

Vietnamese Fruits Production and Exports Based on The Global Gap & ISO 22000 Standard Towards Faster and Sustainable Development

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Abstract

After more than 7 years joined the WTO, the growth of Vietnam Agricultural Sector has contributed significantly to the country's socio-economic development. Vietnam's agriculture with major export commodities such as rice, coffee, rubber, cashew nuts, pepper, cassava, fruits... has still maintained the pace of development, even exceeding the targets of the plan proposed. Of the 22 commodities of Vietnam worth over \$ 1 billion in exports, the agriculture contributed 8 items with high export value, indicating the agricultural products in general and Vietnam fruits in particular to play an increasingly important role in the export turnover of the country.

If the 2010 fruit export turnover reached 0.451 billion U.S. dollars only, the 2012 has reached 0.827 billion US dollars and in 2013 it took the finish line 1.037 billion US dollars compared to the previous 2 years plan 1 billion US dollars in 2015

However, besides the advantages, the agricultural product export of Vietnam is facing significant challenges, such as international economic integration , ensuring the growth in order to improve the quality competition with commodities of the same kind in the world , scientific and technological is very simple and especially product quality is unstable leading to low value-added , export prices fell . . . In addition, the awareness of the positive effects of fruit and vegetables for the community health needs lead to consumer goods is increasing in the developed countries... Therefore, Vietnam needs to increase the value of fruit exports through application of the system of the international standards on quality assurance as ISO 22000 and Global Gap.

Keywords

Fruit Production, Fruit Export, Global Gap, ISO 22000

1. Introduction

Fruit production plays an important role in agriculture in many countries around the world .Fruit production is also an important sector of agriculture in Vietnam . With geography , Vietnam have many favorable conditions for fruit production , including climate and land suitable for the cultivation of tropical fruits and subtropics. Fruit production in Vietnam in recent years has grown considerably in both scale and categories . The fruits specialties with high quality has made great progress , bringing higher productivity through the application of scientific techniques and advanced farming methods . etc...

Fruit production sector of Vietnam has made positive achievements in domestic consumption and export . Product category diversity , abundant processed as fruit concentrates , canned , dried , drying a flexible , jam , fruit juice and foreign customers preferred and appreciated . In particular , a number of new products such as fresh and frozen fruits are consumed in the United States , Japan , South Korea , China , Taiwan , Russia , Indonesia , the Netherlands , the EU , ... etc. If in 1995, exports of Vietnam fruit is only 56.1 million, in 2007 the value of goods exported fruit has reached more than \$306 million, in 2013 export turnover of VietNam fruits

has achieved \$1,037 million, increased by 3.38 times compared with 2007 (By GSO , MARD) . However, fruit production and general consumption of fruit exports in particular are still limitations such as export production is not commensurate with the great potential of Vietnam , businesses do not have the ability to solve the big orders, producing and fruit exports service are still weak , packaging technology , post-harvest preservation backward compared to other countries in the region , the associated four person - entrepreneur - farmer -scientist – government are limited , thereby losing competitiveness , lack of regional planning intensive fruit meet international quality standards . So the research topic "Vietnamese fruits production and exports based on the Global GAP standard & ISO 22000 towards faster and sustainable development " is essential to ensure the effective exploitation of the strengths and potential of VietNam fruit.

2. Reseach Method

Inheriting the theoretical basis for quality, sustainable development and Global Gap & ISO 22000 contents of standards, also reality on agricultural production, the authors conducted to research matters related to quality of exported agricultural products and controlling systems application and quality control of agricultural products in Vietnam. To research the topic, the authors considered, researched based on some criterias, including:

- *The situation of fruits exports of Vietnam*, including export value, world market share and export growth.
- *The challenges of production activities* including weaknesses in the production and export of fruits of Vietnam.
- *Control situation and management of goods*, including product quality and the effectiveness of control and quality management of exporting fruits.
- *Policies and measures*, including investment in manufacturing, how to control and manage the export of fruits;
- The article is based on information collected from the group and aggregate data from the General Statistics Office (GSO), Ministry of Agriculture and Rural Development (MARD), the Vegetable and fruit Research Institute (VFRI), the professional associations and the actual survey in the household as a basis for analysis and review.
- The research was conducted in beginning of 2013, including desk research combined with fieldwork in the country and based on the qualitative and quantitative information.
- Quantitative information includes trade statistics, market data and data on the application of control systems and quality management of Global Gap and ISO 22000 in the country especially for the Mekong Delta. Data on the situation of agricultural exports, exports and GDP are generally accessible from the website of the Statistical Office (www.gso.gov.vn) and the Ministry of Agriculture and Rural Development (www.argoviet.gov.vn); Data on the application of control systems and quality control of agricultural products from the website and the Ministry of Agriculture and Rural Development website of the trade association.
- Qualitative information includes a comment on the documents and related information collected from experts, business associations and farmers. However, the limited condition of the article, the collected data is not much.

These policies and methods implemented in the context of research papers based on the development strategy of the Government, the industry and the Association.

3. Overview of the Vietnam Fruits Production and Expoprts

3.1 The results

Production and domestic consumption, in recent years, especially since after joining the WTO, fruit area of Vietnam has increased rapidly and increasingly intensive properties cao.Muc average consumption of fruit military in domestic market at present is 78kg/person/year and forecasts in the future this figure will grow by 10% / year. Due to the different ecological characteristics of the fruit, in accordance with certain climate, fruit trees are planted in areas concentrated in different regions in Vietnam:

- The fruit trees around wide adaptation as bananas, segment fruit (oranges, tangerines, grapefruit, lemon), pineapple, jackfruit, longan, papaya, custard apple, sapodilla, regularly distributed released across the country.
- The subtropical fruits such as lychee, apricot, plum, pink, ... regularly distributed from the Red River Delta to the northeast, northwest mountain.
- Tropical fruits like mango, jackfruit, durian, longan, mangosteen, ... are distributed from eastern to southern Mekong Delta.

