



FRUIT AND VEGETABLE PRODUCTION, PROCESSING AND COMMERCIALIZATION IN HUNG YEN PROVINCE

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I. Background

Metro Cash and Carry Vietnam and German Technical Cooperation GTZ have decided to support and carry out together with the Ministry of Trade a project that has an objective to qualify market players within the fruit and vegetables value chain and to establish a modern regulatory and legislative framework for distribution network in Hung Yen province

Additionally, the Vietnamese-German cooperation is starting a Small and Medium Enterprise Promotion Program which will be seen as the basis for the development of value chains within the agricultural sector. Here, a focus on fruit and vegetables value chain in Hung Yen province will be part of the project's strategy. Because this research result aims at developing local economy and setting up following activity programmes in provincial area

The preliminary study result will be important for determining project's interventions and measuring impacts

II. Hung Yen province

Hung Yen is a province located in the Red River delta, inside the Northern key economic area (Hanoi, Hung Yen, Hai Duong, Hai Phong, Quang Ninh). The northwest borders on Hanoi, the Northeast on Bac Ninh, the East on Hai Duong, the South on Thai Binh and the West on Ha Tay. There are 10 administrative units: Hung Yen town and 9 districts (Van Lam, My Hao, Yen My, Van Giang, Khoai Chau, Kim Dong, An Thi, Phu Cu, Tien Lu), with population density of 1,209 people per square itchi st, cultivated land area of 119,000ha and value of agricultural production of about VND 2,499 billion per year. As for geographical position, the province has a lot of important traffic systems, such as: highway Five, 39A, provincial road 39A, etc and railway route between Hanoi-Hai Phong. System of Red river and Luoc river is an advantage waterway network for transporting goods and itchi st of local people, and it is useful for developing agriculture by raising a good amount of alluvium

Agricultural production in general and the culture in particular of Hung Yen have fairly developed with famous products like rice, fruit and vegetables, especially Long longan. Thanks to favourable geographical position which creates conditions for transporting products to big markets in Hanoi, Hai Phong and Quang Ninh, Hung Yen has strengthened to produce vegetables in winter crop. For developing strategy on agricultural production, Hung Yen has determined that special Long longan is its priority

III. Development of fruit and vegetables commodity in Hung Yen province

1. Fruit and vegetable production

1.1 – Green vegetable production

Green vegetable is one of plants that is widely cultivated in districts and town of the province. However, in fact, the local doesn't have amount of a vegetable-growing area, most of vegetable

is planted in winter crop after having harvested 2 rice crops or 1 rice crop and others. Vegetable hasn't been diversified yet, there isn't any special vegetable associating with specific characteristic of soil, just: cabbages, kohlrabi, kinds of cabbages, tomatoes, potatoes, etc

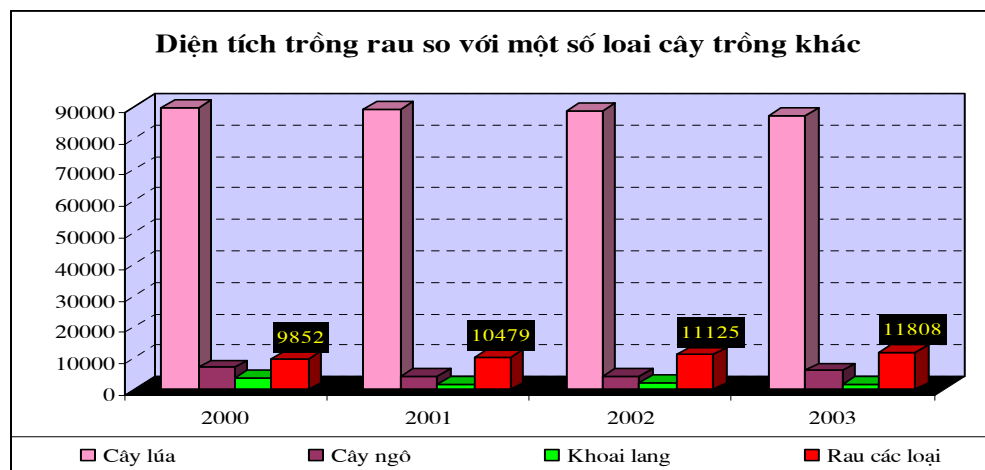
Table 1: Area, yield and production of kinds of vegetables in Hung Yen province

Annual	Area (ha)	Yield (ton/ha)	Production (ton)
2000	9852	14,16	139529
2001	10479	15,58	163207
2002	11125	16,55	184173
2003	11808	16,90	199571
2004	11300	17,74	218200
2005	11590		

*Source: Vietnamese Ministry of Agriculture and Rural Development
Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003*

Statistic data from 2000 to 2004 shows that green vegetable development (area, yield and production) has a trend of increasing gradually year by year in area, yield and production with the rates of 3%, 6% and 17% respectively. That shows the important position of vegetables in agricultural development strategy of farmers (Table 1)

Figure 1: Area structure of some kinds of shortday plants (unit: ha)



*Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003*

For cultivated area of some popular shortday plants in Hung Yen, green vegetable has a fairly important position (being second to rice) and especially, it is the only plant whose area rises gradually.

As mentioned above, vegetable is cultivated all over the districts and town of the province. However, depending on soil condition, production tradition and advantage of each region,

developing scale will be different. Some districts provide large area for producing vegetables, such as: An Thi, Tien Lu and Van Giang. Whereas, others pay less attention to developing green vegetable including Hung Yen town, My Hao district, etc

Table 2: Vegetables area among districts of Hung Yen province

Unit: ha

	1997	2000	2001	2002	2003	2004
Hung Yen town	87	144	133	160	151	148
Van Lam district	3124	778	720	525	623	608
My Hao district		479	719	683	522	511
Yen My district		914	1261	1346	1266	1175
Van Giang district	1505	1403	1198	1515	1315	1392
Khoai Chau district		1245	1125	1261	1430	1262
An Thi district	1142	1624	1997	2177	2317	2370
Kim Dong district	362	785	721	759	1099	755
Phu Cu district	520	1042	1165	1086	1174	1462
Tien Lu district	891	1438	1440	1613	1617	1911

*Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2004*

The districts with big scale of green vegetable production are the locals whose green vegetable area goes up at fairly high rate annually while the districts with small area of green vegetable have an opposite tendency : reducing area yearly without any rule (Table 2)

Table 3: Area of some main kinds of vegetables in Hung Yen province

Unit: ha

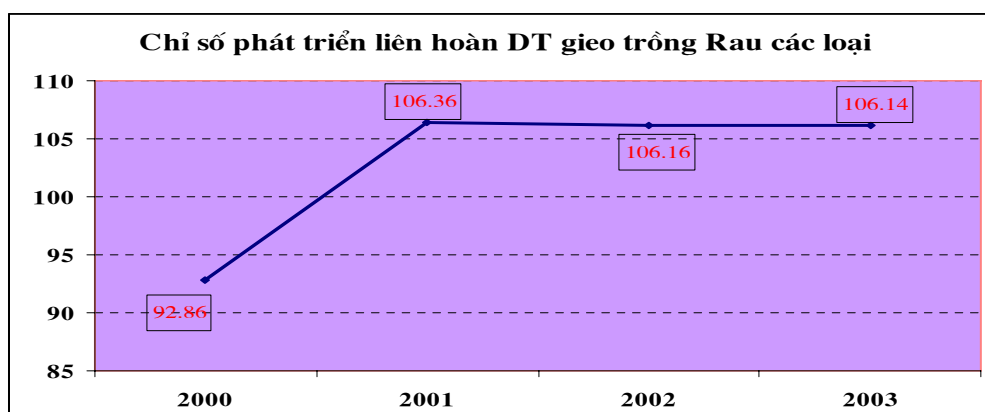
Vegetables	1997	2000	2001	2002	2003	2004
Water morning glory	445	1043	931	983	852	919
Kinds of cabbage	1521	1725	2068	1896	2261	1865
Cabbage	429	625	595	584	472	449
Kohlrabi	404	624	459	574	655	634
Potato	1460	1136	1489	1283	1686	1419
Onion, garlic	289	395	510	741	810	732
Tomato	300	564	494	754	730	742

