all assess factors of price. time of material supply as average and inefficient. Consequently, we conclude that Vietnamese textile enterprises encounter many difficulties in materials for production. The reasons should be investment and clarified.

- **About the exploitation of interrelationships between Vietnamese textile enterprises**

We see through investigation that only 13.4% requested think the current exploitation of interrelationship between enterprises high and efficient, 60.87% think it average; 21.74 % think it bad and 4.35% think it useless.

- About the building of a joining strategy of current Vietnamese textile enterprises: 56.52% of those requested answer they have already built a development strategy in joining circumstances, 43.48% say they haven't.

In addition, only 5/23 (21.74%) think the level of readiness for economic joining process as high, 78.26% think as average and low, this reflect the activeness and adjustability of enterprises to current economic joining process are not high yet.

2. Sample 2

2.1 About object, quantity investigated and interviewed

Object for investigation, interviewee: managers and researchers concerning textile industry.

Quantity: 17 persons

In which: High ranking experts: 1

Expert in textile industry: 7

Vice-leader of Department, Head of Institute, Director: 4

Head of Bureaus in Vietnamese general textile corporation and researchers in institutes: 5

2.2 General evaluation

Problem 1: product structure of textile industry

Up to 64.71% experts requested think the current product structure of textile industry unsuitable, only 35.29% think it suitable.

Experts propose that to limit drawbacks in product structure of textile industry, think need be these adjustments:

a. ***For weaving industry***

- Intensify the variety of weaving products - increase the quantity and quality, species of fabrics to meet the demand of dressmaking industry at home and for export. (Increase high quality fabric; improve dyeing of cotton fabric).
- Increase fabric products of high quality, increase cotton - woven products and dressmaking for

export. Should increase in the period of finishing fabrics (treatment of dyeing. weaving. prevention of shrinking...) and supplement into producing of technical fabrics.

- Only switch the weaving industry according to the requirement of dressmaking.
- Increase products substituting for import goods.
- Increase some thick woven products 100% cotton to use in the technology industry of trouser-making for the objective of export.
- Emphasize on developing materials, additives, medical, dyes, engineering of machines for weaving industry; promote production of high quality materials and fabrics for export.

b. For dress making industry

- Increase ready-made product in rural regions.
- Promote the use of domestic material instead of import materials as we do now.
- Decrease processing quantity, increase completely buying interruptedly selling quantity, especially for import materials.
- Concentrate on goods according to the demand for each export market.
- Intensively invests in equipment for fashion designing, produce high quality products as shirts, suit.
- Invest in establishing computer technology to make it convenient to change product patterns expand the size of products to better meet the domestic and export demand. Increase the variety of export product series, not only concentration import goods series currently limited.

Problem 2: Readjusting scale structure of Vietnamese textile enterprises

52.94% experts requested think the structure of scale of Vietnamese textile enterprises unsuitable; 47.06% think it suitable.

When requested about problem of preference in establishing enterprises for the time being, besides those ideas agreeing with preference for medium and small enterprises (64.20%) and foundation of group, big scale companies (7.14%) and up to 28.57% have different ideas in readjusting scale structure of textile enterprises.

Those above ideas can be summed up as:

- For weaving industry: establish Fabric-Wearing-Dyeing complex of big scales for dressmaking industry: develop small and medium enterprise.
- Invest in developing dyeing mills and fabric - finishing firms centralizing in some sectors to improve finishing ability and efficiency of investment capital.
- Promote turning enterprises into stock companies, esp. dressmaking ones
- Reinforce general corporation and current companies, together with developing more medium-sized and small-sized enterprises.
- Reinforce and rearrange weaving-dressmaking companies into chain weaving-dressmaking

companies, develop the network of medium-sized and small-sized interprises linkable with aveaving - dressmaking enterprises.

- Intensify links between enterprises in textile industry.
- Intensify linking big size with small sized satelitte.
- Distinguish between weaving and dressmaking industry; for weaving industry it's unadvisible to establish weaving and dressmaking complex but to establish fabrics and weaving-dyeing factories to produce changingly, meeting market demand.

Problem 3: Regional weaving-dressmaking industrial structure

58.82% experts requested that current regional weaving-dressmaking industrial structure is unsuitable. Below is typical ideas on the readjustment of regional weaving-dressmaking industrial structure.

-1) Weaving industry should be centralized in industrial sector; while dressmaking should be centralized in rural and mountainous regions because weaving industry has great demand for infrastructure, resulting in centrally environment treatment. For dressmaking industry with high demand for labor development in rural regions is suitable for the industrialization - modernization and construction in rural regions of Vietnamese and solve many of social problems associated such as employment, switching economic structure.

-2) Locate both weaving and dressmaking industries in big cities to improve competitiveness, trade convenience and cost abatement.

-3) Locate in industrial sectors where give favorable conditions to infrastructure and labor development, labor balance between female and male sex, to production and environment

Consequently. the problem of choosing region for development preference for textile industry must be solved in terms of many factors to match of both economic and social benefits.

Problem 4: About structure of ownership between state and non-state in textile industry

64.71% experts requested think the current ownership structure between state and non-state in Vietnamese textile enterprise as unsuitable and 35.29% say it is.

Ideas of experts on the readjustment of ownership structure for Vietnamese textile industry is:

1. For state enterprises: 70.54% suggest a decrease while 29.41% suggest an increase.
2. For non-public enterprises: 76.47% suggest an increase in number while 23.53% a decrease for the coming time.
3. For foreign enterprise: 64.71% experts approve of an increase.

However, there're still other ideas, just some quotations for reference:

- For state enterprises: increase in dressmaking industry, decrease in weaving industry.
- For foreign enterprises: increase weaving industry, decrease or keep constant dressmaking industry.

Problem 5: About mode of specialization in production

64.71% suggest maintain at the mode of technology phase while 35.29% agree on finished product mode.

Problem 6: Evaluation of experts on influence of policies and government regulations on performance of weaving and dressmaking enterprises

Corresponding to evaluation of textile enterprises in sample 1, textile experts agree that in general current policies to textile industry of the government are more favorable (70.59% agree). In details of all acts and Laws concerned, according to experts, VAT Law is the only Law disturbing textile enterprises (64.71% agree) due to those reasons: too high tax rate (42.11 %). unsuitable tax calculating method (31.58%) and unsuitable tax imposing object (26.32%).

The alarm issue for government is to revise VAT for Vietnamese textile enterprises at present.

Problem 8: The most basic problems in export of Vietnamese textile products

According to experts, at present, there're some existing problems obstructing the process of exporting Vietnamese textile goods.

- *Drawbacks in customs regulations about import of materials for production for exports as well as maturity and regulations of quality control of materials and products.*
- *Policy of limit into great market is a big puzzle for enterprises.*
- *Suffer from high tax rate due to absence of entitlement to the regulation of the most favored nation of the US when joining the OS market.*
- *High cost of transport without taking advantage of rail transport into SNG and countries in the region.*
- *Corruption and lack of professionalism of customs offices.*
- *Usability of weaving industry to supply fabrics for export dressmaking industry; so producing export products mostly under the mode of processing or buying half-finished materials, which results in poor efficiency and passivity.*
- *Weakness in market and marketing.*
- *Limited textile industry due to the competition with regional countries especially China.*
- *Quality of products still not high and not stable.*
- *Outdated and inefficient equipment in the weaving industry. in dressmaking industry, inadequate staff of fashion designing.*

Problem 9: Current policies obstructing Vietnamese weaving and dressmaking enterprises in their evolution

- *Investment and tax policy still not really favorable for strong development of enterprises.*
- *Redundant and multi-phase procedure of export-import.*
- *Unsuitable regulation of loans for textile enterprises: too short time of amortization (7-10 years*

for weaving industry and 5-7 years for dressmaking industry) while in fact, weaving industry requires great investment so time of amortization must vary from 11 to 12 years.

- *Absence of preference policy for foreign investment.*
- *Absence of attractive policy to establish weaving dressmaking resources region for industry.*
- *Unsuitable tax code of import of material used in textile production (based on perception of feeling of customs officers).*
- *Absence of adequate policy to encourage enterprises dealing in export-product production from domestic resources.*
- *Absence of entitlement for enterprises to activeness in finance.*
- *Inspection of customs and land control, market control.*
- *Policy of insurance and labor.*
- *Administration procedure obstructing enterprises from accessing preference policy of the government.*
- *Redundant regulation of construction investment. bid, import tax-free procedure, restricting enterprises.*
- *Finance and Tax policy (investment gain, VAT rate). The application of VAT in the condition of a too long production process with failure to analysize added value in each phase may results in repetition and the rate of 10% is too high.*
- *Inadequate policy for laborers requiring the application of 23/CP Act to the whole branch.*
- *Not strong enough policy of investment to develop the cotton plants.*
- *High demand for labor in textile industry; pressure of insurance, training on enterprises.*
- *Inadequate tax rate code policy.*
- *Limited loans for intensive development due to high interest rate.*
- *Time of amortization still unsuitable, suggestion of 15 years for weaving and 5-7 years for dressmaking industry.*

Problem 10: Existing policy of the most convenience for Vietnamese textile enterprises in their development

- *Free tax liability for those producing export products.*
- *Reward policy for those producing goods to be imported into new markets and those producing new products.*
- *Enterprise Law valids from 1/1/2000, fixing that it's possible to establish textile enterprise or supplement into textile industry.*
- *Already made regulation on export-import control for textile enterprises.*
- *Tax policy fixes the tax return for export goods to encourage enterprises.*
- *Policy of domestic and export-import investment has much improvement to favor to enterprises.*

- *Doing without regulation of quota allocation for many CAT return of material import tax.*

Problem 11: Exploitation of relationships between textile enterprises

- *Absence of close cooperation between weaving and dressmaking enterprises to establish adequate material resource for export dressmaking as well as absence of cooperation between enterprises to develop the market.*
- *Absence of interconnections between enterprises to improve technology and seek markets, absence of interior cooperation to compete with external ones while competition is common nowadays.*
- *Absence of cooperation between enterprises in production to exploit strength of each, as a result, every enterprises would lock their production technology, waste investment funds; lead to low efficiency of investment capital due to competition; occasionally compete with each other for labor of break the monopoly of title of packaging.*
- *Limited cooperation in exploiting equipment of weaving enterprise so every wearing enterprises would prefer to invest integrated equipment although they don't use all of its capacity.*
- *Capability of dressmaking industry is just exploited 50-60%, some only 30% due to failure to find consumption market. The weaving industry is only able to supply 25-30% of materials and in dressmaking industry, the major production is processing for foreign countries. Quality of domestic fabrics is not guaranteed.*

Problem 12: Evaluation on significance of VN-US commercial agreement to the textile industry.

Experts consider this opportunity due to

- *This is the most enormous consumption market consuming goods of all consuming series from simple to complex and high-ranking ones with convenience of price. Vietnamese enterprises can exploit all of their capacity.*
- *It's possible to attract foreign investment into textile industry.*
- *Entitled to regulation of the Most Favored Nations and common customs preference consumption to meet the demand of US market.*
- *Some consider this a challenge due to:*
- *Though a huge market when joining it, Vietnamese enterprises have to complete with those of many countries such as China, Pakistan, Thailand Misunderstanding consumption behavior of US market. our price on appearance 's often lower than some.*
- *Have to complete closely on price and quality with Chinese goods, high requirement for ton of supply, packaging, size of series although small quantity of goods.*
- *Potential difficulty when US carry out their quota regulation.*
- *The mode of import of textile goods of US is through direct selling. At present, Vietnamese enterprises are tended to process, as a result they meet with difficulties; besides. there's restrictions on the variety of series of goods.*

Problem 13: Other ideas to develop Vietnamese textile industry

- *Besides credit preference policy, the government must pass policies to assist enterprises in problems of excess labor, social insurance and training.*
- *There needs to be preference policy of technology, investment and tax to encourage the stability of textile enterprises and safe positions in the market.*
- *Improve customs procedures about quality control of materials products, expand the scale of responsible organizations to avoid*
- *Assist invests in clean technology.*
- *Appoint representatives of textile industry from Commercial and Industry Bureau on main export markets.*
- *Establish government office to supply market information to enterprises to gradually take part in the system of information quotas of tax Asian-Pacific textile industry.*
- *Promote research and joining in the market*
- *Minimize import taxes on non-producable materials.*
- *Use integrally codes of import goods tax, avoid perception through feeling to abate losses.*
- *Establish preference policy for Vietnamese textile enterprises.*
- *Exercise the free gains tax policy on weaving industry if gains are used for reinvestment e.s.p. For innovation of technological chains and installation of new technology.*
- *Readjust investment structure integrally with rearranging enterprises based on available ones.*
- *Impose importance on policy of training labor for textile industry also including manager's products designing. marketing and processing workers.*
- *Apply policies of price assisting on textile export goods.*
- *Projects of domestic investment of textile industry should be entitled to preferences equally with those from foreigners.*
- *The government organized Es excursions in foreign countries for enterprises to expand market finds ways to attract scientists, businessmen of foreigners of Vietnamese in goring countries to seek market for export.*

Appendices

Appendix-1

The Coffee Processing Industry of Viet Nam under Integration: Reality and Development Policies

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Preface

The trend of globalization of the world economy, the trend of "open door" and integration are putting Viet Nam in front of opportunities and serious challenges for own development process.

In this context, Vietnamese foreign trade in general and coffee exporting in particular have more and more increased but have been pressed by strong competition. During the period of economic renovation, especially for the recent years, the coffee exporting becomes one of the sources earning foreign exchange for country form the range of agricultural products (after rice). The coffee production and exportation in Viet Nam has taken the second position in Asia and the fourth position in the world. Viet Nam has exported coffee to more 50 countries and its export tunover has more and more increased. Its annual export turnover stands at 500-600 mil. USD. The coffee is also an agricultural product creating high value of the agricultural industry.

The production and exportation of Vietnamese coffee in the context of international competition has raisen many problems for coffee industry, producers and businessmen such as the export value increased not in line with their production output, the coffee-bean quality exported is unstable and the selling price is much lower than it in other countries...

In this situation, the coffee processing industry plays a specially important role for solving urgent problems mentioned above. However, for the years, the coffee processing industry in Viet Nam has not been get full attention yet.

In order to achieve the purpose: to increase the export turmover and to enhance the competitiveness of coffee in Viet Nam in the world market, the group of researchers of National Economics University with the JICA's assistance has studied the thesis: "The Vietnamese coffee processing industry under integration: reality and development policies".