– The fruits such as longan, mango, dragon fruit, fruit ... is the adaptability that the soil is limited only grown in certain areas; if the fruits are grown in other areas will reduce quality and productivity. As of 2012, the total area of fruit growing area in the country was about 1.5 times higher than 832.000ha close to 2006, and nearly 3 times compared to 1990. Among them, the Mekong River Delta (MRD) is the most important fruit crops in Vietnam accounted for nearly 35% of the country's fruit. Five key products have the largest production area in 2013 is coconut (155,000 ha), banana (125,000 ha), lychee and mangosteen(102,000 hectares), mango (87,000 ha), and longan (85,000 ha). The annual production output of 5 fruits are also very large with over 500 tons / year, private banana production up to 1.9 million tons in 2013, also reached 1:25 coconut million tons (equivalent to 400 million fruits / year).

Table 3.1: Area and production of a number of major fruits

Fruits	2006		2010		2013	
	Area	Output	Area	Output	Area	Output
	(1000 Ha)	(1000 ton)	(1000 Ha)	(1000 ton)	(1000 Ha)	(1000 ton)
Coconuts	135	1,010	140	1,162	155	1,250
Bananas	110	1,776	120	1,635	125	1,900
Lychee, Rambutan	106	647	102	525	102	670
Mango	86	550	88	580	87	775
Longan	94	574	88	574	85	550
Citrus fruits	87	665	75	707	70	710
Grapefruit	47.4	383	46.2	401	47	440
Pineapple	39	511	40	512	41	575
Dragon	-	-	-	-	28.7	460
Durian	-	-	-	-	20	120
Jackfruit	-	-	-	-	7.5	198.8
Mangosteen	-	-	-	-	6.5	13.7
Caimito (<i>Star-apple</i>)	-	-	-	-	5.0	67.5

Source: Compiled from www.gso.gov.vn và www.argoviet.gov.vn, *MARD*

Regarding exports , the export value of fruits in our country in recent years has significantly increased in number and in value , contribute to the agricultural sector is the only sector that adds value to the surplus countries trade balance during the past decade . Fruit export markets expanding , the list of items for export fruit increased significantly over time . The export value of Vietnam's fruit in 2013 increased by 4 times compared with 2006 . President fruit export value per period from 2006 to 2013 was \$ 543 million , an increase of the average export value is 19.7 % . However, the contribution of export fruit products in the total export value of agricultural products overall average is still only a modest 2.7 % . The average contribution level of export fruit products in the past 6 years for major agricultural commodities group is 5.7 % . Particularly in 2013, fruit exports have contributed significantly to the growth of agricultural exports of Vietnam to U.S. \$ 1,037 billion , corresponding to 3.8 % of the total proportion of the growth of the agricultural sector to help Vietnam become a country with a trade surplus , trade surplus of more than \$ 10 billion , after years of trade deficits and confirmed the position of Vietnam on the map of world exports.

Table 3.2: Values and the proportion of fruit exports

Unit: Million USD

Critea	2006	2007	2008	2009	2010	2011	2012	2013
Total value of the exporting agricultural products (AP)	10,545	13,235	16,475	15,627	19,527	25,115	27,275	27,469
Total value of the main	4,361	5,968	8,343	7,569	9,807	13,012	14,059	11,913

exporting agricultural products (MAP)								
Value of the exporting fruits (F)	259	306	406	439	451	623	823	1,037
Growth of F (%)	-	18.1	32.7	8.1	2.7	38.1	32.1	26.0
Proportion of F/AP (%)	2.5	2.3	2.5	2.8	2.3	2.5	3.0	3.8
Proportion of F/MAP (%)	5.9	5.1	4.9	5.8	4.6	4.8	5.9	8.7

Source: Compiled from www.gso.gov.vn và www.argoviet.gov.vn, *MARD*

Structure of exports , the fruits have huge export value of Vietnam 's dragon fruit(U.S. \$ 454 million and accounted for 44 % of total export turnover of fruit) , coconut and coconut products (165 million) , lychee (\$ 45 million) , Longan (\$ 39 million) , pineapple and pineapple products (25 million USD. Additionally , mangosteen , durian , milk fruit is the real ... famous exports , including some delicious fruits that Nam Roi pomelo , durian Ri 6 (Vinh Long) , durian milk of Chin Hoa (Ben Tre province) , Hoa Loc mango , Lo Ren milk fruit (Tien Giang) , Dragon fruit (Binh Thuan province) ... In recent years , the number of mango and lychee exports have increased quite rapidly . lychee exported mainly through the Chinese traders buying and sorting in place . Pineapple exports mostly canned , frozen fresh . canned Pineapple is a fruit products mainly export fruit sector in Vietnam. Apart from the market tradition as the Russian Federation , Eastern Europe , the pineapple has penetrated into Japan , Singapore , Hong Kong and especially in the America market. Besides, dragon fruit is also top it all off has been exporting large quantities to China , Malaysia , Thailand and many countries in Europe and the Middle East . Apart from the U.S. , Japan today started very interested in Vietnam's dragon fruit .

Previously, Vietnam fruit exports mainly in processed form , these products include frozen pineapple , canned pineapple , pickles , canned mangosteen with pineapple kernels , fresh fruit juices and specialty . Within five years, the export of fresh fruit has increased in proportion export , especially export quota . Tropical Fruits and off seasonal fruits are strength of Vietnam for export to China.