Gourd, pumpkin, ...	276	1255	1429	1585	1454	1428
Cucumber					559	725
Other vegetables	2281	2485	2504	2725	2888	3291

Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2004

The kinds of vegetable cultivated on Hung Yen area are not diversified and most of them are in winter crop in comparison with other locals like suburbs of Hanoi (Dong Anh, Tu Liem and Gia Lam). Especially, there are not special vegetable and farmers of Red river delta cultivate some popular kinds including cabbage, potato, water morning glory and gourd, pumpkin

Graph 2: Growth rate of cultivation area of all kinds of vegetable



Statistical yearbook data of Hung yen in 2003

On the whole, yield of vegetables depends heavily on vegetable kinds which farmers choose to cultivate at different time of year. Comparing data between 2 years 2000 and 2004 shows that vegetable yield has risen all over the province, however, if we compare data within a year, we can find some districts with large area of vegetable production have increased regularly yield. A rise in yield can be explained by farmers specializing in growing some kinds of vegetable, applying science and technology and using modern varieties (Table 4)

Table 4: Vegetable yield among districts of Hung Yen province

	1997	2000	2001	2002	2003	2004
Hung Yen town	9,12	11,99	11,94	14,21	16,24	17,49
Van Lam district		13,07	12,47	13,26	14,84	16,94
My Hao district	15,06	14,54	16,59	15,65	16,79	17,49
Yen My district		11,51	15,95	16,97	18,12	18,41
Van Giang district	13,57	15,19	16,87	16,71	17,47	18,36

Unit: ton/ha

Khoai Chau district		14,24	14,74	16,90	18,65	19,14
An Thi district	10,55	13,91	15,43	17,82	15,89	18,41
Kim Dong district	9,25	17,92	16,48	16,15	15,91	19,32
Phu Cu district	14,55	13,45	16,54	16,04	17,34	19,53
Tien Lu district	12,05	14,18	15,13	16,30	16,62	17,54

Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2004

Similarly, figures of table 5 show that all vegetable's yield has been increasing (comparing results of 2004 and 2000). Noticeably, some vegetable has given high yield and had fast rate during this time as: kohlrabi, cabbage and kinds of cabbage, etc

Table 5: Yield of main vegetables kinds of Hung Yen province

unit: ton/ ha

Vegetables	1997	2000	2001	2002	2003	2004
Water morning glory	14,50	14,20	15,74	17,20	17,75	18,64
Kinds of cabbage	12,84	12,86	13,04	16,08	17,25	18,50
Cabbage	24,26	18,14	22,44	20,30	22,95	23,58
Kohlrabi	15,65	13,68	15,63	17,17	19,92	20,52
Potato	13,53	11,67	13,09	11,77	12,48	11,97
Onion, garlic	6,37	7,69	8,60	8,10	8,51	9,13
Tomato	20,12	15,62	17,89	18,31	16,81	17,04
Gourd, pumpkin	24,50	18,04	19,39	23,42	21,16	22,38
Cucumber					16,91	19,64
Other vegetables	14,14	14,00	16,21	16,16	17,50	18,00

Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003

Vegetable production is decided by area and yield, as can be seen from above analysis and figures in table 4 and 5 (vegetable productivity in 2004 is higher than that in 2000) which resulted in a rise in production in most locals of the province, especially in the districts with big vegetable area

Table 6: Vegetable production among districts of Hung Yen province

Unit: ton

	1997	2000	2001	2002	2003	2004
Hung Yen town	794	1727	1589	2274	2452	2588
Van Lam district	47041	10171	8980	6963	9246	10302
My Hao district		9666	11928	10695	8767	8936
Yen My district		10522	20124	22838	22945	21636
Van Giang district	20423	21319	20216	25322	22978	25562
Khoai Chau district		17736	16588	21320	26675	24158
An Thi district	12053	22601	30827	38791	36823	43642
Kim Dong district	3349	14069	11882	12258	17492	14584
Phu Cu district	7569	14019	19276	17415	20426	28558
Tien Lu district	10740	20399	21797	26297	28362	31767

Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003

However, the increasing rates of annual average production among districts and town are different, sometimes they are in opposite way (districts rise, others decrease within the same time). Remarkably, rising rate of annual average production in some districts is fairly high (comparing between the following year and previous year), such as: Yen My (35%), An Thi (19%), Tien Lu (16%) and Khoai Chau (16%), only My Hao reduces about annual average rate (2%) (Table 6)

Table 7: Production of some main vegetable of Hung Yen province

Unit: ton

Vegetables	1997	2000	2001	2002	2003	2004
Water morning glory	6429	14911	14657	16897	15124	17134
Kinds of cabbage	19539	22183	26974	30486	39023	34505
Cabbage	10410	11340	13356	11854	10836	11771
Kohlrabi	6326	8539	7178	9856	13048	13011
Potato	19752	13261	19498	15109	21049	16995
Onion, garlic	1842	3038	4387	6005	6897	6685
Tomato	6037	8810	8835	13809	12275	12645

Gourd, pumpkin	6756	22642	27710	36121	30773	31959
Cucumber					9458	14239
Other vegetables	32254	34806	40612	44045	50546	59245

Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003

Among vegetable cultivated in Hung Yen area, there are some products with fairly high production such as: kinds of cabbage, gourd, pumpkin, water morning glory and potato, etc (Table 7)

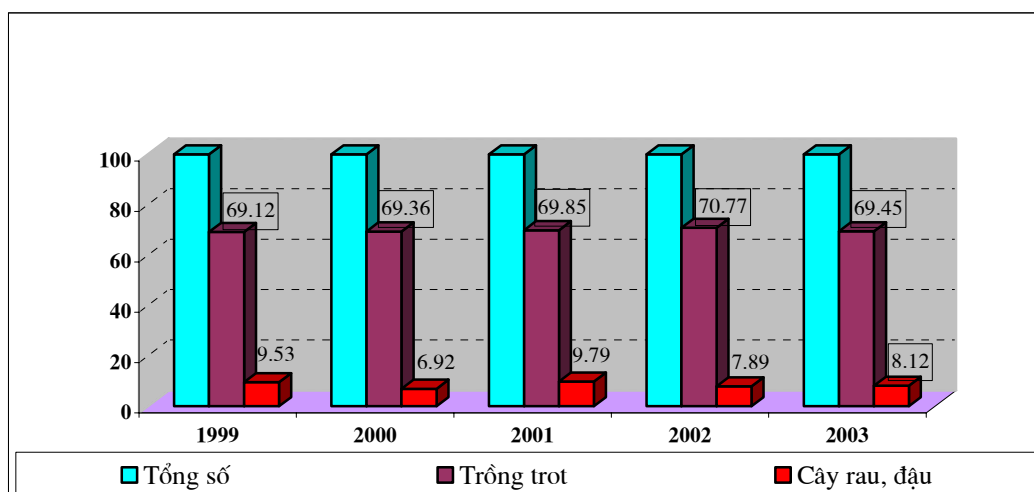
Table 8: The agricultural production value of different crop groups in Hung Yen province

Unit: million VND

	1997	2000	2001	2002	2003
Culture	1,764,890	1,705,048	1,885,359	2,157,522	2,241,226
Food plants	1065094	993467	1020780	1285666	1329959
Vegetable and bean	243257	170067	264340	240555	262183
Annual industrial plants	69702	73327	78921	103596	115716
Other annual industrial plants	69508	109913	127620	133747	142208
Perennial plants	300300	259867	182290	278118	283561
Total	2553270	2458232	2698964	3048557	3227282

Statistical yearbook data of Hung yen in 2003

Graph 3: The agricultural production value of crops in Hung Yen province



Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003

Production value of agriculture in general and cultivation in particular shows that : in considering the real value, food plants hold the most important position, followed by perennial plants and bean-vegetable, however, if taking annual average rising rate into consideration (comparing two years), bean-vegetable hold the first position with the rate of 18% per year, followed by annual industrial crops (17%) and food plants (11%). Bean-vegetable also accounts for approximately 12% of total of agricultural production value (Table 8).