In order to fulfil this task, the topic concentrates on solving 3 following major issues:

1. To provide an overview about the coffee processing industry in Viet Nam. This part will study the demand for coffee of the world, the potential for coffee production and the coffee processing industry

in Viet Nam, to give a general view about history of coffee, the position of coffee industry in Vietnamese economya as whole, to find out the factors affecting on the coffee processing industry.

2. To evaluate the performance of the coffee processing industry of Viet Nam and the problems arisen. This part will examine the reality of the coffee processing industry, the polycies and their mechanism on the Vietnamese processing industry and the problems arisen with them.

3. To establish the orientation to improve and to make best options for the development policies for the coffee processing industry of Viet Nam under integration. This part presents the advantages and disadvantages for coffee industry generally and coffee processing industry particularly under international integration, establishes the standpoints for development and gives some suggestions to make some best policy options for development of coffee processing industry in new context.

The participants of this branch of the topic are:

1. Dr. Do Duc Binh - Group leader
2. Associate Professor. Dr. Hoang Viet- Member
3. Dr. Nguyen Thuong Lang- Member

Chapter 1 Overview of coffee processing industry in Viet Nam

1. Potential of coffee trees development in Viet Nam

Viet Nam has great potentials of developing coffee trees, which if rationally invested will be more efficiently taken the advantages contributing to the development of such trees.

(1) Land

The total area for agriculture of the whole country is about 10-11 million ha of which about 8 ha are used for planting perennial trees (around 5.4 ha for paddy alone) and 2,3 million ha for industrial perennial trees. Now, Viet Nam just uses up to 65% of allocated land for agriculture, of which land for yearly trees is 5.6 million ha, perennial trees 86,000 ha, addition to 33,000 ha of natural pasture and 17 ha of water surface.

Soil that can be expanded is steeping, eroded and degraded. The area of degenerated soil in the Northern mountainous region accounts for 45% of the total area, in the Old 4 region about 35%, in the mountainous region 5 about 45%, in Highland region 76% and in the Northern plain 34%. Such kind of land, if improved, will be very suitable for the development of industrial long-time plants including coffee. The problem is that this requires a great amount of invested capital and will take a long time before the soil become fertilized to be used.

Meanwhile, in Hong delta and Mekong delta, the area of land that are used is rather high, respectively accounts for 93% and 82% of total land reserve. However, the intensive cultivation is still backward, the irrigation system is poor and the land use coefficient just averagely stands at 1.4 times/year. Therefore, if attracted great investment and developed extensively and intensively to take the advantages of each region, Viet Nam will become one of the biggest coffee production in the world.

Soil in Viet Nam has thick and soft layers with high volume of nutrients, especially alluvia and grey soil. Soil varies in 64 types belonging to 14 groups. Those characteristics together with abundant source of moisture will be the good conditions for developing many types of plants and multicropping.

(2) Atmosphere

Viet Nam has a tropical monsoon atmosphere owing to the strong affect of Asian monsoon mechanism. The atmosphere is very varied from the North to the South, with one cold season in the North, with South Asian typed atmosphere in the Tay Nguyen, West South and Mekong Delta. It is one of suitable conditions for Viet Nam to diversify crops.

Addition to that, moisture and wind are very plentiful and are distributed rather evenly nationwide. With many sunny hours, great radiation intensity, Viet Nam's fuel is listed as rich in compared with other nations. The relative moisture is high, about 80%, the rainfall is great, averaging 1,800-2,000 mm/year, coupling with rich source of heat. Those are the suitable conditions for the growing and developing of many creatures and plants, coffee included.

(3) Human resources

With a population of more than 76 million people, young populous structure and more than 80% of its population living on farm produce, Viet Nam has a great human source for coffee plantation. Besides, the Vietnamese people are diligent, intelligent, and creative and quickly understands the achievements of science and technology as well as are experienced in producing coffee.... These are good condition for Viet Nam to boost up the production and export of coffee.

2. History of coffee development in Viet Nam

Coffee was piloted first time in Viet Nam in 1857 by priests in Quang Binh, Quang Tri Province. 30 years later (1888), coffee was imported and planted at a large scale in the French people's plantations. For the first time, coffee was planted mainly in Northern midland, covering Nam Ha province, Ha Tay province, Vinh Phuc province, Tuyen Quang province and then gradually spreading to the South such as: Thanh Hoa province, Nghe An province and Ha Tinh province... Early XX century, since 1922, coffee was planted in fertilized basalt soil in Tay Nguyen. By 1945, the area of growing coffee in the whole country reached 10,700 ha (4,100 ha in the North, 5,900 in the Central and 700 ha in the South). The capacity was low at that time; tea coffee recorded 4-4.5 quintal kernel/ha and eugenia coffee 5-6 quintal kernel/ha.

(1) Period 1945-1975

Northern provinces: After August Revolution, all French plantations were turned into state plantations in Tuyen Quang, Ninh Binh, Hoa Binh, Nam Ha, Thanh Hoa and Nghe An. Until 1954, the total area of coffee taken over from the old regime in the North reached 3,000 ha. After 1954, with the assistance of Former Soviet Union, Viet Nam has constructed 24 coffee plantations in Viet Bac, Tay Bac, Nghe An, Ha Tinh (1963) recording 14,000 ha. The highest coffee yield in 1968 stood at 4,850 tons. However, due to unsuitable planning, especially for eugenia coffee, the area for growing coffee was gradually narrowed. Till 1972, there remained only 4 plantations (namely Dong Hieu, Tay Hieu, 1 May Plantation, and 19 May Plantation). The yield of that period fell down 1,000 ton/year, some year just 500 ton/year.

In the Southern provinces: Coffee yield experienced great changes. During period 1946-1957, the area increased a little, from 3,019 ha to 3,373 ha. In 1964, the area recorded 11,120 ha, however, till 1973 the area reduced 8,872 ha. Up to 1975, coffee area in Southern provinces was about 9,000 ha, mostly in Dac Lac. Coffee yield obtained more or less 3,000 ha; highest yield was about 5,120 tons.

(2) From 1975 up to now

After 1975, implementing the guideline of coffee development of the State, the Ministry of Agriculture has embarked on a plan to invest, planning and zoning the coffee development area in Taiyo Nguyen. The ministry decided to establish coffee plantations in Tay Nguyen and in other areas that could produce coffee in the coastal areas in Mid Central and Eastern South. In 1980, Viet Nam signed many agreements on cooperating and developing coffee with nations of Former Soviet Union and Republic Democratic Germany (Former), Bulgaria,..in order to take the advantage of investment in equipment, materials, techniques, and capital to expand coffee area. And those nations are also the stable coffee-consuming markets of Viet Nam.

In 1986, with the policy of drastically developing coffee in private sector, the coffee area has quickly expanded. Many coffee focal production areas have been established, particularly in Tay Nguyen.

3. Current status of coffee production and processing

(1) Production:

Over more than a century, since the first coffee plant was grown in Viet Nam, so far, the importance of coffee has been confirmed over a great area extending from the North to the South.

1) Coffee area

Before 1975, the whole nation just had 13,400 ha for coffee, mainly focus on Southern provinces. During 1975-1981, coffee was planted in State sector, with the slow increase in area, even reduction. In 1977, there was about 19,600 ha, and reduced to 19,1000 ha in 1981.

During 1989-1990, the area of coffee witnessed substantial increase, from 19,100 ha (in 1981) to 115,052 ha (in 1991). On average, there was about 9,550 ha of newly planted coffee and the average growth rate was 20.2%/year. The area increased most during 1985-1987, to 17,100 ha from 14,000 ha, mainly in private sector and central on Dac Lac, Dong Nai, Lam Dong provinces, etc.

Table 1 Area, capacity and yield of coffee in Viet Nam (during 1930-1998)

Year / Criteria	Plantation area (ha)	Harvesting area (ha)	Productivity (quintal/ha)	Yield (tons)
1930	5,900			
1975	13,400			6,100
1980	22,500	10,800	7.78	8,420
1985	43,885	14,062	8.72	12,340
1990	119,314	61,857	14.90	92,000
1991	115,052	73,154	13.70	100,000
1992	103,727	81,791	14.50	119,000
1993	101,295	82,134	16.60	136,100
1994	123,871	99,886	18.10	180,500
1995	186,499	99,900	21.80	218,100
1996	254,200	220,000	14.50	316,900
1997	340,400	223,000	17.80	420,500
1998	362,200	230,000	17.50	409,300

Source: Statistical Annual - General Statistic Office

From 1991 up to now, the area increased rapidly, with about 30.6 thousand newly planted coffee area annum. Specially, since 1994, every year, about more than 50,000 ha was newly planted, mainly in Tay Nguyen provinces. The annual average rate of increasing area during 1991-1998 was about 18%/year. (See table 1).

2) **Yield**

The national yield of coffee before 1975 was rather low, about more or less 6,100 ton/year. In 1985, the yield was up to over 12 thousand tons/year and 5 years later was 100 thousand ton/year. By 1998, the yield of whole nation recorded at 409,000 ha.

3) **Capacity**

Viet Nam's coffee capacity was rather high and listed among the highest in the world. According to statistics, the rate of coffee area increase of Viet Nam was high form 7.78 quintal/year in 1980 to 21.8 quintal/ha in 1995 and 17.50 quintal/ha in 1998.

(2) Current status of processing

Most of coffee exchanged in countries in the world is kernel coffee. At present, Viet Nam mainly exports kernel coffee by wholesale. The products from coffee still simple. The technology of processing coffee is rather backward, with no conditions to renew technology, diversify products and improve quality of products, resulting in failing to meet commercial needs.

There are two major methods to process wholesale kernel coffee, as follows:

Dry Processing: This method is simple. There is only one main stage that is to dry the coffee nuts by hanging out in the sun or drying and then rubbing to get kernels. In order to shorten time of drying, it is possible to have the fresh nuts rubbed before putting out in the sun. This method is widely applicable in coffee plantation areas of Sate owned enterprises as well as of households. This is easy to conduct, reducing the expenses but the quality is not stable. If the time of sunning is too long, the flavor of coffee will be affected. Cost for drying yard requires great investment. If it is rainy, time of drying will have to be prolonged. The rate of black nuts will increase and they are easily get fermented.

Wet Processing: This is a complicated method with many stages, ranging from classifying ripe nuts, freshly rubbing, washing mucus, sunning the nuts, drying and grinding to get the kernel. This method ensures the quality of products but requires complicated technology, huge investment and waste treatment and environmental pollution prevention measures.

Some SOEs that have conditions to invest in the construction of Wet-processing establishments are Phuoc An Coffee Co.,Ltd, Thang Loi Coffee Co.,Ltd, October Co.,Ltd, Drao Plantation, EaSim Coffee Co.,Ltd, etc. They have the capacity of 5,000 ton to 10,000 ton/year and their price of products is always higher than those processed ordinarily about 120-150 USD/tons.

The polishing and selection of coffee before export have drawn due attention but the rate of investment is still limited, particularly there is a psychology that the quality of Viet Nam's coffee is low with reduced price, therefore, the investment in the technology is of low efficiency. DacLac Export-Import Co.Ltd and Thang Loi Coffee Co.,Ltd invested dozens of billion VND in the laze assembly to select, pick and separate by color but the efficiency is still poor.

The processing of coffee for daily use is mainly taken possibilities by the private sector The joint venture factory to process instant coffee in Bien Hoa province with the capacity of 200 tons of instant coffee/year just operates with 75% of its full capacity. The products are slowly consumed, failing to compete with those of famous international groups.

(3) Situation of export and markets

1) Export

Coffee becomes the most important export, second only to rice. From the position of no fame of coffee in international market, during the past 5 years, Viet Nam has been one of the 10 nations with the highest coffee yield in the world. In 1997, Viet Nam was the third biggest coffee exporter.

In 1982 Viet Nam exported 69,000 bags, accounting for 0.1% of the world's coffee export volume, worth around 5 million USD.

In 1987, Viet Nam exported 433,000 bags, presenting 0.6% of the universal export volume and ranked 25th among the coffee exporting nations.

After 10 years, till 1997, Viet Nam exported approximately about 6.5 million bags, making up 7.7% of the world export volume, worth 594 million USD, ranked the third in the world and the first among the nations that produce Robusta coffee, holding about 29% of Robusta coffee share worldwide. The volume of coffee export increased sharply, from 91 to 95% of annually produced coffee volume. (See table 2)

Table 2 Export of coffee during 1990-1998

Year of Crops / Criteria	Yield (tons)	Export volume (tons)	Rate (%)	Value (USD)
1990/91	68,000	65,000	95.6	
1991/92	101,000	95,000	94.1	
1992/93	142,000	130,500	91.1	
1993/94	166,000	158,520	95.0	226,790,000
1994/95	223,200	212,038	95.0	558,280,000
1995/96	245,270	232,756	94.9	422,436,000
1996/97	364,300	346,000	95.0	414,556,000
1997/98	410,530	390,405	95.1	594,035,000

Source: Ministry of Trade - Annual report on coffee export

Ratio of coffee export turnover: Coffee accounts for a considerable ratio of the national total export for the whole country. In 1996, the ratio was 5.79%, in 1997 was 5.53%, in 1998 was 9.32%

and in 1999 was 5.53%.

The price of exported coffee of Viet Nam is lower than the average price on the international market. In annual crop 1994-1995, the price increased high (Robusta: 2,500-4,000 USD/ton; some day even 4,260 USD/ton) but for Viet Nam's coffee, the price was 1,100-1,300 USD/tons and up to 2,500 USD/ton.

In July 1998, the price of Robusta in the international market reduced compared with that in May 1998, from 1,880-1,900 USD/ton while that of Viet Nam was 1,420-1,440 USD/ton. The main cause is that the quality of Viet Nam's coffee is not higher than that of regional countries such as Thailand, Indonesia, etc. This is partly because the processing industry has not developed corresponding with the potential of coffee resources in Viet Nam. This results in the lower efficiency of coffee export in Viet Nam in comparison with other regional countries.

2) Market

Together with the improvement of production and export, Viet Nam's coffee export market continuously expands. If before 1990, Viet Nam only export that product to Former Soviet Union and other socialist Eastern European countries, Singapore and Hongkong, now Viet Nam has exported coffee to 50 nations in the world.