Table 3.3: Major fruit exports of Vietnam

No.	Fruits	Export value (Million USD)	No.	Fruits	Export value (Million USD)
1	Dragon	454	8	Mangosteen	14.5
2	Coconuts and products	165	9	Rambutan	9.3
3	Lychee	45	10	Caimito (<i>Star-apple</i>)	8.5
4	Logan	39	11	Bananas	7.2
5	Pineapple and products	25	12	Grapefruit	2.2
6	Jackfruit and products	22	13	Durian	1.8
7	Mango	18	14	Citrus fruits	0.8

Source: Compiled from www.gso.gov.vn và www.argoviet.gov.vn, *MARD*

Regarding export markets , first in 2007 and agricultural products of our country exported about 20 countries , 2013 VN agricultural exports to 76 countries around the world , and expanding from North America , Europe , Northeast Asia , Australia to South America , Africa and West Asia . Most of them are China accounted for more than 40 % of the total export value of Vietnam's fruit 2008-2013 , corresponding to by Russia with 14 % , Japan 13.7 % , U.S. 9.1 % , and Taiwan to 8.9 % ... One of the greatest successes of our agriculture after accession to the WTO is to expand export markets , in addition to the market " difficult " as U.S. , EU , Japan has many dark fruit items enter more and more into Africa , South Asia and South America , this is a remarkable result of the efforts of agricultural exporting country.

Table 3.4: 10 countries' largest fruit importer of Vietnam

Country	11 months of 2008	11 months of 2009	11 months of 2010	11 months of 2011	11 months of 2012	11 months of 2013	(2008-2013)
China	43,776	49,389	62,357	129,156	192,281	267,988	124,158
Russia	33,707	30,890	24,574	27,094	49,860	56,503	37,105
Japan	27,990	28,881	32,391	42,631	36,017	46,943	35,809
The USA	18,434	19,058	23,222	25,960	26,763	28,839	23,713
Taiwan	28,735	18,715	18,118	20,236	18,664	28,726	22,199
Netherlands	11,809	15,869	28,387	28,042	15,523	26,823	21,076
Indonesia	12,048	7,358	13,138	31,391	19,454	22,402	17,632
Singapore	11,054	8,945	13,041	15,323	19,968	26,150	15,747
Korea	10,153	8,063	10,144	18,234	23,352	23,255	15,534
Thailand	9,325	7,266	9,030	12,917	18,284	21,662	13,081
Total	207,031	194,434	234,402	350,984	420,166	549,291	326,051

Source: Compiled from www.gso.gov.vn và www.argoviet.gov.vn, MARD

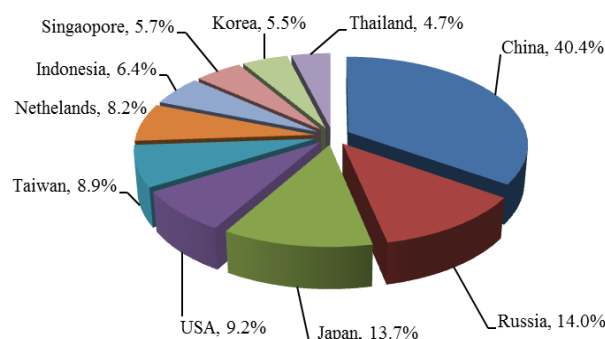


Figure 3.1: Vietnam's fruit products export structure by country in stage 2008 - 2013

Source: General Department of Vietnam Customs

Currently, the development trend of fruit production is increasing. However, the level of trade between regions of different Mekong Delta region has high rates of goods results with nearly 70% of the production is sold on the market. Next, Southeast and South Central with 60% and respectively 58%. The ratio of the remaining 30-40% of goods. The level of high commercialization in Southern shows tend to focus on a large scale intensive than other regions in the country. Small production, family fruit garden still remain quite popular, this is a limitation of the commercialization process, the development of specialized high quality.

3.2 Challenges

– Competitors

The prospects of the fruit produced is very large with adequate investment conditions and synchronization from research organizations like manufacturing, processing, packaging, transportation, storage quality standards, brand, marketing, ... the fields of Vietnam remains poor. Fruits of Vietnam exporters to compete with other countries in Asia such as Thailand and China. Thailand is a major competitor of Vietnam in the Chinese market. The strength of commodity Vietnam is the major export products of Thailand. The competitiveness between the two countries in the Chinese market is becoming more and more acute when both Vietnam and Thailand are

looking for ways to increase exports . Fruit exports of Thailand has many advantages for Thailand produced larger quantity, better quality, comparable to advanced countries and delivery schedule. Thai lychee can be kept fresh for 45 days , while only keep fabrics fresh thieuViet Male 15-20 days , many products such as sweet potato , rambutan , banana , fresh pineapple , mangosteen , a situation also common condition due to lack of preservation methods appropriate storage . Therefore , the products still have difficulty in accessing European markets , the U.S. and the Middle East .

– **Fragmented production and scientific& technological content was low**

For small-scale production, scattering more than 3 million households with a total area of 832 thousand hectares of land leads to low productivity, product quality is not uniform, collection of fruit products is limited. Poor transport system has prevented long-distance transport of raw materials and finished products for production costs increase. The remote processing companies which supply raw materials or the material does not have the focus. In addition, the technology investment for harvesting, processing, storage is limited, leading to the loss rate, high damage, heterogeneous goods, packaging materials not good cause large losses in transportation, processing and reducing product quality.

