

The Development of Organic Rice Entrepreneur Network, Sing Buri Province

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Abstract

The purpose of this research is to develop organic rice entrepreneur network of Sing Buri province. The research is conducted in 2 phases: 1) studying the organic rice consumption behavior of the people of Sing Buri province, which is a survey research from a sample group of 400 people in Sing Buri who consume the organic rice from the random sampling group. By using the interview form, data were analyzed using descriptive statistics and content analysis for development according to the research project. 2) The development of organic rice entrepreneur network of Sing Buri province, it is a research and development by applying participatory action research for future search conference. By emphasizing the synergy of 21 key stakeholders in 3 development sectors, namely the entrepreneur sector (Cooperation power), academic sector (knowledge power), and policy sector/sponsors (Policy power and support). The Deming cycle (PDCA) is implemented by focus group discussion, data triangulation verification and data analysis by content analysis. The finding and significant development is organic rice entrepreneur network of Sing Buri Province has set the vision as 1) Most of organic rice consumers in Sing Buri province purchased for consumption at 2 kg at a time from the OTOP stores. Nutrition is the first thing to consider when buying. By gaining knowledge from the internet. They were satisfied with the organic rice in Sing Buri province

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at the moderate level. 2) A development organic rice entrepreneur network of Sing Buri province consisting of (1) guidelines for driving the network, (2) the production standards of the network, (3) the process for directing members to produce according to the network production standards, and (4) evaluating the results. There are important marketing strategies which are 1) product strategy 2) price strategy 3) distribution channel strategy and 4) marketing promotion strategy.

Keywords: Organic Rice, Network

Introduction

Sing Buri Province is on the flat river plain of Chao Phraya river valley. Therefore, the province is very rich in soil and water resources. The province is ideal for advance agriculture because 80.11% of the area of the province is in irrigation zone. 82% of the area is rice field. Sing Buri Province has set its vision for the development as “The source of high quality agriculture products, historical tourism, one of Thailand’s pleasant city” The main issue of development strategy emphasizes on the promotion of agriculture and industrial quality which continues from integrated agriculture. The aim is to produce high quality agriculture for consumers and the main strategy is 1) promote high standard quality of agriculture production 2) Develop infrastructure of agriculture sector and systematical management of water resource 3) promote agricultural and industrial processed product which continues from hygiene agriculture and 4) promote distribution channel for hygiene agricultural product and logistics management.

Since 2014, Sing Buri Province has raised the slogan for setting the development goal as “Sing Buri the most pleasant city of Thailand” The production and consumption of organic rice is an important activity that make Sing Buri people have good health and quality of life. (Organic Agriculture Promotion and Development Group, 2013) The gathering of organic rice farmer network has been emerged broadly for 3 years according to Sufficiency Economy Philosophy and Sing Buri Province’s vision that demand the increased capacity of Riceberry Rice growing from 1,000 rai to 6,000 rai, however there are some main problem and barrier including, 1) lacking of knowledge and skill

in organic rice growing of entrepreneur 2) lacking of constantly support from government 3) the awareness of organic rice is not widespread, the consumers are rarefied and it is difficult for broadly and constantly marketing promotion (Northern Central Group 2, 2016)

To make organic rice entrepreneur network of Sing Buri truly achieve its vision to be “The center of organic rice production for Sing Buri Province people’s healthiness”. The most important issue needs to be done as soon as possible, that is develop organic rice entrepreneur network to be stage for supporting, sharing and exchanging. Moreover, Rajabhat Thepsatri University is an institute which supports local development, therefore, it should act as an academic institute that closely cooperates with organic rice entrepreneur network of Sing Buri, community, village, institutes and another organization in Sing Buri. Participatory action research (PAR) is implemented to create interactive learning through action which can be transferred and applied to solve some problems or develop some area. This way, the community will be strengthened and well sustained. Organic rice entrepreneur network of Sing Buri is very beneficial for farmers, distributors and consumers of the organic rice. The institutes and organizations concerning the organic rice, community’s economy development and Sing Buri Province as a whole, could gain the benefit as well.

Objective

To develop organic rice entrepreneur network of Sing Buri province.

Research Framework

A development organic rice entrepreneur network of Sing Buri province, using participatory action research (PAR) from 3 key stakeholders, for development according to the research project as shown in Figure 1.