1.2 - Fruit production

Soil conditions of Hung Yen province allow to grow some of fruit trees with high yield such as : pomelo, litchi, orange, mandarin, longan, apple, etc

Together with encouragement of government and the province in changing kinds of plants, land consolidation, farmers trend to change from fruit tree production to some different activities, such as : pot plants, medical plants and vegetable, etc or specialize in growing some specialities of the local : longan, orange, mandarin orange, etc

Table 9 : Area, yield and production of fruit of Hung Yen province

Annual	Area (ha)	Yield (ton/ha)	Production (ton)
2000	5995	12,40	15527
2001	5863	14,16	13782
2002	6303	12,37	17365
2003	6211	14,20	14663
2004	5871	15,37	16546

*Source: Vietnamese Ministry of Agriculture and Rural Development
Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003*

Changing in plant structure as above has reduced annual average area of fruit trees in the province (1% per year) (comparing figures from 2000 to 2004), whereas, their yield and production trend to rise at the rate of 6% per year (Table 9)

Fruit tree occupies an important role among plant structure, it is only after food plants and annual industrial crops

Table 10: Area structure of fruit tree comparing with some other kinds

Unit: ha

Name	2000	2001	2002	2003	Growth rate (%/nam)
Fruit tree	5995	5863	6303	6211	+ 0,7
Food crop grain	96865	93792	93089	93418	- 11,5

Tuber crops	4152	2485	2818	2632	- 5,1
Annually industrial crops	7418	7913	8411	8053	+ 2,1
Annual other trees	2962	3911	3116	3106	+ 0,5

Source: Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003

Besides, this kind has fairly rapid rise in area of 0,7%, only following annual industrial crops (2.1%), which affirms important position of fruit tree in area structure of vegetable and fruit cultivated in Hung Yen (Table 10)

As mentioned in the first part, concentration on growing some kinds of fruit trees has increased area of those kinds : orange, lemon, mandarin orange on an average of 23% per year, litchi of 17% (comparing figures from 2000 to 2004). However, changing plant structure has also reduced area of some others, such as banana (41%) (Table 11)

Table 11 : Area of some kinds of main fruit of Hung Yen

Unit: ha

Name	1997	2000	2001	2002	2003	2004
Orange, lemon, mandarin orange	620	626	620	659	1093	1350
Banana	3590	3160	2935	2491	2073	1870
Longan, litchii	1367	1502	1615	2384	2304	2600
Pomelo	56	52	48	53	51	51
Jujub	750	655	645	716	690	

Source: Vietnamese Ministry of Agriculture and Rural Development
Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003

Fruit productivity at different time is not stable. However, evaluation during a period shows that fruit productivity trends to rise, while some kinds of products has fairly gradual rising rate, such as: banana 13% per year, pomalo 10% per year, etc

Particularly, longan and litchi trees have remarkable changing in yield over years. Those products' yield depends on weather condition and the way to prune branches of previous harvest (if they picked a lot of branches in previous harvest, yield of following year would reduce), litchi stenc in the following year sometimes drops to 50% of the previous year (in 2003, yield of longan, litchi dropped to 57% of the 2002). According to farmers' experience, for longan and litchi trees, if yield of previous year is high, in following year the yield will decrease and vice versa, they rarely have two good crops continuously (Table 12)

Table 12: Yield of some kinds of main fruits of Hung Yen province

Unit: ton/ha

Name	1997	2000	2001	2002	2003	2004
------	------	------	------	------	------	------

Orange, lemon, mandarin orange	5,10	9,50	9,00	10,60	11,07	12,00
Banana	17,48	17,00	17,20	11,00	20,17	21,00
Longan, litchi	11,41	9,50	17,69	11,54	16,60	11,50
Pomelo	9,50	11,50	12,00	12,70	15,45	17,00
Jujub	20,00	14,50	15,00	16,00	17,06	

*Source: Vietnamese Ministry of Agriculture and Rural Development
Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003*

Production of orange, lemon and mandarin orange increased the fastest in comparison with other fruits in the period of 2000 and 2004 at the rate of 19% per year. This is result of expanding area in 2003 and 2004. Annual average rising rate of pomelo tree was also fairly high, especially in 2002 and 2003, however, this result is due to productivity. Similar to fruit trees mentioned above, apple had fairly high productivity in the period of 2000 and 2003 at the rate of 8% per year.

Table 13: Production of some kinds of main fruits of Hung Yen province

Name	<i>Unit: ton</i>					
	1997	2000	2001	2002	2003	2004
Orange, lemon, mandarin orange	2415	5510	5580	6770	7680	10680
Banana	61500	49550	50482	45275	40281	39270
Longan, litchii	13985	12597	2600	2320	12795	15370
Pomelo	446	598	576	673	788	867
Jujub	12200	9381	9675	10880	11772	

*Source: Vietnamese Ministry of Agriculture and Rural Development
Service of Hung Yen Agriculture and Rural Development
Statistical yearbook data of Hung yen in 2003*

Besides some fruit trees with raising production as mentioned, others has changing production among years (longan, litchi, etc) because of main effect of yield, eg reduction of banana tree's production is for reducing area (Table 13).

2. Material collection of factories of fruit and vegetables processing

Most of used materials in factories and workshops of fruit and vegetables processing in Hung Yen province has been collected by contracts with farmers in districts of the province, such as: Tien Lu, Phu Cu, Thanh Mien and some other provinces, such as: Thai Binh, Ha Nam, Hai Duong and Nam Dinh, etc

At beginning of productive crops, processing factories come to work with agricultural service's cooperative, with group of farmers directly in order to decide production plan (cucumber, baby corn, Dutch bean, etc) and cultivated area for each kind of vegetables. Thence, factories grant credit to farmers by allowing them to receive a part of cost of seed and fertilizer on account (maximum at 70%) for producing, factories collect harvested products at market price.

Contract of fruit and vegetables collection usually sets a time-limit from 6 months to 1 year (short-term contract, contract according to crops). Colletion by contracts usually apply more popularly for vegetables product than for fruits

Below table mentions rate of input materials collected by contracts by factories of vegetables and fruit processing

Table 14:Rate of vegetables and fruit collected by contract between producers and processingible factories

Scale, type of business	%
Small	50
Medium	72
Big	80
Vegetables	87
Fruit	20

Source: Study at unit of vegetables and fruit processing

Above table shows that vegetables and fruit producers and processingible factories has associated closely and regularly, which is manifested by colleting processingible materials by contracts. Processingible factories want to make a contract for collecting raw materials in order to take the initiative in production, helping factories work maximum power (Table 14).