– **Technical Barrier to Trade (TBT)**

Pesticides, in most cases, are purchased randomly without instructions or diagnostic aid so there is a big chance where plants or tree are not cured at first attempt or not healed entirely. The compound of bug killers can sometimes speed up the healing time but may strand an extra amount of insecticides, heavy metal toxicity after harvesting which is harmful to human health. Each year Vietnam use thousands of tons of pesticides in agricultural production, in which severely detrimental toxicants to human and natural well-being such as Cypermethrin, Propiconazole, Fipronil are not excluded. These insect repellents are forbidden in developed countries and listed in PAN's (Pesticide Action Network) hazardous chemicals that can be a predisposing factor of cancers, hardly disintegrate in soil as well as last long on plants and farming products. This is a big challenge, not only for traditional exports such as dragon fruit, litchi, longan, mango, banana ... but also for new export fruits as grapes, pomelo, durian... as required to meet the full range of technical standards and standards of safety and hygiene, food importing countries.

– **Investment in agriculture is limited**

According to reports from Ministry of Agriculture and Rural Development investment in agriculture from the state budget and government bonds in 2006 - 2012 was 500,000 billion VND, but mainly focused on irrigation and land 65% of rural infrastructure, investment in agriculture - forestry - fishery accounts for the remaining 35%. Capital of foreign direct investment (FDI) registered in agriculture accounted for only 1.63% of the total investment. Total ODA investment in agriculture, rural areas accounted for 14.25% of total capital. Especially investment funds for science and technology in agricultural production in our country is still very low compared to other countries in the region, on average, \$ 5/person (2010) compared to \$20 in China (2004) and \$1000/person of South Korea (2007) (mpi.gov.vn). The modest investment in agriculture will reduce the motivation to develop the production of agricultural product goods from diversity to improve quality in order to increase the advantage in a commercial environment with increasing levels of competition.

4. Overview of Quality Management System for fruits

4.1 General Introduction of the GlobalGAP standard

GlobalGAP (new name of GAP EUREP after 7 years and is the official application notice at the 8th Global Conference in Bangkok 9/2007) is a set of standards is built to voluntarily apply for agricultural production (crops, livestock and aquaculture) globally. The legal representative of the GlobalGAP Secretariat nonprofit organization called FoodPLUS GmbH based in Germany.

The GlobalGAP standard is built by an equal association of manufacturers, retailers, service organizations, suppliers of agricultural products, certification organizations, consulting firms , manufacturers of fertilizers and plant protection products, universities ... and their associations. Association GlobalGAP standards provide the framework for certification and 3rd party independent of the production process at the farm crops, livestock, aquaculture and only acknowledged the certification organizations accredited to power according to ISO / IEC Guide 65 or EN 45011. To date, GlobalGAP participation of more than 100 certification bodies from 80 different countries. The ultimate goal of GlobalGAP is developing a sustainable agriculture in the Member States.

GlobalGAP a farm management tool to:

- Meeting the needs of the domestic market and international
- Ensuring food safety for agricultural products

- Reduce costs and improve product quality
- Use effectively and sustainable agricultural resources
- Enriching farmers and develop rural
- Protect the environment landscape

The GlobalGAP standard is a tool to connect business-to-business, between producers of agricultural products to the food supply, so it does not aim to label the product for final consumers, which concerned with production and manufacturing locations. By signing the GGN (Global GAP Number), and provide updated information of the manufacturer has been certified on the basis of data GlobalGAP, providers will have the opportunity to introduce the types and sources origin, production methods, safety, harvest and production of their products. By becoming a member to have access to the data system, the supplier sourcing can be quickly, conveniently and reliably.

– **Requirements of GlobalGAP standards**

The first GlobalGAP standard version was released in 2000, just three years after the application of the GlobalGAP standards are reviewed and revised (if necessary), 4th edition was issued in 2011. To be able to apply to farms with different products (crops, livestock and aquaculture) with different production characteristics, the standard is designed to cover three types of documents:

- General Regulation (GR) – document provides general information about certification organization, the certification schemes and training requirements for specialist assessment.
- Control Points and Compliance Criteria (CPCC) – documents are given to the control points and compliance criteria for each point, the control point and the match criteria are specified by the various modules and products were stratified according to the following model:

Table 4.1: Control Points and Compliance Criteria

For All Farms(AF)	CPCC for Crop Base (CB)	CPCC for vegetable and fruit
		CPCC for Flowers and Ornamental plants
		CPCC for Coffee
		CPCC for Tea
		CPCC for integrated farm
		CPCC for other plant

- Checklist (CL) – materials for professionals to use in the evaluation process, both internal assessment and assessment of certifying organizations; In fact, this checklist is shortened requirements of the 2nd document above.

Therefore, when applying, a manufacturer has a product group has to:

- Meet requirements the General regulation for the manufacturer.
- Be consistent with control requirements in 3 relevant documents (for example Crop Base have to apply control regulations for all farms, for crop sector, and vegetables).
- Internal assessment for the checklist for farm vegetable and add checklist for quality management systems (if certified as a group).

– **GlobalGAP Certified Method**

Manufacturers can choose GlobalGAP certification by one of the following four methods:

- A single manufacturer registers GLOBALGAP certification standards to receive certification for its own.
- A group of manufacturers have the same legal personality can register certification GLOBALGAP standards group to receive certification as eligible general.
- A single manufacturer registers GLOBALGAP certification through Benchmarking assessment with other GAP standard in order to receive a certificate for its own.
- A group of manufacturers have the same legal personality can register certification GLOBALGAP through Benchmarking assessment with other GAP standard to receive certification as qualified general.