During the past 5 years, Viet Nam's coffee market has been expanded, particularly some large markets tend to more and more consume Vietnamese coffee. Beside Australian, Japanese, Canadian, Polish markets (export volume recorded 100 thousand bags/year), Viet Nam's coffee has been exported to US and European market (with ever-increasing yield). Viet Nam actually becomes the biggest of Robusta exporter in the world (See table 3) and can be relevant with other Robusta exporters such as Indonesia and Codivoa.

Table 3 Export volume of coffee to some main markets in 1997

(Unit: 1,000 bags)

Market/Nation	Viet Nam	Indonesia	Cosdivoa
1/ America	1,495	1,045	135
2/ European market	3,237	1,839	3,058
Germany	1,111	899	63
France	362	42	1,104
Italy	368	273	708
Spain	500	174	237
England	411	141	37
Belgium/Luxembourg	281	101	584
3/ Japan	179	940	6

Source: VINACAFE

3) Local consumption

Coffee is a kind drink that a lot of Vietnamese people are fond of, especially in the South. However, the living standard of the people is too low and the consumption of coffee is not so popular as tea therefore leading to the low local consumption. At present, the nation consumes about 1.5-2% of the national coffee output. In the future, with the high economic growth rate, the improved living standard and the higher demands, the rate of coffee consumption will be expected to grow. It is estimated that by 2000-2010, the local consumption rate will have been 5-7% of total output with the average coffee consumption rate from 0.1 kg-0.2 kg/person/year. At the same time, thanks to the more and more relations established with other countries, the number of foreigners coming to Viet Nam is getting bigger and bigger so this will bring about the greater volume of coffee consumption.

4. Role and main factors effecting coffee processing industry

(1) Role

The development of coffee processing industry will help improve the value of products. This is expressed mainly by the increase of the rate of added value of processed coffee.

The development of that industry will help generate jobs for people through the development of post-harvest stages, create more subsidiary branches and trade, package production, and flavor additives for the industry.

In the context that the import of coffee is still maintained because the industry fail to meet the demands of local people, the development of processing industry is one condition to create high-quality coffee products, helping reduce imported coffee, save foreign currency, strengthen the protection of domestic market and limit unemployment.

Besides, the processing industry is also an element to improve the price of exported coffee, enhance the competitiveness of Viet Nam's coffee in the international market, boost up export turnover and contribute to the improvement of trade balance.

(2) Main affecting factors

The coffee processing industry means a system of establishments that process the materials into the finished products. This is an intermediate stage between coffee growing and consumption.

The industry is affected by different factors. They will decide the scale and movement of the sector development during each period.

1) Factors impacting on material sources

Coffee has a rather special ecology with many factors of natural conditions, specific are:

* Temperature:

Temperature affects the life of coffee trees. They need temperature from 20-25 °C with the day-night amplitude from 15-30 °C. This affects greatly the quality and flavor of coffee nuts. In general, there is no kind of line of coffee descent can stand the temperature of approximate 0 °C for a long time. eugenia coffee stands cold climate worse than tea coffee, from 8-10 °C coffee trees have the bad phenomena and die before 0 °C. The high temperature also affects the trees, resulting in the falling of leaves whereas tops, buds and branches of trees are faded then die.

* Rainfall

The rainfall decides the growing ability, capacity, and size of nuts and quality of coffee products. Coffee trees develop well with the suitable rainfall from 1,500-2,000 mm/year, and each year, they need dry and hot months or little rainy months relevant to the time the trees stops grow before their flowers bloom. When the rainfall is lower than 800-1,000 mm, even with good fertilizers, the results of the crop is uncertain and less profitable. This requires the irrigation for coffee trees.

- Humidity

The air humidity much affects the ability of the growth of coffee trees because it directly relates to the water evaporation of the trees. The intensity of the water evaporation depends on the air humidity and the light. The air humidity suited with the coffee trees is more than 70%. At the period of coffee trees flowered the air humidity is as much higher as possible.

- Light

The coffee tree is one of the trees feared the sunlight. It requires a high, rather dense canopy. However, now the creating the shade for coffee trees has been eliminated. The productivity is still high without shade by intensive coffee farming.

- Wind

Both hot and cold winds make harmful the coffee trees. The bad impact of the wind can be seen clearly in the dry season when the water reservation in land is little. The speed of the wind suitable with the coffee trees is 2-3m/s.

- Height

The climate components always have relations with the height. The tea coffee trees fit with cool climate, proper light intensity they are accustomed to the region of the height from 800-2000m. The eugenia coffee and the jack coffee fit with the hot humid climate and plentiful sunlight they are accustomed to the region of the height less than 800m.

- The land, terrain and the water supply
- * Land

The coffee trees can grow in different types of the land as on the land mixed with the sand originated from the diamond rock in Cotdivoa and Cameroon or from the land originated from vocalno (Dolerit, ashes, tup, bazan.v.v) in almost coffee planting region with different qualities or in the deposition land in the sea of the East of Madagasca. The important qualities are the land structure and the depth of the land. These construct the soil. In other word, the soil of the land is the capability to provide the water and nutrition for the trees.

The bazan land has been established on the Ferralsols foundation which has very high natural fertility and it suits with the coffee trees. The coffee tree has ability to develop the root for that it can be planted on the average land having suitable physical qualities for example the regions Ma `rak, EaKar, Kr áng P Cch (in Tayngu yen area of Viet Nam). In accordance with the land response (pH), the productivity will be high if the pH for coffee is at 4.5-5.

** Terrain

The terrain is one of the important factors to allocation of the production facilities. On the flat and deep areas with availability of the water source the rice plants can be grown (water rice plants). On the flat land with the irrigation ability the plants suited with the dry land and little water can been planted. On the ground of the hills it is needed to build the proper farming system to protect the land from the soil erosion. Based on the specific terrain of the land are to allocate the plants, to build the proper farming system to utilize the land effectively and to put the processing premises.

** Water resource

The water pays a very important role for the coffee. If there is a stable irrigation in the land the coffee planting will be undertaken. By contrast, if the drought has been existing or there is the unstability of the irrigation, the big loss for the coffee planting will be made.

The water resource include the rainfall, water surface (river, stream, pound, lake) and the underground water. Among them, the underground water plays extremely important role and it is a long term supply.

The natural resources decide the size and the allocation of the processing industry. If the natural resources are favorable for coffee growth and the annual yield is big the size of processing industry will have big size. And, the places where the coffee materials are able to be supplied will be the places where the big-size processing premises are able to be built. So the endowment of the natural resources will be the pre-condition to much develop the coffee processing industry.

2) The organizational and technical factors

For the organizational aspect, making option of the appropriate organizational forms will affect on the way of the exploitation of resources for development of coffee processing industry. The system of state-own enterprises, the cooperatives, the households, the farmings or the join ventures will give the chances to effectively stimulate from the organizational aspect all intra and extra industrial resources.

The new species which are taken from the election, selection, picking out, fertilizing can protect the insects, have the appropriate shape, high productivity and good quality. By the artificial multiplication of the species and by the different grafting techniques, the homogeneous coffee gardens will be established to widen the size of the processing industry...And, the comprehensive intensive farming methods by weeding, water supplying, symmetrical fertilizing in accordance with the forecasting about the demand for nutrition and mineral of the plants by analyzing the leaves and land ingredients, the using new low harmful botany products, the microbiological and biological products to protect the ecological environment are able to increase the productivity.

3) The market conditions and population

The input and output market very much affect on the development of the coffee processing industry. The input markets including the capita, labor, material, machine and equipment and the service are the essential conditions to strongly develop the processing industry. Besides, the requirements of the customers about the coffee quality and the structure of the customers have much affect on the development capability of the coffee processing industry as well as its allocation. Moreover, the development of coffee processing industry is strongly pushed by the domestic and international competition conditions.

The population factor also has much affect on the development capability of the coffee processing industry. The average income, the degree of concentration of people in the urban areas will remarkably affect on the disposition of industry and the consumption of the coffee. Besides, the coffee consumption habits of the residents also affect on the development trends of processing industry in the direction of investment, the capacity of the premises and the technological innovation.

4) The management mechanism and the development policies

The management mechanism is one of the important factors to develop the industry. The effective attention of the government to the field of investment and the development encouraged policies connecting with the flexible management structure will be a favorable condition to increase the performance of the industry.

The policies to what usually the government has to pay attention support the coffee processing industry are the land policy, the investment policy, the market policy, the protection policy, the policy of training the human resource, the price policy, the technological policy and the scheme of master plant for development of the processing industry. All these policies have the interrelations and they are co-odinated to each other to establish a system of policies to serve a given purpose in a period.

First of all, the land policy provides farmers the right to rent the land for the long period they are convinced to much invest into the land. It is suitable with the coffee planting because coffee is one of the long time industrial plants. The coffee trees are only planted in he favorable condition region the land policy that implied to the coffee trees is not the same to other fields. Then the preferential treatment for land renting is the condition to strongly develop the coffee planting region to provide the stable material resources for processing industry.

The investment policy focuses on the making favorable environment for the development of the processing industry. he investment policy can be considered upon both the public and private aspects. The public investment activities have their aims to upgrade the infrastructure, material zoning to establish the big resource of materials to accelerate the big size processing industry, to invest in the research and development (R&D) to directly to serve the down-stream processing activities of the premises. The private investment activities are aiming to make profit and it much depends on the business strategy of the households, small owners. If the public investment activities are appropriately carried out in the right industries the rate of return of the capital of the processing premises will be increased. In order to have enough capital resource, it is necessary to attract the capital from different resources including the domestic and the foreign ones and abundance of capital resources of the people. And it is needed to combine these capital resources together to serve a given purpose. One of the important components of the investment policy is the credit policy. The lending with preferential interest and the maturity, the lending procedures are easy and simple is one factor to stimulate borrowing activities to develop the processing premises. In addition, the providing the credit serving the collecting the coffee to process is the factor to ensure the long term benefit for coffee producers. This is a condition to feed the processing activities. For that the investment policy is closely related to the inputs of the processing industry.

The market policy has a decisive affect on the size and the degree of the development of processing industry. The free circulation of goods in the domestic market will offer the favorable conditions to push the consumption activities of the processing premises. To encourage exporting activities is to make widen the market and it is the factor to increase the scale of the investment to development in line with the world market demand. The market policy concentrates on the exploitation of the comparative advantages of the nation and the improvement of the competitiveness of the commodity in the world market. The market policy also includes the methods to adjust the coffee export to the group of the countries with the specific group of the customers.

The protection policy for coffee processing industry also affects on the long term development capability of the industry. The coffee processing industry is an infant industry. Under international integration, the infant industry has to face with the experienced and good reputed competitors from foreign countries. Moreover, at the beginning periods the infant industry must spend a lot of cost, it has also a low reputation in comparison with the competitors so it is disadvantageous in competition. To exist in the market, the protection policy is a specially important component for the growth of the infant industries. The protection activities can be applied by the instruments as the tariffs, quota, the regulations on technical and sanitary standards. To protect the processing industry, the government should take care on the adjustment of the effective rate of protection.

The effective rate of protection (ERP) is the percentage between the nominal tariff and domestic value added. This rate increases the unit price. It shows how high the ERP is in the given industry in a country.

ERP is calculated in the following formulation:

$$ERP = \frac{Vi' - Vi}{Vi}$$

Or:

$$ERP = \frac{t - aiti}{1 - ai}$$

Where ERP is the effective rate of protection, Vi' is the value added in industry with tariff, Vi is the value added in industry under free trade, t is the nominal tariff on the finished product, it is the nominal tariff on i spare part, ai is the percentage between value of the spare part and the finished product under free trade.

Note:

+ *If ai equals zero, the ERP = t. That means the spare parts are not imported, the ERP equals the nominal tariff.*
+ *If ti = 0 the spare parts are not imposed the tariff, the ERP is the highest, the producer gets the greatest benefit.*
+ *If ti increases, the ERP decreases*
+ *If ti> t, ERP has the minus value, i industry is restricted.*

To one of the points it is needed to paid attention is that the protection policy has to be carefully applied in accordance with the point of time and the market because it can violate the international trading rules and customs if the country becomes a full member of the free trade area or of the World Trade Organization (WTO). In additions, to avoid the taking over out of the market, the enterprises can make a choice to follow the strategy of joint venture making with the foreign processing premises to exploit the advantages from the foreign partners in capital, technology, market, management experience...

The human resource training policy is usually made for establishing the staff of the technicians and the workers to serve the coffee processing industry. For the fact that the coffee processing industry has a very great peculiarity the human resource training also has a big special characteristic. To develop the coffee processing industry it is necessary to rationally establish the training strategy. The qualified human resource abundance is a condition to effectively develop the system of processing premises under the direction to establish a large size completed processing industry.

The price policy has a direct affect on the benefit of the coffee processing premises. The coffee that has been down-stream processed has higher price than the up-stream processed coffee. The government should have the policy to interfere into the price when needed to ensure the benefits for the processing premises. To set up the ceiling, floor price and to subsidy the coffee price by the government at the appropriate times will stimulate the investment, increase the productivity, quality and limit the harmful impacts made by the market fluctuations.

The technological development policy serves the purpose to build a technological base for the coffee processing industry. The specialized machine, equipment used for coffee processing industry should enjoy the preferential treatment when importing. The scientific technological development policy should connect with the information system about the technology to be built to provide in time the processing premises needed information to innovate the technology. In order to attract more effectively the technology suited with domestic processing conditions it is necessary to encourage establishing the system of consultancy organizations and to set the fund for technological development serving the processing industry. The policy also aims to the localization of the coffee processing technology. Besides, the construction of the research and development organizations about new coffee species having high productivity, good quality suited with the demand of the customers is needed to get a full attention.

The coffee material zoning and the investing into the up-stream processing link also has the significance to increase the performance of the coffee processing industry. The coffee material zoning and scheming is a condition to increase the quantity of the material and to stable maintain the material resource and for that the needed methods can be applied to increase the material quality. It is a basic to produce coffee of high quality. At the coffee material zone, the up-stream processing premises can be set up to reduce the percentage of the damaged coffee beans after harvesting.

