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**MARKET STRUCTURE & MARKETING CHANNEL ANALYSIS:
THE CASE OF ORANGE IN THE MEKONG RIVER DELTA - VIETNAM**

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1. Introduction

1.1. Background of the Study

In recent years, the Vietnamese fruit sector has been rapidly developing, and Vietnam has the potential to become one of the large fruit export country in the world. The value of fruit export reached 213 million US dollars in 2000 and 300 million US dollars in 2001 in comparison with that of the period of 1991-1999 it was 49.8 million US dollars. This indicates great capacity for fruit production and large potential for fruit export. Really, fruit production in Vietnam has the strengths such as abundant varieties of fruits, favourable natural conditions, large labor force, and mass production ability. Total area of fruit cultivation increases 6.5 percent in average per year compared to that of the previous decade (R.H. Ford *et al.*, 2003). Every year Vietnam produces 5 million tons of fruits, 15 - 20 percent of which are exported to other countries around the world, and the rest is consumed in domestic market via different networks (Hai, T.T.B., 2004). In addition to the favourable natural conditions, the Vietnamese government has offered new policies to stimulate the re-orientation of land use. At present, there are a number of farmers in the Mekong River Delta (MRD) growing fruit crops instead of rice due to the attractive profit from fruit production.

Nevertheless, the Vietnamese fruit sector has been facing with unstable and unsustainable development. In fact, after several years achieving very impressive growth in fruit export, the value of fruit export from Vietnam only reached 200 million US dollars in 2002, a serious decrease in comparison with that in 2001 (Vinafruit). In terms of fruit production, many farmers in the MRD cut down their fruit crops in order to plant others because the market price of fruits keeps changing (Hai, T.T.B., 2004). This may imply that there are many weaknesses and constraints/obstacles in the Vietnamese fruit marketing system which limit competitiveness of the Vietnamese fruit sector.

In the trend of market globalization, the pressure of competition in the Vietnamese fruit sector increases fiercely. The Vietnamese fruit sector has been confronting of competitors consisting of Thailand (the number one fruit export

country in the World) and China not only in the international market but also in the domestic one (R.H. Ford *et al.*, 2003). In order to gain ambitious objectives of the Vietnamese government as well as Vinafruit for fruit sector, an important question posed is how to develop a stable fruit production and effective and efficient fruit marketing.

1.2. Objectives of the study

This study offers an in-depth understanding about of market structure and marketing channel of orange, which is one of the key fruit products in the MRD region. In addition, the study is aimed to answer the question what specified further research is so that to propose solutions for enhancing the competitive capacity of the fruit marketing system as an effective supply chain.

In order to reach this objective, the following steps have to be done:

- (1) To analyze the status quo of production system on orange in the MRD;
- (2) To analyze the orange distribution channels from fruit grower to final consumer related to distribution structure and interactions among major participants in the channel;
- (3) To identify the key weaknesses and constraints/barriers which limit competitive capacity of the Vietnamese orange sector;
- (4) To suggest the specified (further) researches and/or programs that support for developing the effective and efficient orange marketing system in the MRD – Vietnam.

1.3. Research Methodology

In this study, the SCP approach is integrated with the marketing channel approach, and the division of value-created approach will be applied. In addition, domestic resource cost (DRC) analysis is also used to present comparative advantage in the production of orange in the MRD. These approaches are used as a guideline, to identify the different aspects of the problem.

According to SCP model, there is a dynamic relationship between market structure, conduct and performance. Market structure and market conduct influence market performance. In turn, market performance will influence market structure and market conduct in the long run (See Figure 1.1 below). It is clear that performance in particular industries or markets is said to depend upon the conduct of sellers and buyers with regard to pricing policies, product line, investment in production facilities, and so on. Conduct depends in turn upon the structure of the relevant market, embracing such features as the number and size distribution of sellers and buyers, the type of marketing channels, the degree of product differentiation, the presence or absence of barriers to the entry, etc.

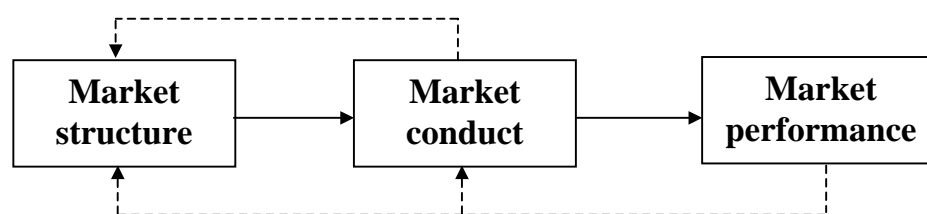


Figure 1.1: Dynamic model derived from the SCP approach

According to Hai (2003), he applied SCP model and integrated some concepts of the theory of institutional economics and the marketing channel approach in his paper. Table 1.1 (page 5) presents the principal aspects that were used by Hai.

Knowing that there are thousands of farmers and assemblers involved in the orange market, we are allowed to assume that competition is high. Therefore, there is not much room for actors in the market to behave independently; they have to follow the market rules as defined by its structural elements¹. In this paper, the element of “buyer and seller concentration” will not be considered as thousands of orange growers are small scale producers; and hundreds of assemblers, wholesalers and retailers are small scale traders. Thus, buyer and seller concentration is not a relevant element and will not be used in this study.

¹ Bain, J.S. (1968). *Industrial Organization*, 2nd Edition, John Wiley, New York.

Table 1.1 Elements of Structure-Conduct-Performance

Elements of structure	Elements of conduct	Elements of performance
- Intermediaries involved in the marketing system	Conduct with respect to:	- Effectiveness of supplied services; product suitability in relation to consumer preferences
- Barriers to entry and exit	- Buying	- Efficiency of supplied services
- Buyer and seller concentration	- Selling	+ Rate of profit in relation to marketing costs and price margins (arbitrage in time, space and form).
- The assortment of product quality	- Transport	+ Transaction cost analysis (market searching; negotiating and concluding a contract; enforcing a contract)
- Distribution of market information	- Storage	+ Analysis of price differences and seasonal price fluctuation
- Structure of marketing channels	- Negotiation	+ Market integration
- Price formation process	- Processing	- Dynamic analysis of the market process
- Rules and/or regulations that coordinate market exchange.	- Information	
	- Finance/risks bearing	
	- General trading strategies that traders conducted in order to follow market rules and increase marketing efficiency (reduce transaction costs)	

Source: Luu Thanh Duc Hai, 2003²

In addition, to analyze the elements of performance, this paper will not evaluate the efficiency of marketing channels, market integration, as well as the transaction costs because of limited data. In Hai's model, one of the components concerned is an analysis of "margin". We also apply this method and use the result to analyze the distribution of value created among actors in the supply channel. Consequently, Table 1.1 was modified into Table 1.2 which contains all main elements under study in this paper.

² Luu Thanh Duc Hai (2003). *The organization of the Liberalized Rice Market in Vietnam*

Table 2: Modified Elements of Structure and Performance

Elements of structure	Elements of performance
<ul style="list-style-type: none"> - Intermediaries involved in the marketing system - The existences of entry and exit barriers - The assortment of product quality - The distribution of market information - Price formation process - Rules and/or regulations that coordinate market exchange. 	<ul style="list-style-type: none"> - Effectiveness of marketing channels; supplied services; product suitability in relation to consumer preferences - Value-added and value created analysis to identify where the economic value is created within a value chain - Analysis of price differences and seasonal price fluctuation

Elements of market structure

With respect to market structure, first of all we pay attention to the actors/intermediaries involved in the marketing system by interviewing actors in the marketing channel. This information defines the general picture of the channel systems. The term intermediary refers to any channel member other than the manufacturer or the end-user. The marketing channels information is also integrated into the first element of market structure (actors/intermediaries). Marketing channels are defined as the flow of products from the place of production to the place of ultimate consumption. The marketing channels help to determine the relationships between different actors in the markets. Secondly, we focus on competition by using three major criteria: the existence of entry and exit barriers, the assortment of product quality and distribution of market information.

- The existence of entry and exit barriers influences the competitive relationship between firms and potential entrants. If the barriers to entry and exit are minimal, new firms can easily enter into and exit from the swine markets and compete with established firms. However, with the presence of very high barriers to entry and exit, established firms become well protected from potential rivals³. There are three main types of

³ Philip Kotler. *Marketing Management*, 8th

structural entry barriers: (1) Control of essential resources: an incumbent is protected from entry if it controls a resource necessary for production; (2) Economies of scale and scope. When economies of scale are significant, established firms operating at or beyond the minimum efficient scale will have a substantial cost advantage over smaller entrants. Economies of scope in production stem from the flexibility in materials handling and scheduling that arises from having multiple production lines within the same plant. Economies of scope in marketing are due to substantial up-front expenditures on advertising that are needed for a new entrant to establish a minimum acceptable level of brand awareness. Economies of scale and scope create barriers to entry because they force potential entrants to enter on a large scale or with many products to achieve unit cost parity with incumbent firm; (3) marketing advantages of incumbency. Exit barriers arise when firms must meet obligations whether they produce or not⁴. In the case of orange, the entry and exit barriers will be measured by lack of working capital, unstable output market, severe competition, fluctuation of market price, market information.

