

Marketing Activities in the Fruit Industry: Case Study of Banana in Khoai Chau District, Hung Yen Province, Vietnam

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Authors' contributions

This work was carried out in collaboration among all authors. Author NVP designed the study, collected data, and wrote and completed the draft of manuscript. Author DOG discussed the research idea and gave recommendations to complete the draft of manuscript. Author VTH designed the study, collected data, performed the statistical analysis, and wrote the first draft of the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

Aims: The study aims to overview about the marketing activities of banana industry in Vietnam based on the case study in Khoai Chau district, Vietnam.

Methodology: Both primary and secondary data were used in this study. Primary data was collected through face-to-face interviews and mobile phone with market participants using semi-structured questionnaire in two year 2016 and 2019. The descriptive analysis method was used to describe channels of distribution, marketing practices of farmers and traders, flow of product from producers to consumers, and problems that banana farmers and traders encounter in their business operations.

Results: The results show that banana was sold through 13 channels for both domestic and international markets. At traders' level market, non-contract was popularly applied by retailers in both selling and buying operations. Majority of banana growers have small operations and engage

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in small transactions and individually with buyers. They do not have market power in setting the price. They are often faced with unstable price and difficulty in entering high income market. Establishing banana grower association in each commune would enable growers to maintain and monitor the quality of banana especially among small growers. Though collective marketing, they can link with large and stable potential markets such as supermarkets and other institutional buyers.

Keywords: Vietnam's fruit industry; marketing activities; Khoai Chau's banana.

1. INTRODUCTION

The fruit industry in Vietnam has expanded in recent years, yet its performance in both foreign and domestic markets has not developed proportionately [1] [2]. This is due to weaknesses in postharvest handling practices and ineffective sales system [3] [4]. Compared to staple crops, fruit production brings greater economic benefits for the farmers [5]. Furthermore, fruit farmers have to face various challenges and difficulties in accessing and linking to market and getting favorable price, while consumers face high buying price due to many trading intermediaries [6] [7]. In the banana distribution network, the share of benefit among market participants is inequitable. Farmers usually get the lower profit share compared to the middlemen [4].

Hung Yen province has chosen banana as one of the key crops for production to boost its agricultural economy, reduce poverty, and raise farmers' incomes [8]. Total area for banana cultivation is 2,664 ha in 2019 [9], accounting for around 44% of the province's total area. However, the banana industry in Hung Yen lacks market orientation. Banana market participants and local government staff have insufficient market information. The banana industry lacks support from the government in terms of technology, financing, and market although banana has been identified as one of the eight fruit crops having high export potential [10] and one of fruits that have a brand name, there is only a small volume exported to China or Japan by few private traders [11]. Furthermore, majority of banana farmers face the problems of unstable market, unstable price [11] [4] and difficulty of finding buyers and market outlets for their products.

Khoai Chau district is located in northern Hung Yen province, accounting for the province's largest land area. Agricultural land in this district is enriched by alluvial soils and irrigated by water from the Red River Delta. Land pH ranges from 6.5 to 7.0, while nitrogen content and potassium (K_2O) are high. Furthermore, Khoai Chau district and Hung Yen province were assessed as

regions less affected by disasters, making the district suitable to the cultivation of plant crops, especially banana trees.

This paper aims to overview about the marketing activities of banana industry in Vietnam based on the case study in Khoai Chau district, Vietnam.

2. RESEARCH METHODOLOGY

Both primary and secondary data were used in this study. Secondary data were obtained from documents indicating the production, consumption, and market of banana, including government policies affecting the industry collected through various reports and research papers. Primary data was collected through face-to-face interviews and mobile phone with market participants using semi-structured questionnaire.

Banana growers were selected randomly from the population of banana growers in this province while banana traders were selected through the snowball method, with the information obtained from growers.

For validity of the data collection instruments and reliability of the collected data, the survey was conducted in two stages. First, a first survey was done in December 2015 to coordinate with local officials, to conduct rapid marketing appraisal (RMA) through discussion with growers and trader groups, to pre-test the questionnaires, and to collect preliminary information. Second, the questionnaire was revised for the full survey in 2016 and resurvey was done in December 2019 with the same samples to check the change of marketing activities of the growers. A total of 179 traders were collected through the snowball method, with the information obtained from banana growers, classified into 5 groups based on their functions and characteristics. These are retailers (R), wholesaler-retailers (WR), wholesalers (W), wholesaler/brokers (WB) and wholesaler/exporters (Exp).