Chapter 2 The fact of coffee processing industry of Viet Nam and the problems arisen

1. Overlook of the establishment and development of coffee processing industry in Viet Nam

Almost coffee traded in many countries produced coffee in the world is about coffee beans. The much more consumption of coffee in the world is falling into non-producing and developed industrial countries. The coffee production countries, vice versa, are less-developed ones and their major incomes are coming from agricultural product export. Developed countries at highly-technological level with large demand on coffee consumption, high quality and variety are dealing with import of coffee beans to be processed. Not all of them are importing and processing coffee to fill their domestic consumption gap but also exporting finished products with high quality to other countries. Some, however, only import for pre-processing then re-export to another. So the export of coffee producing countries in the world is coffee beans. Particularly, the coffee export in Viet Nam is accounting for 90-95% of coffee output annually.

Production and export of coffee in Viet Nam have got a high growth rate and outbreak during 1994-1995. That have been shown by coffee export volume of Viet Nam in recent years.

+	The year 1995 :	export of	248,100 tons of dried Coffee beans
+	The year 1996 :		283,700 tons
+	The year 1997 :		391,600 tons
+	The year 1998 :		382,000 tons
+	The year 1999 :		482,000 tons
+	The year 2000 :		660,000 tons

Since the outbreak growth of production and export, coffee processing industry of Viet Nam has begun to be considered. On previous time (before 1994) coffee industry in Viet Nam was generally not recognized. That is why the development of Vietnamese coffee processing Industry could be segmented into 02 periods: before 1994 and up to now.

(1) Before 1994

In 1993, whereas dried coffee bean output reached 140,000 tons, 11 times more than coffee bean output by the year 1985 and about 24 times than by 1975, but there has been not much changes in fundamental towards few years before because the major for export (coffee beans) and domestic demand was minor.

In this period, the coffee production in Viet Nam could not probably been regarded as an Industry with full-meaning of this conception but mainly pre-processed for coffee bean export, including categorizing and polishing. Up to 1993, the categorizing and polishing machines for coffee bean export has been old and backward in low capacity. That's why quality of categorizing and polishing was obviously bad that leading to the devaluation of Viet Nam coffee in comparison with similar category of other countries in region.

Besides, coffee manual processing activity (frying and crushing) were scattered in households and small private processing units in some places of Tay Nguyen high land (such as Daclac, Gialai, Lamdong...) or cities (Ho Chi Minh city, Hanoi, Nha Trang..) to satisfy the demand of domestic consumption. Private processing units, however, used machines but simple, low capacity to fry and grind coffee kernel into powder to supply the domestic buyers.

Coffee fruit for bean peel-off is one activity of coffee production, but it can be as well said a part of processing. This part up to now in Viet Nam has been done as follows:

- Dry processing method: simple technology, the main activity is to dry off coffee fruit in the sun and then to peel off by roughing machine for nuts. For quick drying, better to crush coffee fruits before sun laying. This method has became popular because it is easy to do, low cost but unstable quality, laying time outdoor too long affects the coffee flavor, much rain prolongs laying and percentage of black cords raises and are quickly fermented.
- Wet processing method: complicated technology with many activities consisting of categorizing

mature fruits, fresh toughing, viscosity cleaning, nut laying, drying and peel-off crushing for nut. This method brings about high quality products, but claims for complicated technology, high investment and waste disposal devices for anti- environment pollution. Before 1999, this method was applied timidly.

(2) From 1994 to present

As production and export of coffee quickly grown, so the coffee processing has been much more regarded than before 1994. At the quality of processing activity firstly improved and upgraded as bellows:

- Peel-off for nut: Some state-owned enterprises have put more money in building up wet processing chain such as Phuoc An Coffee Company, Thang Loi Coffee Company, Thang Muoi Coffee Company, Drao Farm, Easim Company....with capacity of 5000 to 10,000 tons/year.
- Polishing, selecting before export: Some enterprises have invested in upgrading machinery and equipment to improve the rough processing quality for export such as Daclac imexport Co, Thangloi Co installed a state of art selecting, laser based color opting machine.
- Coffee processing for consumption made by private sector in larger number has taken a lot of changes. In this period, A Joint Venture Dissolvent Coffee Processing Factory in Bien Hoa has been established and brought into operation. This factory has been designed with the capacity of 200 tons per year. It is the first in Viet Nam which is well equipped.

2. The reality of the coffee processing industry in Viet Nam

(1) Processing premises and their organizational types processing pre in Viet Nam

The Coffee processing activities in Viet Nam at present including:

+ Coffee fruit peel-off for beans.
+ Polishing, selecting for export (Dry processing before coffee bean export)
+ Processing coffee beans into merchantable coffee products (Finished products)

Currently in Viet Nam there has not been statistically any figures of coffee processing units. The overlook of processing and organization of coffee units in Viet Nam as follows:

- Processing fresh coffee for beans:

This processing activity has been applied for state companies and households as well, in which wet processing method has just been used in state companies so far with complicated technology and needed much more investment. The state companies involving wet processing method have over-loaded and provided better quality, cost of wet processing method is obviously more expensive than dry method in variation of 120 to 150 USD/ton. The wet processing units of state companies are doing the job for households (State farm hiring households) and offering processing services to farmers in areas.

- Polishing and selecting beans for export:

  Polishing, selecting beans for export implemented generally in State companies (coffee production and import-export companies). Those have own polishing and selecting units for export. Some companies such as Daclac, Thangloi Companies have invested a laser based color selecting chain priced up to tens of billion VND in order to supplement the rough processing of coffee beans for export.

  Nevertheless, almost state owned selecting & polishing coffee for export units have backward technology so the quality polishing & selecting are at low lever that lead to price of VN coffee export are always lower than that one of neighbor countries. Even that the companies which have owned selecting assembly by lazer method have not gained high effectiveness in raw processing for export.

- Coffee processing for consumption:

  Coffee processing for consumption in VN is mainly frying & grinding for making coffee powder and supply to local consumption. This process is mainly implemented by private workshops or households in cities of VN as above mentioned. There is only one Install coffee processing company in Bienhoa with capacity 200 tons/year but until now, only 75% capacity was in use.

(2) Situation of coffee processing technology

Except wet process method newly invested in some state-owned enterprises and the J.V in Bienhoa, technology of almost processing units of VN are backward with old equipment, small capacity and resulted a low quality of coffee processing.

In stage of coffee fruit processing, over 80% coffee was produced from small agricultural producers which even lack of needed processing conditions. In almost state owned enterprises, equipment for coffee fruit skin are all old and small capacity. Their equipment for polishing & separating seeds are also not to meet requirements for quality of export coffee. Whereas, coffee processing equipment of private enterprises are from different sources with not so high quality. The fact that equipment of the Bienhoa Joint Venture (JV) for processing install coffee is also backward in comparison with other brand in the world.

(3) Category and quality of processed products

Products of coffee are included: Raw coffee beans, processed raw coffee bean before export (polished and selected), completed processed coffee for consumption.

- Raw coffee beans are resulted from separating fresh coffee fruit. Major part of raw coffee beans in VN (over 80%) are collected by the dry processing method so quality is low.
- The polished coffee beans for export: over 90-95% volume produced in Viet Nam has been exported abroad so raw coffee beans processed roughly(polishing and selecting) to be exported. Because the

expense on polishing and selecting technology was timid that they are old-fashioned. This results to low quality, coffee beans for export are not regular and fine, so export price of Viet Nam coffee is often lower than others'.

- Consumption coffee product:

  The categories of Viet Nam coffee contain:

  + Coffee powder, different and not high quality as standard because they are manually processed (popping and grinding) by private units with different machines almost backward. The processing technology using in households is very simple, handicraft and small ranged operation.
  + Dissonant coffee is produced in Bienhoa JV coffee Factory. With less modernized than other outstanding coffee Bands in the World, the products' quality of JV Co is still low, consumption demand undesirable, competition ability weak towards famous other bands right in domestic market.

(4) Raw material supply for coffee processing

Being a country with large coffee planting areas, the raw material supply for coffee processing in Viet Nam is optimistically considerable. Coffee processing units can easily gather the input enough at any time round the year. Raw material coffee can be offered the processing units from State companies, trading companies, private and farming households.

Raw material coffee supply for processing in Viet Nam has presently included various types and flexibly been born out in the following with demand of raw material for processing of units.

(5) Situation of product consumption

As mentioned above, over 90-95% coffee produced in Viet Nam are exported and domestic consumption is basically exported coffee. Output of coffee beans of Viet Nam has been quickly raised. By 2000, coffee output for export reached 660,000 tons, climbed to the Third in the world (after Brazil and Colombia). In 1998, coffee export turnover made top record : 513.8 million USD, 1999: 585.3 million USD and in 2000 in spite of coffee price's big loss but thanks to export volume increase (about 72% over by the year 1999) so the export turnover more than 500 million USD.

Viet Nam coffee has been shipped to 48 countries in the world. The foreign Importers are commonly such as: USA, Germany, Italy, Spain, France, England, Japan, Korea, Poland and Belgium. There have been many Enterprises taking part in coffee export. The Vietnamese exporters can be named the State companies as VINACAFE, September 2nd Company, PhuocAn Cafe Co, Inexim,....Additionally, some private companies also join to take their place in export.

For the low quality of rough processing for export, together with an increasingly large number of enterprises in export circle (after lifting the monopoly), in which many limited companies, private entities are basically not accustomed with coffee export business, lack of central management that is good for foreign companies to degrade and discount to make a big gap between London price and Vietnamese FOB price (130 - 150 USD/ton in 1997-1998, 220-250 USD/ton in 1998-1999)

In the beginning of 1999 to end of 2000, coffee price down in the worl leads to the lowest in Viet Nam coffee price through years (Robusta II costs only 450 USD/ton) which makes a lot of difficulties for Viet Nam coffee selling.

Processed coffee products sold for consumers (finished products) in domestic are supplied through private dealing system, consumption capacity is low, range is small because the domestic demand is not so big. Bien Hoa dissonant coffee has a weak competition in comparison with the same products imported of other countries into Viet Nam.

(6) Effect of coffee processing

It is very difficult to measure in details the effect of coffee procession in Viet Nam, but it is firmly believed that processing technology is still not modernized, quality is low, export price is terribly variable and tending to lower to big loss of coffee producers and export dealers so coffee processing effect is caused to the ceiling.

By research on the fact of coffee processing industry in Viet Nam, here is the as-followed conclusion: Coffee processing industry in Viet Nam by the years has been not moderately regarded, processing technology is old-fashion, range is small, scattered, non various products, processing quality is low, competition ability is weak to the same products of other countries.

3. The influence of mechanism and major policies on coffee processing in Viet Nam by those years

(1) The influence of economic management mechanism

In the old management (Central planning mechanism), coffee processing technology in Viet Nam was not clearly shaped. The operation of coffee processing was basically processing fresh coffee fruits for coffee beans and polishing for export with backward technology, old machines in state companies. Operation of consumption coffee processing to domestic market is simple and handicraft (popping and grinding) in households. Private processing units at medium and large ranges are not permitted to be established.

When transiting to market mechanism, any economic entities have the right to take part in the business of coffee processing. So in the new mechanism, beside State companies, private companies and households are allowed to register their business in coffee processing with the range non restricted. All entities are encouraged to apply the state of art technology in their operation to improve coffee quality of Viet Nam, even though peeling off activity for coffee beans, coffee for export and for consumption. That is why years there have been many good changes in recent years. However as confirmed, quality of coffee processing in Viet Nam presently is lower than coffee production countries and famous coffee bands in the world and region.

(2) Influence of some policies on coffee processing in Viet Nam

1) The investment and credit policy

In recent years, the Government has issued a lot of incentives to many entities to invest in coffee processing, in which to take much care of coffee export and consumption coffee at high quality. But there have been a few enterprises among state-owned ones who have got enough ability in own capital and reliability to borrow the bank loans into update technology for coffee beans processing for export (polishing and selecting). Many private enterprises have not been able to buy new technology for coffee beans processing for export.

In the consumption coffee processing, the Government has encouraged the investment to improve coffee processing industry for consumption in order to harvest high quality coffee to substitute the importation then to export abroad.

Although The Government has issued the policy on investment and lending as to encourage coffee processing industry, but the implementation has been done not so fast and lack of synchronization because Enterprises do not have long-term strategy business, small capital, and the Banks are also timid to lend the private entities.

2) Science-technological policy

The policy to develop science and technology and take progressive science-technology into agriculture is one of the important policies of Vietnamese Government, in which developing science-technology in processing agricultural products takes a very important role in science-technology policy of the Government.

However, the quality of coffee processing activity in Viet Nam as mentioned is still low, not meeting the demand on quality of export coffee standard as well as domestic consumption. One of the main reasons of this situation is for long time the matter to develop the science-technology and application in coffee processing of Viet Nam was not considered.

3) Market policy

Coffee is one kind of agricultural products for export so the State policies are to encourage the export. The State have set up aided fund for coffee export in order to encourage enterprises to push up their export. In recent years, The State have lifted the regulations on export clues and allowed all entities to be entitled to directly export Vietnamese coffee. This does a positive function in pushing coffee export of Viet Nam. But canceling the export clues leads to much exporters appearance, in which they are private entities, limited companies at small range, lack of business experience in coffee export so foreign companies degrade and discount a lot.

For domestic market, coffee beans and other consumption coffee products are freely dealt in market.

This brings a lot of advantages to selling in domestic.

For price policy, coffee price is changeable (in 1994 Robusta price raised to 4000 USD/ton) so the State have set up the balancing fund and use this fund to support enterprises of coffee export and purchasing raw material from coffee farmers at price higher than market price meanwhile coffee price in market downs to the rate which producers did not have profit and got many loss in awaiting for export price increase. However, the support of the Government on this fund was restricted and variability margin of coffee export price was too big.

4) Policy on cooperation, making joint venture in coffee processing

Coffee processing is more concerned some years recently, the Vietnamese Government stimulates local companies, enterprises to corporate, make JV with foreign companies as well as corporate with each other in coffee processing in order to establish mordenized coffee processing units that can increase the quality of processed coffee and the competitiveness of Vietnamese coffee beans for export in the world market and also increase the quality of coffee for consumption in local market and furthermore Viet Nam can export high quality consumption coffee to other countries.

The corporation and joint venture policies in coffee processing has stimulated Vietnamese coffee processing industry to increase with high speed in several recent years.

4. Some problems for coffee processing in Viet Nam

The research the situation of coffee processing industry of Viet Nam and major policies which has affect on the development of coffee processing in Viet Nam allows us to determine some policies for encourage Viet Nam coffee industry to develop higher in the next years that should be mentioned and carry out as follows:

(1) Develop enterprises that use wet processing method in separating coffee fruit's shell for coffee beans

This is an important and urgent matter of Vietnamese coffee processing at present time because over 80% output of exported coffee of Viet Nam use dry processing method and that is main cause of low quality of Vietnamese exported coffee. The investment on developing coffee processing enterprises will increase major part of quality of Vietnamese coffee beans.

