CHAPTER 2: FACTORS FOR MARKET CHANGES

Similar to Chickens & Eggs!!! Where Market Change Comes First!!!

It comes to supply side first because if there is No supply, there will be No demand.

2.1 Forest resources

2.1.1 Forest Area

Forest resources are regarded as the most important factor in supplying wood materials for processing Activities and creating wood products. The following Table provides you with basic forest resource Data;

Table 2.1: Vietnam forest resource data as of December 2004

Unit: Hectare

Land and Forest Type	Total Area	Special-Use Forest	Protection Forest	Production Forest
Total Forest Area	12,306,858	1,920,453	5,920,688	4,465,717
1) Natural Forest	10,088,288	1,837,076	5,105,961	3,145,251
2) Plantation Forest	2,218,570	83,378	814,726	1,320,466
Non-Forested Bare Land	6,718,576	479,328	3,709,440	2,529,807

Source: MARD 2005

Photo No.2.1 Production forest in Yen Bai



Forest covered approximately 36.7% of Vietnam's Total land Area (33,037,857 Hectares) in 2004, while the cover was 33.2% in 1999, when the 5 Million Hectare Reforestation Program (5MHRP) commenced.

Reference Forest Cover
1999 33.2%
2002 35.8%
2003 36.1%
2004 36.7%

(Last Minutes Data: forest Cover 37% in 2005)

Forest is spread throughout the country with the Northern Region having a relatively high concentration of production forest Area

2.1.2 Forest Resources

Vietnam has 4.5 million Ha of production forest and approximately 5.9 million Ha of protection forest. The two forest types are not capable for providing sufficient wood materials for Vietnam's wood processing Industries.

Table 2.2: Production & protection forest in Vietnam as of December 2004

Forest Type/	Total Forest Area in	Production Forest Area + Protection forest Area		
land Type	Vietnam (Ha)	Total	Production Forest	Protection Forest
I. Forested land	12,306,858	10,377,405	4,456,717	5,920,688
A. Natural forest	10,088,288	8,251,213	3,145,252	5,105,961
1. Timber forest	7,926,825	6,470,235	2,492,814	3,977,421
2. Bamboo forest	799,130	716,721	373,686	343,035
3. Mixed forest	682,642	568,792	249,526	319,266
4. Wetland forest	68,035	55,274	13,053	42,221
5. Rock Mountain forest	611,657	440,191	16,173	424,018
B. Plantation forest	2,218,570	2,135,192	1,320,466	814,726
1. Stocking forest	895,244	850,649	511,370	339,279
2. Non-Stocking forest	1,045,988	1,009,703	603,495	406,208
3. Bamboo forest	81,484	81,199	71,013	10,186
4. Specialty forest	195,854	193,641	134,588	59,053

Table 23: Potential wood material stock/inventories of the natural forest

Forest type	Area (Ha) 2005	Total (Ha)	Production forest (Ha)	Protection forest (Ha)
1. Natural timber forest	6,470,235	584,364	24,982	343,382
2. Natural bamboo forest	716,721	7,358	3,475	3,883

Table 2.4: Potential wood materials/inventories of plantation Forest

Species	Stock volume	Main plantation area
Pinus	9,975	North-East, North of Central Part and Central Highland
	$(1,000M^3)$	
Eucalyptus	7,537	The whole country
Melaleuca	3,308	Mekong Delta and East of Southern Part
Acacia	2,919	The whole country
Rhizophora apiculata	1,495	Mekong Delta and East of Southern Part
Manglietia glauca	1,073	North-East, North of Central Part
Other species	4,271	The whole country
Total	30,578	

Source: MARD 2005

2.1.3 Main features of Planting Species in Vietnam

2.1.3.1 Pine Species

Pine is a typical multi-use species providing resin and wood material. Pine wood can be used for pulp, paper and packaging material production, construction, and electricity poles.

Further, pine resin is often used in the production of paint, electronics and other materials.



Data on Pine Species

Main Pine Species	Merkusii Pine, Kesiya Pine, Caribean Pine		
Growing Area/Region	Mainly in North-East, North of Central and Central Highland		
Total Growing Area	Approximately 14.8% of Total plantation forest. Growing in dry, infertile and rocky		
	area.		
Stock Volume	Approximately 9,975,000 m ³ (Estimated)		
Productivity (MAI)	Kesiya Pine Approximately 8–11 m³/Ha/Year		
	Caribbean Pine Approximately 17 m³/Ha/Year		

2.1.3.2 Eucalyptus

Eucalyptus is an imported exotic species of fast growing and taper stem shape and is planted in many parts of Vietnam.

