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Problems in Marketing Channels of Lychee: Case Study in Luc Ngan District, Northern Vietnam

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ABSTRACT

The Thieu lychee has been indicated as a main crop, which contributes to implementing poverty reduction and improving income for many farm households, especially in Luc Ngan district, Bac Giang province, Northern Vietnam. In 2015, planted area and productivity of the Thieu lychee in this province accounted for 31,000 hectares and 195,000 tons respectively and total revenue from this product reached VND4,600 billion. In 2016, producers in Luc Ngan district, Bac Giang province harvested 130,000 tons of the Thieu lychee and the price of this product has fluctuated from VND10,000 to VND30,000 per kilo which was much higher than that of previous years. These achievements result from applying the VIETGAP and GLOBALGAP routines in producing lychees and especially from promoting and facilitating the coordination mechanisms among stake-holders in Luc Ngan's lychee supply chain. However, numerous concurrent issues are interrupting the coordination among the stakeholders, such as lack of agribusinesses in marketing products, small-scale production, inefficient operations of cooperatives and inconsistent policies. Therefore, this paper will analyse the current linkage models in production and marketing of the Luc Ngan's Thieu lychee in order to point out the advantages and issues of the current linkage models, as well as propose recommendations to facilitate linkage models and to improve the coordination efficiency.

1. INTRODUCTION

The linkage plays an important role in facilitating the development of agricultural markets. In Vietnam, farmers have to face challenges in terms of market access and therefore promotion of linkages can be seen as a crucial alternative that contributes to boost agricultural markets in Vietnam (Tru, 2012). Coordinations among stake-holders in supply chains of agricultural commodities have been established with high degrees and professional operations. As a result of this, the agricultural sector is able to develop sustainably.

Linkage models were established and developed based upon requirements in benefits of actors and these assist to exploit advantages of each stake-holder in coordinations as well as improve competitive advantages of products in markets. On the other hand, firms that have strong resources such as capital and technology need stable and secured quality materials for processing and exporting. Hence, to encourage the development of linkage models is a significant condition, which assists agribusiness to develop sustainably. In Vietnam, due to the importance of linkages in agriculture, the government has enacted policies to foster actors who participate in coordinations. For example, decree number 62/2013/ND-TTg of the Prime Minister on supported policies in developing linkages and cooperations in agricultural production, the Cooperative Law in 2013, etc.

Along with policies of the state, Bac Giang province, which produces several high value agricultural products, also considers to set up adequate targets in terms of developing sustainable agricultural commodities through facilitating linkage models. The Thieu lychee is one of key products in developing agricultural economics of this province. Compared to other districts in Bac Giang province, Luc Ngan is the leading district in terms of planted area of the Thieu lychee and quality of lychee. Due to efforts of local authorities and growers in producing lychee in previous years, there is a remarkable achievement because for the first time the Thieu lychee produced in Luc Ngan district was exported to critical markets such as the United States of America and Australia. This success is a consequence of coordination and cooperation among farmers, local authorities and export enterprises to create quality lychee products which satisfy the requirements of critical markets. Therefore, to facilitate stake-holders joining in linkage models to improve productivity, quality of lychee, enhance economic efficiencies as well as improve income of participants

and boost public budgets is a long term objective for the Thieu lychee. However, establishment and development of linkages in production, processing and marketing of the Thieu lychee must face issues because of different reasons. Thus, to identify and reduce challenges that interrupt coordinations for promoting linkage models is a necessary task to foster marketing of the Thieu lychee toward a sustainable direction as well as improve income for producers.

The research was conducted with the following objectives:

- To identify the current situation of lychee production and consumption of the Thieu lychee in Luc Ngan district, Bac Giang province.
- To analyse the current linkage models in production and marketing of the Thieu lychee.
- To investigate advantages and issues of the current linkage models in producing and marketing the Thieu lychee.
- To propose recommendations to limit challenges of the linkage and also improve the coordination efficiency.

2. MATERIALS AND METHODS

This study was conducted in Luc Ngan district, Bac Giang province. Both secondary and primary data were used in the research. Secondary data were collected from local government agencies in Bac Giang province such as the Department of Industry and Trade, the Department of Agricultural and Rural Development, and Bac Giang Cooperative Alliance. Furthermore, secondary data which related to production and marketing of the Thieu lychee were also gathered from previous studies.