(2) The investment on coffee processing industry in Viet Nam

In Viet Nam, the farmers in general and the coffee producers in particular have not been accustomed with the buying production insurance. Meanwhile, the coffee production in fact requires the insurance service over any agricultural products because coffee price often very much fluctuate and more frequently than the prices of other products. For example, in 1994, the price of coffee increased greatly the producers has made a big profit but in 2000, the price of coffee decreased sharply the producers had to make a big loss. The changes of the price of the coffee also affect on the benefit of the coffee producers and clearly on the coffee processing industry. Although the Government has supported the coffee producers by price stable fund but for too big wide ban of fluctuation of the coffee price, the support can not cover all losses of the producers in the years of big downing of the coffee prices.

In order to protect the benefit of the producers and the coffee processing premises, the major measure is to develop the insurance for coffee production, in which the producers will buy the insurance in the years of the coffee difficult producing and consummating.

(3) The after production service for coffee in Viet Nam

The developing the science-technology and the implementing the scientific technological achievements in Viet Nam for the years have been very bad. This is one of the reasons why Vietnamese coffee processing industry has been more backward than it in other countries. For coming years, the scientific technological development and the stimulating the implication of the scientific technological progresses in he coffee processing industry will be considered as a key matter of the direction to develop the Vietnamese coffee industry. Along with the concentrating on the coffee processing industry, it is essential to study the coffee processing technology to produce and provide the specialized mechanic machinery and equipment for Vietnamese coffee processing, to fast end the depending too much on the foreign machinery and equipment as the years.

(4) The development of the coffee processing private enterprises in Viet Nam

If the private coffee processing activities were invested enough and got a lot of favorable conditions as the state-owned enterprises they would make higher performance than them. The reality has shown that some state-owned enterprise more effectively export than the private enterprises because they have enjoyed much preferential treatment as the more credit and more favorable layout than private enterprises. It is the time to make all subjects equal in the production and business in general and in the coffee processing in particular. To offer the private enterprises as favorable conditions in the coffee processing as the private enterprises importantly the credit conditions, production layout...will strongly stimulate the coffee processing industry in Viet Nam in the coming years.

Chapter 3 The orientation to improve and to make options for the development policies of the coffee processing industry in Viet Nam

1. The situation on international integration and its impacts on the coffee processing industry in Viet Nam

(1) The situation on international integration

The international integration is a vulnerable trend of movement of all economies at present while the process of regionalization and globalization of the world economy is taking place fast under strong impact of the science-technological revolution. In this context, to build and to make policy option for coffee processing industry must consider and have right understandings about following issues.

+ The strong impact of the science technological revolution and stepping of the world economy into the knowledgeable economy have been giving many countries the sudden rate of growth and economic development, shift of the economic structure in the direction towards the optimal and effective utilization of their comparative advantage...This also puts Viet Nam in front of many opportunities and great challenges. In order to increase the opportunities and to reduce the challenges, Viet Nam needs to have right line for development of foreign affairs to simultaneously exploit the progressive and modern science-technological achievements and to avoid going backwards and depending on the foreign countries.
+ The trend of regionalization and economic globalization is aiming for the trade and investment liberalization among countries. Going alongside with the process is the reduction of the degree and the size of the interference of the government into the trade and investment activities. In this context the international competition becomes very strong for catching the opportunities of development. Hence, if Viet Nam well establishes the schedule and appropriate steps for international integration it is able to shorten the development process, step by step to increase the competitiveness in the market.
+ In case of integration and strong competition, it is necessary to make choice the competitive industry to utilize comparative advantages and national potential as the draft documents submitted to the IX Congress of Vietnamese Communist Party concerns: "...to develop the industries having ability to utilize competitive advantages, to dominate the market about necessary consumption goods in the domestic market and to stimulate the exportation of the processed agricultural, forestry and aquaculture products..."

Viet Nam has been an official member of the Association of Southeast Asian Nations (ASEAN) from 28, July, 1995 and is being in the process to integrate into the Asean Free Trade Area (AFTA). On November 1998, Viet Nam participated into the Asia Pacific Economic Forum (APEC). At the same time, Viet Nam is having the effort to join the World Trade Organization (WTO) and in 13, July, 2000 the US-Viet Nam Trade Agreement was signed. This process has been giving Viet Nam certain benefit by appropriate exploitation of the internal resource, taking advantage of the external resources from effective widening of the international relations to stimulate the course of industrialization, modernization of the country.

(2) The impacts of integration on the Vietnamese coffee processing industry

The process of participation of Viet Nam into international integration in the region and the globe at different grades has been putting Viet Nam new advantages and difficulties for development of the country in general and for coffee processing industry in particular.

1) The major advantages

+ The participation into integration in the region and in the globe, the signing the bilateral trade agreements between Viet Nam and other countries has made a point of a new step of development of Viet Nam in the field of the international relations to enter into the world economy. The integration of Viet Nam into ASEAN, APEC... will bring Viet Nam and other members much benefit. Now, Viet Nam is actively entering into all activities of these organizations in which the investment and trade cooperation plays a very important role. These activities offer the favorable conditions to push Viet Nam increase the growth rate, stimulate the industrialization, modernization of the country; provide new opportunities for development of the industries including the processing industries in the agriculture, forestry and aquaculture in Viet Nam.
+ The international integration offers Viet Nam the good chance to enter and to expand into the market. For example, now more 30% of the import turnover of Viet Nam is coming from the members of ASEAN with the preferential tariffs (0-5%); about 70% export turnover of Viet Nam including rice, coffee...is exported to the Asia Pacific area. It can be said that the participation of Viet Nam into international integration has given Viet Nam new advantages in production and exportation of commodities into markets of the members of the blocs even to non-member countries. This is an opportunity for Viet Nam to develop the advantageous industries including coffee industry, to increase the volume of supply and demand for commodities in the world market and to increase the competitiveness in price.
+ The international integration helps Viet Nam step by step shifting the economic structure towards optimum, gradually reducing the portion of the agricultural labor and the agricultural products, fast increasing the gross product of industry and service sector, synchronously developing the industry, agriculture and service sectors in direction towards high effectiveness and international competitiveness.
+ The international integration creates Viet Nam opportunities to attract the foreign investment. To invest into which countries and in which sectors belongs to the consideration of the foreign investors.

The fundamental conditions to attract the projects with foreign invested capital depend on many factors in which the political stability, favorable environment and simplified procedures are very important criteria. Viet Nam has been participated into AFTA, APEC and other international organizations then in the future Viet Nam will attract many countries and partners to invest into Viet Nam. Till the end of the December 1999, Viet Nam has attracted 2,937 projects with foreign invested capital with the registered total capital of (including the capital rising) 42.7 bill. USD, the in-reality capital of more 16.2 bill. USD (including expatriate and dissolve projects). Among them the number of projects in the industrial and construction sector is 1,421 with the total capital of more 18 bill. USD but the portion of invested capital in the light industry and processing industry is low-more 15%. It is foreign investment to permit Viet Nam widen the size and upgrade the processing technology for processing industries of the agricultural products including the coffee processing industry in order to increase its competitiveness over the competitors in the market.

2) The difficulties and challenges that have to concern under international integration

+ The participation into AFTA, APEC...means the recognition of the trade liberalization, free circulation of goods within the area and between members of the bloc. This is a great pressure on Vietnamese enterprises because the entering in the business activities in context of international competition is a new matter. In the past, the capital of enterprises was mainly subsided by government but now they partly lose this source. Meanwhile, the level of technology and management skills of the enterprises are bad, their quality of products is not high and the price is unsuitable so their competitiveness is low. The exports as the coffee, rubber, frozen sea products...are mainly primarily processed or preserved by low level technology.

+ The international integration has been directly affecting on the price of goods. In the year 2000, the price of coffee of Viet Nam in the world at some time went much down. At the end of the third quarter and at the beginning of the fourth quarter the price of coffee went down from above 1200 USD/tone to more 700 USD/tone. It has not little impacted on the people who plant and trade coffee in Viet Nam.

+ The economic and trade integration with other countries in the world is putting Viet Nam in front of a great challenge that is to establish an appropriate management policy with the trade liberalization but the function of state management of the Government on trade and investment will be maintained. Of cause, the Government has to offers the favorable conditions for economic industries to well apply the progressive achievements for the course of industrialization, modernization of the country and to increase the competitiveness of Vietnamese commodities in the market. If the technological improvement was not stimulated and the business effectiveness of the enterprises was not increased, the economic structure was not shifted from "up-stream" to "down-stream" it would be very difficult for Viet Nam to maintain and to expand its foothold in the market.

2. The orientation to improve

(1) To expand the scale of coffee processing industry in Viet Nam in line with its development potential

Vietnamese coffee has been determined as one of the major long term industrial plants to what it is necessary to pay much attention to develop. For that reason, the area of planting has increased. In period of 1990-1994 the area of coffee planting was increased very little (even decreased in some years) but the yield has been increased because the majority of the gardens of coffee has developed and they have had high productivity. In the period of 1994-1996, the world price of coffee has been increased suddenly the coffee planting area also has been much increased in most provinces in Taynguyen area. At the end of 1998, for estimation of Viet Nam coffee-cacao Association, the coffee planting area in Viet Nam was stood at about 370,000 ha. In which, only 3 provinces in Taynguyen have had about 60%. Almost area has been used to plant the robusta, only about 20,000 ha for arabica. The planting area of arabica is mainly concentrated on the North and the Middle area. Under forecasting, up till the year 2010, Viet Nam will have 400,000 ha of coffee including 100,000 ha tea coffee (arabica), the yield of more 500,000 tones and the export turnover of about 700,000 USD.

For the fact that the area, productivity and the volume of coffee has been increased it is needed to get the appropriate attention of the Government and other state bodies to development and expansion of the scale for coffee processing industry, the assistance for factories to overcome the difficulties about capital and to upgrade the level of technology and to increase the capacity of the processing factories both in dry and in wet processing methods.

(2) To modernize the phases of the coffee processing technology in the coffee processing premises

Post-harvest coffee will be sent to the up-tream processing by 2 ways.

+ The wet processing method: There are 2 main phases:
  - The phase of fresh grinding all types of skin, warming up to ferment then drying the coffee beans for the standard of the moisture applied to the beans.
  - The phase of grinding, cleaning the next skins to make the coffee.
+ Dry processing method: There is only a main phase. After dying up the coffee fruit at given extent, all types of skin surrounded the kernel will be cleaned by the dry grinding machine without rice coffee processing phase .

The wet processing method for the years was only used in the state owned farmings that had available specialized processing instruments and a lot of incentives from Government. For the coming years, by the making the survey the majority of opinions agree that Viet Nam should stimulate the up- stream processing industry by the way of wet processing method because tea coffee have thick skin, good flavor so if the time for drying is too long the coffee will be dissolved, the flavor will be disappeared then its utilities will be reduced. In order to increase the quality of the coffee, it is necessary to seriously follow the post-harvest processing techniques. Specifically, it is needed to follow the following 9 rules to produce the high quality kernel coffee.

1. Only to harvest the wholly ripen seeds (red ones)
2. To dry immediately just after harvesting
3. To spread out the fresh fruits to the beds of less than 3-4cm on the clean and relative water permeance yard.
4. It is much better to dry out the coffee on the trays or on the tables than on the land yard.
5. It is needed to reel the dried fruits many times a day.
6. To make the heaps of fruits and to cover them at night to avoid the night-dew and the wet whether.
7. Not to dry out the coffee beans on the PE.
8. The fruits are dry and they can be drilled if the level of making water analysis is under 13% (that means when pressing, the rice husk of coffee will be broken like the broken glass and the kernel of the bean to be difficult to bite)
9. To keep coffee in the clean, firm and ventilation bag.

(3) To synchronically organize coffee processing premises under the guideline of diversification of sizes and the level of techniques suited with the production size and yield of each area and the locality.

Vietnamese coffee is categorized to the type of coffee having delicious and rich flavor because they are planted on the land than is higher than the seaface. Usually, the tea coffee (arabica) is planted on the highland of 500m in Asian tropical area and of 2,500m in equatorial region having climate conditions much suited for coffee growth. Specifically:

1. The subtropical region is located from the Northern latitude 16 to 24°, at the height of 600-1,200m with two clear dry and wet seasons suited with harvesting and drying.
2. The equatorial region is located under latitude 10° at the height of 1,200 m, having big volume of raining, the coffee trees flower many times in the harvesting season determinate by big raining season and harvesting subseason affected by the small raining season, the coffee after harvesting must be immediately sent to dry over a fire.

Coffee Robusta is mainly planted in the lowland from 0-1,000m in the equatorial rim from latitude 10° in the North to the latitude 10° in the South.

The tea coffee may be planted in the equatorial and subtropical regions, it can be processed by two processing methods—dry and wet. Furthermore, in these regions it should establish and improve the processing premises in both methods-dry and wet.

The Robusta is mainly processed by the dry method. For the dry processing method keep the special flavor of coffee after processing so many customers like it. Because the Robusta is mainly planted in Tayngueyen region, it is appropriate to invest into specialized drilling technology concentrated on this region.

However, for the fact that the majority of coffee materials that has been delivered to process was collected from farmers or the owners of farmings the quality of coffee is not equal, even in some areas it is low. To overcome this disadvantage, it is necessary to categorize the coffee before processing in order to keep the reputation in front of customers.

3. The policy options to develop coffee processing industry under integration

(1) The development policies for coffee in general and for coffee processing industry in particular has to connect with the scheme of development of the coffee processing industry

The purpose that has to achieve is by the year 2010 to raise the planting area of coffee to about 400,000 ha including 100,000 ha of tea coffee, to achieve the yield of more 500,000 kernel coffee, the export turnover of about 700 mil. USD. In order to gain the objective, it is necessary:

+ To continue increasing the productivity by intensive farming and to maintain the ecology of environment and the garden stable.

To take care intensively the gardens of coffee from the selecting the species, planting, killing the insects, maintaining high and stable productivity to establishing the stable ecological environment in entire growth cycle must be the responsibility of the coffee industry as a whole.