- The assortment of product quality examines the extent to which sellers differentiate, distinguish or express their specific preferences among competing products of the various sellers. Factors such as product quality and kinds of product marketed are common attributes of product differentiation. In the case of orange, product differentiation both at the farmers' and the traders' level are examined in terms of different kinds of orange; degree of size/weight; and different in maturity level.
- The distribution of market information refers to the availability of relevant market information. This could be expressed by assessing the producers' awareness of the market price, the manner by which price information is disseminated among producers. The distribution of market information shows how market information is disseminated to producers and traders,

⁴ D.Besanko, Dranove, M. Shanley and S.Schaefer. *P301 - 310, Economics of strategy, International Edition.*

what/who are the sources of market information, and the adequacy of this information in terms of reducing risks.

The process of price formation is determined by the following fundamentals: market power, bargaining skills, and some transaction specific characteristics such as quality of product, volume of sales per transaction, and sales location. In general, a large trader usually has high market power on setting prices in the market. Quality of product is related to consumers' preferences. Volume of sales expresses the sales of traders and retailers. Finally, sales location will directly effect to the price of a product as transport costs may be significant.

Rules and/or regulations that coordinate market exchange: we focus on describe the role of government in orange market and major policies and regulations changes to promote and enforce orange trading.

Elements of market performance

Analyzing market performance we focus on the degree of effectiveness in marketing system.

Effectiveness means that marketing channels should offer proper service outputs. It means that the distribution channel has to meet the demand for services expressed by consumers. First of all, the marketing channel has to provide the following generic services: exchange functions (ordering, assembling, negotiation, market information, payment and distribution), physical functions (storage, processing, transport), and facilitating functions (grading, financing)⁵. In the case of orange, the key functions of generic services will be examined to see each function work well or not.

Division of value – created

Value-created is the difference between the benefit B and the unit cost C of the product.

⁵ Anne T.Cougnlan, Erin Anderson, Louis W.Stern, Adel I.El-Ansary, PP 10, Marketing Channels, 6th Edition, Prentice Hall.

Value-created = Consumer surplus + Producer's Profit

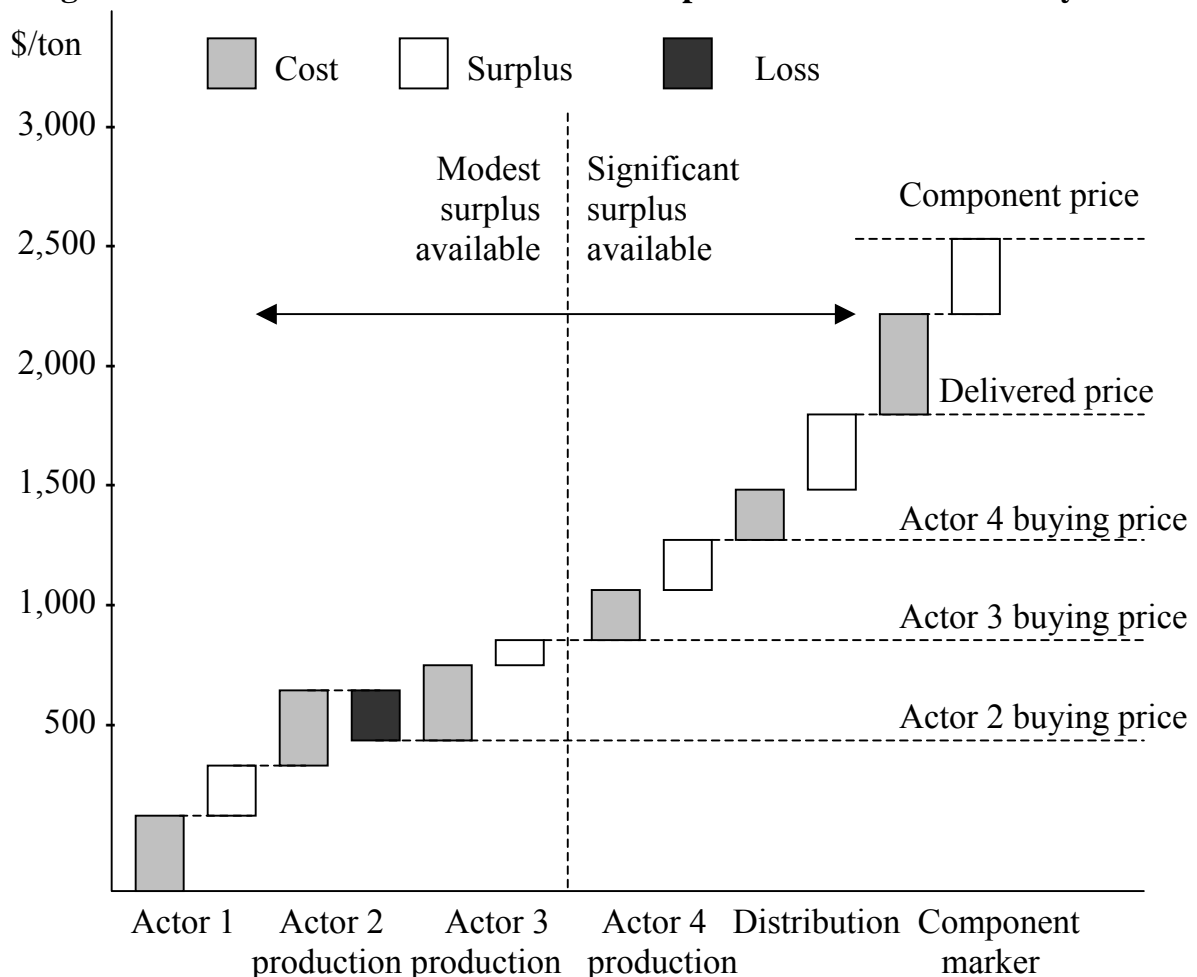
$$= (B - P) + (P - C) = B - C \quad \text{Where: B is benefit; C is cost.}$$

Value – added analysis is a tool for understanding where economic value is created within a firm's value chain.

The value – added analysis proceeds as follows:

- Value-added in manufacturing = profit that would have been made if the all product of producer are sold to next actor in the channel
- Value-added in distribution = incremental profit made by self-distributing product to retailers or to wholesalers⁶

Figure 1.2 Division of value – created in the production of one industry



Source: Adapt from Figure 11.11 in D.Besanko, D.Dranove, M.Shanley and S.Schaefer, "Economics of Strategy", Wiley International Edition, 3, 2004, pp. 382.

⁶ D.Besanko, D.Dranove, M. Shanley and S.Schaefer, *PP 418-419, Economics of strategy, International Edition*

Figure 1.2 illustrates the division of value –created in one industry. Actor 1, 2 and 3 capture only modest portions of the overall value-created. They are characterized by strong price competition and low profitability. Distributors and actor 4, by contrast, capture a relatively larger proportion of value-created and earn high profit.

Division of value-created will be applied in the case of orange. Each actor in the orange marketing channel will be analyzed based on their production costs, incremental cost and marginal profit in order to define the distribution of profit among actors. Then there are two ratios will be used in analyzing: profit margin - total cost ratio and profit -incremental cost ratio.

$$\text{Profit margin total cost ratio} = \frac{\text{Profit margin}}{\text{Total cost}} \quad (1)$$

$$\text{Profit Incremental cost ratio} = \frac{\text{Profit}}{\text{Incremental cost}} \quad (2)$$

These ratios will show the relationship between profit margin and total cost (or extra cost) that each actor earns. Then, a comparison between these ratios for each actor in distribution channel will be performed to determine which actor has high percentage of profit in order to find out reasons why profit of each actor is distributed differently and have further researches in the future.

To do above things, primary data are collected to estimate production cost of producers; marketing costs and marketing margins of various traders. From these results, total cost and total marketing costs of various marketing channels will be calculated. Direct marketing costs include costs for labor, materials for packaging, fuel and electricity, taxes and licenses. Thus the percent share of each cost item for each type of trader is computed.

Secondly, profit margin measures the rate of return on gross sales after all costs in rendering marketing services have been deducted. The profit margin will be calculated as follows:

$$\begin{array}{rcccl} \text{Profit margin} & & \text{Total marketing margin} & & \text{Variable marketing cost} \\ \text{of each type} & = & \text{of each type} & - & \text{of each type} \\ \text{of trader} & & \text{of trader} & & \text{of trader} \end{array}$$

Domestic resource cost (DRC) analysis is used to present comparative advantage in the production of a given crop for a particular country. DRC compares the opportunity costs or shadow prices of domestic resource used in production with the value added that it generates. A country has a comparative advantage in the production of a commodity if the social opportunity cost of producing an incremental unit is less than the border price of the commodity (Pearson et al., 1976). DRC also express the efficiency of alternative domestic production activities by indicating the total value of domestic resources required to generate or save a unit of foreign exchange (Shahabuddin, 2001).

