuk-rit Pramoj's cabinet) became active;
1975	Sanya Thammasak		Office of Agricultural Land Reform	- Allocation of land to farmers; - Resolving farmers' land-ownership issues (to support farmers with limited access and ability to own land);
1975	Mom Rajawongse Kuk-rit Pramoj		Central Committee for Farmers Assistance	Investigating and supporting farmers with debt issues; Resolving farmer debt issues, following the implementation of the Rice Price Guarantee policy; Central Committee for Farmer Assistance assignment ended soon after the committee was established (during General Prem's government);

Timeline	Prime Minister	Policy	Related Parties	Description
1975	Mom Rajawongse Kuk-rit Pramoj	Crop Insurance Policy	Department of Internal Trade Marketing Organization for Farmers	Paddy and white rice prices fixed, ensuring farmers could sell paddy at reasonable prices and consumers could purchase rice at affordable prices. However, policy implementation was largely unsuccessful, in part due to the “rice buy-up” incident. Policy was terminated in 1976;
1976	Mom Rajawongse Seni Pramoj	Paddy Price Buoyancy Policy	Rice office	Policy only active when rice prices were low;
1979	Gen. Kriengsak Chamanan	The Price Fixing and Anti- Monopoly Act 1979.		Minimum paddy price fixed. Policy later terminated;

Timeline	Prime Minister	Policy	Related Parties	Description
1981	General Prem Tinsulanonda	Rice Price Intervention Policy	Operations Center of Price and Agricultural Products Settlement Farmers and The Poor Assistance Committee Central Office for Farmers Assistance	1) Set policy to maintain paddy prices; 2) Increased rice exports during early harvest season; 3) Created buffer stock; 4) Created rotational stock scheme to deliver rice abroad (for export purposes); 5) Created “fake” demand during the beginning of the production season; 6) Adjusted regulations to facilitate increased exports;
1981	General Prem Tinsulanonda	Paddy Pledging Scheme	Bank for Agriculture and Agricultural Cooperatives (BAAC)	Small paddy pledging scheme implemented by the BAAC to support farmers, and provide low pledging rates (13 percent per annum). Rice stored in designated areas, identified by BAAC;
1983	General Prem Tinsulanonda		Rice Price Intervention and Rice Price Maintenance Policy Committee	Acting on behalf of the Rice Policy and Measures Committee, this working group was terminated in 1986 when the Rice Policy and Measures Committee resumed its activities;

Timeline	Prime Minister	Policy	Related Parties	Description
1985	General Prem Tinsulanonda	Paddy Pledging Scheme	The Rice Policy and Measures Committee	Rice Policy and Measures Committee assigned to provide recommendations on raising grain prices and establishing a rice pledging scheme;
1986	General Prem Tinsulanonda	Paddy Pledging Scheme	Bank for Agriculture and Agricultural Cooperatives (BAAC)	- Paddy Pledging Scheme upgraded from the ‘supplementary’ to a ‘main’ project; - Farmers charged three percent interest during the first six months and six percent from July to August; - Paddy stored in farmers’ barns;
1987	General Prem Tinsulanonda	Paddy Pledging Scheme	Farmer Welfare Fund, Bank for Agriculture and Agricultural Cooperatives (BAAC)	Paddy pledging scheme lowered interest rates from six percent to three throughout the entire pledging period; BAAC could claim reimbursement from the Farmers' Welfare Fund. Implementation of other sub-projects, such as the Paddy Purchasing Scheme by Royal Thai Army and Ministry of Interior’s Paddy Market Intervention Program.

Timeline	Prime Minister	Policy	Related Parties	Description
1988	General Chatchai Chunhawan	- Rice Procurement Policy - Rice exporting acceleration	1. Department of Foreign Trade 2. Customs Department, Ministry of Finance 3. Ministry of Commerce 4. Department of Internal Trade 5. Rice Subcommittee, Chamber of Commerce, Department of Foreign Trade 6. Ministry of Commerce	1. Fixed export quotas; 2. Charged export and duty fees; 3. Exporters rice reserves were set to stimulate domestic consumption; 4. Minimum export prices set; 5. Exporters could stockpile rice in accordance with rice export quotas; 7. Government to Government (G2G) sales pushed forward; 8. Implemented exporters' packing credit;

Timeline	Prime Minister	Policy	Related Parties	Description
			7. Department of Foreign Trade 8. Bank of Thailand	
2 October 1991	Anand Panyarachun	Funds for Farmers	Regulations of the Office of the Prime Minister on Mutual Funds for Farmers	<ul style="list-style-type: none"> - Farmers and other agriculturists received systematic support; - Policies, strategies and public measures implemented to help farmers with production and marketing activities; + To maintain or raise prices to reasonable levels for farmers and agriculturists; + Develop the production structures to increase the quality of agricultural products in order to generate more income for farmers and other agriculturists; + Support farmers with loan schemes; + Support the operations of the Land Fund; + Manage fund expenses (to not exceeding 1 percent of capital funds); - Funds invested as deposits in government's banks,

Timeline	Prime Minister	Policy	Related Parties	Description
				as specified by the Mutual Funds for Farmers Regulations, set by the Office of the Prime Minister;
1992	Chuan Leekphai		The Rice Policy Committee	- Rice Policy Committee placed in charge of all aspects of rice policy and strategy; - Mechanisms to match production and marketing needs improved;
1999	Chuan Leekphai	Act on Prices of Goods and Services, 1999.		Adapted from Price Fixing and Anti-Monopoly Act (1979);
1999	Chuan Leekphai	Agricultural Futures Trading Act (1999)	The Agricultural Futures Exchange of Thailand (AFET)	Designed to address long-term price stability of agricultural products; To promote greater effectiveness and efficiency of the development of agricultural products in Thailand;
1999	Chuan Leekphai	The Farmer Reform and Development Act (1999)	Office of the Farmer Rehabilitation and Development Fund (Juristic Person)	Address farmer debt issues; Promote the farmer development; Develop and manage agricultural knowledge; Funds include financial and fixed assets as main components;

Timeline	Prime Minister	Policy	Related Parties	Description
2000	Chuan Leekpai	<p>Five major policies:</p> <ul style="list-style-type: none"> - Private companies as main exporters; - Maintenance paddy market (stability); - To maintain rice stocks at appropriate levels; - Paddy pledging scheme; - Loan schemes available for rice exporters and rice traders; 	<p>Rice Policy</p> <p>Committee as the key policy maker</p> <p>Committee on Farmer Assistance Policy and Measures</p> <p>** Ended (in terms of budget spending) on March 31, 2001 **</p>	<p>Included four measures and 10 projects, as follows:</p> <ol style="list-style-type: none"> 1. Measures to support the rice market: <ul style="list-style-type: none"> - Rice export acceleration program; - Rice market intervention program; 2. Measures to support paddy market, as follows: <ul style="list-style-type: none"> - Rice pledging scheme; - Loan (or credit) scheme for production and marketing services by farmer co-operatives; - Paddy Collection Project; - Ministry of Interior's Paddy Market Intervention Program; - Royal Air Force's Paddy Market Intervention Program; - Supreme Military Forces' Paddy Market Intervention Program; 3. Credit support measures; <ul style="list-style-type: none"> - Financial Aid Program for Paddy Traders 4. Additional measures: <ul style="list-style-type: none"> - Rice pledging project (central warehouse)

Timeline	Prime Minister	Policy	Related Parties	Description
2001	Thaksin Shinawatra	Rice pledging scheme for: - In-season paddy; - Off-season paddy; - Milled rice.	Public Warehouse Organization Marketing Organization for Farmers Rice Distribution Committee (Un-milled Rice Management Committee)	- Off-season paddy pledging scheme implemented; - Pilot model for “Warehouse Receipt Pledging Scheme (which was also adopted by PM Yingluck Shinawatra later on) implemented; - Maximum pledge price set at 350,000 baht per person, with a five month pledge period; - Paddy could be transformed to milled rice and stored in a central warehouse;
2 November 2004	Thaksin Shinawatra		National Rice Bureau	** Unclear whether the National Rice Bureau would act as an independent organization or be established as part of the government. The Bureau itself was equivalent to a department under the Ministry of Agriculture and Cooperatives. Because of its unclear position, the agency was abolished when the Department of Rice was established in 2006. **

Timeline	Prime Minister	Policy	Related Parties	Description
4 April 2005	Thaksin Shinawatra	Rice Pledging Scheme	The Rice Policy Committee	<ol style="list-style-type: none"> 1) Formulated short and long-term rice policies; 2) Approved programs and measures pertaining to rice production, rice pledging, rice market intervention, export and distribution (requested by other government agencies); 3) Formulated policies, measures, regulations, specified the price ranges required for market interventions, and set the range of the government's rice exporting activities; 4) Provided support to farmers, farmer institutes, millers, rice traders, and rice exporters; 5) Analyzed rice market conditions and rice products in foreign markets. Assessed and analyzed competition and formulated policies and measures required to tackle identified issues; 6) Controlled, coordinated and monitored work processes to ensure compliance with policies, plans and measures.;

Timeline	Prime Minister	Policy	Related Parties	Description
				<p>7) Addressed problems and issues in operations;</p> <p>8) Appointed the Advisory Board Sub-committee and working groups to perform tasks assigned by the board;</p> <p>9) Invited people to provide information, facts, and opinions. Additionally, relevant documents and evidence were submitted to working groups for further approval;</p> <p>10) Involved public agents, state enterprises and other relevant government agencies in operations to allow for help and support during implementation;</p> <p>11) Reported outcomes, problems and issues directly to the prime minister;</p> <p>12) Performed other tasks required by the prime minister and cabinet;</p>

Timeline	Prime Minister	Policy	Related Parties	Description
			Regulations of the Office of the Prime Minister on Mutual Funds for Farmers	Acted in-line with Rice Policy Committee and Committee on Farmer Assistance Policy and Measures to ensure the smooth delivery of rice to Chinese Central Government, following an international trade project;
			Public Warehouse Organization	
16 March 2006	Thaksin Shinawatra		Department of Rice	<p>Following a change in government administration, the Rice Department was again appointed to:</p> <ol style="list-style-type: none"> 1) Analyze, suggest, and formulate Thai rice policies and strategies, and to enhance international cooperation in the rice market; 2) To conduct research and experiments to improve rice quality and also to engage in technological development of benefit to farmers during post-production and during the product transformation; 3) To enhance the genetic conservation and conservation of rice varieties; 4) To check and certify rice varieties; 5) To produce and promote rice seed support schemes;

Timeline	Prime Minister	Policy	Related Parties	Description
				<ul style="list-style-type: none"> 7) To promote technology transfer in production and product management, including the conservation of cultural and local wisdom; 8) To promote the dissemination of knowledge to farmers and rice producers;
2006	Thaksin Shinawatra	Rice Department's Strategy and Action Plan (2006-2008)		<p>Six major strategies:</p> <ul style="list-style-type: none"> 1. Production development; 2. Farmer development; 3. Value creation; 4. Market development; 5. Research and development; 6. Organization development and management;
2006	Thaksin Shinawatra	Minimum Income Guarantee Program		<ul style="list-style-type: none"> 1. Increased pledge prices according to market prices; 2. Increased volume of pledged rice' 3. Allowed private mills to take the pledges from BAAC.

Timeline	Prime Minister	Policy	Related Parties	Description
3 July 2007	General Surayud Chulanont		The National Rice Policy Committee	<ol style="list-style-type: none"> 1) Formulated the short-term and long-term rice policies; 2) Approved programs and measures on rice production, pledging, market interventions, and rice export and distribution (as requested by relevant government agents); 3) Promote and support research and development for rice production and marketing through sources of funding provided to the National Rice Policy Committee; 4) Provide support to farmers, farmers institutes, millers, rice traders and rice exporters; 5) Draft spending measures to ensure correct use of funds; 6) Monitor compliance with government policies; 7) Appointment of subcommittees, working groups and advisory committees. Committee consisted of representatives from the public and private sectors

Timeline	Prime Minister	Policy	Related Parties	Description
				and was tasked with conducting research, analysis and making suggestions on production and marketing processes;
				8) Inviting concerned persons for clarification or evidence, including government agencies, and state enterprises and government agencies;
				9) Perform other actions as assigned by the prime minister and the cabinet.
2007	General Surayud Chulanont	Thai Rice Strategies		
2008	Samak Sunornvej	Strategic Plan for Organic Agriculture 2008-2009		

Timeline	Prime Minister	Policy	Related Parties	Description
2008	Samak Suntornvej	The price of pledged rice fixed to the market price. Insurance prices increased	The National Rice Policy Committee	<p>The National Economic and Social Development Board (NESDB) tasked to work in two areas: manufacturing and marketing;</p> <p>Production:</p> <ol style="list-style-type: none"> 1) The Rice Department to cooperate with the Department of Agricultural Extension on the "Community Rice Center" project to support seeds, materials, equipment, and rice production certification; 2) Establishment of an agricultural database under the GAP system to provide alerts on rice pests; 2) Production and distribution of good seeds; 3) Promotion of organic rice; <p>Marketing:</p> <ol style="list-style-type: none"> 1) Insuring rice prices; 2) Support for rice prices; 3) Paddy pledging; 4) Distribution / export measures;

Timeline	Prime Minister	Policy	Related Parties	Description
2008	Somchai Wongsawat	Keep the original price as the world market prices decline. Populist (creating fiscal burdens to subsidize project) Redemption of farmers reduced because of favorable prices. State experienced problems managing rice stocks and drainage.		

Timeline	Prime Minister	Policy	Related Parties	Description
11 February 2009	Abhisit Vejjajiva	Rice price insurance policy	The National Rice Policy Committee (NFA)	Consideration of rules and procedures for supporting farmers. Farmer Institution Rice Mill operators and exporters to gain maximum benefits and attain fair prices for all parties. Consideration of the use of funds for purposes of the regulation.
16 September 2009	Abhisit Vejjajiva	Rice Farmers' Income Assurance Program Registration of farmers	The National Rice Policy Committee Department of Agricultural Extension (Registration of farmers)	1) Initiate contract between farmers and the government; 2) The state sets reference prices; 3) Reference price is dependent on the season. The state will pay the difference between reference and market prices to the farmers. Intended to reduce the role of rice stockpilers;
2010	Abhisit Vejjajiva	Free Rice-Trading Promotion Policy		

Timeline	Prime Minister	Policy	Related Parties	Description
8 September 2011	Yingluck Shinawatra	Rice Pledging Scheme	The National Rice Policy Committee	<ol style="list-style-type: none"> 1) Committee proposed both short and long-term rice policies and a strategic framework to cabinet; 2) Committee approved operating plans, projects and measures related to rice production and marketing; 3) Research and development promoted to help improve rice quality, reduce production costs, and to promote rice production in-line with global market demand. Funded by the Research, Development, and Rice Production and Marketing Funds; 4) Consideration and approval of criteria and approaches to support farmers, farmer institutes, private rice mills, rice traders and rice exporters to effectively manage rice systems; 5) To follow-up, and monitor work processes to ensure projects are run efficiently and smoothly;

Timeline	Prime Minister	Policy	Related Parties	Description
				6) Committee boards, working groups, consultants assigned to provide farmers with production / marketing support or related issues; 7) Inviting people to provide information, facts, and opinions. Additionally, relevant documents and evidence submitted to the working groups for further approval; 8) Perform other tasks as required by the prime minister or cabinet.
23 May 2014	General Prayut Chan-Ocha		The National Rice Policy and Management Committee	1. Establish policy framework, measures, and operating plans for rice management and ongoing capability development; 2. Approval of programs, projects and measures related to rice production and marketing; 3. Promotion of research and development to increase rice quality, reduce production costs, and rice production in-line with global market demand;

Timeline	Prime Minister	Policy	Related Parties	Description
				<ol style="list-style-type: none"> 4. Consideration and approval of criteria and approaches to support farmers, farmer institutes, private rice mills, rice traders and rice exporters to effectively manage the rice system. 5. Follow-up and monitoring of processes to ensure projects are run efficiently and smoothly; 6. Committee boards, working groups, and consultants assigned to provide farmers with support on production/ marketing and other related issues; 7. Inviting people to provide information, facts, opinions and other relevant documentation and evidence to working groups for further approval;

Timeline	Prime Minister	Policy	Related Parties	Description
23 May 2014	General Prayut Chan-Ocha	Measures aiming to help and support farmers		Crop farming: for example, rice barn pledging scheme, and the scheme of “Lower Interest Rate for Rice Farmers” to help support the farmers during the off-seasoned period: Projects and programs to enhance crop rotation activities (17 measures in total; eight by the Ministry of Agriculture, and nine by other relevant government units);
2016	General Prayut Chan-Ocha	Project Operations Plan under Integrated Rice Production and Marketing Plan (2017/2018)	The National Rice Policy and Management Committee	1) Production led by marketing; 2) Mass market and niche market separation; 3) Full restructuring of processes; 4) Promotion of fairness;

2.3.2.2 Marketing Rice Policies:

The summary of the government's public policy on rice (Table 2.4) shows that public policy on rice prices can be divided into three main categories: 1) policies to stabilize rice prices in consumer markets; 2) market intervention mechanisms (policies) which provide subsidies to producers, and; 3) rice farmer revenue assurance policies;

1) Policies to stabilize rice prices in consumer markets:

These policies have often contained export fees and rice reserve measures. These policies have been used by the Thai government in the past, especially during eras where rice production quantities for domestic consumption were higher than those for export. During such times, Thailand faced problems and issues related to war and other environmental issues, and thus the government sought to limit rice exports.

(1) Policies to collect export fees for rice or rice premium policies are designed to control rice exports in order to stabilize rice prices. A rice premium is essentially the same as a rice export tax and are implemented when there are rice shortages in world markets due to higher market demand than production. Thailand has adopted rice premium charges since 1945. It was used as the main rice-policy in 1956 and was done with a fiscal purpose in mind, as it was considered as a form of state income. The rice premium charge was considered a major source of revenue for the government at that time (Amman Siamwala & Viroj Na Ranong, 1990). At the same time, it was found that the collection of rice export fees (the rice premium) benefited consumers as it enabled them to buy rice more affordable prices. However, when Thailand entered the era of the 'Green Revolution' the world market price of rice climbed causing exports to decline. As a consequence Thailand abolished its rice premium collection policy in 1986;

(2) Policies to collect reserve rice at a lower price than market prices consisted of the government collecting reserved rice from exporters before receiving a permission to export the rice (Ammar Siamwalla, Suthad Setboonsarng, & Direk Patamasiriwat, 1989). The policy began in March 1962 when a large number of rice exports were sent out of the country. With rice prices rising rapidly, the government issued measures to collect reserves from exporters at a lower

price than market prices. The government required exporters to deliver 15 percent of their export rice to the government. However, the measure was discontinued in December 1962. A portion of the reserved rice was given to the Public Warehouse Organization to distribute through various commercial channels at lower-than-market prices from 1966 to 1968. When the rice reserves in the world market were insufficient the level of rice prices in the market increased. At that time, the government initiated a project to sell rice to people in Bangkok at affordable prices, at the same time, initiating a scheme to collect reserve rice from exporters.

By enforcing the rice reservation provision, the government were able to leverage exporters when they saw a surge in rice prices in the country, essentially intervening in the retail market on behalf of rice consumers. The government-organized the price that was lower than the market prices and distributed through different channels. If rice prices in the domestic market declined as export markets were falling, the government would cancel the reserve scheme provision accordingly. However, the measure had the disadvantage of not providing subsidies to the entire country; only consumers in Bangkok benefited from the project. The policy was abandoned in 1976;

2) The policy of market intervention mechanisms to subsidize producers:

These policies include floating un-milled rice prices and the long-standing un-milled rice pledging policy. These policies were very popular with farmers.

(1) The un-milled rice price floating policy (Somporn Isvilanonda, 2010) was issued in 1955. The government established a Public Warehouse Organization (PWO) to buy and collect un-milled rice from farmers during the post-harvest season. However, in practice, no serious action was taken until 1960. The government established the "Rice Reserve Board" to buy un-milled rice from farmers, especially in provinces where there were complaints about the low prices of un-milled rice. However, due to small amount of working capital for this, the policy was not fully implemented, but was nonetheless part of the government's efforts to raise the price of un-milled rice. In 1966, rice prices declined. The government assigned the Rice Reserve Board to be the central unit take charge of the

purchase of un-milled rice and the Warehouse Organization (OSS) to be the main regional unit in the same capacity. All un-milled rice purchased under the project was converted into rice. Part of the rice was sold to foreign governments while the remainder was reserved for the Public Warehouse Organization and the Department of Internal Trade for sale to the domestic market in accordance with the rice price freeze policy.

Government efforts to raise the price of un-milled rice began in 1973 when the government guaranteed the price of un-milled rice at 2,500 baht per ton and the price of rice to 75 baht per ton. Later in 1974, the government established the Farmer Welfare Fund and Marketing Organization for Farmers (MOF). The government assigned the MOF to buy un-milled rice from farmers and process it into rice. Part of the rice was sold to foreign buyers, according to quotas set by the Department of Foreign Trade according to G2G contracts. The remainder was sold to the PWO to then be sold to the public. The government assigned the MOF to buy un-milled rice to support higher rice prices to support to rice floating policy from 1976-1980. During this period, price of un-milled rice was determined by the market price in each locality under the condition that the purchase price must not be higher than the upper limit of the market price.

Price floating is method of determining the price of a particular product, often practiced when prices are falling. The principle of price floating practiced by the Thai government for rice included setting a higher minimum price of rice by creating artificial demand in the agricultural markets, essentially preventing underpricing from middleman. When the state sets a floated price, it will buy the product at a price higher than that in the market. Farmers are able to then compare purchase prices between the government and private sectors; obviously choosing the higher price. When the purchase price of the government is higher than that given by the private sector, the private sector has to adjust its purchase price to be higher than or equal to the government price. This practice can thus raise the market price. After the market price is raised, the government will stop buying and let the market run according to its mechanism, only acting to maintain a fixed-price.

Price floating practices began to decline in 1981, as demand for rice increased, raising the price of un-milled rice. During this period, the

government began to employ measures to establish rice buffer-stock. The government provided the low interest loans to rice mills to buy rice from farmers and mill the un-mill rice, which was then given to the PWO with the intention of selling it at affordable prices to consumers. However, PWOs suffered heavy losses after implementing the policy because the purchase of rice in some areas was higher than market prices. The government then started to focus on establishing an un-milled rice central market in areas with major rice fields, allowing farmers to sell their un-milled rice directly to the mills, excluding middleman as part of their push to establish an un-milled rice pledging scheme as a tool to stabilize rice prices.

(2) The un-milled rice pledging policy (Somporn Isvilanonda, 2010) had already been in operation since the 1981/82 crop year, when the domestic price of rice fell. The government wanted to help farmers suffering from rice price slump due to over-harvesting, assigning the Bank for Agriculture and Agricultural Cooperatives (BAAC) to be the main organization to pledge un-milled rice from farmers at low interest rates to encourage farmers to slow down rice sales in the early harvest season and reduce the supply of rice to the market. The government also began to assist farmers providing low-interest loans to those experiencing financial problems prior to the sale of their rice. When the price of rice increased after the harvest season, farmers redeemed the rice to be sold later, with the interest paid (on the loan) to the government. Rice that was not redeemed was sold by the government.

The rice pledging project began as a small supplementary project. Farmers participating in the program could borrow up to 80 percent of the value of their pledged un-milled rice based on its market value with the loan not exceeding 100,000 baht per farmer. In its first-year of operation, the project was not as successful as it should have been because farmers were forced to pay expenses such as interest, and transportation costs; the total of which was often higher than the increase in price.

In the 1986/87 crop year, the un-milled rice pledging scheme was transformed from a supplementary project into a major project. The government pushed the BAAC to play a role in the pledging large amounts of un-milled rice to keep prices from dropping too low. The government also forced BAAC

to charge interest from farmers at the rate of three percent per annum from January – June, and six percent from July - August. As the price of different types of un-milled rice increased, the project performed better, increasing interest in participation from farmers. In the 1987/88 crop year, the Committee on Rice Policy and Measures (CRPM) changed the interest rate, with farmers required to pay interest at three percent per annum throughout the entire pledged period, with BAAC receiving a subsidy from the Farmers Welfare Fund. In addition, in that year, CRPM also implemented other supplementary projects, such as un-milled rice purchasing schemes from the Army, the Rice Market Intervention Scheme of the Ministry of Interior, and a project to expedite the export of rice to raise the price of un-milled rice, based on the production by the Ministry of Commerce.

In the 1991/92 crop year, the government changed the Farmer Welfare Fund that had been set up since 1974, to the Committee on Farmer Assistance Policy and Measures (CFAPM), establishing the "Fund for Farmers". All price intervention projects fell under the Fund, including the BAAC's un-milled rice pledging scheme. The compensation of loan interest to the BAAC was also taken on by the Fund. In the 1998/99 crop year, the available loan amounts were revised, from 80 percent, to "not exceeding 90 percent", and the BAAC began accepting pledges of un-milled rice from farmer's barns. After the harvest season, the price of un-milled rice did not improve and the CRPM announced a resolution that farmers who did not have a barn could take store their un-milled rice at the BAAC's barns or mills rented by the MOF and pledge their warehouse receipts. Although the un-milled rice helped to solve the problem of farmer income-levels, the project created several problems had detrimental affects on the Thai rice market, which later become a chronic problem at the national-level.

One of the main reasons for the scheme becoming a problem was that the scheme was guided by problematic original principles and intentions. As such, the situation did not improve until 2000 when the government adjusted the scheme to be implemented in-season. The in-season un-milled rice project was run from November – March with the off- season un-milled rice project run from March – August. In 2000, no target price was set, instead the scheme focused on pledge limits instead. Farmers could pledge their un-milled rice with an

available loan of 100 percent of the price set by CRPM. Other criteria remained the same as in previous years. As government set higher-than-market prices, most farmers who pledged their un-milled rice redeem it. this caused a severe burden to the government, forcing them to store the rice in the government treasury, with the quantity increasing every year.

The quantity of un-milled rice in the government's treasury increased significantly, from 1.81 million tons in the 2003/04 crop year to 8.06 million tons in the 2004/05 crop year. Despite this, the un-milled rice pledging scheme continued to operate as the primary government mechanism to solve problems related to declining rice prices, and was well-received by the farmers. The political capital gained from farmer-support motivated the government to set higher prices and quantities for pledged, un-milled rice. The increased price of pledged rice was supposed to raise incomes for farmers, but instead affected the activities of the un-milled rice central market as the government became the major purchaser of un-milled rice. By changing the structure of the un-milled rice pledging scheme as a form of market intervention (in the form of a minimum price assurance), the government had changed market channels, where before farmers had sold to village merchants and middle-markets, which was then sold to the mills. Furthermore, the increase in pledging prices created a national fiscal burden for this government-funded scheme. Even though the pledged value was reduced in the 2006/07 and 2007/08 crop years, farmers redeemed very little of their pledged rice. In particular, the redemption of warehouse receipts in the 2004/05 crop year was only 5 percent of the pledged amount. In the 2006/07 crop year, the pledging price was closer to the market prices and, as a consequence, the quantities of pledged rice were lower and the rates of redemption, higher. This had an impact on the government rice pledging scheme budget, which affected the management and release of rice stocks.

The un-milled rice pledging scheme had both advantages and disadvantages (Office of Agricultural Economics Region 6 Chonburi, 2011). The major advantage was that it was fastest way to solve the problem of low farmer incomes, compared to other methods such as encouraging farmers to change their crops, promoting quality development, and others. As mentioned above, the scheme was also well-received by farmers. One of the main disadvantages of the

scheme is that it distorted market mechanisms; the government set high prices for pledging regardless of market prices, so farmers became interested in participating in the project, and no longer needed to trade using traditional market channels. In addition, pledges were not redeemed because pledging prices were generally higher than market prices. Rice-entrepreneurs such as mills and traders also gained revenue from participating in the scheme and thus stopped trading using normal channels, as they could not compete with the government price. The large quantity of rice products pledged to the government made it a major rice trader. Exporters who originally purchased rice from mills began to wait for government export rice auctions instead of buying from the mills. As a result, the cost of rice exports in Thailand became higher than from other rice-producing countries, causing its competitiveness to decrease. Farmers also began to lack any motivation to develop their own potential, improve their cultivation or marketing skills, expand rice varieties, increase productivity, or seek ways to reduce costs.

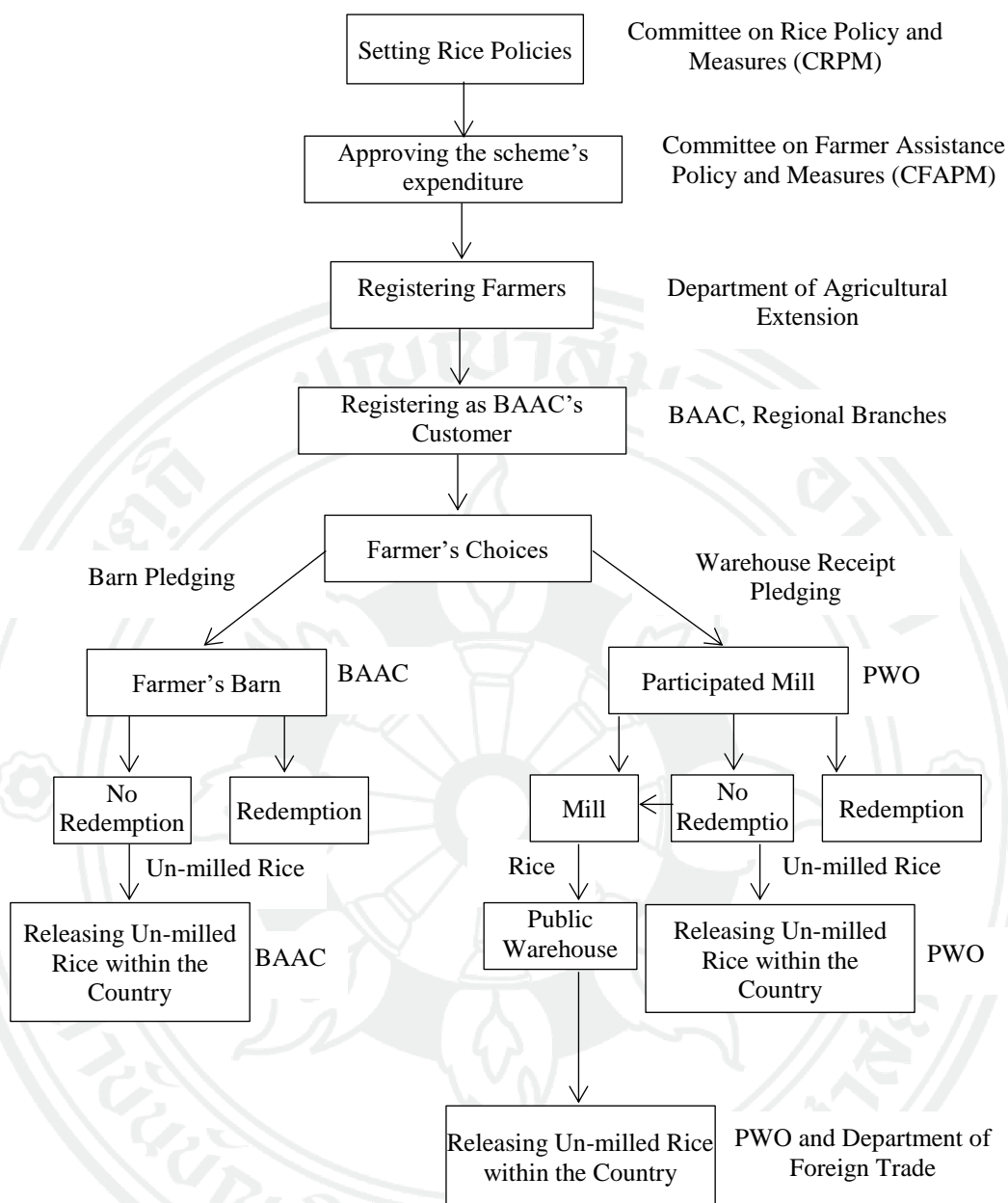


Figure 2.3 Rice Pledging Step and Related Agencies

Source: Nipon Puapongsakorn and Chittrakorn Charupong, 2010.

(3) Rice Farmers' Income Guarantee Policy

Somporn Isvilanonda (2010) states that the fundamental concept of developing a rice cultivating farmers' income guarantee policy was derived from security risks due to price fluctuations. According to Isvilanonda, the guarantee on the reduction of rice farmer's risk from fluctuating market rice causes

prices to decrease below what it should be. It is not a guarantee on market prices for the farmer. It was formerly called the Rice Price Guarantee Scheme, which was changed to the 'Rice Cultivating Farmers' Income Guarantee Scheme' by the Meeting of the Rice Policy Committee No. 8/2009, dated 16 September 2009, Abhisit Vejjajiva's administration. The scheme was guided by the principle that risk guarantees for returns on rice cultivation are contained within the contract between the government (with the BAAC as its representative) and each individual rice farmer. Under the scheme, the government would ask the rice farmers to notify the government of the volume of area and yield, determine their target price, and limit the maximum yield to be guaranteed. The reference price level will be determined during the harvest season. If the price is below the farmer's target price, the government will pay the difference to compensate for the missing income of the farmer. However, during the scheme's initial period, the government did not collect risk or guarantee premiums. The adjustment policy supported paddy market mechanisms at different levels, but not the creation of income guarantee for the rice farmers, since farmers could sell their harvest to any middlemen. By doing this, the government reduced its role as a rice-stock collector, allowing the private sector to perform this duty instead.

Again, the scheme had both advantages and disadvantages. Its major advantage was the partial prevention of corruption in goods storage and output processing, as money was received directly from the government by the farmers if trading prices were below the guaranteed price. This did not distort the market mechanisms like the rice subsidy scheme. Its major disadvantage included the requirement of the government to spend large amounts of money to compensate for the price differences between guaranteed and market prices, especially so when market prices were considerably below guaranteed prices. Another disadvantage was the high possibility the scheme created for corruption if concise control and inspections were not performed, particularly for the registration of rice farmers (The 6th Regional Office of Agricultural Economics, Chon Buri, 2011).

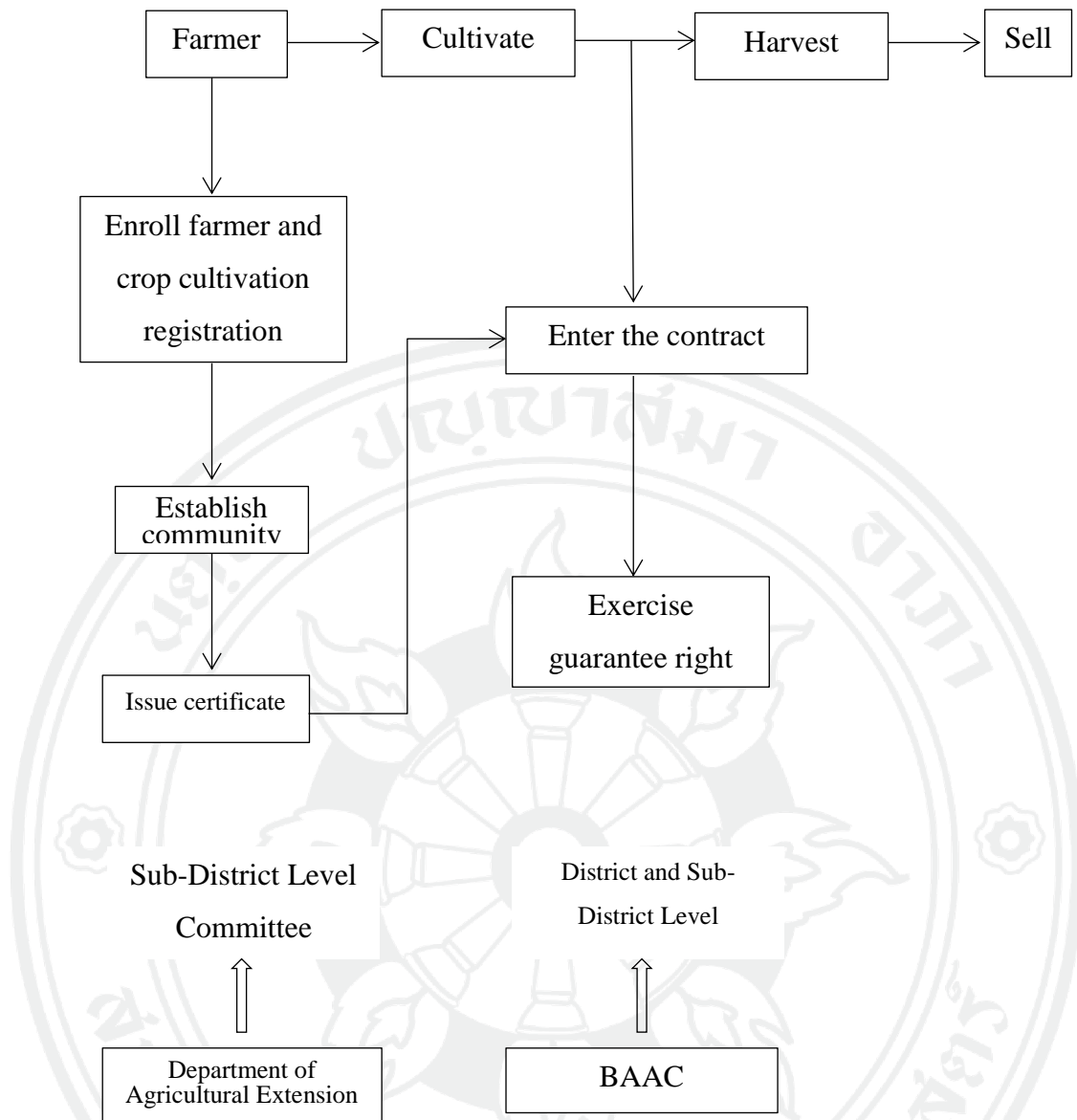


Figure 2.4 Step of Rice Farmers' Income Guarantee and Relevant Agencies
Source: Somporn Isvilanonda, 2010.

As described above, legislation has applied variety of instruments to establish a policy framework for rice management. The public policy framework for rice was established it could be implemented to facilitate advanced planning for rice farmers and entrepreneurs. Thai laws, however, played a role in destabilizing rice policies due to their broad empowerment which opened opportunities for independent implementation by administration branches. According to the aforementioned study, the public policy of Thai rice has changed constantly without certainty in a reactive manner.

Table 2.5 Summary of Type Classified Policies

Policy	Principle	Implementing Government
1.Consumer Market Rice Price Stabilization Policy		
1.1 Rice Premium Policy	Exporter pays rice exporting fee to the government.	Begun in 1945 (Mom Rajawongse Seni Pramoj) and ended in 1986 (General Prem Tinsulanonda)
1.2 Policy for Reserved Price Collection from Exporter in Price Below Market Price	An instrument to support exports to maintain flexibility and rice prices in the domestic market.	Begun in 1962 (Field Marshal Sarit Thanarat) ended in 1976 (Mom Rajawongse Seni Pramoj)
2.Market Mechanism Intervention Policy for Producer Subsidy		
2.1 Paddy Price Supporting Policy / Paddy Price Guarantee Policy	Paddy price increased and the government accepts to buy paddy and determine price after preparation of rice-buffer stock.	Begun in 1955 (Field Marshal Plaek Phibunsongkhram) ended in 1981.
2.2 Rice Subsidy Policy	Loans are granted at low interest rates with security by paddy (pledge is divided into barn and warrant pledges), maintaining low rice prices during the harvesting period. Procedure is changed each cultivation year.	Begun in 1981 (General Prem Tinsulanonda) and stopped during the administration of Prime Minister Abhisit Vejjajiva.

