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A Model of Thai Agricultural Co-Operative Product Development for Niche Market

Sakchai Rakkarn
Kasem Bundit University, Bangkok, Thailand
sakchai.rak@kbu.ac.th

Chiratus Ratanamaneichat
Kasem Bundit University, Bangkok, Thailand
chiratus@gmail.com

Senee Suwandee
Kasem Bundit University, Bangkok, Thailand
senee.suw@kbu.ac.th

Wilailuk Nakrungrueng
Phak Hai Agricultural Co-operative Ltd., Thailand
wilailuk8699@gmail.com

The corresponding author: **Sakchai Rakkarn**

Abstract

Recently most Thai agricultural co-operatives face a relevant problem on how to develop their products to market. They are specialized in supplier development but not the rest of supply chain. Thus, their co-operative members suffer from low interest or losing their business. This paper focuses mainly on how to create a Thai Agricultural Co-operative product development process for Niche Market. We propose a model of "Oon-wann Rice product Development", from Phak Hai Agricultural Co-operative Ltd. using branding strategies, and Niche marketing creation. This paper demonstrates how to generate a marketing story starting from the key challenge on the cultivated area of co-operative members which are flooded every year. GMO Chonlasid rice seed, which has relevant characteristics on flood endurance and pest resistance without any chemical substance, is introduced to plant in the area. Another side of the same coin, nourishing with iron but low amylose characteristics are chosen to be a product selling point. These selling points are suitable for Niche market as patient, elderly people and healthy people. As a result, we build "On-wan Rice Brand" to represent the Chonlasid rice production, then advertise and link with traditional trade and modern trade as marketing channels. Successively, Phak Hai agricultural

Co-operative is able to double their sale revenue and increase their co-operative members significantly.

Keyword: rice, product development, agricultural co-operative, niche marketing

Introduction

One of the most powerful tools to end severe poverty, boost shared prosperity and feed 9 billion people by 2050 is Agricultural development [1]. Growth, which is due to Agricultural development, in the agriculture sector is about two to four times more effective in raising incomes among the poorest compared to other sectors. This is relevant for 78% percent of the world's poors who live in rural areas and depend mainly on farming to make a living. Agriculture is also crucial to economic growth, which is accounted for one-third of gross-domestic product (GDP). Though, agriculture-driven growth and poverty reduction, as well as global food security are currently at risk. Agriculture is more vulnerable to climate change than any other sector. A warming climate could cut crop yields by more than 25%. Agriculture and land use change are also responsible for between 19–29% of global greenhouse gas emissions.

The agriculture in Thailand is highly competitive, well-diversified, and specialized. Thai agricultural sector is successful in export its products. Rice is Thailand's most important crop. Thailand is a major exporter in the world rice market. The United states imported rice in 2012 $679.5 million in value, a 4 percent increase from the previous year. As it has been for years, Thailand was the leading source of the United States' imported rice, which was valued at $436.4 million, a 4 percent increase from 2011. India ranked second, providing rice valued at $140.1 million, a 12 percent increase from 2011, and Vietnam was the third largest source of rice, providing rice valued at $27.2 million, a triple digit increase from the previous year [2]. Annual global rice consumption is approximately 437 million MT on average over the last five years. In less-developed countries, increasing per person income typically results in decreased per person rice consumption, because increased income leads to dietary diversification and an ability to purchase more expensive foods. China and India far outpace consumption patterns compared to any other country. Chinese consumption totaled 135 million MT in 2011 while India consumed slightly more than 90 million MT. Together, these two counties accounted for 51 percent of total world consumption in 2011[3].

The agricultural cooperatives are awakening producers to realize economic benefits. They have improved their bargaining power in the marketplace, reduce costs by pooling capital and resources through cooperative enterprises, and provide expensive services, such as marketing, that are unavailable to individuals accessible. Therefore, cooperative farmers can achieve economies of scale by reducing the unit costs of inputs and services, and by enabling farmers to focus on producing goods rather than finding buyers and suppliers. Cooperatives also

facilitate farmers to improve product, service quality and reduce and diversified risks. Agricultural cooperatives allow farmers to address common problems and expand existing markets or even develop new market opportunities. Agricultural cooperatives strengthen farmers to improve their position in the marketplace. Recently, there is the published research of innovation and development of novel products in Thai cooperatives launched to the national and international markets [4]. Generally, the small farm cooperatives aim to lessen the problem of small farm inefficiencies, especially in the developing world. On the whole, these small farms are not economically efficient because of relatively high input costs compared to profits [5]. In addition, the cooperatives should be gathered in regions, where there is a weak and/or failing market, high input costs, and where input and product marketing services are lacking [6].

This research demonstrates the development of the agricultural product for Thai agricultural cooperatives. Typically, rice product is raised an issue of supply chain with the climate change problem, led to poverty of all farmers. Phak Hai Cooperative Ltd. is a noble case study that is encountered with Thai flooded area annually. Rice varieties planted in this area have investigated on characteristics of flood-tolerant and pest resistance. The rice crop is highly productivity without any chemical substance. Finally, marketing model is proposed to the rice product by using branding strategies, and Niche marketing creation. The result shows increasing sell volume, return benefit, and cooperative members of Phak Hai Cooperative Ltd. significantly.