However, in Vietnam, until this moment, we do not have an eligible standard to assess the comparative benchmarking of methods; so, the certificate can only be carried out by the method 1 or 2. The small manufacturers can be grouped together with a legal representative, work together to build a system of quality

management and safety, make internal audits to ensure that all members are in compliance and committed to meeting the general requirements, to be issued a Global GAP certificate for the whole group. The method of certification in group can help manufacturers reduce certification costs but they face high risk (if only a manufacturer cannot comply, the group are able to canceled certificate).

4.2 General introduction of the ISO 22000 standard

ISO 22000 international food safe standard, is accepted and valuable on global. A business in the food supply chain and applied to achieve ISO 22000 certification recognized as a unit with safety management system of food hygiene and ensure to provide safe food products, quality for consumers. The ISO 22000 standard is built by 187 nations in the world. ISO 22000 was issued on 01/09/2005 and 2008 in Vietnam, is officially recognized as the national standard (TCVN ISO 22000:2008).

This standard aims to provide a comprehensive food safety management system includes requirements:

- Document Management Profile,
- Leadership Commitment,
- Resource Management,
- Planning and creating safe products (the prerequisite programs, Hazard Analysis & Critical Control Points - HACCP)
- Verification,
- Identify the source,
- Communication and
- System improvements.

– Objects of application

ISO 22000 can be applied to all types of producing and trading enterprises in the food supply chain, regardless of size, including:

- Produce forage.
- Functional Foods: for the elderly, children, patient
- Enterprises process vegetables, fruits, meat, eggs, milk, seafood
- Enterprises produce, process drinks: soft drinks, pure water, wine, beer, coffee, tea, ..
- Enterprises produce, process seasoning
- The food carriers
- Enterprises produce, process available food, restaurants
- Supermarkets, wholesales and retail
- Producing food packaging materials enterprises.
- Crops and livestock farm

– Benefits

An enterprise applies ISO 22000 Food Safety Standard will be seen as a systematic food safety management standard international, create competitive advantages, especially facilitate easy to export to demanding markets in the world. Besides, the application of ISO 22000 also offers many other benefits such as:

- Standardized entire manufacturing operations management, enterprise business.
- can replace many different standards: GMP, HACCP, EUROGAP, BRC, SQF, IFS
- Reduce cost of sales
- To minimize the risk of customer poisoning, lawsuits, complaints.
- To enhance credibility, trust, satisfaction of distributors, customers.
- Improve the overall operation of the business
- Be convenient to integrate with other management systems (ISO 9001, ISO/IEC 17025, ISO 14000)

5. Quality and Quality Control Situation of Vietnam Exporting Fruits

5.1 Situation of the fruit products exports

In recent years, Although the number of items, the number and value of agricultural products Vietnam has seen significant development, contributing significantly to the export proportion of Vietnam, the development this is not really sustainable and stability issues for the quality of agricultural products exports still exists largest.

Each year, Vietnam has about 180,000 shipments of agricultural products export quarantine and quarantine commodities mainly rice, coffee, pepper, cashew, maize ... Agricultural products for export to major markets such as: the U.S., EU, Japan must ensure standards of pesticide residues, antibiotics, mold ... ensure food safety

(food hygiene) from the stage of cultivation, processing and transport of full quarantine facilities at the request of customers. Over the past time, although there have been many changes from the stage of cultivation, harvesting and processing for export, there are still a number of exporters of agricultural, forestry and aquaculture quarantine disregard for food hygiene and safety stitching, so did self-discrediting of agricultural products in Vietnam. Administration of the quality of agricultural, forestry, fishery and salt (Ministry of Agriculture and Rural Development Vietnam_MARD) provide evidence of a number of agricultural products to Vietnam by some exporters to the EU have been returned, such as pork, beef has not certified by the state agency authorized. Other products such as wheat, eggs using unsafe food additives . Vegetables and spices, soy sauce, water, coconut jelly was prompted by not doing all the requirements of importing countries ... Consequences of no special importance of food hygiene and safety stitching quarantine is the export market of agricultural, forestry and aquaculture affected businesses less profitable, farmers have difficulty. Reports and statistics of the Ministry of Agriculture and Rural Development on the reality show:

- Earlier this month 12/2013, Tien Giang Province Police discovered eight traders Thai citizenship collecting and buying fruits on Cai Lay district to export to China and Indonesia. These objects both young fruit procurement and use of chemicals brought from China to finish ripening fast and long shelf. According to the claims of the objects, they are some Chinese traders rent. Prior to that, from January to May 7-2013, Tien Giang Province Police also found three Chinese traders offer to buy durian, pineapple, fresh squid illegal.
- In late 2012, dragon, an agricultural commodities have export large amounts of VN, the U.S. was banned for allegedly clearance have pesticide residues exceed the permitted level.
- In 2012, the Department of Plant Protection Quarantine stopped issuing licenses to export fresh fruits and vegetables in the EU is due to fresh fruits and vegetables in Vietnam do not meet hygiene and safety products. Some sample of fruit exports to the EU countries have banned which are usually 4 infections pest: thrips, whitefly, leaf flies, fruit and bacteria Xanthomonas that causes scars on citrus. The disease is quite common in Vietnam. In Europe, the entire shipment will be returned even if they only found one sample with pesticide residues. According to information provided on the Infor.net.vn, total health care consumers warned from 15/1 to 1/15/2013 this year, if the EU found additional 5 cases of food safety violations product and quarantine they would ban vegetable imports from Vietnam.
- Among 63 fruit and vegetable exporters to the Netherlands have 50 business does not meet the requirements of food safety and quarantine...