Policy	Principle	Implementing Government
3.Cultivating Farmers' Income Guarantee Policy	Modified from price guarantee where the government enters into an agreement with the farmers on how much they should gain in return. If the selling price (at the time) is below the target price, the government will pay the difference.	Begun in 2009 (Abhisit Vejjajiva) ended during the administration of Prime Minister Yingluck Shinawatra.

The administration of General Prayut Chan-o-cha, who became prime minister in May 2014, inherited a rice subsidy crisis. From 2015-2016, Thailand was gripped by the most severe drought crisis in 30 years which was followed by a flood from September-October, 2016. Most of this administration's policies have attempted to solve these crises. including its "pre-cultivation-during cultivation-post-cultivation" approach which integrated measures of farmer supervision and has included mechanisms to address issues in (and for) production, delays of rice sales, drought assistance, rice field insurance, and and crop replacement, encouraging farmers to cultivate other types of crops. These policies were implemented by the Bank for Agriculture and Agricultural Cooperatives (BAAC) under a total of 17 governmental schemes for the assistance of rice farmers. (eight measures by the Ministry of Agriculture and Cooperatives and nine other relevant measures). The following are the main schemes (<https://thaipublica.org/2016/11/measures-to-help-farmers-prayuth>):

1. Scheme Production Cost Reduction: This scheme aimed to raise income for farmers to 1,000 baht per rai to temporarily alleviate farmer's expenses, granting income compensation to rice farmers and agriculturalists for areas not exceeding 15 rai (per household), and in the second

round, not exceeding 10 rai (for rice farmers). It was expected some 7.1 million households would benefit, reducing production costs to 2,500 baht per ton.

2. Scheme for In-Season Rice Field Paddy Selling Delay Credit (Barn Pledge): this scheme was commenced for the first time in 2014/2015. Agriculturalists and rice farmers in the northern and northeastern areas were especially encouraged to participate in the project for loan payments within four months. Credit for barn construction or improvement was granted and charged at interest rates of seven percent for general agriculturalists and five percent for agricultural institutes with repayment terms of under five and 10 years. In second round in 2015/2016, in-season rice field paddy selling-delay credit was granted for jasmine rice paddies at 14,500 baht per ton and glutinous rice paddies at 12,300 Baht per ton (in northern and northeastern areas) for areas not exceeding 300,000 baht per person. In the third round, from 2016/2017, the in-season rice field paddy selling delay credit project determined a credit limit of 90 percent of the market price.

3. Scheme for Support on Development of Large Plots of Agriculture was first implemented in 2015 to support minor agriculturalists and rice farmers in production confederations with large plots of land. The scheme aimed to enable these farmers to plan their potential production and marketing activities for a five year period. The target group included agriculturalist and rice farmer groups, community enterprises, and agricultural cooperatives. Support amounts could not exceed 10 million baht per plot, and carried an annual interest rates of 0.01 percent. Under the scheme, the government was to compensate annual interest for the agriculturalist organizations participating in the project at three percent.

4. The Scheme for the Assistance of Drought Affected Agriculturalists and Farmers was initiated in October 2015 to assist agriculturalists and rice farmers to cultivate rice consistently with limited quantities of water. Income was compensated from other activities to cover 22 provinces in the affected area of the Chao Phraya Watershed and other drought-affected areas in a total of 55 provinces. A total of eight measures included; knowledge promotion and production, support for household expenditure reduction, postponement or extensions of debt settlements, and employment schemes for income generation.

5. The Scheme for Rice Field Insurance was implemented in two periods. The first period was initiated in 2015 and the second in 2016. The scheme assisted agriculturalists and rice farmers to insure the rice of their in-season paddies various states of natural-stress (including flooding, drought, storm, cold-weather and fire). The insurance rate was dependent on the risk level, but was set at a maximum of 100 baht per rai, and minimum of 60 baht per rai. However, the agriculturalists and rice farmers were indemnified for 1,111 baht. In the case of a pest outbreak, agriculturalists and rice farmers could receive up to 555 baht per rai.

6. The scheme for the Gentrification of Rice Field Areas into Other Farming was aimed at addressing the problem of the market inundation of rice and the uncertainty of rice prices. The scheme was implemented in two rounds. In the first round, the scheme was aimed at rice farmers, and consisted of two parts; one to promote aquaponics support and another for the promotion of livestock culture (cow, buffalo, goat and grass farming). In the second round, the scheme was aimed at agriculturalists during the rice off-season rice who were supported to cultivate a variety of plants, the cultivation of plants using green manure, and the cultivation of animal husbandry maize.

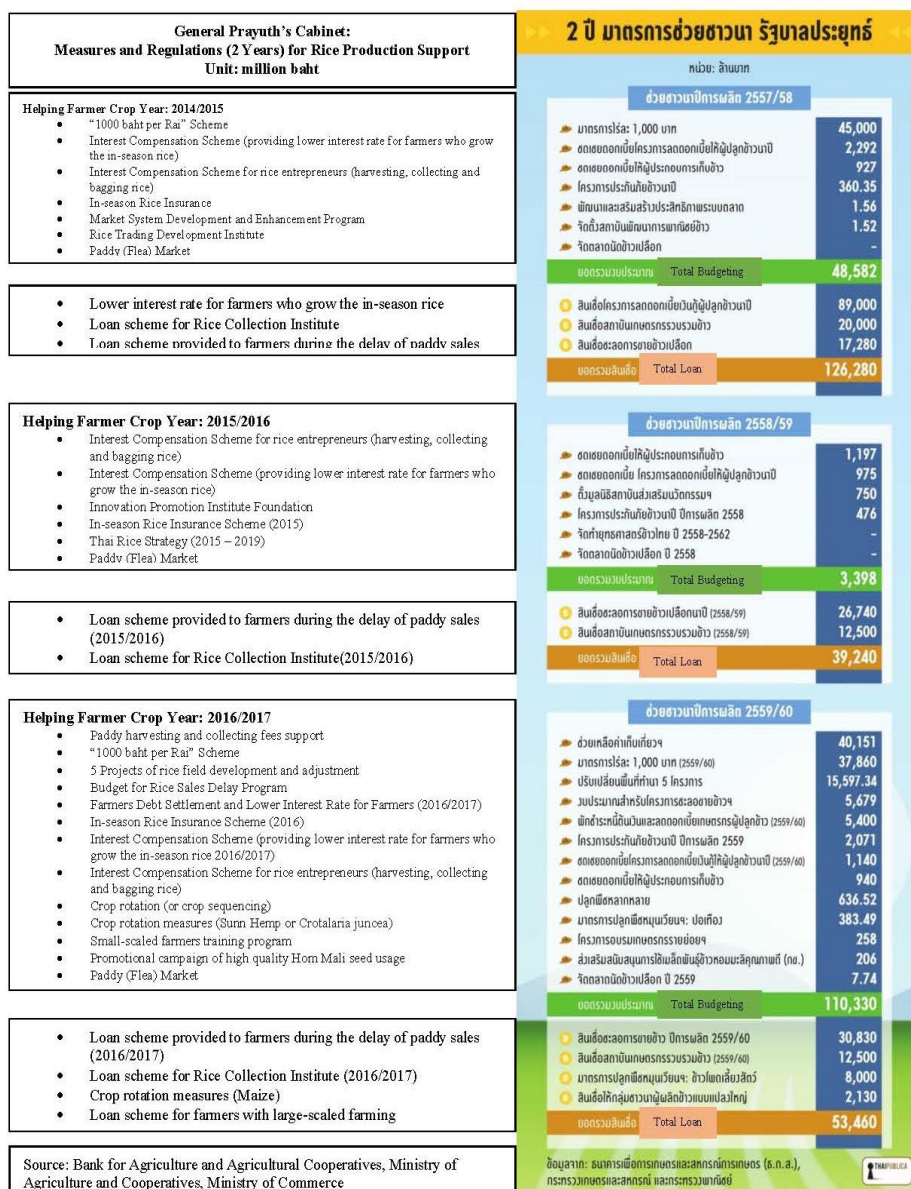


Figure 2.5 General Prayuth's Measures (aimed at supporting farmers)

2.3.2.3 The Government's Failure in The Rice Policy Implementation

Based on the book "Why Government Fails So Often" written by Professor Peter H. Schuck, Yale University, the causes of failure of US government policies were analyzed. It was summarized that, the factors that actually caused the failure in the policy implementation were ones relevant to the motivation. The motives of three different groups relevant to the policy were analyzed, and those three groups are the policy makers, citizens, and those who might be affected negatively by the policy implementation. The failure tended to be caused by the "narrow vision" or

such limited vision by the policy makers. It was also caused by the fact that, the policy makers, spending the “public money”, only tended to focus on small particular groups who supported their own networks. The case that, policy makers intentionally formulated the policy that favored some particular groups like capital groups or interest groups in order to receive the undue rewards from those earned the benefits from the policy implementation, can be commonly seen in Thai society, such as what was seen during the implementation of the rice pledging policy. What we call “The Moral Hazard” is believed to cause the failure in numbers of policies implementation. This situation occurs when the policy makers or those who establish the law try to manage the risk by enforcing the law itself. Moral hazard is the tendency for an individual to commit risky behavior. When one realizes that someone else is carrying the cost of risk instead of him carrying it, this may lead to a more serious risk than the original risk level. To solve the problem of “moral hazard” can be done by avoiding such a situation from the beginning, also with the analysis of short term and long-term results and impacts that may occur as the policies or the law have been active.

Citizens’ motive is also another key factor that could cause the failure in the policy implementation. This failure could occur when citizens showed no intention to participate in the policy formulation or implementation cycle as there were some costs that they had to pay to be involved in such cycle, for example, if they were to involve in the political seminars, the election, they had to cover that expenses themselves, or they had to invest their own time to be part of those activities. If they did not realize how the policies could positively or negatively influence their lives, they would tend not to involve themselves in such a cycle, leading to the lower power to drive such a policy that was actually meant for “all citizens” in the country. It could also be seen that; some people have greatly involved with some policies formulation and implementation as they are the actual stake holders who are greatly affected by the implementation of such programs i.e. the implementation of large-scaled dams projects or coal-fired power plants. The formulation of policy that affects the political interest groups can face the difficulties, although such policy is believed to provide great positive impacts on the society as a whole. However, if that policy, once implemented, can solve the country’s major issue or problem, it is the government’s responsibility to negotiate and to completely enforce such policy.

In terms of failure in Thai government's Thai rice policy implementation (such as Thai rice pledging policy, or Thai rice price insurance), the general concept is to help supporting Thai farmers. It is pretty common for governments in various countries to implement this policy. However, the result of the policy implementation hasn't yet been assessed or evaluated, that is, it hasn't yet been assessed whether or not this program was profitable or there was any loss occur. The goal of this policy is to directly subsidize farmers. Unfortunately, the behavior of the senior civil servants and also the politicians who are directly involved with the program could lead to the program leakage. Prof. Dr. Sujin said that, considering today's main factors, there are less numbers of labor, meaning less farmers, also less numbers of cultivating areas. Also, there is an issue of a climate change, the lower quality of rice seed, and all of these can be major concern. Although it is widely accepted that Thai jasmine rice is the best rice variety, which is drought-resistant, insect-resistant, but as the agricultural science progresses, it is unlikely that jasmine rice will be the best breed. When other countries are able to develop new rice varieties whose quality might be better than jasmine rice's, the challenges in the rice market can be arising. Although Thailand has the Department of Rice as a government agency that takes care of this matter, as well as establishes the strategy to continuously develop seeds and varieties of rice, with 27 rice research centers and 23 seed centers, the problem still remains as it takes up to 10 years to develop. (https://waymagazine.org/prapart_rice_subsidy/)

In the "free market" of agricultural crops, to stimulate the price level, the usual practice is that the government would make that particular crops disappear from the market and that would result in the higher price, given the same level of demand. The agricultural commodities that were made "disappeared" from the market in order to make the remaining commodities more expensive ("Pseudo Demand") would be transferred somewhere else which is not the actual market. Once there is less quantity number of rice in the market, the price would be higher. Various governments have chosen this practice to deal with the problem of rice prices in Thailand. That is, every government since the General Prem Tinsulanonda (1977) has decided to create the fake demand in the rice market, that is, major of governments has pulled out some quantity of rice from the actual market, so that there is less

supply of rice, consequently pushing rice prices to be higher than they actually were. However, the only difference in each government is the quantity of rice that has been pledged. The government would usually assess the amount of “excess supply” in the market, and decide how much to pull the supply out. Then the budget would be allocated to “pledge the rice”. This will lead to “the disappearance” of excess rice supply, and as a result, rice prices will be arising in the general market. This could have caused such positive impacts in the Thai rice market if Thailand had been the only major rice exporter, but the fact is, the world’s rice market is in a state of decline, and the market condition is pretty much fragile itself, plus there are also other major rice producers and exporters i.e. Vietnam. It was pretty rare that Vietnam would involve itself in rice exporting, but once they do, that can affect the rice prices in the world’s market. That is, when Vietnam decides to export rice, even though the volume may not be large, it will affect the rice supply in a fixed-size market and accordingly will affect the prices immediately. Thai governments didn’t establish any plans to tackle this higher rice supply in the market caused by other exporters, so the rice prices didn’t go that high as expected. That means the government had to face big problems the state automatically became the owner of all the rice produced, with difficulties in rice selling and distribution. What the government could do was to find the agents to bid for such rice supply, with low price level, to make sure rice was sold out. The situation for the government was worsen as the government also tried to attract non-farm workers to invest in rice farming, employing foreign workers plus investing in affordable machines. The income of the farming families started to reach a higher level as the government implemented such a rice pledging policy, and this has resulted in an increase in the number of farm households benefiting from this policy, from about one million households to two to three million households. The amount of rice to be produced in the year after would be higher. However, eventually, the government would not be able to continue this fake demand policy and also the rice pledging scheme as it used up a lot of budget, leading to a big problem for the fiscal system.

2.3.3 Integrated Rice Production and Marketing Plan

The Integrated Rice Production and Marketing Plan was initiated in 2016 by the administration of General Prayut Chan-o-cha under Order No. 1/2016 (dated 2 March 2016), issued by the National Rice Policy and Management Committee (RPMC) through appointment by the Monitoring Sub-Committee for Integrated Rice Production and Marketing Plan, consisting of the deputy permanent secretary for interior as the chairman, the deputy permanent secretary for Agriculture and Cooperatives, entrusted by the Permanent Secretary as vice chairman, relevant agencies as the members of the Sub-Committee, the deputy director-general of the Department of Internal Trade as a member of the Sub-Committee and the secretary. The Sub-Committee has the power and duty to determine the criteria, procedures and conditions relating to supervision and monitoring of integrated rice production and marketing plan both for in-season and off-season rice fields, appoint consultants or working groups to execute orders (as deemed appropriate by the Sub-Committee), invite representatives of other administrative agencies, agencies or persons to provide information, facts or documents to support the Sub-Committee's considerations, and report operational results to the RPMC. Two existing plans were included in the project's working plans under the Integrated Rice Production and Marketing Plan for 2016/17 and 2017/2018. The working guidelines and details of the Plan are as follows:

Table 2.6 Current Rice Market Condition and Rice Problem

Problem	Details
1. Demand, Supply	<ul style="list-style-type: none"> - Supply over demand for 5.8 million metric tons of paddy; - Inconsistency of type of rice with market and nature of area; - Decrease in yearly per capita rice consumption requirements;
2. Fairness	<ul style="list-style-type: none"> - High moisture / low price of early varieties; - Lack of incentive for rice farmers to improve rice quality; - Frequent disadvantages of rice farmers due to weighing machines and moisture meters; - Weak/ lack of bargaining power of the Agriculture Institute;

Problem	Details
3. Standard	<ul style="list-style-type: none"> - Same standards of Thai jasmine rice resulting in a competitive obstacle in foreign markets; - Lack of determination of the standard of milled and other rice, resulting in the creation of market confusion; - Necessity of rice mills to develop international standards to for world market competitiveness, such as GMP/HACCP
4. News Information	<ul style="list-style-type: none"> - Establishment of appropriate standards for rice mills and exporters; - Unequal access to data from each segment of the rice market, resulting in low competitiveness and errors in risk management; - Lack of rice price linkage data in each supply chain link and the lack of understanding of rice farmers in rice data systems;
5. Management	<ul style="list-style-type: none"> - Lack of thorough and insufficient rice cultivation management resulting in storage of cultivar by agriculturalists and poor rice quality; - Existing management problems in production periods (large plots of rice fields, reaping machines and threshers, production mechanical machines and the renting of rice fields);
6. Innovation	<ul style="list-style-type: none"> - Low competitiveness and value addition for over 90 percent of market-traded rice goods (which is a highly competitive commodity area).

The Integrated Rice Production Planning Working Group has discussed the above issues with relevant administrative agencies and associate members to prepare the integrated rice production plan. The main objective of the plan includes increasing the income of rice farmers. The plan consists of working in five parts and through 22 programs, determining demand and supply, production and harvesting periods, and identifying domestic and foreign markets. There are three work monitoring and examination periods; at six, 12 and 18 months, respectively.

5 Objectives

- 1) Balance supply and demand, both in type and quantity at 29.50 million metric tons of rice;
- 2) Ensure the high efficiency of rice production;
- 3) Achieve a 20 percent decrease in production costs, a 20 percent increase in output per rai, and 20 percent increase in GAP Standard Quality for rice farmers with large plots;
- 4) Enable to ability to delay output into markets from November – December to not-below 13.50 million tons;
- 5) Enable the ability to export rice to foreign countries to not-below 10 million tons.



Figure 2.6 Full Cycle of Rice Production and Marketing Plan (2016/2017)
Source: Rice Department, 2017

2.4 Thai Rice Strategies:

Based on the idea that systematic changes will need to occur to solve issues in the short, medium and long term to strengthen production systems, and domestic and foreign trade systems, the Ministry of Commerce and Ministry of Agriculture and Cooperatives have been cooperating with the government for a period of five years.

The first resolution was approved on March 2, 2007 by the prime minister. Currently, three strategies are being developed by the Thai rice strategies. Both production and marketing strategies have emerged as a result. Each strategy is summarized below:

2.4.1 Thai Rice Strategy No 1 (2007-2011)

Cabinet Resolutions on November 6, 2007:

Vision:

To make Thailand a leader in rice production and ensure rice is one of the major products which improves farmers' income, stability and addresses consumer confidence concerns.

Mission:

1. Production system, and the promotion and support of farmers
 - 1.1 Develop a plan to strengthen farmers' long term self-reliance;
 - 1.2. Increase rice farmers production efficiency and reduce production costs. Improve rice quality by using good quality rice varieties and improve post-harvest management practices;
 - 1.3 Genetic conservation, research, development, and sustainable production technology.
2. Marketing and product development:
 - 2.1 Strengthen market mechanisms, and optimize marketing efforts especially during the beginning of the season, where there is a noted disparity in negotiation power. Develop local, regional and national-level market systems;
 - 2.2 Expand markets for rice and rice products, including the promotion of research and the development of new high-value-added products;
3. Participate in rice exports:

Participate in rice exports through proactive policies which maintain original markets, and expand to new markets;
4. Develop quick, low-cost distribution management systems for new products and rice paddy distribution and rice products through farm-to-market logistics systems.

Principal Strategies:

1. Production Development Strategy

1.1 Increase the total rice cultivation area of 57.5 million to 58 million rai, and increase crop fields from nine million to 12 million rai; increasing the combined total to 70 million rai;

1.2 Increase average yield per rai by an average of 20 percent within three years. Yield increased from 432 kg / rai in 2007/08 to 515 kg / rai in the second quarter of 2010/54, up from 683 kg / rai. In 2011 the average yield was 764 kg / rai.

1.3 The total paddy output increased from 30.987 million tons in 2007/08 to 39.038 million tons in 2010/11.

2. Promotion and Farmer Support Strategies:

2.1 Farmers have the knowledge and ability to produce and manage their crops in the main rice cultivation areas in 2011;

2.2. Farmers receive quick and accurate services, technical support and information on rice;

2.3 Farmers earn higher incomes from farming leading to better quality of life;

2.4. A Farmers' organization has strengthened farmers' power to negotiate on supply and production factors, and increased self-reliance;

3. Marketing and Product Development Strategies:

3.1 Stimulate mechanisms and reduce marketing process to develop product potential. This will result in a 10 percent increase in farmer income over the next five years and increase rice trading systems from 210,000 million baht in 2007 to 231,000 million baht in 2011;

3.2 Rice trading in the agricultural exchange market has increased. In 2011, approximately 20 percent of trades were for rice;

4. Price Stabilization Strategy:

Market price intervention is close to or higher than the market price (not more than 10 percent difference), enabling a 10 percent reduction in the price of paddy intervention costs, from about 4,400 million baht in 2007 to 4,000 million baht in 2011;

5. International marketing strategies:

Export volumes and value increased from 2002-2006, with an average export volume of 7.4 million tons, valued at 2,550-2,850 million USD ; an average price of 278 USD per ton and an export volume of 8.5 million tons.

6. Transport and service management strategy:

Transporting and service costs were reduced by 19 percent of the total rice productions in 2007 (the total cost was 61,047 million baht, from the gross tonnage of 315,139 million Baht) to 15 percent of the gross rice total in 2554.

2.4.2 Draft Thai Rice Strategy No. 2 (2012-2016)

This document was not found by the resolution of the cabinet as it was just a draft.

Vision:

“Thai rice as the world number one, with consumer confidence and improved farmers’ quality of life.”

Mission:

1. Production:

1.1 To research and development of rice in accordance with the country environment and the demand of domestic and foreign markets;

1.2 To Promote farmers' knowledge of production and management skills and the outcome of quality products and the strengthening of the farmer's organization;

1.3 To verify and certify the quality of rice and products to enhance market competitiveness;

2. Domestic marketing (Department of Internal Trade, Ministry of Commerce);

3. Overseas Marketing (Department of Foreign Trade, Ministry of Commerce);

Strategy:**1. Production:****Strategy 1: Research and Development****Objectives:**

(1) Obtain rice varieties with high yields, high quality, pest resistance (to tolerate of at least 12 different varieties by the end of 2016);

(2) Obtain rice production technology of at least eight technologies by the end of 2016.

Strategy 2: Development of rice and products:**Objectives:**

(1) Increase rice yields per rai in crop year 2016/60 by at least 10 percent as compared to paddy yield/per rai in crop year 2011/55;

(2) Reduce the cost of rice production per ton in the crop year 2016/60 as compared to crop year 2011/55;

(3) Increase the quantity of jasmine rice in the year 2016/60, by at least 20 percent as compared to crop year 2011/55;

Strategy 3: Farmer Strengthening:**Objectives:**

(1) At least 2 million people farmers from 2012-2016 receive services and academic support, as well as information, on rice;

(2) The Rice Community Center is strengthened by at least 70 percent by the end of 2016;

2. Domestic marketing;**3. Foreign Marketing'**

These topics are not specified in the draft plan.

2.4.3 Thai Rice Strategy No 3 (2017-2021)**Vision:**

Thailand leads the global rice trade. Market mechanisms are effective and able to balance all sectors. Farmers attain a good quality of life. The Farmers' Organization is strengthened.

Mission:

1. To promote, support and upgrade rice quality, value and rice products;
2. To control rice cultivation areas and yield throughout the whole country, in an appropriate manner;
3. To encourage and support farmers and strengthen the Farmers' Organization so as to make it self-reliant, in-line with the sufficiency economy model. Increase rice production capacities, and the productivity of Thai rice in the world market;
4. To develop rice varieties, enhance production technology, and reduce the cost of the rice production processes, modify value adding processes, and promote and develop rice trading to meet international standards;
5. Develop structural and logistics systems using modern management technology;
6. Promote competition in the rice trade to be more in line with market mechanisms and fairer to all sectors;
7. Promote and create value for the consumption of rice and rice-products;
8. Support economic and social studies of farmers, traders and support the Rice Research Institute, a key institute for the development of commercially viable innovations;

Strategic Issues:**Strategic Issue 1: Strengthening Farmers and Farmers'****Organizations****Objective:**

Strengthen farmer organizations, consisting of agricultural cooperatives, community enterprises, and rice community centers, to meet at least 80 percent of set criteria by the end of crop year 2564/65;

Strategies:

1. Establish local rice production centers and technology transfers;
2. Support the establishment of a center for farmers in local areas;
3. Raise the rice production capacities of farmers;
4. Support rice production;

5. Revise and enforce lease other relevant laws;
6. Establish the National Rice and Farmer Development Fund.

Strategic Issue 2: Crop Area Control and Appropriate Rice Yields

Objectives:

Annual paddy output should be equal to or higher than the requirement of not more than 10 percent;

Strategy:

1. Define rice cultivation areas, according to area potentials (zoning);
2. Organize participatory rice cultivation in irrigated areas;
3. Improve rice cultivation in inappropriate areas;
4. Organize rice information and data systems;
5. Create a mechanism to drive efficient and sustainable rice management;

Strategic Issue 3: Rice Production Optimization.

Objectives:

In the year 2021, the productivity of all rice varieties should not be under 516 kg/per rai. The production cost per rai should not exceed 3,600 baht per rai, and should not exceed 7,000 baht per ton (of rice);

Strategies:

1. Accelerate the production and distribution of rice seeds thoroughly during the crop season;
2. Promote the use of modern technology in rice production and modify the process of rice production;
3. Support industrialized-integrated farming;
4. Promote the use of agricultural machinery;
5. Promote the use of organic fertilizers (bio-fertilizers);
6. Control prices, the quality of inputs, services and rent;
7. Develop a natural disaster alert and rice pest outbreak system;
8. Optimize the management of rice storage and rice transport;

9. Extend the development of water resources and irrigation systems, land reclamation and soil fertility restoration to cover important rice cultivation areas.

Strategic Issue 4: Improving Product Quality and the Standard of Rice Products

Objectives:

1. The quantity of quality and safe paddy rice produced by the certified rice mill in 2064 is not less than 10 million tons.
2. Rice sold on the market has a trade standard and GMP safety standards of not less than 80 percent of the traded volume within 5 years.
3. The rice trading system in the country and the export of rice to meet the acceptable standard at least 60percent of the trading volume within 5 years.
4. Consumers can buy rice guaranteed by trade and safety standards. The fair price is set at not less than 80 percent of the sold volume within five years;
5. Rice production systems (mills and rice improvement plants) with a production capacity of more than 60 tons / 24 hours, must meet all GMP safety standards within five years;

Strategies:

1. Accelerate the promotion of high-quality rice production;
2. Promote the production of rice and products for specific markets;
3. Raise the standards of rice production. Improve the quality of rice inspection and certification;
4. Establish a link between manufacturers, suppliers and consumers;
5. Promote the value of rice and products;

Strategic Issue 5: Improve Logistics Management

Objectives:

Ensure the good performance of logistics management throughout the supply chain at low costs;

Strategies:

1. Develop standard packaging for easy storage and transport;
2. Cooperate with private sector actors to develop rail and water transport systems by studying the availability and perform feasibility studies on establishing three inland container depots (one depot in Northern, Central and Northeastern Thailand) to support road-to-rail transportation in order to reduce costs and the congestion of road and water transportation. To manage infrastructure and transportation services that meet the needs of both domestic and international customers, including promoting sustainable development in related areas and increasing competitiveness;
3. Accelerate the development – and reduce the cost of – transportation and logistics systems from source to destination. Lower logistics costs will help farmers sell paddy at the best price. The dissemination of knowledge and training, study visits and cost reduction consultancies would assist in achieving this.

Strategic Issue 6: Develop and Strengthen the Fairness of the Rice Trade.**Objectives:**

1. Rice export volumes are not less than 9 million tons per year;
2. The private sector is equal opportunity; holds no power over the market or gives special assistance to particular traders;
3. The milling system is aligned with supply in each area; at least 80 percent within five years;
4. The rice trading system has been set up to ensure greater fairness within three years.

Strategies:

1. The state supports linking rice demand, marketing and production to be in line and in the similar direction of the supply chain, from the upstream to downstream. Rice production will be promoted to meet the needs of the market and make a covenant or agreements to enhance the security of farmers / community enterprises/cooperatives in readily available areas;
2. Enhance knowledge and understanding about marketing systems for all related people;

3. Encourage and support rice barns, promote and encourage farmers to improve or build rice barns;

4. Promote agreement between farmers and farmer institutions and the entrepreneur who uses rice as a raw material such as, exporter, millers, processing plants, rice bag, and modern traders;

5. Expansion of export markets by organizing the government representatives and private sector agents to expand market and strengthen trade relations in foreign markets in the form of either G2G, or private to private;

6. Promote and develop the paddy market system and central for rice auctions;

7. Establish a special economic zone (SEZ) for the rice trade along the border of neighboring countries or rice mills in the same areas in order to gather, modify and export to foreign countries by listening to the traders or stakeholders, their views and comments, prior to changing rules which affect trade and the opening of the AEC and the SEZs;

8. Promote the use of warehouse receipts as instruments instead of actual delivery;

9. Improve the Rice Trade Act, 1946, and Rice Standards, in line with the changing circumstances of current trade and the facts for domestic and export trade based on realistic and facts and the ability to complete objectives;

10. Organize the mills and central market system for distribution and sufficient cover in important rice cultivation areas according to zoning;

11. Promote understandings of weighing standards, moisture and impurity measurements and the grain marketing system for all stakeholders;

12. Oversee and evaluate unfairness in the rice trading system throughout the supply chain. Resolve identified problems caused by inequality in the rice trading system;

Strategic Issue 7: Create Value in Rice Consumption

Objectives:

Rice consumption has increased by at least five percent within five years;

Strategies:

1. Campaign to increase the popularity of Thai rice consumption;
2. Collect knowledge about rice and arrange it for disclosure into production and commercial information categories to be made available to the public sector and thus stimulate domestic and foreign consumption especially in niche markets, such as organic rice, registered geographic indication rice (GI) and highly nutritious rice.
3. Produce and provide media distribution, both domestic and international or organize other activities with private rice trade associations to maintain remaining markets and seek new markets for all kinds of rice;
4. Promote the quality of Thai rice and Thai jasmine rice to the importers, buyers (for consumption) domestically and overseas;
5. Seek cooperation with the tourism sector in order to publicize and promote reports about Thai rice (quality) and promote it as a souvenir item;
6. Broadcast and convey the values of Thai rice consumption in combination with Thai food through international media and entertainment channels, including movies, and entertainers;
7. Support the construction of rice processing plants.

Strategic Issue 8: Research, Development and Creating Rice Innovation**Objectives:**

1. There is a rice commercial institute, doing research and using the results and for further commercial development while cooperating with private research and development agencies. Sources of funding are provided for high value-added rice products, including promotion and public relations to stimulate the popularity of Thai rice consumption both domestically and internationally. These activities should also raise awareness of the cultural value of rice which is part of the national identity and provides innumerable health benefits to the population;

2. No less than five percent of the total volume of rice production is brought into the process of value creation by processing into rice innovative products;

3. High-potential rice varieties (not less than eight varieties) are developed;

4. Obtain technology to optimize the production of not less than 10 innovations;

Strategies:

1. Provide support for research into the development of rice innovation in a clear direction which meets market needs. Promote innovation and research for industrial production and commercial development of rice;.

2. Accelerate research and the development of rice varieties, technologies and increase research potential;

3. Research and develop of rice products for added value;

4. Meet the economic and social needs of farmers and develop a model for promoting and transferring technology to farmers.



Figure 2.7 Thailand's 6 Main Rice Management Strategies
Source: Rice Department, 2017

2.5 Public Policy

Public policy or government policies are at the heart of national development and provide a framework for monitoring the performance of relevant agencies to achieve the goals or objectives set or announced by parliament. Public policy or in Thailand, exists at several levels; national, ministerial, departmental, provincial and local. This can be seen in The National Economic and Social Development Plan, the four year government development plan, rural development plans, The Woman and Child Development Plan and others. In addition, government policies can also be cabinet resolutions; an alternative government policy wherein the government decides to use guidelines for actions to address, mitigate or prevent problems (Supachai Yawapas, 2005, p. 4).

2.5.1 Public Policy Process

Harold Lasswell studied the public policy process in the early era (Pierre & Peters, 2006, p. 16) and is a renowned public policy figure. In 1956, Lasswell's study discusses a set of separate and successive steps from the beginning of the formation of policy through to policy decision-making. Lasswell distinguished seven stages of the decision process composed of; intelligence, recommendation, prescription, invocation, application, appraisal and termination. Although many accept Lasswell's steps others, such as Theodoulou and Cahn (1995, p. 87) have divided the public policy process into six steps: problem recognition and issue identification, agenda setting, policy formulation, policy adoption, policy implementation and policy analysis and evaluation.

Bullock, Anderson, and Brady (1983, pp. 4-9) also define the policy process into six steps: problem formation, policy agenda setting, policy formulation, policy adoption, policy implementation, and policy evaluation.

In this study, the researcher has adjusted the public policy process into five steps as follows:

2.5.1.1 Policy Formation:

Thomas Dye stated that policy is formulated from a critical issue where issues that are important, and which can be taken into account by the government, are formulated into policy, which depends on the severity of the problem and the perception of the problem that needs to be addressed. This means that whatever issues receive policies measures will depend on government choices (Dye, 2002, p. 1). Problems that can enter into the government's deliberative process which are given priority by the political process are those which reflect the values of the leaders, the needs of the interest groups, public opinion and public emotions, as well as policy trends such as the proposed problem-solving concept, the possibility of solving the problem, where the problem is – these are all factors which affect the policy process.

In society, the interaction between the various parts of the system are both positive and negative. These are the main factors that not only cause problems, but determine which problem is a public problem and which should be fixed. There is a need for a variety of screening processes because not all the issues will be processed

to the policy agenda, as stated by Theodoulou and Cahn (1995, p. 88). The opportunity for problematic issues to enter into the policy agenda is thus based on perceptions and political understandings. This means that problems which can be a public problems – and incorporated into the policy agenda - depend on the perceptions and understandings of those who have authority, both at the individual level and the institutional level. Recognition of a problem or issue must contain a problem, a conflict or crisis, the support of a visible interest group or receive bureaucratic support. In the process of formulating this policy in this thesis, this recognition was the first step. That is, the analysis of the nature and state of public issues, defining what the problem is, who is related, what the results would look like, what kind of resources are required, what the effect might be, who is receiving advantage and/or disadvantages of the policy, and what are the impacts, to whom. Problems cannot enter the policy agenda itself; policy makers need to create the issue, including the leaders of interest groups and the mass media, where the media can also act as a stimulant in the various roles that play a role in shaping the agenda. This will lead to the establishment of an institute for problem solving and a budget process. The policy agenda of the problem must include a triggering mechanism, a driver or a stream. The policy stimulus has two components, external and internal factors. External factors include economic conditions, international relations and international organizations. Meanwhile, internal factors include the prime minister, cabinet, ministers, changes of government, the influence of government agencies and the attention of experts. The nature of the problem that the government considers as important is due to the interaction between the scopes, such as the affected population. Attention on the issue, such as public awareness of the problem and the timing, of the issue, that is, when the problem gains public interest (Gerston, 1997, pp. 22-49) are important. The policy agenda is derived from the stream of details in three independent and different aspects which occur simultaneously (Kingdon, 2003, pp. 90-164)

1) Problem stream; is the flow that focuses on the interests of the people and policy-makers on specific social problems. This includes a definition or explanation of the problem – after the problem has been identified – a defined policy to find solutions to the problem, and a focus on what problems should be

considered as important. Defining a problem also defines values. The problem stream is the time where the problem becomes of interest, the problem definition and the feedback from problem studies;

2) Political stream; is the flow of government or politically-stipulated problems from which the issue (that should be solved) emerges. These issues or problems are formed or set up as a result of the interaction of important factors, such as emotions or public mood, the power of benefit groups and the movement or changes in government. People involved in the formation of the problem can be seen in public places (visible clusters). Visible clusters include political leaders, government consultants, members of parliament, media, benefit groups and/or political parties. In general, problems that have arisen and have been agreed upon do so as a result of the bargaining between the participants.

3) Policy stream; is the flow of decision-making leading to a choice or decision. Those involved in making policy decisions are often considered as hidden clusters, such as academics, researchers, public administrators, consultants, members of budget bureaus and benefit groups. The policy stream includes the development of alternative solutions, such as law or technology to address problems and issues. When the three streams meet (problem, political and policy streams) it will open a policy window. As a result, the policy agenda will depend on the opportunities or circumstances that occur when an opportunity or situation is presented and the issue is accepted into the government agenda. In order for this to occur, the three streams must be present, simultaneously. However, all three streams are independent with social and societal predispositions.

2.5.1.2 Policy Formulation:

Policy formulation is an important step and has a great impact on policy implementation as stated by Søren C. Winter in *Handbook of Public Policy* (2006, p. 155). According to this, the set of factors that affect policy implementation are policy-making and policy design.

Initially, analysts present their choices of policy to decision makers. Policy alternatives must be analyzed as policy makers must be aware that the choice of policy is consistent with its goals. Policy formulation is a complex task and involves many environmental factors. After seeking alternative policies, the policy

selection process will be screened so only practical alternatives, consistent with available resources, social values, benefits to stakeholders, remain. The policy must meet the stipulated targets, be flexible with/to changing circumstances, respond to the needs of the people. The process of policy screening is a repeated process that ensures that policy choices are those that best meet the needs of the population. Policy evaluation options give analysts clear information on policy alternatives (advantages and disadvantages) so that they will tailor policies in the best possible way.

2.5.1.3 Policy Decisions

Policy decisions may occur in the form of laws by parliament or resolutions by the cabinet. Policy decisions involve large numbers of people. Policy decisions have many relevant theories but this research will focus on the Rational Comprehensive Theory and the Incremental Theory, both of which are explained in the next section.

2.5.1.4 Policy Implementation:

Transforming policies to action is a concept that has been studied by the social sciences for a long time. However, there is still a lack of clarity surrounding policy implementation. The first in-depth studies in this field took place in the 1970s. Since then, research on the implementation of public policy has become more widespread. There is some debate and controversy over policies that lead to a practice or any form of administration. While some policies cannot lead to successful practice, it has led to a great deal of research on policy implementation producing a greater understanding of the policy implementation process. Policy implementation is a policy process that is critical to the success of a policy, and critical to meeting its set objectives.

Pressman and Wildavsky (1973) emphasize that policy implementation is the process of government action to achieve a defined purpose. Therefore, policies must be in place before the policy is implemented.

For Mazmanian & Sabatier, (1981, pp. 5-6, as cited in Alexander, 1985, p. 405) "policy implementation" is the implementation of policy decisions, usually prescribed in an act. The policy implementation process, takes place through many smaller processes, starting from proposing a bill followed by implementation of the policy, until lastly, the amendment or revision of the act. This is consistent with

Scott (1975, p. 155) who explains that policy implementation is a decision making process and practice that, starting with practice or design development, then moves on to a rather lengthy stage of work which faces a variety of problems and new problems including, technical issues, personnel management and institution/structural issues. This work ends the policy is ready for experimentation or it will end with discretion when the practice is complete. At this stage, it is sometimes possible to evaluate the performance of policy through the data to begin a the new policy process.