1.4. Data Collection

The methodology used by this study is to synthesize findings of several relevant studies and supplemented by the results of our research group conducted in 2005. We interviewed actors of supply chain of fruit in the MRD consisting of 20 fruit growers and 20 traders including assemblers, wholesalers and retailers in two provinces: Vinhlong and Cantho, where Citrus orange and Honey orange are grown commonly. The primary information will be used to assess the problems, constraints or obstacles, and barriers which the participants in the orange marketing system are facing. Secondly, the data will be used to estimate marketing costs and margins. Moreover, the results of this survey will demonstrate the behaviour of traders. In terms of the key secondary data, yearly price of orange from 1990 to 2001 will be gathered and it is used to demonstrate the trend of fruit price during this period. In addition, we also collect data the monthly price of orange in 2004 to measure the seasonal price variability.

1.5. Limitation of the scope of the study

The study is conducted in two provinces including Vinh Long province and Cantho city. In addition, due to limited data, the study does not focus on analysis and evaluation the efficiency of marketing channel, market integration, as well as the transaction. The study also does not consider on foreign trade and the limitation data from supermarket system.

1.6. Organization of the Study

The study is organized into 5 sections. The introduction section, presents the statement of problem, the objectives of the study, the research methodology and the scope of the study. Section 2 gives an overview of the fruit production and trade in the Vietnam in general and in the MRD in particular. Section 3 will present an analysis on structure of the orange marketing system in the MRD – Vietnam. Also in this section, the strengths and weaknesses as well as constraints of the orange marketing system in Vietnam will be demonstrated. Section 4 will analyze the performance of the orange market in the MRD - Vietnam. Production and marketing costs and profit margins between various actors in the orange marketing channels will be estimated and analyzed. Moreover, the trend of orange market price and seasonal orange price variability will be demonstrated. Last but not least conclusions and recommendations for specified further researches and programs for developing the effective and efficient orange marketing system in the MRD – Vietnam will be suggested in the section 5.

2. Overview of Vietnam Fruit Production Industry

Information on Vietnam fruit sector is provided in this section. In the first part of the section, there will be an introduction to production activities of the country's and the Mekong Delta's fruit industry. Next are competitive advantages and effectiveness in the Mekong Delta's fruit industry. Third, the section includes the fruit output in Vietnam in the past few years. Finally, influence of policies and mechanisms on the fruit industry will be discussed.

2.1. The growth of fruit trees

There has been an increasing area of fruit tree in Vietnam during the past years, excluding the year of 1998 because there was 9.78% decrease over 1997. However, in 1999 there was an increase of 19, 03% in the land area of fruit tree, equivalent 496,000 hectares. During the 10 years from 1995-2004 there was an amazing increase in the area: the 1995 land area was 346,000 hectares but in 2004 the area increased 216%, equivalent of 747,800 hectares; the growth of annual increase was 8, 9%.

Table 2.1 Land Area of fruit trees in Vietnam 1995-2004

Years	Land area (1000 ha)	Growth (%)
1995	364,4	-
1996	384,8	5.59
1997	426,1	10.73
1998	384,4	-9.78
1999	496,0	29.03
2000	544,7	9.82
2001	609,6	11.91
2002	677,5	11.14
2003	692,2	2.17
2004	747,8	8.03

Source: Synthesis from the General Statistical Department, the Ministry of Agriculture and Rural Development, the Agricultural Planning & Design Institute and Department of Agriculture of provinces

Longan has been planted on the largest area of 122,000 ha (16.4% of other fruit trees) out of 747,800 ha in 2004. Segmental fruit trees (orange, buoi (grape-

fruit), quit (tangerine) ranking second on an area of 11,00 ha (15,3%); Banana third on an area of 122,091 ha (14%). Litchi fourth on an area of 87,700 ha (11.7%). Fifth is mango on an area of 79,300 ha (10.6%).

Land area of fruit trees is non- stop expansion and then there is a fast growth of productivity. There was 6.2 tons of fruit of different kinds nationwide.

The VN fruit sector has lot of prospects with a total area of planting of 6.5% over the last decade on the average. This growth rate doubles, compared with food plants but not higher than industrial trees. In spite of its high growth, there is a low ratio of fruits of the total agro-productivity. Most of farm families plant fruit trees and vegetables and 85% of them grow at least one kind of fruit tree or vegetable. Fruit is mainly for sale, not for personal consumption. 74% of the fruit is sold on the local markets. The market share of VN fruit is 46% in the North but 91% in the Mekong Delta of South Vietnam. This imbalance in the market share shows that fruit from the South is more commercial than that from the North

Segmental fruit trees (orange, buoi (grape-fruit), quit (tangerine) which are mainly cultivated in the Mekong Delta and has a quite fast increase in land area and productivity rank second after Longan.

The figure in Table 2.2 shows that from 2003 to 2004 Can Tho (including Hau Giang), Tien Giang, Vinh Long, Ben Tre, Dong Thap have the largest land area for cultivation , products and productivity. In reality, those provinces have a long tradition in planting such kinds of tree in the Mekong Delta as well as in the country. Kien Giang and An Giang are volunteers in planting grape-fruit (Buoi) because of its financial gain. No fruit trees are found in Bac Lieu and Ca Mau; if found, very few trees with little productivity.

Table 2.2. Land area and segmental fruit trees in the Mekong Delta 2003-2004

	2003						2004					
	Orange			Grapefruit			Orange			Grapefruit		
	Area (hectare)	Area for Product (hectare)	Production (ton)	Area (hectare)	Area for Product (hectare)	Production (ton)	Area (hectare)	Area for Product (hectare)	Production (ton)	Area (hectare)	Area for Product (hectare)	Production (ton)
Mekong Delta	40.800	28.900	351.900	11.900	6.200	81.200	45.970	32.228	381.820	14.234	8.298	108.916
L.An	100	100	500	0	0	0	109	100	427	28	21	105
Đ. Tháp	2.600	1.900	22.200	200	100	800	2.142	1.927	19.881	147	128	734
A. Giang	0	0	0	0	0	0	27	12	13	0	0	0
T.Giang	6.200	3.200	56.900	333	1.700	28.500	7.503	4.861	84.520	3.388	2.596	43.039
V.Long	7.700	5.300	50.800	4.200	2.200	27.700	6.959	4.139	41.007	5.722	3.360	41.638
Bến Tre	7.400	4.900	80.500	1.200	500	8.400	10.002	5.613	78.982	1.742	736	10.419
K.Giang	0	0	0	0	0	0	1.395	1.375	2.503	0	0	0
Cần Thơ	12.400	10.400	110.000	1.400	1.000	10.000	12.521	10.531	117.300	677	459	4.730
Trà Vinh	2.300	1.800	19.500	800	300	3.800	2.803	1.975	21.313	955	441	5.124
S.Trăng	2.100	1.300	11.300	1.100	400	1.900	2.509	1.805	15.864	1.575	557	3.127

Source: Agriculture Planning & Design Institute and Department of Agriculture of Provinces (Distributed by SOFRI)

2.2. Effectiveness and DRC advantage in the Mekong Delta's fruit industry

Because cultivation of the fruit trees in Vietnam in general and in the Mekong Delta gain more benefits than other plants, this kind of cultivation grows fast. In fact, the value of fruit is 10 times higher than rice per ha. Hai (2002)'s survey of effectiveness of fruit industry, Sanh orange, Nam Roi grape-fruit, mango and durian trees bring very high profits. The table 2.3 below shows the ratio between benefits and investment into such fruit trees as orange: 8.69; mango 8.82; Nam Roi grape-fruit 10.07 and durian 13.57. Compared with 3 rice crops/1 year, the ratio only 0,49. This means investment of 1 VND into orange gets an interest of 8.69 VND; Nam Roi grape-fruit, an interest of 10.07 and rice 0.49 VND.

Table 2.3. Economic effectiveness of some other crops

Plant	Average price (1,000VND per ton)	Income (1,000VND per hectare)	Gains (1,000VND per hectare)	Profit/Investment Capital
Rice	1,500	3,808	2,452	0.49
Corn	2,500	3,149	2,466	1.66
Grapefruit	7,000	151,305	143,145	10.07
Orange	6,000	95,551	89,693	8.69
Rambutan	3,000	61,073	55,880	3.32
Longan	4,000	62,350	55,591	3.88
Mango	5,000	86,136	80,837	8.82
Durian	10,000	151,956	149,022	13.57

Source: Hai, T.T.B., (2004). "Development Orientation of the Fruit Processing Sector for Vinh Long Province to 2010"

When evaluative index of DRC is applied to analyze comparative advantage of the Mekong Delta's fruit, comparative income and interest are still high, even though at the lowest price of the fruit (Hai, 2002). Three crops of the

most comparative advantage are durian, grapefruit and orange. If durian is at the lowest price (5,000 VND/kg) the DRC index is 0.11. Then the income is 72 million VND and interest is 69 million VND/ha. When it is at the highest price DRC is 0.09 and then interest is 143 million VND. When DRC of orange is 0.11, interest is 89 million/ha. The survey finding says that if labor price increases 1,5 times and the cost of land use doubles, fruit trees have a comparative advantage. At the same time, income and interest are still higher than other yearly crops

2.3. The fruit output

Vietnam produces about 3,8 million tons of fruit and 5 million tons of vegetables. Export is around 15-20% of the total product value due to the majority of local consumption. Processed products such as canned, dried and frozen occupy 85-90% of the whole range of export products. (Extracted from “the competitiveness of Vietnamese pineapple and tomatoes” by T.K.Thi, FAO and MARD, 2000)

On the above mentioned land area, Vietnam is the top producer of fruit in South East Asia. Vietnam may have been a strong producer of fruit but the export turnover of fruit is on a great decline. For instance, in 2001, the export turnover of vegetable (mainly fruit) of the whole country reached 333 million dollars; in 2002 down to 220 million dollars and 2003 to 182.5 million dollars and 2004 saw no optimistic signs. In the Mekong Delta price of durian dropped from 25,000 VND/kilo to 6,000-7,000 VND/kilo; Hoa Loc mangoes and rambutan's price declined to 50%-300% in comparison with the one of early May, 2004. A few years later, the turnover greatly raised, the export markets had a sharp drop in 2002 due to newly established regulations by China, the biggest exporter of Vietnam. The media (press) reported that export of fruit to China declined to another 40% particularly in March (Fruit Export to China, Vietnam, 3 April 2003). Export activities of fruit in Vietnam from 1991-2002 are illustrated in the Table 2.4.