In addition, there are still many shipments when export forced to discount because not meet the quality requirements of adulterated goods, does not guarantee package, and label unknown origin ... made Vietnam agricultural products with low price, the quality is not high stability and development of agricultural exports is not sustainable.

5.2 Status of quality control of fruit products export

5.2.1 Status of application of quality control system

The application of the quality management system has helped businesses gain the ability to provide products with stable quality, meet customer needs and requirements of the law, and create credibility and improve the competitive position of enterprises in the market. Gaining the certificate of food safety, agricultural products, such as ISO 22000, HACCP, GlobalGAP and the passport to the product easily exported to other markets around the world, in supermarkets or fine restaurants , ensuring that policies for employees to ensure products safe, clean, clear origin and gain the trust of customers.

On applying GLOBAL GAP or direction of GAP, many farmers are yet to realize the real value of fruits which can enhance their living standard instead of being just a supporting income fund. The progress of stretching the use of new and safe technical devices is at a low pace as the producers show little interest in learning and practicing. Even in some focused zones where new technology is in use, the cultivators misunderstand and make mistakes in accordance with the process, which minimize greatly the volume and quality of crops. For example, the green vegetables (no chemical substances or toxicants) nurturing procedure following VietGAP (Vietnamese Good Agricultural Practices) standard has been in implementation since 2006 but the number of cultivation zones currently meeting the terms of VietGAP is minority. Currently, the implementation and application of GlobalGAP and GAP in Vietnam that made in various fields such as farming, animal husbandry, aquaculture ... in fruit fields that usually apply VietGAP have dragon fruit, lychee, rambutan, caimito (Star-apple)... in addition to applying in the direction of GAP as 4C, UTZ Certified, Rain Forest, MetroGAP. From 2008 to now, there are about 70 thousand hectares that has produced towards GAP or GAP, in which GlobalGAP has about 465 hectares with over 1,500 Global GAP certificate issued in the production and export of agricultural products.

According to Southern of Research Fruit Institute, there are only about 200 ha of orchards in more than 280.000ha applying GlobalGAP in the Mekong Delta, focusing in Tien Giang, Ben Tre, Vinh Long, Can Tho. Some successful model of typical that is dragon fruit production. Binh Thuan has over 5.000ha/15.000ha certified VietGAP. According SOFRI, in the Mekong Delta, through a collaboration between the Institute and other local organizations are 25 models produced fruit VietGAP criteria, GlobalGAP with a total area of 400 ha. Plan to 2015 entire 15,000 ha of dragon fruit certified VietGAP. 4C (Common Code for the Coffee Community). All products certified to be consumed at a higher price.

On applying ISO 22000 in processing fruits, the main preservation methods in Vietnamese trading companies are only packaging and stored in low temperature. With such obsolete preservation techniques likewise, the quality of Vietnam's exported fruits decreases greatly and directly weakens the credibility and the ability to compete against other importers, blocks the entrance gate to Japan. Adding to the old-fashioned technology supports, processing techniques of Vietnamese companies also reveal a number of disadvantages when compared to their competitors. The percentage of fruits used for industrial processing is modestly 5% - 7% and only at the preliminary phase. Without up to date and compatible devices, the fruits processing industry cannot be expanded. While the production capacity is small (300.000 tons/year), the perfunctory output volume takes up only 30% of capacity due to high cost and the shortfall of inputs, capitals and output sources. The range of products to be produced is also narrowly limited to fruits juice, dried fruits; meanwhile, other items like fruit powders, sugar-coated fruits, salted vegetables, are made by manual labor, not in terms of technical assistance. (Source: 'Report of inspection on producing process of fruits and vegetables', 2012). The safety codes applied for food products should be the next addressed issue when the level of sanitation at processing fruits establishments is disputable. For instance, if the materials treatment is poor, metallic packages can get rusty and taint the food contained inside. Bottle filling and pasteurization is done manually so the productivity is low and labor cost is high. To enter Japan, the USA or EU, Vietnamese companies should ensure their products' sanitation to comply with all the food safety codes in these regions. To pass the quality control as exporting into Japan, the USA, EU..., fruits in measurement is supposed to be selective and conscientious from the beginning by choosing the appropriate seedlings, tending to the last processes which are harvesting and preserving.

Regarding the application of ISO 22000, according to Vietnam Quality Association of Ho Chi Minh City (VQAH), now the food processing enterprises Vietnam mainly just apply the regulatory standards of food quality safety in the manufacturing process such as GMP, HACCP, ISO 9000. Therefore, the application of ISO 22000 not only help businesses improve value brands but also increase the competitiveness of enterprises in the integration. At present our country is not mandatory to apply ISO 22000 standards for food businesses. However, in the future companies have adopted HACCP will have to convert to ISO 22000 in cases: Rules of the competent authority required to apply ISO 22000, due to market, customer requirements, or when companies want to have management system certificate of food safety that certification organization issued under ISO 22000. In recent years, the enterprise processing agricultural products in Vietnam that there have been many changes in the perception expressed by some businesses are certified to ISO 22000 in Vietnam increased significantly, if only 2007 is 15 companies that are certified to ISO 22000 in 2012 had 315 enterprises received these certificates. Most of these businesses achieve ISO 22000 certification in recent years are firms slaughter and processing of livestock and aquaculture.