Many Thai scholars, such as Woradej Chantarasorn (1988, p. 68), define the implementation of policy as a matter of the study of human organization or how related groups of people can lead and encourage administrative resources to work and achieve the stated policy goals. The study of the implementation of the policy is thus seeking ways and means to improve policies, plans and practices. The study of the implementation of policy seeks to find explanations of certain phenomena or realities that occur within the process of policy implementation in order to study find lessons learned, and develop new strategies to lead to more successful policy implementation.

In addition, Supachai Yawapas (2005, p. 90) comments that policy implementation can be viewed as two issues, and that policy implementation is a continuous process, not a temporary activity. Policy implementation is thus a process wherein all steps are related all the time. The second issue is that the implementation of policy must seek to achieve policy goals.

Sombat Thamrongtanyawong (2003, 481-482) defines the meaning of policy implementation as the most important part of the public policy process. Implementing policies must be done in parallel with policy evaluations with the ultimate aim of strengthening capacity to achieve the desired goals efficiently and effectively.

Therefore, it is necessary to seek protection, solve problems and barriers to avoid failures in policy implementation. Therefore, policy implementation is defined as the conversion of objectives into policy. This may take the form of laws or orders from the government or cabinet or as guidelines, plans or projects. Concrete activities include the provision of resources, project planning, organizational design and daily operations to achieve set objectives. Policy implementation is difficult

because operations are the duty of lower level agencies which are indirectly related to higher government agencies and beyond the control of the state. The lower levels of government are free to carry out their work. The process of policy implementation is divided into two main levels; high level agencies and low level agencies. Details are as follows (Jumpon Nimpanich, 2006, pp. 164-186).

1) High level agencies; set policy that lower level authorities apply, including how to apply policy in an appropriate way. This is often called, "macro implementation". This can be divided into two main stages; the process of converting policy into practice (or into a plan or project), and; the steps to get lower level agencies to adopt the plan.

2) Lower level agencies; upon whom the policy has been passed from the high level agencies must determine that its internal policies are in line with national policies. This is called "micro implementation."

2.5.1.5 Policy Evaluation:

Policy evaluation is very important for public policy, especially the state management by a new paradigm, which focuses on policy-oriented result base management, which is a holistic view that focuses on productivity, outcomes, and the impact of policy implementation. The results will be reflected in the assessment process by policy makers and operators. The evaluation process is therefore increasingly important. In addition to being part of a policy-based process, it also mirrors the success or failure of policy implementation at various levels in terms of efficiency, effectiveness, achievement, value, and impact on the people relevant in various dimensions. This is done for performance improvement and efficiently purposes and also used as a decision making tool of policy makers in case they want to implement the policy in a similar way in the future. A good evaluation needs to be understood and accepted by all relevant parties. The assessor must have a good attitude, be neutral (with no bias) and be able to use both quantitative and qualitative methods, including the selection of appropriate metric theories (KPIs) for each type of assessment based on the operators objectives and goals. In general, evaluations can be performed at all levels of the policy process, including pre-operational evaluations, overall evaluations or evaluations of policy implementation and related activities.

Types of assessments can be categorized into three main categories:

1) Preliminary evaluations: are feasibility studies to analyze the appropriateness of mechanisms and processes, problems, obstacles, and risk factors that may affect the success of the work and expected results. Preliminary evaluations typically include a study of the potential effects of the operation, such as the socio-economic impacts. This type of assessment is very useful in considering the value of the investment and the expected impacts of the operation.

2) Formative/implementation evaluation; this type of evaluation is performed before the project or activity is finalized, meaning it will be carried out alongside the monitoring of each major important activity in order for use for problem solving or to improve activities that are being carried out. This is done so as to catch problems/issues early, before operations are fully completed, in order to address them accordingly.

3) Summative evaluation; this type of evaluation usually involves evaluating complete processes in order for decision making purposes of executives who may need to continue or to develop more effective and appropriate measures to deal with situations. It is evident that, in the context of the evaluation of policies, these evaluations are highly beneficial for government operations, especially policy makers or administrators who need to make decisions based on current, factual information. If such information exists and is available it can make policy implementation more efficient, more effective, and more cost-effective and worthy of additional spending of the government budget.

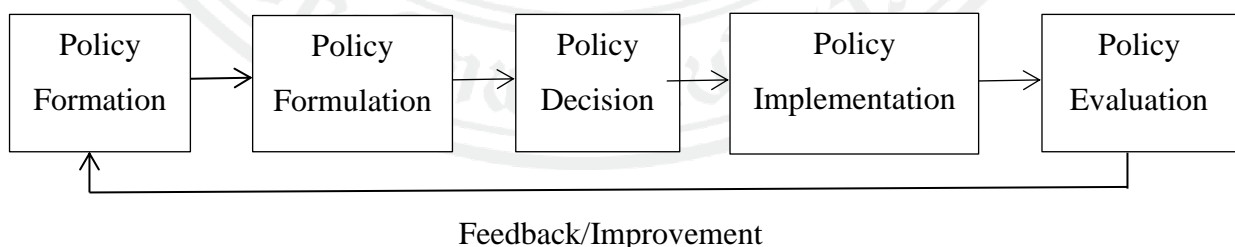


Figure 2.8 Public policy process

2.5.2 Policy Implementation

Concepts in the study of policy implementation have been well known for decades, especially in the United States since the beginning of the 1970s. Some 10 years later, European countries experienced a public policy implementation research phenomenon. The foundational reason for public policy research was/is the lack of understanding between policy making and the evaluation of policy outcomes. Pressman and Wildavsky (1973, pp. 70-86), applying the policy to practice model in a seminar in 1973 looked at job creation policies for the poor and unemployed in Auckland, California, United States.

Sumitra Jermpan (2009, pp. 69-107) concludes that the study of policy implementation should begin from a conceptual framework, the important of factors of which must be beneficial to the success of policy implementation.

Jongjai Taecho (2012, pp. 17-19) describes policy implementation and the transfer of policy into practice as a sub-process of master procedures. Implementing policies are dependent on driving policy awareness, understandings, and accepting and creating positive attitudes toward policy-makers. In order to act on policy implementation, the policy grantor and the policy recipients must be clear about the elements of the policy, especially the policy recipients, who must understand and be able to interpret the policy correctly. This is because, in general, public policies may not be self-evident. Parts of policies become idealized. Sometimes policy makers formulate clear policy; optimal and good policy should be able to be put into practice. This helps policy makers or the policy grantors be clearly mindful of the policy; policy recipients will receive the policy clearly, and easily interpreted way and lead to secondary policies and more simplified plans. At the same time, it will help policy recipients to distinguish the most important parts of the policy and interpret the policy correctly and clearly.

Policy into practice requires the formulation of related operation objectives. In general, policies have many stages of responsibility in relevant offices. Policy implementation must be aligned with the levels of office, vertically. The scope of policy leveling will take place according to the responsibilities of the related agency. The division of duties may be separated by the range of the policy, by target group, area, content or other means. To effectively transform policy change into practice, the

grantor and the recipients must be clear about the policy elements, especially, the policy recipient, who must understand and be able to interpret the policy correctly. When problems exist, this may be due to a lack of lucidity in the related policy. Some policies are ideologically driven, but sometimes policy makers make clear policy decisions. Good policy must be clear and easily put into practice, characterized by clear measures. These factors will make policy recipients clearly understand, interpret and prepare secondary policies. To transform a plan into good practice, it is necessary to have an objective and related performance guidelines that are consistent with the system in which they operate. The policy recipient at the mid-level, generally serves two purposes:

1. Bringing the policy to the plan for their own agency as the operator and;
2. Setting policy or plans for the lower level agencies to act upon. Lower level operators perform one or both of the following tasks:
 - 2.1 Introduce the policy from the upper level agencies for planning/preparation, and;
 - 2.2 Take the plan from the upper level authorities for operation, which may require an operation plan;

Therefore, policy recipients need to understand the relationship between policies and plans and be able to interpret the policy and link it to the overall operation plans. To put policy implementation into practice, sub-policies or subordinate policies to the lower level authorities (for operations) may need to be defined, but in the end, there is a need for clear operation plan and a plan of action. There are at least four activities under the policy implementation umbrella;

1. Interpretation of policy objectives and the analysis of objectives or sub-targets so that these are clear and practical and all of the set targets are intended to meet the policy objectives;
2. Extension of the approach to achieving the policy objectives so that these approaches meet the target objectives and are consistent with the policy guidelines;
3. Interpretation of policy mechanisms comes in the form of tools and resources required in accordance with the methods set out in the plan. What do they need? How much and what quality?;

4. Looking at the relationship between objectives or target plans, practical methods and resources are used to synchronize these facets so that they are consistent both upon implantation and in the future, and define which resources are used and how much time is involved. One policy may be transformed to more than one operational plan. In order not to have each plan split up in different directions, it must be coordinated in one of two ways:

4.1 Determining the plan as a component, distinguishing policy objectives outlined in a plan that produce more than one plan where each plan must be implemented simultaneously. Otherwise, the policy will not be achieved.

4.2 Defining a plan in a supportive way, by distinguish objectives and policy guidelines into many parts where each part is independent itself but wherein priorities can be arranged, as core or secondary. This approach will result in more than one plan where each plan can make the policy a success itself without being dependent on other plans. However, it has been shown that the existence of other plans will help to better achieve set targets.

Kla Tongkew (2005, pp. 7-8) describes policy implementation as a process of managing and coordinating activities and to forcing change to achieve a desired result, to achieve the desired fulfillment of the policy intent of a group of people, public or private organizations.

Sombat Thamrongthanyawong (2006) discusses policy implementation, saying that applying policies or implementing a defined strategy into operation, is dependent on the ability of the organization to gather people, agency resources and encourage them to work together to achieve organizational objectives.

Worradech Chantarasorn (1997) proposed the success and failure in policy implementation in three approaches.

First, the success of policy implementation can be measured by the degree of cooperation between policy recipients and policy makers. This approach focuses on bureaucratic behavior, which is in the interest of most institutional theorists, while politicalist and economists, including the public administrator may pay little attention to this perspective because of the fact that the collaborations do not mean a thing if the policy, plan or project does not have a clear operating performance.

Second, the success of the policy can be determined by the conditions whether the policy compliance (according to the obligations of the responsible organization) has really occurred, with smooth, and trouble-free practices. If any policy compliance occurred but with lots of conflicts, the degree of failure will be greater.

Third, the success of policy implementation can be determined by the result of the policy implementation itself i.e “whether there was a desired result. This approach, considered in line with the two approaches above, the project assessment result would become clearer. It can be seen that the measure of success in policy implementation following this approach is broader and more relevant than others.

Other conclusions exist that policy implementation refers to the process, approach or method of management and coordination to drive departments and practitioners to achieve policy targets and objectives.

Speaking of the concept of policy implementation, Woradej Chantarasorn (2008, p. 131 - 144) compiled various forms related to policy implementation and the concept of effectiveness or success of organizations, which are as follows;

1. Rational Model: this model focuses on the efficiency of planning and controlling systems. The organization responsible for managing the set policy must set clear tasks, objectives, strategies and targets for operations and assign tasks to the concerned parties, creating performance measurements, rewards and consistent punishments, all of which are important factors for successful policy implementation.

2. Management Model: this model emphasizes the internal capacities of responsible organizations that manage weaknesses and strengths in various areas such as organizational structures, personnel, budgets, location, materials and equipment, facilities and new technology. Agencies with relatively low internal capacities will result in unsuccessful policy implementation;

3. Organizational Development Model: this model emphasizes the behavior and organization culture of institutes and groups, especially in terms of leadership, motivation, teamwork, worker-involvement, engagement and mutual recognition. The factors that influence the success of policy implementation in this model are the workers realization that they are an important part of policy implementation;

4. Bureaucratic Process Model: this model considers that the use of the street bureaucrat's discretion will have a direct impact on policy implementation. If

operational staff do not accept the transformed policy as their routine practice, they may ignore directives or may decide, at their discretion, to act in a manner unfavorable to the policy;

5. Political Model: this model focuses on the ability to negotiate and compromise of the parties related to the policies. Individuals who have a vested interest in the policy will come to use their influence to create a negotiated condition for policy compliance to make themselves benefit. Whether in the form of using their abilities to cite legitimacy, advertising, public relations, building mass power to create pressure, the ability to negotiate a compromise will seek strong external support to implement policies to deal with related people. This is an important factor in policy implementation according to this model;

6. Integrated Model: this model is based on the concepts of the above five models, and seeks to influence the effects of successful policy implementation in terms of productivity, results and the nation as a whole. There are four independent variables; organizational performance, planning and control efficiency, leadership and cooperation, political and environmental integrated management.

Kla Tongkow (2005, pp. 66-67) investigates the process of implementing policies and plans, and identified variables that drive successful policies, or failure. The research finds that both political and managerial variants have different effects on the success or failure of policy implementation. Some variables have a direct influence, while others variables may only indirectly influence policy implementation. Applying policies and plans for successful practices, is defined as policies and plans that operate and achieve the objectives of the target groups who receive direct benefits. The assigned delegate understands the defined targets and policy objectives clearly because of the clarity of the targets and policies, and allows the responsible person or the delegate to set policy, and standards of the work and assigns agencies or individuals for accuracy and clarity. The clarity of the mission and task assignments will help agencies or organizations that are responsible for the policies or assignments understand what to do and how to do it. There will be an exchange of ideas to seek ways of working in line with the mission. The plan is in line with the policy purpose and the target plan, helping agencies to implement policies for potential development and to gain the right support from central agencies. In addition, the success of policy

implementation requires local support, mass media, mass power, and support from community leaders because support from the local community empowers agencies. Lastly, the success of policy implementation will depend on monitoring measures, verification, evaluation, and appropriate incentives to the operators.

They conclude that policy implementation is a very important step in the study of public administration and public policy. One has said that good planning succeeds in half. If you look carefully, you will find that the other half that will make the plan complete is the implementation of the plan into the practice. This step is a time-consuming procedure, requiring resources and capabilities of the implementers. The process of implementation, the organizational structure of the agency involved may be modified. The revision of legal regulations that support the practice must include resources, such as manpower, appropriate budgets and materials used for the purposes of achieving the targets (Woradej Chantarasorn, 2551, p 28). O'Toole (1986), who studied policy recommendations under the title, "Multi-Actor Implementation: An Assessment of the Field", summarized the work of other scholars, reaching a conclusion on the variables, or factors, that influence the effects of policy implementation. Although O'Toole's work did not mention the details of the variables, his work has created an image for the study of the policy implementation. The data can be summarized, as shown, in Table 2.7:

Table 2.7 Variables or factors of research studies in policy implementation

Scholars or Researchers	Consultant variable
Ackermann (1982) and Steinman (1982)	Resources and organization structure
Alexandar (1985)	Policy, activation, schedule program, policy implementation Organizational environment and policy variables acceptance.
Altenstetter (1976) and Bjorkman (1977)	Ambiguous targets
Ball (1976)	Clear decisions, consensus, attitudes of personnel Resource availability, leader reputation, Consistency of the issue Public cost the role of mass media
McLaughlim (1976)	Central policy, technology, resources.
Berman (1980)	Clarity of policy objectives, number of personnel involved in the policy, resistance from policy leaders to practice, inefficiency or the inefficiency of the control level from the upper levels of control from the upper levels.
Bowen (1982)	Clarity, number of personnel, time resistant.
Browing, Marshall, and Tabb (1981, 1984); Browing and Marshall (1976)	Local emphasis, such as highlighting local targets, local ideals, various rules and regulations, times. Practice demand, resources, power, support, 44
Chase (1979)	factors to consider organizational structures
Davies and Mason (1982)	Economic factors, resources and righteousness
Grindle (1980, 1981)	The content of the policy and its context.
Hargrove (1983)	Types of policy
Hucke (1978)	The terms of the agency that implemented the policy.
Kirst and Jung (1982)	Times
Luft (1976)	Motivation

Scholars or Researchers	Consultant variable
Mandell (1984)	Various broker roles (operators)
Mavel (1982)	Number of involved state agencies.
Mechling (1978)	Technical uncertainty, internal conflict
Montjoy and O'Toole (1979); O'Toole and Montjoy (1984); O'Toole (1983)	Clarification of the target, resource, policy of the agency. Technical requirements for operational facilities, risks that practitioners can recognize.
Nixon (1980)	Clear and consistent communication.
Portor (1976)	Technology, types of collaboration, coordination, environments.
Ripley and Franklin (1982)	Types of policy
Ross (1984)	Strategy to implement the policy, the ability of policy to solve problems. Policy, social structure, politics, and the number of people involved. Power range, collaborative work, clarity. Resources, support from the leaders, Institution
Skelcher, Hinings, Leach and Ransom (1983)	Relationships between organizational structures Development of solutions
Thomas (1979)	Structure of the chain of command, economic and
Thompson (1982)	social variables.

2.6 Stakeholders:

The term, “stakeholder” refers to a person, community, or organization that is interested in the results of the organization's activities and plans. The results of the organization’s activities and plans can have both positive and negative effects on the stakeholders. Examples of stakeholders include customers, suppliers, shareholders, dealers, communities, government agencies, consumer representatives, mass media or nonprofit organizations (NGOs). We can divide stakeholders into three groups:

1. Key stakeholders: are those who can have significant influence or those who are important to the success of the activity, such as the customer and the supplier, who both have a significant stake in the production, services and/or improvements;

2. Primary stakeholders: are individuals or groups of people; those affected by the activity who may be affected positively or negatively. In general, organizations who are part of the supply chain, for example, consumers, dealers, primary producers who are affected by changes in selling prices, the modification of trade policies, including procurement and sales;

3. Secondary stakeholders are all organizations involved in the operations of the organization which have no direct involvement in the organization. This includes activities monitored by outside agencies such as hospital activities, and mass media organizations who will pay attention to treatment quality, standardized services, hedging, or the trade in essential commodities such as food, petrol, and drugs. This group also includes outsourced organizations that pay close attention to regulating the organization's activities, such as excessive advertising, quality and the safety of the product, and those that control price mechanisms and ensure they are fair to consumers. The activities of these organizations must have good governance.

Why is a stakeholder analysis is necessary?

1. To identify the main stakeholders, and to separate support groups and opposition groups. It also recognizes the groups that studies should pay attention to, such as disadvantaged groups, children and hill tribe groups, etc., which may be directly affected by the project;

2. To analyze stakeholder groups and their roles, power and influences that may affect the project;

3. To assess the future of the project, and the targeted stakeholder groups, in order to remove or mitigate negative impacts and improve creative relationships between the project and the stakeholders;

4. To identify other social issues such as cultural and linguistic sensitivities that may affect success or failure of the project;

5. To open opportunities for national government officials at the regional and local levels to work together and coordinate with stakeholders and the main groups in the area by meeting each other unofficially;

6. Stakeholder analysis, if using a participatory data analysis, is done so as to allow government officials to gather information that reflects the views and attitudes of stakeholder groups related to the problem/issue. The collaboration of affect people in the area will be useful for future projects.

2.6.1 Stakeholder Analysis:

Step 1 Identify key stakeholders:

To evaluate who is likely to benefit from the project, and who can be negatively affected. A stakeholder analysis must ask if there are specific affected groups (e.g. ethnic minorities, farmers and hill tribe etc.), who opposes the project and who are the involved stakeholders;

Step 2: Assess the benefits and impacts of the project to stakeholders.

Key questions: What is the stakeholders' perceptions of the project? What are the benefits of the project? What are the stakeholders' resources? Can resources be used for a campaign? How are the goals of the project contradictory to stakeholders' interests?

Step 3: Evaluate the role and importance of stakeholders:

Key questions: How well are stakeholders organized? What is their ability to control key resources? What are the informal power and influence of the stakeholders? How are the power relations within and between other stakeholder groups? Do target groups agree with the project and what are their roles in making the project successful?

Step 4: Arrange stakeholder strategies into the participatory process:

Significant stakeholder interests and the influence of each stakeholder group must be assessed. The study should strive to include key stakeholders who may have no influence/resources, but are an important part of the project in order to create the right participatory model.

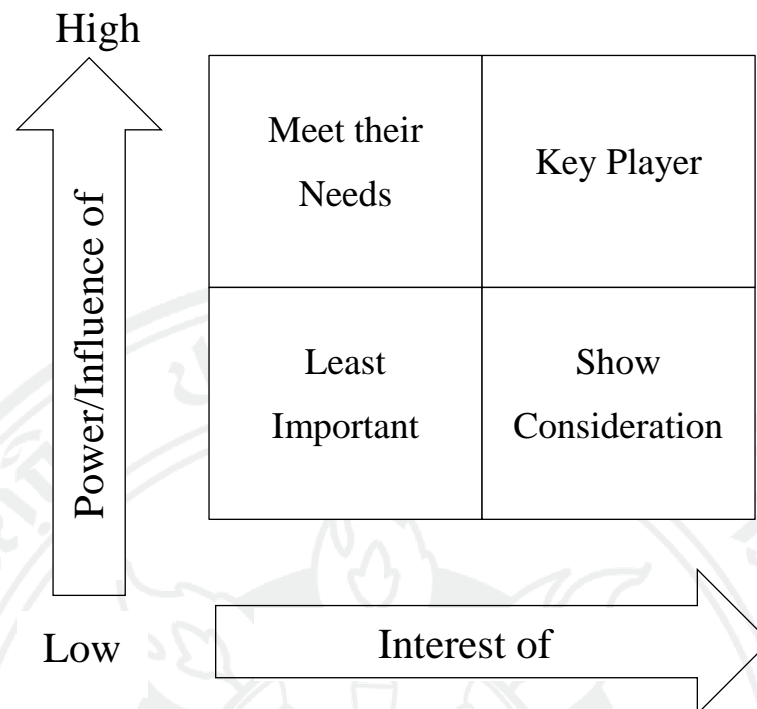


Figure 2.9 Stakeholder Analysis

Source: <http://ais.msu.edu/internal/projectmgt/documents/StakeholderAnalysisQualityGuide.pdf>, 17 March 2011

2.6.2 Stakeholders in Public Policy:

The main institutions include the legislature, management and judiciary who have constitutional authority and decision making authority on policy matters. These are the three institutions known as official policy-makers. However, we must consider the involvement of unofficial policy-makers such as groups of beneficiaries' political parties and the general public who have no constitutional authority to make policy decisions as detailed below.

“Interest group” means a group of people who possess the following basic concepts; life, social status and professional similarly. Members come together occasionally or regularly to claim and protect their mutual interests since members see the importance of coordinating their activities. This may include groups such as lawyer' associations, rice trader associations, labor unions, and medical associations. Interest groups can pressure or influence groups when it claims the interests of the group from political institutions or when it comes to demanding decision-makers for

their socio-economic, political, and public interests. These groups play a role in policymaking in every country, both countries with democratic and dictatorial governments, developing and developed countries. However, these groups may have different components, legitimacy or acceptance in developed countries, such as, the USA and UK. Interest groups there are more widely accepted, and thus operate more independently than comparable interest groups in the former Soviet Union. Interest groups may also provide information and options to decision makers to further rationalize policies in pluralistic societies such as the USA.

Interest groups are numerous and vary in size. Organization operation models and the interests of these groups often conflict with each other. State officials have to make decision for the interest of a particular group or find compromises with these conflicting interests. A well organized group with active members acting in the interests of the group are more likely to influence decision makers than others. Whenever interest groups use their influence to direct decision-makers to make a decision inconsistent with their interests that group will immediately become an influential group. Therefore, the influence of interest groups on policy determination relies on many factors such as, the number of members, management resources, personnel and budget, the unity of the group, group leadership skills, status of the group leader, attitudes of government officials toward the group, other conflicting and competing groups, and the importance of the group in decision-making within the political system. Groups such as industry federations, may exert a great influence on economic issues but less so on human rights.

“Political parties”, however, mean a permanent organization that gathers people into voluntary membership from the local to national level, seeking political power in accordance with the constitutional pathways available in all political systems. Political parties have different roles and importance levels, such as, the channels for public expression and the gathering of proposals in the system as a means of promoting political knowledge and understanding. They are responsible for enhancing people's behavior with new values such as honesty, justice and equality, as well as for screening and gathering interests by transforming the requests of interest groups into policy options, and applying policy options to solve social problems, and responding to the needs of the members and the general public. Political parties have

to seek support from voters through the election process. The goal is to use power to govern and establish a government or influence the three major institutions who have the power to make decisions. In general, political parties play a larger role in determining wider public policy than interest groups. In other words, political parties acts as the broker, rather than as the supporter, of particular interests in order to set public policy in countries with two-party systems, such as the USA and UK.

Political parties seek to consolidate and harmonize the interests of their members and to formulate policies for the party. The party will be widely supported by the voters who are also members of the various interest groups. Through a multiparty system, political parties often represent the specific interests of particular groups, such as in the French Federal Republic. In defining public policy, individual citizens generally do not take part in the legislation. It is the duty assigned to government officials. In many countries, however, such as the Swiss Confederation, all people have the right to vote directly in the legislation or referendum, which means they can exercise their expression of public opinion on important public matters in the voting process, especially during events such as constitutional amendments. This method uses the majority vote as its form of public participation in politics.

In general, most people are unlikely to be directly involved in politics because of laziness and low political interest, even in a democratic political system. Most people take part in policy formulation at a low level, through voting, but do not participate in the activities of political parties and do not apply to interest groups or influence groups. Many show no political interest and pay no attention to the policies of political parties or their candidates in any way, even failing to vote during elections.

In dictatorships in Latin America, constitutional authority in the decision-making policy will pay attention to the needs of the people in order to prevent riots and unrest. In totalitarian states, such as the former Soviet Union, authorities seem to pay attention to the needs of most people, although people are not directly involved in policy making. However, in some cases, the implementation of public intellectual activities has resulted in new ideas and new directions being introduced into policy-making processes such as insecticide control, car safety and human rights policies.

It can be concluded that the institutions that formulate official public policy are the: legislative, management and judicial institutions. Meanwhile, benefit groups, political parties and the general public become informal participants in policy formulation.

2.6.3 Interest and Pressure Groups on Public Policy:

Interest, pressure, and social movement groups play an important role in shaping and formulating public policy. They reflect the needs of interest groups, which requires the support of decision makers, such as for subsidizing agricultural products due to the demands of farmers (Noppadol Udomwisawakul, 2017, p. 40). Interest groups play a role in pressuring governments to adopt policies that favor them, such as the major rice exporter groups, who put on pressure on the government to restrict quotas to monopolize the market. These groups influence policy formulation in the following aspects:

1. Interest groups play a role in influencing policy makers to shape and define policies that benefit their group/s;
2. Interest groups cooperate with pressure groups in various disciplines to pressure decision-makers to change policies that hinder their group interests;
3. Benefit groups that support their policies pressure policy makers to not cooperate with policies that impede group interests;
4. Pressure groups and social movement groups play a role in policy issues and policy agenda setting.

Generally, decision-making power is not concentrated in the hands of specific groups, but spread throughout the hands of various groups in which the main characteristics of influencing the process of forming and shaping the interests of the group are, to seek alliances and cooperation with the government.

2.6.3.1 Basic Concepts of Explaining the Role of Interest Groups:

1) Elitism concept:

This concept believes that the leaders direct the group while the members of the group are followers. This makes the interests oligarchic, not pluralistic. The foundation concepts are as follows.

(1) Benefit groups are established by the leaders rather than by the common people. The movement of the group comes from the control of the leader. Small but powerful groups are more likely to effectively distribute resources to their members and be more effective in pressuring the government;

(2) Resource-based groups have the power to drive policy goals. The conflict between these groups often leads to the public arena, because the leaders want to fall back on another group. The inequality of representativeness is defined by the resources that each interest group possesses (Danielian and Page}1994: 32). The media is likely to present the group's policy issues. This group will affect policy change and mutual trust in the group leading to changes in public policy processes (Evans, 1995, p. 43);

2) Pluralism Concepts:

This concept asserts that power is not concentrated, but distributed in the context of the policy. The structure of power in society is complicated (social causation). The principle concepts are as follows:

(1) The process of shaping and policymaking will be flexible based on the interactions between those involved in the policy;

(2) The structure of power in society is so complicated that it is difficult to conclude on cause and effect;

(3) The process of shaping and policing is divided into several areas of policy, based on advocacy coalitions;

(4) The definition of the benefits is subjective (i.e., the specific characteristics of the community and interest groups;

(5) The process of shaping and policing is flexible, changing the relationship between the complexes (Partisan Mutual Adjustment)

The key determinants of the role of interest groups in shaping and public policing are as follows (McFarland, 2004, pp. 27-28):

(1) Interest Groups Sustainer Ability: seeking resources and driving public policy issues to maintain status and the acceptance of interest groups or seeking networks through the issue (issue networks) in order to demonstrate the existence of the group.

(2) State Autonomy: the government determines policies, laws and policy formulation affecting interest groups. If the government is free to define such rules, it will result in a minimized role for interest groups.

(3) Social Movement: changes in public policy are often incremental, because there is a movement of social groups to push policy;

3) Transaction Cost Concepts:

(1) Relationships between the interest group is an exchange relationship between leaders and its members. The leader forms the group for his/her own interests but will also act on social or economic leadership. Membership must be paid as required by the group.

(2) Interest groups use lobbying relationships to distribute resources efficiently. Group leaders need to push public policy issues into public perception.

2.6.3.2 Representation of Interest Groups:

This occurs in the process of shaping and formulating public policy, especially in developing countries or newly industrialized countries. Governments and government agencies are lacking in funding, technology and human resources with advanced technological expertise. Therefore, the cooperation of the private sector is an important factor leading to economic and national development success. Here, there are important issues for the role of interest groups in the form of joint committees between the public and private sectors:

1) Driving policy:

Public and private participation are different from public policy formulation as presented by bureaucratic authoritarianism because it is governed by liberal corporatism. The factors that make the private sector more active are the support of trade liberalization in the international arena, the support for privatization and the support for fiscal burden reduction. The approach has become important from an economic ideological perspective, superseding the concept of state subsidies.

2) The role of policy change and blocking:

(1) Policy Issue Transforming is a process of modifying some policy issues to benefit interest groups, such as adjusting tariff details for industrial machinery and adjusting storage rates.

(2) Policy Issue Blocking: it is forbidden for the state to impose policies that impede its own interest groups, such as forcing the state to liberalize its outbound tourism business.

In summary, the government often intervenes in the agricultural market. In particular, the main goods of the country in terms of price and taxation control. It looks as though farmers have no role in driving policy but agribusiness groups are able to unite and can pressure the government. Peter Evans (1995) states that the cooperation of mutual interests and trust leads to change in industrial policy and the development industry, from basic to high-tech. Thanapan Laiprakobsab (2014), however, has pointed out that if business groups can unite together, they can affect government policy, but in a way that benefits their business.

2.7 Related Research

Abler and Sukhatme (1998, pp. 195-215) studied and analyzed factors that directly affect rice and wheat policy. The method used to identify such factors was the political economy model. The research found that rice and wheat policies were set to benefit urban consumers and farmers in the Punjab and Haryana. India, as a whole, was also benefiting from these politics. However, the study states that it was still difficult to change policies due to cost constraints. The study was opposed to the bureaucracy of the Indian government, which it sees as the main cause of the problems. Since the reform of India's economic policy in 1991, it has become clear that the political conditions of India have changed, as the importance of urban and rural populations have declined compared to earlier periods in India's history. At the same time, tax payers and producers were the beneficiaries of economic policy reform.

Amdur, Bertke, Freese, and Marggraf (2011, pp. 859-875) studied and presented environmental policy measures in Israel's agricultural scene (agri-environment) including studying and presenting the possibility of using market-based economic instruments, introducing a conceptual framework for the development of Israel's agricultural environment policies. The conceptual framework was used to examine Israel's agricultural policy, including the study of pilot projects, which were themselves, based on experiences from the European Union and other countries. The

framework used in the study was based on two criteria: criteria for participation in policy improvement and policy implementation. The study analyzes documents related to state reports, statistical data, master plans, and standpoint papers. It also analyzes the feasibility of using market-based economic instruments combined with the experience and knowledge of the authors concerning experimental projects on the implementation of environmental policies in agricultural marketing. The study found that market-based economic instruments are more likely to be implemented in Israel than other state policies because of the satisfaction of Israeli people who want to strengthen agricultural markets. The most important factor affecting the adoption of marketing instruments into policy was recognition by stakeholders and institutions. Policy makers barely considered measures that could improve the effectiveness of the policy, the study found.

Aref (2011, pp. 155-158) studies the participation of farmers in agricultural development projects in the Fars province in Iran. The purpose of the study was to identify barriers that impede farmers' participation in planning and the formulation of agricultural development policies. The study was a qualitative in nature. Farmers in rural areas in nine villages in the Fars province were studied. In Iran, besides the information from group discussions, the study also collected data from secondary sources for analysis. Participants in the study were all male because of their involvement in agricultural activities. The study was conducted to analyze farmers' perceptions. The results from group discussions revealed that no agricultural planning occurred in the villages. Participants complained that they were not supported by local government organizations in terms of facilities and agricultural needs and that local government organizations did not have the capacity required to do so. Study participants complained that leaders of local government organizations were incompetent. Agricultural policy was defined by state organizations and their policies created little incentive for farmers in rural areas to participate in planning and policy making. In addition, the number of female farmers involved in policy planning and evaluation was still small because they are restricted access to agricultural product support and income generation.

Ariti, van Vliet, and Verburg (2018, pp. 129-137) studied the participation of farmers in the development and policy formulation of land use in the central area of

Central Rift Valley, Ethiopia. Their research aimed to assess farmers' level of awareness in the Central Rift Valley area of current land use policy. The study asked, 'How much do farmers participate in developing and policing these policies and how were they aware of the impact of those policies?' Data was collected from interviews with local farmers and stakeholders from public institutions. Some 100 interviewees were selected, with 52 key informants interviewed by state institutions at the regional level using a purposive sampling technique. The results showed that farmers and local government organizations participation in the development of land use policy formulation, was very limited. However, key informants were those deeply involved in the development of land use policy formulation. The study therefore, found a gap between local farmers and local government organizations and state regional organizations. The fact that farmers were not involved in the development and policy of land use was perceived to be due to their lack of land ownership. The farmers stated they were reluctant to participate in policy formulation and complained of the inability to use local wisdom as reasoning, which they saw as a barrier to the formulation of effective land use policies. Although the level of awareness among farmers of policy was low, they were however, able to explain the impact of the land use and ground cover policy, including the impact on farming.

Aslam (2011, pp. 55-74) studied the reform of the EU's rice policy and the impact of policy reform on Pakistan's rice exports. It was important for Pakistan to study the EU's rice policy as it was a major rice importer, based on the volume of imports. In addition, the EU also imports high quality rice. Pakistan is a cultivating country for basmati, or fragrant, rice for export. This rice has a higher selling price than other varieties in the market and was sold to the EU and the Middle East. Aslam's research aims to review the rice policies established by the EU including policy transition periods. The research sites the positioning of the rice system as representing evolution, which is able to describe the policy reforms implemented between 1995 and 2000, as well as the reforms undertaken in 2003. The study of the reforms measured, specifically, the impact of the reforms on exports of Pakistani rice. According to the study, in order to maintain and increase their market share in rice exports (for Pakistan), basmati rice must be registered and protected under the Geographical Indication Act (or GI) to reach a dispute over super basmati rice forced

by the abolition of export quotas for rice. The study asserts that this should include the ability to check the DNA of rice, the ability to deal with disputes and promote a culture of multiple crops.

Benavides and Snowden (2006, pp. 698-712) studied the future of farmers, in terms of their involvement in hedging and corn projects, in Mexico. The study states that developing countries are examples of unsuccessful commodity pricing schemes and suggests that stabilizing commodity prices through futures markets should be explored as an alternative policy. The cause of previous projects or policies were not successful because farmers were too involved in insuring commodity risk. This situation has been repeated in developed countries, although farmers in developed countries can more easily hedge their commodity risk. The purpose of the research was to study the phenomena in which farmers were reluctant to participate in the corn price hedging program, which was part of a state policy in Mexico. The data used in the analysis of the research came from the Chicago Board of Trade and the Future Industry Institute between January 1995 – September 1999, and was analyzed by hedging decision and risk aversion. The study results show that commercial farmers that benefited from state projects were located in the northern part of the country. Poor farmers did not benefit from the program even though the project target group was minority farmers in the southern part of the country.

Benedek, Fertő, and Molnár (2018, pp. 383-398) studied the factors influencing participation in the short food supply chain of smallholder farmers in two types of markets in Hungary's largest cities. Studies markets were both a traditional market and a new farmers-market. The traditional market was already established as a market where local farmers were allowed to sell their produce, but local farmers were required to bid so that they could sell at the market. The new farmers market allowed local farmers to only sell their own products. The study was conducted by a survey of 156 farmers in Hungary. The study found that factors influencing participation in short-term supply chains, to sell products in existing markets were farmers with low education levels with small shops. The study found that this group of farmers desired long-term contracts for their products but factors influencing participation in the new farmer market, with the willingness to cooperate, plans to invest in farm development, and the need to interact directly with the customer to avoid middleman were

attractive. In implementing the short-term supply chain strategies, the study argues that the EU must take measures to promote such projects more effectively.

Benjamin and Blum (2015, pp. 127-143) conducted a study on the participation of farmers in the agro-environmental policy of smallholder farmers in Kenyan rural areas. The study looked at smallholder farms who may not participate in the Agricultural Environment Program and are able to access ecosystem services subsidies, credit from banks and/or financial institutions and land limitation factors. The study finds that the situation may be the result of having a dedicated club of successful farmers who do not need to be poor to be able to benefit from the Agricultural Environment Program as well as subsidize ecosystem services. The two projects were both government policy instruments used to promote sustainable rural development and the livelihoods of poor smallholder farmers. Moreover, these smallholder farmers in rural areas of Kenya also joined the International Small Group Tree Planting Program (TISR). The project was part of an agricultural policy aimed at promoting agroforestry, carbon capture and ecological agriculture. The question of this research was whether the smallholder farmers were really poor. The purpose of this research was to study the factors that influence participation in the TISR in Kenya's rural areas. The research utilised survey research and data were collected from 210 smallholder farmers by simple random sampling techniques in the Embu Meru and Nanyuki areas, all of whom were members and non-members of the TISR. The random utility model and logit regression were used to test the monetary and non-monetary factors.

The concept of utility function is a framework used to study non-monetary factors, particularly on formal and informal rural communications equipment. There are also studies looking at other factors related to access to credit and interest rates to demonstrate the nature of participation in the TISR of farmers. The study found that the main factors affecting the participation in the TISR were; distribution through formal and informal networks, credit limits, age and labor relationships. The study concludes that participants in the TISR of were not defined by wealth or success levels.

Lastra-Bravo, Hubbard, Garrod, and Tolón-Becerra (2015, pp. 1-9) studies factors contributing to farmers' participation in the EU's agricultural environment

program, and identified and selected farmers based on factors defined by empirical analysis from 2000 to 2013. The results of the qualitative analysis revealed that factors influencing farmers participation in state agricultural environment programs were: fair payment from their participation, the dependence on agricultural income of low-income households, age and education levels. In addition, the study found that not only did the agricultural environmental policy affect the participation of farmers, but so too did policies related to household agricultural and community development in rural areas, which encouraged or dissuaded farmers to participate in the state's agricultural environmental programs.