The descriptive analysis method was used to describe channels of distribution, marketing

practices of farmers and traders, flow of product from producers to consumers, and problems that banana farmers and traders encounter in their business operations.

3. RESULTS AND DISCUSSION

3.1 Marketing Channels of Banana Products

Banana products are distributed to consumers by key players such as wholesalers/retailers, wholesalers, wholesalers/brokers, wholesalers/exporters and retailers, as well as growers, through 13 marketing channels (Table 1, Fig. 1).

With regard to marketing channels at the domestic market, bananas are shipped to consumers through channels 1, 2, 3, 4, 5, 6, 8, 10, 11 and 12, wherein a large number of growers sell their products to wholesalers/retailers (54 banana growers) and wholesalers (51 banana growers). They usually

belong to the small- and medium-scale banana grower groups. Majority (51.1%) of the total banana fruit handled was delivered by wholesalers/retailers (22.7%) and wholesalers (28.4%). Thus, channel 2 and channel 5 were considered the main channels of distributing bananas to domestic consumers. The main domestic market of Khoai Chau's banana was some provinces from the Northern to Central regions, in which Hanoi was considered to be the largest outlet market (Fig. 2).

In addition, marketing channels 7, 9 and 13 reflected the product flow from banana growers to foreign consumers. These channels transported 22.4% of total banana volume from selected regions to the international market. Fruits were selected from wholesalers/brokers and growers, and were handled through various steps before being transported to importers. Channels 7 and 9 were considered the major channels delivering bananas to foreign consumers.

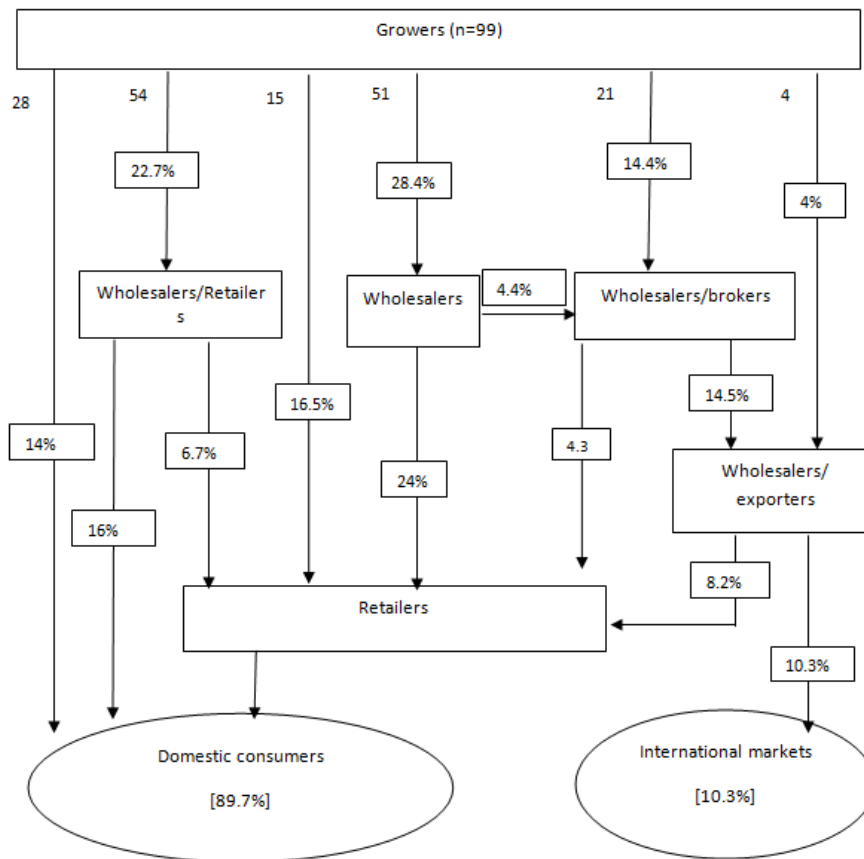


Fig. 1. Distribution channels of banana in Hung Yen province

Source: survey, 2016 and 2019

Table 1. List of banana marketing channels in Khoai Chau district, Hung Yen Province