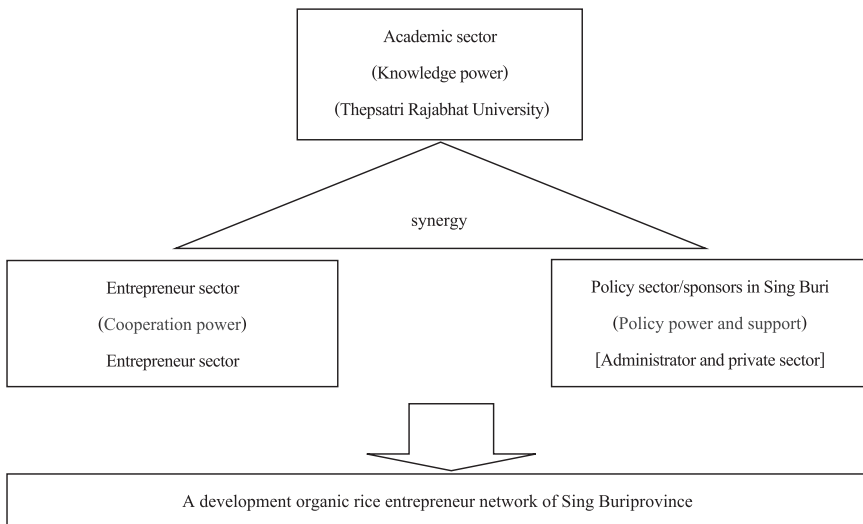


Figure 1. Research Framework

Benefits that will be received

1. Able to develop organic rice entrepreneur network of Sing Buri as a platform to share, exchange, learn and truly help together.
2. Creating benefits for the economic development of communities and Sing Buri province.
3. It is the development of Thepsatri Rajabhat University to play a role as a higher education institution for local development, and develop the capacity of instructors and researchers, including students to learn and work with the community in the local development.
4. Facilitates real-life learning processes that will lead to sustainability through participatory action research (PAR) from all relevant parties. That can be linked to this learning experience to be used in problem solving, that will strengthen and sustain well-being in the future.

Literature Review

1. The situation of Riceberry rice production and consumption in Sing Buri Province

The research of Bank for Agriculture and Agricultural Cooperatives, Sing Buri (2015) that studied the supply chain, found that farmers can add value of the production by growing rice which is popular in the community and among health-conscious consumers. The popular rice is Riceberry Rice and Jasmine Rice. They make the highest profit per rai for producers. As a result, it leads to agricultural promotion “Rice Product Value Added by Community’s rice mill in Sing Buri”, learning chemical free Riceberry growing and learning how to process the rice hygienic products. It is obvious that the promotion can truly add value to rice production and also found that the production of chemical free Riceberry Rice has lower cost but the profit is higher than another rice for 128.57%. In addition, the farmer who join this project can learn and integrate the knowledge with the distribution, processing all the resources, packaging. The farmers agree to expand this project to others farmers.

Riceberry Rice and the strategy of Sing Buri Province Rice has been Economy Botany of Thailand for a long time. It is an important export goods that gain a lot of profit for the country each year. In the last 6 years, consumers has started to be aware of health and chemical free food. Rice Department set Good Agriculture Practice (GAP) to control rice production quality according to the standard and free from agricultural chemical or pesticide. Riceberry Rice is one of the products that match the need of health conscious consumers because the rice has high nutrition. The rice has high antioxidant, low-mid sugar index, lower carbohydrate comparing to another kind of rice. Besides, it decreases cholesterol and catch oxidant in the body.

At the present, the market of Riceberry Rice is health-conscious consumer. Sing Buri Province has set its positioning as “Source of high quality agricultural products” with the strategy to “the promotion of agriculture and industrial quality which continues from integrated agriculture”. The aim of the strategy is “produce high quality agriculture for consumers. The 4 main strategies and 2 measures that determine the Riceberry Rice as the important product in the strategic issues. The main tactics in 1st strategy includes 1) promote high standard quality of agriculture production 2) Develop infrastructure

of agriculture sector and systematical management of water resource 3) promote agricultural and industrial processed product which continues from hygiene agriculture and 4) promote distribution channel for hygiene agricultural product and logistic management. (Sing Buri Statistics Office, 2015)

2. The situation of Riceberry rice production and consumption in Sing Buri Province

Organic rice is from organic agriculture or organic farming which is produced without chemical or synthetic substance during the planting to harvesting. In case of necessity, organic substance and harmless non-toxic plant extracts may be introduced. This is a good way to protect environment and promote good quality rice. Moreover, it leads to consumers' good quality of health and life.