Carney (2008, pp. 129-142) studied the impact of irrigated rice on the lives of people in Gambia. The purpose of the study was to analyze the consequences of international administration policy in agriculture, domestic production and dependence on imports of Gambia. The data used in this study was largely agricultural production and field data from the mid-1980s and June to July 2004, collected by the Central Statistics Department and the Gambia Ports Authority, including policy papers. The study found that irrigation projects have created conflicts among the people of Gambia. Moreover, projects were not able to be carried out as planned, especially in regards to smallholder farmers and lower rung social status agricultural workers. The policies also created conflicts between men and women in rural areas and destroyed wetland environments. In addition, irrigation programs forced Gambian people to rely on imported rice. Prior to this project, Gambia was a country that produced enough rice to satisfy domestic consumption.

Chaipat Chanwilai (2016, pp. 32-46) studied government policy on stabilizing rice prices. assessing government policies to stabilize grain prices. The study includes an analysis of rice policies set by the government on the stabilization of grain prices and suggestions to the government on how to maintain grain prices effectively. The study was a qualitative study, responding to its study objectives. Data collection tools included in-depth interviews with three government policymakers, three government policy operators, seven government policy stakeholders, and seven direct policy followers. The results show that the government's rice stabilization policies were unsuccessful, as the policy was only able to solve farmers problems during the harvest season. Policy makers studied were the National Rice Policy Committee or the

National Rice Policy and the Management Committee. These people were not involved in the rice process and even lacked basic knowledge and understandings about – and of – rice. Farmers were directly affected by government policy, which was designed to respond to their needs. The policies are now considered short-term populist policies. The study suggests that the people appointed for positions in the National Rice Commission were groups affected by government policies and also that state policy must be a long-term rather than populist if it is to have a positive effect. The study states that state rice policies must be included in the National Economic and Social Development Plan.

Chigudu (2015, pp. 7-14) studied the effects of Zimbabwe's policy implementation. The purpose of the research was to study policy problems and the effectiveness of policy implementation. The method used in the analysis of this study was content analysis. For Zimbabwe, the policy was designed to serve the people of the country after the colonial era. However, the impact of policy implementation, the government inability, insufficient resources and the discontinuity of government policies affected policy implementation. To successfully implement policy, governments have to let those involved in policy implementation feel that they own the work. According to Chigudu's study, Zimbabwe's policy failure was a result of the inability to implement policies and was also impacted by internal politics, indicating that Zimbabwe's bureaucracy must be reformed in order to promote successful policy implementation.

Chuanchen, Yongvanit, and Yapin (2015, pp. 43-70) studied poverty reduction policies in rural areas and the implementation of policies for poor people and farmers in Fukong city, Yunnan Province, China. The purpose of the research was to explain the implementation of rural poverty reduction policies to reduce poverty in rural areas among the poor and farmers in Fukong. The study includes the production of space theory. Qualitative data used in the study was gained through field research, with 33 households and 113 local farmers. Quantitative data used in the study was collected from Fukong city administration's annual survey. The study found that poverty reduction policies in rural areas were successful in reducing poverty and raising the standards of living for farmer. The results of the study, through the concept of production space, found that interactions through human activities and social spaces

were effective. The research also suggests that policy-making bodies must consider the needs of farmers in rural areas as a means to effectively reduce poverty.

Colen et al. (2016, pp. 667-694) studied and experimented with economic tools for assessing agricultural policies from the EU. The purpose of the research was to study the feasibility of economic experiments. The results of the experiment will be used to determine agricultural policy. The research includes a review of economic experiments and supports a comprehensive evaluation of the methodology used in the experiments with standardized evaluation tools. The method used to evaluate the policy was the ability to test the policy before implementing, the ability to assess the impact of policies and the understanding of farmers' reactions to policies with behavioral factors. The data used in the analysis was collected from the Farm Accountancy Data Network (FADN) and Eurostat data. The results of the study found that experts and policy evaluators must openly accept innovative policy evaluation methods and should take advantage of the tools in the evaluation toolbox. Laboratory results were used as the basis for policy formulation, but these must be evaluated against moral and ethical constraints.

Defrancesco, Gatto, Runge, and Trestini (2008, pp. 114-131) studied the variables that influence participation in agricultural environment policies in northern Italy. The study introduced the Measures Participant Model and Participating Spectrum Model to study the feasibility of farmers' behavior towards participation or non-participation policies. The Participant Spectrum Model studies the impact of attitudes and beliefs that affect farmers' possibilities to participate in government policies. The research was a sampling survey of 139 farm owners involved in the RD project in the 2000-2006 period. The results from the Measures Participant Model show that the limited participation of farmers in the project was related to state policies, including the type of labor-intensive farming and the dependence of high household incomes on agricultural activities. Moreover, the Measures Participant Model also points out that the motivational factors for farmers' participation were experience, social environment, and adequate compensation against increased costs. The study found that factors influencing participation in agro-environmental projects were income, the future of the business, relationships with neighboring farmers and their opinions on how to perform eco-friendly farming.

Demenongu, Omale, and Ochekwu (2014, pp. 782-785) studied farmers' participation in policy formulation and the implementation of agricultural policy, focusing on the analysis of perception, level of participation in policy formulation, and the implementation of policy, including the monitoring of policy implementation. The method used for data collection was a structured questionnaire. The sample base consisted of 110 farmers from Makurdi City, Benue. The descriptive statistics were used to analyze participation levels and the perceptions of farmers. The results showed that most of the farmers were involved in clarifying the problem during the policy process and that almost all respondents were involved in the implementation of agricultural policies. However, the study found few were part of follow-up efforts to the initial implementation of agricultural policies. The hypothesis test found that levels of perception associated with the implementation of agricultural policy in Makurdi were high and that the top to bottom agricultural policy approach should be discontinued, whereby farmers should be involved in the monitoring of agricultural policies.

D'Hôtel and Bosc (2011, pp. 469-485) studied the influence of farmer organizations on the agricultural policies of Costa Rica, seeking to study the economic liberalization process by analyzing the competencies of farmer organizations that affect policy change. The research focuses on the institutional and organizational dimensions of the economic liberalization process in Costa Rica. The Douglass North method of institutional change is used as the prime tool of analysis. The study includes a comparative study of several agricultural sectors, such as coffee, milk and black beans which are used to analyze organizational behavior in terms of institutional change. The main analytical framework used in this study was the interaction between market-oriented organizations and the policies and institutions responsible for policy making. The study found that in the liberalization era, policies that control the markets and trade, impact the functioning of the agricultural markets. The study found that policy varies depending on the type of agriculture and the direct influence on the organization of the farmer. Organizational structure was considered a very important factor in the control of agricultural markets. The study argues that the success of agricultural control depends on the strengths of the institutions and organizations established for each agricultural sector. In addition, it argues that

historical differences in the way of life can explain the potential of organizations in influencing policy formulation and market share.

van Dijk, Lokhorst, Berendse, and de Snoo (2016, pp. 207-216) studied and assessed the latent factors impacting farmers' willingness to comply with agricultural environmental policies without subsidization. The results of the research may lead to better understandings of the incentives that drive farmers to participate in the implementation of environmentally focused, non-subsidized agricultural policies. Conventional behavioral theory was used to study the factors correlating with farmer's intentions to follow the environmentally friendly, non-subsidized agricultural policies. The data collected by this research was done by mailing the questionnaire to the target group of five cooperatives in the western part of the Netherlands. The target groups of the questionnaire were selected by farmer groups who had previously participated in questionnaires on environmentally-subsidized agricultural policy. Three-hundred and eighty four questionnaires were returned which showed that perceived social norms and perceived personal abilities correlated the motivation of the farmers to participate in environmentally non-subsidized agricultural policies. In addition, the study showed that cooperative environments are closely related to the incentives of farmers to implement such measures at a high level.

Dordkeshan, Shamsudin, Mohamed, and Radam (2017, pp. 890-900) studied and assessed the impact of the Malaysia rice import quota policy. The research evaluates the impact of the abolition of rice import quotas in Malaysia using a system dynamics model. The data used in the analysis was largely derived from the World Bank website. The study found that the abolition of rice import quotas by the Malaysian government will negatively affect farmer incomes but that consumers would benefit as it would reduce prices.

Ekasingh and Suriya (2000), conducted a study that assessed the social benefits of highland cropping using a mixed policy matrix analysis. The objective of the study was to evaluate cropping systems in the highlands of the Royal Project, Ban Chan village, Mae Chaem District, Chiang Mai, Thailand, focusing on remuneration to producers and society. The study included looking at the public policy impact on farmers, with data collected from the farmers themselves, royal project officers, and over 40 farmer leaders and sellers. The results show that the price of fertilizer and

chemicals in local markets is higher than market prices, meaning that farmers can buy fertilizer and chemicals cheaper than market prices. The study recommends the cultivation of seven-eight socially profitable crops, such as Japanese pumpkin, lettuce, sweet chili and gladiolus. Public policies affect farmers in terms of exchange rates, which impact producers' efficiency. This impact can be attributed to the competitive advantage it produces within the country and to the more efficient allocation of resources.

Fang (2016, pp. 505-517) studied the relationship between politicians and people in rural areas to understand how politicians and people in rural areas can affect agricultural policy. To do so, Fang utilized a case study model, analyzing the relationship in Thailand and the Philippines. In Thailand, with its strong social and political structure, and the introduction in 1997 of new election laws changed traditional patronage systems in rural areas, making it difficult for political parties to compete using populist policies, resulting in increased farmer subsidies. In summary, farmers' subsidies became a huge cost on the state. In the Philippines, the relationship between politicians and people in rural areas, from the end of the dictatorship in 1986, meant that politicians who owned lands returned to them to the state. Naturally, such politicians will favor patronage relationships, leading to corruption and reduced rice production. The country thus became dependent on imported rice and politicians began to persuade people in rural areas with subsidies. The research suggests that both countries should focus on the issue of income inequality in rural areas, as well as global food security.

Fell and MacLaren (2013, pp. 601-619) conducted a study analyzing welfare costs from rice policies in Japan, comparing domestic imported rice prices. The objective of the research was to estimate the welfare costs on Japanese rice policy, which was determined by the gains from the liberalization of the rice market in Japan. The conceptual framework used to evaluate changes in social welfare, from regulation to free trade, consists of demand, domestic supply, and import functions, equivalent taxation, selling prices after free trade, welfare changes and sensitivity analyses. The data used in the analysis was taken from the Ministry of Agriculture, Forestry and Fishery's database from 2004-2007. The study hypothesized that no government interventions in the market and market equilibrium would raise the demand price of

an item equal to the supply of each commodity. The results of the econometric analysis found the assumption to be true and the Japanese Ministry of Agriculture, Forests and Fishery could not stop the impact on rice prices in Japan from rice imports.

Hall, McVittie, and Moran (2004, pp. 211-225) studied the role of multifunctional agriculture policies in an effort to stabilize commodity-backed funds and the subsidy of non-marketable goods and services and increasing demand for such products and services. The study found that it was difficult to determine the best policy for non-marketed goods and services. The method used to study the role of multidisciplinary farming was to review literature related to agriculture and the environment involving general questions about the expectations of the provision of public goods in rural areas and the payment of subsidies to agricultural actors. The study also assessed public opinion on public goods and agricultural subsidies, as well as an economic evaluation of public satisfaction in the distribution of environmental goods in the UK, Europe and the USA. A multi-criteria analysis evaluation was undertaken for environmental decision making. The results found that people were satisfied with the role of agriculture as a producer of public environmental goods in rural areas. However, the multi-criteria analysis was not based with a solid theoretical basis.

Hayami (1972, pp. 19-31) studied rice policies that affected Japan's economic development, aiming to analyze changes in rice policy through a solid review from the Meiji Restoration era-1972. The study found that, in the past, the Japanese government limited rice prices to prevent rising the wages of industrial workers living in urban areas. The study also found evidence of additional policies to buy cheap rice from local producers as well as producers in the colonies. However, the policy of selling rice at higher prices was due to the decline of rice and wage goods and the wider transformation to an industrialized society. In addition, the study found the income gap between farmers and industrial workers in urban areas has been increasing, driving political pressure from rice producers to increase the price of rice. The Japanese economy grew so well so that the government could subsidize higher rice prices. The increasing demand for rice was due to increased income and population. However, rice prices have remained unchanged. The policy to increase

rice prices has been put into practice as demand for rice has declined. Japan is a good example of rice policy for developing countries because developing countries demand a shift to food and has potential to make it as a basic commodity to create a sustainable economy. Based on the case study of Japan, the potential of food production can be transformed into capital for the industrial development of the country, but the wages of the industrial workers must not be too high.

Van Herzele et al. (2013, pp. 110-120) studied the complexity of agricultural environment participation in a variety of ways. The purpose of this paper was to study the incentives of farmers participating in the Agricultural Environment Program to discuss upcoming issues in which policymakers should design simple policies that most farmers can apply immediately or to design a policy to suit the target audience. The sample for this study came from the Dyle River Basin in the province of Vlaams Brabant and Wallon, Belgium. The research process contained two steps, first; interviews using non-probability sampling to investigate the reasons for farmers participation in the agricultural environment project, analyzing participation motivation. Second, a data survey using questionnaires to collect information sent by mail to the target group. The results show there were six incentives for participation in government-funded projects: opportunities, predictions, compensation, optimization, approval and participation. The reasons for participation varied depending on the complexity of the needs of the project. Moreover, the reasons for participation in the program from the state policy did not find compensation to be the primary motivation. Although compensation can influence project participation, originating state policies, primary participation motivations varied widely.

Hossain and Verbeke (2010, pp. 77-96) studied the integration of markets in Bangladesh in 1992, analyzing policies which restructured the agricultural sector, particularly the rice market structure in Bangladesh. The purpose of this research was to study whether spatial rice had been integrated. The data used in this study was the monthly rice price data collected from January 2004 – November 2006. A co-integration analysis and vector error correction model were used to analyze the level of spatial rice market integration. The results show that there were at least three sectors showing levels of spatial rice market aggregation. The analysis of the long-term equilibrium has been found to be steady-long run equilibrium. At the same time,

the short-run equilibrium analysis of the integration of the special rice market showed that the relationship of short-run market equilibrium in the interdependence of markets is limited, including the level of price impact of one market on other markets between the merged markets.

Huff (1997) studied the changing role of Canada's public agricultural policy looking rising commodity prices, decreased export subsidies, the need to abide by international trade laws and to halt budget deficits. The purpose of the study was to review Canada's public agricultural policies from the previous 25 years. The methodology used in this study was a literature review. According to the study, the changes in Canadian agricultural policy have resulted in increased market opportunities have stimulated private sector projects. However, the regulatory reforms have left the market unchanged, supporting market innovation and competitive advantages.

Chompoonuch Hunnark (2016, pp. 139-147) studied and made recommendations on the implementation of rice policies using case studies from Thailand. The information used in the study came from the collection of literature and documents. The methodology used in this analysis was primarily a literature review. The study results show that policy implementation must be consistent with policy areas, and that policy makers must be aware of the needs of farmers. Although major projects have rules and regulations but in practice, these rules must be flexible. The study recommended that the government must determine and control the implementation of the policy and, at the same time, review the suggestions made by lower level officials to ensure they are aware of the real problems affecting farmers.

Hynes and Garvey (2009, pp. 546-562) conducted a study and presented recommendations for engaging in agricultural environmental policies for environmental protection projects in rural Ireland. The purpose of the paper was to modify and improve participatory modeling in the agricultural environment for farmers. The study was based on a conceptual framework used to study participatory decision making over time. The data came from 300 farmers involved in the National Farm Survey from 1995 to 2005. The data show how time duration has random effects on the logit model estimator using lagged dependent variables for modeling participatory factors in the Irish Rural Environment Protection Scheme. The study

also used dynamic elements of other models using the random effects logit model estimator with lagged dependent variables. The results of the study showed that agricultural systems were not environmentally friendly, which was strongly related to the lack of participation of farmers in the formation of agricultural environmental policy. In addition, if unobserved heterogeneity or path dependency were not controlled, the effects on agriculture and specific characteristics of agriculture may be higher than necessary.

Thanwarut Jamsai, Chakkit Noranitiphadungkarn, and Dritsada Nantaped (2016) studied planning and practice of the rice subsidy program from the Yingluck Shinawatra government in Surin province. The purpose of the study was to analyze the conceptual and important problems of the rice subsidy program, studying the processes and procedures, monitoring, planning and adoption of the rice subsidy program. This study used both qualitative and quantitative methods. Quantitative data was collected using questionnaires from 400 farmers participating in the rice subsidy program in Surin province. The qualitative information was collected using in-depth interviews from practitioners involved in the rice subsidy program, as well as 12 representatives from mills and farmers. The results showed that the government's rice subsidy program lacked clarity. The study found that the project's mission and the assignment of stakeholder tasks was unclear, the measures used to implement the project were unclear and the administrative resources allocated by the government were insufficient. However, the study found that farmers were satisfied with their participation levels in the project.

Kgosiemang and Oladele (2012, pp. 19-27) investigated factors affecting farmer participation in state's agricultural policy with the goal of defining farmers' demographic characteristics, attitudes towards state agricultural programs, willingness to participate future agricultural policy formation and restrictions on participation. The study also looked at the relationship between farmers' socio-economic characteristics and their participation in policy formulation. Data collection tools included questionnaires collected from 150 farmers by sampling in three districts, 17 municipality areas in the Mkhondo district of Mpumalanga province, South Africa. Probit regression was used to analyze factors influencing participation in state agricultural policies. The study found that the main factor influencing farmer

participation in agricultural policies was the effectiveness of a comprehensive development program, household headship, livestock enterprise and income levels.

Kong, Turvey, Channa, and Peng (2015, pp. 45-64) identified factors influencing participation in the Group Loan Guarantee Policy in China. The purpose of the research was to provide a framework for cluster analysis to explain the decision-making process involved in the group loan guarantee policy and to study the factors influencing farmers' decision making. Some 897 households were sampled using a combination of logistic regression and group analysis to analyze the data and to see how the approach was innovative. In the evaluation of this research, the group of borrowers were arranged into four groups. The study found that most farmers were part of a group loan guarantee policy because of the need to access products under the credit system. Approximately 87.21 percent of the farmers in the group who utilize credit products in the system are members of the loan guarantee group because the lenders are joined to the policy. The policy influenced farmers' willingness to apply for the program. Borrowing is therefore the only factor contributing to the willingness of the farmers to join the group loan guarantee policy.

Thanapan Laiprakobsup (2017, pp. 442-461) studied inequality in accessing farmer assistance programs in rural areas of Thailand. The government has initiated a 1,000 baht subsidy program to alleviate production costs for farmers, especially poor peasant farmers. The purpose of the paper was to describe the inequality of access for the government assistance programs for farmers in rural areas of Thailand. The research was conducted using group discussions arranged so that the information was not biased in terms of social and economic factors, agricultural issues and political and policy satisfaction. The sampling groups consisted of 200 farmers from 17 villages of 15 districts in four provinces namely, Phayao, Songkhla, Singburi and Ayutthaya. The results show that rich farmers and landowners have greater access to state assistance programs than peasant and poorer land tenants. Moreover, landowners who are also farmers act as final decisions maker on the 1,000-baht assistance program. In addition, the 1,000-baht assistance program does not cover farmers who are farm employees and do not have their own land or rental land for rice cultivation.

Latruffe and Desjeux (2016, pp. 15-28) studied agricultural support policies, technical performance and changes in agricultural productivity in France from 1990 -

2006. The objective of the study was to analyze the different types of subsidies, which had a significant effect on the technical efficiency of agriculture, and the impact of changes on technical performance and productivity. The sampling group involved in the research was defined into three types: farming, dairy farming and beef cattle farming. The study utilized a data envelopment analysis model, one of which was nonparametric. The results show that agricultural reforms time (1992) noticeably efficiency. Moreover, the results of the econometric analysis were correlated with the effect of subsidies on performance scores, but the results of the study were inconclusive. The impact of subsidies was found to be positively and negatively correlated with the sample production and performance groups.

Ma, Chen, Zhao, Zheng, and Lü (2009) investigated factors influencing farmers in sustainable agricultural strategies, with the objective of assessing the attitudes of local farmers in agricultural production and environmental awareness, to identify the factors related to decision-making in agriculture and environmental attitudes, and to present suggestions for sustainable agricultural development. The research utilized a case-study study model in Hailun, a major commodity grain production base in China. The sampling group of this study were 98 farmers involved in participatory rural assessment approaches. The main instruments used for data collection were in-depth interviews and a logistic regression model analysis. The results showed that age, education levels and economic efficiency in agriculture were the main factors influencing the attitudes of the farmers in terms of their strategies for sustainable agricultural production.

Jariyaporn Masawat, Saowalak Roongtawanreongsri, and Prakart Sawangchote (2017, pp. 189-198) identified stakeholders in the participatory public policy process, using the case study of the Khao Khor Hong in Hat Yai District, Songkhla, Thailand. The purpose of the study was to establish a stakeholder selection process and present a way of selecting stakeholder procedures as case studies for public policy determination in the Khao Khor Hong areas. This study consisted of two steps: first; to review the relevant literature related to the concepts and case studies of national and international public policy processes; second to implement the public policy process (identified in the first step) in Khao Khor Hong. For the case study, the main research tool was stakeholder selection, data collection by stakeholder selection,

with qualitative data collected from group discussions, interviews, and participatory observation. Findings suggest that public policy processes require the selection of stakeholders affected by policy-related activities or projects. The method used to select stakeholders should be to identify groups of stakeholders, stakeholder identification and engage in stakeholder selection.

McDonald and Sumner (2003) conducted a study of commodity policies affecting market responses (in terms of cultivation areas), focusing on US rice policies. The purpose of the study was to interpret the relationship between selling prices and cultivations area under state policy frameworks. Rice policy was considered as a major component of the income earned by the agro-based industry and the basis for decision-makers policy decisions. The study found that parameters surrounding the estimation of market response parameters in the area of cultivation must be adjusted before analysis otherwise, the parameters of market data will be three-four times lower than reality and less than the structural parameters. The study found that it is difficult to interpret the relationship between selling prices and crop areas due to the estimation of parameters related to market responses.

Misra (2012) conducted a study regarding the necessity of agricultural policy for the rice intervention program initiated by the Government of Bangladesh. The research was driven by the global food crisis in 2011 as well as the dramatic rise in food prices since 2008. The method used to study agricultural policies for the state rice price intervention was based on a literature review, using secondary data. The literature review focused on rice market fluctuations in Bangladesh from 2007-2008, when there was a food crisis in the country and rules on the rice market were relaxed. The study found that although Bangladesh was not relying on imports of rice from the state was inefficient and has not monitored the rice market situation effectively overseas, resulting in a dramatic increase in domestic rice prices.

Mitchell, Rejesus, Coble, and Knight (2012, pp. 615-636) investigated factors influencing farmers' willingness to participate in the Average Crop Revenue Election project. The project was conducted at a time when the revenue of commodities decreased at the state and farm levels; it was expected that the project would be a new commodity support scheme. Data was collected by mailing questionnaires to the target group; farmers involved in the US National Agricultural Statistics Service. The

commercial ranch farms were located in the Mississippi, North Carolina area of Texas and Wisconsin. Prior to the adoption of the Average Crop Revenue Election project, 6,000 questionnaires were sent to farmers randomly; 1,380 questionnaires were returned. A multinomial logit analysis method was used to determine the which factors influence farmers' willingness to participate in the project. The analysis found that the main crop plantation, risk perception, risk avoidance and complexity of the project were important factor contributing to the participation. Moreover, the study found beliefs and attitudes to also be important factors.

Mouysset (2014, pp. 15-23) studied, whether public agricultural policy should focus on the direction of green or sustainable agriculture. The purpose of the research was to reflect on the design of public agricultural policy in terms of economic, social and ecological factors. The study included a comparison between sustainable and green public policies, based on the application of economic tools in the field of horticulture and pasture. The study included an economic analysis using biological economic models that compare the best public strategies. This study consisted of two sets of data: biodiversity and agro-economy. Biodiversity data was collected from the Fresh Bird Breeding Survey which focuses on bird populations. Agricultural economic data was collected agricultural economics institutes involved the field of agricultural land use in France as developed by the French Farm Accounting Data Network and the Observatory of Rural Development. The study found that green pasture and sustainable agricultural were best at addressing biodiversity goals, with the best tool being subsidization. The least budgetary-friendly way was found to be to create green agrarian policies that reduce horticultural subsidies for sustainability and meadow subsidies were just the most appropriate strategy.

Nielsen (2003, pp. 1-26) studied the impact of rice policy reform on Vietnam's economy, specifically, the abolition of rice export quotas. The impact of the reforms was studied both in terms of both domestic and international policy barriers. Domestic policy barriers included the ability to move across all sectors while barriers to international policy were disadvantages provided by trade agreements. The research was a quantitative study and data analysis using a global computable general equilibrium model. The data used in the analysis was derived from a database of projects called the 'Global Trade Policy Analysis Project'. The results show that the

tools that block rice production and rice exports were export quotas. In addition, Vietnam's foreign and domestic policies were another major factor blocking the country's potential.

Okafor (2008) studied the participation of women farmers in the field of agricultural decision-making in the Aguata region of Anmbra. The purpose of the research was to investigate participation levels of women farmers. Agriculture data collection tools includes structured questionnaires and interviews with 120 female farmers. The results show that significant levels of participation in decision-making on agricultural projects involved male farmers at low percentages. About 60 percent of women involved in agricultural decision-making do so at the family level. This research suggests that female farmers should be given the opportunity to participate in decision-making on agricultural projects at all levels when agricultural policy is formulated.

Oketch and Pithoon Thanabordeekij (2016) conducted a study on the management of Kenya's food security policy using a case study in private agriculture in Thailand. The purpose of this study was to find ways to manage Kenyan food preparedness policies by following the model of the private sector in Thailand. The was primarily qualitative using a case study approach. The conceptual framework was based on the Nutrition and Food Security Policy and Strategy. Data collected from various documents and 11 key informants who were selected through purposive and snowball sampling. The main instrument used for data collection was semi-structured interviews. The study found that Thailand could be a model for Kenya in terms of food security. In order to achieve the goal of food security, Kenya must adopt a coherent policy for the development of people at all levels and, in addition, the private sector, civil society, international organizations and governments must implement consistent policies.

Parkinson (2009, pp. 145-154) investigates patterns of influence on participation in publicly funded development projects investigating patterns of influence on participation in public development projects using the case study of the National Agricultural Advisory Service. Research was conducted from January 2006 – June 2007 using one-on-one interviews with stakeholders from the National Agricultural Advisory Service, consisting of registered members and those registered

with the National Agricultural Advisory Service. Data was collected through one on one interviews. The study found that there are five main patterns of influence on participation, these are; formal project mechanisms, the sympathetic relationship with project operators, joint participation decisions and politicians who act as lobbyists with support from national NGOs.

Pasaribu (2010, pp. 33-41) studied the development of the Indonesian rice farm insurance policy. The purpose of this study was to explain the efforts of the Indonesian government to set up a rice farm insurance scheme and to receive information from participants at the Indonesian Rice Insurance Development Conference. The rice farm insurance scheme was developed with the support of farmers to protect rice farms due to the fact that Indonesian farmers have suffered from floods, droughts, pests and diseases. As a result, the production of rice has decreased. Indonesian government aims to achieve self-sufficiency in rice production using pilot projects to study methods of applying rice insurance. The study found that the application of the rice farm insurance policy was successful and that this success was due to the importance of coordinating roles of farmers and insurance companies.

Stefano Pascucci, de-Magistris, Dries, Adinolfi, and Capitanio (2013, pp. 605-631) looked at the participation in policy measures for rural development of Italian farmers, aiming to assess the selection process of participatory rural development projects in the region. Studying the impact of regional features and attempting to explain the importance of rural development programs at the regional level, the study included the importance of regional projects in influencing decision making and the effect of this on participation in rural development projects. The Rural Development Program consists of support programs to enhance competitiveness and agricultural environmental services. Cross sectional information gained from 15,383 farmers was used in the study, with data were obtained from the Italian Farm Accountancy Data Network System which contains information on both participation, competitiveness and the agricultural environment support program. Analysis was conducted using the multilevel binary choice model. The study found that regional administrations chose the importance of rural development projects with specific regional features. The participation of farmers in agricultural policy is influenced by regional priorities but the policy cannot explain measures aimed at the increasing farmers' competitiveness.

Pavlis, Terkenli, Kristensen, Busck, and Cosor (2016, pp. 800-812) studied patterns of participation in European agricultural environmental policies to identify trends as indicators of case studies. The purpose of the paper was to investigate the agriculture environmental policy incentives of European landowners in the Netherlands, Denmark, Austria, Italy and Greece. The tools used to collect data were structured questionnaires. The sampling group of the case study consisted of 328 landowners, with information collected from February – May 2012. The study used in quantitative analysis and a logistic regression analysis model. The study found that large sized land owners who were also full-time farmers, young, with higher education-levels than primary school (and who attended the agriculture seminar) were more likely to show interest in agricultural and environmental policies. Landowners in northern Europe in urban areas were more likely to be involved in agricultural environmental policies than landowners in central and southern Europe who have less potential for farming. The incentive to not participate in the policy was found to depend on the level of participation in agriculture and the type and area of study.

Permani and Vanzetti (2016, pp. 273-284) studied and evaluated the rice subsidy project in Thailand looking specifically at the welfare impacts. The data used in the study and analysis were sourced from the US Food and Agriculture Organization database, other US agricultural agencies and databases from other countries including China, India, Japan, South Korea, Indonesia, Philippines, Thailand, and Vietnam. Data analysis was carried out using partial and stochastic equilibrium models of the world rice trade. The results show that although the rice subsidy project was successful in supporting farmer-income increase in the short term it difficult to say whether the burden had fallen on taxpayers or consumers.

Pradhan, Fu, Zhang, and Yang (2017, pp. 48-56) studied farmers' perceptions of drought-related policies using a case study of the drought in 2009 to 2010 in Yunnan Province, China. The purpose of the research was to provide an in-depth understanding of China's policy processes and farmers' perceptions of the effective implementation of policies to cope with drought. The method used quantitative social studies methods to gain its insights. The target group of the study were local administrators, with two villages were selected as primary case studies, both located in Yunnan. The hypothesis of this research was that China uses a top-down policy

process and fund distribution is determined by the federal government. The results show that the selection and placement of funding proposals is undertaken through the participation of local government organizations from the lower levels to the upper level. Farmers perceive that effective policy is related to past experience of farmers, which has nine indicators that measure the effectiveness of policy implementation. Indicators of efficiency, included road access, water efficiency projects, market demand and moving people for work (labor migration). The study found that community involvement in planning and the governance structure was seen as the least efficient method but the role of the leader was also seen as ineffective. In addition, local farmers will adapt to short-term marketing incentives and income distribution. All of these were guided by setting priorities by the government and farmers' perception of tangible benefits.

Rausser and Yassour (1981) analyzed rice policies in the Philippines by multi-attribute utility, aiming to present a framework for analyzing public policy problems in agricultural and food systems. The problem analysis framework was based on a stochastic, multiple-objective and decision-making model. The framework was useful to government agencies responsible for responding to the needs of many groups. The problem was that government agencies did not have just one goal in operation, including evaluating overall operations. A multivariate analysis was used to conduct the research meaning that the decision analysis was based on a variety of goals. The study found that government agencies should set a basic rice price of a minimum of 1.40 pesos per kilogram and maximum of 2.10 pesos per kilogram. This means that agricultural policy should be defined as the retail price with fixed farm price, including a subsidy of 0.64 pesos per kilogram. As such, it was imperative that the National Grain Authority need to be change its operations and management. The study disagreed on free market policies.

Chacattrai Rayasawath and Anake Laothamatas (2015, pp. 33-40) studied public policy evaluation in the tapioca subsidy program in Thailand to evaluate the success of the tapioca subsidy program in terms of outcomes and impacts, as well as solutions and problems encountered – and overcome – by policy implementation. The research was conducted using quantitative and qualitative methods, with 400 study-participants. The research used quantitative methods, using questionnaires sent to

cassava farmers who are registered with the Department of Agricultural Extension in northern Thailand. For the quantitative research, data collection tools included in-depth interviews from 30 people including farmers, tapioca factory workers, operators, and officials from public warehouse organizations, agricultural bank employees, agriculture cooperative officials and local politicians. The results of the study show the evaluation of the policy that most respondents were aware of the project objectives and stated that the project was related to social and economic conditions, including interventions and stabilization. For a production assessment, state officials provided support to the farmers and explained the project's work including follow up on the subsidy project on fresh tapioca. Farmers and village leaders distribute news on agriculture project implementation and have a good understanding of the policy and were able to follow the operational procedures well. In addition, farmers were satisfied with policy outcomes. This project has an equal impact on the social and economic situation.

Renliang (2016, pp. 95-114) studied China's Policies in modern agriculture development, farmers and rural areas. The purpose of the study was to educate people about the concepts and agricultural development, farmers and rural areas policies in China. This was a qualitative research collected from various documents. The study found that the modern agricultural development, farmers and rural areas policies set by the Chinese government has 5 aspects; accelerate the development of modern agriculture, increase farmer income, incentives and benefits for farmers, encourage unity in rural areas and the need for rural development. Activities that strengthen rural reform and development, strengthen the law relating to agricultural occupations, farmers and rural areas The Chinese government uses a top to down policy, which limits public participation. The central government was important in implementing such policies.

Robinson, El-Said, and San (1998, pp. 393-423) studied and presented a behavioral model of Indonesian rice policy. The purpose of this study was to present the agricultural-focused computable general equilibrium model. Analyzing the effects of changes in rice yields on the Indonesian economy. These changes were based on the different assumptions and work process of BULOG organization as well as the different exchange rates. The data used in the analysis was based on agricultural-

focused computable general equilibrium model of the Statistics Indonesia. According to the results, the distribution of resources related to agriculture and the country's economy were inadequate. In case of the National Logistics Agency wants to maintain rice prices when rice yields or exchange rates increase and the rice productivity increased. The subsidy scheme will collect income from the rice production for use in agriculture with other added value. In the case of reducing the exchange rate, maintaining of rice prices has a huge impact on rice producers, which results in structural changes being delayed. In addition, the subsidy policy also requires a tremendous amount of funds and too many state accounts.

Rock (2002, pp. 485-510) studied the impact of some agricultural interventions on industrial growth of Indonesia, Malaysia and Thailand. The role of agriculture in contributing to industrial development in East Asia has not been addressed. Growth in the industry cannot be achieved if the agricultural sector was not confident in the supply of food at low prices. Profits from exports of goods and services can be exchanged for currency. The labor sector in agriculture enters the industry that was the capital to generated growth for the industrial sector and stimulates the demand for domestic industrial goods. The impact of industrial interventions on food crops and rice on the industrial development of Indonesia, Malaysia and Thailand has been studied. The accounting calculation conceptual framework of economic was used to estimate the impact of agricultural growth and the stability of rice prices on the growth of the industry. The results show that although Indonesia, Malaysia and Thailand are very different in terms of political economy but rice policy is very similar. The same thing for all three countries is the need to stabilize world grain prices. The reason for the government of Indonesia, Malaysia and Thailand to stabilize the price of rice because it was affecting the industrial sector. Rice was considered the main labor product in Indonesia, Malaysia and Thailand as well as government officials and employees in the urban community have to share their income for rice. Rice prices become macroeconomic prices so that the fluctuations in rice prices can affect other economic products. Market failures and misallocated resources were the result of fluctuations in grain prices. This fluctuation also means that the supply of rice in the country was not enough. If rice prices rise, the government will buy rice from foreign markets through foreign currency trading.

As a result, the foreign currency available to purchase capital goods, semi-finished raw materials and parts of industrial plants decreased.

Santeramo, Goodwin, Adinolfi, and Capitanio (2016, pp. 639-657) studied the participation in the horticultural insurance program and the decision to participate and withdraw the farmers horticultural insurance scheme in Italy. The purpose of this research was to study the factors and characteristics of the farms related to the participation in the farmers horticultural insurance scheme and to assess the recent participant patterns as well as study related factors participation of projects in the northern and southern regions of Italy. The data used in this study included data from the Farm Accounting Data Network during 2004 to 2007, a sample of the Italian farm population. Several of the probit model were used for empirical studies, in deciding to participate and withdraw from the horticulture insurance program. The binary variables were used. (Dichotomous). The study found that the level of education and the size of the farms were correlated with participation in the Italian horticultural insurance scheme. In deciding whether to participate and withdraw from the horticulture insurance program, the increase or decrease in crop or irrigation areas and the distribution of crop production influences the decision to join or leave the insurance scheme. Including adjustments reflecting unbalanced with incremental variations.

Siebert, Toogood, and Knierim (2006, pp. 318-340) studied factors contributing to European farmers' participation in biodiversity policy. The purpose of this study was to present the results of a research project. This research project was aimed at understanding the willingness and potential of farmers to participate in biodiversity policy. Based on 160 published research papers obtained from 6 countries including international comparative research and analyzed by the develop conceptual framework to study the attitudes of farmers toward the Initiative of biodiversity policy in terms of agricultural practices. The analysis was based on a survey of experts and a comparison of the results with experts 'research. The results show that factors influencing farmers' participation in biodiversity policy were financial compensation and incentives.

Kritsanakorn Singkhamat (2015, pp. 101-116) studied the role of government agencies in the implementation of rice policy in the Pak Phanang Basin,

Nakhonsithammarat Province, during the period 2010 to 2014. The data in this study come from various documents related to annual reports and in-depth interviews from government officials. The results show that government agencies play many roles in implementing rice policy. The first role of government officials was service providers, which was considered to be the most important role. In this role, government officials were responsible for supporting and promoting the development of social and economic infrastructure. Government agencies have more funding than the community. Thus, it can take advantage of this role to interfere more on the community. The second role of the government agencies were planning. Those plans were made by government agencies and government agencies and communities and government agencies in order to facilitate the implementation of the plan. Another part of the government role was to controlling. This role promotes fairness and control of the use of chemicals in agricultural production. The community has formulated rules for living in society in order to create the management system and independence of farmers. Ideology is the ultimate role of government agencies that can intervene in society smoothly. However, there was no competency used by the government officials because of the emphasized of the development.

Suvedi, Ghimire, and Kaplowitz (2017, pp. 351-371) conducted a study on participation in agricultural promotion and the use of technology by farmers in the rural areas in Nepal. The purpose of this study was to analyze the factors influencing participation in agricultural development and seedlings development projects in the rural valley of Nepal. This study was a qualitative study with cross-sectional data at the farm level during July - August 2014. The sampling group of this study was 198 households with random simple sampling. The tools used for data analysis were logistic regression. The results showed that the influencing participation factors in public agricultural extension policy were age, education, household size and access to the office of Agricultural Extension. Moreover, factors that affect the improvement of seed production include training, farmer membership and non-farm employment. Particularly, factors influencing the participation in the agricultural extension policy of the farmer group include the educational level, household size and applying for farmer membership. There are also obstacles to participation in these policies i.e., access to the office of Agricultural Extension and non-Agricultural employment.