- To invest into implementation of scientific technological achievements to increase the productivity and the yield and to reduce the prices.
- It is necessary to establish the general solution to water coffee and it is needed to attract the domestic and foreign capital to build the water lake and irrigation system to supply enough water for coffee.
- It is to pay attention to biological technology, to find out new species, new cultivation techniques, to kill the insects for coffee, to make the gardens equal and high quality, to give the design to improve the big trees and anti-wind trees.
- To strengthen the investment into infrastructure in the region specialized for coffee planting under the formula "Both the government and the people invest into infrastructure" in which the electricity and transportation systems are specially taken care...

+ To focus on investment into expansion of coffee planting area- actively develop the tea coffee.

- To only expand new planting area in the schemed area for coffee where having enough appropriate conditions with coffee in the field of environment, climate and soil.
- To develop the tea coffee in the mountainous areas mainly in the North to overcome the

differences between coffee regions in all over the country.

+ To establish the strategy for investment and development of the coffee processing industry.

The coffee industry should pay attention to invest into additional construction, reforming and upgrading the coffee processing premises to make the final products such as the drilled coffee, dissolved coffee or canned coffee to meet the requirements of the domestic market and to export.

For the long time, the coffee processing industry has not been paid full attention, lack of right understanding about it and for the difficulties about the capital resources, backward technology with slow renovation so the post-harvesting losses has been relatively great (more 10% of value) and many premises have made big loss of some billions of Vietnamese dong for bad quality. In another aspect, the households and the owners of the farmings who produced more 85% of coffee output lack of the minimum up-stream processing conditions. Even the coffee business enterprises and the coffee buying agents also lack of warehousing system and processing equipment. For that reason, in the coming years in our opinion, it is necessary to stimulate coffee processing industry and to consider it as a very important task of the course of coffee industrialization, modernization. Under this direction, it is needed to build many additional zones of industrial processing premises including the dry and wet technologies, warming up system, drilling, drying and weahousing...to expand the scale and to upgrade Bienhoa coffee factory as well as to examine and to make market survey to construct other factories which produced final products when market will be widened.

Another urgent matter is that the Vietnamese Coffee General Corporation must establish coffee processing mechanic enterprise to manufacture and to supply specialized machine and equipment for coffee industry.

(2) The protection policy for coffee processing industry under integration

For recent years, for the great changes of the demand and supply on coffee and the price in the world market especially in the year 2000, the price of coffee went down remarkably, it has made some worries and big loss for the coffee farmings and business enterprises. In order to make coffee producer and businessmen reliable in their activities under formula of continuos improvement of the linkages and works to increase the coffee competitiveness in the world market the Government needs to make some appropriate support policies for the industry.

- The tax policy especially the tariff policy has to be improved in the direction of reducing the rate of protection to stimulate the autonomy and the creativity of businessmen, on the other hand, giving the tax incentives for coffee processing enterprises for exportation including for enterprises penetrating and expanding into new market.
- To reduce or to exempt the import duty for technology imported to serve the processing coffee for exportation.

- To reduce or to exempt value added tax (VAT), to reduce the corporate tax for enterprises upgrading or expanding the processing technology to maintain and to increase the present coffee quality.
- To use widely export promotion fund, the fund for price stability to support coffee producers and businessmen in case of some big disadvantageous shocks happening in the world market. To encourage export and to stimulate export coffee processing it should establish export coffee insurance fund from export sub-income resources, the contribution of the production, processing and exporting enterprises to subsidy them when price fallen. The giving priority, privileges will be applied not only for coffee export businessmen but also for producers and processing premises because they are the planets supplied the coffee and adjusted market volume.
- To continue reforming administrative procedures in the direction of shortening the time to solve the export-import procedures under formula of promptitude, simplification and no troubles.

(3) The policy for remaining and developing export coffee market

In the 1930-1940s of the 20th century, Vietnamese coffee get the tastes in the European market. However, after lifting embargo, Vietnamese coffee will appear in many market places in the world. To improve the export coffee quality to keep the prestige with the customers and to follow he international trading customs...are important methods to keep and to expand the market. On other hand, is necessary to apply some solutions to recover the traditional markets (SNG and Eastern countries), to enter into new markets as the Chine and Middle Eastern countries...It is the fact that Viet Nam has integrated into ASEAN, APEC, ASEM and in the future into WTO has the same meaning with opening the market for commodities and Vietnamese merchants have favorable conditions to strongly take part in the international market.

To strengthen the information system on market is one of the very important matters to maintain and to effectively develop export coffee market. To do that on one hand, the Commercial Promotion Department (The Ministry of Commerce) has to stimulate strengthen all own activities related to the functions and responsibilities to regularly and "just in time" provide the coffee producers and businessmen the information about coffee; on the other hand, the producers and businessmen must establish the specialized researching staff on the collecting and fast processing market information to exploit the opportunities and to reduce the challenges, to limit the risks and to increase the effectiveness. At the same time, the coffee business organizations must pay attention to buying newspapers and the information about coffee market to serve business activities prompt and effectively.

(4) The scientific and technological policy

- To strengthen the researching activities and selecting and widely multiplying the good species of the tea coffee (arabica) and Eugenia coffee (robusta) having high productivity, good flavor and being able to protect the insects and to exist in different insect zones.

- To make option for processing technology suited with the dry or wet processing methods. Do not pay attention to low price, the importance is to achieve the purpose of manufacturing the high quality products, spending fewer the fuel and materials. In the coming years, the coffee industry should not invest in to the down-stream processing technology (about 70% of questionnaires from survey agree that) for its low effectiveness.
- The scientific and technological policy must be synchronically applied to all phases: to invest into machine and equipment, to transfer the technology, to train the management and technical staff, to upgrade the skills for workers, and to organize the production system...

(5) The human resource training policy for coffee processing industry

To accelerate the development of the agricultural product processing industry in general and coffee industry in particular is only effective when the scientific technological progresses are applied to production of products. For that reason, in our opinion, the training of qualified human resource plays a special important role, even the leading role because the human being is the subject and the decisive factor. If we have good people, we will have all things. It is the same thing as the Japanese and South Koreans have said: *Although our country has no any natural resource, we have nothing, but we have all things because we have good people and the reality has proved that it is true.*

In Vietnamese conditions, in order to have the qualified human resource (including the human resource for coffee industry), the Government needs to make in advance the policy in the field of training the human resource and the talents. The training and upgrading needs to be concentrated on establishing the generation of experts, the businessmen in all economic sectors, the technicians and the upgrading the literature level as well as the way of doing business followed the industrial way for people especially for the farmers and the owners of all farmings at present.

(6) The policy to encourage the private sector and the foreign investors to develop the coffee processing and exporting industry

To accept the multi-sector economy under formula of diversification and multilateralization of foreign economic relations...means to accept the existence of different types of enterprises (state own enterprise, private enterprise, enterprise with foreign invested capital...) that do business together in the fields which have not been forbidden or restricted by Government. The coffee industry in general and the export processing field in particular belongs to the field that has not been forbidden and restricted by Government. However, to attract the private businessmen and the foreign investors to develop the coffee processing industry, in our opinion, the government should eliminate all incentives and privileges for economic sectors. The way of granting the incentives and the privileges must be changed to a new way of thinking specifically that based on the purpose, the task and the field of priority to develop, if the enterprises and businessmen in all economic sectors can do and perform well they will enjoy the preferential treatment.

It is necessary to offer favorable chances for private sectors and the foreign investors to implement the land using right; to export and to import; to be equal in front of the carrying out the tax policies and other support policies of the Government.

Conclusion

The Vietnamese coffee industry is enjoying the great potential to develop, the advantages in climate and soil, the natural favor Vietnamese coffee has the sweet-smelling flavor that many international clients like. However, in the context of the international competition and too backward processing technology not having the appropriate investment the competitiveness of Vietnamese coffee in the market is limited and it is facing the threat of going down.

In the coming years, with the full participation into the international economic integrations and international organizations, for the implementing the international commitments, the protection of the government by the tariff and quota will be eliminated or improved in accordance with international customs and rules. This is a pressure on the Vietnamese enterprises doing business with commodities in general and coffee in particular. Furthermore, the innovating the thought and macroeconomic policies of the Government has a specially important significance even it can make the new sudden changes of development.

The group of researchers want to give primary contributions about the evaluation of the coffee processing industry; the urgent problems arisen must be studied to solve; the policy options to push the development of coffee processing industry to increase more and more performance of coffee exportation, to stimulate and to well utilize its endowments.

During implementing the study, the researchers face many difficulties in time and in budget the information from the premises is limited and for that reason the report is certainly not avoid the shortcomings.

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Appendix

*** Appendix 1: The sample of questionnaire for the management state bodies**

Questionnaire

*** To:**

In order to support the Party and the Government make the appropriate policies to develop the coffee processing industry under integration now, we would like you to offer us favorable conditions to achieve the purpose mentioned above by answering following questions.

Thank you very much for your cooperation!

I. The major advantages and disadvantages of Vietnamese processing industry now:

1. Market (price, competitive situation, market information...)

2. Processing technology

   2.1. The up-stream technology (bean selecting, polishing...)

   2.2. The down-stream technology (consumption coffee products)

3. Investment activities

4. Natural conditions

5. The protection policy for the processing industry

II. The opportunities and the challenges

1. The opportunities and prospective

1.1. The market, partners

1.2. Technology

1.3. Investment activities

1.4. The cooperation commercial relations

1.5. Protection policy

2. Challenges

2.1. The market, partners

2.2. Technology

2.3. Investment activities

2.4. Cooperation commercial relations

2.5. Protection policy

2.6. The outstanding problems of Vietnamese coffee processing industry now

III. The contemporary policies

1. The market policy

- The level of fitness
- The advantages
- The disadvantages
- The reasons

2. The technological policy

- The level of fitness

- The advantages
- The disadvantages
- The reasons

3. The investment policy

- The level of fitness
- The advantages
- The disadvantages
- The reasons

4. The protection policy

- The level of fitness
- The advantages
- The disadvantages
- The reasons

5. The training policy

- The level of fitness
- The advantages
- The disadvantages
- The reasons

6. **Other policies...**

IV. The evaluation of Vietnamese coffee processing industry

1. The up-stream processing

2. The portion of the post-harvesting up-stream process

3. The portion of wet and dry processing

4. The down-stream processing (Note: to evaluate the quality of Vietnamese coffee processing in comparison with the demand for it in other countries to know about at what level it stands: high, intermediate or low)

5. Export kernel coffee processing

6. Please write down the some coffee processing premises in Viet Nam now...

7. Please evaluate the level of the coffee processing: advanced, intermediate or backward:

8. Please give the evaluation on the portion of export coffee now:

- High quality: %
- Intermediate quality: %
- Low quality: %

9. The portion of the processing coffee of all types of the enterprises

- The state-owned: %
- The cooperative: %
- The private: %

- The joint venture: %

V. The directions to develop the Vietnamese coffee processing industry

1. The standpoints to develop

1.1. The standpoints to develop the Vietnamese coffee processing industry (What portion should be remained between the up-stream and the down-stream processing of the export kernel coffee?)

1.2. The standpoints about the portion between the up-stream and the down-stream processing activities

1.3. The standpoints about the investment into processing industry (Do invest extensively or intensively and at what scale)

1.4. The stands about the allocation of the coffee processing premises

1.5. The standpoints about the organizational form of coffee processing premises (state-owned, private, joint ventures)

1.6. The standpoints about the effectiveness of the processing industry (both in economic and social aspects)

1.7. The standpoints about the integration (to what problems the export coffee processing industry should pay attention to effectively integrate into the world market?)

- Others...

2. The directions to develop the Vietnamese coffee processing industry

2.1. The direction to the post-harvesting up-stream processing

2.2. The direction to develop the export kernel coffee

2.3. The direction to develop the down-stream processing

VI. The solutions to develop the Vietnamese coffee processing industry

With the standpoints and the directions mentioned above, what solutions the Vietnamese coffee processing industry in the coming years should be applied to develop?

1. The solutions about the master planting to develop the Vietnamese coffee processing industry

2. The solutions about investment

   2.1. The domestic investment

   2.2. The foreign investment

3. The technological solutions

4. The solution about the production organization

5. The market solution

6. The solution about the human resource training

Besides all the solutions above in your opinion what additional measures will be applied to develop the Vietnamese coffee processing industry under integration?

Again, thank you for your co-operation!

**** Appendix 2: The sample of questionnaire for the Company**

Questionnaire

*** To:**

In order to support the Party and the Government make the appropriate policies to develop the coffee processing industry under integration now, we would like you to offer us favorable conditions to achieve the purpose mentioned above by answering following questions.

Thank you very much for your cooperation!

1. Name of the company:

2. Date of establishment:

3. The business items:

4. The number of branches of the company:

   4.1. In the domestic market:

   4.2. In the foreign market:

5. The staff number:

   * The number of employees:

   * The number of management staff:

   - The number of undergraduates:

   - The number of graduates:

   - The number of the higher college:

   - The number of staff at other levels:

6. The latest 2 years revenue:

7. The rate of profit

8. The major consumpted markets:

8.1. The domestic market:

8.2. The foreign markets:

9. The major partners of the company:

9.1. The domestic partners:

* Names of the partners:

- The main characteristics of the partners (the major business items, the size, the competitiveness...):

9.2. The foreign partners:

* Names of the partners:

- The major characteristics of the partners (the major business items, the size, the competitiveness...):

10. The competitors of the company:

10.1. The domestic competitors:

* Names of the competitors:

- * The main characteristics of the competitors (the major business items, the size, the competitiveness...):

10.2. The foreign competitors:

* Names of the competitors:

* The main characteristics of the competitors (the major business items, the size, the competitiveness...):

10. The biggest advantages and disadvantages of the company in coffee business doing: (please give the least 3 outstanding advantages or disadvantages)

10.1. The advantages:

10.2. The disadvantages:

11. How the government policy affects on the coffee processing industry: (please show the level of fitness of the policy with the reality)

11.1. The land policy

11.2. The credit policy

11.3. The exchange rate policy

11.4. The policy for technological development

11.5. The human resource training

11.6. The market policy

11.7. The price policy

11.8. The policy for material resource scheming

12. What are the biggest advantages of these policies? (please show the least 2 disadvantages)

12.1. The land policy

12.2. The credit policy

12.3. The exchange rate policy

12.4. The policy for technological development

12.5. The human resource training

12.6. The market policy

12.7. The price policy

12.8. The policy for material resource scheming

13. In your opinion, what are the main reasons for the limitations of the development policies of the Vietnamese coffee processing industry now?