Marketing channels	
1	Growers – Domestic consumers
2	Growers – Wholesalers/Retailers – Domestic consumers
3	Growers - Wholesalers/Retailers- Retailers- Domestic consumers
4	Growers - Retailers- Domestic consumers
5	Growers - Wholesalers- Retailers – Domestic consumers
6	Growers - Wholesalers- Wholesaler/Brokers –Wholesaler/exporters –Retailers – Domestic consumers
7	Growers - Wholesalers- Wholesaler/Brokers –Wholesaler/exporters- International market
8	Growers - Wholesalers- Wholesaler/Brokers – Retailers – Domestic consumers
9	Growers - Wholesaler/Brokers- Wholesaler/exporters – International market
10	Growers - Wholesaler/Brokers- Wholesaler/exporters –Retailers – Domestic consumers
11	Growers - Wholesaler/Brokers- Retailers – Domestic consumers
12	Growers –Wholesaler/exporters- Retailers – Domestic consumers
13	Growers –Wholesaler/exporters- International markets

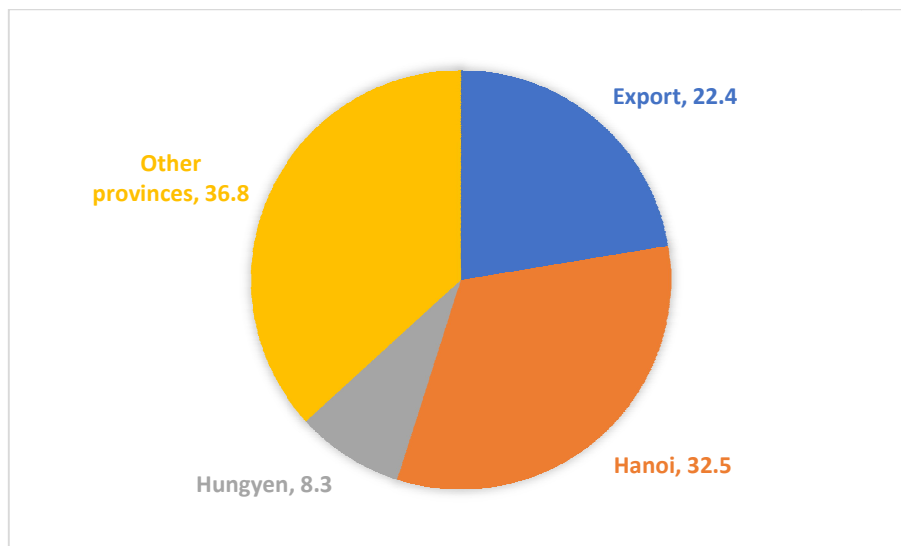


Fig. 2. Distribution of banana outlet market, Hung Yen province

In international market, China stands as the biggest market for banana export, having advantages such as short transportation distance and low product quality requirement. Chinese market accounted for around 70% of the total bananas exported by Vietnam while other markets such as Russia, Malaysia, the Arab countries and Eastern Europe shared the rest of the banana export market. Japan and Korea are considered as high potential markets for exporting banana from Vietnam [10].

3.2 Product Distribution

In terms of types of buying-selling options, three forms were adopted by traders: non-contract, formal contract and informal contract. Formal

contract is the form wherein sellers/buyers sign document contract/ hard copy of agreement with their partners, in which price, quantity and, place and method to deliver product and payment are clearly indicated. This is typically adopted by exporters, wholesalers and few retailers, who had large market share. Informal contract is the method wherein sellers and buyers contact each other by using mobile phone to discuss the quantity, quality and price of the product. This method is usually applied by wholesaler/broker, wholesaler and wholesaler/retailer during selling-buying process.

Buying-selling activities occur daily and quite frequently with retailers, wholesalers/retailers, wholesalers and exporters, while they take place

irregularly in the case of wholesalers/brokers who depend on the order of clients. In fact, Cavendish bananas can be traded throughout the year, but trading is highly concentrated during the 8 months from September to April of the following year. Summer trading is relatively less. For the rest of the year, it is common to trade the other banana variety called “chuoitay” which is not “Chuoitieu hong Khoai Chau”.