Primary data were collected by conducting face-to-face interviews and discussions with 35 lychee farmers, 3 cooperatives, 5 farmer groups, 5 traders, 5 collectors, 2 lychee export companies and local authorities.

3. RESULTS AND DISCUSSION

3.1 The situation of the Thieu lychee production and consumption in Luc Ngan district, Bac Giang province

3.1.1. The situation of the Thieu lychee production

Table 1. Planted area and production of lychee in Bac Giang province and Luc Ngan district

Items	Bac Giang			Luc Ngan		
	2014	2015	2016	2014	2015	2016
Planted area (ha)	32,000	31,000	30,000	13,000	18,000	16,293
- VIETGAP	8,500	12,300	8,300	8,500	9,500	10,500
- GLOBALGAP	100	100	158	100	100	118
- Others	23,406	18,600	21,542	4,500	8,440	5,575
Production (tons)	190,000	195,000	130,000	130,000	118,000	90,000
- VIETGAP	40,000	80,000	53,000	52,700	58,900	60,000
- GLOBALGAP	600	600	1,000	600	600	1,000
- Others	150,000	114,400	76,000	76,700	58,500	29,000

(Source: Department of Industry and Trade of Bac Giang province, 2016)

Table 1 shows that there was an overall downward trend of lychee area in Luc Nam district and Bac Giang. Despite the decreased growing area and output, the locality saw an expansion of the area of lychee grown in line with the Vietnam Good Agricultural Practices (VIETGAP) and the Global Good Agricultural Practices (GLOBALGAP) standards, these transformations would promise the improvement of lychee quality and appearance in the future.

3.1.2. The situation of the Thieu lychee consumption

Markets of Consumption

The markets for consuming Thieu lychee include the domestic market and export market. Domestic consumption accounted for 50%-60% of total production. In particular, the southern market alone

accounted for 60-65% of the total domestic consumption. Regarding the export markets, China is still the most important market. Although lychee also has been grown widely in China but the quantity demanded are much higher than the quantity supplied, therefore China still has to import lychee from Vietnam annually with very large quantities. However, since 2015, fresh lychee of Bac Giang has been exported to the demanding markets such as USA, Australia, France, England, Japan, etc., that partly contributes to less dependence on Chinese market. Quantity of lychees exported to China in 2015 reduced from 81,608 tons to 44,720 tons in 2016 (Duc Tho, 2014). The table 2 show that exported lychees to other markets has increased over the last years as in Table 2. These results are due to promotional policies to promote lychees consumption in domestic markets and find the new export markets

Table 2. Share of lychee consumption by markets in Bac Giang province

Consumption	2014		2015		2016	
	%	Volume (tons)	%	Volume (tons)	%	Volume (tons)
Total consumption	100	190,000	100	195,000	100	130,000
Domestic	49	93,100	55	107,250	60	78,000
South provinces	65	60,515	60	64,350	60	46,800
Other provinces/cities (Ha Noi, Thua Thien Hue, Da Nang, etc.)	35	32,585	40	42,900	40	31,200
Export	51	96,900	45	87,750	40	52,000
China (fresh lychee)	95	92,055	93	81,608	86	44,720
Others (Korea, USA, Australia, etc.)	5	4,845	7	6,143	14	7,280
+ Processed lychee (Canned, dried lychee, etc.)	100	4,845	94	5,774	44	3,203
+ Fresh lychee	0	0	6	369	56	4,077

(Source: Department of Industry and Trade of Bac Giang province, 2016)

3.2 Linkage models in producing, processing and marketing the Thieu lychee in Luc Ngan District, Bac Giang province

3.2.1. Horizontal linkage

Farmer's collaborative groups

Collaborative group models have significantly increased and been the choice of many farmers in Luc Ngan who wants to collaborate. This results from the farmer's high demand for cooperative production, supplying high quality products, access to the high-value market segments and achieving much higher benefit. These motivations are more actuated especially when Luc Ngan's Lychee has been exported to many high-value markets such as Australia, Japan and USA.