In Sing Buri Province, there are organic rice farmer groups and then form a group as organic rice entrepreneur network of Sing Buri. The network's vision is **"The center of organic rice production for Sing Buri Province people's healthiness"**

Organic rice entrepreneur network of Sing Buri has been established from the gathering of 4 organic rice producer groups and 1 rice mill group in 4 subdistricts of 4 district in Sing Buri, including 52 farmers with producing area of 500 rai. The objectives is to 1) promote the cooperation and assistance among the groups 2) improve life of people and 3) promote knowledge training and research by setting the network's vision as **"The center of organic rice production for Sing Buri Province people's healthiness"** as shown in table 1.

Table 1: Members of organic rice entrepreneur network of Sing Buri, classified by group

No.	Group	Location	Amount			Types of Rice
			Member	Cultivation Area (Rai)	Production (ton paddy)	
1	organic rice farmer group of Jaksri sub district	Jaksri sub district, Muang district	10	132	61.50	Riceberry /Hom Pathum/Jasmine Rice

No.	Group	Location	Amount			Types of Rice
			Member	Cultivation Area (Rai)	Production (ton paddy)	
2	organic rice farmer and rice mill group of Dontanod village	Potale sub district, Kaibangrachan district	16	170	50.00	Riceberry /Hom Pathum/Jasmine Rice
3	organic agriculture group of Donfak village	Tabya sub district, Inburi district	24	100	55.00	Riceberry /Hom Pathum/Jasmine Rice
4	organic agriculture community enterprise of Banja subdistret	Banja subdistret, Kaibangrajan district	12	116	20.00	Riceberry /Hom Pathum/Jasmine Rice
5	Kaohom village	Huapai sub district, Muang district	19	300	93.00	Riceberry /Hom Pathum/Jasmine Rice
Total 5 Groups			81	818	279.50	

3. Network

Network is groups of people or agencies that are willing to exchange some information among one another or doing some activities together; however, individuals or agencies are still independent in conducting their own activities. This significance includes 1) relationship among members in network must be voluntary 2) activities in network must be equal and exchangeable among members and 3) network membership must not affect members independence or individuality.

The most important activities that all members in network should do together are knowledge, information, and experience exchange, which could be developed into planning and conducting activities together to avoid redundancy and increase activities' efficiency.

An important condition for network is that there should be interpersonal communication among members. Coordinator; a person or group, might be appoint to coordinate members; however, coordinator should not cover for members in all matters.

Some important factors for network management are 1) clarity of network's goals 2) motivation to create and share knowledge in working with enough resources and efficient members 3) leader is attentive 4) teamwork and mutuality of achievement among members 5) supportive members in any failure or success and 6) trust among members. In addition, factors for successful in networking operation include 1) Commitment 2) Continuous improvement 3) Long-term Commitment 4) Empowerment 5) Shared value and 6) Leadership

According to The 20-Year National Strategy (2018-2037), in the areas of transforming social values and culture, and providing social opportunity and equality, the goals are to the development which focuses on bringing out power from each sector, namely, private sector, civil society, communities, and localities. The other goal is to promote communities's strength in self management which emphasises on social reinforcement by supporting cooperation among government sector, private sector, academic sector, civil society, and people. This is in accordance with Wase, Prawase. (1995) who proposed "triangle that moves the mountain" by developing balance among 3 interrelated parts ; creating relevant knowledge (Knowledge power), social movement (Cooperation power) the connection between power and role of government (Policy power and support). However, the important factor that could lead to achievement, is creating cooperative learning process from on job training (Interactive Learning Through Action).

Research and Development Methodology

1. A study organic rice consumes behaviours of population in Sing Buri province

1.1 Research objective was to study organic rice consumes behaviors of population in Sing Buri province.

1.2 The variables included 1) organic rice consume behaviors in Sing Buri province, and 2) consumer satisfaction with organic rice products (product, price, place, promotion, people, process, and physical)

1.3 The populations were 400 organic rice consumers in Sing Buri province, sampling by cluster.

1.4 Survey research was used by structured interview. Collected data by instructors and students that received training for data collection from research projects.