Table 15: Rate of fruit and vegetable collection by contracts

Scale, type of business	%
Small	53
Medium	75
Big	83
Vegetables	90
Fruit	20

Source: Study at unit of vegetables and fruit processing

It realizes that a number of contracts which has been carried out between processing factories and

fruit and vegetable producers trends to gradually rise, especially for vegetable. This shows that fruit and vegetable processing factories start to care about investing in regions providing materials. However, according to the director of Hung Yen company processing food for export, most contracts have been performed out of the provincial area

Production and processing of agricultural product – not worth happening paradox
(extracting from Hung Yen Agriculture newspaper, November 17th, 2005)

Hung Yen has enormous potential for developing material region for processing agricultural products. However, a paradox is happening right in the provincial area: while tens of businesses producing feed for the breeding and some enterprises processing frozen food for export with the capacity of hundreds of tons of agricultural products, such as rice, corn, soybeans, superlean pigs have to buy materials from places or import; farmers are busy with seeking markets for their products without results

There are 26 businesses specializing in producing feed for the breeding in the province at present. The operating capacity of businesses is in the range of 50 and 200 tons per day. And about under 10 businesses processing frozen food, canned food, fast food with the capacity of hundreds of thousands of tons per year. According to our preliminary study, most of these businesses decided to operate in Hung Yen with a desire to establish a local material region. However, some businesses have come into operation for a fairly long time but not yet cooperated with local material producers. They have been forced to buy materials from outside the province such as Bac



Quality control before commercialization in
Kinh do factory

Giang, Thai Nguyen, etc or even from other countries. Mrs Doan Thi Kim Dung, the general director of the Nam Dung company Ltd. (Nhu Quynh-Van Lam) which specializes in producing feed and veterinary medicine, said: the company was just operating at a modest capacity of 20 tons per hour, equivalent to about 160 tons of final products per day. In 2004, the company produced approximately 30,000 tons of products. Whereas, imported first matter materials includes 1,100 tons of dry soybeans, 525 tons of corns, 644 tons of dry peanut oil, 210 tons of dry cabbage seed, etc. We knew that most of these products are traditional products of Hung Yen, however, businesses and farmers haven't cooperated with each other in establishing material production regions. Similar to Nam Dung, Kien Ha company Ltd. (Kim Dong) has just set up a line producing poultry and cattle's feed with the capacity of 50 tons per day and floating bran with the capacity of 500 kg per hour. After one year of operation, the company hasn't had profit.

It is estimated that a unit producing feed corn, rice bran, soyabean accounts for 30%, 30% and 10-15% respectively. Input materials of the feed for the breeding are traditionally cultivated with high productivity and quality in the province. As for winter crop, area under corn is about 4,500 ha with an estimated productivity of 279,450 tons of seed-corn; soybeans with 5,000 ha, equivalent to about 81,000 tons of seeds. That does not yet mention other crops such as winter-spring and summer-autumn crops annually. If businesses utilize its max capacity, output opportunity for agricultural goods of the province will be much better.

Similar to the growing sector, output of the breeding sector has been a current issue of the

province. With guideline of “ensuring food safety and sanitary from the producers to dining-table”, in 2003, the joint-venture between German and Vietnam invested 3 millions EU in building a factory producing safe meat and food with the processing capacity of 200 pigs per day in Tan Lap commune (Yen My), equivalent to 4,000 tons of products per year. Main products of this company are hygiene meat, Vietnamese traditional sausages (lean pork paste). To utilize the maximum capacity of this production line, Mr Mai Huy Tan, the company’s director wondered: before deciding to invest in building the factory, we have studied development strategy of Hung Yen agricultural sector and found potential for developing input material resources for the company. However, up to now, the company has only mobilized 30% of the total capacity, equivalent to 70 pigs per day

The reason for this is farmers’ scattered farming habits, they cultivate by themselves. Moreover, in some regions, farmers not only hesitate to cultivating winter crops but also prefer selling products for free market to being bound by contracts; products haven’t met environmental sanitary standard and safety; some local authorities are not eager to encourage to establish a close collaboration in order to find the right direction for agricultural goods, etc. This results in businesses inside the material regions having to buy materials from other places

So, for a stable development and minimize difficulties and disadvantages for farmers, it is necessary to attract attention from all levels and branches. In an addition, strategy of developing agricultural branch should take open market into consideration. Only by doing that, the provincial agricultural branch would develop correspondingly to its potential.

L Thu

3. Fruit and vegetable processing branch of Hung Yen province

3.1- Situation of fruit and vegetables processing branch

According to estimated figures, by the end of 200 total volume of processed fruit and vegetable of Hung Yen province reached 27,500 tons per year. Hung Yen company processing food for export holds the top position in processing fruit and vegetable in the province with the annual capacity of 2,500 tons (accounting for 9% of processed production all over the province). Generally, processing fruit and vegetable sector of Hung Yen hasn’t been equipped with modern technology, backward processing lines which can’t meet international standard have been still applied

Over the past few years, thanks to domestic and international investment policies, and preferential investment policy of the province (administrative procedures, land provision, compensation, etc), a lot of businesses have invested capital in fruit and vegetable processing sector. There are tens of small processing enterprises doing preliminary processing, preserving by drying and boiling fruit and vegetable. According to an estimation of some processing businesses and data collected by the Planning and investment department, there are over 30 fruit and vegetable processing units operating in Hung Yen with various scales and operations such as enterprises, private companies and households.

A part from processing units mentioned above, presently some households process canned fresh-longan to export in a small scale. In an estimation, these households only process 200 tons of fresh fruits per year. Most of processed longan is used to produce dried longan. This has become

traditional job in the communes planting longan trees e.g: Tan Hung, Phuong Chieu, Lien Phuong of Tien Lu district; Hong Nam, Hong Chau, Lam son of Hung Yen town; Dong Ket of Khoai Chau district; Me So of Van Giang district. In these communes, there are now about 2,000 manual ovens which process about 40% of fresh-longan volume for drying all over the province every year.

However, because of various reasons, especially the lack of materials, high seasonal characteristic, difficulties in storing, most of processing factories and agents haven't been able to use maximum capacity yet. After discussing with processing units, we know that they have only operated with at average capacity of 40 to 45%, in winter crop when processing materials are the most available, machine capacity only reaches to 60-65% (Hung Yen export processing company, Thanh Yen company Ltd., Fintec Company, etc). Especially, processing units annually have to cease its operation for 3 to 4 months due to the lack of materials

Table 16: Rate of collection of processing materials

Product	Hung Yen	Other provinces
Vegetables	20	80
Fruits	10	90

Source: Study figures of VASI at 4 business of fruit and vegetables processing

Reason for insufficient materials is the incomprehensibility, most directors haven't paid enough attention to developing materials, passing the responsibility to the local. In short, processing businesses need to have investment strategy to develop material region with farmers.

3.2- Fruit and vegetable used for processing

Materials for processing factories represent a lower proportion in the total of fruit and vegetables production of the province annually (3% for vegetable and 34% for fruit). However, noticeably, only 20% of materials of processed vegetable and 10% of that of processed fruit are collected in the local, which means the heterogenous in developing material region. Especially, it is necessary to impphasize kinds of processable products such as vegetable (cucumber, baby corn, tomato, salad, etc), fruits (Litchi, longan, banana, etc) and need for materials of processing units

Table 17: Rate of processed fruit and vegetables comparing with total of produced production

Scale, kind of business and processing place	Produced fruit and vegetables production (ton/year) (**)	Fruit and vegetables production for processing (ton/year) (*)	Rate (*) and (**) (%)
Vegetables	218200	5500	3
Fruits	66187	22000	34

*Source: Service of Hung Yen Agriculture and Rural Development
Study figures of VASI at 4 business of fruit and vegetables processing*

Over 90% of processed products are for export, domestic consumption accounting for a low proportion and is mainly distributed through supermarket, shop channel, etc

”Hong Nam longan fruit processing trade” – *extracting from Hung Yen agriculture newspaper* (May 24th, 2005)



Longan processing

Hung Yen is famous for its Long longan speciality, annually, harvested output is about 25,000 tons of fresh longan. Today, longan is bought by consumers to eat, and used for canning or processing dried longan. Longan processing is popular in the province, concentrating in Hong Nam commune of Hung Yen town, Hong Nam has approximately 180 households producing dried longan. Longan crop usually lasts for from 35 to 50 days and this is the busiest time for processing longan. At this time, Hong Nam creates jobs for about 1,200 employees, most are local residents, others are from neighbouring communes and Hung Yen town. Dried longan productivity annually is about 200 tons producing a revenue of over 12 billions dong, income for employees from 300 to 400 thousand VND per month. Most of dried longan is traded in Chinese and Hong Kong markets through border gate markets. Hong Nam people not only process dried longan in Hung Yen but also collect to process them in Moc Chau, Son La and in the South; processing Thieu litchi in Luc Ngan district (Bac Giang province) brings about high profit. So, Hong Nam has billionaires from processing dried longan. Today, dried longan processing (both old and new technology) is done manually

3.3- Processing form

In Hung Yen, there are different forms of processing, however, processing fruit and vegetable is to choose, classify and pack fresh products. This activity can have a narrow definition including only processing fruit and vegetable preserve them and reduce preparing time. Preservation method includes packing in bottle, canning, drying, boiling and soaking.