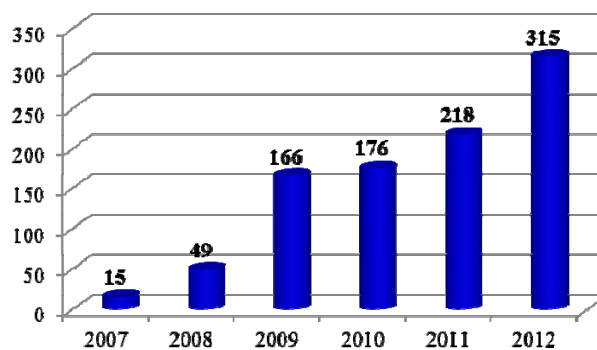


Figure 5.1: The situation of ISO 22000 application in Vietnam through the years

Source: The ISO survey, 2013

5.2.2 The problems in the application of quality control system

The area of orchards applies Global GAP standard too small in the Mekong Delta has many causes. First, the area production of each household is small, fragmented, non-adjacent. Each farmer plant varieties (common is unknown origin, not seed quality guarantee) on the garden has not been planned Particularly. Farmers planting by experience, not voluntarily participate in the new cooperatives to improve productivity and efficiency which is still produced in a "stronger every man for himself". Farmers have no place to store fertilizer, plant protection, labor protective gear, have not been guided on the safe use of such preparations in the production process. Farmers abuse, excessive use of chemical fertilizers, plant protection chemicals in pest control on crops, using more highly poisonous medicine, fertilizer use has access to the harvest date residues without health benefits of fruits. Water quality is not sustainable due to environmental of surface water is polluted that makes accumulation of toxins, heavy metals in fruit...

The adoption of Global GAP and ISO 22000 in Vietnam are still many obstacles. Application of GlobalGAP farmers must comply with more than 250 criteria, certification pay ... so if you can not sell more, higher prices farmers will go back to old ways, which is their old habit. GlobalGAP certification costs are quite high (around 3-5 thousand USD/model, depending on the area) and valid certificate only 01 years, then to pay the cost of maintaining the certification. Some business have applied and been granted certification standards, but business has not really operate effectively only formal. Many companies see this certification as laissez to pass a number of foreign partners and customers requirement rather than an affirmation of commitment to maintain and pursue quality objectives to meet the documents required by this certificate. The proof is number of GlobalGAP certification and ISO 22000 of businesses was withdrawn increased more in the past year. In 2011 alone, there are 89 companies canceled the certificate of ISO 22000 and 2012, about 10 cooperatives, farms Vietnam GlobalGAP certificate canceled due to funding problems and look for farm output production.

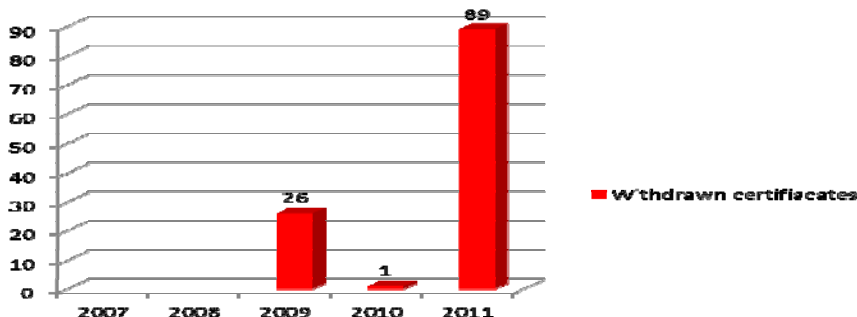


Figure 5.2. The number of ISO 22000 withdrawn certificates of Vietnam through the years

Source: The ISO survey, 2012

In addition, consulting issues to apply quality control system has not been good, particularly some consultants do not really understand all of the standards document editor application is too long and complicated and lacks compared with the actual content of the business; writing process is only valid in theory lead to the application of standards, due the document is difficult to implement, so business activity be constrained, lack of flexibility, even confusing, complicated. Many statutes, regulations, procedures ... were built but not used, construction procedures work but actually follow daily routines, causing waste of resources. On the other hand, some business leaders, organizations have not fully aware of the benefits be there when the application of quality management systems, which lack direct attention, encourage and provide resources for application, maintenance and improvements so various projects implemented more slowly than originally planned. Moreover, the activities of business organizations constantly develop or change in order to adapt to dynamic environments but the system is not adjusted, to always improve the fit. Staff have not been trained or has trained but sketchy, do not fully understand the benefits of the application, They considered the application of the quality management system is a burden, cumbersome, time consuming without producing the value, beside perform daily tasks, they have to do more work so they are not interested Staff have not been trained or has sketchy and training but do not fully understand the benefits of the application, they considered the application of the quality management system is a burden, cumbersome, time consuming without producing the value, other than perform daily tasks they have to do more work, they are not that lucky, that do not see is the successful application will make their jobs are arranged in the order , job responsibilities are clearly assigned.

5.3 The case of the successful application of typical

GAP model in Vietnam can be said to be successfully applied to efficiently and as early as in the fruit sector. Hoa Loc mango Cooperative (Tien Giang), Fiber ri Cooperative (Tien Giang), the American Bones mango Cooperative (Dong Thap), rambutan cooperative group and team collaboration Phu Phung Tien Phu steal steal (Ben Tre), Club Roi pomelo GlobalGAP Hau Giang, Long Hoa label cooperatives (Ben Tre) ... signed a joint venture with enterprises, large supermarkets for fruit consumption at market GAP domestic as well as export and opened the way to go for specialty fruits effectively Mekong Delta. In recent years, for exports to other countries, star-apple's Vietnam must adopt GlobalGAP standards. Lo Ren Vinh Kim Cooperative (Tien Giang) has successfully implemented many years ago in the star-apple 55 ha, yield 400 tons/year. Annually, the star-apples of Lo Ren Vinh Kim Cooperative exports to the United Kingdom, Canada about 10 tons. Countries around the world appreciate the quality of the Lo Ren star-apples of Vietnam.