Table 2.4. Export turnover of fruit in Vietnam 1991-2002

Year	Million dollar	Growth (%)
1991	33	-
1992	32	-3.03
1993	24	-25.00
1994	21	-12.50
1995	56	166.67
1996	90	60.71
1997	69	-23.33
1998	53	-23.19
1999	70	32.08
2000	213	204.29
2001	300	40.85
2002	200	-33.33

Source: Vinafruit

The export turnover is chiefly formed from export to China, Laos and Cambodia at the border which are considered to be easy-to-please markets. However, Vietnam fruit has been introduced to hard-to-please markets such as USA, Japan, Taiwan, Australia and Europe because of strict requirements on quality. To be more consumed at those markets, Vietnam fruit still need to comply itself to international standards.

The Ministry of Trade said in 2004, the export turnover of VN vegetable to China greatly declined only reaching 20 million USD (14%) compared with 2001, the year with the highest turnover during the past 5 years and equivalence of 29.65% in comparison with the one in 2003 which was the year with the lowest turnover (compared with the last years). Un-ability to turn geographical advantage

(the market near the country) into export advantage due to models, bags and packets and preservation measures.

China, Taiwan, Japan, Hong Kong and Russia are the main importers of Vietnam fruit. Sale conducted through private brokers reduces producers' profits. The sale is risky because the payment is done at different times without an ensured credit letter. Only when the lot (container) of fruit is delivered the final payment is paid.

While most of fresh fruit is exported to China, most of canned or frozen fruit is exported to Europe and USA. Generally, Vietnam's processed fruit is known to be poorly preserved and hygienical (including pesticides and fertilizers with high level of poison) but the price is high. There is an estimation of loss of 20% caused by darkened or spoiled qualities).

Fruit products have conquered the local Vietnam markets but consumers still having a psychological interest in foreign or strange products buy imported fruits mainly from Thailand and China. The imported fruit is expensive and the one (most imported) from China and rumored to be not as good as Vietnam fruit. It is due to the Chinese producer utilize a lot of pesticide and chemicals prohibited by international communities. However, appearance of China fruit is more eye-catching in colors and packages.

The majority of the Vietnamese eat their local fruit while foreigners especially Chinese businesspersons buy Vietnam fruit at the two countries border. Private companies purchase fresh fruit while state-run companies mainly produce canned and frozen fruit. The Vietnamese government has intention to set up 3 major centers located in Ho Chi Minh City, Cai Be (Tien Giang and Ha Noi) to collect and buy fruit from different corners of the countries.

The main export produce of Vietnam comprises coconut, apple, banana, mango, longan, Thanh Long and rambutan. Tropical fruit trees mainly grow in the South of Vietnam. Although cultivation land and climate is suitable for the growth of tropical fruit, the productivity is lower than the world's average rate. The Vietnamese government set very ambitious objectives for export fruit and Vietnam

Fruit Association; Vinafruit was founded in 2001 and is building its strategies for the whole fruit industry in Vietnam.

On the other hand, fruit productivity/1 ha is greater than other food crops so the Vietnamese government has its policies to transfer land for food crops to land for fruit trees. Below is a table 2.5 showing the total harvest productivity in Vietnam.

Table 2.5. Harvest productivity and land area of fruit cultivation in Vietnam.

	The total productivity (ton)	Area (hectare)
Orange/Tangerine	405,000	63,000
Banana	1,234,000	95,000
Mango	189,000	41,000
Pineapple	263,000	32,000
Longan, Rambutan, litchi	545,000	131,000
Cashew	41,000	168,000
Coconut	1,134,000	190,000

Source: Vinafruit

The rate of consumption of fruit and vegetable per capita is around 71 kilos/year; of which $\frac{3}{4}$ is consumption of vegetable. The spending of money for fruit and vegetable (including spending for family) is around 126,000 VND/ a person and 529,000 VND/ a family. This figure is 4.5 of a family's total yearly spending cost.

According to some experts in the field, some reasons for the above are:

(1) Fruit-for-sale productivity and quality are poor; so the competitiveness is restricted both in the country and foreign countries. This conforms to the remark that Vietnam fruit has poor quality but its prices are not competitive on the markets. It is not deniable that fruit from Vietnam especially from the Mekong Delta is tasty but production is not on large scale so the price is higher than other

countries in the region, which lowers the competitiveness and consumption in the country.

(2) There hasn't been a set up of areas specialized in one kind of fruit cultivation. There are 27 fruit production areas but a few areas specialized in Thanh Long (Binh Thuan), grapes (Phan Rang), Thieu litchi (Luc Ngan, Bac Ninh), star-apple (Vinh Kim). There is still 25% of land area with a great variety of species of trees leading the fruit production is on a small scale. That situation is well recognized but its solution is not planned. If Hoa Loc mangoes and Com Xuong longan are not planned to be grown on a large scale, products from those fruits do not suffice for the local and export markets. If there is no plan for where and what fruit tree should be planted, farmers cannot get correct directions to grow it on a large scale.

(3) Consumption of agro-products among farmers is habitual: farmers-market. No large-scale- market has been set up except for the in the whole western of the Mekong region except for the float market (Phong Dien and Cai Rang) for sale of fresh fruit. There are just a few systems of collective/team production although Services of trade of the Mekong provinces have had plans to build whole sale markets.

In Tien giang, in addition to the national 12-hectare fruit trade center in Hoa Khanh, Cai Be District with a building investment of VND 92 billion, there are other whole sale markets such as Long Trung (Cai Lay District), Vinh Kim (Chau Thanh District), Thanh Tri (Ward 4, My Tho City). Now only infrastructures of the national fruit trade center in Hoa Khanh are just built. The building of whole sale markets in Vinh Kim and Thanh Tri has just been started. The Dong Thap provincial authorities approved a project for building of whole sale markets in My Hiep, Cao Lanh District.

The Ben Tre provincial authorities also decided to approve an investment of VND 9.3 billion from the whole sale market development capital granted by the Central government to build a whole sale market in Luong Quoi (Giong Trom District).

The People's Committee of Can Tho City also approved the building project of whole sale market in An Binh (Can Tho City). In the meantime trolleys of fruit with a notice "SALE OFF" drag themselves to every corner in the country.

(4) Trademarks are barriers leading to decline in sale and profits because of use of trademarks of other foreign companies. Thanh Long fruit is an example. Although Thanh Long fruit has the top quality in the regional countries, businesses in Long An and Tien Giang exporting to Taiwan have to use Taiwan labels. Vietnam fruit trademarks on the world market are not known yet.

2.4. Influences of the governmental and the management agencies' policies on oranges in the Mekong Delta

The Vietnamese government and local authorities issued and implemented many policies to encourage the development of fruit trees. These policies have positive significance on expansion of cultivation land area and productivity nationwide in general and in the Mekong Delta in particular.

1. Promotion policies for export products including vegetable by all economic sectors. In the Decision 133/QD-TTg approved by the Prime Minister, credit rules to support export activities. They give priority for export to all economic sectors. The priorities can be seen through short, medium and long-term credit capital. The medium- and long- term credit capital support investment interest and guarantee investment credit. The supports of short-term capital consist of short-term loans even given to businesses who have slow payment (2 years), guarantee in auction participation and in implementing contracts. The short-term loan priority is a new form and given to businesses exporting products including fruit which are on the encouragement list. Priorities confirmed in the Instruction 31/2001/CT-TTG dated December 31, 2001 allow export vegetable product businesses to enjoy award policies based on the turnover and to get preferential loans. As a result, investors of different economic sectors have more favorable conditions to invest and grow fruit trees. These policies lead fruit export turnover increase rapidly (Table 2.4).

2. Policies on farm economy, on encouragement of one-place planting of fruit tree specialization. These comfort investors and especially farmers to expand their production, to focus on specialized farming and to get favorable loans from the government. As a result, farm economy developed impressively both in quantity and scale. Lot of these farm plant fruit tree.

