



Marketing System of Sticky Corn : A Case Study at Nong Bua Sub-District, Ban Fang District, Khon Kaen Province, Northeast Thailand

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บทคัดย่อ

การศึกษานี้มีจุดมุ่งหมายเพื่อสร้างความเข้าใจที่ชัดเจนในระบบการตลาดของข้าวโพดข้าวเหนียวตำบลหนองบัว อำเภอบ้านฝาง จังหวัดขอนแก่น ซึ่งเกษตรกรในพื้นที่มีการปลูกข้าวโพดข้าวเหนียวมานานหลายปี รวมทั้งมีการจัดการที่ดินที่เอื้อต่อการปลูกและได้ข้าวโพดฝักสดที่มีคุณภาพดีต่อเนื่องตลอดทั้งปี โดยรวบรวมข้อมูลจากเกษตรกรผู้ปลูกข้าวโพดข้าวเหนียว, พ่อค้าคนกลาง, พ่อค้าขายส่ง, พ่อค้าขายปลีก และผู้บริโภค ด้วยการใช้แบบสัมภาษณ์กึ่งโครงสร้าง และการสังเกต แล้วทำการวิเคราะห์ทั้งข้อมูลเชิงประจักษ์และเอกสารที่เกี่ยวข้อง ผลการศึกษาพบว่า เกษตรกรสร้างกลยุทธ์การตลาดด้วยตนเองโดยการใช้ช่องทางการตลาดที่หลากหลาย กล่าวคือ เกษตรกรผู้ปลูกข้าวโพดจะขายผลผลิตที่ซุ้มร้านค้าริมทางด้วยตนเอง ควบคู่ไปกับการขายส่งหรือขายปลีกที่ตลาดในตัวเมืองขอนแก่น และตลาดในอำเภอใกล้เคียง ตลอดจนขายผลผลิตให้กับพ่อค้าคนกลางในพื้นที่หรือนอกพื้นที่ โดยเกษตรกรจะขายผลผลิตที่เป็นฝักสด หรือฝักต้ม หรือทั้งสองอย่างซึ่งจะขึ้นอยู่กับตลาดที่ขาย สำหรับในช่วงฤดูที่การผลิตมีน้อยจะมีการซื้อข้าวโพดฝักสดจากจังหวัดอื่นผ่านพ่อค้าคนกลางมาจำหน่ายเพื่อรักษาตลาดไว้ โดยทั่วไปเกษตรกรมักจะขายผลผลิตผ่านช่องทางการตลาดหลายช่องทาง แต่การขายที่ให้ผลตอบแทนสูงที่สุด คือ ขายให้กับผู้บริโภคโดยตรง เกษตรกรมีกลยุทธ์จัดการข้าวโพดฝักสดและผลผลิตภายใต้เงื่อนไขที่แตกต่างกัน เช่น ภาวะผลผลิตล้นตลาด, ตลาดมีความต้องการสูง, ครัวเรือนมีแรงงานจำกัด, ปัญหาฤดูกาล เป็นต้น ด้วยกลยุทธ์การจัดการที่ดีในด้านการผลิตและการตลาด ประกอบกับการที่มีผู้มีส่วนได้ส่วนเสียจำนวนมาก และการมีช่องทางการตลาดที่หลากหลายร่วมกับคุณภาพผลผลิต ทำให้ระบบการตลาดของข้าวโพดข้าวเหนียวเกิดความยั่งยืน

คำสำคัญ : ข้าวโพดข้าวเหนียว / ช่องทางการตลาด / ความยั่งยืน

ABSTRACT

The study was performed with an aim to elucidate the marketing system of sticky corn at Nong Bua sub-district, Ban Fang district, Khon Kaen Province, Northeast Thailand. Farmers of the area have been practicing sticky corn production for many years including land management to crop maintenance and finally harvesting good quality of green ears for year round continuous supply. Data were collected from sticky corn growing farmers, middlemen, wholesalers, retailers and consumers. The techniques of semi-structured interview and observations were applied. Empirical and documentary analyses were administrated. Finding reveals that the farmers have created their own marketing strategies by employing various marketing channels. The growers sell their products to roadside shops by themselves, to both wholesale and retail markets at Khon Kaen city and to other districts and to middlemen both in the area and outside. They sell their products as fresh or boiled or both depending on the market places.