- Bottling and canning to lengthen usage time of fruit and vegetable from 1 to 2 years, depending on each kind of product. For canned products, Thieu litchi is the most important, followed by longan, plum and mixed fruits. For canned vegetable, popular products are: baby corn, cucumber, salad and tomato, etc
- Soaked vegetable isn't popularly used in processing factories in Hung Yen province, however, some kinds such as cucumber, salad, etc are made by farmers. Most of soaked vegetable is made to provide family rather than to sell.
- Drying and preserving food by reducing water content to under necessary level for bacterium not to exist. Normally, drying causes a loss of 95% of water. Variety of ovens, vacuum drawers, air rooms, vacuum pans, etc are used to dry fruit and vegetable. Processing businesses in Hung Yen usually choose litchi and longan to dry

3.4- Activity of processing units

Fruit and vegetable used for processing units in Hung Yen province are collected from different suppliers but the most popular source is directly from farmers, collectors, wholesaler and self-produce. Import materials source isn't almost used in processing factories and enterprises

Table 18: Rate of materials for processing fruit and vegetables from various sources

Scale, kinds of product	Self-produce	Farmer	Wholesaler	Collectors	Others
Small	15	85	0	0	0
Medium	0	62	23	10	5
Big	0	40	12	48	0
Vegetable	15	67	12	20	1
Fruit	0	64	17	16	3

Source: Service of Hung Yen Agriculture and Rural Development

Study figures of VASI at 4 business of fruit and vegetables processing

Most of fruit and vegetable processing companies and enterprises with small and medium scale produce from 600 to 2,500 tons of products per year. However, fruit and vegetable processing units of Hung Yen have just used nearly 50% of their capacity, and mostly in the peak time of the main crop. Reason for this is the lack of input materials

Table 19: Using power dividing into scale and business form

Unit: %

Scale, kinds of product	Main crop	Off-season	Normal
Small	50	35	40
Medium	52	38	45
Big	60	45	50
Vegetable	71	40	51
Fruit	50	20	34

Source: Service of Hung Yen Agriculture and Rural Development

Study figures of VASI at 4 business of fruit and vegetables processing

In 2003, in the fruit and vegetable processing sector of Hung Yen province, the Fintec company Ltd. Came into operation which processes canned fruit and vegetable (cucumber, tomato, baby corn and capsicum, etc) and products from peanuts (sugar-coated peanuts, salt-roasted peanuts) in order to export to Russian, German and French, etc with capacity of 5,000 tons of products per year. But this processing line has just run at the capacity of 20%.

3.5- Advantages and disadvantages of fruit and vegetable processing sector of Hung Yen province

a. Advantages:

- Together with preferential policies of the State in the field of processing agriculture food in general, Hung Yen province has also had some particular policies to attract businesses to invest in agriculture food processing, such as: land provision, ground clearance and simple administrative procedures
- Hung Yen has potential in developing material regions for processing factories and transportation network between locals of the province is convenient.
- Hung Yen Agriculture and Rural Development Department, Agriculture extension centre are planning to establish Fruit Association, prepare for RAT production region and material regions for processing enterprises
- Geographical position of Hung Yen allows processing factories in the provincial area to collect materials from various regions in the Red River Delta
- Large scale processing factories in the provincial area have paid considerable attention to developing material regions, develop intensively fruit and vegetable processing line, approach and apply modern technologies
- Hung Yen is one of the provinces which attracts a lot of foreign investment in industrial zones, factories and agricultural food processing factories
- Since 2000, State, private and foreign capital which has been injected in fruit and vegetable processing sector in Hung Yen is pretty great

b. Difficulties:

- Policies for managing processing branch haven't been consistent, a lot of administrative procedures, lack of collaboration between national management and product commercialization. Difficult matters of processing businesses aren't usually solved timely
- Hung Yen province hasn't established material regions for fruit and vegetable processing units, especially cultivating kinds of wrong-time vegetable. Farmers usually concentrate in kinds of best-selling vegetable in market in previous year, so products among years have changed and led to the lack of materials for processing units. Besides, quality of processing materials hasn't been stable and met sanitary and safe food standards.
- Processed fruit and vegetable products haven't had label, so it is unable to sign direct export contracts so it must go through intermediary companies or parents company.
- Most of private processing units lack capital to give farmers in advance for producing materials, have difficulties in borrowing capital from credit organizations
- Processing units which came into operation after 2003 have difficulty in finding location to build workshops, incur high cost of ground clearance and renting land
- Science and technology skill in processing branch is limited, a lot of units lack skilled staff; processing technology is backward and unsatisfactory quality. A lot of traditional

enterprises still exist and manual processing method constitutes a large proportion

- Owners of some units haven't understood standards set by government on food sanitary and safety, so their products haven't satisfied standard of sanitary and safety.

In conclusion: Products of fruit and vegetable processing branch in Hung Yen province are mainly to supply for export market. However, most of processing units are in a passive position to collect input materials, so product volume hasn't been stable. Therefore, Hung Yen province needs to plan for material production region for fruit and vegetable processing factories, train skilled staff and build system of quality control by choosing from stage of breeding animals and seeds, production processing, post-harvest materials, transportation, preliminary processing, refinement, preservation to ensure good quality products reaching final consumers. It is necessary to invest in and improve backward production line and equipment in order to stabilize standard of output products

4. Situation of applying trademark, quality label, geographical indication of fruit and vegetable

Most of export processed fruit and vegetable in Hung Yen has used foreign brand name and trademark. The percentage of export products having Vietnamese trademark is low (10%), almost processed products such as bottled cucumber and bottled tomato exported to Russian is under the name of Fintec company and origin of products

Fresh fruit and vegetable produced in Hung Yen to provide for domestic market has applied labels and geographical indication with the target of building private and collective trademark. Production commodities haven't been closely organized from the production to commercialization.

4.1- Kinds of labels of green vegetable

There are 2 kinds of labels of green vegetables: trademark of producers of distribution company and quality labels (safe vegetable, clean vegetable, organic vegetable, etc). However, green vegetable produced and consumed in Hung Yen market hasn't had labels

Hung Yen province has had some vegetable production models in accordance with safe vegetable processing, such as: Nhu Quynh commune, Van Lam district of Trung Nghia commune of Hung Yen town, but harvested products have used trademark of some cooperatives which signed selling contracts, e.g safe vegetable cooperative of Dang Xa commune, Gia Lam district, Hanoi or some others which has been famous safe vegetable on Hanoi market.

4.2- Kinds of labels of fruits

Fruit labels often which associate with special products, geographical characteristic and ecological condition of production locals, can be registered and protected a part from label of producers and quality label. Quality of the products are affected by land quality, seed source, environment, climate and traditional cultivation in the local. These are the special fruits, so quality of these products have been expressed through label and selling price in markets (selling price is several times higher than that of other same products, at the same time). However, Hung Yen has only a special fruit which is Hung Yen Long longan. Label of product associates with local's name, although it hasn't had formal trademark, its value has determined on market through quality and selling price

5. Product consumption markets

5.1- Domestic markets

Products traded in domestic markets are mainly fresh fruit and vegetable after being harvested, they can be processed preliminarily or not.