Table 2.6. Number of Farms by regions (2004)

	Total	Annual trees farm	Perennial Trees farm	Livestock farm	Fishery farm
The country	110,832	32,961	22,759	9,967	35,424
Red river Delta	8,131	347	619	2,473	2,478
North-East	4,984	121	1,134	400	1,027
North-West	400	45	83	106	14
North-Middle	5,882	1,551	1,081	556	1,160
Middle coastal	6,936	1,831	793	552	2,956
Central Highland	9,450	1,399	6,887	551	64
South-East	18,921	1,959	9,693	3,101	3,125
Mekong River Delta	56,128	25,708	2,469	2,228	24,600

Source: GSO (2003)

Besides, a project to produce high-quality species of some fruit trees in the South of Vietnam. This project encourages investors, investment into production of fruit tree species especially high-quality species, support for provincial plant variety centers and individual investing into high-quality and sickness-free plant species. However, both state-run plant variety centers and private farms can't meet the demand of plant species. As a result, investment into production of high-quality plant varieties is urgent in order to improve low-quality plant varieties.

3. A joint project to produce and consume safe fruit in the area of Tien River was founded and the steering and project management board was launched on March 21, 2005. The project helps to join farmers to produce fruit meeting EUREP-GAP. EUREP-GAP on food safety consists of standards on production, hygiene, work environment and origin tracing.

With sustainability in political regime and integration into regional and world economy, chances to develop the country's economy in general and

fruit tree industry are in particular great and especially the regions with many advantages like the Mekong Delta.

3. Structure of the Orange Market in Vietnam

This section will present several issues of the structure of the orange market in Vietnam. The first part of this section will present about steps of orange production. In addition, we will describe the various actors consisting of farmers and intermediaries involved in the supply chain of orange include assemblers, wholesalers, retailers and facilitators. Secondly, the orange distribution channels will be presented. The next part of section will analyze the competitive process in the orange market such as the barriers to entry and exit, access to market information, the process of orange price formation.

3.1. Description of Product: Orange

Orange product life cycle is 10 years, 3 – 4 years growing and first harvest after 3 or 4 years. In the established period, the farmers have to invest their capital into works such as seedling, land preparation, putting down fertilizer, spraying pesticide. In the harvesting period from 4th year to 10th year the farmers begin to get income and profit from selling their orange. In general, after 10 years the farmers have to re-growing new orange trees in their lands. The reason for that is the orange quality is very low and yield of orange also go down.

3.1.1. Steps of Production

- Land preparation: dig ditch – heap up
- Seedling – growing
- Watering – weeding
- Putting down fertilizer – spraying pesticide
- Pruning branch/leaf
- Spraying bloomed chemical and fruit nutrilitite
- Harvesting/picking fruit

3.1.2. Production – Yield capacity

Nowadays, by applying new scientific techniques, orange farmers can control their crop which get higher income. Main orange crop through from

October to December with yield about 22 – 27 tons/ha. In this period, orange quality is higher than in unseasonable crop but great quantity cause price lower.

In unseasonable crop, from May to July, orange yield is only about 10 – 15 tons/ha with lower quality. But, in contrast, orange price is also higher than main crop. Margin profit of farmers in main crop is about 51.593.000 VND, lower than orange growers in the unseasonable crop, 96.593.000 VND as shown in Table 4.3 in the Section 4.

3.2. Description of Product Supply Chain

Intermediaries involved in the supply chain of orange include assemblers, wholesalers, retailers and facilitators as shown in the Figure 3.2.

3.2.1. Orange Assemblers: Sometimes also known as the trader/transporter, they are the first link between orange farmers and other middlemen. They collect several small lots of orange from orange growers by their own capital and combine them into a single load at one location. To the extent they arrange for or provides shipping, the key function the assembler provides in addition to assembly is transport.

- Local orange assemblers

They are usually local people, who have an in-depth knowledge of cropping patterns, quality of different kinds of oranges and the production traditions of orange farmers. The local orange assemblers may be farmers located in the village. Normally, they have a small boat (1 – 2 tons capacity) used for transportation and a small working capital (around 1 million VND) at their disposal. They purchase orange directly from farmers and transport it to orange wholesalers, cooperatives or sell it at local trading places.⁷

- Orange assemblers-wholesalers

They are middlemen, which are usually located near the market places (for example, along the road, or near the river/canal where they easily can load and unload their products). The assembler-wholesalers usually own a medium boat

⁷ The case of Tam Binh District – Vinh Long Province.

(around 3 – 5 tons), but they do not own stalls in the market. They buy orange and ship large amounts to orange wholesalers.

3.2.2. Orange Wholesalers: They concentrate the various loads and puts orange into large, uniform units. These activities all contribute to price formation. In so doing, orange wholesalers provide information to suppliers (e.g., orange farmers, rural orange assemblers) and assumes to a varying degree the risks associated with the transfer of property rights attached to the products and services being bought and sold. They also facilitate mass and specialized storage operations, transportation and, in general, the subsequent distribution operations involving retailers.

Orange wholesalers own stalls or warehouses that are usually located along the canal, river, and main road. They perform the wholesale functions. They usually have a long experience with orange/fruit trading, strong relationships with other orange traders and good knowledge on orange quality and market prices. They buy a large amount of orange from local assemblers and/or assemblers-wholesalers and ship large amounts of orange to other provinces through so-called long-distance buying-selling.

3.2.3. Orange Retailers: The main function of orange retailer is to buy wholesale orange and sell to consumers at convenient locations and times in various forms and quantities. In more detail, orange retailers can be found on the markets: (1) orange retailer-assemblers involved in buying to complement their stock and (2) retailer-distributors involved in selling from their stock. In town, orange retailers often buy from wholesaler-distributors or their brokers and resell to the consumers. They may also travel to assemble in orange production areas. At harvest time in particular, when the villages in the vicinity of the market hold surpluses, orange retailers may prefer to purchase orange directly from the farmers. In addition, orange retailers may have a fixed base: a stall, a shop or a place on the ground, or they may be hawkers, who carry their products around.

3.2.4. Facilitators

There are several types of facilitators operating in the orange market. They provide different services that are necessary to orange traders. Usually, they are groups of private transporters to provide transport facilities (mostly transport by boat and truck). They may be operating as warehousing firms to provide good storage services to traders. Nowadays, both warehousing firms and transportation firms are considered as the most important facilitators in the market. Other facilitators are involved in function like: money suppliers, banks, quality control service, tax office, and other agents for market regulation.

One of the important facilitator in this study is the group of private traders and local authority who establish the so-called “central wholesale market place” to promote orange traders on buying and selling their products (the case of Tam Binh and Thu Duc market).