Eucalyptus species have become a major species for industrial materials in the country mainly for pulp & paper, man-made board, mine posts as well as wood and firewood.

Hundreds of species of Eucalyptus have been introduced to Vietnam. Eucalyptus can adapt to many site conditions.

Data on Eucalyptus Species



Main Eucalyptus Species	Eucalyptus (Urophylla, Exserta, Rosinifrae, Teretecornis, Camaldulensis,		
	Citriodora), etc		
Growing Area/Region	Nation-wide		
Total Growing Area	Approximately 23.7% of Total plantation forest.		
Stock Volume	Approximately 7,537,000 M ³ (Estimated)		
Productivity (MAI)	In general; 9—20 M³/Ha/Year		
	Eucalyptus Urophylla Approximately 19-25 M ³ /Ha/Year		
	Eucalyptus Rosinifrae Approximately 10 M³/Ha/Year		
	Eucalyptus Camadulensis Approximately XX M³/Ha/Year		
	Eucalyptus Exserta Approximately 8-10 M³/Ha/Year		
	Eucalyptus Citriodora Approximately 8-10 M³/Ha/Year		

2.1.3.3 *Melaleuca*

Melaleuca grows on sulphate soil, having good resistances to flood and dry condition. Melaleuca species can resist hazardous substances, including Fe, Mn, H₂S.

Melaleuca species, with suitable conditions, has straight stems, round canopy, slim branches and large distance between the branches.

Data on Melaleuca



Main Melaleuca Species	Melaleuca (Cajuputi, Leucadendron)	
Growing Area/Region	Sulphate Soil Area, mainly in Mekong Delta	
Total Growing Area	Approximately 130,000 Ha in Mekong Delta Area	
Stock Volume	Not available	
Productivity (MAI)	Approximately 7-9 M ³ /Ha/Year	

2.1.3.4 Acacia

Acacia is an imported exotic species and this species can adapt to various sites including dry, infertile soil. Acacia is a fast growing species and is suitable for pulp & paper, Fiber board and particle board.

Acacia is quite popular for plantation in Northern Central Region, Phu Tho, Yen Bai, Tuyen Quang and Ha Giang for paper material plantation.



Main Acasia Species	Acasia (Mangium, Auricliformis, Hybrid)	
Growing Area/Region	Nation-wide	
Total Growing Area	Approximately 15.5% of Total plantation forest	
Stock Volume	Approximately 3,000,000 M ³ (Estimated)	
Productivity (MAI)	Acacia Mangium 15-25 M³/Ha/Year	
	Acacia Auricliformis 10 M³/Ha/Year (Average)	
	Acacia Hybrid 16 M³/Ha/Year (Average)	

2.1.3.5 Mangrove (Rhizophora apiculta)

Mangrove is a big timber species and is grown or planted in the wetland. Mangrove is often utilized for construction and furniture woods. Mangrove is classified as a fast growing wood species in the longer term. Mangrove contributes to environmental conservation in the wetland.



Looks Tough

Reference:

November 10, 2005 at Dai Tu, Thai Nguyen, Visited a farmer, Working Hard for 25 years in a Farm, having Tea, Fruits, Bamboo, Acasia Trees, with own Irrigation.



Main Species	Mangrove (Rhizophora apiculta)		
Growing Area/Region	Mainly in Mekong Delta and Coastal Wetland		
Total Growing Area	Approximately 5.4% of Total plantation forest		
Stock Volume	Approximately 1,500,000 M ³ (Estimated)		
Productivity (MAI)	0-5 year Approximately 10 M³/Ha/Year		
	$10-15$ years Approximately $19-25$ M 3 /Ha/Year		

2.1.3.6 Manglietia glauca

Manglietia glauca is a big timber species. Manglietia glauca has an excellent quality for application to plywood, construction wood and furniture.