At low production season they also get fresh ears from other provinces through middlemen to continue the system. Farmers usually sell their product through many channels but gain maximum benefit from selling to consumers directly. Farmers have management strategies to get fresh ears and supply to markets under different conditions such as, oversupply, peak period of demand, household labor limitation, seasonal problems etc. Good management strategies of production and marketing, involvement of many stakeholders and diversified marketing channels along with quality product made the system sustainable.

Keywords : Sticky Corn / Marketing Channels / Sustainability

Introduction

Corn or maize (*Zea mays* L) originated from South of America, is the world's first cereal crop in terms of annual production. (FAOSTAT. 2010). It is a staple food of people in America, Africa, and of livestock worldwide. A large portion of maize crops are grown for the purposes other than human consumption- livestock feed and bio-fuel production. In Thailand total corn growing area was 1.14 million hectares of which 46 thousand hectares were for sweet corn and 36 thousand hectares were for baby corn in 2010. (Agriculture Information Center. 2011) Commonly corn is a grain crop and is harvested as matured. But a considerable portion of corn is consumed by people as fresh worldwide like, sweet corn, baby corn, sticky corn and boiled or grilled immature corn. In Thailand people usually consume baby corn as vegetable while sweet and sticky corn as boiled or grilled. Baby corn and sweet corn have a wider range of markets, while sticky corn has only niche markets. Sticky corn is increasingly important in local markets in Thailand and also important in other countries in Asia like China, Vietnam, Laos and Korea. (Thongnarin, N. et al 2008) Kesornkeaw, P., et al. 2009) It has high protein content, easy to grow and needs shorter period to get return. Input demand of sticky corn is also lower than cereal corn. All sticky corn produced in Thailand is consumed domestically, no export to other country. Approximately 80,000 rai (1,600 m²) of cropland is occupied by sticky corn of which 41 per cent is in Northeast, 27 per cent in North and 16.5 per cent in West. (Department of Marketing

organization for Farmers. Ministry of Agriculture and Cooperatives. 2012) Nong Bua sub-district under Ban Fang district is very close to Khon Kaen city and sticky corn is an important farm enterprise of the village farmers. Marketing system of an enterprise is very important. Farmers of this area have been growing sticky corn for long time and they passes through many economic changes. People are generally concerned with the economic value of sweet corn, baby corn or corn for animal feed, but nobody think about the sticky corn. How or why farmers continue this enterprise successfully for many years. Few studies have been done with the production system of Nong Bua sticky corn, but no study with the marketing system.

Objective

The study was performed with an aim to identify the marketing channels of Nong Bua sticky corn and to investigate the sustainability of the marketing system.

Methodology

The study was conducted at Nong Bua village under Nong Bua sub-district, Ban Fang district, Khon Kaen Province, Northeast Thailand. Location of the village is 16°28'7.26" N latitude and 102°36'43.93" E longitude. The village is situated 27 kilometers west of Khon Kaen city. The Maliwan road passes through the village. Data were collected from District Agriculture Extension office, Tambon Administrative Office, sticky corn growing farmers, middlemen, wholesalers, retailers and consumers. The techniques of semi-structured interview and observations were applied. Physiographic, natural resources and infrastructure of the sticky corn



growing area, corn plots, some of crop managements including irrigation systems and different market places were observed. Empirical and documentary analyses were administrated.

Results

History of corn production and marketing in Nong Bua

In this area villagers have been growing sticky corn for many years. They used to harvest, store and carry mature ears as boiled to eat when they went to paddy field for cultivation. Sometimes they ate boiled ears just after returning from rice field for instant energy. About 30 years ago they started to use corn for commercial purpose; used to sell boiled ears to Khon Kaen markets and nearby district markets. In 1993 two farmers started to sell boiled green corn to the roadside of Maliwan road near their corn fields. In the next year many farmers followed them and started to sell boiled ears on the roadside. At that time the road was two-lanes and was dangerous for accident. In 1998 district Agriculture Extension Office introduced the idea of group formation to get support from the Government and a group of 115 members was formed. They raised a fund with Bt. 1000 stock money each and the number of group members reduced to 80. They spend Bt. 40,000 for expansion of roadside for safer marketing with assistance from district administrative office. They extend the roadside like a parallel lane structure and set up their corn shops in the new extension. But problem was that the consumer drove through without seeing the shops as it was not along the main road. Ten years ago Government expanded the road to four-lanes. The corn groups requested the Government to expand the roadside area for car parking. Government allocated a fund to expand 170 m² of roadside. The roads authority constructed a U-turn of the area and this created an extra opportunity for the corn sellers. The corn sellers set up their shops in this expanded roadside and the previous parking problem was solved.