Each collaborative group often has more or less than 20 households, which are applying the VietGap or GlobalGap practices in production. They often are in the same communities. The group is operated with very simple but effective mechanism, which is based on the self-inspection principle and the spirit of support and cohesion among members. Accordingly, members are required to adopt the standardized production and quality management system that improves product quality and safety. The self-inspection attempts to prevent the unsafety lychee in the group. Therefore, each member will inspect the others for using pesticide and drug in production. The chemical residual often is tested by an independent agency which is selected by the companies or collectors, those have post-harvest contract with the group. So, if the pesticide residue levels exceed the allowed level, the batch number will be traced back. The interviews with farmers who are members of the current collaborative groups reveal that the quality and appearance of products has been improved and paid with higher prices since they joined these groups.

Farmer cooperatives

Besides the collaborative groups, famers in Luc Ngan also cooperates with each other in form of cooperatives. Majority of the cooperatives in Luc Ngan has been transformed in the new cooperative models as regulated in Cooperative Law 2013. However, most of cooperatives in Bac Giang are agricultural service cooperatives. Each cooperative has more or less than 50 members who have needs, common interests, and voluntary asset contribution. Cooperatives have business license, the large one could have chartered capital from 19-20 billion (calculated value of lychee farms) and working capital of around 200 million. The Cooperative established with purposes of expanding the scope and application of scientific and technological advances in lychee production, overcoming outdated production methods and gradually brings the lychee to penetrate high-value markets. In general, however, the scales of many cooperatives are still scattered and small; the capacity of admistration and management is still limited.

3.2.2. Vertical linkage

Linkage between farmers and collectors

In Luc Ngan district, the link between farmers and collectors is done through a verbal agreement. Normally, the farmers often transport the lychee to the trade centres to sell for the collectors; however, in the case of gathering in large quantity, the local collectors usually have pre-agreement with farmers or their representative groups. However, in this case, the farmers often have disadvantages in price negotiation. The collectors often box the lychee and re-sell to the outside traders.

Linkage between farmers's collaborative groups/cooperatives with fruits export companies

The Decree No. 62 of the Prime Minister has pointed out that companies are encouraged to have contracts for the provision of inputs or ensure the market for the agricultural products of the farmers in the province. Accordingly, the companies play central roles, actively contracting and supporting farmers in applying technical practices and marketing products.

However, in Luc Ngan, the role of companies in forming the linkage with farmers's collaborative groups/cooperatives is still very weak; the quantity of Lychee consumed through this channel is still small. However, there are some very active companies in this linkage such as Phong Son Tiem Joint Stock Company, Dong Giao Food Export Company. These companies often sign contracts with the representative groups of farmers under the certification of the local People's Committee. The price is not fixed and often higher than the spot prices from 10%-20%.

Linkage among farmers's collaborative groups/cooperatives – traders, collectors– Export companies

Association of Production and Consumption of Luc Ngan lychee has 7 chapters with 225 members. Engaged members include: representatives of farmers, the traders, export companies and local authorities. Since it was established, the Association has actively cooperated with local authorities organized many training courses on science and technology for a total of 1,875 members. As well the transfer of science and technology for its members, encouraging lychee growers to follow the VietGAP and Global GAP standards.

Also, the association has many promotional strategies to build the brand of Luc Ngan litchi. Thanks to the association's collaboration with the Department of Science and Technology Bac Giang, 87 members in Luc Ngan have recieved certificates of geographical indications for lychee.

To protect the brand Luc Ngan litchi in foreign markets, in 2014, the Association collaborated with the Department of Science and Technology to register the

Luc Ngan litchi brand for geographical indication protection in 5 countries: China, Japan, South Korea, Laos and Cambodia (Nguyen Quynh, 2016; To Uyen, 2016).

3.3 Assessment on advantages and issues of linkage models in production, processing and marketing of the Thieu lychee in Luc Ngan district

3.3.1. Advantages of linkage models

Received the attention of central, provincial and local authorities

Thieu lychee has always received the special attention in the annual plan of social and economic development of both provincial and local authorities. The authorities in all levels always consider lychee as one of the specially promising fruit crops, therefore, many policies and investment have been spent on encouraging the study, production and marketing of lychee.