- Green vegetables (vegetables of winter crop) are commercialized in some markets such as wholesale market in Hanoi and neighboring provinces (Hai Duong, Hai Phong, Quang Ninh, Thai Binh, Nam Dinh, etc), markets of the central provinces and retailing markets in the local. Vegetable producers can choose one of these selling forms: selling products directly, selling to collectors and wholesaler, etc

- Similar to green vegetables, fresh fruits (longan, orange, pomelo, etc) are mainly traded in wholesale and retailing markets in Hanoi through collectors, wholesalers and pedlars. A few Long longan products (30%) are also traded in provinces such as Hai Duong, Hai Phong, Quang Ninh, Nam Dinh, etc

Fruit and vegetable of processing factories in HungYen province mainly supply for export market (95%), domestic consumption holds low percentage (5%). Through some various distribution channels, processed fruit and vegetable appear at supermarkets, food shops and retailing agencies of some northern provinces and cities such as Hanoi, Hai Phong, Quang Ninh, etc

5.2- Fruit and vegetables export

Fruit and vegetable export markets of processing factories in Hung Yen province are mainly some countries such as: Russian, China, Hong Kong, Korea, Mong Co, Japan, France, German, Rumany, Poland, USA and Canada, etc. Exported products include cucumber, tomato, baby corn, Dutch bean, salad, litchi, longan and plum. However, most of import countries require the fruit and vegetable to have labels with clear origin while most of processing companies and agents haven't met this requirement. So, they must go through some intermediaries or parents company before their products are exported.

According to synthesized result from 4 processing businesses of big scale in Hung Yen province and their consideration, in 2004, exported fruit and vegetable output of all processing units in provincial area was about 27,500 tons of products, of which 80% is fruit and 20% is vegetable. Remarkably, there are some units with big scale as: Hung Yen export company processing at a capacity of about 2,500 tons of export products per year (equivalent to 9% of total processing production in the province), "in Hong Nam commune of HungYen town there are about 180 households which produce Long longan. Long longan production is annually about 200 tons, bringing about 12 billion VND per year. Long longan is mainly sold to China and Hong Kong markets and border gate markets" (extracting from Hung Yen Agriculture newspaper on May 24th, 2005), "Hong Duong private business at No.45 of Pham Ngu Lao street, Hung Yen town, HungYen province has operated in fruit and vegetable processing field in the North and South with annual production of 60 tons of Long longan, 75 tons of dried litchi and 45 tons of dried longan. These products are exported to Asian countries (Japan, Hong Kong, China and Korea, etc), European countries (Russia, Poland, etc) and American countries (USA, Canada, etc) and consumed in domestic market" (extracting from Business newspaper)

Table 20: Price of some exported fruit and vegetables

Unit: USD/ ton

Product	Material price	Price of export product
Cucumber	196	574
Baby corn	114	756
Litchi	362	1080
Longan	315	820

Source: Study figures of VASI at 4 fruit and vegetables processing businesses

the table below shows an average price of some export fruit and vegetable of processing units in Hung Yen province. However, price of them depends on each period, each market and quality requirement.

6. Fruit and vegetable processing companies

At present, there are a lot of units which register business fields in fruit and vegetable production, business and processing in Hung Yen province

Table 21: List of business units on fruit and vegetables field

No	Business	No, date of business registration	Registered capital (million dong)	Address
1	Hong Duong private business (Duong Hong Gám)	005299 13/06/ 1998	205	No. 45 Trung Trác street, Hung Yên town, Hung Yên province Phone: 0321 862 193
2	Hung Thinh private business (Phạm Đình Trần)	002199 20/06/ 1998	550	No. 529 Nguyễn Văn Linh street, Hiến Nam precinct, Hung Yên town, Hung Yên province
3	Thanh Trung private business (Nguyễn Thành Hưng)	0501000003 24/03/ 2000	200	No. 31B Nguyễn Thiện Thuật street, Lê Lợi precinct, Hưng Yên town, Hung Yên province Phone: 0321 863057
4	Tien Vinh private business (Lê Văn Tiến)	0501000037 13/09/ 2001	200	Collective zone of export food company, Triệu Quang Phục street, Hiến Nam precinct, Hung Yên town, Hung Yên province

5	Quyet Thang private business (Vũ Thị Tuyết)	0501000034 09/08/ 2002	1500	No. 272 Điện Biên II street, Quang Trung precinct, Hung Yen town, Hung Yen province Phone: 0321 862296
6	Linh Bang private business (Nguyễn Thị Thu Hằng)	0501000119 24/11/ 2003	2700	No. 26 Nguyễn Trãi street, Hiến Nam precinct, Hung Yen town, Hung Yen province
7	Thanh Yen limited liability company (Nguyễn Quốc Chử)	0502000054 20/12/ 2001	100	No. 53 Tô Hiệu street, Hiến Nam precinct, Hung Yen town, Hung Yen province Phone: 0321 862 458
8	Limited liability company of Vietnam exported food processing (Trần Thị Cúc)	0502000269 10/05/ 2004	2500	No. 104B Điện Biên street, Lê Lợi precinct, Hung Yen town, Hung Yen province Phone: 0321 862515
9	My Phat limited liability company (Nguyễn Ngọc Chính)	0502000306 23/09/ 2004	900	No. 215 Tô Hiệu street, Hiến Nam street, Hung Yen town, Hung Yen province
10	Joint-stock company of Hung Yen exported food (Trần Văn Bài)	0503000007 20/08/ 2001	2200	Hoàng Hoa Thám street, Hiến Nam precinct, Hung Yen town, Hung Yen province Phone: 0321 862 458
11	Joint-stock company of Hung Yen Trade and Service (Nguyễn Văn Chánh)	0503000062 21/08/ 2004	7182	No. 2 Nguyễn Thiện Thuật street Hung Yen town, Hung Yen province Phone: 0321 862785
12	Joint-stock company of Hung Yen Trade and Service in Hung Yen town (Nguyễn Văn Cảnh)	0513000103 01/01/ 2005	Chi nhánh	No. 02 Nguyễn Thiện Thuật street, Hung Yen town, Hung Yen province Phone: 0321 862290
13	Thien Ha joint-stock company on Machine and Trade (Tạ Phương Anh)	0503000107 19/07/ 2005	8000	Cao Xá hamlet, Lam Son precinct, Hung Yen town, Hung Yen province Phone: 0321 545034
14	Joint-stock company of Hung Yen industrial food (Đoàn Văn Điền)	0503000108 20/07/ 2005	2700	No. 141 Bạch Đằng street, Minh Khai precinct, Hung Yen town, Hung Yen province Phone: 0321 862410
15	Hung Yen import and export Joint-stock company (Trần Quốc Văn)	0503000119 29/08/ 2005	14660	No. 335 Nguyễn Văn Linh street, Hiến Nam precinct, Hung Yen town, Hung Yen province Phone: 0321 862385
16	Trung Son limited liability company of exported food in Hung Yen (Nguyễn An Hưng)	0502000065 18/03/ 2002	6000	Như Quỳnh town, Văn Giang district, Hung Yen.province
17	Thang Long limited liability company	0502000350 05/01/ 2005	600	Cổ hamlet, Lạc Đạo commune, Như Quỳnh