14. What are the major challenges for Viet Nam coffee processing industry now?

15. In your opinion, in what direction the policies should be improved to effectively develop the Vietnamese coffee processing industry under integration?

15.1. The land policy

15.2. The credit policy

15.3. The exchange rate policy

15.4. The policy for technological development

15.5. The human resource training

15.5. The market policy

15.7. The price policy

15.8. The policy for material resource schemming

Again, thank you for your co-operation!

*** Appendix 3: The general report about the results of the survey and the interview conducting**

In order to carry out the study:" The Vietnamese coffee processing industry under integration: Reality and development policies", the group of researchers has established and undertaken 10 interviews with the state management bodies, and sent 35 questionnaires to the companies. Up till now, we have received all 10 interviews and 35 questionnaires. The reason for being late of some of them is that the business units do not want to provide the information related to their units. Moreover, in many coffee production and business premises, the processing activities have had nothing. And most of these units are allocated in the Middle and in the Southern region even in the mountainous areas of Viet Nam, the travelling of the researching group is very difficult.

Based on the questionnaires received, we have had some following beginning comments:

1. The revenue of the coffee production, processing and business premises in recent years has been increased but the rate of the profit has been lower than 0.5%. Even for many years, the profit has been increased inadequately with the investment and the cost expedited.
2. For the coffee consumption market, the level of the domestic market consumption is very low in the domestic market, it has been mainly exported to Asian South Eastern countries, the Asian Southern countries, EU, Japan, South Korea and United States.
3. The main characteristics of the coffee and of the Vietnamese coffee processing industry are the production and exportation of the remarkable quantity of the up-stream material coffee. Its competitiveness is not high even sometimes very low.
4. The main foreign competitors are the coffee business companies of Indonesia, Brazil, CuBa, India...More 65% questionnaires agreed that these competitors have had the advantage in the collecting and processing the information about commodity market, the good forecasting of the price changes, having good processing capacity and warehousing.
5. Upon the advantageous and disadvantageous aspects of the coffee production in Viet Nam, 70% of the opinions have agreed that:
   - For the advantage, the majority of the customers and the market are stable, the staff has well understood about the coffee and they have had good specialized knowledge.
   - For the disadvantage, the competitiveness in the coffee market is strong but its ability to respond with the competition is low. The coffee quality has not been stable, the investment into the processing industry has been limited. To conduct the market survey and to each up with the information has been little and the information is not update and their reliability as well as the precision is not good.
6. For the field of the policies of the government impact on the coffee processing industry.
   - The land policy has many troubles (100% confirmed that the land transfer, management and exploitation are complicated).

- The credit policy: 100% opinions said that although many policies have been issued but they have been unstable, their effects have been little. The borrowing procedures to invest into the coffee industry in general and the coffee processing industry in particular are branchy and they have made much time loss.
- The exchange rate policy: The fluctuation ban between Vietnamese dong and other hard currencies has not been controlled yet. Majority of opinions suggested that the stability of the exchange rate between Vietnamese dong against other currencies are needed to respond with the great changes of the world market.
- The scientific technological policy: Viet Nam has not paid attention enough and much invested in the coffee processing industry (basically, the down-stream processing industry has not been developed).
- The policy for human resource: It has been paid attention but its performance is still low.
- Lack of the appropriate market policy, the policy has not been adjusted with the market changes.
- The material resource scheme policy despite of the issuing but lack of the effective measures to fit it with the general scheme then its performance is not high.

7. The main reasons of the limitations of the coffee processing industry in Viet Nam now are:
   - About 75% opinions agreed that lack of the stability of the market for each type of the products.
8. The major challenges are the lack of the consummated markets, capital, processing technology
9. About the direction to improve the policies:
   + 100% opinions has recommended to continue improving the material resource scheme on the base of the stable and long term land passing, land concentrating to push the intensive farming and to increase the productivity...
   + The credit policy: 70% agreed that the specific credit policy should be issued to suit with the coffee production and processing industry.
   + The exchange rate policy: The exchange rate policy enjoyed preferential treatment with export coffee processing industry should be issued.
   + The scientific and technological policy: 100% opinions agreed that in the coming years it should be necessary to invest into the up-stream processing technology.
   + To issue and to improve the staff development policy for coffee processing industry.
   + The market policy: It should be necessary to issue the policy to develop the partners and market as well the policy to encourage the enterprises to find and to expand the consumption markets to get more partners more possible.
   + The price policy: It is needed to encourage the material price of high quality (about 70% agreed)
   + To keep studying to improve the general scheme on the material zoning (especially the tea coffee trees) to increase the quality of the export coffee.

* **Appendix 4: The list of the surveyed state management bodies and the companies**

1. The state management bodies

Order	Name	Supervising office	Address
1	The Policy Department	Ministry for Rural and Agricultural Development (MRAD)	Hanoi
2	The Department for Planning Management	MRAD	Hanoi
3	The Department for Cultivation	MRAD	Hanoi
4	The Department for Foreign Investment	MRAD	Hanoi
5	The Department for International Relations	MRAD	Hanoi
6	Coffee-Cacao Association		Hanoi

2. The companies

Order	Name	Address	Type of the ownership
1	The Agricultural Product and Processing Foodstaffs Company	Danang city	State-owned
2	The representative office of Coffee Companies	Hanoi	State -owned
3	Buon Me Thuot Coffee Company	Buon Me Thuot province	State-owned
4	Dak Lak Coffee Company	Dak Lak province	State-owned
5	Nha Trang Coffee Company	Khanh Hoa province	State-owned
6	Minh Tien Coffee Private Enterprise	Hanoi	Private
7	The Indochina Company	Hanoi	Private
8	Thai Hoa Production and Commercial Company	Hanoi	Private
9	Hanoi Export-Import Coffee Company	Hanoi	State-owned
10	Cao Nguyen Coffee Production Premise	Hanoi	Private

Appendix-2

Software Industry of Viet Nam: Competitiveness and Policies for Sustainable Growth

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Introduction

Software Industry of Viet Nam is quite an infant industry, however it is valued at very big potentials. The Vietnamese Government has considered the software as one of focused industries and issued series of policy in order to boost its development during the last dedicate. But, in fact, software industry's development has been limited and its size is completely small in comparison to the potentials. Highlights of Software Industry of Viet Nam shows many problems internally. Therefore, the integration of Viet Nam economy into regional and global economies also bring new problems that leads software industry facing both opportunities and challenges.

Up to now, there is no completed study that looks into details and general as well on the software industry of Viet Nam: How is about its current situation and future development? How the economic integration will affect it? Whether the targets, which set by the Government of Viet Nam, for this industry up to the year of 2005 are suitable or not? How the present policy works on the industry development? And, what should be done for purposes of the industry sustainable development? This paper tries to look for those answers at very roughly/ initially.

1. Study purposes

- To analyze the current situation of Viet Nam software industry, including: (1) Market size, production ability, marketing ability and competitive environment; (2) Development trends and affected elements; (3) Copyrights protection; (4) Competitive advantages of Viet Nam software industry. The study also concentrates on discovering main problems/constrains of the industry.
- To evaluate effectiveness of economic integration into software industry, including: (1) considering the World software industry and position of Viet Nam software industry; (2) evaluating effectiveness of international legal system on copyright's issues in Viet Nam; (3) internal changes of the industry under the integration process.
- To evaluate the current policy system that relating to the industry in all aspects such as informatic infrastructure building, law on copyright protection, investment, finance and market development... especially concentrated on limitations of above-mentioned dimensions.
- To propose solutions for sustainable development of Viet Nam software industry.

2. Study methodology

- To explore secondary documents on and related to Viet Nam software industry.
- To investigate about 20 informatic companies which have been doing business of software products (as suppliers) and about 10 symbolical users of software products (as customers).
- To do face-to-face interviews with leaders, specialists and directors of software companies.

Then, statistical and analyzed techniques were applied to draw up conclusions.

3. Structure of the paper

Part 1: Overview of Viet Nam software industry

Part 2: The effectiveness of integration process on software industry

Part 3: Evaluations of the State policy on software industry

Part 4: Some main solutions for boosting development of software industry

Part 1 Overview on the Viet Nam software industry

Up to now, there is no an adequate and systematic study on the current situation of the Viet Nam software industry in Viet Nam because of the its newness and spontaneous development and the poor management of the government. Therefore, it should be necessary to investigate and consider the recent situation of the Viet Nam software industry. The study will provide a scientific basic to form a package of the appropriate policies to develop the software industry. This part will present some main issues such as real situation of the software industry; factors that effect the development of the industry and competitive advantages of the software industry in the software domestic and world markets.

1.1 The real situation of the Viet Nam software industry

1.1.1 The production capacity

It is unavailable to get the accurate figures about the number of the informatics companies and production capacity of the software industry in Viet Nam recently. However, it could be seen that the number of the informatics companies in Viet Nam has increased quickly in recent years which are placed mainly in two big cities: Hanoi and Hochiminh city. Based on the Viet Nam Information Technology directory 2000,[1] there are about 200 informatics companies running hardware, software, network, services consulting... in such there are about 40 companies that specialize in software. In addition, there are about 80 other organizations providing software programs (see appendix 1). However, these data are not accurate. Basing on the survey, we put out initial evaluations on the production capacity of the software industry. The following will give more detail analyses about the location, the length of forming, the number of employees and the capacity of the informatics companies in Viet Nam.

a. Background and the experience

First of all, it could be affirmed that almost informatics companies have been established newly which are limited in abilities of organizing and managing. There are only 7 of 168 listed companies have been established before 1990 appropriated 4.18%. 68 companies have been formed in the period between 1991 and 1995. The remains accounted 93 companies that make up to 55.35% have been established in latest 5 years. It could be said that all of the Vietnamese informatics companies are newcomers so it is difficult to find out several famous names from them that are strong enough to compete and to get a recognized prestige in the software market.

However, the late foundation should not be the reason for the weakness of the companies in business management. The evidences from many companies in developed nations have shown that a company could become famous after only 3 to 5 years since establishment. Especially, one company could be posited its name by the quality of provided services and it's ability in satisfying the variable demands

[1] See: *Viet Nam IT Directory 2000*—Hochiminh City Computer Association, 2000 (Vietnamese and English)

of the customers. Being the late comer in the information technology, the Vietnamese informatics companies could get some advantages by catching up the level of latest technology.

In addition, the variability of the number of the informatics companies is main characteristics of the development of the Viet Nam software industry also.

b. The size of the business in software companies

It could be considered that almost Viet Nam informatics companies are small-sized enterprises recently. There are only several medium-sized enterprises in the software industry. That has been proved by the number of employees, especially the number of the programmers in each company and the revenue that the company has reached. The figures in the below table will demonstrate.

Table 1 The structure of the number of companies specified by the number of the employees

Criteria	Number of company	Percentage (%)
Below 20 employees	57	37.8
20 - below 50 employees	59	39.0
50 - below 100 employees	19	12.6
100 - below 150 employees	7	4.6
150 - below 200 employees	3	2.0
200 and above	6	4.0

Source: Hochiminh City Computer Association

From these figures, it is easy to say that the numbers of companies having below 50 employees are majority account for 76.8% in total listed informatics companies. Meanwhile, the number of companies that has above 100 employees makes up 10.6% only. Particularly, there are only two companies that have a big number of employees for each. First company is the Corporation for Financing and Promoting Technology (FPT) which has 700 employees totally. And second one is Viet Nam Data Communication Company (VDC) which has 400 employees. It must be said that the share of the programmers and project managers in total employees is too low. This rate is about 5 - 10% in many informatics companies. In general, there are about 1200 programmers in whole country.[2]

The data gathering from surveyed companies has also reflected this situation. There are 358 programmers and 64 project managers in 19 surveyed companies totally. The average number of programmers and project managers for each company is 18.84 and 3.36 correspondingly. Each company has also the number of 40.42 PC in average. The proportion of the number of programmers in the software specialized company reaches 50-75%. This proportion is higher than the average proportion in the informatics companies.

The quality of the programmers in the informatics companies could be considered from another side of the viewpoint that are professional level and foreign languages using of the programmers. The gathered figures from 18 software companies in Viet Nam have shown that almost programmers have

[2] Doan Han Giang- *Human for software : the many unknown mathematical problem*, Sunday New Hanoi, 2000

graduated and post-graduated degree in information technology. In 15 surveyed companies, the proportion of the programmers having graduated degree and above is higher than 80%. In addition, about half of the investigated companies have post-graduated employees such as Master of Science, Ph.D. The majority of the programmers are trained in the domestic universities. Some of them have been practiced in the developed countries.

In the view of many specialists on software industry, English of the programmers are very poor. It could be considered as the biggest obstacle to develop Viet Nam software industry. The data gathering from the survey has pointed out the difference among informatics companies about the English skill of the programmers. The leaders from 5 different software companies have considered that the majority of the programmers are good enough in using English for software designing. Meanwhile the same leaders have opposite viewpoint that programmers' English skill is not good enough. The figures in the below table could demonstrate for this considering (see Table 2)

Table 2 Level of the English and professional skill of the programmers in the surveyed companies

Unit: company

The proportion of the programmers has	The number of the companies has programmers reaching at some particular level of					
	Educational level			English skill		
	Post-graduated	Graduated	Middle cadre	Very good	Good	Poor
Below 50%	9	-	5	5	6	4
50 up to below 80%	-	3	-	2	1	-
80 to 100%	-	15	-	5	7	1

Note: Total of the investigated companies is 19

Source: Authors' data

Together with the restriction of the number of employees, informatics companies also have been limited about investment capitals. The surveyed data have pointed that average investment capital for each company equal to 3.533 bill VND recently. Furthermore, it is the beginning of the investment so that the revenue from software selling is limited. Some of software companies have not had revenue yet. According to the statistical figures, whole informatics companies' revenue is 3360.47 bill VND in 1999 and estimated revenue in 2000 has reached about 4185.51 bill VND (the revenue was estimated basing on the figures in Viet Nam Information Technology directory 2000[3]).If separating the revenue from software selling, whole informatics companies' estimated revenue is 21 millions USD in 1999 and 50 million in 2000.[4] (1 USD = 14,500 VND recently)

The average revenue for each informatics companies is about 25.65 bill VND and 31.95 bill VND

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[3] See: *Viet Nam IT Directory 2000*, Hochiminh City Association- 2000

[4] Le Thanh Tam: *Attach special importance to E-commerce and software development*, Saigon Economics Times, Sep, 7, 2000 (*Vietnamese*)

in 2000 correspondingly. However, based on the gathered data, it could be said that average revenue of software company is very low that is about 5.19 bill in 1999 and 5.36 bill VND in 2000. In general, revenue of software selling is too low and the main of revenue is from selling hardware, providing services...

c. *Human resource training*

As presenting above, there are about 1200 programmers working in software industry. This figure is too little related to the demands for human resources to develop the software in the future. In past years, the universities in Viet Nam have centered on training software specialists for the information technology. The Vietnamese government has also invested to train human for software in 7 faculties of different universities. In 4 latest past years, these faculties have trained about 700 programmers and informatics engineers. In addition, many other universities and institutes has also participated in training informatics students. Recently, there are about 100 organizations including universities, institutes, informatics centers, have trained informatics students. Based on the statistical figures, it has been estimated that there are about 3500 students every year educated from universities, institutes and others including the numbers of students that informatics companies trained themselves. By this way, there could be about 38,000 persons who get bachelor degree up to year 2005.