Suzuki and Kaiser (1998, pp. 355-362) investigated the impact of Japanese rice policy on supply and non-supply control in the market. If it true that the project for rice cultivation areas, generate more income for farmers? The impact of the loaning system without controlling supply in the market. The Government of Japan has reformed rice policy in 1995, the rice control laws and rice price support schemes were repealed. The government of Japan has compensated the farmers who have participated in the program to reduce the rice cultivation area with a guaranteed price for rice, which has been in effect since 1969. The incomplete competitive market model with the interactive reaction method used in this research. This was a virtual simulation of the farm income participating and non-participating in the program to reduce the rice cultivation areas. The study from the virtual simulation points out that the project to reduce the rice cultivation areas generates more income from 600 – 1000 Yen to farmers. It was higher than the rice policy without supply control in the market. Moreover, farmers were satisfied with the benefits of the program. As a result of the impact of the loan rate without controlling supply in the market was that the loan rate will allow farmers to sell rice at higher prices and the government will have less cost on the project. If the agency involved in marketing to farmers has the marketing power to restrict rice sales by selling rice to the government instead.

Takahashi (2012, pp. 679-689) conducted a study and evaluation of the income distribution of Japanese rice policy on producers, consumers and government expenditures during 1986 to 2010. The policy measures used in the study included the purchase of government rice, distribution of products and cultivation area control. The analysis was conducted by partial equilibrium model. The study found that the main policy measures used to distribute income to producers were control of cultivation areas, which was the least effective measure but with maximum budget efficiency. This means that the Japanese government has succeeded in distributing its income to producers with the lowest cost-sharing potential.

Thawngmung (2003, pp. 299-321) studied the social and economic impacts of rice policy implemented in rural Burma, focusing on the trials of agricultural projects. It was a project initiated by the Burmese government. This research aims to illustrate the problems associated with the implementation of policy. This study investigates the infrastructure and operation of agricultural agencies in the payroll,

government official income, the use of military authorities in various ministries and departments of civilian authorities, the establishment of different departments with similar functions and hierarchical structure of the Ministry of Agriculture, including other restrictions. The results show that local officials receiving low salaries occasionally take illegal actions against farmers in a malicious manner, including the difficulty of submitting reports related to crop and harvesting failures to some ministry. As a result, the ministry has received misleading information on the situation and living conditions of local people. There were also disadvantages of the appointment of military officers to the post of head of the civil ministry. In the other word, military officials have no specific capabilities and management in policy formulating. In addition, the living conditions of people in rural areas are also affected negatively from the agriculture policy, the implementation of agricultural policy, government structure and government demand from farmers.

Sujitra Thepphukhiao and Somjit Daenseekaew (2013, pp. 80-89) studied community participation in the protection of flower gardens from insecticides for flower that intend to be used as garland. The purpose of this study was to encourage communities to participate in health impact assessments and develop steps to protect flower gardens from insecticide. This was a participatory action research and use of health impact assessment as a study framework. The samples of this research were flower farmers, community leaders, public health volunteers, public health officer and academic officer. The instruments used in the data collection were questionnaires, in-depth interviews, seminars and observations. The results showed that the effect of insecticidal chemicals on flower growers were rash, eyes itching, tears, nose itching, abnormal heartbeat, heart palpitate, digestive disorder and body aches. In term of mental and health, most farmers fear and anxiety about their illness, including family members from the effects of chemicals on insecticide. Moreover, the use of insecticides made controversial because some flower growers were happy with the use of chemicals, which was nuisance to community members and some villagers have to move to new places to avoid the impacts. In term of environmental effects, farmers can smell the chemicals that spread in the air, destroy the soil, change the water, reduce the number of natural animals including mutated of three.

Narisorn Tongthirach (2013) studied and propose policies to solve the problem of farmland in Sakon Nakhon area. The purpose of this study was to analyze government policies, especially the policy of Miss Yinglax Shinawatra government related to the farmland owned by famers, the problems and obstacles arising from the regulations and the operation of the government related to the farmlands and propose solutions to problems in accordance with state policies. The target group of this study were farmers in Sakon Nakhon Province. The study found that the problem of farmers was the farmland without the certificate of ownership. Therefore, farmers have to encroach on the state wasteland or the national preserved forest. This study has suggested that the problem must be solved with state measures. These measures include the determination of the deed for farmlands, new Deed Management System, a database of farmland that can be used to control the amount of land used. The database is accessible to farmers, which allows them to search the wasteland for farming. Therefore, state policies should include land reform, land banks, land management and land taxation.

McCulloch and Timmer (2008) studied the Indonesian rice policy. The purpose of this study was to present changes in the country's rice policy because rice was a very important element of the economic system in rural areas. The people in the rural areas were involved in the rice economic system through the service, labor and trade. There were only 38percent of households in rural cultivation areas. There are 6 areas that the Indonesian government must perform. 1 The impact of higher rice prices on the low-income population. 2 rice production. 3 The need to import rice. 4 The method used to stabilize rice prices. 5 Dependence on foreign rice markets and 6 Political economy behind the protection of agriculture. The study found that the increase in rice prices would be beneficial to farmers who have large rice cultivation areas and those who cultivate rice for commercial purposes. With regard to rice production, whether or not there is a suitable policy for rice production, Indonesia needs to rely on global rice imports for 4-5 percent of the total domestic rice consumption. This problem is due to the low rate growth of rice production as well as the increase in population, economy and weather condition. In term of the necessity of importing rice from the world market, this problem was due to the unreliability of the production and consumption data. The method used to stabilize the price of rice was

international trade and the building of trade advantage. In addition, Indonesia should participate in the world rice market as a guarantee that rice will meet the demand. Finally, the Indonesian government should review whether the rice procurement and distribution system were effective.

Vanslebrouck, Huylenbroeck, and Verbeke (2002, pp. 489-511) investigated factors influencing willingness to engage in voluntary agricultural environmental policy. There were 2 policies for Belgian farmers. The conceptual framework used in the study of these factors was based on the purchase behavior of farmers, which was used in decision analysis for farmers to participate in agricultural environment policy and many factors identified in the concept. For the economic model, the conceptual framework developed from the microeconomic model. The results show that decision making and decision makers were important factors influencing policy participation of Belgian farmers. Theoretical framework and empirical findings were found to be consistent. It shows that the expected effects on farmers' attitudes and agricultural production play an important role in influencing against the level of acceptance of agricultural environmental policy among educated and younger farmers. In addition, the farm size and the farmer past experience including farmers who have already participated in the policy that close to the farmer, was other variables that influence farmers in decision making.

Wang, Xu, Huang, and Rozelle (2006, pp. 315-330) studied the measures to improve and develop China's irrigation system, including water saving, farmer's income and poverty problems. This study aims to understand the benefits of water saving, farmer's income and poverty. These measures include incentives for water managers and participation in farmer irrigation. This was a survey analyze and data collection tools were questionnaires. The sample group on this study consisted of 51 villages and 189 farmers in 4 irrigation areas of Ningxia and Henan provinces in the lowlands of Yellow river by making a simple sampling. The study found that the measures for water saving was due to the establishment of a new agency where water managers receive monetary incentives, compared with the previous irrigation reform policy, farmers have no opportunity to participate in water savings. Although the Chinese government was concerned about national food production and poverty

alleviation but water saving did not reduce farmer's incomes. In addition, water saving did not create any poverty.

Wasihun, Kwarteng, and Okorley (2014, pp. 80-86) conducted a study on the level of perceived participation in public agricultural extension projects in the Soddo-zuria area in southern Ethiopia. The purpose of this research was to understand the level of perception of participation in the public agricultural extension project. The level of perceived participation of farmers were measured by gender, age, education level, financial status, experience in agriculture, experience in agricultural extension and frequent interaction with agricultural extension staff. The sample consisted of 225 farmers using simple random sampling method and semi-structured questionnaire. The results showed that the level of perception of participation in public agricultural extension project was at the low level. It was also found that the level of perception and participation in public agricultural extension projects was correlated with gender, educational level, financial status and interactions with agricultural extension officers were significantly often. However, the level of perception and participation in public agricultural extension projects for female farmers was lower than male farmers. The results of the regression analysis showed that the variance of the perceived participation level in the public agricultural extension project was 42.2 percent. The variance was explained by the gender variable, education level and financial status. Especially, the level of education alone had a variance of 35percent. This research has suggested that it was necessary for Soddo-zuria Woreda the Bureau of Agriculture and Rural Development, will bring gender into mainstreaming factors and integrate poverty reduction strategies and learning projects into daily agricultural activities to increase participation in the agricultural extension project.

Zheng, Wang, and Awokuse (2012, pp. 167-186) studied factors influencing participation in Farmer Cooperative Programs in Northern China. The purpose of this study was to analyze the factors affecting the perception and decision making of participating farmers cooperatives. Data collection tools were 819 questionnaires with simple sampling method in 9 districts of China's Gilin province. Data analysis with probit and logit regression. The results of the study revealed that the factors influencing the perception and decision making to participate in the farmer's cooperative were the factors of educational attainment, risk level for farm expansion,

gardening cost, place and type of plants, participatory behavior was correlated with high perception of cooperatives. Moreover, the educational factors play an important role in influencing the perception of farmers. Chinese agricultural cooperatives recognize that it is a tool that can elevate their economies.

Zhu, Guan, and Wei (2016, p. 1325) studied the factors that contributed to the willingness of the farmer in China to participate in the wetland rehabilitation policy. The wetland rehabilitation policy was implemented in the Poyang Lake in China, and this policy was also a discussion topic because the wetland ecosystems deteriorate. The objectives of the study were to model willingness to participate in wetland rehabilitation policy, including variables affecting decision making, participation in farmers' policies. This was a survey study of 300 households in the Poyang Lake area of Jiangxi Province. Analysis of demographic effects the farmers, farm characteristics and wetland awareness along with a wetland rehabilitation policy on willingness to participate in wetland rehabilitation were analyzed using a binary probit regression model. The results found that the education level, household members, number of dependents, net household income and distance from the urban area were the factors influencing farmers for the decision to participate in the rehabilitation of wetland areas. Farmers' perceptions of the ecological value and benefits of wetlands, as well as their knowledge of wetland rehabilitation policy were not a factor influencing willingness to participate in farmers' policies.

CHAPTER 3

METHODOLOGY

This study, an "Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation" aims, first, to study the integrated model of public policy formulation by stakeholders in the Thai rice strategy implementation. The second purpose is to develop an integrated model of public policy formulation by stakeholders involved in Thai rice strategy implementation.

To conduct this research, a qualitative approach was adopted, using in-depth interviews, focus-group interviews, as well as making observations to collect data. To analyze the data, a 'content analysis' approach was adopted in order to analyze strengths, weaknesses, opportunities, and threats (SWOT analysis) and also to conduct analysis to develop an integrated model of public policy formulation by stakeholders in the Thai rice strategy implementation.

3.1 Conceptual Framework:

This qualitative research adopted semi-structured in-depth interviews as a research tool, collecting data from interviews with policy makers, policy adopters, and stakeholders relevant to the outcomes of policy implementation.

To acquire external data, policy makers and policy adopters were interviewed. To acquire internal data, the researcher collected data from farmers from eight sampled provinces (Suphanburi, Ayutthaya, Phitsanulok, Chiang Rai, Surin, Ubon Ratchathani, Songkhla and Phatthalung) using focus group interviews and noting observations, during in-depth interviews as the primary tools of data collection from rice traders, rice mills, and rice exporters. Data obtained from in-depth interviews and from observations, was systematically analyzed using the content analysis method. SWOT and TOWS analyses were also used to analyze internal and external factors to identify strengths, weaknesses, opportunities and obstacles, consequently leading to the development of an integrated model of public policy formulation by stakeholders in the Thai rice strategy implementation, shown in Figure 3.1

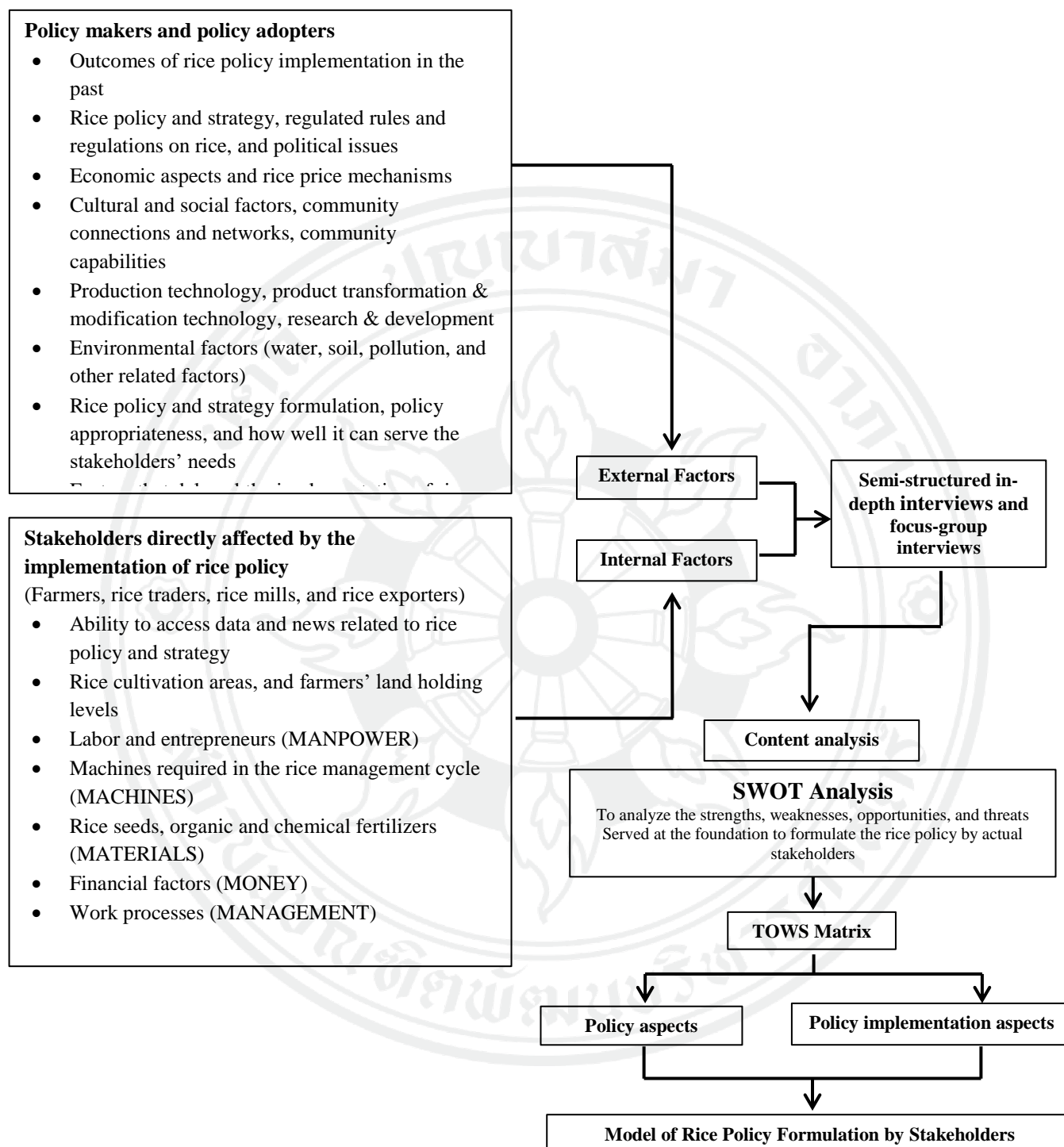


Figure 3.1 Conceptual Framework

3.2 Research Population and Samples:

To study the "Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation", the key informants, who possess knowledge and understanding of the formulation of rice policy and strategy, and are also able to provide other valuable information on the formulation of rice policy and strategy, were selected, adopting the purposive sampling methodology. Samples were divided into three groups: policy makers, policy adopters, and stakeholders who are directly affected by the outcome of the policy implementation.

3.2.1 Policy makers:

Policy makers were selected based on their job role and responsibilities, how relevant their jobs are to the formulation of rice policy and strategy, both in short-term and long-term. Factors of position and obligation were taken into consideration. Selected policy makers were those directly involved in; a) approving operating plans and programs; b) establishing rules and regulations related to rice policy and strategy; c) the implementation of rice strategy and policy, and; d) the policy outcome monitoring process. Details are illustrated in Table 3.1

Table 3.1 Interviewees (Policy Makers)

Interview format	Department	Name and Position
In-depth interviews	Rice Department	Mr. Anan Suwannarat
	Ministry of Agriculture and Cooperatives	Director General of Rice Department
	Department of Agricultural Ministry of Agriculture and Cooperatives	Mr. Somchai Chanarongkul Director General of Department of Agricultural
	Cooperative Promotion Department Ministry of Agriculture and Cooperatives	Dr. Vinaraj Supsongsuk D.P.A. Director General of Cooperative Promotion Department
	Royal Irrigation Department Ministry of Agriculture and Cooperatives	Dr. Thongplew Kongjun Director General of Royal Irrigation Department
	Department of Industrial Promotion Ministry of Industry	Mr. Kobchai Sungsitthisawad Director General of Department of Industrial Promotion
	Department of Internal Trade Ministry of Commerce	Mr. Boonyarit Kalayanamitr Director General of Department of Internal Trade
	Political group	Mr. Wiwat Salyakamthorn Deputy Minister of Agriculture and Cooperatives

Interview format	Department	Name and Position
	Professionals (Advisory Level), and Relevant Researchers	Mr. Manus Kitprasert Honorary President, Thai Rice Mill Association Former President of the Thai Rice Millers Association Former Rice Policy Committee Mr. Ennu Suesuvarn President Committee of Chamnien Saranaga Foundation Former Deputy Manager of Bank for Agriculture and Agricultural Cooperatives

3.2.2 Policy Adopters:

Theoretically, to meet the goals of each operating plan, the efficiency and the effectiveness of government policy implementation and operations greatly depend on people, meaning that, policy implementation outcomes are directly affected by civil servants (or public servants) who adopt and implement the policies. Therefore, in this study, officials that adopt rice policy and strategy were selected for in-depth interviews. Details of interviewees can be seen in Table 3.2:

Table 3.2 The Agency Interviewed the Policy Recipient

Interview format	Agency	Name and Position
In-depth interviews	Provincial Agriculture Office	Mr. Worashan Lukkrod Ayutthaya Provincial Agriculture Mr. Ardchaicharn Leangprayoon Phitsanulok Provincial Agriculture

Interview format	Agency	Name and Position
		Mr. Sukchai Chareangprasert Chiang Rai Provincial Agriculture
		Mr. Paisit Ketsathid Surin Provincial Agriculture
		Mr. Thawee Maskao Ubon Ratchathani Provincial Agriculture
		Mr. Somkid Ratanawong Phatthalung Provincial Agriculture
		Mr. Prasong Peeratarakul Songkhla Provincial Agriculture
	Provincial Agriculture Cooperative	Mr. Manu Yuudee Suphan Buri Provincial Agriculture Cooperative
		Mrs. Suwannee Srisuwan Surin Provincial Agriculture Cooperative
		Mr. Somsak Sansiri Phitsanulok Provincial Agriculture Cooperative
	Provincial Commercial Office	Mrs. Suwanna Chaninwanid Ayutthaya Provincial Commercial Mr. Pichai Muangmuchcha Ubon Ratchathani Provincial Commercial

Interview format	Agency	Name and Position
	The Office of Farmer's Reconstruction And Development Fund	Mrs. Somsuda Phoind Suphan Buri Branch, The Office of Farmer's Reconstruction And Development Fund Mr. Suppamitr Lounkosolchai Senior Head of Section of Policy and Plan
	Bank for Agriculture and Agricultural Cooperatives	Mr. Annop Suksakarn Director of the Bank for Agriculture and Agricultural Cooperatives, Suphan Buri Mr. Dusit Leamwatana Director of the Office of the Bank for Agriculture and Agricultural Cooperatives, Chiang Rai

3.2.3 Stakeholders (affected by the rice policy and strategy implementation):

Purposive sampling was used to select the stakeholders who:

- 1) Are directly affected (both positively and negatively) by rice policies and strategy implementation (meaning farmers and related agriculturists) and those who;
- 2) Gain any type of benefit from rice policy and strategy implementation;

Stakeholders who gain benefits from the rice policy and strategy implementation are those directly involved in the rice trading business. These stakeholders are ones with power who are able to exert strong influences over the rice market. They possess knowledge, and in-depth understandings of rice production and trading trends and circumstances. Based on the data of cultivating areas, the researcher selected the cultivating areas with the highest volume of paddy in each

region of Thailand, as shown in Chapter 1. This group of stakeholders can provide policy makers with options and valuable information that will be beneficial for rice farmers. Details can be seen in Table 3.3

Table 3.3 Stakeholders (affected by the rice policy and strategy implementation)

Interview format	Department	Position
In-depth interviews	Thai Rice Exporters Association	Lt. Charoen Laothamatas President of Thai Rice Exporters Association
		Mr. Vinyu Pitchpongsa Deputy Secretary-General of the Thai Rice Exporters Association (represented)
	Thai Rice Millers Association	Mr. Kriengsak Tapananond President of the Thai Rice Millers Association
	Thai Rice Mill Association	Miss Thanyanan Ariyakajornnon President of the Thai Rice Mill Association
		Mr. Somboon Thitinunsomboon Secretary-General of the Thai Rice Mill Association
	Representatives of Thai Farmers Association	Mr. Rawee Rungruang President of the Thai Farmers Network Association

Interview format	Department	Position
	Professionals (Advisory Level), and Relevant Researchers	Mr. Hassin Suwattana Pongsook President of the New Nakhon Ratchasima Federation of Industries The Presidency of the Chamber of Commerce in Nakhon Ratchsima Secretary-General of the Thai Rice Miller Association Managing Director of Akewattanapuedpon Rice Mills Managing Director of Kao Akecharoen Co., Ltd (Ek Seng Rice) (Rice Export) The establishment of the ASEAN Rice Federation
Focus group	Thai farmers in 8 provinces	Suphanburi, Ayutthaya, Phitsanulok, Chiang Rai, Surin, Ubon Ratchathani, Songkhla and Phatthalung

3.3 Study Procedures:

The formulation of rice policy and strategy was studied in from the following aspects:

- 1) Government's policies and regulations;
- 2) Political;
- 3) Economic;
- 4) Social and cultural;

- 5) Technological;
- 6) Environmental;
- 7) Legal.

The research procedure covered the following:

1) Collection and analysis of; a) relevant concepts and theories to public policies and their formulation; b) research and studies related to Thai rice policy and strategy; c) articles, journals and reports of various governmental units associated with public policy formulation by stakeholders.

2) Collection of primary data using the semi-structured interviews, interviewing policy makers, policy adopters and stakeholders directly affected (both positively and negatively) by rice policies and strategy implementation (meaning farmers and related agriculturists), including those who gain any types of benefit from the implementation of rice policy and strategy.

3) Data validation; data collected during the previous stage was validated to prove its accuracy and validity, using the methodological triangulation approach. That is, after making observations while conducting interviews, finding more in-depth data and information from various sources, and approaching key informants both before and after making study conclusions to ensure that the data is valid.

4) Utilization of data for SWOT analysis. The researcher started by analyzing external factors following the model of PESTEL (Political policies and regulations, economic, social and cultural, technological, environmental and legal), followed by the analysis of internal factors using the 5M model (Man, Machines, Materials, Money, and Management), finally followed by the TOWS matrix analysis to develop an integrated model of public policy formulation by stakeholders in the Thai rice strategy implementation.

3.4 Research Tools:

Semi-structured in-depth interviews and focus-group interviews were used as tools to collect data from policy makers, policy adopters and stakeholders affected by

policy implementation. Open-ended questions were asked to provide key informants with an opportunity to answer and present facts, figures, and information. During the interviews, audio and video clips were recorded as evidence, with permission given from the key informants, which were then used for further analysis of policy formulation by relevant stakeholders, to help in addressing problems, issues, and concerns, as well as to seek support from government agents involved in the policy formulation process. The researcher divided the interviewees into three main groups identified as follows:

3.4.1 Policy Makers:

An in-depth interview format for policy makers interviews was utilized, which was divided into four parts:

Part 1: General information;

Part 2: Outcomes of rice policy implementation in past years;

Part 3: Thailand's current situation for the rice trading business, as well as guidelines and direction for the formulation of future rice policies;

Part 4: Ideas towards the development and the formulation of Thailand's rice policy and strategy.

3.4.2 Policy Adopters:

An in-depth interview format for policy adopters interviews was utilized, which was divided into four parts:

Part 1: General information;

Part 2: Outcomes of rice policy implementation in past years;

Part 3: Thailand's current situation for the rice trading business, as well as guidelines and direction for the formulation of future rice policies;

Part 4: Ideas towards the development and the formulation of Thailand's rice policy and strategy.

Stakeholder Interviews:

Stakeholders were divided into two groups. The first group includes rice exporters, rice millers, and rice traders. The second group focused on farmers. The interview question format for both groups is described below:

Group 1: Rice exporters, rice millers, and rice traders

Questions were grouped into the four following areas:

Part 1: Storage areas and general information;

Part 2 Interview questions;

Part 3 Other suggestions;

Group 2 Farmers:

Questions were grouped into the four following areas.

Part 1: Storage areas and general information;

Part 2 Interview questions related to farming conditions, harvesting and distribution;

- production areas;

- quality of rice seeds;

- production costs;

- harvesting, production and distribution issues.

Part 3: Farming knowledge and government support;

Part 4: Quality of life for farmers and other suggestions.

3.5 Quality Assessment of Data Collection:

A semi-structured in-depth interview is an interview in which an interviewer has a checklist of topic areas or questions. The purpose is to get the informants to talk on their own terms. As such, questions tend not to be too specific, allowing for a range of possible responses. Compared to unstructured interviews, the semi-structured in-depth interview is a more focused one. The questions are usually open-ended, and not asked in any given order, rather they are asked in a way that develops the conversation. The questions are designed to get the respondent to talk about specific areas that the interviewer wants to know about, so there is no requirement that the questions have to be asked in any fixed order or that the same wording has to be used

for each respondent. The interviewer has to use their initiative in ensuring that the topic list is covered in a way that best suits each case. A semi-structured in-depth interview is therefore believed to be beneficial for an interviewer to gain an in-depth understanding in specific areas.

To conduct this research, the researcher used the semi-structured in-depth interview to gain an in-depth information from each individual, as well as to observe each individual's behavior, personality, and also to explore their needs, values, beliefs, and attitudes. Questions used in this research were open-ended, flexible, and could be modified to ensure that questions were understood and informants could provide answers to the questions. To assess the reliability of the data, data sources were assessed, followed by an assessment of informants, and methodological triangulation (making observations while conducting interviews, finding more in-depth data and information from various sources, approaching key informants both before and after making study conclusions to ensure that the data is valid), before the completion of the full report.

3.5.1 Data Triangulation:

Data from different sources was carefully examined and assessed. considered include the difference in time periods for data collection, locations, and also in terms of the groups of informants themselves.

3.5.2 Investigator Triangulation:

The researcher assessed data from each data collector. If the data collected from each researcher was the same, the information was deemed to be accurate.

3.5.3 Methodological Triangulation:

The researcher adopted the theories referred to in Chapter two to assess data consistency. If the data was consistent, regardless of the difference and variation in theories, then the information obtained was deemed as valid.

3.6 Data Analysis:

Once the data obtained from in-depth interviews and focus group interviews, it was then arranged in chronological order for further analysis. Missing data was then sought and acquired during the second phase in order to make the first conclusions of rice policy formulation, as well as to form the direction and the model of how rice policy and strategy should be formulated by stakeholders. The data, together with information gained from policy maker, policy adopter, and all relevant stakeholder interviews (regarding problems, issues, and concerns) would later be re-written and rearranged descriptively. Outcomes were then grouped for SWOT analysis which analyzed the external factors using the PESTEL model, and internal factors using the 5M model. Lastly, the SWOT analysis results were then used for a TOWS analysis to develop an integrated model of public policy formulation by stakeholders in the Thai rice strategy implementation.

3.6.1 PESTEL Analysis:

The PESTEL analysis was adopted to analyze external factors. Elements to be analyzed included political, economic, social and cultural, technological, environmental, and legal. Details are as follows:

- 1) Political: This analyzed government and political rules, regulations and policies; factors related to government and political-groups that influence rice policy implementation;
- 2) Economic: contains the analysis of economic factors that can influence or affect the formulation and implementation of rice policy (i.e. rice prices in the world market, production and export volumes, and the export value of rice);
- 3) Social and cultural: these factors were analyzed in the context of rice cultivation areas, affecting the way of life and the quality of life of stakeholders affected by policy implementation;
- 4) Technological: these factors include all technological factors related to rice policy formulation and implementation and the effects on the policy formulation process;

5) Environmental: includes the analysis of all related environmental factors such as water availability, soil conditions, other environmental factors associated with rice policy formulation and implementation by stakeholders;

6) Legal: covers the analysis of legal factors and other rules and regulations related to rice policy formulation and implementation by stakeholders.

3.6.2 5M Analysis

1) Man (Manpower): includes all stakeholders directly affected by the implementation of the rice policy and strategy, i.e. farmers, rice traders, small, medium and large-sized rice mills, and rice exporters.

2) Machines (Machines and equipment): includes farming tools and equipment (such as rice tractors);

3) Materials: includes any and all raw materials used for operations, i.e. land, water resources, chemical fertilizers, organic fertilizers, etc.;

4) Money: includes the use of any capital funds or reserves spent in operations;

5) Management: includes all the work processes and action plans involved in the cycle of rice management, starting from the preparation period, operations during cultivation, harvesting, paddy purchasing, through to the end of the cycle.

After analyzing external factors using the PESTEL analysis framework and internal factors using the 5M framework, a SWOT analysis was conducted to identify strengths and weaknesses in the formulation of rice policy and strategy. The outcome of the SWOT analysis was then used for a TOWS analysis to develop an integrated model of public policy formulation by stakeholders in the Thai rice strategy implementation, as shown in Figure 3.2

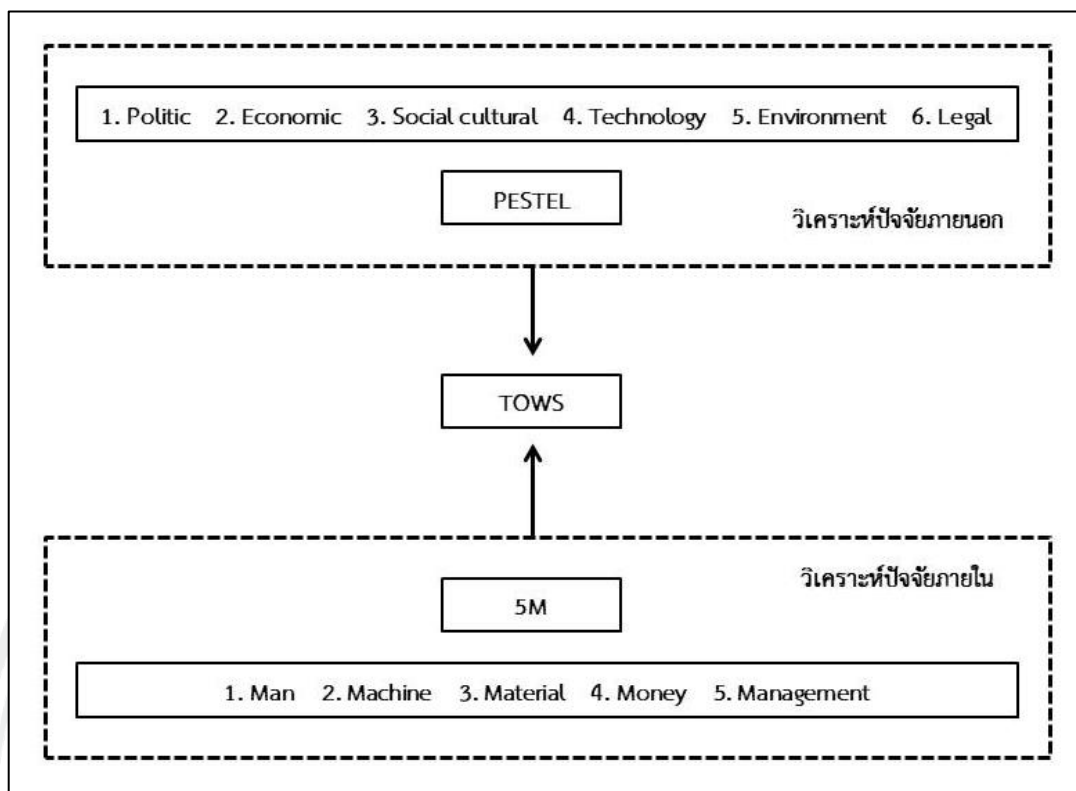


Figure 3.2 TOWS Matrix Analysis

CHAPTER 4

FINDINGS AND ANALYSIS

“Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation” is a qualitative study, in which data was collected by studying documents, reviewing relevant literature, making observations, and interviewing policy makers, policy adopters, and stakeholders who are affected by the policy implementation, to analyze issues and concerns, to analyze the content, and also to analyze the external and internal factors of adopting SWOT Analysis. TOWS Analysis was then used to identify the factors that influence public policy formulation by stakeholders in Thailand’s rice strategy implementation, followed by the “Integrated Model of Public Policy Formulation by Stakeholders in the Thai Rice Strategy Implementation,” which is proposed at the end of the study. Based on the researcher’s objectives of the study, the findings can be listed as follows:

4.1 Results from Interviews and Local Observations

Interviewees, or key informants -possess knowledge and understanding in this particular area and provide useful and valuable information related to the integrated model of public policy formulation by stakeholders in the Thai rice policy implementation. They are divided into three different target groups, with 71 people who can be grouped as follows:

- 1) 9 policy makers
- 2) 16 policy adopters
- 3) 46 stakeholders (who are affected by the rice policy implementation)

4.1.1 Policy Makers

For decades, Thai rice policy has been formulated by the country’s board of management, which start by analyzing the current issues and problems, and then form solutions to address the problems. Once the policy is formulated, and the operational plan is established, a board of committees would then be appointed to

ensure that all aspects of the plans are taken care of and monitored. The relevant agencies set up meetings to identify the problems, to establish the work processes, and to discuss the expected outcome. This is a top-down approach. To help tackle farmers' issues and problems, the bottom-up approach would be ideal. However, there are factors related to the formulation process such as "pressure groups" and "interest groups" or so-called "lobbyists". In most cases, farmers are the direct "interest groups," but at the same time farmers can also act as "pressure groups," meaning that their actions (i.e. protests) can put pressure on the government, by asking the cabinet to solve the rice price problems. Additionally, farmers can also act as "producers" and "middlemen," by exploiting technology for production and marketing.

Thailand's rice policies and strategies come in short-term and long-term forms. Short-term strategies tend to be 1) the result of farmers putting pressure on the cabinet, and 2) can suddenly and positively help support farmers in the short term. The second type is formulated mainly to attract farmers' votes (i.e. agricultural subsidies). Another example of policy formulated by political pressure groups is when the cabinet encourages farmers to grow organic rice or non-toxic rice, reducing the use of chemicals. The Association of Soil and Fertilizers (established by importers of chemical fertilizers and pesticides) suddenly jumped in, counter-acting the Sustainable Agriculture and Development Act, to protect their own businesses. Public policy formulation requires fairness, accepting all parties' opinions and thoughts. During each stage of the policy formulation, all factors have to be considered, including all the changes that have occurred in the modern world. There is no policy which is best for all circumstances.

Another example of building a power group is the "Large-Scale Rice Farming Project," in which farmers gather together as a power group to increase their bargaining power, to reduce costs, and to set their own price ranges themselves. Farmers joining this scheme are usually supported by a so-called "rice plot manager" (officials from either the Rice Department or the Department of Agricultural Promotion) in managing the rice supply chain between farmers and the integrated rice market. Following the Director-General of the Department of Agriculture's Promotion, "Large-Scale Rice Farming Project" is a useful project that can reduce costs, as evidenced by the success of a large group of farmers who implemented such

a project in Ban Non Kra-sang, Nakhon Ratchasima. “Large-Scale Rice Farming Project” helped farmers in this group reduce costs, as well as increase productivity (also depending on the management in each area). To help achieve the expected outcome, it is the government’s responsibility to provide farmers with full support and supervision.

“Farmers’ problems still exist. The majority of Thai farmers are small-scale producers, with small-scale farming plots, and limited bargaining power.”

“The Department should encourage farmers to produce rice that meets the needs of the market, in terms of quantity, type and quality, in order to lift up the bargaining power. The department would provide farmers with support in terms of negotiation between farmers and entrepreneurs to ensure that the situation is win-win for both parties,” said the Director General of the Department of Agriculture.

“To prepare a plan of action, all aspects have to be well thought of and looked into. In terms of marketing, a “zoning” concept should be considered. In terms of research and development, researchers should be encouraged to conduct studies, in which outcomes and findings are useful for farmers, and the idea can really be implemented,” said the Deputy Minister of Agriculture and Cooperatives.

“The National Rice Policy and Management Committee (RPMC) has held a meeting to review the implementation of Thai rice strategy, in line with the national strategy. The goal is to raise Thai rice prices as well as to lift up Thai rice quality. In this regard, the public sector will provide support from the upstream to downstream (i.e. production, harvesting, distribution and product transformation) for

value creation,” said the Director General Department of Internal Trade.

In the past, Thai rice policy and strategy formulation tended to focus on 1) rice price increases or price guarantees and 2) the implementation of state projects. Unfortunately, it cannot be denied that the policies and strategies in the past were not the right solution for managing the Thai rice system. Although there is collective pressure calling for the government’s assistance in various areas, the state’s policy does not serve the farmers’ actual needs. Political intervention still occurs, drawing in benefits for political groups, especially among the political base. Most agri-business groups have close relationships with Thai national politicians, and this denies farmers opportunities to call for an amendment to any agriculture laws, or to settle disputes.

As global environmental awareness has increased, along with local and foreign consumers becoming more health conscious, Thailand has pushed forward policies that encourage farmers to grow organic rice. However, interest groups have tried to put pressure on the government, causing a struggle in the policy implementation. According to the Director-General of the Department of Industrial Promotion, “Pressure groups and political interest groups are kind of overlapping each other. For example, those agricultural chemical importers can act as an interest group, sharing some benefits with some government officials, but at the same time, they can also act as a pressure group that goes against the government’s policy promoting organic farming practices, as this policy can cause negative effects on those agricultural chemicals importers in terms of lower sales of chemicals.”

The government has formulated strategic plans to promote organic rice farming since 2008. However, the current operating performance is unclear. The success of this program implementation is still pretty much illusional. Problems include the discontinuity of program operations as well as structural problems (who’s in charge of what department, or whose responsibility this program is). The state is clearly lacking in legal, regulatory and infrastructural support, and has an inefficient system that cannot support farmers with cost reduction and marketing. As a result, a number of farmers do not see any valuable benefits in the organic rice farming practices.

The Director-General Department of Internal Trade said: “There are currently some organic rice farmers who have succeeded in the implementation of organic rice farming practices. Unfortunately, some are still struggling, or learning how to implement this program, especially those farmers who live upcountry, without any know-how or skills. When those farmers approach government officials (who are meant to help farmers with precise knowledge and support), they are actually told that they should start with the GMP (Good Manufacturing Practice) for at least three years, and then farmers can move on to the organic agricultural farming practices, which is in fact a different story.”