1.5 For data analysis, the descriptive statistic and content analysis was created by data conclusion which was classified by research objectives.

2. A develop organic rice entrepreneur network of Sing Buri Province.

2.1 Research objective was to develop organic rice entrepreneur network of Sing Buri Province..

2.2 The variables included 1) the analysis of internal and external factors of organic rice in Sing Buri 2)the analysis of internal and external factors of organic rice entrepreneur network of Sing Buri 3) Create valued supply chain for organic rice in Sing Buri 4) the development of organic rice entrepreneur network of Sing Buri.

2.3 The population were 21main participants and stakeholders of organic rice entrepreneur network of Sing Buri.

2.3.1 Entrepreneur sector(5 groups of organic rice producer in Sing Buri including1) organic rice farmer group of Jaksri sub district, Muang district, 2) organic rice farmer and rice mill group of Dontanod village, Potale sub district, Kaibangranchan district, 3) organic agriculture group of Donfak village, Tabya sub district, Inburi district, 4) organic agriculture community enterprise of Banja subdistrict, Kaibangrajan district,and 5) Kaohom village, Huapai sub district, Muang district.

2.3.2 Academic sector(Thepsatri Rajabhat University)

2.3.3 Policy sector/sponsors in Sing Buri(from government sector, local administratorand private sector (Bank for Agriculture and Agricultural Cooperatives) and private development organization (Provincial Chamber of Commerce)

2.4 For research methodology, participatoryaction research (PAR) was used by applying to field research. The meeting between main participants and stakeholders was conducted for synergy. TheDeming cycle was used as P-plan and decide together, D-do following the plan C-control, monitor and check following the plan and A-act the assessment result is used to improve and develop for better implementation.

2.5 For data verification, the data was checked by data triangulation verification and data collection

2.6 For data analysis, the content was created by data conclusion which was classified by research objectives.

Research and Development Findings

1. Background information of organic rice consumers in Sing Buri Province

Most of consumers are female (58.25%), between 30-40 years (44.50%), bachelor's degree (40.80%), government officials/state enterprise officials (33.00%), monthly income between 15,000-20,000 baht (55.50%) household members between 2-3 people (33.00%) as shown in table 2.

Table 2: Background information of organic rice consumers in Sing Buri Province :
Background information

Behavior	Frequency (n = 400)	Percentage
1. Gender		
1.1 Male	167	41.75
1.2 Female	233	58.25
2. Age		
2.1 less than 30 years	86	21.50
2.2 30-40 years	178	44.50
2.3 40-50 years	103	25.75
2.4 more than 50 years	33	8.25
3. Educational Level		
3.1 lower than Secondary level	56	14.00
3.2 Junior High School level	80	20.00
3.3 Senior High School Level/Vocational Certificate	72	18.00
3.4 Diploma/High Vocational Certificate	90	22.50
3.5 Bachelor's Degree	102	25.50
4. Career		
4.1 Government Official/State Enterprise Official	132	33.00
4.2 Employee/Company Employee	81	20.25
4.3 Entrepreneur/Merchant	81	20.25

Behavior	Frequency (n = 400)	Percentage
4.4 Agriculture	77	19.25
4.5 Others	29	7.25
5. Average Monthly Income		
5.1 less than 10,000 baht	91	22.75
5.2 10,000-15,000 baht	68	17.00
5.3 15,000-20,000 baht	222	55.50
5.4 more than 20,000 baht	19	4.75
6. Household Member		
6.1 1 person	16	4.00
6.2 2-3 people	223	55.75
6.3 3-5 people	127	31.75
6.4 more than 5 คน	34	8.50

2. Organic rice consumes behaviours of population in Sing Buri province.

2.1 Most of the buying objectives were for personal consumption (51.25%), the main thing to consider when buying is the nutritional value (45.75%), the place that can buy the products is the OTOP products store (40.75%), the internet sources (43.25%), quantity per purchase 2 bags (45.75%) as shown in table 3.