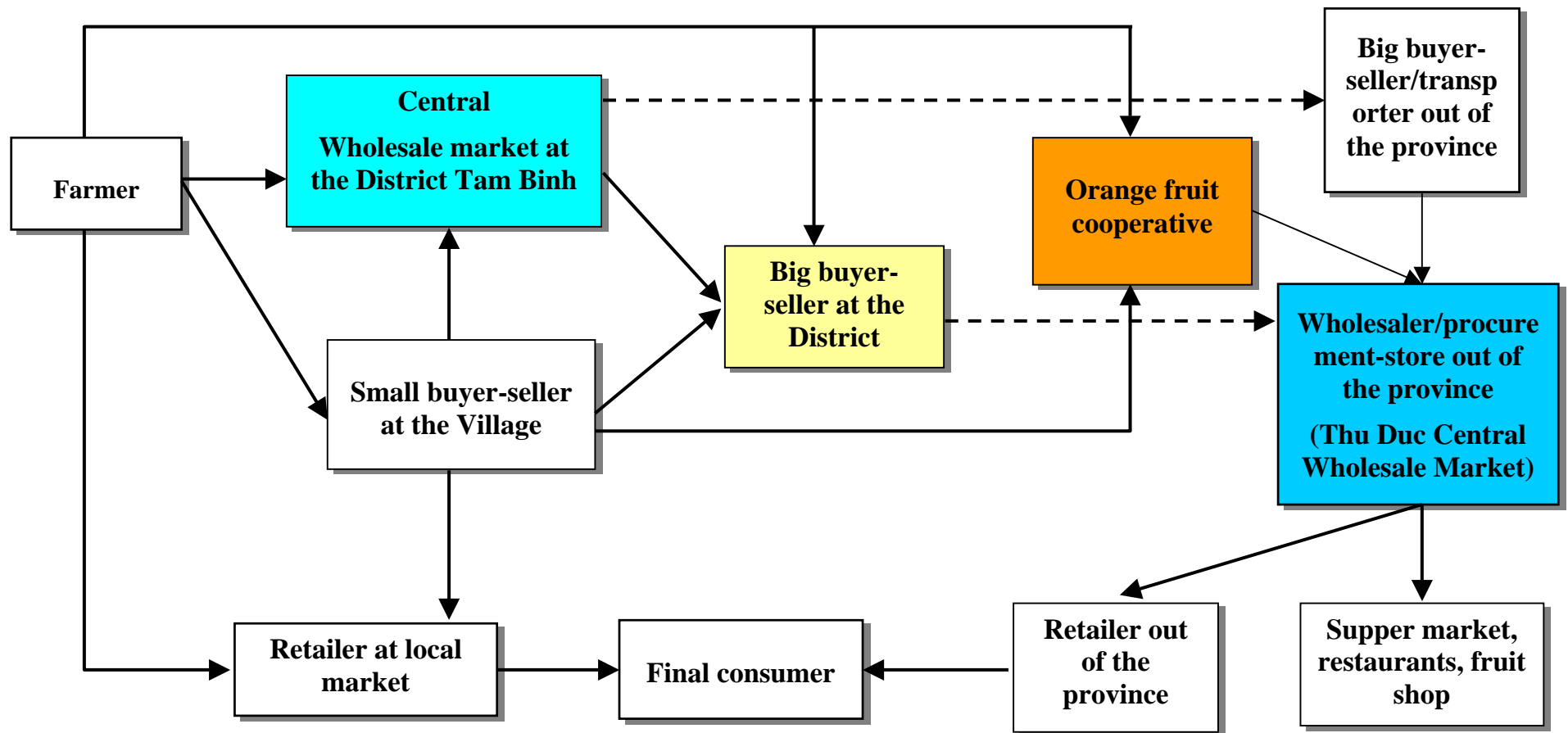


Figure 3.2 Marketing Channels of Orange

3.3. Competition in the Mekong Delta Orange Market

3.3.1. Degree of product differentiation

There are two kinds of orange: “Cam Mat” – Honey Orange and “Cam Sanh” – Citrus Orange, of which Citrus orange have higher price in the market. Honey Orange usual has smaller size as compared to Citrus Orange. The skin of Honey Orange is very smooth – the skin of Citrus Orange is dark green color and rough skin.

Orange farmers usually classify their product into 3 classes:

- 1st class: over 300 gram/piece
- 2nd class: 200 – 300 gram/piece
- 3rd class: lower 200 gram/piece

Based on the maturity level, fresh orange are classified into two classes: ripe orange and green one. Ripe orange was sold to HCM City (near market place) and the green one are transported to the North markets. Since, the quality of ripe orange will decrease after 3 or 4 days transportation.

Normally, fresh orange are directly sold in the market without any processing activities. Fresh orange are packaged in to soft boxes (transfer to Hanoi – far market place) or in to baskets (transfer to Ho Chi Minh City – near market place).

3.3.2. Barriers to entry into the market

The barriers include the various problems which prevent to entry on business of potential rival. In this study, we interview orange trades about the different levels of barriers to entry the orange business. Then we rank the level of importance for these barriers by grading. Various barriers to entry into the business were mentioned by the orange traders: lack of working capital, lack of product supply, unstable output market, high taxes, difficult to get the business license, and severe competition. For orange assemblers, the most important barrier to entry was lack of working capital (1st ranking, see Table 3.2), they seemly had less problems with taxes and the business license. In the case of orange wholesalers have mentioned certain barriers such as high competition to other wholesalers. We conclude that according to the perception of assembler and wholesaler entry into the rice business is not blocked by strong barriers, other than the lack of access to capital.

Table 3.2. Barriers to entry for orange traders.

<i>Barrier to entry</i>	Ranking important barriers	
	To assemblers	To wholesalers
1. Lack of working capital	1	2
2. Lack of product supply	4	5
3. Unstable output market	3	3
4. High taxes	5	4
5. Difficult to get license	-	6
6. Severe competition	2	1

Source: Own survey of 20 traders – 2005.

3.3.3. Relationship between different actors in the channel of distribution

After harvest, farmer ship fresh orange by boat or by motor to sell directly to central Wholesale market at the District and/or buyer-seller at the Village.

Big buyer-seller/wholesaler in other provinces (HCM City, Hanoi) use telephone to connect to suppliers, sometimes, they have to make a buying order in advance. For example, from Hanoi or HCM City, when the demand of fresh orange increase (during the off season), wholesalers will call to the buyer-seller in the district in order to reserve for certain amount of fresh orange that they want to buy.

In the case of local orange assemblers and/or small wholesalers who are near orange farmers, they come everyday for buying and selling without any appointment. Local assemblers usually have 3 – 4 regular orange farmers to supply. Small wholesalers mostly related to 2 – 3 regular buyers and large wholesalers have 4 – 5 regular buyers.

3.3.4. Transportation

The result of our survey also indicates that from the farm-gate to local market place, fresh orange are transported by small boat or motor. Usually, the farmers have to pay this transport cost. The transportation fee by motor is around 30,000 VND/ton – (distance 1 – 2 km).

In the case of large quantity of fresh orange that are supplied by big farmers, big buyer-sellers will come to the farm-gate to carry product, then they have to incur

that transport cost. The transportation fee by boat for 5 – 10 Km is around 50,000 VND/ton

For long-distance transport, large-scale buyer-seller often use medium truck 5 – 7 tons capacity or big boat for transporting their product to other provinces or market places. Transportation cost is 300,000 VND/ton (to HCM City) and 500,000 – 700,000 VND/ton (to the North markets).

3.3.5. Access to Market Information

The distribution of market information refers to the availability of relevant market information to farmers and orange traders (wholesalers/retailers). The result of this study indicates that around 93 – 95 percent of orange traders and farmers find it very easy to obtain market information. Few traders complain about the source of information (See Table 3.3). Those results reveal that a lack of access to market information is not a barrier to enter the market, since most of the information related to orange trading are easy to obtain.

Table 3.3 Access to market information

Orange Traders	Percentage of response to different levels (%)	
	Easy to obtain	Sometimes difficult
1. Farmer (n=20)	95.3	4.7
2. Assembler/wholesaler (n=20)	93.2	6.8

Source: Own survey among orange farmers and traders in Vinh Long and Can Tho – 2005

Sources of market information are described in Table 3.4. Most of orange farmers obtained market information from their neighbors and relatives (36.5 percent); some of them read newspapers, listen to the radio and/or receive information from middlemen. In case of orange traders, they obtained market information mainly through other traders in the channel of distribution (48.2 percent).

Table 3.4 Sources of Market Information

Source of information	Percentage of response to different sources (%)	
	Farmers	Traders
1. News paper, radio and TV	32.0	14.2
2. Information from Central market	12.3	20.5
3. From private traders or intermediaries of the channel	18.5	48.2
4. From relatives, friends	36.5	16.2
5. Others	0.7	0.9
Total	100.0	100.0

Source: Own survey in Vinhlong and Cantho province – 2005.

3.3.6. The process of orange price formation

At farm-gate, business transaction is based on the agreement price.

At central wholesale market, long-distance buyer-seller and or wholesaler of other provinces like HCM City, Hanoi have strong power to set the price. The finding of our survey shows that most orange suppliers in the district have to follow the price set by the wholesalers at Thu Duc wholesale market.

Table 3.5. Output-price formation of orange

Price formation	Percentage of response by different orange traders	
	Farmers (n=20)	Traders (n=20)
1. Buyer	15.4	19.7
2. Supplier	15.2	13.2
3. Negotiation between buyer – supplier	38.5	35.9
4. Based on market price	30.9	31.2
Total	100.0	100.0

Source: Own survey – 2005

The figures in Table 3.5 indicate that at the farm gate and wholesale market the buying and selling price of orange mostly based on the process of bargaining between buyer and seller and or based on market price (30 percent to 38 percent of response).

With regard to bargaining, the process of bargaining in the market usually concerns negotiation on prices per Kg or Ton of orange. At the wholesale market, bargaining is more important. First of all, the orange suppliers offer selling price, then the orange buyers are free to bargain and small discounts are accepted. However, in the case of regular clients, in order to save time on each transaction, the orange suppliers usually offer the fixed price and there is no bargaining.

Table 3.6 below presents some specific characteristics that influence the price of orange in the market. In general, the difference in quality by size of orange is the main factor that influences the price in the market. Buying in large or small volumes and the distance of transportation is not a big problem to orange traders. The results also show that the maturity level of orange also influences the selling price of orange in the market. In sum, product quality by size/weight is an important characteristic that most orange traders take into account when they perform price negotiation.

Table 3.6 Factors influencing buying and selling prices of orange.

<i>Influenced factor</i>	Ranking
1. Differences in quality (by size/weight)	1
2. Differences in maturity level	2
3. Long or short distance of transport	3
4. Buying in large or small volume	4

Source: Own survey – 2005

3.3.7. Means of payment

Local buyer-sellers have to pay cash to farmers immediately after buying. Long distance buyer-seller and wholesaler use deferred payment to the suppliers after one week. Some large wholesalers also use transfer payment to their business.

4. Performance of Orange Marketing System in the MRD

In this section, we concentrate on analyzing production costs, marketing costs and profits of members in mainly orange consumption channels such as farmers, local orange wholesalers, fruit wholesalers in Thu Duc central wholesale market and retailers outside of the provinces. In addition, the trend of price of products by time and the seasonal orange price variability are also presented in the end of section.

4.1. Production costs and profit margins analysis for orange farmers

As mentioned above, with nowadays cultivating techniques, the orange harvest begins at the fourth year of farming and the effective harvest time lasts from the fourth to the tenth year. Therefore, the costs of the first three years during established period will be calculated and depreciated in the year of cropping. In the first year, cost items include land preparation, seedling/nurseling, fertilizer, irrigation, pesticide, electricity, working equipment and labor. The average cost of the first year estimated is about 33,880,000 VND as shown in the Table 4.1 below.