The results show that, on average, each retailer sells above 14.3 tons of bananas per year. The largest retailer delivered 95 tons of Cavendish bananas per year (nearly 8 tons per month), while the smallest retailer sold only 2.4 tons per year (Table 2). For wholesalers/retailers who sold around 30% of their total product to retailers (Fig. 1), the average volume of bananas delivered per year was nearly 61 tons, which was nearly four times higher compared to retailers. An average volume traded by wholesalers was more than double that of wholesaler/retailers. However, the variation of banana traded at this level was the highest (1.23). Because wholesalers sold to wholesalers/brokers, the average quantity for each transaction was low, at around 200 kg per trip at 3 trips per day. Meanwhile for those who sold to retailers, the size of each transaction was high at around 3 tons per trip. Wholesalers/brokers have the second highest average size of transaction. The mean quantity was twice as much as that of wholesalers, but much less than that of exporters, who occupied an important position in trading of banana.

The selling options of market actors that include non-contract, formal contract, and informal contract are similar to their buying plans (Table 3). Most of banana volume of exporters (61%) was sold through formal contract with importers from China and other countries while growers, retailers, wholesalers/retailers sold majority of their product without any contracts. Wholesalers and wholesalers/brokers chose informal contract as their selling option. The quantity of bananas traded through formal contract was also quite high among wholesalers/retailers group, at 37% of the total bananas handled by this group. Such transactions were engaged in by wholesaler/retailers with institutional buyers such as schools and cafeterias in industrial zones. The formal contract was only signed between traders and small farmers who lack capital and market information. Most contract sellers agreed that the best benefit of contract selling was stable demand.

For selling practices, most growers employed both picked-up and delivered methods to sell their products (Table 4). Practically, a large percentage of the total banana farms were picked up by buyers, while a small proportion of low quality bananas or the rest of farms harvested at different times were transported to buyers by producers. Half of small banana growers opted to sell all their products at the farm gate. Similarly, at the wholesale/retail level market, seven respondents (64%) transported a part of their product to retailers and sold the rest to the outlet market. This implies that most respondents employed both methods to sell banana fruits.

Table 2. Volume of banana sold by traders (kgs/year), Khoai Chau district, Hung Yen province

INDICATOR	R	WR	W	WB	EXP
Mean	14,366	60,836	132,900	268,571	1,864,000
Max	95,000	130,000	650,000	550,000	5,600,000
Min	2,400	36,000	42,000	120,000	850,000
Coefficient of variation	0.86	0.50	1.23	0.67	1.12

Source: survey, 2016 and 2019

Table 3. Percentage of banana sold by type of contract, 99 growers and 179 traders, Khoai Chau district, Hung Yen province

ITEM	Average Percentage of Banana Sold					
	Gr	R	WR	W	WB	Exp
Non contract	60	98	40	24	-	-
Formal contract	5	2	37	-	-	61
Informal contract	35	-	23	76	100	39
Total	100	100	100	100	100	100

Source: survey, 2016 and 2019

A different trend can be observed among retailers and wholesalers/brokers who sold their products at fixed points such as shops, stalls, or places near market outlet, or places in public market or their collecting point (wholesalers/brokers). Around 54% of retailers and 100% of wholesaler/brokers did not transport their bananas to buyers. Only 13% of respondents delivered to end consumers. Conversely, 93% of wholesalers and 66% of exporters delivered their bananas to buyers as part of their selling strategies.

Regarding the method of payment, cash on delivery was the most popular method practiced by growers, retailers, wholesaler/retailers wholesalers and wholesaler/brokers as reported by 85%, 100%, 73%, 100% and 57%, respectively. Credit was used by 27% of wholesalers/retailers who sold their products to cafeteria in company zone. These institutional buyers usually pay a part of the contract value before paying the large part of contract value after 1 to 2 months. Meanwhile, exporters initially received 30% of the contract price with the rest paid at the time of delivery.

3.3 Pricing

3.3.1. Pricing of banana growers

In the region, most of banana growers did not have strong position as far as setting the selling price is concerned with 54% of growers, mostly having small farms, being price takers. Only 46 (46%) of banana growers have some market power to set or bargain prices with buyers, in which 17% of sellers set their selling price based on price information from friends, relatives or other traders, as well as quality of their product (Table 5). Among the 46 growers who had some power to set or bargain prices, 66% said that selling price was set based on the negotiation

process between buyers and sellers. However, a base price, which was used to bargain, was the price the trader provided considering the export markets' price provided by wholesalers/brokers. Thus, it was obviously that banana growers did not have significant market power in setting the price in banana trading.