Table 3: Behavior of organic rice consumers in Sing Buri Province

Behavior	Frequency (n = 400)	Percentage
1. Objective of purchase		
1.1 As a souvenir	74	18.50
1.2 Personal consumption	205	51.25
1.3 For sale	112	28.00
1.4 Other	9	2.25
2. The first thing to consider when buying.		
2.1 Price	85	21.25
2.2 Packaging	94	23.50
2.3 Nutrition	183	45.75
2.4 Cleanliness	38	9.50
3. Where to buy organic rice		
3.1 Flea market / bazaar	90	22.50

Behavior	Frequency (n = 400)	Percentage
3.2 OTOP products shop	163	40.75
3.3 District Trade Fair	95	23.75
3.4 Convenience store	52	13.00
4. Sources of information / knowledge about organic rice		
4.1 Print media	85	21.25
4.2 Internet	173	43.25
4.3 Radio	82	20.50
4.4 TV	60	15.00
5. Purchase quantity per time		
5.1 1 bag (1 Kg.)	70	17.50
5.2 2 bags (2Kgs.)	183	45.75
5.3 3 bags (3Kgs.)	96	24.00
5.4 More than 3 bags (3Kgs.)	51	12.75

2.2 The satisfaction with organic rice products of consumers in Sing Buri province in overall were at a moderate level (mean = 3.44), which is arranged from the average to the lowest, namely product (mean = 3.73), people (mean = 3.61) process (mean = 3.46) promotion (mean = 3.27), physical (mean = 3.27), and place (mean = 3.25) as shown in table 4 and figure 2.

Table 4: Consumer satisfaction levels with organic rice products in Sing Buri province

Consumer satisfaction	satisfaction levels		
	mean	S.D.	satisfaction levels
1. Product	3.73	0.74	high
2. Price	3.49	0.92	moderate
3. Place	3.25	0.95	moderate
4. Promotion	3.27	0.90	moderate
5. People	3.61	0.80	high
6. Process	3.46	0.96	moderate
7. Physical	3.27	0.94	moderate
overall	3.44	0.67	moderate

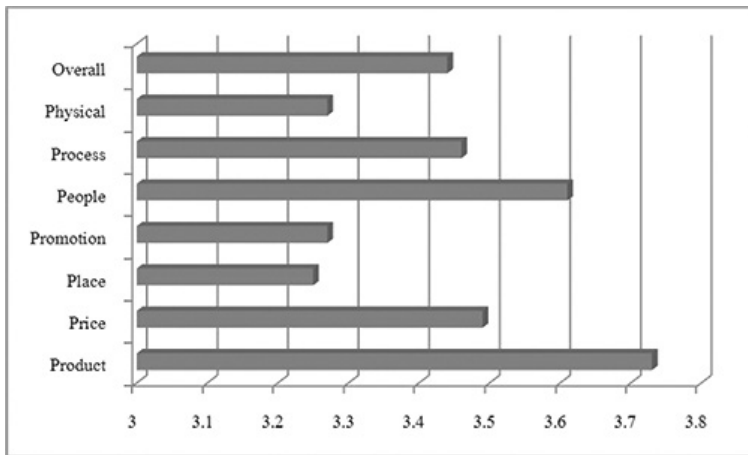


Figure 2. Consumer satisfaction levels with organic rice products in Sing Buri province

3. The analysis result of internal and external factor of Sing Buri organic rice

3.1 The analysis result of internal factor

3.1.1 The strength are 1) clean and hygienic production process, 2) the product is guaranteed by product certificate from Agriculture and Cooperatives Office, 3) the standard is certified by Primary GMP, and 4) reasonable price.

3.1.2 The weakness are 1) the brand is not well known, and 2) limit budget for production or new product development.

3.2 The analysis result of external factor

3.2.1 Opportunities are 1) consumers are aware more about health from consumption of high nutrition rice, 2) aging society affects more consumption on products for health, 3) the constantly growing of agricultural product, 4) government sector supports Thai organic agriculture to be certified by The International Federation of Organic Agriculture Movements (IFOAM), 5) some government project can stimulate the consumption of agricultural product, and 6) more popularity of agricultural tourism leads to more consumption of agricultural product.