The Director-General of the Department of Agriculture said:

“For some particular areas, organic farming practices can be difficult, taking into account farmers’ capabilities, which can vary.”

“They can start with good agricultural farming practices and then move on to organic rice cultivation or organic rice farming practices. In terms of farming landscape, we should allocate some farming areas as part of a pilot project, so that farmers can be educated, and acquire useful knowledge and skills. Then we can help them with marketing.”

The Honorary President of the Thai Rice Mills Association said: “Standards of rice production and safety control should be included in the strategic plan, from the very first stage of production (the farming areas preparation) to the final stage of rice production, especially with rice that is sold in our domestic markets. These days, we put our main focuses and concerns on rice that we export to foreign countries. We should also look into rice that is sold in our domestic markets.”

Agents or parties involved in the public policy structure on rice, including “marketing initiatives,” greatly depend on the Ministry of Commerce. The Ministry of Agriculture and Cooperatives is in charge of production initiatives, while a number of institutes, associations or other agricultural groups are “independent agencies”. Many times, there occurs an issue of non-cooperation between these parties. As a result, each unit’s policies do not go in the same direction. This is one problem that occurs because each agent acts as an independent unit (Pracha Kunnathamdee, 2010).

The Ministry of Commerce is responsible for rice trade, rice export, marketing and intellectual property. This means that the Ministry of Commerce is in charge of

price-related issues. This supports the statement by the Director-General of Internal Trade.

“For all that matters in farmers’ rice production cycle, we should also take into account the marketing side. No matter what farmers do, and no matter what we do to support farmers, if what they produce doesn’t serve markets’ needs, then this can be pointless. Actual problems nowadays for farmers are that farmers are struggling to sell their rice in the markets, or they can sell their rice only at a low price.”

The Director-General of the Department of Internal Trade added: “The factors that affect rice prices include the marketing system, costs of rice distribution, farmers’ limited bargaining power, the monopoly, the quality and quantity of rice produced.”

“One major problem faced by farmers in this research is poverty, which is caused by higher costs and expenses. The investment does not pay off. Also, farmers possess limited knowledge and skills in rice production, also in marketing (i.e. finding the right markets, marketing their products, product packaging, standard control).

The Director-General of the Rice Department also said: “One of the farmers’ problems is that they lack knowledge and skills (i.e. limited knowledge in rice seed quality, rice classification, an efficient usage of production inputs, farming time, right farming conditions required for cultivation, and lack of knowledge in applying technology in farming).”

The Director-General of the Department of Internal Trade said: “Rice seeds and different classifications of rice can contribute to the difference in rice prices. If farmers use their own rice seeds or seeds that they acquired in their local markets for cultivation, it’s likely that the quality of their own rice products may be lower than the markets’ standards (i.e. broken rice). Farmers should acquire the rice seeds from the Department of Rice, or use the rice seeds that are standard-certified.” This goes along with the statement by the Director General of the Rice Department: “One of our visions in the Rice Department is to be a center for the development of rice quality and rice varieties. We will set up a community center for rice farmers.”

Somporn Isvilanonda’s research (2010) stated: “Thai agriculture has shifted its paradigm, from a very local approach to entrepreneurial farming practices, due to the changes in the economic environment, as well as in households’ ways of life. However, the majority of farmers in Thailand still lack management skills, and

production is still practiced without taking into account profit and loss concepts. Therefore, it is common to see many farmers experience a comparatively high level of production cost and expense.

Although rice is a major export commodity in the country, it is also a major commodity for domestic consumption. Rice policies are formulated independently by a number of different parties, with different directions. The outcome of the policy implementation is therefore inconsistent. In addition, government agencies often face management problems. In this regard, policies are formulated to solve problems in the short-term. There is still a lack of good planning. The worst aspect is that a long-term plan or strategy hasn't been established. The Director-General of the Department of Industrial Promotion said: "At present, the results of the 20-year plan are not yet visible. However, we still believe that this plan can still be communicated to different levels and different agents. The key points to keep in mind are how to make the farmers capable of relying on themselves. In addition, the department is working with the National Science and Technology Development Agency to focus on R & D and R & I to make it possible in the next 20 years to produce an output (or outcome) that can truly serve the market."

The Director-General of the Department of Internal Trade said, "Thailand's National Rice Board is appointed. However, looking carefully into the structure, you will see that the board in fact consists of ministers from different ministries working together. After the meeting, and after a plan is established, each related division starts working on their own independently, and as a result, there is still cooperation."

The Director General of the Department of Agricultural Extension said, "Rice policy should be formulated mainly by the Rice Department, with support from other departments or divisions. Meaning that, all departments have to work together, and our work has to be integrated. It is similar to jigsaw puzzles, in which all team members have to help each other and finish the task. The same thing applies to rice policy formulation. The Department of Agricultural Extension can act as a supporting department. Our main role is not to design or establish the structure that facilitates the policy formulation. Neither is the Department of Cooperatives' role. Each department's role should be clearly assigned. At present, efforts have been made to reform the National Rice Commission to systematically carry out the rice strategy in

line with the 20-year national strategy.” The chairman of Ajarn Chamnean Foundation said, “There must be integration and cooperation between the Ministry of Agriculture and the Ministry of Commerce when plans of action are in place or being implemented.”

Another factor that effected the rice policy and strategy implementation is the staffing level. Inadequate staffing has caused a struggle in the policy implementation. As the Director-General of the Department of Rice said, “The rice community center was formerly appointed under the Department of Agricultural Extension, with 4,000 branches approximately. These later were transferred to the Rice Department and the number has gone down to 2,000 branches.”

“We assessed that our rice community center has a lack of potential. The fact is that there is a shortage of staff. We therefore need some support from the Department of Agricultural Extension. However, acquiring help from them is also difficult, as government officials working for the Department of Agricultural Extension itself have their own programs to implement and are pretty much occupied.”

The Director General of the Department of Agricultural Extension said, “Years back, one Agricultural Extension officer would be assigned to support 1,000 farmer households. Later, after the retirement policy was in place, the number of Agricultural Extension officers went down from 8,000 officials (coming from sub-districts throughout Thailand) to only 4,000 officials. Our staff have to adjust our working approach, visiting three to four people every 15 days. To solve the problem of inadequate staffing, technology has to be used, in line with forming a small group or community enterprise, which consequently would create groups of similar professions to facilitate community growth and also to establish the work standards and principles.”

The Director General of the Royal Irrigation Department said, “Having considered the mission of the Royal Irrigation Department, it is found that the Royal Irrigation Department must work and cooperate with, first, other internal departments and/or divisions, and second, with other government units under the Ministry of Agriculture, and third, with other external units, which can be very complicated. But the fact is, we lack manpower. We do need staff mainly from the “Baby Boom” era.

However, the Department is trying to solve the problem by hiring temporary employees to work. It takes quite some time to train newbies, so that they can perform tasks required. A big problem is that once they are trained, they tend to leave afterwards, which does not make a problem become smaller.”

The Director-General of the Department of Internal Trade said, “Money is not the only factor that can solve the inadequate staffing issue. Sometimes it may not work the way we expected that it would. Therefore, it is crucial that we use our manpower, which is quite limited, to maximize the benefits. The Department should work on establishing a network that facilitates the integration of cooperation between departments and divisions in order to unlock the impossibilities.”

In relation to the farmers’ participation in rice public policy formulation, the interviews’ conclusion is that, it was pretty much open for comments and feedback. However, those comments and feedback do not seem to be applied for later uses. The Deputy Minister of Agriculture and Cooperatives said, “Most of the planning is done centrally, which does not address the problem. It should be linked to the community and local plans. We should cooperate with the local government units.”

The Director-General of the Cooperative Promotion Department said, “We now have a master plan that is in line with the national strategy. We also have established the ministry’s strategic plan. To formulate the plans and strategies, they all have to be linked together. ‘Money’ can be one main problem for a number of areas. However, a bigger problem is in fact lack of cooperation between departments and divisions. Therefore, on top of the focuses on marketing and an agricultural extension, an issue of management practices should also be kept in mind.”

Honorary President of the Thai Rice Mills Association said, “Each department should ensure that each ministry’s strategic plans, provincial plans, district plans, sub-district plans, and community plans are heading in the same direction, and linked together, which would consequently facilitate an efficient budget allocation.”

“The success of a strategic plan greatly depends on the influence of stakeholders, starting from making them understand their roles in each stage, followed by monitoring and assessing the outcome of an actual implementation. Stakeholders should be allowed to participate in all stages of program implementation, including the pre-implementation stage and the post-implementation stage to ensure an in-depth

understanding, and also to facilitate cooperation.” said the chairman of Ajarn Chamnean Foundation.

To summarize, the plan, policy, and strategy should be formulated according to the bottom-up approach to help facilitate integration for effective and efficient policy implementation. To provide farmers with help and support, it is crucial for policy makers to bear in mind all related aspects from upstream to downstream areas. Sample areas should be allocated as part of the pilot project in order to see the actual achievement, before expanding into other areas. Different management practices in various areas should also be considered. There should be more focus on integration and cooperation between government agencies, between the state and private sectors, and between state governments and local governments, based on the differences in each area.

4.1.2 Policy Adopters

Thailand’s agricultural development policy, especially its rice public policy, tends to focus on rice production for export. Market mechanisms often depend on external markets. In addition, political instability and the discontinuity of policy implementation have undeniably caused the failure of the government-sponsored schemes. A majority of farmers have fallen into debt. To put pressure on the cabinet, farmers gather for public protests. Most governments will tackle these types of problems by formulating financial policies (i.e. subsidies, price buoyance or price guarantees, loan (or credit) schemes, or even “free money”).

In terms of the main policy implementation and communication, the implementation of the policy has involved a number of government units. However, there seems to be no linkage between the government agencies that are involved in the policy implementation, causing inconsistent outcomes from the implementation.

The Director of Ubon Ratchathani Provincial Office of Commerce said, “The government units should be independent, and possess unity in the implementation of the government's rice policy, with help and support from other relevant government agents.”

The Director of Phitsanulok Provincial Cooperatives Office said, “The integration would help facilitate an effective and also efficient collaboration.

Government officials should be entitled to work independently, not under any of the political officials, and if it is found that those political officials' acts are against the law, there should be some kind of serious punishment, not letting them get away with no action taken."

Regarding the rice public policy implementation, the Director of Phitsanulok Provincial Agricultural Extension Office said, "Most of the plans are written in a very broad way, and it takes a lot of work for all relevant government agents to interpret such plans, making it even more difficult to implement. Policy implementation can be difficult, but it is also very crucial and required. If the same plan is interpreted in different directions, that means we are heading in different directions. Budget as a consequence would not be allocated effectively and efficiently, and at the end of the day we may not achieve what we expected."

The Director of Pattalung Provincial Agricultural Extension Office added, "The implementation of the plan requires an in-depth understanding of who is responsible for this action, and how this can be done or how this has to be done, and what would be the outcome of the implementation, etc. When these questions can be answered, the vision would become clearer and more precise." This statement is supported by the Director of Ubon Ratchathani Provincial Agricultural Extension Office, who said, "To formulate a plan of action, we need to identify the plan's objectives, as well as a group of people who are directly responsible for this implementation, and the steps required during implementation in order for working groups to achieve the plan's goals."

Regarding the problem of inadequate staffing, the Director of Pra Nakorn Sri Ayutthaya Provincial Agricultural Extension Office said, "The Chief of District Agricultural Extension Office has already been involved in a large number of projects. However, there is still an issue of staff shortage. We are experiencing difficulties in manpower planning as well as in working with local volunteers. Our local government officials have worked so hard. Each official is now assigned to support several farmers groups. The new generation of staff tends to be less patient compared to those in the previous generation. We therefore need to really pay attention to those government officials and volunteers, taking good care of them, as

they work so hard for us. Appropriate compensation and benefits schemes should be provided to encourage and motivate them.”

Although the government has established a policy that helps raise the price of paddy, still it cannot solve the real problem. The policy however is aimed at satisfying their political supporters rather than looking at the entire market system. This intervention has caused a negative effect on the central market system, meaning that the real market mechanisms cannot work under these circumstances. *“It makes the entire central market system disappear.”* That is, in the past, the central market was the important center for rice trading. In the central market, rice prices were set, rice quality was up to the standard, and the quality was closely monitored and controlled.

The Director of Surin Provincial Cooperatives Office said, “Farmers’ debt can be categorized into two different categories: “formal debts” vs “informal debts.” This cycle starts from farmers having less income compared to the amount of formal debts. As a consequence, farmers have to apply for another loan scheme for the first loan scheme repayment and partly for households’ consumption. Once they reach their credit limit, which is calculated and based on the value of their land, they start looking elsewhere, and that is how they fall into a problem with high levels of informal debts, as they have to make repayments to those “formal” financial institutions.

Looking at the other side of the coin, farmers do not greatly benefit from the Bank for Agriculture and Agricultural Co-operatives (BAAC)’s loan or credit schemes. Meaning that, the majority of farmers with small-scale farming practices rent their farms from others, or they might own only a small piece of land. The Bank for Agriculture and Agricultural Co-operatives (BAAC) would consider and categorize this group of farmers as those with “no securities” to guarantee the repayment, with little amount of rice produced. Even though the BAAC has a policy of mutual guarantee within the group, group members still have to provide the bank with proof of securities. This implies that farmers with small-scale farming operations have limited access to formal financial resources.

The Director of the Office of the Bank for Agriculture and Agricultural Cooperatives, Chiang Rai said, “BAAC is a state-owned enterprise that still has to take into account the ‘profits and losses’ of their businesses. No matter how much we’re willing to help and support farmers, we still need to abide by the rules and

regulations to determine whether farmers are capable of making repayments. However, we do not always require farmers to provide us with forms of financial securities. Farmers can still apply for the loan scheme. We can look into the rice production volume of each farmer on a case by case basis. We also have to consider the amount of debt that farmers have to see if they are capable of paying back the loan. In addition, BAAC has also offered a loan scheme with a low interest rate, a low amount of interest, and an expanded repayment period.

According to the “debt purchase” data by the Office of Farmer’s Reconstruction and Development Fund back in 2007, it has been found that farmers had a debt of about 172,375 baht/person on average. They were 6.3 million farmers who were active members of the Office of Farmer’s Reconstruction and Development Fund (OFRD). When combined with OFRD non-members, it was estimated that the total amount of debt would not be less than 1 trillion baht, which is about half of the public debt (around 2.5 trillion baht, equal to a quarter of GDP). (Permsak, The Public Debt Management Office: 2006) The evidence shows that the amount of farmers’ debts is not lower, but the fact is, the amount of debts was just being transferred from one institution to another.

This data was also supported in a statement by the Head of Supanburi Branch, the Office of Farmer’s Reconstruction and Development Fund (OFRD). It said that the Office of Farmer’s Reconstruction and Development Fund (OFRD)’s responsibility is to assist farmers who have problems with “informal debts” or to purchase Non-Performing Loans from BAAC. That is, farmers can make a repayment directly to the Office of Farmer’s Reconstruction and Development Fund (OFRD), with simple repayment terms and conditions, and a lower interest rate.

The (Acting) Chief of Policy and Planning Division, the Office of Farmer’s Reconstruction and Development Fund (OFRD) said, “The Office of Farmer’s Reconstruction and Development Fund (OFRD) is responsible for restructuring farmers’ debts. We also help farmers with the career revival program. Those farmers who joined the NPL restructuring program need to attend a career revival program. Meaning that, they will receive vocational training for various occupations (i.e. rice farmers, or other professions related to livestock, fisheries and aquaculture).”

The Director of Chiang Rai Provincial Agricultural Extension Office said, “If farmers do not try to rely on themselves, do not manage production costs or do not reduce production expenses, the debt settlement will be unsuccessful. In relation to rice prices, farmers have less bargaining or negotiation power, compared to rice mills or rice exporters. It is therefore recommended that the government should look into processes that could tackle the problem, rather than formulating policies that can only influence rice prices.”

The Director of Phitsanulok Provincial Cooperatives Office said, “The solution to the farmers’ debt problem should not be a short-term policy. ‘Free money’ is not always THE solution to this serious problem. The government should also look into other approaches, for example, land allocation by Government’s Lands Bank, similar to Government Savings Bank concepts. This project can help solve problems in a long-term.”

The problem of unfair market mechanisms and trade remains an unsolved issue. Farmers also face the problem of price declines and fluctuations in prices, scams, scales and low grain grades. Meanwhile, the benefits that farmers receive from the rice insurance policy and the pledges of the past government do not fall to the peasants. It is a policy that has political implications. Moreover, under the ASEAN Framework Agreement the Thai government has pushed for regional rice trade cooperation. Support the futures market and free trade in rice. Domestic rice trade is limited by a few capital groups.

Thai farmers continue to suffer from price pressures and unfairness from the rice trade mechanism. Surin Agriculture said, “Most rice prices. The state of origin is paddy. And in fact, oversight control the purchase of paddy mill. There should be a central agency that checks the quality of paddy such as moisture, weight, and germ content in all areas to create a standard,” Phitsanulok Agriculture said, “Regarding the problem of checking the standard of rice sold by farmers, the state’s officials should create regulations, establishing punishments in case there occurs a breach of the conditions. The main problem for farmers in farming is the cost. The main reason for the cost of farming is the water supply because of the price of expensive fertilizer. Water supply is insufficient. Cost varies from year to year. When it comes to drought,

one year is expanded to three years, causing debt accumulation. If there is water or good irrigation management it can control inputs or costs.”

Commercial Ubon Ratchathani said, “Care of the peasants should look upstream in the downstream water. People in each agency must look at the subject. Demand to be released in order to adapt the production plan to meet the needs of the market. Encourage farmers to look at the market.” The director of the Office of the Bank for Agriculture and Agricultural Cooperatives in Supanburi said: “Government agencies should link the private sector, the agricultural extension agency and the peasants together. Agriculturalists have to adjust the concept of farming to the agribusiness management.” Pra Nakorn Sri Ayutthaya said, “The law should be amended to cover farming, not just production. And do not look at the private sector as one who exploits the peasants. When the law is amended overall, this will make the policy viewer change.” In summary, public policy advocates suggest that the policy should be long-term. It should not be a policy only for the campaigns of political parties. The Phitsanulok Province Cooperative said, “For all policies related to rice there should be only one policy that is a long-term policy. It is included in the National Economic and Social Development Plan. This plan is not always up to politicians.”

According to the Department of Agriculture, in Thailand 75-77 million rai of rice is suitable for both high and medium rice cultivation, of which only 43 million rai or about 60percent of the total rice area (National Reform Council, 2015). “We need to organize zoning to grow rice in appropriate areas and species in addition to setting appropriate areas for rice cultivation. The amount of output per rai can also be increased,” said Songkhla Agriculture. In areas that are unsuitable for rice cultivation, local agencies will promote all kinds of media to guide farmers to grow other crops in line with the current agricultural reform policy (National Reform Council, 2015). There is a concept of zoning for 13 agro-economic crops to solve the problem of over-market demand over a period of time. The concept of land use planning is not new in Thailand. However, the establishment of a stationary zone in Thailand is still unclear and has the correct principles, such as the quality of soil, etc. The agriculture of Phattalung said, “We should create a clear zone. What is the potential of rice? And can it be developed to increase the value?” Agriculture Chiang Rai further said: “The GI rice, such as the forgotten Phetchabun, Sangkat Phattalung Rice.”

What kind of rice is best in each area? The Department of Agricultural Extension should carry out this task clearly and consistently. Because it will create value for the food, Pra Nakorn Sri Ayutthaya Commercial said, “Zone maintenance cannot take into account the purchase and sale only. The state must promote knowledge and technology for farmers to produce the best rice. It can compete with foreign countries which called supply to create demand. This is called rice I only buy in this area. I cannot fight it.” Agriculture Songkhla said: “In the past two or three years, the Ministry of Agriculture and Cooperatives has encouraged peasants to farm rice fields to restructure their rice production to increase income, and become stable and self-reliant. By conveying knowledge of rice production and marketing of rice along the way, this encourages farmers to organize themselves for strength and bargaining power. The rice department has set the appropriate area for each rice variety. And farmers group together in the form of a large cooperative.” Surin province said, “The implementation of large-scale policy. To improve the quality of life of farmers by cooperatives to produce knowledge. Supply factors low interest capital inspection visit the purchase of rice cooperatives and the distribution to the farmers and members of the agricultural.” Ubon Ratchathani province said, “Large fields to reduce individual costs to the group. There is an exchange of help. And the rice is the same standard.” “The big rice fields are not merging. As a single conversion, it is a group of small farmers,” said the agriculture of Ayutthaya. In the past, there have been many problems in spatial development, such as the fact that farmers with no real estate cannot join the project. Phattalung Agricultural Office said, “Most rice farming is done by farmers. Focus on farmers with their own land. The farmer who rented the field cannot join. There are many conditions.” Phitsanulok Agriculture said, “The allocation of water resources is important because there are not enough water resources in many areas. It is an agricultural district in that area.” “If the government ends this, the policy is not yet sure whether it will be supported. Agriculture District may need to work on other duties assigned. No continuity in the policy.” Agricultural Songkhla province added: “They should change the manager from the government officials to the new generation. Or the villagers could drive the group instead. In addition to continuity. The farmer also has real knowledge of the problems in the area, understands ideological mates ,and has credibility.”

The government's policy is to use space to create projects to develop the industry or the private industry in the area. As a result, agricultural land is affected by soil pollution, air pollution and wastewater on the farm. An example is the news of an ethanol plant in Supanburi, in which an accident caused the sewage treatment ponds to contaminate the Tha Chin River in October 2017 (<https://news.thaipbs.or.th/content/266614>). In the same area, which is full of industry and rice fields, there may be a problem of water use. The building blocks the waterway. Water is an important factor in the production of rice. (2010) The average rice yield in the irrigated area is 533 kilograms. The average rice yield is 357 kg per rai, which corresponds to the agriculture of Surin province: "Most farmers do not have access to irrigation systems at all. The fields outside the irrigation area cannot be made. In addition there is not enough water. Farm flooding or excessive drainage in the rainy season can cause damage to the farms." The head of the Supanburi Branch Office said, "The problem of water management is a very big problem. Farmers outside the irrigation area have insufficient water. Some areas have salt problems. Some years have flood problems. Some drought the management should be considered periodically."

4.1.3 Stakeholders Affected by the Implementation of Thai Rice Policy and Strategy

According to interviews with stakeholders, the main factors that farmers are interested in are rice prices, productivity per rai, lower liabilities and improved quality of life. Farmers can be divided into two groups: traditional rice growers and new rice growers. Traditional peasant farmers do the same farming as their parents did. They buy rice from middlemen and use chemicals to accelerate the growth rate of the rice. There are middlemen who buy rice when harvesting. They grow rice once a year. Or more, as supported by government agencies. Farmers often have debt problems. No, do not eat it. Make yourself and your family unable to release their problems. And they are always satisfied with the government's populist policies. In terms of new farmers, I have tried to elevate myself. The goal is to reduce production costs and increase revenue. Most of the farmers in this group often adjust to rice cultivation by reducing the use of chemicals. They sell rice through middlemen and try to get out of debt. In practice there is a small group of rice farmers in the area to help each other. In

summary, the problem that hinders the development of rice farmers is the cost of production. Product quality is not standard. Lack of land, the use of inadequate chemicals, natural disasters, capitalism, and the problems of government policy in the manufacturing and marketing sectors of Thai rice have changed according to the policies of the country's leaders. This change is mainly due to the role of capitalism. As a farmer in Surin said: "The district will support rice cultivation for the next two years. It is changed to another popular varieties like four to five years ago rice. It's very popular."

Rice cultivation has many related factors. Land is one factor affecting farmers' production and income. So, land is an important variable in the chronic poverty of farmers, as indicated in the results of the study on the dynamics of poverty in the Institute of Brain Research (Ananchanok Sakonthawat, 2012). Farmers in Ayutthaya province said, "Farmers most often rent rice fields. Seed and fertilizer debt. Often, there is a problem of chronic and poor debt."

Land is important to productivity, including both soil quality and abundance. Farmers in Thailand depend on water sources Supanburi farmers said, "The annual crop will depend on whether that year the Royal Irrigation Department will release water." The farmer in Supanburi said, "If there is little rain this year, it will not be done again." The farmers in Ayutthaya said, "It depends on if the farmers themselves have a reservoir or not." Water management issues are addressed in the field of irrigation management. Proper water allocation. And the lack of knowledge of the peasants to find water used in the reserve. The farmer needs enough labor to farm. It requires employment, which increases the costs. As does agricultural machinery. Management is different in each area. The farmers in Supanburi said, "Most Supanburi farmers have their own plows and harvesters." Another farmer in Supanburi added, "In the area, the peasants usually gather in small groups to harvest rice." In addition to the problem of rice cultivation, farmers in Songkhla Province also identified problems that farmers face: "Natural disasters, floods, drought, insect pests are factors that farmers cannot control. If they happen, it will damage the farm, such as the big flood in Songkhla province in 2017." When asked about the cause of farming is not worth it, the farmers in Ubon Ratchathani said, "It depends on the knowledge of the farmer that there is knowledge of cost management." A farmer in

Chiang Rai said, “Most farmers use traditional rice cultivation methods. The income is normal. When there are other problems such as flooding, insect pests, it will not be much. Income is reduced. The debt will not be reduced.” “It is a good idea to support large-scale farming. But the combination of farmers in the central region is difficult because they do. No time to force to sell simultaneously. One of the most important aspects of rice cultivation is not the same. One in the irrigated area was planted at one time. I do not have any water waiting to plant another time,” said the farmer in Supanburi. Surin farmer said, “In fact, the purchase of rice varieties, fertilizers, insecticides or the use of machinery in the field. If you buy a lot, it will be cheaper. But the farmer owes the fertilizer store. Owes the mill. Owning a farm does not benefit from the integration.”

“The price of paddy that farmers will receive. Farmers will know when the paddy goes to the mill. Or a middleman who buys paddy. Mills will weigh the moisture and check the rice, then inform the farmer. This is a normal procedure,” said the Supanburi farmer. That’s a problem also for the farmers in Phitsanulok: “The rice paddy farmers have to distribute through middlemen in the area. The middleman will set prices.” A farmer in Phattalung said, “The need to sell to the middleman because farmers do not have a barn. And that’s the weather. If you keep it, it can spoil rice. When it is about to sell out.” Farmers in Supanburi said, “Being indebted to the middleman who buys rice is one reason that farmers need to sell rice through the same middleman and cannot bargain. The rice needs to be broken with the old debt.” That shows that farmers have no part in determining the price of rice. Sometimes the price of rice is falling, while the cost of growing rice is higher. In line with the Reform Committee (2011), the main problem for the Thai agricultural system is the monopoly market. Small farmers, bargaining power, both marketing and resource use.

The implementation of public policy on rice is often done quickly, producing immediate results in the short term. The long-term plans are often theoretical but lack continuity. As a representative of the Thai Farmer's Association said, “The three-party policy focuses on cooperation between financial institutions, exporters and government agencies. The main goal of the state is to require farmers to produce according to the market demand, because the yield is definitely for sale. In fact, the farmer is like a rice farmer. No independent production. Every production step

depends on where the large capital company determines the inputs. And the machinery required. The income of the farmers will be reduced, because most of it is gone with the cost of seeds and fertilizers," said the farmers in Surin. "Regarding the policy of the government agencies implemented in the area, most of them are not different from the original. Finally, the farmers have to sell rice to buy the same people." A farmer in Ubon Ratchathani said, "The pledge of rice is, in fact, both good and bad. But the governor must control the registration of farmers and the right to wear rice. Last but not least, the beneficiaries are farmers." The president of the Thai Rice Exporters Association said, "Income insurance for farmers is a solution to the problem. Finally, the problem is not gone. I need to fix it to end. We have to create more knowledge of rice standards for farmers to increase the quality of rice. The rice exporters are expected to increase their prices. The president of the Thai Rice Exporters Association said, "At one time, organic rice sold in the world market was very expensive. The government was encouraged to grow a lot. In fact organic rice sold at prices must have international standards to sell them. There are several types of organic standards, including IFOAM, USDA. These standards are based on each region. The state attaches great importance to the export of rice and the price of rice as the main source of income. At present, the trade of G-2 rice or state-to-state rice is important to the country's income. And there is a concrete policy process, whether it be through road shows in countries or international commitments." The Association of Exporters said, "In the last two years, it is clear that the government has promoted exports by promoting G2G abroad, which must be complimented. Because of the past, G-G has been very difficult. Each country has bought this kind of rice that Thailand cannot compete with."

In terms of participation in rice policy, the Thai Rice Exporters Association said, "The president of the association is one of NBC's directors. When the government needs some information, the association will provide input. This will be the basis for policymaking. The government will decide whether or not the state will make the decision. "The policy management of rice marketing should be effective, allowing prices to be in line with the market mechanism," according to the Rice Exporters Association. "Long term, if you want to be able to, rice is like other kinds of products that are free. It is what I want to grow - I want to sell what sells. It is

based on the market mechanism if he planted a lot of price. If you are in business, it will be most effective. It is not necessary to determine that this must be sold for high prices to help farmers get a lot. But the world market price is not possible. If you do that, then the product will be abundant in the country.” But farmers in Phattalung province said regarding the export of rice: "Export prices do not affect farmers if the state will let the price of rice be based on the market price. We have to see that the state will promote or help some farmers when the price of rice is lower. "

4.1.4 Interview Summary

Public policies on rice in Thailand often come in the form of market intervention, such as price controls or tax rates. In defining the rice farmers' policy, farmers usually do not have any role in the export sector. They merely provide information to the government. In addition, inflation export conditions and the economic condition of the country have an impact on the main food production of the society, especially rice, indicating that the government is more focused on consumers than farmers. The results of the interview show several things. In practice, farmers and rice business groups cannot be involved in driving policy issues and pressure the government to reduce regulatory intervention. Rice as a political commodity has led the government to change its policy from controlled intervention to price subsidy. Policy management therefore needs to examine factors that influence policy change. One important factor is the grouping of peasants, if they can be united. There is no conflict between them, so the business group can be strong enough to pressure the government to help them effectively. And match the demand over single pressure. And if it can be grouped together from the upstream, middle and downstream, it will make the rice industry more stable and sustainable.

Based on interviews with policy makers, policy beneficiaries and stakeholders. The interview results are summarized in Table 4.1

Table 4.1 Results of Policy Interviews: Policy Beneficiary and Stakeholders

Issues	Policy makers	Policy beneficiary	Stakeholders
Cultivated area	Farmers have been working in many areas. Bargaining power: the state is the central agency in the negotiations between farmers, farmers and private sector.	In practice, there is a problem with farmers not participating in the project because of lack of land. Water management problem with conversion manager. Capital is not clear. Discontinuity of policy. The conversion manager should be adjusted from the government official to another person who does not meet the changing policy.	Some areas have been successful, but most have attempted to change. But also, people do.
	Make zoning to use rice varieties. And technology is appropriate in each area.	There is no concrete practice on zoning. In accordance with the farmer's rice. It should also consider the quality of rice to stand out in that area.	Farmers who rent rice fields cannot switch to other crops. Or debt to capitalists.
Rice seed	Community Rice Center is a good source for rice seed.	The rice department is an agency with inadequate staffing in the area.	Farmers have not utilized the rice community center.
Allocation of water resources	-	Tackling water use among farmers in irrigated areas. There is insufficient water used for agriculture.	The water used in farming is most dependent on nature. Yields and secondary

Issues	Policy makers	Policy beneficiary	Stakeholders
Rice Quality / Grain Standards	- Promoting organic rice step by step. Have master space. It is clear that the practice needs to meet international standards.	Rice training and the mill standard from the central agency. Provide knowledge about planting and standard of organic rice training.	crops depend on much water or less water. Irrigation is only effective in the field. Access to information perception and promotion of quality rice production. Some farmers try to grow organic rice. Reduce the use of chemicals. It cannot go through international standards. I want the government to come to the knowledge. Introduce a practical, cost-effective way.

Issues	Policy makers	Policy beneficiary	Stakeholders
			Or get financial support from the state to prepare organic rice standards.
Debt / Credit	-	Debt is not reduced. It's just a move from one place to another.	Have a break Or loan interest.
Rice Prices / Marketing	Lead Marketing Leads Production When farmers grow rice according to market demand, they will have higher bargaining power.	Policy leaders need to look at demand of rice Farmers are encouraged to be agricultural professionals with knowledge.	There is no difference because prices are up to merchants in the area.
personnel	Inadequate staff Manpower and work are inconsistent.	The volume of work is not consistent with personnel. Officer in hard work area Compensation and benefits	Lack of labor in farming Generational descendants often ignore farming careers.
Policy Implementation	Separated by the agency clearly. Management direction is inconsistent. Lack of integration between concrete.	Must interpret itself Lack of clarity and may cause the operation in different directions.	Farmers have an income from marketing the same system with only one partner. It is also a liability.

Issues	Policy makers	Policy beneficiary	Stakeholders
participation	Should integrate the idea from the bottom up to answer the spatial problem. Integration of public, private and local agencies.	Report on the performance of the policy. How good or not. What are the barriers?	Various policies, farmers, farmers and other stakeholders. Did not participate in policy commentary. It's just providing basic information. Will the section be used? Cannot know

Management of rice policy under complexity has many related factors, such as household debt, market, economy, society, politics, technology, environment and tradition, etc. The government needs to develop a policy that is consistent with changes in different contexts. In the current situation, policy makers must analyze. Link the problem, concept, theory, real situation. Policy Implementation. And the benefits of the country, considering the different areas. Needs of the peasants Creating a clear policy with clear rules, procedures and goals is a good thing. However, there should be guidelines in each area to be specific, flexible and adapted to the situation. The success of the rice policy is a balance between the flow of power from top to bottom. And the bottom-up involvement means the government is responsible for setting policies and controlling the implementation of policies. At the same time, emphasis is placed on lower-level workers, such as government officials, farm workers, and community entrepreneurs who are aware of the real problem. Be involved in providing information, problems, skills, experiences and advice on

problem solving and policy making. As illustrated in Figure 4.1, each of the major dimensions of rice policy implementation has been successfully implemented in the field of rice policy implementation in the context of Thailand.

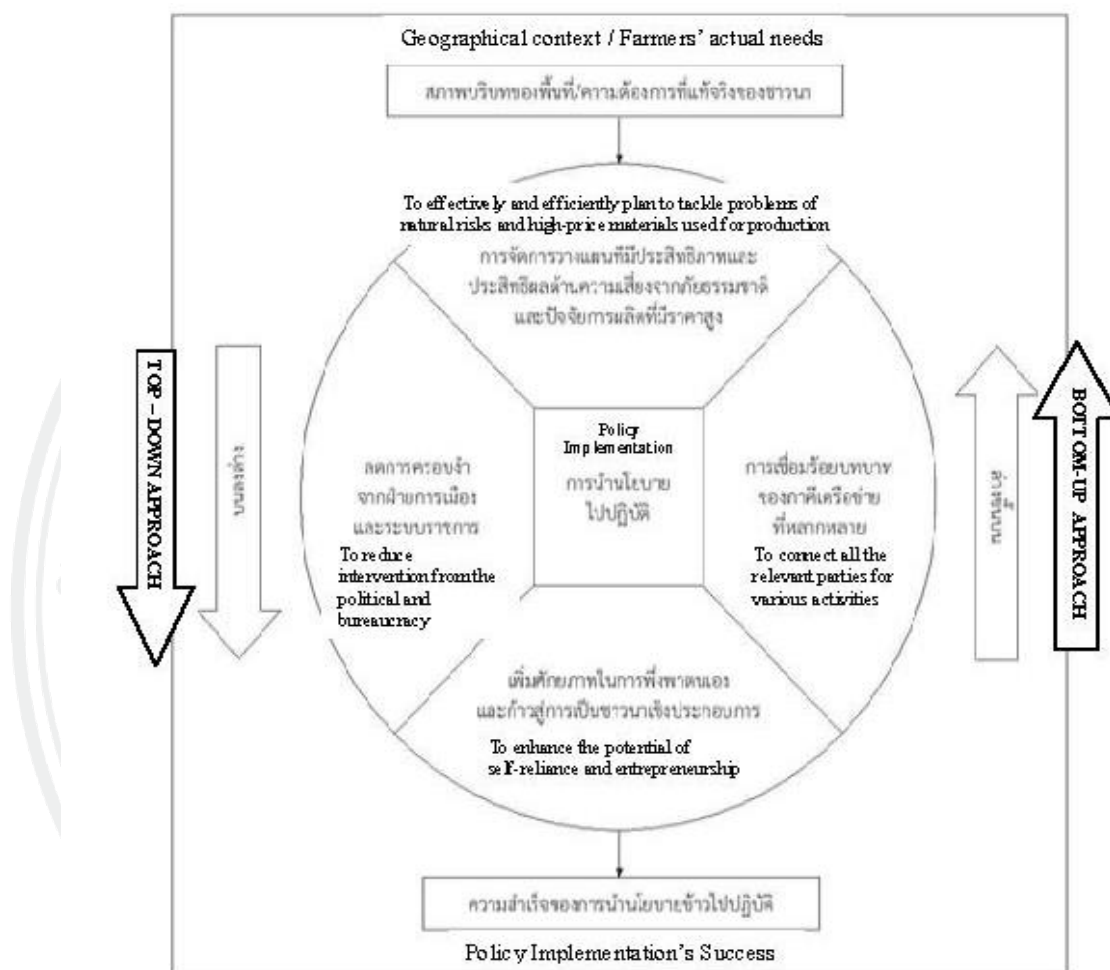


Figure 4.1 Rice Policy Implementation in the Context of Thailand
Source: Chompoonuch Hunnark, 2016.

4.2 Thai Rice Policy and Strategy Analysis

In Thailand, the focus is on large export policies. The dominance of the capital group. This capital group influences the political system in the form of interest groups. Bureaucracy is dominated by formal and informal policy-making processes. Formal domination is top-down. The proposed solution to the problem at the end causes farmers to focus more on self-reliance. Despite the consolidation of peasants' rights in various claims, policies have been influenced by political influence. The benefits to the farmers, especially the area where the election. In addition to destroying the market system, it also has a serious impact on small farmers. They lose their traditional way of life and become employed in agriculture.

Thailand has solved the rice price problem by intervening in the market price with rice price insurance or pledges. This has not solved the real problem, and it was also used to win political votes. During 2000 - 2008 there was a dramatic change in the paddy market. There are many new mills in the area to pick up rice pledges that are better than the market price. In the past, these central markets played an important role in facilitating the exchange of paddy with fair price quotations. However, the production of small farmers cannot market themselves. They also have no bargaining power with middlemen or mills, encouraging peasant farmers to group together to produce different products from the general market. The so-called Production of Niche Product by creating a product chain from upstream to downstream.

According to the public policy on rice in Chapter 2, there are two main solutions to the problem of rice prices. (Or rice price insurance policy, which has the same principles as the income guarantee policy) and rice pledging policy. The researcher has compared the public policy on rice as follows.