3.3.2 Pricing of banana traders

At the retail and wholesale/retail markets, majority of respondents negotiated with buyers to obtain final selling prices, which means that buyers or sellers had no dominant powers to set prices. Firstly, sellers assigned the selling price based on market price or their strategy. Buyers then bargained to get the most suitable price for them. With a shortage in supply during the previous day or in the morning of the selling day, buyers usually had to finally accept the price. On the other hand, during a surplus in supply or at the end of the selling day, sellers take the prices at the retail market's level. Generally, retailers and wholesalers/retailers also had more market power in setting the selling price compared to growers. For retailers and wholesaler/retailers, 46% and 36% set their selling price.

Comparing among banana marketer groups, it can be observed that banana growers did not have a strong position to determine output prices. They depended primarily on the price that was set by wholesalers/retailers, wholesalers, wholesalers/brokers or exporters. The retailer's power (46% of retailers being price makers) to set selling prices was higher than that of wholesalers (27%) and growers (17%). Wholesalers, wholesalers/brokers and wholesalers/retailers had significant power to determine buying price while exporters had strong position in influencing both the buying and selling prices.

Table 4. Selling practices of banana market participants, Khoai Chau district, Hung Yen province

ITEM	Percentage Reporting					
	Gr (n=99)	R (n=141)	WR(n=11)	W (n=15)	WB (n=7)	Exp(n=5)
Method of sale						
Picked up by buyers	50	54	-	-	100	-
Delivered to buyers	10	13	36	93	-	66
Both methods	40	33	64	7	-	34
Method of payment						
Cash	86	100	73	100	57	40
Credit	-	-	27	-	-	-
Cash in advance	14	-	-	-	42	60

Source: survey, 2016 and 2019

Table 5. Who and which methods were used to set banana selling price, Khoai Chau district, Hung Yen province

Indicator	Percentage Reporting					
	Gr (n=99)	R (n=141)	WR (n=11)	W (n=15)	WB (n=7)	Exp (n=5)
Who set selling price						
Seller	17	46	36	27	-	40
Buyer	54	2	9	40	71	-
Both	29	52	55	33	29	60
Method used to set selling price ^a	46	138	10	9	2	5
Cost plus profit	-	16	-	22	-	-
Negotiation between buyer and seller	63	41	40	56	50	40
Existing market price/ price of competitors	26	34	40	-	50	20
Others ^b	11	9	20	22	-	40

^a For those who set or bargain selling price. ^b Other methods: setting price based on physical appearance, quality of product; different prices for different customers. Source: Survey, 2016 and 2019

3.3.3 Factors affecting the selling and buying prices

Tables 6 and 7 reflected the banana market participants' assessment of the influence level of various factors affecting banana price. Six factors considered were differences in physical characteristics, assurance of quality, buying/selling volume, the distance of transport, season and prices of other fruits. In this study, season refers to the implied Lunar Tet holiday, full moon day and the first day of month. Since Cavendish bananas were produced and harvested almost throughout the year, there are no lean and peak seasons for banana cultivation in as far as this study is concerned.

According to banana growers, the season and physical characteristics of bananas were the most important factors affecting the price of banana. At the farm-level market, most producers used bunch to price their product. Therefore, selling prices were affected by the estimated weight, color and size of banana bunches. As mentioned above, during the Lunar Tet holiday demand for banana increased dramatically, increasing banana prices by as much as 3 times compared to the regular price. Other factors were considered to have minor impact on banana price, where in selling volume was the least important factor.

Similarly, most banana traders across all groups stated that the physical characteristics of the bananas were the most important factor that influences market price. Meanwhile buying/selling volume and distance of transport do not affect the banana price much. According to

retailers who sold banana directly to domestic consumers, aside from physical characteristics of the banana, the price of other fruits was also an important factor affecting banana price. During summer, the availability and low price of various fruits such as lychee, longan and watermelon, among others, have moderate impact on banana prices. Some retailers cited the high demand for banana fruit during the Lunar Tet holiday and the full moon day, aside from the highly competitive nature of sellers with many retailers joining the market during that time. Thus, prices did not increase much due to increase in both demand and supply.