Main Species	Manglietia glauca (Vietnamese Name "Mo")
Growing Area/Region	Mountainous provinces in the North, Yen Bai, Phu Tho, Tuyen Quang and in
	the North Central, Nghe An, Ha Tinh.
Total Growing Area	Approximately 4% of Total plantation forest
Stock Volume	Approximately 1,000,000 M ³ (Estimated)
Productivity (MAI)	Approximately 12 M³/Ha/Year

Notes: The data shown in this Section were collected from FIPI

2.2 Wood processing industry

Vietnam has many wood processing factories from North to South. Significant improvement in processing technologies and volumes has been achieved especially in pulp and paper production. Furniture production ranks as the second wood processing industry in Vietnam. The industry, with more than 1,200 enterprises, is developing and applying comprehensive processing technologies to use the Soft-wood, to utilize waste and to diversify products to meet local consumption and export demand.

However, in general, Vietnam's wood processing industry is still small scale. Factories are scattered; equipment, facilities and technologies are out of date and asynchronous. Workers' skills are still low; and designs and packaging are simple, in comparison with other neighboring Asian countries. The following will provide a general idea of the volumes for each industry from the import statistics of Japan;

Table 2.5: Japan import of main wood products from Asian countries in 2005

wood product	Total Import	Import from	Import Quantity	Ranking
papers (M/t)	1,755,740	Indonesia	347,567	No.2
HS 4800		China	227466	No.3
pulp (M/t)	2,437,501	Indonesia	132,835	No.5
HS 4700		China	6,494	No.11
Veneer (M ²)	37,394,014	China	15,998,420	No.1
HS 4408		Malaysia	39,931,149	No.2
plywood(M³)	4,570,300	Malaysia	2,177,180	No.1
HS 4412		Indonesia	1,848,019	No.2
MDF (M/t)	382,682	Malaysia	95,423	No.2
HS 4411		Korea	18,809	No.4
particle board (M ³)	391,665	Malaysia	3,872	No.10
HS 4410		Thailand	1,135	No.13

Source: Ministry of Finance, Japan 2006 / JETRO World Trade Atlas

The data indicated here is just a part of export from each country to Japan, which will explain that production as well as export of same products is far bigger than this data indicates, and such production is supported

by a greater volume of Back-up timber resources in each country.

Reference; Finger Joint

A Finger Joint is a woodworking technology used to join two pieces of wood at right angles to each other. The Joint relies on glue to hold it together as it does not have the mechanical strength of a dovetail.

Though there is no clear statistical data for the scale of the wood processing industry in Vietnam, the Export of wood products indicates remarkable growth for last 5 years and the Export from such industry has a share of over 3% of GDP for 2006, as shown in the following Table:

Table 2.6: Gross domestic products (GDP) by sector

Year		2001	2002	2003	2004	2005*
GDP Growth (%)		6.89	7.08	7.26	7.70	8.40%
GDP per capita		US\$415	US\$440	US\$483	US\$547	US\$611
GDP at current price	2	32,686	35,085	38,973	45,188	52,629
(US\$ million)						
GDP Agriculture		7,596	8,067	8,496	9,831	10,995
(Agriculture and forestry)		(6,381)	(6,736)	(6,932)	(8,090)	(8,962)
(Fishery)		(1,216)	(1,331)	(1,564)	(1,741)	(2,033)
GDP industry and construction		12,463	13,524	15,579	18,116	21,596
GDP Services		12,626	13,494	14,898	17,241	20,038
Wood product	% on GDP	1.02%	0.98%	1.45%	2.52%	2.96%
Export Value	FOBUS\$million	335	435	567	1,139	1,562

Source: Vietnam Economic News (Export Value on FOB)

FIPI tried to estimate how market Scales for Major wood products may change towards 2010. The following is the estimation;

Table 2.7: Estimated market scales for major wood products to 2010

Products	Estimated Domestic Market Volumes	Export(%)	Import(%)
Woodchip (Export)	1,250,000 dry tons	100%	0
Pulp	1,802,000 tons	0	43%
Paper and cardboard	2,753,000 tons	5%	41%
Particle board	147,600 m³ of product/year	0	54%
MDF	79,600 m ³ of product/year	0	45%
Plywood	18,000 m ³ of product/year	0	100%
Construction sawn timber	3,590,000 m ³ of product/year	0	22%
Furniture	5,292,000 m ³ of product/year	38%	0

Source: FIPI

Export or Import indicated on the Table explains that (1) Total Consumption of pulppulp in the year 2010 and 43% of Consumption shall be covered by Import with no possibility for Export to balance the market.