Table 4.2 Comparison of the Guideline and the Impact of the Income Guarantee Policy and Rice Pledge Policy

Issues	Insurance policy	Rice pledge policy
Implementation guidelines	The state sets the target price that farmers should receive and the maximum amount of rice available. When the market price is lower than the target price the state will compensate farmers for their income through the BMA.	The state gives farmers the rice paddy as collateral for loans with lower interest rates than usual. The state will act as a buyer of rice.
Registration	Some actual rice farmers did not get to register their real names in the system. Instead, some other “temporary farmers” or the rice farm owners took their place, registered their names in the system.	<ul style="list-style-type: none"> • Some millers took the actually farmers’ rights, using their own names to register themselves in the system. • There is “fake supply” of rice in the barn, with no actual rice supply in it.
Normative	The average yield data will be used to calculate the yield of rice in the area. Then, the compensation value will be calculated for unequal compensation in each area. If the guidelines are not good enough, the price may be wrong.	Farmers have a policy to allow farmers to pledge rice within their own area. Reduce the power of rice farmers sold. Because the participating mills are less selective. If the rice mill stock in full area Farmers will not be able to pledge rice. The rice needs to be sold to rice merchants outside the area, which is very expensive.

Issues	Insurance policy	Rice pledge policy
Production structure	Some varieties of rice are not guaranteed. Farmers change their rice varieties. Overgrown rice market in some varieties.	No production restructuring. But farmers do not pay attention to the quality of rice. Use high chemicals to speed up production.
Grain prices	There is no excess supply from the market, resulting in a dramatic drop in prices during the season. Farmers or farmers bring the product out simultaneously, selling the market price down. The state is responsible for higher compensation than expected.	Pledge price is higher than market price. Productivity was pulled from the middle market to accumulate in many state-owned warehouses. When it is necessary to drain the rice, the price level is very low. The state carries the compensation burden. Excessively
Issues	Revise your insurance policy.	Rice pledge policy
Market intervention	Farmers can receive compensation for the difference immediately after the date of contract with the BMA, regardless of whether the farmer actually harvested rice or not. Income assurance is developed to hedge the risk of price volatility.	The state is the largest purchaser in the market, resulting in high costs of storage, transportation, processing and export of broken rice.

Rice pledge policy	Rice pledge policy	Rice pledge policy
Farmer Behavior	Farmers are entitled to immediate compensation without looking at the harvesting period, so that light growers can participate in the program. Affect the quality of rice not certified by the Department of Rice into the registration system.	Most farmers do not come to redeem the paddy with the government because the price is higher than normal. Farmers have no debt repayment ability.
Corruption Channel	During the registration process, farmers reported false information about rice varieties grown. Number of cultivated areas And the yield. The registration was made by the village leader.	The corruption and fraud occurred in every step of the project implementation. Mills weigh less than reality. Storage of rice The stock is not well-deserved. Smuggling of rice from neighboring countries.

4.3 An Analysis of Actual Stakeholders to Implement Thai Rice Strategies

The study of research papers. From the stakeholder interviews identified in Chapter 3, stakeholders in rice policy can be divided into three groups, as follows:

- 1) Key stakeholders include rice farmers. Private sector organizations include the Thai Rice Trade Association, Thai Farmers Association, Mills Association and Thai Rice Exporters Association, Mills, Silos, Middlemen and Rice Exporters.
- 2) Primary stakeholders include lenders such as the Bank for Agriculture and Agricultural Government organizations including the Provincial Commercial Office, Agricultural Cooperatives, Provincial Agricultural Extension

Office, Department of Internal Trade Department of Industrial Promotion, Royal Irrigation Department, the Department of Rice and political leaders.

3) Secondary stakeholders are almost non-stakeholders in the management of rice policy. The impact of this policy is minimal: academic groups.

Table 4.3 The result of the analysis of Benefits Related to Public Policy on Rice by Stakeholders

Stakeholders	Policy benefits	Benefit
Rice grower	Increased revenue	+
	Higher yield per rai	+
Private sector organizations include the Thai Rice Trade Association Thai Farmer Association, Rice Mill Association and Thai Rice Exporters Association	Private sector organizations include the Thai Rice Trade Association Thai Farmer Association, Rice Mill Association and Thai Rice Exporters Association	-
Mills, silos, middlemen	Sell more rice.	+
	Market mechanism is deviated.	-
Rice exporters	Rice prices have improved.	+
Lender groups include the Bank for Agriculture and Agricultural	Less loans from farmers.	-
Government organizations such as Provincial Commercial Office, Agricultural Cooperatives, Provincial Agricultural Extension Office, Department of Internal Trade, Department of Industrial Promotion, Royal Irrigation Department, Department of	Successful Targeting Policies The bargaining power of farmers.	+
		-

Stakeholders	Policy benefits	Benefit
Agricultural Extension and the Department of Rice		
Academic Groups	Being able to independently work with farmers as they wish.	+
Politicians	The popularity of the people is higher.	+
	Cannot set policy freely.	-
Media	Track the corruption of the project.	-

note Benefit + refers to affected groups that benefit themselves.

Benefit - Means the affected group does not benefit themselves.

Table 4.4 The result of the analysis of Importance and Influence on Public Policy on Rice

Stakeholders	Importance	Influence
Rice grower	5	2
Private sector organizations include the Thai Rice Trade Association Thai Farmer Association, Rice Mill Association and Thai Rice Exporters Association	2	4
Mills, silos, middlemen	1	3
Rice exporters	4	4
Lender groups, including the Bank for Agriculture and Agricultural	1	4
Government organizations, such as Provincial Commercial Office, Agricultural Cooperatives, Provincial Agricultural	4	5

Stakeholders	Importance	Influence
Extension Office, Department of Internal Trade, Department of Industrial Promotion, Royal Irrigation Department, Department of Agricultural Extension and the Department of Rice		
Academic Groups	3	1
Politicians	3	3
Media	1	4

note Importance

0 = no information

2 = important

4 = very important

1 = not important enough, less important

3 = important

5 = significant

Influence

0 = no data

2 = some influence

4 = very influential

1 = less influence

3 = moderate influence

5 = highly influential

Table 4.5 Matrix Relationship between Importance and Influence

A	B
Very important / less influential	Very important / very influential
Rice Farmers	State agents
Private Sector Organizations	Politicians
	Exporters
C	D
Less important / less influential	Less important / more influential
Silo mill, middleman	Banks and financial institution
Academic Groups	Public medias

From Table 4.3 to 4.5, it can be concluded that farmers are the most important stakeholders, followed by rice exporters, and government organizations, but at the same time, all of them can influence policy implementation. Government organizations have the highest influence. Among farmers there is almost no influence on policy. One group of stakeholders that is important to the policy is the media. Although the group is not affected by public policy on rice, it is a group that can monitor fraud and the overall operations and provide information to each stakeholder. It also plays a role in creating indirect pressure.

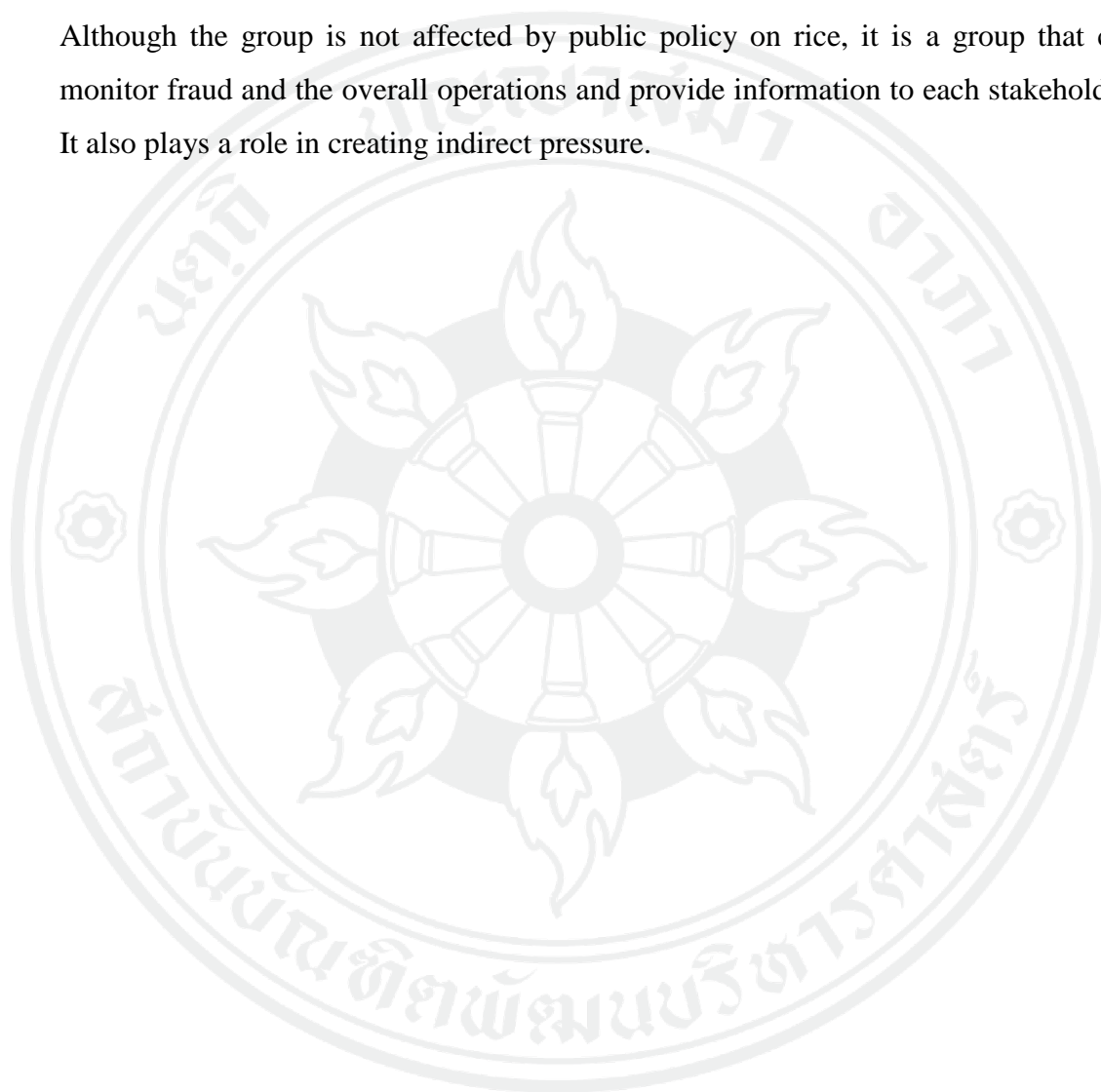


Table 4.6 The summary of finding for Stakeholder Analysis Related to Public Policy on Rice

Stakeholders	Policy benefits	Affected by policy	The importance of stakeholders to the success of the policy.	Influence of stakeholders on policy
Rice grower	Have higher income	+	5	2
	Higher yield per rai	+		
Private sector organizations, including the Thai Rice Trade Association, Thai Farmer Association, Rice Mill Association and Thai Rice Exporters Association	The importance of the association is reduced by the fact that farmers can combine themselves.	-	2	4
Mills, silos, middlemen	Sell more rice.	+	1	3
	Market mechanism is deviated.	-		
Rice exporters	Rice prices have improved.	+		
Lender groups include the Bank for Agriculture and Agricultural	Less borrowing	-	1	4
Government organizations, such as Provincial	Successful	+	4	5

Stakeholders	Policy benefits	Affected by policy	The importance of stakeholders to the success of the policy.	Influence of stakeholders on policy
Commercial Office, Agricultural Cooperatives, Provincial Agricultural Extension Office, Department of Internal Trade, Department of Industrial Promotion, Royal Irrigation Department, Department of Agricultural Extension and the Department of Rice	Targeting Policies The bargaining power of farmers.	-		
Academic Groups	Works with farmers freely.	+	1	4
Politicians	The popularity of the people is higher. Cannot set policy freely.	+ -	3	3
Media	Track corruption of each project.	-	1	4

Note: Affected by policy: + means positive; - means in the negative; 0 means no impact.

The importance of stakeholders to the success of the policy: 0 means no data; 1 means not important enough/less important; 2 means important; 3 means moderately important; 4 means very important; 5 means highlights

Influence of stakeholders on policy: 0 means no information; 1 has less influence; 2 has some influence; 3 has moderate influence; 4 is very influential; 5 is highly Influential



4.4 An Analysis of Factors Affecting Public Policy Formulation by Stakeholders in Implementing the Thai Rice Strategy

The research analyzes factors influencing public policy and the implementation of Thailand's rice strategy by analyzing strengths and weaknesses from internal factors. The analysis of 5M principles include labor (manpower) machines (machines), raw materials used in the rice cultivation process, material, financial input and management. The researcher analyzes the external factors by PESTEL Analysis, which includes 1) Politics 2) Economic environment (Economic) 3) Society and Culture (Social) 4) Technology 5) Environment (Environment) and 6) Law (legal) as follows.

4.4.1 Analysis of Internal Factors in Public Policy by Stakeholders to Implement the Thai Rice Strategy

Inequality is driven by differences in capital ownership, where capital is linked to occupation labor, working capital and equipment, including raw materials used in the production of land management. The Thai rice supply chain is comprised of several stakeholders, beginning with the "farmer," the upstream unit of the rice supply chain. After that, the rice will be sent downstream to "Exporters," who export the products to overseas markets. "Wholesalers" pack the products into sub-units and sell their products in the country. The weaknesses of internal factors in the public policy on rice, including farmers, mills and exporters, are as follows.

4.4.1.1 Labor (Man)

1) Thai farmers have expertise in rice cultivation. It is based on the knowledge of the Thai peasants who, despite their natural obstacles, show their skills. The expertise of the farmers, as well.

2) Lack of agricultural labor force. Farmers working in the field are often very old. Most of them go to the age of the elderly and the descendants of the peasants refuse to continue farming. Because of the difficulty, they abandon the field to seek higher income sources.

3) Agricultural workers lack the opportunity to access government information and welfare benefits from the government.

4) Small-scale agricultural workers lack knowledge, lack of knowledge and ability to produce rice, and are not sufficiently strengthened in the form of farmers.

5) Agricultural workers are small producers of paddy rice that lack the power to negotiate in marketing.

6) Some farmers can be leaders with sacrifice, with an established position in agriculture and focus on the learning process.

7) Farmers are committed to community development. Have public mind and love the homeland.

4.4.1.2 Machines

1) Farmers solve the shortage of labor by using agricultural machinery for farming, which helps to improve rice production. Good quality rice and high profitability.

2) The problem of hiring agricultural machinery in terms of relatively high prices. Smallholder farmers with little capital to grow crops have little access.

3) Agricultural machinery is expensive. And maintenance is also costly.

4) Rice mills are the central processing unit for processing paddy rice. They have been developed in efficiency and capacity over time as a result of obtaining loans in the system of such business. The adaptability in the rice color that can produce the quality that the market needs.

4.4.1.3 Raw materials used in the production process (materials)

1) Most of the soil was degraded due to lack of organic matter, soil condition, soil condition in the central, eastern and southern parts of Thailand. Sour in the Northeast, soil is saline soil, which requires proper soil management to increase productivity.

2) Most of Thailand's rice cultivation areas are located in rainfed areas. There is no irrigation system, which causes lack of water for cultivation.

3) Good seed shortage. The production and distribution of quality rice seeds cannot meet the needs of farmers sufficiently and thoroughly.

4) The number of farmers leaving the community that they owned and rented in the farm has resulted in no incentives for farmers to improve their land.

5) Highly imported inputs, such as chemical fertilizers, herbicides, and pesticides, tend to increase, resulting in the need to purchase inputs at higher prices.

6) Some farmers reduce their production costs by turning to organic farming to reduce the use of chemicals.

7) Thailand is able to produce a wide variety of rice in every grade and quality to meet the needs of the market in all important markets. Thailand can grow aromatic rice varieties with distinctive aromatic characteristics that are acceptable in the global market.

8) Good quality paddy will come from good cultivation process and good rice seed. There are usually less than enough colors and often lack of paddy due to natural disasters.

9) Electric power at the mills is used in production activities because the production process is mainly mechanical.

10) Fuel power. Some mills have other fuel-powered machinery, such as diesel, which adds to the cost of processing the grain.

4.4.1.4 Money

1) Low income farmers. The majority of farmers in the whole country earn less than other agricultural occupations.

2) High cost of production. Farmers have higher production costs every year, including labor, chemical fertilizers, and seed costs because most farmers use very high inputs and use methods. Produced incorrectly.

3) Lack of welfare or income assurance system that cannot be earned.

4) Most farmers have problems with household debt due to agricultural costs. Farmers must continue to bear the burden of indebtedness in the face of government policies that intervene indefinitely.

5) Access to farmer loan services is easier with access to funding sources, as the government provides more credit support.

6) Mills or exporters have easy access to public sector financial institutions.

4.4.1.5 Management

1) Continuous rice cultivation throughout the year by farmers in the central and lower northern regions. In the irrigated area, rice farming continues throughout the year, enabling farmers to accelerate their production without regard to the quality of rice to be delivered. As a result, the ecosystem is ineffective, and includes soil degradation, insect pests, and overall poor rice quality.

2) Lack of effective harvesting and post-harvest management resulted in a loss of 5-10 percent of total harvest.

3) Farmers harvest rice using a combine machine while rice is still high in moisture content and immediately distribute rice if it is poorly handled to produce low quality and high moisture content.

4) Lack of management of existing water resources in the locality, leading to social and community conflicts.

5) Lack of silo, rice paddies, or barns make farmers unable to manage paddy. After harvesting, the plants are sold to the mill.

4.4.2 Analysis of External Factors in Public Policy Formulation by Stakeholders to Implement Thai Rice Strategies

Policy makers of each agency. There are similar views on participation in public policy (ie awareness of the importance of public participation). Know that the laws and policies that will come out need to be public hearing. As a result, the researchers analyzed their strengths. Weaknesses of External Factors. The public policy makers on rice are the political, bureaucratic and civil servants, or government officials as follows.

4.4.2.1 Political Factors

Political factors play an important role in shaping public policy, since politics is the system of benefit management for the various interests of society. This will lead to solutions and changes in ways that benefit the people.

1) Political instability in Thailand. As a result, the instability of government policy is uncertain and the current trend is changing. And the damage from the adjustment to the government policy. This will affect the overall stability of the Thai economy.

2) Public Policy on Rice. It is a short-term policy to respond to the demands of populist political parties.

3) The policy makers do not provide those who are in the process of rice and are knowledgeable. They also have a direct stake in the policy.

4) Long-term rice price support has created a huge commitment to the state budget. Especially in the context of the price of support under the pledge scheme is higher than the market price. Rice price support cannot meet the income distribution target. The benefits are not distributed to small farmers thoroughly.

5) The government provided support to the farmers by issuing support policies. The purpose is to supplement the liquidity of the farmers in the harvest season.

6) There are several organizations and regulatory committees that give priority to rice as a major economic crop, such as the National Rice Policy Board, the Rice Department, the Department of Agricultural Extension, the Department of Cooperative Promotion, the Ministry of Agriculture and Cooperatives, the Department of Internal Trade, the Department of Foreign Trade, Department of Export Promotion and Ministry of Commerce.

4.4.2.2 Economic environment

1) Rice is the country's main economic crop and is related to other industries such as rice mills, rice traders, manufacturers and distributors of agricultural machinery, and rice processing plant.

2) Demand for rice is expected to increase due to the expansion of the population and the demand for rice is still higher than that of world rice.

3) Thai jasmine rice is popular and preferred in the world market.

4) In Thai rice exports to the ASEAN market, Vietnam is a major competitor. Vietnam has lower production costs, resulting in cheaper export prices, but lower quality.

5) The current rice market situation is not characterized by higher supply than demand. And many countries have started to change their role from a seller's market to a buyer's market.

4.4.2.3 Social and cultural factors

1) Thai way of life from the past to present rice consumption is the main food.

2) Rice is associated with Thai people's lives. Rice cultivation has created good traditions and cultures, coupled with the Thai tradition from the past to the present, especially in farming careers. In the cultivation of rice, which has been carried out from our ancestors to the present farmer, the peasants are considered the backbone of the nation.

3) Thai peasants are considered to be the poorest of all farmers, spreading across the country but playing a role in the political, governance and security of the country. The majority of farmers are considered the problem of most people in the country.

4) Rice varieties in Thailand have local contexts and local knowledge of native rice varieties differing in each region of the country.

4.4.2.4 Technology Factors

1) Thailand has a strong breeding base and new varieties to market.

2) The government supports the development of rice production technology. The development of rice production. Agricultural machinery and prototype production of rice fields. This helps increase productivity, improve management systems and reduce production costs.

3) Thailand lacks research personnel with skills in genetic engineering to improve rice varieties.

4) The development of rice products to increase value added is still low, it cannot be processed in advanced products, and it lacks links to quality raw materials for processing products.

5) Rice research institutes lack research budgets and are still lacking in the integration of all national research institutes. There is a lack of rice

researchers, especially rice breeders, and a general lack of support. Budget and equipment for advanced research.

4.4.2.5 Environmental factors (Environment)

The environmental problem of the agricultural sector is still a major issue. In particular, the problem of pesticide use that affects humans, animals, ecosystems, and the environment will not only result in higher production costs. The health of consumers and consumers may worsen, which can lead to a reduction in income-earning capacity, which will lead to vulnerability to poverty.

1) Thailand is highly stable due to its terrain and climate, facilitating rice cultivation and low risk of natural disasters.

2) Climate change in the world. Today's climate is likely to change rapidly, affecting both direct and indirect organisms, which may cause problems.

3) Most farmers use pesticides because of pest infestations. Increased insect resistance and useful insects in agricultural plots.

4.4.2.6 Legal factors

The law that regulates the rice trade is important. The rice trade Act BE 2489 and the Royal Decree and the Ministry of Commerce issued under the law. Import control the commodity designated for rice is a product that requires import or export permission, which does not correspond to the current context.

1) The importing countries have increased trade sanctions, such as hygiene and environmental protection.

2) Government agencies and other organizations. The lack of unity among the farmers and organizations involved in the production of rice and peasants has been set up for the purposes of which the group of people in the same occupation wants to solve their problems. A lack of unity is a common problem in rice production.

3) The government cannot supervise the purchase of paddy rice for farmers.

4) The law does not favor small farmers and is inconsistent with current contexts and events.

5) Draft Rice Act. The main content of the draft law is to determine the area of rice cultivation. It also controls the quality of seed used in cultivation, and empowers government officials to seize and destroy illegally produced rice and impose criminal penalties, including imprisonment, on farmers or handlers who violate both penalties.

4.5 SWOT Analysis

SWOT Analysis approach was adopted to analyze strengths, weaknesses, opportunities and obstacles. Through this approach, the researcher collected data using an in-depth interview and a focus-group interview. The analysis is based on a) internal factors following the 5M Model and b) external factors following the PESTEL Model. Details are shown as follows:

4.5.1 Internal Factor Analysis

In relation to internal factors analysis, data was analyzed in order to identify strengths and weaknesses to develop the model of rice strategy and public policy formulation. The 5M model was adopted as a tool to analyze the strengths and weaknesses. Important factors included agricultural workers, agricultural machinery, raw materials used in the cultivation process, working capital, and management practices. The details are as follows.

Strength

- 1) Farmers possess high levels of rice cultivation skills.
- 2) Farmers have clear and precise purposes in their agricultural profession.
- 3) Rice farmers acknowledge the importance of learning processes.
- 4) Farmers have a “public mind” and love for their homeland.
- 5) Farmers are committed to community development.
- 6) Some farmers are community leaders who are willing to sacrifice for local benefits.
- 7) Agricultural machinery facilitates more efficient farming practices.

8) Farmers can adapt and change their approaches to other agricultural methods on a natural basis.

9) Rice mills improve the efficiency and capacity to produce rice with higher quality.

10) Farmers are provided with sufficient access to the state's financial resources.

Weakness

- 1) Shortage of agricultural workers
- 2) Limited access to information from government agents
- 3) Insufficient knowledge development
- 4) Limited access to the government's welfares
- 5) Lack of negotiation power
- 6) Relatively high cost of agricultural machines
- 7) Most of the soil used in cultivation has deteriorated
- 8) Insufficient water resource for cultivation
- 9) Lack of good rice seed
- 10) Lack of motivation and inspiration to improve land conditions
- 11) Limited access to land-ownership
- 12) High level of production costs
- 13) Relatively low income compared to other agricultural professions
- 14) Lack of public welfare or appropriate income insurance system
- 15) Farmers experience debt problems
- 16) Lack of management during harvesting period
- 17) Lack of local water management
- 18) Lack of silos, drying yards and barns

4.5.2 External Factor Analysis

In relation to external factors analysis, opportunities and threats were analyzed. Key factors include government policies, the economic environment, and societal, cultural, technological, environmental and legal factors. Details can be seen as follows:

Strengths

- 1) The government issued a policy to boost liquidity during the harvesting season.
- 2) There are many agents and group committees who can support farmers.
- 3) Rice is the main economic crop of Thailand.
- 4) Rice demand in the world market is likely to increase.
- 5) Thailand's jasmine rice attracts high demand in the global market.
- 6) Rice has always been Thailand's main product for consumption.
- 7) Rice has always been every government's main focus.
- 8) In Thailand, there is a wide range of Thai rice classifications.
- 9) There is a strong foundation for rice breeding.
- 10) There are many agents and group committees who acknowledge the importance of rice as the major commodity.
- 11) The government provides farmers and relevant officials with a technological support for a more effective production.
- 12) Thailand's geographical areas and climate can facilitate effective rice cultivation.
- 13) Lower possibilities of natural disasters.
- 14) The Thai government has always pushed forward the Thai Rice Act.

Weaknesses

- 1) Lack of negotiation power in marketing.
- 2) Agricultural machinery is expensive.
- 3) Prices of inputs that are imported from other countries are high.
- 4) Lack of local water management.
- 5) Political instability.
- 6) Large number of short-term policies.
- 7) Lack of involvement in policy formulation.
- 8) Projects implemented by the public sector are not yet decentralized.
- 9) Lack of integration and cooperation between working groups that are responsible for farmers' support.

- 10) Vietnam has become a stronger competitor in the world market.
- 11) Limited numbers of rice researchers and budget allocated to R&D.
- 12) Few activities promote value creation and added value.
- 13) Government agencies and other organizations possess lack of unity when dealing with rice problems and issues.
- 14) The government still finds it difficult to monitor and control the rice purchase practices that lead to fairness for farmers.
- 15) Laws and legal practices do not facilitate the benefits of small-scale farmers. Practices do not fit into the context of the current situation.
- 16) Most farmers still use a substantial amount of pesticides.

Based on the results of the analysis of factors influencing rice public policy formulation, strengths, weaknesses, opportunities and threats were analyzed and identified. It found that Thailand possesses numerous strengths and opportunities. One of the reasons is that Thailand is an agricultural country with a great foundation in rice production, as well as good quality rice seeds. Our geographical conditions and also our climate facilitate rice cultivation throughout the year. Thai farmers also possess high skills of rice cultivation, and rice is a major economic crop in Thailand, which is continuously supported by the government as shown in Table 4.7. (SWOT Analysis)

Table 4.7 SWOT Analysis Outcome

Strengths	Weaknesses
<p>Farmers possess high levels of rice cultivation skills.</p> <p>S2 Farmers have clear and precise purposes in their agricultural profession.</p> <p>S3 Rice farmers acknowledge the importance of learning processes.</p> <p>S4 Farmers possess a “public mind” and love for their homeland.</p> <p>S5 Farmers are committed to community development.</p> <p>S6 Some farmers are community leaders who are willing to sacrifice for local benefits.</p> <p>S7 Agricultural machinery facilitates more efficient farming practices.</p> <p>S8 Farmers can adapt and change their approaches to other agricultural methods on a natural basis.</p> <p>S9 Rice mills improve the efficiency and capacity to produce rice with higher quality.</p> <p>S10 Farmers are provided with sufficient access to the state’s financial resources.</p>	<p>W1 Shortage of agricultural workers.</p> <p>W2 Limited access to information from government agents.</p> <p>W3 Insufficient knowledge development.</p> <p>W4 Limited access to the government’s welfare.</p> <p>W5 Lack of negotiation power.</p> <p>W6 Relatively high cost of agricultural machines.</p> <p>W7 Most of the soil used in cultivation has deteriorated.</p> <p>W8 Insufficient water resources for cultivation.</p> <p>W9 Lack of good rice seeds.</p> <p>W10 Lack of motivation and inspiration to improve land conditions.</p> <p>W11 Limited access to land-ownership.</p> <p>W12 High production costs.</p> <p>W13 Relatively lower income compared to other agricultural professions.</p> <p>W14 Lack of public welfare or appropriate income insurance system.</p> <p>W15 Farmers experience debt problems.</p> <p>W16 Lack of management during harvesting period.</p> <p>W17 Lack of local water management.</p> <p>W18 Lack of silos, drying yards and barns.</p>

Opportunities	Threats
<p>O1 The government issued a policy to boost liquidity during the harvesting season.</p> <p>O2 There is a large number of agents and group committees who can support farmers.</p> <p>O3 Rice is the main economic crop of Thailand.</p> <p>O4 Rice demand in the world market is likely to increase.</p> <p>O5 Thailand's jasmine rice attracts high demand in the global market.</p> <p>O6 Rice has always been Thailand's main product for consumption.</p> <p>O7 Rice has been every government's main focus.</p> <p>O8 In Thailand, there is a wide range of Thai rice classifications.</p> <p>O9 Strong foundation for rice breeding.</p> <p>O10 There is a large number of agents and group committees who acknowledge the importance of rice as a major commodity.</p> <p>O11 The government provides farmers and relevant officials with a technological support for a more effective production.</p> <p>O12 Thailand's geographical areas and climate can facilitate effective rice cultivation.</p> <p>O13 Lower possibilities of natural disasters.</p> <p>O14 Thai government has always pushed forward the Thai Rice Act</p>	<p>T1 Lack of negotiation power in marketing.</p> <p>T2 Agricultural machinery is expensive.</p> <p>T3 Prices of inputs that are imported from other countries are high.</p> <p>T4 Lack of local water management.</p> <p>T5 Political instability.</p> <p>T6 Large number of short-term policies.</p> <p>T7 Lack of involvement in policy formulation.</p> <p>T8 Projects implemented by the public sector are not yet decentralized.</p> <p>T9 Lack of integration and cooperation between working groups that are responsible for farmers' support.</p> <p>T10 Vietnam has become a stronger competitor in the world market.</p> <p>T11 Limited numbers of rice researchers and budget allocated to R&D.</p> <p>T12 Few activities promote value creation.</p> <p>T13 Government agencies and other organizations possess lack of unity when dealing with rice problems.</p> <p>T14 The government still finds it difficult to monitor and control the rice purchase practices that facilitate fairness for farmers.</p> <p>T15 Laws and legal practices do not facilitate the benefits of small-scale farmers. Practices do not fit in the context of the current situation.</p> <p>T16 Most farmers still use a substantial amount of pesticides.</p>

4.6 TOWS Matrix Analysis

TOWS Analysis approach was adopted and aimed to analyze the strengths, weaknesses, opportunities and obstacles, based on the data collected for the former SWOT analysis. In this regard, the researcher has continued this analysis with the main purpose being the development of “The Public Policy Formulation by Stakeholders in the Implementation of Thai Rice Policy and Strategy” model. This matrix can be illustrated as seen in Figure 4.2:

TOWS Analysis	Strengths	Weaknesses
Opportunities	SO <ol style="list-style-type: none"> 1. Farmers' Assembly or Farmers Co-operatives to strengthen the farmers' network 2. Agricultural to be supported by local communities 3. Policy that enhances farmers to gather together as the assembly 4. Policy that encourages farmers to depend on themselves and their fellow farmers 5. Encourage farmers to have their own arable land, with support from their own community. 6. Policy and measures that enhance farmers' motivation 	WO <ol style="list-style-type: none"> 1. To set up a unit or a local indigenous rice conservation association. 2. Policies that promote the skills development exploiting the community's wisdom, knowledge and understanding.
Threats	ST <ol style="list-style-type: none"> 1. Farmers own their own machines and materials (production inputs) required for production. 2. Markets to be established and expanded into various agricultural area. 3. Policies that help farmers managing and controlling their financial resources and debts. 4. Policies that encourage farmers to reduce the use of chemical fertilizer. 	WT <ol style="list-style-type: none"> 1. To establish Thai Farmers Research and Development Institute. 2. To establish the Institute of Agricultural Innovation to increase productivity. 3. Policies that promote farmers' participation in Research and Development 4. To promote the decentralization of water administration and management based on each community's capability 5. Promote activities that enhance product value creation, quality development, to help support farmers in terms of farmers' income and rice prices.

Figure 4.2 TOWS Matrix Analysis

4.7 The Development of the “Public Policy Formulation by Stakeholders” Model in the Implementation of Thai Rice Policy and Strategy

Following the TOWS Analysis, the researcher synthesized the data to present “The public policy formulation model by stakeholders in the implementation of Thai rice policy and strategy” in two categories. Details and descriptions can be seen as follows

4.7.1 The development of the “public policy formulation by stakeholders” model: From strategy to implementation (Top-Down)

Following are the types of strategies developed by relevant government units as well as state agents responsible for the establishment of public rice policies (Top-Down approach).

- 1) Farmers assembly policy.
- 2) Self-sufficiency and self-dependence promotion policy.
- 3) Policy that encourages farmers’ land-ownership, with help of the local community.
- 4) Policy on farmers’ capital funds and debts management.
- 5) Policy that promotes reduced use of chemicals.
- 6) Policy that facilitates skill development.
- 7) Policies to support and promote the participation of farmers in research and development.
- 8) Decentralization of local water resource management.
- 9) Policy that supports a value-adding approach, quality development, and income and price protection for farmers.

4.7.2 The development of the “Public Policy Formulation by Stakeholders” Model: From Strategy to Implementation (Bottom-up)

The model of Thai rice policy formulation by stakeholders involves the key stakeholders in the establishment of direction and strategy, as well as the policy formulation process (Bottom-up).

- 1) Farmers gather as a “Farmers Assembly” to strengthen farmers’ co-ops.
- 2) Agricultural activities and practices to be supported and run by the community.
- 3) Farmers are the actual input owners.
- 4) To establish a market that is widespread in agricultural areas.
- 5) To set up a unit or a local indigenous rice conservation association.

- 6) To establish the Thai Farmers Research and Development Institute.
- 7) To establish the Institute of Agricultural Innovation to increase productivity.

The study of the integrated model of Thai rice policy formulation by stakeholders found that, for Thai rice policy and strategy to be formulated, feedback, thoughts and opinions should be integrated from the bottom up (Bottom-up approach), meaning the policy should be formulated based on the need of actual stakeholders in each geographical area. Farmers should be allowed and entitled to participate in all stages of policy formulation from upstream to downstream. Priorities and authorities should be given to government units in each geographical area. Also, co-operation between government agencies and private agents, as well as co-operation between state and local units, should be encouraged based on the differences in each area.

According to interviews with stakeholders, the farmers' major concerns include high rice prices, high volume of production with relatively lower cost of production, lower amount of debts, and better life quality. Large numbers of farmers have fallen into debt, with limited access to land ownership. Many of them face depression as they cannot see any solutions to the debt problem. This partly makes farmers satisfied with any of the policies that can help them achieve better life quality. The new generation of farmers tends to focus on a cost reduction approach, plus an increase in farmers' revenue. Most of the farmers in this group adjust their rice-cultivation approaches by reducing the use of chemicals as well as avoiding selling rice through middlemen, as a way to try to get out of their debt problems.

The researcher has adopted SWOT Analysis to analyze the strengths, weaknesses, opportunities and obstacles, followed by an analysis of TOWS Matrix. In relation to the external factors affecting the rice strategy and public policy formulated by stakeholders in the implementation of the Thai rice strategy, an integrated model of "rice strategy and public policy formulation by stakeholders" has been developed. The Thai rice strategy and public policy implementation possesses no fixed pattern and is varied, depending on each government's policies and government officials appointed by different cabinets. Many times, these strategies and policies fail to recognize the real needs of farmers and the specific contexts in each area of Thailand. The researcher has therefore proposed an integrated model of public policy

formulation through the actions of participatory stakeholders. The researcher is aware of the weaknesses and barriers that can result from public policy and policy implementation. At the same time, the researcher also recognizes the strengths and opportunities for the development of key stakeholders, including farmers, who have been both negatively and positively affected by the rice strategy and public policy. The researcher sees that there should be the establishment of support for the integration and cooperation of farmers as an assembly to strengthen the network of farmers in the community, facilitating help and support in local areas. Leaders should be appointed or assigned to oversee and give priority to actual stakeholders in order to develop a working network in the area. The development of farmers should be the main focus. The government should formulate a policy that promotes the concepts of “self-sufficiency and self-reliance” amongst farmers. Measures or incentive programs should be in place to encourage farmers to join together as an assembly. This would help farmers resolve the problems that may occur during the implementation of short-term, medium-term, and long-term rice policies that are effective, efficient and sustainable for stakeholders in the long run.

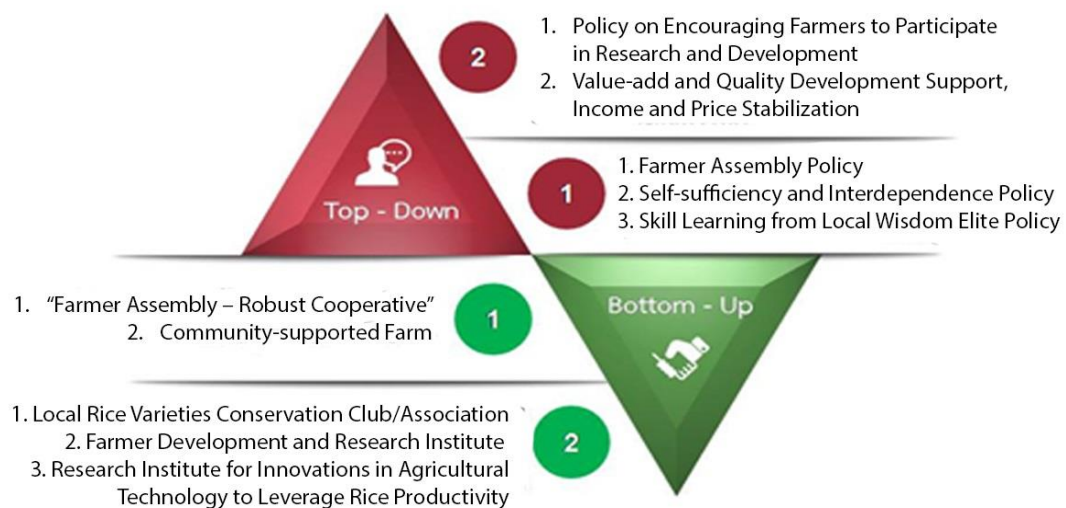


Figure 4.3 Integrated Model of Thai Rice Strategy and Public Policy Formulation

From the integrated model of Thai rice policy and strategy presented above, it was found that this model was in line with Renliang's (2016) study on

- 1) Accelerating the development of modern agriculture.

- 2) Increasing farm income, incentives and benefits for farmers.
- 3) Encouraging unity in rural areas and needs for rural development.
- 4) Strengthening rural development and reform.

5) Strengthening law and legal practices related to agricultural occupations. The Chinese government uses a top-down policy, which limits public participation. The central government is an important engine in implementing such policies.



CHAPTER 5

SUMMARY, DISCUSSION AND SUGGESTION

The objective of this study was to investigate the integrated model of public policy formulation by stakeholders who are directly affected by the Thai rice policy implementation. It also aimed to analyze the factors that affect public policy formulation and to develop an integrated model. The researcher adopted SWOT Analysis and TOWS Analysis to help develop the integrated model of public policy formulation by stakeholders who are directly affected by the Thai rice policy implementation.