Wholesalers/retailers and wholesalers also assessed the factors influencing banana prices, which include physical characteristics, price of competitive fruits and seasonality. There was little difference among wholesaler/brokers and exporters who considered quality assurance of banana fruit as also affecting banana price. For international markets and high income markets, the quality of the product is usually given emphasis and regulated through the issuance of certificates, recognized label or test results of phytosanitary measure or pesticide and fertilizer residue levels.

3.4 Storage/Preservation Activities

Table 8 illustrates that the average time spent on preserving/storing bananas by wholesalers/retailers was eight days, the longest compared to other groups. This is because wholesalers/retailers bought green bananas from farmers and sold ripened bananas to consumers and retailers. In the same way, retailers who sold

ripe bananas to consumers usually keep bananas for an average of five days. Some retailers kept their products for only two days if they already bought the banana close to ripening stage from wholesaler/retailers. Wholesalers stored bananas in the shortest time. They bought these from growers then directly sold them to wholesalers/brokers during the day or to retailers. The length of time of each transaction involving wholesalers/brokers and exporters was two days.

For wholesalers/brokers, average of 2 days was the time spent on collecting and delivering banana. After getting enough for an order, they then delivered them to the buyers. For exporters, the average time spent for all steps from collecting to loading banana on vans for transport to buyers (average for both domestic and international buyers) was two days. In each export contract, the time to loading product was clearly determined, usually three days to deliver the product after receiving deposit.

Almost all of banana traders used traditional methods to keep/preserve bananas in their house given the short duration for preservation, thus the average cost of preserving/storing was very low, 11 VND/kg or wholesalers/retailers and 2 VND/kg for retailers. This cost covered expenditure on materials which are used to store banana, including plastic bags, incense, old blankets or other materials except the depreciation of storage house. There was only one exporter who used modern method to store banana by keeping them in cold storage due to the requirements of the market destination. Thus, the average storage cost under this group was much higher than those of two above groups (44 VND/kg). As regards the place used to store/preserve bananas, most traders kept banana fruits in storage house or at their house (Table 8). Wholesalers also used these places of storage as the collecting place for wholesalers and wholesalers/brokers. Some wholesalers and wholesalers/retailers used a corner of yard to preserve bananas.

Table 6. Factors affecting buying/selling prices according to banana growers (n=99)

Factor	Number Reporting				Weighted Ranking Score
	No Problem	Less Important	Important	Very Important	
Differences in physical characteristics (color/ size/ weight)	9	7	57	26	2.01
Assurance of quality (recognized label, certificate)	22	27	43	7	1.35
Buying/ selling volume (large or small)	31	41	16	11	1.07
Distance of transport	22	41	23	13	1.27
Season	5	24	40	30	1.96
Prices of other fruits	13	19	30	4	1.38

Source: survey, 2016 and 2019

Table 7. Factors affecting buying/ selling prices according to banana traders

Factor	Weighted Ranking Score				
	R	WR	W	WB	Exp
Differences in physical characteristics (color/ size/ weight)	1.92	2.09	1.93	2.14	1.80
Quality assurance(recognized label, certificate)	1.47	1.09	1.27	1.71	1.75
Buying/ selling volume	1.11	1.00	0.87	1.00	0.80
Distance of transport	0.98	1.45	1.47	1.14	0.80
Season	1.57	1.55	2.20	1.86	1.40
Prices of other fruits	1.87	2.09	1.87	1.43	1.00

Source: survey, 2016 and 2019

Table 8. Preserving/ storing activities of banana traders, Khoai Chau district, Hung Yen province

Indicator	UNIT	R	WR	W	WB	EXP
Preservation banana's length of time						
Average	Days	5	8	1	2	2.2
Max	Days	14	10	3	4	3
Min	Days	2	5	0	1	1
Average storage/ preservation cost	VND/kg	2	11	1	0	44
Storage/ preservation place						
Outside/ Yard	%	2	36	40	-	-
Storage house	%	95	36	60	100	100
Both	%	3	27	-	-	-
Method to preservation						
Traditional	%	100	100	100	100	80
Modern	%	-	-	-	-	20