It is virtually impossible to forecast or estimate the future. The following estimated market volumes, since wood or timber can be very strategic commodities in global markets due to the scarcity of these resources. Like crude oil, wood or timber may be commodities which increase in value.

The analysis was conducted for wood chip (for Export), pulp, paper, particle board, MDF, construction woods and furniture woods as they will definitely be the key strategic products;

Table 2.8: Estimated market scale for each product

	2010	Estimated market Scale in	
product	Estimated Quantity	Estimated price (USD)	2010
			Mil. USD
Woodchip for export	1,250,000 dry ton	110.00	138.00
Pulp	1,802,000 ton	650.00	1,171.00
Paper	2,753,000 ton	800.00	2,202.00
Man-made board	250,000 m ³	160.00	40.00
	of products/year		
Furniture	5,292,000 m ³	250.00	1,323.00
	Round wood/year		

Source: MARD, prices, estimated by FIPI

Photo No.2.2: Rubber wood plantation



Reference:

The **Photo is of Rubber wood plantation** in the province of Dong Nai, where you will find large scale plantations.

The effective production period for Rubber Trees is from 8^tyears to 25/30 years. Tree Planting Technology for Rubber Trees is far advanced so that the Tree Growth is said to be much better than other plantation trees. Do you know what points are better in the Photo?

2.3 Economic Forecast

Table 2.9: Economic development plan by government for 2006 - 2010

Indicator	2006	2010
Population (million people)	83.1	88.3
GDP (US\$ billion)	50	85-89
Per Capita Income (US\$)	600	950-1000
Total export scale (US\$ billion)	30.7	59.0
Total import scale (US\$ billion)	36.5	68.9
Paper Consumption (Kg) Per Capita	15.28	30.94
Wood Consumption (M ³) Per Capita	0.121	0.159

Source: MPI, MARD, VINAPACO, VINAFOR

As seen in the **Table 2-9** above, there is a clear indication that the Economy in Vietnam will continue its growth with at least an average yearly rate of 8-9% during the next 5 years. With the fact that Vietnam is now the 150th Member of the World Trade Organization (WTO), all regional countries as well as other parts of the World expect its economy to have further expansion.

The following idea for the Economic Development Plan for next 5 years was developed through the study.

It should be carefully observed that paper consumption will double and wood consumption will grow over 30% in 5 years, so that it is necessary to ensure supply to cover this demand increase.

This is to ensure that the Economic Forecast for Vietnam in next 5 years may be profitable



for its all sectors, event though it will be subject to tough competition in the World market.

2.4 Wood supply & demand

Due to a drastic increase in the export of wood products during the last 5 years, the demand for wood materials has also increased almost 470%. This increase in demand is just too much in a short period, resulting in increased Imports. Import of wood & wood products has increased well over 400% during the same period.

Increase in Imports has resulted in an increase of Payment of Hard Currency. The export of wood products, has brought income, working to balance the trade.

Table 2.10: Vietnam wood product export markets

Unit: FOB US\$1,000

Market	2001	2002	2003	2004	2005
Total Export	335,090	435,481	567,197	1,139,090	1,562,533
EU-15	119,528	98,152	155,786	370,207	441,886
Japan	100,391	128,396	137,913	180,016	240,873
USA	16,111	44,707	115,468	318,856	138,072
UAE	528	566	1,255	2,421	121,526
China	8,373	11,317	12,388	35,077	60,341
Australia	7,184	13,659	21,788	38,001	41,865
Taiwan	55,780	53,781	45,553	56,631	40,627

Source; Vietnam Economic Times 2006

One critical issue is that major wood product exporting countries, such as Indonesia, Malaysia, have not been trying to export "wood materials", aiming for a export of high value products and concentrating to a production of "wood products", such as particle board, MDF, Fiber board, pulp, paper, etc and consider them as strategic items for export promotion.

Malaysia exported nearly 5 million M^3 of industrial raw timber and 5.6 million M^3 in the year 2002. Malaysia is the No.1 raw timber and wood-based panel exporter in Asia, followed by China, but China is the main importer of wood and wood products in Asia.

So, there will be huge imbalance in the trade of wood materials and wood products and Vietnam, for the moment, may have to wait until newly planted trees mature and can be harvested.