Table 4.1 Average Production Costs – 1st year cultivation of 1 hectare orange

Cost items	Unit	Amount	Price per unit (dong)	Total cost	% of total
Seedling/nurseling	Unit	800	18,000	14,400,000	42.50
Land preparation	Man-day	200	30,000	6,000,000	17.71
Fertilizer					
- Supper Phosphorus	Kg	400	1,200	480,000	1.42
- Organic fertilizer	Kg	4,000	200	800,000	2.36
- Powdered Lime	Kg	800	1,000	800,000	2.36
Pesticide	Kg/litre	10	90,000	900,000	2.66
Irrigation	M ³	650	6,000	3,900,000	11.51
Equipments/tools				1,000,000	2.95
Labor	Man-day	200	25,000	5,000,000	14.76
Electricity and fuel				600,000	1.77
Total				33,880,000	100.00

Source: Department of Agriculture and Rural Development of Vinhlong Province

The second and third years during established period, the average costs is evaluated about 13,400,000VND/ha/year. The production costs in these years are lower than the first year by amount of cost of seedling and cost of land preparation. Total costs of basic established period is 66,600,000 VND/ha.

In the cropping period, cost items include fertilizer, pesticide, irrigation, electricity, fuel, harvesting, and labor cost. The average cost per year is 14,750,000VND as shown in the Table 4.2.

Table 4.2 Average Production Costs – 4th year cultivation of 1 hectare orange
(*Period having stable yield capacity*)

Cost items	Unit	Amount	Price per unit (dong)	Total cost	% of total
Fertilizer					
- UREA	Kg	500	2,200	1,100,000	7.46
- Kali	Kg	500	2,000	1,000,000	6.78
- NPK	Kg	500	2,500	1,250,000	8.47
- Organic	Kg	4,000	200	800,000	5.42
Pesticide	Kg/litre	15	90,000	1,350,000	9.15
Irrigation	M ³	800	6,000	4,800,000	32.54
Equipments/tools				100,000	0.68
Labor	Man-day	100	25,000	2,500,000	16.95
Electricity and fuel				600,000	4.07
Harvesting	Man-day	50	25,000	1,250,000	8.47
Total				14,750,000	100.00

Source: Department of Agriculture and Rural Development of Vinhlong Province

As mentioned earlier, nowadays many farmers can plant orange trees in the unseasonable time by applying various cultivating techniques. Orange yield in this crop is lower than the seasonable one, but higher price that makes difference on the profit. Evaluation of costs, income and profits to orange farmers in case of low price (seasonable crop) , high price (unseasonable crop) and average price shown in the Table 4.3. One finding from these results is the profit of the unseasonable crop is twice as much as compared to the ordinary one.

Table 4.3 Estimated production cost and profit of orange farmers

Explanation	Unit	Low price	Average price	High price
1. Production cost during established period *	VND	8,443,000	8,443,000	8,443,000
2. Annual production cost (stable-yield capacity after 3 years)	VND	14,750,000	14,750,000	14,750,000
3. Total cost	VND	23,407,000	23,407,000	23,407,000
4. Average yield capacity/ha **	Ton	25	15	10
5. Average selling price at farm-gate **	VND/Ton	3,000,000	6,000,000	12,000,000
6. Total sale	VND	75,000,000	90,000,000	120,000,000
7. Profit margin	VND	51,593,000	66,593,000	96,593,000

Notes: * Production cost during established period is called cost of depreciation. It is calculated as total production costs from 1st year to 4th year divides by number of harvesting years (66,600,000 VND/ 7 years = 8,443,000)

** Yield capacity/ha and selling price are calculated by Weighted average method and rounded (data collected from 20 orange farmers).

Source: Survey and estimated by own authors

4.2. Marketing costs and profit margins analysis for district orange wholesalers

The figure in Table 4.4 exhibits the marketing cost of wholesalers is 123.000 VND/ton included labor costs (close to 60%), packaging (24%) and other depreciation on fixed assets, interest on borrowed capital, losses in quality and quantity of products is 6.5%. Profit of orange wholesalers is 177,000 VND/ton, equivalent to 2.9 percent of cost price.

Table 4.4. Estimated marketing cost of orange wholesalers

<i>Prices and Cost items</i>	<i>Marketing cost (VND/Ton)</i>	<i>Percent of total marketing costs (%)</i>
1. Average buying price	6,000,000	
2. Total marketing costs	123,000	100.0
* Labour costs ⁽¹⁾	70,000	56.9
* Materials for packaging	30,000	24.3
* Fuel, electricity	5,000	4.1
* Taxes, licenses	10,000	8.2
* Others ⁽²⁾	8,000	6.5
3. Average selling price	6,300,000	
4. Profit margin	177,000	
5. Profit as % of cost price	2.9	

Note: ⁽¹⁾ Labour costs: payment for permanent, temporary workers and family labours. This cost was computed based on the average man-days that both hired and family workers contributed in 1 month and wage of 1 man-day.

⁽²⁾ Other costs included the depreciation on fixed assets, interest on borrowed capital, losses in quantity and quality of product.

Average buying price, marketing costs and average selling price are calculated by Weighted average method

Profit margin = Average selling price – (average buying price + total marketing costs)

Source: Own survey 20 orange traders 2005 and estimated by own authors

4.3. Analysis of Marketing costs and Profit Margins of actors in the orange marketing channel

Table 4.6 gives an overview of the distribution of the marketing margin among actors in the channel. Firstly, we recognize that the profits of orange wholesalers in the central wholesale market at district and Thu Duc central wholesale market are lower than retailers' profit. For the district wholesalers, their margin profit ratio is

lowest (2.9%). However, it can be observed that although profit margin as percentage of cost price is low, the district wholesalers can get a stable large of fruit sale, about 5 – 7 ton/day, as well as a return of investment capital is fast-gained. Thus, they can have a reasonable high income.

Table 4.5 Marketing costs and profit margins of Farmers, District Wholesalers, Central Market Wholesalers and Retailers

Cost Items	Cost & Price (VND/Ton)	Gross Marketing Margin	Total Marketing Cost	Profit Margin	
				Amount	As % of Cost Price
I. Orange Farmers					
1. Production cost per ton	1,560,500			4,439,500	248.5
2. Average selling price of orange per ton	6,000,000				
II. District Wholesalers					
1. Average buying price of orange	6,000,000	300,000	123,000	177,000	2.9
2. Total Marketing Costs	123,000				
3. Cost price	6,123,000				
4. Average selling price	6,300,000				
III. Central Market Wholesalers					
1. Average buying price of orange	6,300,000	700,000	450,000	250,000	3.7
2. Total Marketing Costs	450,000				
3. Cost price	6,750,000				
4. Average selling price	7,000,000				
IV. Retailers					
1. Average buying price of orange	7,000,000	1,000,000	175,000	825,000	11.5
2. Total Marketing Costs	175,000				
3. Cost price	7,175,000				
4. Average selling price	8,000,000				

Source: Estimated by own author

Similarly, the profit margin as percentage of cost price of wholesalers in Thu Duc central market is low at 3.7% but the level of fruit sale is constantly high (10-12 tons/day) and a return of investment capital is fast-gained. Therefore, they have the highest increase in the channel of orange sale. In contrast, retailers get a high profit rate (11%) but the sale is low everyday from 150-200 kilos/day. In comparison with the wholesalers, they get lower income. Farmers have the highest profit rate but the return of investment capital is very slow. After 4 years of investment they can get profit from their harvest of products. In addition, land area for orange cultivation is low and then their income is lower than other groups in the fruit marketing channels.

4.4. Trend of orange price fluctuation by years and seasons

The figure 4.1 shows changes in price of first- and second-class oranges during ten years from 1990-2001. It is for sure that the price depends on many factors such as quantity and harvest point of time, markets, a consumer's income and the government's policies. Changes in orange price are expressed in the curve lines of the figure from 1990-2001