The group was registered in Community Enterprise in 2008 as "Nong Bua Fresh Ear Farmers' Group, Nong Bua sub-district, Ban Fang District".

Corn production system in Nong Bua

Corn growing farmers try to grow sticky corn the whole year round to maintain a continuous supply of fresh ears. But due to seasonal constraint and scarcity of irrigation water in the dry season they can't grow it round the year randomly. In the rainy season availability of suitable land for corn growing is very limited due to high soil moisture or rain. In the wet season those farmers who have only highland can grow corn. Pest and diseases infestation is also high in rainy season. In the late dry period there is an acute scarcity of irrigation water for corn growing. They usually started to plant in October and continue up to January or February if irrigation water is available. Farmers grow most of their corns in the rice field. The peak planting time is after wet season rice harvesting i.e. November to December. Farmers divide their corn plots into several subplots and plant seeds in an interval of one or two weeks to harvest green ears continuously. They can grow corn in the same plots more than once if irrigation water is available. In the rice field yield of second crop is usually lower as compared to first crop as the later one faces water shortage. After land preparation farmers plant 2-3 seeds in a hill. If all the emerged seedlings have enough vigor they let all to grow, but if some are weak they pull them out to maintain uniform ear size. They use one kilogram of seeds for one rai (6.25 rai is one hectare) of land. From the same area they can harvest 700-1100 kilograms of green ears, depending on growing season and management.

The corn growers of this area used to grow Nong Bua variety, a local one which was sticky/waxy, and delicious in taste. But six-seven years ago they faced weak stem and downy mildew problems as they used this variety for long time without any improvement.



In 2004 first they used variety red arrow 852 from East-West Seed Company, then White Pum-pai variety from CP Company and Neaw-Muang-Tam (sticky with purple spots) variety from Syngenta Company. White Pum-pai was sticky and similar to Nong Bua variety. All the three varieties are resistant to downy mildew (*Peronosclerospora philippinensis*) (Titatarn, S. 1976) and usually bears single ear per plant. Now most of the farmers grow Neaw-Muang-Tam variety because it has better taste; it is sweeter than White Pum-pai variety and number of seeds per cob is higher as compared to other varieties. Farmers use inorganic fertilizers and pesticides if necessary. They try to limit pesticide use only at early stage due to maintain food quality. Some farmers also try to control pest and diseases by using homemade organic pesticides. Sometimes Agriculture Extension Office helps them to use bio-agents to control pest and disease. Farmers harvest fresh green ears after 60-68 days of planting depending on soil moisture and growing season. They touch ears and observe the color of ears, tassel and silk to understand the harvesting time. They harvest green ears after 17-18 days of silk emergence.

Green corn processing system

Corn growing farmers (must be group member) who sell on the roadside shops harvest green ears at 04.00-05.00 am and remove unnecessary husk and boil with salt at 06.00-07.00 am and sell. They use the strategy of boil-sale-boil-sale to supply warm ears to consumer whole day. They use polythene bags for packaging boiled ears. But farmers, who sale in the Bang Lum Poo market, Khon Kaen city as wholesaler harvest ears from morning to afternoon, remove unnecessary husk, make grade and prepare to boil. They started boiling at 10.00-11.00 pm. After boiling they package it in double sacks to keep it warm and start for the market at 02.00 am by village truck or by their own pick-up truck and sell up to 05.00 am. Then retailers sell it by packing with polythene bags. They

usually pack 3-5 ears in a bag depending on grade or size and keep it inside bucket or double sack to keep it warm for several hours.