Besides, Bac Giang province implemented a lot of activities to support cooperations with potential enterprises to export lychee products to new markets; to encourage advertisements and exhibitions in many countries in the world.

The increasing of lychee quality

The increasing of lychee quality resulted from the application of VietGAP and GlobalGap standards in production. According to the interview with farmers, the price of safe lychee is increasing in recent years, in 2005 the lychee which were planted as Globalgap with nice appearance can be sold from 25-30 thousands VND per kg. Meanwhile, the lychee that were not planted as Vietgap or Globalgap standards were often cheaper because of the low quality and appearance. The price of these kinds of lychee only varied from 12.000-15.000 VND/kg.

The increasing of lychee quality is paving the way for expanding the market to high demand segments.

The high demand for Vai consumption

Demand of markets is an important factor, which secures consumption potentials for lychee products. The Thieu lychee is interested in both domestic (Central and Southern markets) and international markets (China, South Korea, Cambodia, etc.). In addition, products from processed lychee such as lychee drinks, canned, etc. are also demanded by international markets.

3.3.2. Issues of linkage models

The seasonality of Thieu lychee

The litchi harvesting season lasts for about 1 month, and then there are huge volumes of lychee to be harvested in a short time. Additionally, due to the physiology characteristics of litchi fruit that the fruit quality and appearance can last only for maximum of 3

days. This makes the lychee preservation faced with many difficulties; especially since there have not been any efficient measures to extend the period of ripe litchi fruits on trees.

In 2015, the ministry of science and technology applied the CAS technology, Technology Jural; irradiation facility in the south. However, the cost of these technologies are still very high, resulting to the high prices in export markets and leading to lower competitiveness of Bac Giang lychee in foreign markets.

Shortages of agribusinesses

Market is a crucial factor which maintains operations of linkage models. In Luc Ngan district, through interviewing lychee growers, farmer groups and representatives of cooperatives, there is the fact that the most serious problem concerned by producers is market. In fact, most of the firms which participate in marketing of lychee are small and medium sized enterprises and therefore their working capital and market access are still a limitation. According to representatives in interviewed enterprises, one of their challenges is that they have to procure heterogeneous lychee in terms of shape and quality which are produced by different small households. Especially, lychee is a fruit which is perishable in transportation and storage. Some technologies such as X-Ray and CAS were proposed by Ministry of Science and Technology to deal with this problem; however expenditures for these are really high.

Although the government implements policies to encourage enterprises to invest in agriculture such as Decision No. 62/2013, Decree No. 61/2010/ND-CP, the program in renovating national technologies, however it is very difficult for firms to approach these due to strict formalities. Moreover, supports for agribusinesses are often divided by geography, while almost enterprises that procure the Thieu lychee in Bac Giang province come from other locations, so they do not obtain these supports.

To sum up, reasons mentioned above generate to lack of agribusinesses which can guarantee market matters for lychee farmers.

Small scale production and unfamiliar coordinations

Some producers who are still not familiar with contract farming sometimes do not perform routines and procedures in lychee production. In contrast, these producers only are interested in temporary benefits rather than long term benefits in a stable production and marketing context.

Small scale production is also a factor affecting efficiencies of linkages. Almost all farm households cultivate lychee in a small scale with about 15-20 sao. This influences homogeneity in shape and quality of lychee. In addition, the number of households is large and therefore it is really difficult to establish big scale coordination.

Weaknesses of cooperatives

Although some cooperatives are transformed based on the regulation of the Cooperative Law in 2013, this transformation is however only involved in light manner; and almost the rest still operate and rely on old mechanisms. Therefore, operations of cooperatives are inefficient since their functions are similar to a political organization and a business. As a result of this, many cooperatives depend on subsidies from the government and their operations are passive and not keen on benefits of members. Almost current cooperatives implement input services, while the most expectation of farm households when they participate in cooperatives is looking for a market for their products and improving income.

Another reason which leads to inefficient operations of cooperatives is weak skills of managerial boards, lack of adequate business strategies and limited market access. Pensions for managerial boards in cooperatives are little and ambiguous and these lead to inefficient working in terms of proposed affordable solutions to facilitate production and business of cooperatives. Hence, operations of cooperatives rely on supports from district and provincial authorities.