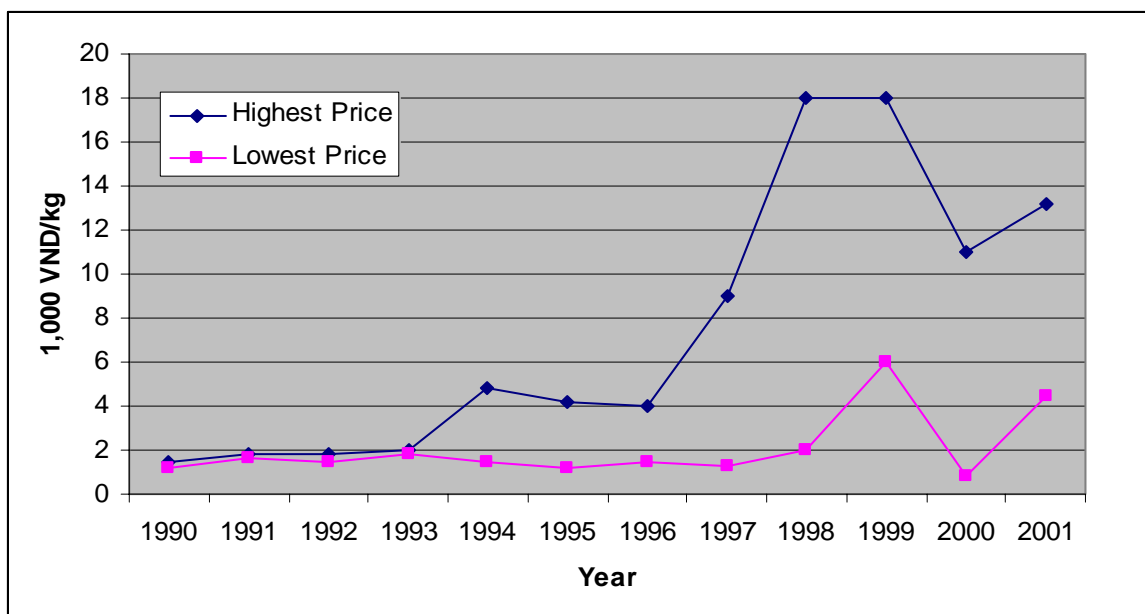


Figure 4.1. Trend of orange price fluctuation in the period 1990 -2001

Source: Hai, T.T.B., (2004). "Development Orientation of the fruit processing industry for Vinh Long Province to 2010"

An increase in orange price promotes investment into orange farm. However, orange farmers not only rely on nominal prices but also on real ones (price including inflation) and orange relative price with other goods. From 1990-1995, there is an annual increase in index of consumption prices around 3.2%, which means the farmers' real price decreases. From 1996-2001 consumption price index grew faster around 5.1%/year. As a result, during the years of 1996-1998, orange farmers gained the most profits because of increase in orange price. However, there was a sharp decrease in 2000 and a little bit increase in 2001 in price. This influenced much on sustainable development of the Mekong Delta's in particular and Vietnam's fruit sector in general. This could explain the reason the farmers cut down all of their plants whenever there was an unfavorable change in price. An increase in distance between the highest and lowest prices created a big difference in seasonal orange price (Figure 4.2). The government's encouraging policies to grow fruit trees and transfer mixed cultivation into areas specialized in fruit tree planting promoted a fast expansion of land area for fruit trees in that period of time. This results in a sharp supply and a poor preservation. Therefore the fruit is consumed fresh at a very low price. In contrast, during the out-of-season months, orange price sharply increased because of low supply. The orange price in 2004 reached 12,000 VND/kg at the highest price while during the in-season months reached 3,000 VND/kg at the lowest.

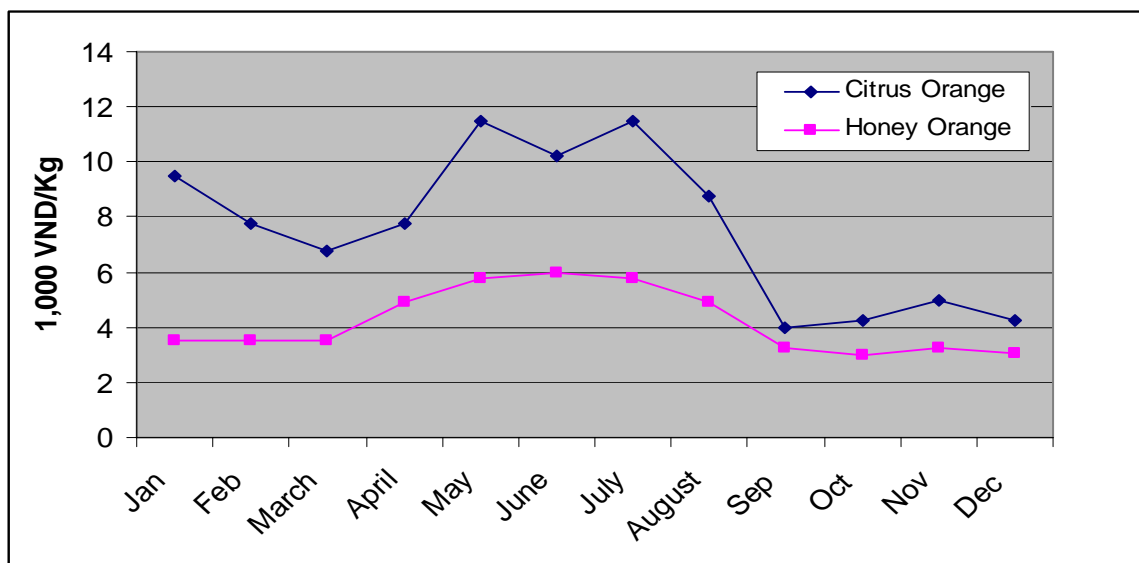


Figure 4.2 Seasonal orange price in the MRD in 2004

Source: Market Information Office- SOFRI

5. Conclusion and Recommendation

(1) Establishing large-scale area of specializing in fruits together with upgrading the quality of fruits

Cultivators not only work in a working condition lacking of techniques but also don't have any cooperation in a certain organization to produce fruits of high quality. We don't have a big volume of fruits for selling, which results from the fact that most of our orchards are miscellaneous. We cannot establish any trade marks for a household which produces just hundreds of kilograms or tons of fruits; meanwhile, there are not enough co-operatives or organizations producing fruits and goods to register the trade mark. A number of economists appraised that we have plenty of fruits of not-high-quality for eating, but lack fruits of high-quality and price-competition to sell. Vietnam's farming products in general and fruits in particular are inferior in competition with those from the other countries in the region. Apart from that, Southern fruits such as Hoa Loc mangoes, Nam Roi grapefruits, Chin Hoa durians, Xuong Com Vang longans which are not less qualified than foreign-originated ones are still in the difficulties of competition, especially of price. Basing on this Doctor Nguyen Minh Chau proposes that the volume of fruits of high quality and specialty is so small and inferior in comparison with the volume of fruits and the area for fruits producing in Vietnam.

In the near future, we must change our habits of growing fruit trees. We should grow a large number of high quality fruit trees. Local government must have suitable policies to encourage farmers to implement this change, for example, land using, introducing new fruit species and market need.

In a market oriented economy, all goods and services should have a trade mark for self-asserting and finding a potential of competitiveness. A great number of consumers suppose that the trade mark is the determinant for choosing and buying an item since the trade mark provides them with information of the origin and the quality of the item. The conference "The Mekong Delta's trade marks" held on 11th and 12th August, 2005 in Ben Tre concluded that we should build the trade mark early from the stage of producing. That is, we should cultivate fruit

plants of high quality and building areas of specializing in fruits which are large enough for a big volume of highly qualified products with the aim of creating a trade mark for fruits and building up a strong trade mark right in the stage of producing. According to Doctor Nguyen Minh Chau, the Head of the Southern Institute of Fruits, it is necessary to get farmers involved in co-operatives to produce fruit products with enough volume and quality and in a close circle from the stage of producing to consuming to be accord with the trade mark. The government, especially the local authority should be the leader who will take the management responsibility of the model of cooperation among 4 sections (the government, farmers, scientists and business people) and invest, support for other sections to bring into play their potential. It's time to have a fruit trade mark of region-strength established and developed. Establishing a trade mark doesn't mean to name a product but to tie it to the quality and the prestige of the product, of the enterprise, which should be maintained in any circumstances, and to produce a volume to satisfy potential markets and declared volume.

(2) There is an urgent need to establish consultancies to support both fruit channel members and farmers in their demands, especially for market information and modern farming methods.

The results from the survey show that farmers know information about price and type of fruit via their friends and relatives (36.5% of replies), whereas, traders acquire such information from private traders or intermediaries (48.2% answers) (table 3.4). A perfect information system that gives exact information about price and types of fruit can help to improve farmers and traders income.

These consulting centers also give information and guide to apply new techniques on selecting and growing fruit trees in order to improve quality and yield of fruit. The results show that the most important factor influencing buying and selling prices of orange is the differences in quality (by size/weight) (table 3.6). Choosing fruit species to plant and employing suitable farming techniques may bring about bumper crops. Besides, farmers and fruit channel members can sell their products at higher price.

(3) In addition, supports in fruit harvest and storage also contributes to an increase of market value of these products.

Being a WTO member brings fruits farmers and traders both opportunities and challenges. The more they know about global market information, the more they can get success in their affair.

These consulting centers should be established in the regions where there are a large number of fruit trees to be grown.

Recommendations for further research.

On the basis of the findings above, we would have some proper suggestions for further research in order to enhance the effectiveness of the fruit marketing channel and to develop the fruit industry in MRD.

- First, although farmers and other actors in marketing channel are able to access market information, the information is sometimes not reliable and up-to-date . Therefore, it is necessary to conduct further research on building market information system that helps actor access market information effectively.
- Second, there are many collectors that participate in the fruit marketing channel, there is a need to do research on establishing a new distribution channel in order to reduce the number of middlemen and to improve the effectiveness of fruit distribution channel. It is necessary to recognize the central actor and their influences on fruit channels.
- Third, most of channel actors belongs to private sectors. Should we re-organize them into cooperated sector or should we provide them with suitable assistance in order that they can become stronger in the future ? This question needs to be answered as soon as possible.

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