Marketing channels of Nong Bua corn

Marketing channels and their inter-connection is presented in Fig. 1. Corn growing farmers in Nong Bua don't rely on one or two marketing channels. They have many marketing channels and different markets. They get green ears from their own plots, neighbors, and farmers in the nearby villages and also from other province. Some middlemen in the village provide seeds to nearby village farmers to grow corn and buy from them like contact growers. Farmers paid the price of seed when they sell their produce. In the rainy season when corn production is very low villagers get green ears from some middlemen who pass through the village with corn from Chaiyaphum Province. They follow different marketing channels. Corn growing farmers who are group members, willing to sell on the roadside (Maliwan Road) in the village, sell mostly boiled ears and also some fresh ears. Both group and non-group farmers sell boiled ears to Bang Lum Poo market in Khon Kaen city to both wholesalers and retailers. Retailers in Bang Lum Poo and different local markets like, night market in Khon Kaen University buy from these wholesalers and sell it to consumers. Both group and non-group farmers sell fresh ears to middlemen. Middlemen are corn group farmers or people in the village or outside of the village like, Ban-Sa-Kaew and Ban Kok-Sri and nearby district like, Chum Phae. Some middlemen sell some of their ears as boiled to the wholesaler in the Bang Lum Poo market, to retailers outside village markets like, Khum-Hi, Nohn-Chai, walking roadside market and to hawkers in other districts like, Pra Yuen and Nam Phong districts. These middlemen also sell fresh green ears to wholesalers in Ban Sa-Kaew, Ban Kok-Sri and Chum Phae district and to retailers in Ban Phai district, Nam Phong districts, Mancha Khiri district, Chum Phae

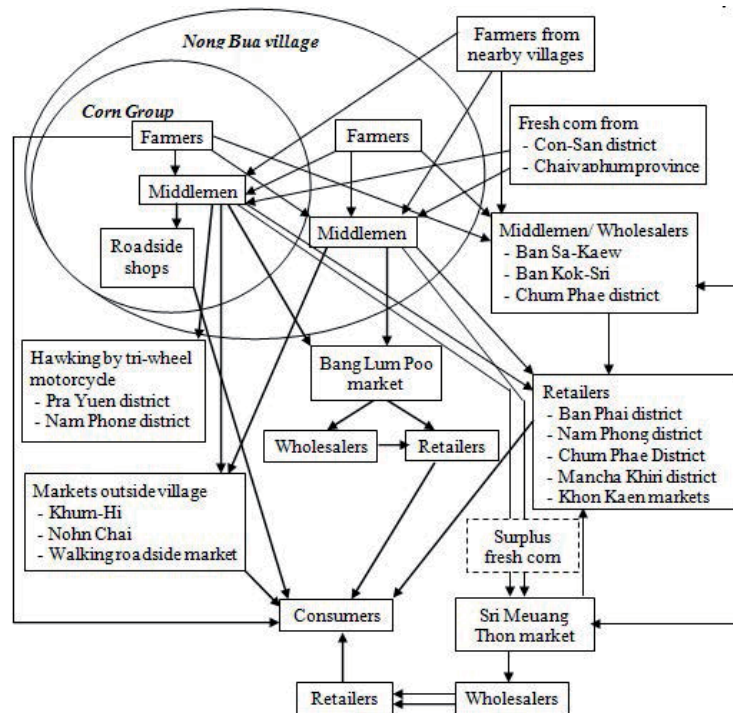


Fig.1 Marketing system of sticky corn at Nong Bua village, Nong Bua sub-district, Ban Fang district, Khon Kaen Province

- > Indicates pathway of boiled ears
- - - - -> Indicates pathway of fresh ears

district and Khon Kaen markets. In the peak production period if the entire product can't be sold by these channels the middlemen sell excess fresh ears to Sri Meuang Thong market (provincial agricultural wholesale market) in Khon Kaen city.

When production is low like in the wet season they get fresh ears from other provinces and it enters into these marketing channels (Figure 1). Some growers in the village when they have surplus production and enough time they use tri-wheel motorcycle to go around and sell boiled ears like a hawker. Corn growers wait eagerly for the time of Songkran festival, New Year festival and agriculture fair at Khon Kaen University because these are peak selling period of Nong Bua sticky corn. Sometimes they sell boiled ears by order. People ordered for boiled ears as gift for their relatives.

Price variation

Price variation of sticky corn at Nong Bua varies due to growing season, volume of production, marketing channels and level of sellers and whether it is sold as fresh or boiled. Farmers get 6,000-9,000 Bt. from one rai of sticky corn (use one kg of seeds in one rai of land) in wet season while in dry period they get 3,000-5,000 Bt. from the same sticky corn, when they sell by lot in plot. When they sell fresh corn by weight they get 12-16 Bt. in wet season and 7-8 Bt. in dry season from each kilogram of fresh ears. This seasonal price variation occurs because in wet season they have very little amount of land suitable for sticky corn growing and ultimately they can produce a low amount of ears. It is common in open marketing system that when supply is low price goes up and when supply is high price falls down. Price of boiled ears in wholesale market is 15,



10 and 7 Bt. per three large, medium and small ears respectively. In wholesaler and retailer market price does not vary too much due to variation in supply. In retailer market they try to fix 20 Bt. for each packet of boiled ears; one packet contains 3 large or 4 medium or 5-7 small ears. Some retailers if they have enough time and high supply of sticky corn they go out nearby villages or nearby sub-district to hawk by tri-wheel motorcycle and sell 10 Bt. each packet.