In recent years, Vietnamese Government has also allowed organizations and individuals forming training center for informatics as a measure to reduce the short of human resource in Viet Nam.[5] However, these centers must be controlled tightly about the quality of the educated students from them.

According to the surveyed data, it could be said that Hochiminh City has played an important role in training and providing well-trained programmers to others. Hochiminh City is a big informatics center of the country. In this time, there are 10 faculties specified in information technology in universities where 9980 students have trained and about 160 lecturers teaching here. According to the Department of Science, Technology and Environment HCM City, approximately 5000 to 7000 persons who get bachelor degree in information technology have worked in the software sector.

Nevertheless, one question emerging is that how to balance between increasing quantity and quality of the trained persons. Many experts in information technology have believed that universities and training centers could satisfy the demands for quantity of the informatics engineers and bachelors. But it is difficult to guarantee on the quality of these engineers and bachelor. The quality of the training informatics engineers and bachelors is not good enough. In the viewpoint of many foreign businessmen in the Viet Nam market, Viet Nam students are intelligent, diligent and able to make software like Indian students but they are lacked of experience and are timid in working. Their English is also a big problem. In other side, the lecturers are lacked of real experience in producing software.[6]

[5] Tu Hoang: *Software sector welcomes tax breaks*, Viet Nam Investment Review, 27 Nov - 3 Dec, 2000, p.7 (English)

Because of this, the students have been well trained basically but they have not necessary skills and have not satisfied the requirements of the software companies in using. There is also an opinion that universities and centers in Viet Nam just only trained "the lecturer" not "the worker" in the producing software. In order getting contracts on software processing, producing high competitive software, it is necessary to software companies in having good programmers and project managers. Unfortunately, it is not easy to find out these persons in fact. The practical situation of the software industry has shown hat software companies have not enough high level educated programmers. For example, Paragon Solutions Viet Nam—one of the foreign software company operating in Viet Nam since 1995—has been "hungered" for software human resources.[7]

d. The location of the informatics companies

Most informatics companies are located in Hanoi and Hochiminh City. According to the statistical figures, there are 71 companies in Hanoi and 75 companies in Hochiminh City. The remains are located in Danang, Haiphong, Dongnai and some other provinces. In Hochiminh City, the Saigon Software Park has been established and operated from April 2000. This center includes 25 member software companies with 585 employees in such the number of employees who have graduated degree in informatics makes up to 93%. The remains of them include post-graduated employees. The majority of employees working in center have above 2 years experience in software sector with the rate of the above 5 years equals to 36 %. The center provides a number of software products such as technical, constructing, architecture, financial analysis, banking... In addition, this center has also supplied special software on education and management.

Simultaneously, the People's committee of Hochiminh City has also been conducting the project named Quang trung Software Park. Recently, many software companies including foreign and domestic companies have been interested in investing to software sector. At least 25 companies have penetrated in the Park with an area of 15,000 meters square. In those companies, it must be named some important such as Paragon Solutions Viet Nam with 120 programmers, the FPT with 100 programmers and Tuongminh Company with 80 programmers.[8]

In the North, the Government but also has invested to construct the software technology park in High Technology Park Hoalac likes "Silicon Valley" model to aim establishing high competitive software centers that those centers play core units of software industry development. Further, there are some smaller software technology-parks in other provinces such as Danang, Hue. So in the light of forming software industry in Viet Nam, Hanoi and Hochiminh City will play a crucial role.

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[6] Doan Han Giang: *Human for software : the many unknown mathematical problem*, Sunday New Hanoi (Newspaper) 2000

[7] Lan Anh: *Paragon Solutions Viet Nam "hungers" human resources*, Saigon Economic Times, Aug 24, 2000 (Vietnamese)

[8] Dao Van Luong: *Quangtrung Software Park: Human resources are worried*, Saigon Economic Times, Oct 26, 2000 (Vietnamese)

e. Software products

In the condition of the size and capability of production as presented above, the sort of software is limited. Software companies have focused only to provide software products to important customers in post-communication, banking, financing, constructing sectors and some others. In general, there is a few in number of kind of software, mostly producing to the order from customers. Because of limitation on the resources and experience in operating, software companies just only have specialized in specified sectors like accounting, management, educational software... In other hand, some companies are interested in processing software and package software for foreign software producers. For example, the FPT and Haihoa Company have strongly increased revenue from processing software for foreigners. This measure has been looked like a way to entry the foreign software markets and to increase turnovers from exporting software. However, there are some problems for this topic, so that it will be discussed more detail.

In fact, software specialized companies have been providing about 60 kinds of basic and applied software for domestic and foreign users. It is a trend of concentration in producing some kind of software such as accounting, data base management, financing, educational software.

In conclusion, it could be made some main points following:

Firstly, the contribution of the software industry in the GDP is so low. The quantity and quality of the software is restricted because of the lack of human resources, capitals and managerial skills. The production capability of the software industry is too weak and there are so much of problems of developments.

Secondly, Viet Nam software industry is located mainly in two big economic centers of this country that are Hanoi and Hochiminh City. It could be an advantage condition to form important software parks in the near future.

Thirdly, the economic efficiency in operating of each company as well as whole software industry is very low. So it should make negative effect to the economy.

1.1.2 The size and structure of the software market: recent and potential

a. The domestic software market

According to the opinion of many infomatics specialists, domestic software market in Viet Nam just has been formed newly and too small due to the late and but also restriction of the enterprises, organizations in the applying information technology to manage companies and organizations. Based on the surveyed data gathered by the study group, over half of the investigated companies have considered that the size of domestic software market is small. Even, 21% of the software suppliers has put out the considering that the software market is too small. In particular, the consideration on the size of the domestic software market has been presented in the table 3 (next page)

The most important buyers of software still large enterprises such as state-owned enterprises, joint venture and some governmental organizations. For example, Viet Nam Airlines has spent 1.2 mill - 2 mill USD for each year in 3 latest years. In opposite side, so many companies and organizations have just only paid a little to software. For example, Viet Nam Petroleum Service and Tourism Company—a big state-owned enterprise—has spent about 1000 USD for software in 1999 and estimated 1500 USD in 2000.[9]

Table 3 The consideration on the size of the domestic software market

The considering on the market size	The number of the suppliers (company)	Percentage (%)
Big potential	5	26
Medium	6	32
Small	4	21
Too small	4	21

Source: Estimated by the authors' data

The value of software spilled domestically was estimated at the rate of 50% of the total value of the marketed software estimated at 45 mill - 50 mill USD in 2000. The remains were provided by the imported software.[10] However, many specialists in the software have a common consideration that the software market is a big potential market due to the increase of demands for software of 70,000 office, Apr. 40,000 private companies and about 6000 state-owned enterprises in whole country.

Although the market size is small but Viet Nam software market has been estimated reaching at high rate of increase in recent years. According to the surveyed data by the study group, most of the software suppliers (63%) have considered that the growth rate is high and very high, even reached at 39% per year.[11] But also some others have been said that the rate of increase is slow.

Recently, Vietnamese enterprises, organizations and non-government organization have just required to provide several kind of the software such as accounting, banking, financing, management, educational software...Further more, the value of each order and each contract on the software providing is small. However, in latest years, enterprises and government organization has realized the necessity of the applying software in management. Many software producers have believed that in several next years, the value of each order to software providing could be increased to 0.5 million - 1 million USD.

The development of the software industry has been effected by some factors. The next part will take some major factors as following:

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[9] The figures has been computed from the survey conducted by the authors

[10] Nguyen Huu Hien: *"Silk Road" of the Software Enterprises in Viet Nam*, Enterprise Forum (newspaper), vol. 71, Dec 4, 2000 (Vietnamese)

[11] Le Thanh Tam: *Attaching special importance to E-commerce and software development*, Saigon Economics Times, Sep, 7, 2000 (*Vietnamese*)

Firstly, on the side of the software users—enterprises, government offices and social organizations. They are most important customers of software industry because they have decided the size and the rate of increase of the software market. However, most of them have no right recognition about the role of information technology to business management and controlling operation of the organization. It is not difficult to find out a company's director who has an erroneous viewpoint on the applying information technology. This viewpoint is that applying information technology likes purchasing some personal computers and typing documents on those. Further, these directors also have not understanding fully pressures from the globalising the world economy and integration among national economies. The poor management is also major factor that obstructs the use of software. In addition, a large number of leaders are reluctant to try using software.

The scarcity of resources is main factor making negative effects to the development of the software market. The limitation of payment capability and the shortage of software user and managers are two main factors.

Secondly, on the side of the software providers, they have an important role in pushing up the software industry developing at higher rates. It could be said that there are two main factors effecting to the trend of software industry which are technology level and the marketing in software enterprises. These factors effect not only the quality of software but also the scope of applying software in management of the customers. According to the estimations of some software, software companies in Viet Nam are very weak in marketing especially they have not doing marketing research to understand the wants and needs of the consumers. Most of the enterprises have lacked of skill to contact with the software users and promoting produced software.

Thirdly, the government policies on the development of the software market are very important. The government has to set up a strategy to sustainable developing the software industry. Further, it must be concretized in investment, human resources development, tax, infrastructure establishing, copyright protect policies and so on. The role of the government has also been expressed through forming and keeping in practice a synchronous and complete system of law related to software industry.

Fourthly, the external factors have also effected strongly to software industry including the entry of foreign software products and companies. Those factors have made both challenges and motivation to the domestic software companies. Furthermore, external factors have effected on the micro level and macro level also in the software developing.

In conclusion, only in several years, the software industry of Viet Nam has been formed and reached high growth rate but it is still small. The development of the industry has been effected by many factors including internal and external factors but the internal have decided role. From real situation of the software industry, one question has been faced the government that is how to expending domestic software market in next years.

b. The foreign software market of Viet Nam software companies

Viet Nam software companies has been weak and restricted compared to foreign software companies. Even then, Viet Nam software companies have tried to look for a position in the foreign software market. By many suitable ways, software enterprises have exported several software products to foreign market but also it is still small. Among software exporters, Haihoa Co. Ltd., FPT Co., Dolsoft Co. and others have emerged as main exporters.

However, Viet Nam software companies have not been recognized yet in the world software market. The value of exported software was estimated 5 million USD in 2000 that accounted for 10% of total revenue from software sales. The market share of Viet Nam software companies is too low in compared to some countries like Israel, India... Therefore, establishing and conducting a suitable penetrative and competitive strategy for improving the role of software companies in the foreign market is the core factor to reach the target of exported software at 500 million USD in 2005.

In next years, the demands for software could be in creased at high growth rate due to the development of science and technology. The governance of big software companies in the software market is still main factor deciding the development of this market. Therefore, small software companies can not compete directly with big software companies. It could be easier if small companies penetrate some small segments and segments leaven by big companies. The integration and globalization of world economy will stimulate more strongly using English as a formal language in the world and this trend will stimulate the use of software in business management.

For Viet Nam software companies, it is not easy to become a main provider of software in the world market related to a lot of their restriction and weakness. Some major factors effecting to the penetration of Viet Nam software companies into software market could be as following:

Internal factors including resources, marketing skills and managing are most important to successfully penetrate the world software market.

The corporation and supporting each other between Viet Nam software in producing software is important also. In addition, the direct investment by foreign companies in the software sector will increase quickly the value of export software.

The supports from the government not only in capital investment, looking for markets, but also in the forming and practicing a system of policies on developing software industry in the future.

1.1.3 The real situation of the competitiveness in the software market

With nearly 200 companies doing business in the software sector and some providers of imported software, the competitiveness is not fierce. Based on the data gathered from surveyed companies, it could be can said that most of the software companies have considered imported software as the main competitors as well as domestic software companies. In particular, the consideration about main competitors to software suppliers itself was presented in below table.

Table 4 Considering on the main competitors for each company itself

The main competitors	The number of companies	Percentage (%)
Joint ventures with foreign company	13	68
Domestic companies	10	53
Imported software	8	42

Source: The figures computed by authors based on the survey

In our opinion, however, the main competitors in the future to the domestic software companies must be imported software and joint venture enterprises in software sector. The fierceness of the competition will be increased in selling, looking for well-trained employees and financial resources.

In practice, software companies have not been interested fully in competition and the competitive measures are very restricted. The common measure done by most companies is pricing and quality of software. In addition, some other measures have been used in competing such as sale services, promotion. The figures in below table will provide more detail on this (see Table 5)

Table 5 Considering the importance of competitive measures in the software market

The main competitive measures	The number of companies	Percentage (%)
Pricing	14	74
Software quality	17	89
Sale services	5	26
Promotion	3	16

Source: The figures computed by authors based on the survey

Further, it has been stressed that the combination among software companies in the policy establishment is very poor. Those enterprises have no stable corporation into supporting each other and applying information technology.

In order ending this part, there could be some main conclusion below:

Firstly, the size of the software market is very small. The contribution of software industry to GDP is too little. The production capability has been limited. Even then, the potentials in human resources and consumer market to develop are very large.

Secondly, the software markets including domestic and export market are large in potential meaning. The software companies have to compete with many competitors in such the most is imported software.

Thirdly, the growth rate of the software industry is high in recent years attracting both domestic and foreign investors to direct the resources into this sector. However, the share of the software selling is still low compared to total revenue of the informatics companies.

Fourthly, the development of the software market has been effected by many factors. The key factor is demands for software of the enterprises and organizations.