Unsynchronous policies in coordination

According to the report on coordination of Oxfarm (2015), from enacting the Cooperative Law in 2003 to present, there are at least 143 policies and legal documentations on collective economy that have been enacted. However, almost these documentations refer to input factors such as land, credit and there are a few documents that mention specific regulations such as direct guidelines in building up linkage models. Furthermore, policies also reveal discretion among production, processing and marketing activities. There is not a synchronous policy to cooperate these activities.

Unsynchronous policies can also be expressed in terms of inconsistent implementation. For example, the government enacted Decree No. 55 on policies supporting the development of agriculture and rural areas, which refers to amount of loaned capital with cooperatives and farms which reaches up to VND1 billion without mortgage assets. However, this policy seems to be out of reach for agricultural cooperatives because they do not have enough mortgage assets and in most of cases, members have to use owned assets to collateral their loans. Many agricultural cooperatives and farm households cannot approach agricultural credit because of inadequate business strategies and limited mortgage assets. By contrast, agricultural production often faces risks related to natural disasters, diseases and these lead to bad debts. As a result of this, commercial banks always express their concerns in providing a loan.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

To conclude, linkages in production, processing and marketing of lychee in Luc Ngan district, Bac Giang province has initial transformations in recent years. Local authorities express their attentions in terms of facilitating coordinations as well as implementing policies to advertise lychee products and integrating businesses and producers (Loan et al., 2015).

However, there is the fact that these linkage models are loose and these do not satisfy or benefit each member when participating in linkages. Some issues such as lack of agribusinesses in marketing products, small scale production, inefficient operations of cooperatives and inconsistent policies have become constraints that interrupt coordination among actors (Mitra and Pathak, 2008). Therefore, to boost the development of the Thieu lychee and other agricultural products, it is necessary to implement consistent and feasible policies to reduce these bottle-necks.

4.2 RECOMMENDATIONS

To deal with challenges mentioned above, some recommendations should be proposed as follows:

Implementation of consistent policies in encouraging linkage formation

To foster the linkage among actors in the Thieu lychee in particular and other commodities in general, the government needs to take the voice of amending the current regulations so that the involved actors such as farmers and agribusiness firms can have access to finance and credit more conveniently and effectively. For example, instead of the complex requirement for asset mortgage, there should be more flexible requirements such as previous economic contracts which can be used for credit loan approvals (Oxfarm, 2015).

To agribusiness firms, the government should have more prioritized policies to encourage them to participate in the linkage. The policies making process should consider the voice of agricultural enterprises and be based on the firms 'need. So, government should preferentially consider and support the investment of those enterprises that contribute to foster the linkage of the commodities in long term; for example, the investment in processing and storage technology. On the other hand, exported taxes for lychee products should be reduced or abundant as well as compensate value added taxes to assist enterprises in exporting lychee products and importing facilities and equipment for processing lychee.

Additionally, government should manage the fund for scientific research more efficiently to build up safety lychee production zones based on routines of VIETGAP and GLOBALGAP.

Enhance the role of local authorities to foster the linkage models.

The local authorities play a crucial role in developing the linkage models. In details, the involved officers should have an understanding of the importance of

linkage models and have knowledge on business administration, agricultural product marketing and agricultural products market development so that they are able to help lychee producers in accessing market information and help the enterprises link to farmers organizations. In other words, the local authorities, especially the Departments of Industry and Trade must be a connection point between farmers and enterprises.

Increasing the proactive manners of cooperatives/farmers' collaboration groups.

The management board of farmers' organizations should have skills on management and marketing, be initiative in developing the market for lychee, but not only waiting for the support from government. Also, the board needs to change the farmers' perspectives on producing the safety and quality of products to match the market demand.

Stimulating the transactions through farming contracts

To develop the linkage models in a sustainable way, the government and local authorities should create favorable conditions to develop the transactions through farming contracts. In fact, stimulating the contract in agricultural product transactions was mentioned by many researchers and in many policies, however, the farming contracts have not been utilized popularly in Vietnam for many reasons. Therefore, the involved parties should together compose a sample-farming contract, which combines the interest and responsibility of involved parties and aiming to the risk sharing and gaining mutual benefit in long term. By doing that, the contract violation or disruption is likely to be reduced.

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