	(Duong Hữu Ich)			town, Văn Giang district, Hưng Yên province Phone: 0321 989039.
18	Trong Tin trade limited liability company (Nguyễn Tá Trọng)	0502000402 18/ 05/ 2005	900	Minh Khai hamlet, Như Quỳnh town, Văn Giang district, Hưng Yên province
19	Joint-stock company of rural technological development (Vũ Tiến Lâm)	0503000048 11/ 05/ 2004	8000	Hồng Lạc commune, Văn Lâm district, Hưng Yên.province
20	Branch of joint-stock company of Hưng Yên trade and service in Văn Lam (Vũ Thị Thuận)	0513000099 01/ 01/ 2005	Chi nhánh	Như Quỳnh town, Văn Giang district, Hưng Yên province Phone: 0321 986103
21	Joint-stock company of Vietnam cold drink and nutrition (Tạ Tiến Dũng)	0503000114 15/ 08/ 2005	25000	19 street, Lạc Đạo commune, Văn Lâm district, Hưng Yên province Phone: 0903421263.
22	Thien Huong limited liability company of Northern food (Nguyễn Văn Hà)	0502000275 25/ 05/ 2004	20000	Phan Bội hamlet, Di Sử commune, Mỹ Hào district, Hưng Yên.province
23	Vitranimex food limited liability company (Đỗ Đình Thắng)	0504000150 14/ 12/ 2004	5000	Km 30+50, Lùng hamlet, Bạch Sam commune, Mỹ Hào district, Hưng Yên.province
24	Thanh Phat limited liability company (Nguyễn Trung Kiên)	0502000066 25/ 03/ 2002	5020	Đạo Khê hamlet, Trung Hưng commune, Yên Mỹ district, Hưng Yên.province
25	Limited liability company of gold internation cold-drink (Phạm Thị Mai Thu)	0504000028 31/ 12/ 2002	3000	Giai Phạm commune, Yên Mỹ district, Hưng Yên province Phone: 0321 967109.
26	Thai Son limited liability company (Nguyễn Thị Bình)	0502000171 18/ 08/ 2003	1000	No. 7, new street of collective zone of Yen My Health Centre, Hưng Yên province Phone: 0321 964532.
27	Fintec limited liability company		3400	
28	Manh dung trade limited liability company (Phạm Quốc Mạnh)	0502000223 05/ 01/ 2004	1200	No. 28B Yên Mỹ town, Mỹ Hào district, Hưng Yên province
29	Cat Tuong limited liability company (Trần Đình Vân)	0502000196 11/ 11/ 2003	2500	Lương Hội hamlet, Lương Bằng commune, Kim Động district, Hưng Yên province
30	Manh Gioi private company (Nguyễn Văn Giới)	0501000165 02/ 04/ 2004	150	Phương Đường hamlet, Tứ Dân commune, Khoái Châu district, Hưng Yên province Phone: 0321 928026
31	Kien Chung private	0501000251	1500	Tứ Bô Thời hamlet, Hồng

	company (Bùi Văn Chung)	23/ 06/ 2005		Tiến commune, Khoái Châu district, Hưng Yên province Phone: 0321 920133
32	Thuy Thanh limited liability company (Đỗ Nguyễn Mười)	0502000198 20/ 11/ 2003	2000	23 village, Đông Kết commune, Khoái Châu district, Hưng Yên province Phone: 0321 910165
33	Joint-stock company of Khoai Chau Trade and tourist (Vương Đình Hán)	0503000066 06/ 12/ 2004	1437	Phủ street, Khoái Châu town, Khoái Châu district, Hưng Yên province Phone: 0321 910326
34	Phuc Nhan Duong company limited liability company (Lê Hồng Khanh)	0502000431 20/ 07/ 2005	5000	Duyệt Văn hamlet, Minh Tân commune, Phủ Cừ district, Hưng Yên province Phone: 0904050059

Source: Service of Hung Yen Plan and Investment

IV. Programmes and projects funded for fruit and vegetables development

1. Domestic programmes

Annually, the ministry of Agriculture and Rural Development and Hung Yen People's Committee spends for some programmes, projects with the target of developing fruit and vegetable production and processing in the province. Some projects have recently been carried out such as projects in conservation of Hung Yen Long longan's seed, development of some safety vegetables production structures, founding association of Hung Yen Long longan. Units have directly carried out these programmes and projects including The institute of agricultural genetic, agricultural department, technology. science and environment department, agricultural extension centre, and agriculture office, agricultural extension department, economic department of provinces

Name	Funded units	Realized units	Activites	Area
Subject on building safe vegetables modes at Hung Yen town and Van Lam district	Hung Yen people's committee	Centre of Agricultural encouragement Service of Hung Yen agriculture and rural development Research institute of fruit and vegetables	- Mark of production region of safe vegetables on base of choosing communes where have tradition on growing vegetables and have large vegetables area - Building production model of safe vegetables through agricultural service cooperatives - Training on production technology of safe vegetables for cooperatives' members - Experiment on new seed	Model of leaf vegetables is carried out at Trung Nghia commune, Hung Yen town (48 households with area of 2 ha of safe vegetables) and model of fennel vegetables at Nhu Quynh commune of Van Lam district (28 households with area of 2.5 ha of vegetables)
Project on preservation Hung Yen big longan's seed	Ministry of agriculture and rural development	Agricultural cooperation department of Vietnam agriculture science institute Research institute of agricultural heredity	- Evaluating and determining border of origin region of longan - Analyzing effect of soil to product quality - Analyzing economic effect of big longan trees	Hung Yen province The project starts to realize in 2005
Hung Yen Big longan Association	Ministry of agriculture and rural development Hung Yen people's committee	Service of Hung Yen industrial science and environment Service of Hung Yen agriculture and rural development	- Founding Hung Yen big longan association - Choosing and managing genetical source longan tree - Organizing fair to introduce products - Building up documents to register geographical indication of products	Choosing 36 genetical source trees in Hung Yen province, starting to realize from 2003 to present

2. International projects

Until recently, there haven't been any programmes, subjects or projects on research and development of international organization in fruit and vegetable production field (source: Service of Hung Yen Plan and Investment, Service of Hung Yen agriculture and rural development)

V. State policise relating to fruit and vegetables development

* Official document No. 273/CV-NN on September 16th, 2005 of Service of agriculture and rural agriculture on “*V/v: concentration on supplying to prevent pestilent insect*”

For districts and town:

- Direct functional branches to control pesticide business in the province in order not to raise medical price and sell bad quality medicine

For branch of plant protection: supervise insects happening in fields; estimating and forecasting insects early; associating with intermediary offices to raise propaganda duty, directing farmers on time and in how to spray and to use right medicine in order to protect timely, effectively and prevent the spread.

- Opening gates of drains to shallow water for winter crop and plough the soil loose after harvesting
- Encouraging farmers to catch and kill mice. Organizing to kill them at the same time, encouraging to apply manual methods to ensure safety, effect and protection for farm produce.
- For fruit trees (longan, litchi): direct to care and weed to prevent insects in periodd of post-harvest, ensure good condition for buds to develop

* Direction no. 05/2005/CT-UB on May 25th, 2005 of provincial people's committee on “*Guiding method of crop production and direction of winter-crop production in 2005-2006*” with following contents:

“ For winter-rop plants: Widenning area must ensure to be suitable to market conditions. Depending on each local's plan, it is nessary to encourage farmers to widen area of winter-crop plants, apply new seeds of high productivtiy, quality and economic value. The province supports not only with a part of cost to buy new seeds for widening cultivated area and to train on technology, but also with total cost of pumping and watering winter-crop plants (including orginal water)”

Plan:

- Based on achivement of winter crop in 2004 to estimate the ability of real production in districts and town in winter crop of 2005
- Based on Report No. 156/TB-UB on September 19th, 2005 of provincial people's committee “Report on conclusive idea of chairman of provincial people's committee at meeting of provincial people's committee on September, 2005”, service of agriculture and rural development directs to realize production plan of winter crop in 2005-2006 as following:

Area under vegetable and crops is set to be 7,200 ha (tomatoes: 1,200 ha, green pumpkins: 1,700 ha, tomatoes: 500 ha, others: 4,800 ha)

Technical solution:

- Seeds and seasonal crop: using the seeds of high productivity and quality such as:

+ Tomato: using the kinds: Nicola, Diamand (Dutch), KT3 (Institute of CLT-CTP). The latest crop must complete by September 15th

+ Vegetables: tomato' seeds: C95 TN005, TN 54, HT 7, PT 18; cucumber: Japan, Taiwan, baby cucumber; pumpkin: green pumpkin, Taiwan pumpkin; vegetables of cabbage and aubergine family, etc and arranging to make a lot of tea to spread crop

- Cultivation technique

+ Method of shifting crop:

Quickly harvest rice for cultivating winter crops.