3.2.2 Barrier are 1) the overall rice consumption in Thailand has decreased because consumer have rice for main dish less, 2) there are more production of organic rice so buyer has more bargaining power, 3) the economy in some countries that import

rice from Thailand are still recession so the export is decelerating, and 4) oil price has increased and affects to the higher cost of production.

4. The analysis result of internal and external factor of organic rice entrepreneur of Sing Buri

4.1 The analysis result of internal factor

4.1.1 The strength are 1) the head of the group has high experience in agriculture so the member of the group are assisted to use organic matter properly, 2) personnel can be trained and developed, 3) They are skillful and professional, 4) the area is ideal for organic rice farming, 5) farmers are responsible, hardworking and motivate, 6) the management is suitable, and 7) They are honest to consumers and themselves.

4.1.2 The weakness are 1) personnel have a lot of burden, 2) personnel are not specialized, 3) the production cost tend to be higher, 4) there is no marketing tool to follow up and assess the result, 5) Lacking of continuously public relation and marketing communication, 6) there is no specialist in marketing, 7) limited budget for production or new product development, 8) there is no integration in the same working target, 9) the coordination between internal and external sector is not enough, and 10) market targeting and pricing are not clear enough.

4.2 The analysis result of external factor

4.2.1 Opportunity are 1) consumers are more health conscious and aware of hygienic food selection, 2) market trend on organic agriculture and non-chemical food, 3) less competitors because there are less organic farmers comparing to market demand, 4) the government has policy to support medium and small size business, and 5) some government institutes support the production so they can be expanded

4.2.2 Barrier are 1) lacking of rice storing standard, 2) lacking of concrete and continuous coordination between provinces, 3) The world economy is going into recession so consumption power is decreased 4) natural disaster, drought, flood, epiphytotic and pest lower the production, and 5) lacking of integration in all level (data linking, system planning and assessment)

5. Value chain creation of Sing Buri organic rice

5.1 Primary activity

5.1.1 Raw material preparation for production includes 1) select the area, 2) plan on the rice field to avoid chemical, 3) select rice seed (organic Riceberry Rice), and 4) manage and improve soil (soil management, bio-fermented fertilizer usage, weed control)

5.1.2 Production process includes 1) planting step, and 2) process (grinding process, packaging process)

5.1.3 Moving the product and service including 1) storing management and transportation, and 2) post harvesting management)

5.1.4 Warehouse

5.1.5 Selling and distribution

5.2 Supporting activities

5.2.1 Infrastructure including route and transportation

5.2.2 Human resources management including group leader, member and labor

5.2.3 Technology development including water system management

5.2.4 Production factors preparation are manpower, material, raw material, capital and method and working procedure.

6. The development of organic rice entrepreneur network of Sing Buri

6.1 Member and network linking

Organic rice entrepreneur network of Sing Buri has been established from the gathering of 4 organic rice producer groups and 1 rice mill group in 5 subdistricts of 4 district in Sing Buri, including 52 farmers with producing area of 500 rai. Organic rice entrepreneur network of Sing Buri including 1) organic rice farmer group of Jaksri sub district, Muang district 2) organic rice farmer and rice mill group of Dontanod village, Potale sub district, Kaibangrachan district 3) organic agriculture group of Donfak village, Tabya sub district, Inburi district 4) organic agriculture community enterprise of Banja subdistrict, Kaibangrajan district and 5) Kaohom village, Huapai sub district, Muang district.

6.2 Objectives 1) promote the cooperation and assistance among the groups (for example, experience, production process, production factor and process), 2) improve life of people and 3) promote knowledge training and research.

6.3 Vision “The center of organic rice production for Sing Buri Province people’s healthiness”

6.4 Key success factor (KSF) that would lead to the achievement of its vision for organic rice entrepreneur network of Sing Buri, need the followings 1) strong network, 2) the expansion of member, 3) the increase rice quality and producing capacity, 4) more income for member, and 5) people in the community consume more organic rice. To be successful, the followings are needed 1) the network need good structure and management, 2) having activities constantly, 3) member need up to date knowledge, 4) group expansion, 5) member expansion, 6) network’s producing standard, 7) support and quality control team, 8) lower cost of member, 9) member can increase production capacity to 10 rai, 10) leverage product’s price, 11) rice need to be let out as soon as possible, 12) having shop for selling organic rice in the community, 13) Launch the campaigned to raise awareness of organic rice consumption in the community, and 14) having projects and plans to support.