The research was concluded and discussed, based on the information, concept theories, and other related research findings, as well as the objectives of the study. Suggestions will be made at the end of this chapter.

5.1 Summary and discussion

The study of the integrated model of public policy formulation by stakeholders who are directly affected by the Thai rice policy implementation, in which data was collected by in-depth interviews, interviewing actual stakeholders (i.e. policy makers, policy adopters, and other parties involved) who are directly affected by the Thai rice policy implementation, can be concluded as follows.

5.1.1 Problems occurred and the operations of parties involved

Based on the study of problems and the operations of parties involved, it has been found that one major problem is the focus on exporters, that is, the public policy was formulated to “favor” the large-size export parties, which are dominated by the capitalists. Also, Thai bureaucracy, topped up by a monopoly system, both usually found in Thai government units’ work systems, also impacts Thai rice policy formulation, bringing in the capitalists to play a vital role in the formulation of the policy. A majority of Thai public policy formulation tends to tackle problems, not to

solve the problems according to their root causes. It tends to involve the capitalists in the policy formulation process, meaning that political stakeholders interfere with the policy formulation process. It is therefore not surprising that policy is formulated based on the capitalists' (or political stakeholders') benefits. The consequence is that problems still occur and farmers still require help from the government. Mentioning the farmers' benefits, this only covers the benefits of those who belong to a large group of farmers who can support political stakeholders during each election. The "actual farmers" have limited access to "the benefits" mentioned above. Unfortunately, these "actual farmers" still serve as "the employee" in the rice production system. With all mentioned above, the Thai rice market system has been negatively affected by the intervention of Thai political stakeholders, which impacts the life quality of "actual farmers."

Operations by the related parties usually involve short-term actions to tackle the problems, and this includes the market intervention that affects rice prices or rice price insurance. This is actually not the real solution to the problem. It was the political effect which affected the price of paddy trend to damage to Thailand. There were many rice mills in the various areas for the rice insurance better than the market price and the central market providing for paddy transaction. Although, the central market took the main role concerning the exchange of the paddy by reference price, the control of rice standard using the central balance. However, the small farmer production could not be done the market and they have no power for the bargain with the middleman or the miller. The farmer group mobilization for the various production from the general market by setting the connection of the products for upstream, middle stream and downstream.

The result of the study concerned problem and procedure of related organization. The researcher found that the study associated to the research of Permani and Vanzetti (2016, pp. 273-284) concerning the Evaluation of Rice Insurance Project of Thailand and Welfare Impact of Other Rice Policy of Thailand, revealed that the accomplishment of Rice Insurance Project in the short term supported farmers' incomes, but the debt was pushed to the general consumer. The association to the research of Robinson et al. (1998) concerning Rice Policy Behavior Model Presentation of Indonesia revealed that the price maintenance was affected to

the rice producer which was adapted the price structure lately. Moreover, the subsidy will require a large budget and affect the government's finances.

5.1.2 Factors affecting public policy formulation by stakeholders in Thai rice policy implementation.

The study concerned the factors affecting public policy formulation by stakeholders in Thai rice policy implementation and found that the farmer gap was pushed by differences in capital possession. Capital connects to property possession, professional labor, circulation capital and machines, including the raw material used in production, the ownership of the source of production and land possession. All of the above were factors affecting rice policy formulation. The Thai rice supply chain consists of related persons, such as “farmers,” who represent the upstream unit of rice supply chain, which transferred for transformation from paddy to rice at the mill. Next, the “miller” sent the rice to the international market or the “exporter” packed and exported it to international markets or “wholesalers” who packed it in small packs and sold it in the domestic market. The interested group referred to farmer, miller, and exporter.

The policy formulation and the practitioner in each organization agreed to the people participation in policy maker that was the main factors focused on the people's participation in the legislation and the policy must make the public opinion. Bringing the public opinion to the process of policy determination. The majority of government policies were short-term projects, but they had a lack of continuity, faced many problems, had no integration among government officials and a lack of monitoring and evaluation.

The study concerned factors affecting the public policy formulation of rice by the interested person bring the application of Thai rice strategy. The researcher found that there were the association to the research of Kritsanakorn Singkhamat (2015) entitled Government Organization Roles of Rice Policy Application at Pakphanang Lowland, Nakhon Sri Thammarat Province (2010-2014) revealed that there were various roles concerning rice policy application. First of all, the government official as the service provider, the most important role. In this role the government official must support and subsidize the social and economic structure. The capital of

government official must apply the capital intervene the community influence. The second role involved planning among government organizations and the community for accommodation of plan. The next role was the controlling enhance the judgment and the chemical control in agricultural production as the social regulation in order to build the management system and farmer freedom. The last role was the visionary of government official should intervene the calm society. This study associated to research of Thawnghmung (2003) entitled Social and Economic Impacts of Rice Policy Application in Rural Area of Myanmar, revealed that the little salary of local officer serves the farmer illegally which may danger and difficult to report the failure of cultivation and harvesting of some ministry. The ministry has received the situation and the information, no correspondence the fact including the personal appointment as the chief of governmental ministry such as lack of experiences, no special capability and lack of policy formulation administration. Moreover, the situation of rural people has received the negative impacts for agricultural policy, process of implementation, bureaucracy structure and the farmer request.

5.1.3 The integrated model of public policy formulation by stakeholders in Thai rice policy implementation.

Thailand's "SMART FARMER" referred to the farmer and the agricultural development plan focused on the self-help farmer with the risk protection concerning the production and the marketing, including the capability of production and the marketing as the professional farmer. In sum, in the integrated model, the researcher explained the principle of Thai farmer development concerning the policy using the word "SMART" and the suggestion of application under the word "FARMER" adding to "SMART FARMER" for integrated model of public policy formulation by the interested person bring the application Thai rice policy as follows;

5.1.3.1 The integrated model of public policy formulation by stakeholders in Thai rice policy implementation.

1) State intervention (S) means decreasing government intervention; state policy was the main role for growth and the development of the Thai rice industry. State intervention should be fair. Provide the long-term policy for every part of chain has direction and adjustable condition. The provision of basic

structure needed in rice production, provide the policy in problem management. The impacts of weather change focused on research and development supports and supply chain, the accepted state intervention such as environmental management, rural development farmer learning development, farmer motivation enhancement equally and rationally both domestic and international.

2) Management (M) means the integrated bureaucracy, the integrated and enhancing the strengths of all parts of organizations. This will affect the mechanics of efficient marketing, the government administration using the integration focusing on rice procedure, monitoring and solving problems.

3) Accountability (A) means the conscious main responsibility expose from self doing, the main system enhanced the implementation of government official efficiently, responsibility realization, clear operation, able to examination, clear government operation direction. Therefore, the need of changeable behavior should be the good governance.

4) Research and Development (R&D) means the researching and developing concerning the rice of government section that is the budget for research compare with rice increasing showed the rice research intensity. The association to the rice researcher interview as the inversion budget. The research budget was decreased as the first because the research was the long-term investment. This does not change the political vote in the short term. If the government supports the rice research budget, it is able to bring knowledge and experience from the farmers to Thailand's rice development.

5) Technology and Innovation (T&I) means the technological support for farmers by geographical indication (GI) development. In order to enhance the name and increase the community production. The enhancing of difference or special image will be conducted for the product or brand strength, the local intellect will increase the rice value and showing Thai rice identify.

SMART

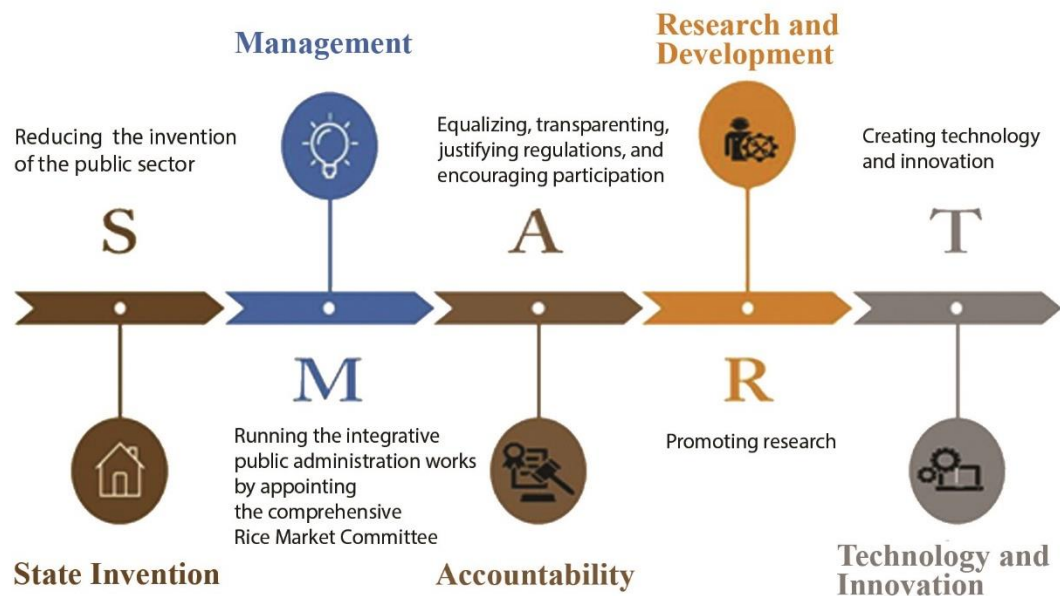


Figure 5.1 The Integrated Model of Public Policy Formulation by Stakeholders in Thai Rice Policy Implementation.

From figure 5.1 the development of integrated model of public policy formulation by stakeholders who are affected by the implementation of Thai rice policy strengthens strategy, the researcher found the importance of decreasing state intervention, and secondly, integrated bureaucracy of all parts of government organization was conducted. The coupling of the responsibility from consciousness affecting the government implementation which was the most enhancing the government implementation. The rice research and development found the budgeting problem. farmer cooperation will solve this problem and should support the agricultural technology, such as geographical indication development solves the rice production and enhancing strengthens identify. It helps the high quality of life of the farmer and decreased the holding of public policy which solve the problem of long-term policy determination.

5.1.3.2 The integrated model of public policy formulation by stakeholders in Thai rice policy implementation.

1) Factor (F) means all factors affecting the farmer in agricultural production. The former should focus on factors increasing production efficiently. The power of enhancing the cycle network will be conducted. Thai farmers are encountering production problems such as increasing the production capital, cause of the problem, the lack of labor in agricultural sector fertilizer capital, herbicide, transportation and production per rai. The farmer solved the lack of labor by safety technology, safe time and safe capital in every step of the production from the seed preparation must used selection the good variety, use the biological substance, rice planting machine harvesting machine up to the vehicle moving the rice to the mill.

2) Agriculture (A) means the good farmer must be self-help, self assistance and knowledge sharing, provide the comprehensive knowledge concerning agricultural profession, good in planning, with marketing supply and serve the need of production including the increasing the efficient production and the readiness to Asian Economics Countries (AECs). Moreover, the problem solving was conducted rapidly, by all of information analysis as the component of principle and rational decision with the agricultural technology.

3) Region (R) means all structural change, the division of cultivation depended on area appropriation. According to various agricultural area for rice cultivation apply the inappropriate variety of rice, therefore, the product no quality serves the expected target. The government sector pushes the agricultural zoning for increasing the product and serves the changing weather. The land management increased the benefit associated to the potential and gave the result appropriate zoning in order to plant each variety in each area.

4) Market (M) means the market division, the provision of promotion plans for market development serve the farmer's product using the network, or the cooperatives, the promotion of new markets for the extension, the farmer has various channels of agricultural product.

5) Empower (E) means the strong enhancing of producer and sellers' networks by the establishment of a farmer assembly or farmer cooperatives

connecting to community enterprise for the bargain, quality control, products collection, make the market with the customer for decreasing the middle man and decreasing the price intervention efficiently.

6) Risk management (R) means the risk management of agricultural problems from upstream to downstream in order to increase efficiency and production cost. The farmer is able to determine the amount and quality of the products for production plan and decrease the price risk. The planning of product transformation management which increase the value, the government organization has received the benefit from central database of the country, in order to develop and manage farmers' plans more efficiently.

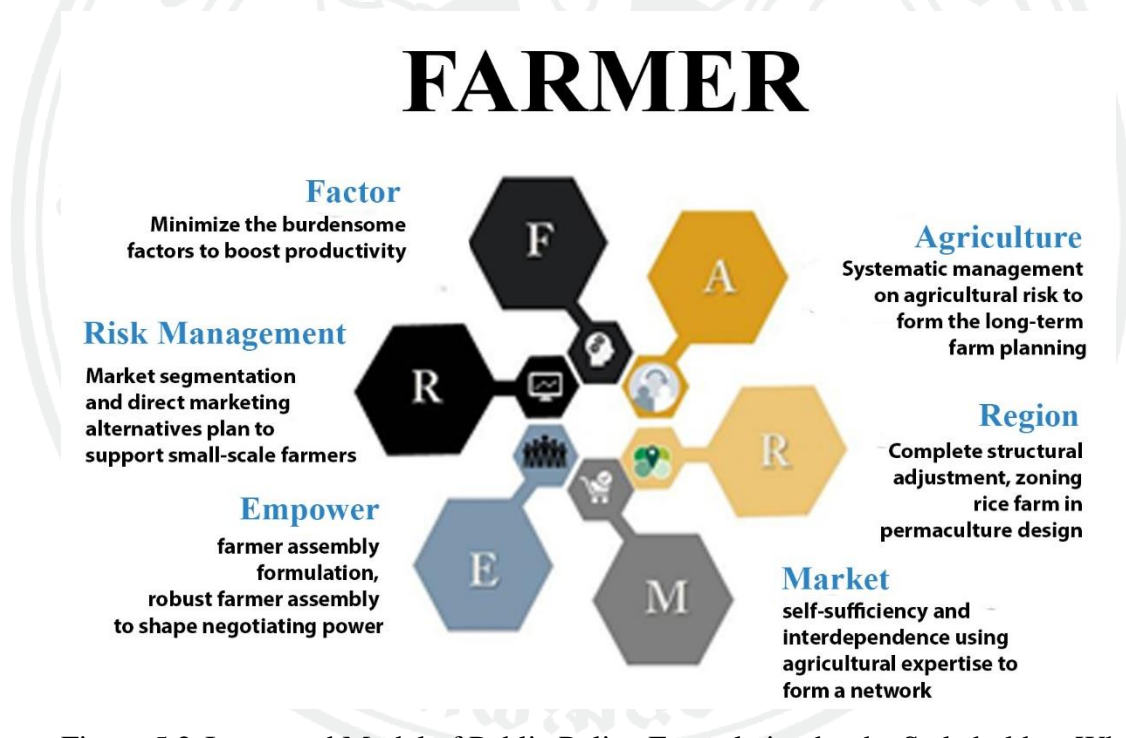


Figure 5.2 Integrated Model of Public Policy Formulation by the Stakeholders Who are Affected by the Implementation of Thai Rice Policy

From figure 5.2 the development of the integrated model of public policy formulation by stakeholders in Thai rice policy implementation. The researcher found the importance of the good farmer consists of the agricultural professional knowledge, that is the farmer realized the decreasing some factors for increasing the production efficiently. The self-help and help together from the local intellect of farmer which appropriated with the area, specifically, the rice variety selection for the

cultivation, the marketing plan appropriately. The technological application, the standard product serves the need of marketing should be done. It means to say that the skill of production, management and marketing must provide to farmer network and serve to empower the famer network.

5.1.4 Guidelines for the utilization of an integrated model of public policy formulation by stakeholders in the implementation of the Thai rice strategy.

To adopt and utilize an integrated model of public policy formulation by stakeholders in the Thai rice policy implementation, in order to drive the agricultural sector's economy, alongside the Sufficiency Economy philosophy, the rural area development would be more focused. This would enhance the cooperation amongst relevant parties i.e. the central government, regional and local governments, academics plus the public, and local communities to create new knowledge, based on the experience of the educated agents. The researcher adopted the Biz Model to answer four important questions that would drive the plan, as shown in Figure 5.3: What to do, how to do it, for whom this is done, with money as the accelerator. This Biz model has been adopted and utilized alongside the guidelines for the utilization of an integrated model of public policy formulation by stakeholders in the implementation of the Thai rice strategy. Details can be seen as follows:





Figure 5.3 Business Model

Table 5.1 Guidelines for the utilization of an integrated model of public policy formulation by stakeholders in the implementation of the Thai rice strategy.

Driven by	Policy Aspect (Top - Down)	Operational Aspect (Bottom - Up)	Goals
1. The Philosophy of Sufficiency Economy Development is based on the self-sufficiency, with respect to modesty, rationality, local immunity, wisdom and knowledge, the surroundings and the morals, to ensure that ones are ready for the economic, social, environmental and cultural changes, step by step, starting with the household-leveled sufficiency, including reducing cost while generating more income, enhancing community-based groups, and sharing	<ul style="list-style-type: none"> - Policy that enhances the farmers assembly - Policy that enhances farmers' self reliance - Policy that facilitates the development through the community and local wisdom - Financial and capital policy that helps lower the farmers' debt 	<ul style="list-style-type: none"> - Assembly of farmers to strengthen the network - Agriculture supported by the community 	Peace and quality society <ul style="list-style-type: none"> - Pride in being farmers - Lower the debt of each farmer's household - Access to education - Knowledge development for product value creation

Driven by	Policy Aspect (Top - Down)	Operational Aspect (Bottom - Up)	Goals
<p>knowledge, experience and community resource. Ones are encouraged to establish a community enterprise center, production plan, processing and marketing support for household production – both community level and country level, set as policy, laws, regulations, supervision, support budget in accordance with each area.</p> <p>2. Development of spatial production and management of agricultural areas.</p> <p>It is the heart of agricultural production management in line with market demand. This is done by creating a learning process, to</p>	<p>- Via the local cooperation, farmers are supported in term of agricultural land for cultivation</p>	<p>- To establish the community of local rice varieties preservation</p> <p>- Farmers with their own productional factors</p> <p>- To establish the markets in the agricultural areas</p>	<p>Appropriate economic growth</p> <p>- Develop the market system and product distribution system</p> <p>- Develop the crop quality and its standards to</p>

Driven by	Policy Aspect (Top - Down)	Operational Aspect (Bottom - Up)	Goals
<p>understand the problems of each area, to find out how to solve the problem of self area in every unit by cooperating with the community. In relevance to the production systems, the issue of people's relationship must be considered. Production must adhere to "value" rather than "prices".</p> <p>2.1 The main purpose of production is to have “enough” for the family, meaning, to have enough food for consumption throughout the year, and for sale if ones have excess supply.</p> <p>2.2 In terms of production factors, ones have to be ensured that there</p>			<p>expand the market channels</p>

Driven by	Policy Aspect (Top - Down)	Operational Aspect (Bottom - Up)	Goals
<p>are enough production resources i.e. water. State must ensure that farmers are provided with sufficient resources for production.</p> <p>2.3 Other relevant factors that facilitate an efficient production system, which can lead to the sustainability in production, which requires the cooperation amongst private and public parties as well as farmers to combine the self sufficiency with the actual economy, making sure they go along with each other</p>			

Driven by	Policy Aspect (Top - Down)	Operational Aspect (Bottom - Up)	Goals
3. Development of Innovative Knowledge Technologies 3.1 Develop a knowledge management system by transferring the knowledge of experienced and knowledgeable people to the new generation. 3.2 Develop information technology system as standard and be able to link to database system of cooperative and farmer group for further use in management and decision-making process. 3.3 Develop the research and development system to enhance knowledge storage and also knowledge sharing.	- Policy that enhances farmers to take part in research and development - Policy that facilitates the value creation and quality development to stabilize farmers' income and also to insure the price level	- To establish the institute of farmers research and development - To establish the institute of agricultural innovation that enhances the efficiency in production	To create the value added by developing new innovative agricultural products

Driven by	Policy Aspect (Top - Down)	Operational Aspect (Bottom - Up)	Goals
Driving Mechanisms: Government Agencies + Private Sector + Financial Institutions + Education + Community & Local			
Based on the model, the "SMART FARMER" is the central government of the integrated propulsion system.			
1. Government agencies, private sector, financial institutions and educational institutions			
1.1) Reduction of Government Intervention (S)			
1.2) Integrated Public Administration By integrating and strengthening the work of various agencies. (M)			
1.3) The government should work in a transparent manner. (A)			
1.4) Rice Research and Development (R)			
1.5) Technology used to support farmers, by developing the Geographical Indication (T)			
2. Local communities, government agencies, private sector, financial institutions and educational institutions			
2.1) Reduce cost of production (F)			
2.2) Farmers are encouraged to "rely on themselves, and depend on each other. (A)			
2.3) Divide the area as appropriate (R).			
2.4) Market Area Expansion (M)			
2.5) Strengthening the network of producers and suppliers, establishing the Farmer Assembly (E)			
2.6) Risk Management System (R)			

From Table 5.1, in order for guidelines for the utilization of “an integrated model of public policy formulation by stakeholders in the implementation of the Thai rice strategy” to be active, the government requires a mechanism and also the existing tools to drive the policy for an effective result, and these mechanism and tools include “the bureaucratic system” or “the governmental or private sector mechanism”. If these are closely put together, it will lead to success in bringing the policy into action.

5.2 Evaluation of Appropriation and Feasibility of 20 Years Agricultural Extension Strategic Plan

Evaluation of appropriation and feasibility as 20 years agricultural extension strategic plan of integrated model of public policy formulation by the stakeholders who are affected by the implementation of Thai rice policy. The government and ministry of agricultural and cooperatives provide all organizations made the 20 years (2017-2036) strategic plan under the 12th edition (2017-2021) National Economic and Social Development Plan and associated to sustainable development goals (SDGs) (Ministry of Agriculture and Cooperatives, 2018) as follows;

Table 5.2 Evaluation of appropriation and feasibility of 20 years agricultural extension strategic plan

Agricultural extension strategic plan	Driving plan as agricultural extension strategic plan	Evaluation of appropriation and feasibility of the integrated model
1st strategy	- Strong enhancing to	- Policy of farmer group supports.
Strong enhancing to	farmer, farmer institution,	- Decentralization of water
the farmer and	Smart farmer, Smart	management as local potential.
farmer institution	group and Smart	- Grouping “empower farmer
	enterprise	strong farmer cooperatives.
		- Supporting agriculture by
		community.

Agricultural extension strategic plan	Driving plan as agricultural extension strategic plan	Evaluation of appropriation and feasibility of the integrated model
2nd Strategy Increasing the production efficiency and uplift product standard.		- Farmer is the ownership of production factors.
	- Pride enhancing and agricultural profession safety.	- Support policy of self-help and help together.
	- Agricultural labor management by application of innovation and technology	- Support policy of skill development from local intellect.
	- Agricultural labor management by innovation and technology application.	- Management policy of capital and debt of farmer.
	- Agricultural labor management by innovation and technology application.	- Agricultural support by community.
	- Develop production efficiency and increasing product standard to the international level using science and technology.	- Establishment of rice conservation association.
	- Agricultural extension and supply chain associated to marketing need and higher value to the intellect farm.	- Grouping of farmers empower strong farmer cooperatives.
		- Farmer is the ownership of production factors.

Agricultural extension strategic plan	Driving plan as agricultural extension strategic plan	Evaluation of appropriation and feasibility of the integrated model
3rd Strategy Increasing the competition ability of technology and innovation agriculture.	<ul style="list-style-type: none"> - Develop innovation and technology for agriculture under Thailand 4.0 - Information technology management for agriculture. The farmer can do the entering and application. - Develop research and information to commercial, public relation and connect to the world network. 	<ul style="list-style-type: none"> - Establishment of market in agricultural area. - Establishment of agricultural innovation institution increase production efficiency. - Establishment of agricultural innovation institution increase production efficiency. - Supporting and extension policy for farmer participation in research and development. - Supporting agriculture by community.
4th Strategy Agricultural and environment management balancing and sustention.	<ul style="list-style-type: none"> - Agricultural resources management sustention associated to SDGs (Sustainable Development Goals) - Recover and conserve the agricultural resources balancing and sustention. 	<ul style="list-style-type: none"> - Decreasing policy by chemical. - Grouping of “farmer empower strong farmer cooperatives. - Supporting the land for farmer by using people participation. - Establishment of farmer institution of research and development.

Agricultural extension strategic plan	Driving plan as agricultural extension strategic plan	Evaluation of appropriation and feasibility of the integrated model
5th Strategy Develop government management	<ul style="list-style-type: none"> - Develop the personal and research to Smart officers and Smart researchers - Connect and integrate cooperation of all parts of organization by people and government with update management. - Improve and develop agricultural legislation for the context change. 	<ul style="list-style-type: none"> - Supporting and extension policy the farmer participation in research and development. - Establishment of farmer institution of research and development. - Supporting and extension policy the farmer participation in research and development. - Thai Rice Act...

From table 5.1 evaluation of appropriation and feasibility as 20 years agricultural extension strategy plan of integrated model of public policy formulation by stakeholders who are affected by the implementation of Thai rice policy. The researcher found that there were the appropriation and feasibility development as integrated model of rice public policy determination. From the TOWS Analysis the researcher found that model of public policy formulation by actual stakeholders as top-down and model of public policy formulation by actual stakeholders as bottom-up and bring about the development of the integrated model of public policy formulation by stakeholders in Thai rice policy implementation.

5.3 Suggestion of future development towards integrated policy formulation by actual stakeholders for application to Thai rice strategy

5.3.1 Community Participation

Community Participation means the push force of the group and may encounter the problem of the duration establishment concerning the knowledge, research, development and technological production. The cooperation of future view by the community participation consists of three organizations, such as government, people and community which are the important foundation of the country, able to drive and develop the progressive society.

- 1) Communication connects three groups together by interaction framework and the communication for decreasing the conflict of information receiving.
- 2) Coordination with three groups of people combined as partnership efficiently, the description of various problems and solving coordination.
- 3) Commitment with three groups for the changing and commit with the result, it will be occurred in the future.
- 4) Comprehension support the related persons to understand the changes in the profession and able to control of profession.

5.3.2 Community Supported Agriculture

“Community supported agriculture” means the strong farmer group came from the relationship establishment among personal group, organization and institution serve the target, objective and some need coordinately.

- 1) Farmer community enterprise coordinate with small entrepreneur connect and support the rice production and transformation, the design and packaging focused on market selling.
- 2) Farmer assembly must coordinate on the benefit coordinately. The planning of systematic rice cultivation both the area and the cycle for solving the

problems such as pest and insect control, water management from upstream to downstream.

3) Smart cooperatives, Thai cooperatives procedure did not accomplishment, not strong and encounter the grouping, could not self-decision, because there was state intervention.

5.3.3 Commercial and consumption strategy for market expansion

1) Promotion of marketing network. The development of Thailand is the rice production center and good quality rice seed in Asian countries.

2) Value adding establishment by new product development, the production structure adjustment of servicing by adding the knowledge and innovation, using the strength of various biological with Thai style under the intellect base and cultural heritage. The establishment of innovation and value creation for structural adjustment of products and services.

3) Marketing research for export should support the budgeting from product research in order to find out the channel of product distribution, public relation, raw material import and export. Thailand has some balance of trade with foreign countries.

5.3.4 Sustainability Development

The main weakness of farmer development is the lack of sustainability from the government policy which design for supporting the farmer like the foster child all the times without the sustainability development. Starting from the self-help development focused on the strength of self-help farmer in the long time period. The farmers should have standard of living and good quality of life which is the sustainability development called “Sustainable agriculture.” The agricultural system covers the farmer living for balancing on social, economic, environment and ecosystem bring into self-help and quality of life development of farmer and consumer.

1) Social aspect. The majority of population is small farmers. National Economic and Social Development Plan from 1st edition started in 1967 (B.E. 2510)

up to now 2018 (B.E. 2561) the majority of farmers are still small farmers. Therefore, the agricultural production system as 40 years of green revolution could not reform farmers' quality of life. The sustainable agriculture will be the alternatives course for the farmer which need to change the system with sustainable income and environment conservation which help the family, community and society.

2) Economic aspect. The economic system expansion changes the agriculture sector by exporting rice as strong rice economy. The industrial development promotion as exported growth, Thailand took advantage of the labor, the low cost affecting the advantage in world market competition from National Social and Economic development Plan 1st edition up to now. The structure and economic system changed very much.

The economic system plan focused on recycling raw materials, which changed the previous production, highlight on benefit and cost control. The efficiency must use maximum benefit as well as decrease the waste and impact of environment. The agricultural production focused on the product price and income earning as the incentive for the farmer decision called "Marketing economy". This system did not consider the other condition, the farmer focused on products and income. However, the sustainable agriculture focusses on the self-help farmer. The style of production will produce or change the production depending on physical, social and environment conditions.

3) Environment aspect. The natural resources utilization applies the maximum benefit not destroy the environment, production system, consumption and local resources utilization should be balanced and replacement the natural resources as recycle such as land, water and avoid using chemicals which present a danger to the environment, soil structure, various biological systems, using of various biological system, various activities in the farm, integrated activities in production. The natural pest control and nonchemical application in various forms of agricultural production high efficiently and safety consumer and friendly environment.

The result of National Economic and Social Development Plan lack of balancing development focused on the economic aspect. Therefore, the following problem was the environment because the natural resources apply for economic

responsibility such as forest, mineral, resources utilization, lack of planning for the balancing of environment. The correction of pollution was as follows;

3.1) Support people's participation with the government concerning natural conservation.

3.2) Decrease the natural resource utilization conflict such as mapping the water management, determine the soil development area.

3.3) Establish natural resources information system ie. natural resources utilization equally, such as private water user rating, the water user in irrigation area.

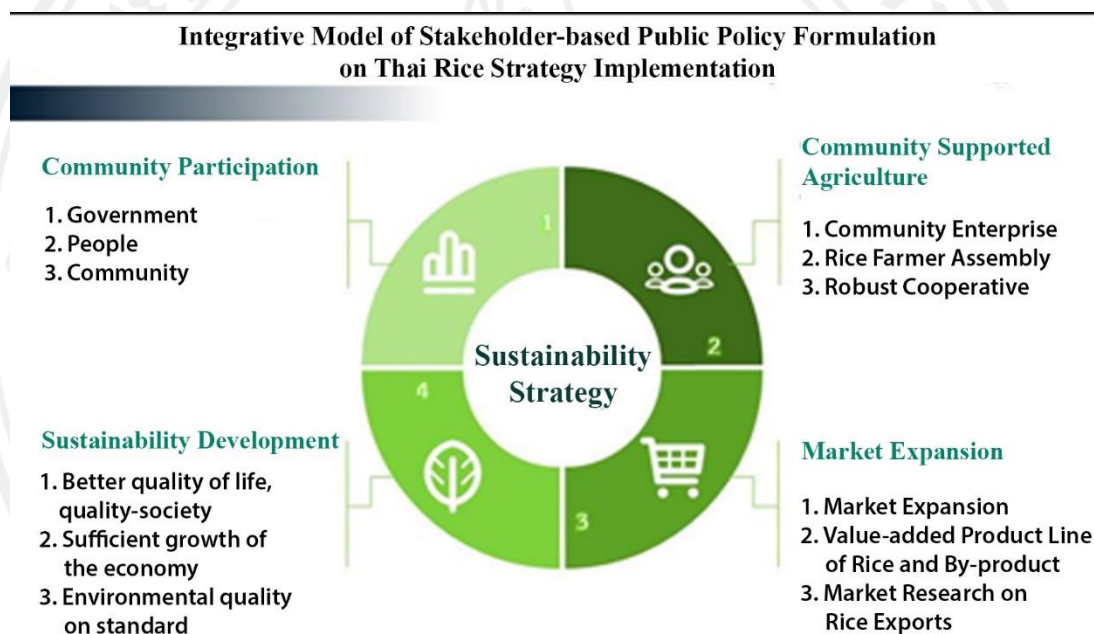


Figure 5.4 Suggestion of Future Development towards Integrated Policy Formulation by Actual Stakeholders in Thai Rice Policy Implementation

From figure 5.3 suggestion of future development towards integrated policy formulation by actual stakeholders in the formulation of Thai rice policy. The researcher's suggestions are: community participation development for the development concerning community supported agriculture by establishment community enterprise, strong farmer cooperatives, and farmer assembly in Thailand. The trade and consumption promotion apply for uplift income via market expansion

trend to sustainability development. The good life of farmer, good quality of life, quality society and economic growth appropriated to environment quality.

5.4 Suggestions

1) Government must provide the policy supporting rice management all of supply chain suitable the duration including decrease the cost, production factor supports and promotion the soil improvement.

2) Government must develop strong farmer cooperatives will distribute the benefit to related persons all of supply chain.

3) All parts of organization coordinate for rice production group. The division of zoning or cluster concerning the producer, transformer, packaging agent, transports with cooperation completely.

4) Government should establish or certify the quality of the rice or paddy standard, the motivation building for farmer to plant quality rice. Thai rice will be competitive in the world trade market.

5) Government should support the research and development of rice. The technological transfer development concerned the supply chain. The design of agricultural machine will be conducted. The value adding of rice product and by product of rice.

5.5 The further study in the future

1) The topic of rice zoning should be studied, including the area appropriation of rice in Thailand, which applies to government policy development.

2) The rice policy is political. Future research should bring the benefit and the problem for setting the conceptual framework of Thai rice in the future, connecting the evaluation the value and the context understanding in order to correction, improvement, development and policy determination.

3) The study should add the farmers' problems concerning the planting system, and farmers living the each duration.

4) Future study should add in the importance of research result focus on farmer quality of life in the case of no opportunity receiving the government support. The research should emphasize the quality for all small farmers.



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2014-2018 The national Institute of Development Administration (NIDA), Bangkok, Thailand. Doctor of Public Administration (D.P.A.), Major in Public Policy

BACKGROUND

2011-2013 Chulalongkorn University, Faculty of Law, Bangkok, Thailand. Master of Arts in Economic Law

2001-2003 University of Colorado, Colorado, USA. Master of Business Administration, Major in International Business.

1994-1998 Assumption University (ABAC), Bangkok, Thailand. Bachelor of Business Administration, Major in Marketing.

1991-1993 Nakhonsawan School, Nakhonsawan, Thailand.

2018 Institute of Metropolitan Development , Bangkok, Thailand. Top Executive Program in Metropolitan Development Administration Session 6

2018 Royal Thai Armed Forces Headquarters (RTARF) and National Defence College Think Tank (NDCTTF), Bangkok, Thailand. Sufficiency Economy Leadership for Security (SELS) Session 4

2017 Commerce Academy, Bangkok, Thailand. Top Executive Program in Commerce and Trade (TEPCoT) Session 10

2017 Naval Civil Affairs Department, Bangkok, Thailand. Executive Relation Development of Royal Thai Navy Session 14

2016 Thai Institute of Directors (IOD), Bangkok, Thailand. Director Certification Program (DCP) Session 231

2016 Court of Justice, Bangkok, Thailand. Mediating Program for Commerce and International Trade Case

2016 Institute of Business and Industrial Development (IBID), Bangkok, Thailand. Advanced Business and Industrial Development Session 3

2016 Southern Bangkok Civil Court of Thailand, Bangkok, Thailand. Increased Potential for Mediating

2015-2016 Academy of Business Creativity (ABC), Bangkok, Thailand. Difference: How to Harness Business Creativity Session 4

2015 Southern Bangkok Civil Court of Thailand, Bangkok, Thailand. Psychology and communication Techniques for Mediating

2015 Tisco bank PCL, Bangkok, Thailand. Wealth Enhancement Program (WEP) Session 3 1st Prize Group Project and Click to win

2014 Southern Bangkok Civil Court of Thailand, Bangkok, Thailand. Introduction and Techniques of Mediating Program

2014 Office of Insurance Commission, OIC Advanced Insurance Institute, Bangkok, Thailand. Thailand Insurance Leadership Program Session 4

2014 Siam Commercial Bank PCL, Bangkok, Thailand. SCB SME Intelligent Entrepreneur Program (SCB IEP) Session 8 1st Prize Group Project

2014 Southern Bangkok Civil Court of Thailand, Bangkok, Thailand. Mediating Program for Southern Bangkok Civil Court of Thailand Session 1

2013-2014 King Prajadhipok's Institute, Bangkok, Thailand. Advanced Certificate Course in Public Administration and Law for Executives Session 13

2013 Thammasat University, Thammasat University Alumni Relations, Bangkok, Thailand. Thammasat Leadership Program (TLPTU) Session 3

2013 Chulalongkorn University, Faculty of Architecture, Bangkok, Thailand. Real Estate Development Programme (RE-CU SENIOR) Session 45 1st Prize Group Project

2013 Nation Broadcasting Corporation (PCL), Bangkok, Thailand. Anchor Workshop Session 10

2012-2013 Office of The Election Commission of Thailand, Bangkok, Thailand. Advanced Political and Electoral Development Program (APED) Session 4

2012-2013 The Office of the Attorney General, The Public Executive Prosecutor, Bangkok, Thailand. Certificate for Provincial Chief Public Prosecutors Session 31

2008 Kasikorn Bank PCL, Bangkok, Thailand. KSME Certificate Session 3

EXPERIENCES

2018 – Present The Standing committees of the National Legislative Assembly, Kingdom of Thailand, Committee on Economics, Monetary Affairs and Finance, Scholar

2018 – Present The Thai Overseas Fisheries Association, Vice Present in Scholar

2018 – Present The Joint Standing Committee on Commerce, Industry and Banking, Working Committee on Business Requirement and Policy for National Digital Trade Platform, Secretary of Committee

2018 – Present Board of Trade of Thailand, Committee on Labour and Skill Development, Committee

2018 – Present Thai National Shippers' Council, Committee of Digital Economy, Committee

2017 – Present The Central Labour Court, Associate Judge

2017 – Present Energy Expert Co., Ltd., Deputy
Managing Director.

2004 – Present Ameritech Group Co., Ltd., Managing
Director

2018 University of the Thai Chamber of Commerce,
College of Entrepreneurship, Special Lecturer

2017-2018 The Standing commission of the National
Legislative Assembly, Kingdom of Thailand, Committee on
Economics, Monetary Affairs and Finance, Honorary Advisor
to the Commission

2017–2018 Court of Appeal for Special Cases on Labour
Case, Conciliator

2017–2018 The Central Intellectual Property and
International Trade Court, Conciliator

2016-2017 The Standing committees of the National
Legislative Assembly, Kingdom of Thailand, Committee on
Economics, Monetary Affairs and Finance, Scholar

2015-2016 Law Reform Commission of Thailand,
Working Committee on Considered Bill for Rice and
Farmers, Scholar

2014-2018 Southern Bangkok Civil Court of Thailand,
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2012-2013 The Senate, Kingdom of Thailand,
Committee of Interior Administration, Secretary of
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2012-2012 The Senate, Kingdom of Thailand,
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2003-2004 Ameritech Rice Co., Ltd., Export Manager.

2003 University of Colorado Hospital. Assistant
Development Program, Colorado, U.S.A.

2002 Denver Auto Show 2002, Vice Marketing
Researcher Manager, Colorado, USA.

1998-2001 Ameritech Rice Co., Ltd., Export Manager.

1995-1998 CG Wireless Corporation Co., Ltd., Sales
Manager.