To prepare small plants, especially those are in strict crop such as maize, tomato and cucumber.

To use cover in the production of breeding plants for vegetable.

+ Doing soil:

To mobilize all capacity to do soil ; try to prepare soil for winter crop as soon as finishing harvesting.

To expand cultivation method of ensuring minimized soil done, don't do with wet soil or cultivate on wet soil in order to reduce pressure of season and labour.

+ Fertilizer : Prepare enough fertilizer for cultivating winter crops ; guiding farmers to use right, sufficient and proper fertilizers.

+ Water irrigation: To consist with saving water policy; water scientifically for each kind of plant and in each period. Don't leave plants lack of water or in the situation of too much water; encourage the usage of agricultural cover for vegetable such as cucumber, vegetable..

+ The plant protection: Applying comprehensive management method (IPM) for winter vegetable.

Some policies to develop winter-crop plants

- According to Circular No. 156/TB-UB on September 19th, 2005 of provincial people's committee "Report conclusive idea of chairman of provincial people's committee at meeting of provincial people's committee on September, 2005", department of agriculture and rural development directs to realize a part of expenditure for winter-crop production in 2005 as following:

+ Helping with a part of cost for buying some seeds which have both stable output and high economic effectiveness, encouraging to change plant structure

Green pumpkin: supportive area of 1,000 ha and supportive amount of 500,000 dong per ha. Cultivation time is before the 9th of September

+ Technical training sessions, conference :

Technical training : 2 courses for each district or town with 1,500,000 dong per course, total: 30,000,000 dong

Conferences: 3 groups with 9,000,000 dong

Supporting cost for watering of winter-crop plants (including source water)

(Based on Report No. 156/TB-UB on September 9th, 2005 of provincial people's committee "Report conclusive idea of chairman of provincial people's committee at meeting of provincial people's committee on September, 2005", interdisciplinary of Finance and Agriculture and rural development

refer and direct to realize according to approved decision of provincial people's committee)

* The department of planning and investment has given some priorities for providing business license, creating good condition to complete investment procedures, giving land to build factories for businesses which register their operation in agricultural food processing field

VI. Conclusions and recommendations:

1. Conclusions

1.1. Production and requirements of fruit and vegetable quality

Area, productivity and production trend to continuously rise in many years (from 2000 to 2004), especially in the districts with large area of vegetable cultivation such as Tien Lu, An Thi and Van Giang districts. Vegetable is cultivated in most of districts and town all over the province in order to meet the requirement of consumers in the local, neighboring provinces and for export

Winter-crop vegetable and Long longan are commodity products which have popularly developed in Hung Yen province

An improvement in life condition of Hung Yen people also creates great changes in need for high quality fruit and vegetable. Today, their consumption is not limited in some specific kinds. Requirement for safety vegetable (clean vegetable) in Hung Yen town has been increasing, hence, some models of safety vegetable production have appeared and gradually developed

Hung Yen people are still using a lot of fruit and vegetable products which haven't met standards of sanitary and safety food. Provincial people's committee has invested in some various programmes and subjects to improve quality, but the result has still limited because of the lack of the role of offices in agricultural product management

1.2. Processing activity

Hung Yen has a lot of factories, but processing activity hasn't developed. They depend on seasonal crops and have not gained maximum capacity because of insufficient input materials. Most of processing units belong to private proprietary and use family labors with low processing volume. Main processing forms are to dry, soak and tin. Processing products are mainly consumed through retail supermarkets and exporting

1.3. Product markets

Fruit and vegetable products in Hung Yen are sold by various distribution channels, including domestic and export markets. However, most of fruit and vegetable are sold in fresh and non-processed forms. Proportion of processed products is low and mainly for export to Asian countries (Japan, Hong Kong, China, Korea, etc), European countries (Russia, Poland, etc) and American countries (USA, Canada, etc)

1.4. Some shortcomings

Conclusion above shows that besides achievement in production, processing and exporting, fruit and vegetable commodity chain of Hung Yen exposes some limits as following:

- Unused and unexploited current potential of soil, climate in agricultural production. Processing factories haven't run all capacity, products have been mainly sold in domestic

markets under fresh form, many limits in export market and especially, lack of specialization in fruit and vegetable production and processing

- Manual processing technique, using backward machine and unskilled labors, instability in quality of processing materials and processed products
- Both lack of popularity and limit in applying science and technology in fruit and vegetable production and processing

2. Recommendations

2.1. General recommendation

From above conclusions, we recommend that Hung Yen province should build long-term plan for developing fruit and vegetables commodity

- Developing institutions to support to found cooperatives, associations, build relationship between producers and other actors, such as: traders, processors, exporters, etc. Raising services, creating favourable condition in collecting information on fruit and vegetables markets for producers
- Strengthening activities of research and conversion of cultivation, caring and processing technology of fruit and vegetable for producers and intermediary actors
- Encouraging farmers and intermediary actors to apply new seeds, modern technology in fruit and vegetable production and processing
- Hung Yen should have policies in supplying and encouraging private investment in improving technical line of fruit and vegetable processing and manual ovens. Besides, priority on a part expenditure for investing and upgrading infrastructure in fruit and vegetable commercial center in order to transport fast, conveniently and reduce cost, etc
- Having mechanism in encouraging farmers to produce materials according to contracts for processing factories in order to create comprehensive products of stable quality and contribute to stabilize markets. Processing factories must have initiatives in building material regions, not entrust to producers and agriculture branch
- Finalizing legal system in quality control and encouraging to found state and private offices which certify fruit and vegetable quality
- Department of Agriculture, Service of Trade and Department of Statistic of Hung Yen province need raise to collect figures, data in production, processing, export and commercialization markets of fruit and vegetable in order to create a reference base for programmes and projects on this field to decide to invest in the local

2.2. Recommendations for GTZ

* Model 1: Based on discussing with processing enterprises, farmers and local offices together with analyzing statistic figures, we recommend that GTZ should cooperate with local partners (e.g the Department of agriculture and rural development, etc) to build some concentrative regions of vegetable production in order to provide materials for processing factories in the province. This recommendation appears from some bases as following:

- Fruit and vegetable processing units in Hung Yen have just operated 50% of their capacity because of insufficient input materials

- Materials collected in the local has just met 10% of the production requirement of processing sector.
- Fruit and vegetable processing units want to have stable materials region with concentrative production close to factories. In fact, they also provide some supports such as giving seeds in advance, materials for households which produce vegetable according to contracts for factories through cooperatives of agricultural service with the aim of developing material region. However, cooperatives of agricultural service haven't cared for developing concentrative regions of materials, and not punished when farmers break contracts
- Some districts in the province has advantageous conditions in soil to develop vegetable commodity chain, farmers have experience in cultivating vegetables and begin to produce vegetables according to contracts for processing factories, such as: salad in Trung Nghia commune of Hung yen town, baby cucumber in Hung Dao and Ngo Quyen communes of Tien Lu district, Toan Thang and Phu Think communes of Kim Dong district, etc

Activities of GTZ associating with local partners for:

- Building and organizing groups of farmers to produce baby cucumbers at Ngo Quyen commune of Hung Yen town for processing factories
- Technical training in vegetables production and supplying new seeds which are able to resist weather, insects and last seasonal crop and produce in different time
- GTZ should discuss with processing factories to support farmers with a part of cost on seeds, input materials in advance and organize and have suitable plan for production
- Supervising production process to produce high quality and comprehensive products with stable production, concurrently supporting group of farmers to sign contracts with processing enterprises

Model 2: Supporting with materials and technology to help farmers growing longan with caring experience to protect and develop the original Long longan trees of Hien street. The work will have great effect if the Long longan in Hien street has brand name and is protected according to legal procedure. As we know, in fact, most consumers have lately mistaken between Hung Yen longan and Hung Yen Long longan because of sellers. Consequently, longan grown in other provinces would be able to be named Hung Yen Long longan in the future.

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