6.5 Guideline for driving the network

6.5.1 The step to the organic rice entrepreneur network’s production standard are 3 phases as the follows 1st phase: in 2013-2014, pesticide and insecticide were stopped using, 2nd phase : in 2015-2016, all kind of chemical was stopped using, 3rd phase : heading to Organic Thailand Standard

6.5.2 For 1st phase of guideline to drive the network, these need to be done 1) register the network, 2) the driving committee need to be appointed. These committee can be 3 representatives from 3 villages. The position in this committee are chair, vice chair, secretary and the member has to join the network by stock system, 3) Model for recruiting member need to be fixed (producer member and consumer member), 4) Network’s rules need to be set, 5) Network account need to be done, 6) Minutes of network’s committee meeting has to be recorded, 7) Membership quality control process need to be set for instance, before subscribing the member has to understand with all verification process. The network does not accept product that does not meet the production standard, 8) produce tablet organic fertilizer, and 9) member has to record rice field account.

6.6 The network's production standard

6.6.1 The revision to the network's production standard uses the rules for good process food production in instantly sold packaging (Primary GMP) which emphasizes on 3 principles including 1) primary contaminated protection, 2) reduce, eradicate and demolish pathogen, and 3) cross contamination protection

6.6.2 Organic rice seed production process, especially organic Riceberry Rice seed must be selected from the best producer.

6.6.3 Production control process for controlling the member to produce according to the network's standard, there is team to control production standard. The team check activities, all member rice field and the member must record rice field account and give it to the team.

6.6.4 There is an assessment and comparison to target in success measure includes 1) the amount of organic rice producer increase by 100%, 2) the area of rice field increase by 100%, 3) there is an increase in rice value by community's rice mill at least 25% of organic rice production, 4) set strategy to drive the network, and 5) set structure and plan for the network and organic rice production standard.

6.7 The development strategy of organic rice entrepreneur network of Sing Buri

6.7.1 Bargain power from buyer: The organic Riceberry Rice consumption is gaining popularity among health conscious people. The government also supports farmers to grow more organic Riceberry Rice which leads to the increasing of the production. Moreover, there is various marketing support, so consumers have more choices from many selling channels and very convenient to buy.

6.7.2 Kind of consumers: Main consumers are from recommendation buy it as present for health during holiday. Most consumers feel satisfy with the quality and end up buy more for regular consumption.

6.7.3 Market Strategy 1) Product strategy are (1) a package of organic Riceberry Rice, (2) three color of unpolished organic rice (Riceberry, Jasmine and Brown Jasmine Rice), (3) three color of unpolished rice in the same package, (4) Value addition by organic Riceberry processing, and (5) vacuum packaging to preserve organic rice freshness and can be kept longer. 2) Price strategy are fixing the price according to quality, cost and

consumers. The price is 80 baht/kg. 3) Place strategy: there are 3 channel for distribution (1) shop, (2) ordering, and (3) agricultural exhibition and 4) Promotion strategy emphasize on keeping previous customers and look for new customers by (1) advertisement, (2) promotion (discount, direct marketing), and 3) having sale assistant.

Research and Development Discussion

1. From the study of rice supply chain in Sing Buri, it is found that rice farmers added value to their production by growing rice which is popular among community and health conscious consumers. They grow Riceberry Rice and Jasmine Rice then process into polished rice for distribution. With this model, the farmers get highest benefit per rai that means the farmers can really add value to rice production. Moreover, non-chemical Riceberry Rice has lower cost but higher margin than another rice by 128.57% which is related to the study of Orakorh Kejpirun (2012) that studied the motivation to grow organic rice by PAR and found that producing organic rice give higher income than chemical agriculture in all area. The farmers get higher income and they can share their experience using organic fertilizer, organic pesticide and regularly nurturing. In addition, the statistical analysis result significantly supports the study that higher production price and average income but lower average cost, lead to higher margin of organic agricultural rice than chemical agricultural rice. This is according to Nukul Tawiltung (2009) that studied long term result of organic agricultural (organic rice) to the rich of soil and the balance of nutrient comparing to chemical agriculture. The study shows that rice growing in organic agricultural system has significantly different production and the element of production from chemical agricultural system. Rice straw grain and ear of rice per square meter is higher than chemical agriculture with statistical significance.