2.5 External Factor (WTO, ASEAN, etc)

2.5.1 Association of Southeast Asian Nations (ASEAN)

ASEAN was established in August 8, 1967 at Bangkok, Thailand with the initial members being Indonesia, Malaysia, Philippines, Singapore and Thailand. Vietnam joined in July 25, 1995. Brunei, Laos, Myanmar and Cambodia are also member countries.

ASEAN has the following main purposes for the benefit of the Members;

- 1) Promotion of Economic and Social/Cultural Development in the region
- 2) Political and Economical Stability in the region
- 3) Clear Settlement of Inter-regional Disputes

ASEAN has various important functions in its organization but one of most interesting functions are the ASEAN Free Trade Area (AFTA) and Common Effective Preferential Tariff (CEPT), which were intended to promote trading relationships between the members and to lower import tariffs

Agreement was made to lower tariffs from 0 to 5% with Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand by year 2002, Vietnam by 2003 and Laos and Myanmar by 2005. Further agreement in 1999 was that Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand will withdraw import tariffs by 2015 and other members by year 2018, This is expected to activate the regional economy.

Vietnam has been performing effectively for the concept of AFTA and CEPT and has already lowered its import tariff to a level such as 0-5% as agreed.

ASEAN also has the following functions;

- i) ASEAN Industrial Cooperation Scheme to promote Trade Liberalization and activate regional economy.
- ii) Framework agreement for Service Activity for Liberalization of Financing, Shipping, Tele-communication, Air service, sightseeing, construction, etc.
- iii) Framework agreement for ASEAN Investment Area for liberalization of Investment and to provide equal treatment to Foreign Nationals.
- iv) Framework agreement for simplification of transportation flow in the region
- v) Framework agreement for mutual certification of the Inspection result of product.

10 Years membership of ASEAN introduced Vietnam a tough challenges for its Industries and made Vietnamese people tough.

2.5.2 World Trade Organization (WTO)

In addition to the Vietnamese membership of Association of Southeast Asian Nations (ASEAN), ASEAN Free Trade Area (AFTA) and Asia-Pacific Economic Cooperation (APEC), the accession of Vietnam to World Trade Organization (WTO) is one of most exciting issues Vietnam has at the moment (December 2006). Accession was approved and accepted by General Meeting of WTO in November 7, 2006 and was ratified at the parliament of Vietnam in December 12. Official Membership was finally approved by WTO on January 11, 2007;

This is the result of hard negotiation for almost 10 years.

ASEAN, AFTA and/or APEC are a kind of regional agreement/cooperation, seeking mutual benefits on economic development, trying to activate the regional trade by reducing import tariff rates as well as non-tariff barriers. These arrangements have been successfully initiated for Vietnam.

Accession to WTO membership will be a challenge to Vietnam as it starts to compete in the world marketplace. Membership will require Vietnam to conform to the following;

- i) Transparency; Governmental action must be fully stipulated in legal papers so that the government should not have "option" but to follow by laws.
- ii) Trade Tariff/Non Tariff Barriers; Government shall review and revise such Tariff of Barriers to be fair to all WTO Members.
- iii) Most Favored Nation Treatment; Government to assure this and also assure Equal Treatment to Foreign Nationals.
- iv) Existing Laws, Rules and Regulation on Trade; Government review and revise, acceptable to all members of WTO.

What will be the impact of WTO membership for Vietnam?

The accession is to confirm that Vietnam will be shifting to a market based economy, assuring the principal of free trade, responsibility / obligation to international laws. The economy shall be more systemized but there will be growing competition in the market and competition against the World for trade and investment.

In the forestry sector, the readers of this trend book are suggested to consider the impacts to this sector. Please try to get the answers

- a) Do you have enough competitiveness in afforestation or in production?
- b) What you intend to do if you feel strong or weak against imported wood products?

2.5.3 Forest Certification Systems

1) Certification will be issued by a third party inspection organization to protect and manage the forest and will be identified by putting a "Certification Label" on the wood products, produced from a certified forest. The importance of this system is made obvious through reduced global volumes in forest production and forest deterioration.