Source: survey, 2016

Table 9. Operational efficiency by type of market participants

Type of market participant	Average buying price (vnd/kg)	Average selling price (vnd/kg)	Value added (vnd/kg)	Average marketing cost (vnd/kg)	OEI (%)	Net profit (vnd/kg)
Grower		3,123		362		407
R	3,926	6,660	2,734	1,799	153.79	935
WR	2,527	5,001	2,474	1,670	150.91	804
W	2,527	3,453	926	609	153.67	317
WB	2,814	3,320	506	224	226.68	282
Exp	3,320	7,048	3,728	2,464	150.97	1,264
F- test	61.73	383.0964		188.04	17.92	
P-value	5.76E-31	3E-115		1.0022E-82	4.3E-12	

Source: survey 2016

3.5 Operational Efficiency by Type of Market Participants

Based on the data gathered from farmer and trader household surveys, the average selling price, average buying price and average marketing cost for firm and for one kilogram of banana of each market participant in each group were computed using the weighted method. Thereafter, the value added (alternatively called marketing margin), which was the difference between the selling and buying prices and the operational efficiency index (OEI) were calculated. ANOVA analysis was performed to test the differences in mean buying prices, selling prices, marketing costs and OEI among the different market banana groups.

For different banana player groups, there was a significant difference in the mean buying prices, selling prices and marketing costs per kg of bananas at 1% probability level. Particularly,

exporters operated at the highest marketing cost (2,464 VND/kg) compared to other groups. This is due to the high cost of packaging and transport. However, they also obtained the highest selling price and therefore obtained the highest net profit with 1,264 VND per kilogram of banana traded.

Average marketing cost per kilogram of retailers and wholesalers/retailers group was the second and the third highest positions, respectively. It is interesting that their net profit of one kg banana traded also was the same order with their marketing cost, due to the fact that they had the high selling price. Although having the lowest marketing cost, the wholesalers/brokers group obtained the lowest profit per kilogram of bananas (282 VND per kg) due to their low value added. Farmers' profit per kg of bananas was 407 VND. This value was higher than that of the wholesale group (VND317) but lower than average value for all trader groups (849 VND).

In reference to the OEI, there was a significant difference in mean OEI per kg of bananas at 1% probability level. Furthermore, OEI of all types of market participants was higher than 100% implying that at all stages, marketers operated efficiently. This finding was consistent with the result obtained by Garba et al. [12], in which shea butter market was determined to be efficient, with a ratio of marketing efficiency for all marketer groups greater than 100 percent. Among traders, wholesalers/brokers had the highest ratio of OEI (226.68%), indicating that maximization of the rate of output in terms of value added to input in terms of marketing costs was recorded by this group, leading to the most efficient business operation for this group.

4. CONCLUSION

The flow of fresh banana product in this region shows banana passing through 13 channels for both domestic and international markets. Channel 2 (Growers-Wholesalers/retailers – Consumers) and channel 5 (Grower – Wholesalers- Retailers- Consumers) were the two major distribution channels of domestic market while channel 7 (Growers – Wholesalers-Wholesalers/brokers – Exporters –Consumers) and channel 9 (Growers – Wholesalers/brokers-Wholesalers/exporters – Consumers) were the two main channels of international market. Bulk of banana handled was consumed by domestic consumers at 89.7% in which Hanoi was identified as the major market outlet, while only a small volume (around 10%) was exported to China, Russia, and other countries.

Similarly, at traders' level market, non-contract was popularly applied by retailers in both selling (98% of total volume sold) and buying (53% of total volume bought) operations. Cash on delivery and maintaining friendly attitude with consumers were the most popular selling and buying strategies adopted by retailers. Moreover, the research results indicated that retailers had relative power to set buying and selling prices.

For other traders' groups, informal and formal contracts were dominant strategies adopted by these traders, especially wholesalers/brokers and exporters during selling–buying processes to ensure quality product supply and demand. Cash in advance was the strategy applied by some large exporters and wholesalers/brokers in selling. Research results further showed that exporters who controlled large market relatively had power to set both buying and selling prices. Furthermore, while friendly attitude to consumers

was a major sale promotion policy adopted by traders, selling quality products, however, was a strategy used by exporters to attract buyers. However, traditional method was adopted in preserving/storing and transporting banana by all market participants in this region.

Majority of banana growers have small operations and engage in small transactions and individually with buyers. They do not have market power in setting the price. They are often faced with unstable price and difficulty in entering high income market. Establishing banana grower association in each commune would enable growers to maintain and monitor the quality of banana especially among small growers. Though collective marketing, they can link with large and stable potential markets such as supermarkets and other institutional buyers.

CONSENT

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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