Marketing strategy

Corn growers in the village followed different marketing strategies. They sell their products both fresh and boiled by themselves to consumer or to middlemen or wholesalers. They sell green ears based on plot or weight. Farmers sell to middlemen, both in the village or outside the village as lot in the plot or after harvesting green ears. When selling by weight to middlemen, they harvest by themselves and paid after harvesting of green ears or after selling it. Some growers harvest green ears first and then sell to middlemen by weight. Some middlemen in the village supply seeds to nearby village farmers. Farmers grow corn as contract growers and sell their products to the same middlemen and the cost of seeds provided in advance is deducted. Middlemen also follow different strategies. They sell corn fresh or boiled or both to wholesaler or retailers or to both in different markets. In the peak growing season, if oversupply, the middlemen sell green ears to provincial wholesale market. Not all corn growers always follow every marketing channel. It depends on the growing season, volume of production, labor availability, he/she can be corn growers or wholesaler or act as both, whether the grower is a corn group member or not. Even a corn group member if he/she has not enough labor or time, they prefer to sell their products to Bang Lum Poo market or to middlemen than roadside shop.

Role of corn group in marketing of sticky corn

In 1998 Nong Bua sticky corn group was formed. It is operated like a cooperative. They buy inputs like seeds, fertilizers, pesticides, polythene bags for packaging etc and sell those to the group members with minimum margin and collect rent from roadside shops and distributed the group profit among the group members. They used to make planning for land use to control continuous supply of green ears and reduce over supply. But now the group has only control over the roadside market. Those who are only corn group member can sell their corn in the roadside market. Other corn growers of this area can't sell there. Only group members have their right to use the polythene bags having group's logo for packaging boiled ears. Group has no control on price setting, volume of production, marketing channels, input-output distribution etc. Farmers grow and sell by themselves according to their own decision.

Sustainability of the marketing system

It is very difficult to assess the sustainability of a marketing system because it is a dynamic process. Many different types of stakeholders like, corn growers, middlemen, wholesalers, retailers, consumers are involved. Every stakeholder has their own strategies to get maximum benefit from the sticky corn. Farmers of Nong Bua village have been growing corn for a long time, first for subsistence and then for commercial purpose. Sticky corn production area is increasing and farmers are using their maximum available resources. Corn growers and sellers always try to maintain the quality of Nong Bua sticky corn and it has a good will in the market, actually it is emerging as a well known brand. It has very good taste. Many farmers of this area have standard certificate (Q) from Ministry of Agriculture. (Report. 2011) Consumers of all classes like it for its palatable taste and freshness. Corn growers in Nong Bua follow some strategies to supply quality green ears round the year continuously. Farmers have their own



plan year round growing. When production is low especially in the rainy season they receive green ears from other province to maintain continuous supply. When production is too high oversupply they find out different sources of markets. Sticky corn growers of the village are capable to sell all of their products in various marketing channels using different marketing strategies. Corn growers can sell all of their products with a satisfactory margin. No growers loose or gain very less amount of margin. All corn sellers show eagerness to Nong Bua sticky corn marketing.

Discussion and Conclusion

Nong Bua sticky corn is a single product among farmers' different farm enterprises but marketing system is not simple. It has many diversified marketing channels, involvement of different types of stakeholders and various markets. Some stakeholders play dual or more roles in the production and marketing system. Every stakeholder has their own marketing strategies. Farmers try to grow quality and tasty corns the whole year round to maintain continuous supply. No sellers rely on a single marketing channel; rather they use all possible marketing channels when they need. Everyone tries to maintain quality and freshness. Good management strategies of production and marketing, involvement of many stakeholders and diversified marketing channels along with quality product made the system sustainable.

Acknowledgements

Thanks to the participating farmers and the middlemen, wholesalers and retailers involved in the marketing system of Nong Bua sticky corn for their cooperation and willingness to respond to the survey.

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