There are many forest Certification Systems as follows;

Name of Certification System	Outline
FSC	Established in 1993.
(Forest Stewardship Council)	Certification Worldwide.
	Certification by Independent Inspector with 10 Principals and 56
	Standards.
	Own Standard(s) for Country or Regional wise can be set.
	Certified Forest Area; 53.08 million Ha.
	(April 2005)
PEFC	Established in 2003 after Pan European Forest Certification.
(Programme for the Endorsement of Forest	Each Member Country can certify the Rules and Guidance of
Certification Schemes)	Other Member.
	Forest Area by Mutual Certification totals 122.211 million Ha.
	(April 2005)
SFI	American Forest Products and Paper Association (AP&PA) set
(Sustainable Forestry Initiative)	up the principals and targets and requested the members to apply
Member of PEFC	in 1994.
	Established Evaluation System by the third party in 1999.
	Certified Forest Area; 50.22 million Ha.
CSA	Canadian Standardization Association (CSA) developed own
(Canada Standard Association)	Qualification for Certified Forest in 1996.
Mutual Certification with PEFC	Certified Forest Area; 63.76 million Ha.
	(April 2005)

Source: Forestry Service, Japan

The System includes (1) forest management certification for forest management and (2) chain of custody (CoC) for the management of production, product flow and processing

 Forest certification system was originally initiated in Europe, while "Malaysian timber Certification Council (MTCC)" most known in Asia, which was established in 2001 by wood industry, and Certified forest Area was 4.74 million Ha in October 2004 in Malaysia.

The certification system is not yet practically common in Asian countries, but the idea is slowly spreading to the

forest owners as the users of wood materials (end users as well as processing industry) consider Certification to be evidence that the wood materials are legally, environmentally and socially sound to the people and the Nature.

End users of furniture, paper, particle board or MDF may ask you how you get forestry land, how forestry land was cultivated, how wood is harvested, how wood is processed and how wood or products are transported to the market, and you need to answer and further it is rather easy if you have a Certification from FSC or any other reliable Certification System.

The Forestry Stewardship Council (FSC) has the following Frameworks;

- i) Transparent: The Process for Policy and Standards Development is clear and accessible.
- ii) Independent; Standards are developed in a way which balances the interests of all stakeholders, ensuring that no one interest dominates.
- iii) Participatory; FSC strives to involve all interested people and groups in the development of FSC policies and standards.

FSC Current Activities has resulted as follows:

Table 2.11: FSC certified forest area and projects in Southeast Asia

Country	No. of Projects	Total Forest Area (Ha)
China	4	439,630
Indonesia	5	739,368
Malaysia	3	71,664
Laos	2	44,985
Thailand	2	2,730
Vietnam	1	9,904
FSC Total	852	79,278,584

Source: FSC Statistics 2006

2.6 Factors for Agro-forestry products

There are various factors affecting agro-forestry products in Vietnam. Following are the main direct affecting factors which are relevant to a product's quality and marketing ability.

Agro-forestry has been playing a important part in production and business activities in Vietnam over the past few years and it has grown steadily as follows;

Table 2.12: Export quantity of major agricultural products 2001-2005

Unit:Ton

Commodity	2001	2002	2003	2004	2005
Groundnut	78,163	105,113	82,713	44,855	54,505
Rubber	308,073	448,645	433,106	513,252	587,110
Coffee	931,198	718,575	749,240	974,759	892,367
Tea	68,217	74,812	59,763	99,351	87,918
Rice	3,729,458	3,240,932	3,813,274	4,059,738	5,250,265
Cashew nut	43,672	62,235	83,967	105,051	108,794
Pepper	3,898	76,607	74,120	111,913	108,970
Cinnamon	2,232	4,526	4,971	8,301	7,988
Vegetable	n/a	n/a	n/a	n/a	n/a
Total	5,164,911	4,731,445	5,301,154	5,917,220	7,097,917
Wood Products	n/a	n/a	n/a	n/a	n/a

Source: Vietnam Economic News 2006

In 2004, Rice production volume was 35.9 million ton and the export volume of Rice was over 4 million tons and became the 2nd biggest rice exporter in the World, while other products have been achieved steady exports and have important shares of the World market.

Agricultural and agro-forestry products, by its nature, will have a severe impact from natural conditions, especially climate. Historically on many occasions, rice production drops, caused by famines or frost conditions. This causes a jump in prices on the World market, but still no one has an effective solution for the management of climactic conditions.

In a limited area or region, when many farmers grows the same fruits, like litchi, in the same season, then if there is a very good harvest, all farmers will definitely get the lower prices from such products, which has happened in many times in the Northern regions of Vietnam.

Strategy is necessary for farmers as well as government agencies to try to establish "Brand Name" for products with careful control of quality ensuring steady sales of products.