Methodology

1. Rice Varieties

A flood-tolerant local rice variety was investigated to isolate the gene responsible for flood endurance, high yield, and good grain quality plus pest/disease resistance. Using the technique known as "marker assisted backcrossing",i.e., scientists transferred the water tolerant trait of interest into commercially valuable local rice varieties without losing useful characteristics which make them prevalent among rice farmers [7]. The Rice Gene Discover Unit (RGDU) is a joint laboratory between the National Center for Genetic Engineering and Biotechnology (BIOTEC) and Kasetsart University, who plays an important role in Thailand's rice research activities. Its researchers have identified and characterized valuable characteristics for rice breeding, including tolerance to abiotic advancing Thai's Rice Agriculture through molecular breeding stresses like submergence, drought and salinity. They have also characterized other useful characteristics including resistance to diseases like bacterial leaf blight, blast and pest, as well as those that are aimed to improve rice quality and nutritional values. The genes and quantitative trait loci (QTLs) controlling these useful characteristics have been identified and used in molecular-marker assisted selection rice breeding programs to create new improved rice varieties. Two rice varieties that are

commonly targeted for improvements are the jasmine rice Khao Dawk Mali 105 (KDML 105) and glutinous jasmine rice (RD6), which are highly adapted to the rainfed lowland areas of Thailand. Recently molecular breeding programs in Thailand have produced many improved rice varieties. Among them, three have shown great promise: Homali 80, Homcholasit and Thanyasirin. Homali 80 is a new version of KDML 105 which is tolerant to flash floods and can survive submerged under water for up to 3-4 weeks. It can only be planted during wet season. Homcholasit is also derived from KDML 105 and tolerant to flash floods [8].

2. Branding and Marketing Strategy

Branding is accounted for one of the most important aspects of business strategies. Branding is sometimes considered to be merely an advertising function. In addition, many managers and business writers hold the view that branding is about the management of product image. It is a supplementary task that can be isolated from the main business of product management. There are three forms: stories, images, and associations. Stories and images are the more potent sources of brand culture. Brand stories and images have plots and characters. They rely heavily upon a metaphor to communicate and spur our imaginations. Thinking of brand is associated as the residue of these stories and images. We may overlook the specifics of a product story but still attribute some product characteristics to the brand [9, 10]. Moreover, the organic farming and specialty agricultural productions are some of the ways to create a differentiated product offering and in turn create brands, which command much higher premium pricing. The advantage of a differentiated product is lost with competition crowding in. For example, special rice for diabetics, fortified milk, organic vegetable etc. falls into this category. Over time, every agricultural brand needs to find a real differentiator to stay in this space, or else the advantage of pricing will be lost [11].

There are three basic requirements cooperatives must satisfy to form the foundation for an effective market program. First, they need a well thought-out strategic plan, which utilizes a niche strategy and has a competitive orientation. Second, the plan and it supporting programs should be market-oriented rather than producer-oriented. Third, cooperatives must have management experienced with value-added products in order to broaden their expertise and perspective as they strive to be value-added marketers [12]. Niche markets, as consumers become more sophisticated they can afford to pay a premium for exotic, novel, or specialty products. These new types of "lifestyle" products, i.e., products that fulfill the needs of a very premium consumer group, have created a new market segment related to "niche" products. Specialty coffee produced from a limited number of farms is an example of a product that is in such scarce supply, that it can command a price many times higher than mainstream coffee products [13].

Implementation

1. History Phak Hai Cooperative

Phak Hai farmer cooperative is located at 217/1 Moo 4, Tambon Phak Hai, Ampher Phakhai, Ayutthaya province. It was registered under the Cooperative Act on 1st October 1970. The cooperative firstly began by merging 39 cooperatives altogether with the intention to help and reinforce its members. As of 30th April 2012, there are 1,975 members. The working capital is approximately 89 million baht while the shared capital is almost 18 million baht. There are 14 people in the 43rd administrative committee, 15 people responsible for management, and 3 people taking care of cooperative inspectors. In addition, it has advisors providing suggestions in agricultural knowledge, production knowledge, and marketing knowledge. The majority of the cooperative members are farmers. The planting areas for the second and major rice are 72,000 and 8,000 rais, respectively. The major rice areas are normally dedicated as a buffer zone to be a water retention from Chao Phraya River and Noi River. Rice planted filed in Phak Hai is arranged to be "Monkey Cheek" area. During the flooding season, the cultivated area is reduced to only 8,000 rais. Farmers who face such this disaster are unemployed and usually leave their homes to seek for jobs in an industrial sector. Another cooperative role is to help and sooth these farmers from the flooding damages.