2. From the study result of rice supply chain in Sing Buri, it is found that 1) the primary activities are raw material preparation for production includes 1) select the area 2) plan on the rice field to avoid chemical 3) select rice seed (Riceberry Rice) 4) manage and improve soil (soil management, bio-fermented fertilizer usage, weed control), production process includes 1) planting step 2) process (grinding process, packaging process). Moving

the product and service including 1) storing management and transportation 2) post harvesting management), warehouse, selling and distribution and 2) supporting activities includes infrastructure, human resources management, technology development and production factors preparation. This is related to the study result of Tanyatarot Tinnapop, Sirirak Meksang and Chantana Chanbanjong (2016). They studied supply chain management by community enterprise that produce organic rice in the central part of Thailand. The study shows that the supply chain management of community enterprise that produce organic rice to run the business smoothly and independently with Sufficiency Economy Philosophy. The researcher also found the 6 groups of factors that support the success in supply chain management of organic rice production as follows: 1) 8S factor group (Story, System, Skill, Staff, Situation, Standard, Satisfaction, Sustainable) 2) 5P factor group (Product, Packaging, Perception, Publicize, Policy) 3) 3C factor group (Customer, Creditable, Culture) 4) 1N factor group (Network) 5) 1B factor group (Brand) and 6) 1M factor group (Management)

3. The study revealed that to achieve the goal of gathering into organic rice entrepreneur network of Sing Buri as set in the vision, the followings are needed 1) strong network 2) the expansion of member 3) the increase rice quality and producing capacity 4) more income for member and 5) people in the community consume more organic rice. To be successful, the followings are needed 1) the network need good structure and management 2) having activities constantly 3) member need up to date knowledge 4) group expansion and 5) member expansion 6) network's producing standard 7) support and quality control team 8) lower cost of member 9) member can increase production capacity to 10 rai 10) leverage product's price 11) rice need to be let out as soon as possible 12) having shop for selling organic rice in the community 13) Launch the campaign to raise awareness of organic rice consumption in the community and 14) having projects and plans to support. This is in accordance with the proposal in The 20-Year National Strategy (2018-2037), which proposes that the development should focus on bringing out power from each sector, namely, private sector, civil society, communities, and localities, and promoting social power by supporting cooperation among government sector, private sector, academic sector, civil society, and people. This is

in accordance with Wase, Prawase. (1995) who proposed “triangle that moves the mountain”, which the important factor for leading to achievement, is creating cooperative learning process from on job training (Interactive Learning Through Action). It is according to the research of Ruangdech Wongla et al., (2013) that conducts the study project and develop agricultural business management of Uttaradit Rajabhat University with farmer network, local administration and member. The study shows that it needs 1) develop farmers’ and member’s abilities 2) develop learning system, technology, innovation and wisdom 3) develop organic rice database and 4) develop research integration center to support organic rice business. This is also relevant to Thuansri, Yuphin. And Morathop, Nichapa. (2016) who propose that the achievement of The Network development of organic rice farmers in Uttaradit Province: Case study of Wangapee Sub-district Mueang district Uttaradit Province, depends on; the following internal factors 1) production potential/the marketing of farmer group 2) problems and the demand on farmer development. The external factors are 1) support from relevant agencies 2) market situation 3) way of life and culture 4) community leader 5) funding.

Suggestions

1. Suggestion for research result implementation

1.1 The research result reveals that to achieve the goal of gathering into organic rice entrepreneur network of Sing Buri as set in the vision, the network has to produce high quality rice and increase the production capacity. The government sector and concerned organizations should promote and support new technologies, provide regular activities, expand the size of member and increase more production.

1.2 The research result reveals that to achieve the goal of gathering into organic rice entrepreneur network of Sing Buri as set in the vision, people in the community should consume organic rice more. There should be organic rice shop in the community. The campaign to raise awareness on organic rice consumption should be conducted. The government sector and concerned organizations should promote and support some factors for example, skills in marketing and customer management, campaign to raise awareness on organic rice consumption in the community.

2. Suggestions for the future research

The complete research on organic rice consumption from upstream, midstream and downstream should be conducted because there are some government and private campaign on food safety and strengthening local community to create income for farmers.

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