2. Rice Process Development

During 2011 and 2012, there are around 4,160 families registered as farmers in Phak Hai area. There are 69,130 rais (11,060 hectars) of rice field that can be planted twice a year. The major crop can be done during June and October while the second crop is done from November to March of the next year. The total production in each crop is around 50,745 tons or estimated to be a value of 507 million baht. Therefore, each year the value of production is around 1,015 million baht. There are 2,000 households registered as Phak Hai cooperative members. The total rice field is around 64,000 rais or 93 percent of the total planted area in Phak Hai. The total demand for the rice seed is around 44,000 rais per year or approximately 40 million baht. In 20Cooperative owns 200 tons-per-day rice mill, 140 tons-per-day fluidized bed paddy dryer, and 30 tons-per-day seed screening plant. National Center for Genetic Engineering and Biotechnology (BIOTEC) under the National Science and Technology Development Agency (NSTDA), Ministry of Science and Technology provide the budget for the paddy dryer and seed screening plant. The self-sufficient is existed when cooperative is able to produces Homchonlasit seeds to its farmers in the ration of 550 tons for 1,000 rais. Ability to produce seed helps circulate income for members in the community. In the past, farmers had to buy these seeds from outside. Ability to produce high quality seeds locally leads to cost reduction which is around 250 baht per rai. Farmers employ seeds only 15 kilogram/rai from previously 25 kilogram/rai. In addition, if they face the flooding

disaster, they are able to harvest at least 320 kilogram/rai or 40% of the average production yield.

In the past, Thai farmers collected rice seeds from their fields for the next year crop. This activity, done continuously since their ancestors, has made negative impact. The quality of rice seeds has been reduced from time to time, resulting to lower productivity and poorer quality. Homcholasit rice with flash flooding resistance was bred from IR57514 with resistant gene and KDML105. Biomarker is used to select rice seeds with superior quality such as flash flooding tolerance, nice flavor, good cooking, and non-photoperiod sensitivity. Also the selected seed can be planted more than one crop per year. Homcholasit can endure flooding for almost 2-3 weeks and yield 900-1,000 kilogram per rai. Therefore, this variety is suitable for the central land field that normally faces flash flooding.

National Center for Genetic Engineering and Biotechnology (BIOTEC) has transferred the technology to enhance the seed quality production; from registered seeds to certified seeds, to the farmers who are the members of Phak Hai Co-operative since 2009. This project has boosted farmers' capability to produce these registered seeds by themselves. The farmers receive the foundation seeds and production technology that needs neatly farming skills. The farmers plant each rice stalk into submerged field and laborious harvest the ear of paddy. Thai farmers are able to plant the seeds by themselves. This is the use of science & technology to alleviate distresses for the cooperative's members and people who face flooding problem, resulting enough income for their families.

3. Brand Modeling

Phak Hai cooperative has created the stories and image strategies under the brand "Oon-wann", which in Thai language means less sugar or less sweetening. In addition, the stories of flooding area and healthy food are identified on the product package. The modern (right figure) and traditional (left figure) packaging are compared as following figure below:

Figure 1. Comparison between traditional and modern packaging

4. Marketing Development Model

Phak Hai cooperative develops an ideal cooperative. Its products has sold in department stores and in general wholesale and retail shops under the brand "Oon-wann". In addition, cooperatives brings members' participation altogether. They all plant, collect, transform, sell and consume products by themselves and for themselves. The cooperative uses marketing strategies focusing on the niche market and merit perception. For example, the cooperative's target customers are patients, elderly people and healthy people. It also creates merit perception by supporting and purchasing farmers' products planted in flooding area. Buyers receive happiness from supporting the farmers and good health from nourishing rice consumption. Cooperative aims to support its member; promoting productivity and enhancing marketing capability. The activities start from preparing good quality of rice seeds, arranging budget and production factors, contact farming, transforming products, and selling products to members and nearby communities. The revenue is increasingly returned to cooperatives and its members. Members' participation is a foundation of the cooperative. Therefore, good participation leads to good benefits to the members and cooperative security. Nowadays, the members increasingly do rice farming as their main activity.

Conclusion

Lately, most of Thai agricultural cooperatives have gradually developed the agricultural products because of climate change, low bargaining power in the market place, distant access to expensive services. The Phak Hai cooperative is a case study to the product development model for realized economic benefits. This cooperative is located on the flooding area in rainy season; farmers are unemployed and usually encountered poverty. They have investigated the rice varieties, which have the characteristics of flood endurance and pest resistance. The Homcholasit rice seed is provided by National Center for Genetic Engineering and Biotechnology (BIOTEC). It has transferred the technology to enhance seed quality production, which can tolerate flooding for almost 2-3 weeks and productivity yield 900-1,000 kilogram per rai. Branding is created in the form of the modern package under the brand "Oon-wann" described all stories and product features. Healthy food and merit perception become to the hit points of this product that launches to the niche market such as hospital and nursing homes. Moreover, the product has also sold in wholesale and retail businesses in national and international trading. Currently, the cooperative earns increasingly the benefit return and member registered.

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