To help production and sustainable consumption lychee, Luc Ngan has established Fruit Association with the participation of the cooperative, inter-family group is tasked to assist farmers to comply with the technical process Vietnam GAP. To date, Luc Ngan has been applying GAP in Vietnam with 20 communes in the geographical area of lychee 13000-14000 ha. Where applicable manufacturing processes lychee Vietnam GAP standard values per kg sold at garden are two times higher fabric prices where not applicable procedures Vietnam GAP.

Businesses Binh Thuan plant dragon fruit has more than 5,000 hectares /15.000 are certified towards GAP (VietGAP), which has more than 500 hectares that U.S. companies do field test and purchase contracts. Binh Thuan Province has Steering Committee due to the Vice President in charge of, drastic direction, assign consultant unit, certification assessment unit specifically, support the state budget support. Plan 2015 entire 15,000 ha dragon GAP certification...

Regarding the cost of implementing quality management on Global Gap standards, follow the calculations of experts, production costs increased by only 3%, while the value increased to 12%.

6. Solutions enhance the quality of Vietnamese fruit Production and Exports based on the GlobalGap and ISO 22000 Standards

6.1 Applicable Orientation of GlobalGAP and ISO 22000

Government issued Decision 01/2012/QĐ-TTg on some policies to support the application process manufacturing practice Good Agricultural Practice (GAP) in agriculture, forestry and aquaculture (replacing Decision 107/2008/QĐ-TTg). The content support includes: determining the concentration producing that have qualified food safety, building, renovating infrastructure concentrated production areas, training, support funding that once certified ... Ministry of Agriculture and Rural Development is concentrated in collaboration with the Ministry of Planning and Investment, Ministry of Finance completed the construction of Circular decision 01/2012/QĐ-TTg on the financial mechanism of the list product support; recognize GAP that is applied in Vietnam and enjoy supporting policies, regulations and specify the operations management certification organizations towards improving quality, public works, more transparent.

The end of 2012, GlobalGAP has the participation of more than 142 certified organization from 80 different countries with 123,000 farms and manufacturers are GlobalGAP certified globally. Total number of participants GlobalGAP organization until the end of 2012 is 379 members with 198 vendors, and 132 intermediate link 49 retailers. GlobalGAP members participate activities in crop field account for 70%, aquaculture accounted for 22% and livestock accounted for 8%.

In ISO 22000, the provisions of Decree No. 38/2012/ND-CP of the Government on detailed regulations for implementation of some articles of the Law on Food Safety is also acknowledge ISO 22000 as a published certificate regulation conformity with product has technical regulations.

The ISO 22000 standard became unified and comprehensive management of the entire food supply chain. ISO 22000 is the standard for food safety management that is recognized internationally through the process of consultation and approval by at least 75% of the ISO member countries. This standard provides a logical platform and efficient to identify hazards and implement control measures and the most important is to prevent the loss of food safety. By the end of 2011, there are 19,980 certificates on ISO 22000 that granted to business processing and production of fruit products from 141 countries.

Thus, GlobalGAP and ISO 22000 standards is increasingly becoming the standard rules for agricultural products that are acknowledged by the most countries in the world and this is the direction that the farmers, manufacturers

and suppliers Vietnam's grade must be directed to ensuring that the export of fruit products are sustainable development of our country in the future.

6.2 The solutions to promote GlobalGap and ISO 22000 applies to fruit products in Vietnam

– General solution

Innovating the information and forecasts

One main reason why the value of fruit production is not high due to the last stages of product information, market forecast is not good. Therefore, there must be changes in this area. Investment in system changes, market forecasting technology is the first step. It is necessary to form the coordination of information not only between agencies together with industry associations, the need to establish channels of communication with farmers, business processing, procurement of fruit products. Mechanism for collecting and processing information should also be renovated by going into each category..

Forming a associated sequence fruit products provide "clean"

- Accordingly, the formation of the chain links to tightly control from production, processing, and consumption is significant. Chain link must be established on the basis of General agricultural development planning, with the active participation of the four "houses": business people, scientists and state. Product quality to ensure "clean" from the support of farms and businesses applying GlobalGAP and ISO 22000 will help to increase the value of fruit products. The do "clean" farming stage to bring material abundance processing, ensure uniform quality, meet increasingly demanding requirements of the market. Should be urgently established standard system, the laboratory evaluation of the quality of fruit products. The capacity building inspection and supervision authorities should also be considered important to handle "heavy-handed" cases deliberately apply cultivation techniques are harmful to the environment, as "dirty" fruit`l products.

- To speed up the transfer process plants, the high economic value to production with farmers advised to always factor out the product to ensure food hygiene and safety to the forefront. Shifting fruit towards manufacturing "clean", high quality itself has created a "certificate" to prove the quality of fruit production to ensure food hygiene and safety, as well as nutritional value. This will facilitate greater the consumption, bringing greater value.

- State should have incentives, including appropriate support to increase this engagement, investment in large-scale processing, with modern technology has helped organizations active in the consumer market, just increase the value of agricultural products.

Develop the fruit-processing industry

- Support businesses, farmers invested heavily post-harvest technology, preservation, processing to reduce losses and increase the value of fruit products.

- Planning on building materials focus areas, large-scale export-oriented. Since then, the focus of intensive farming and application of science and technology to meet the processing requirements for export.

- Increase investment in developing fruit-processing industries associated with the material. There are incentives to stimulate the participation of all economic sectors to invest to develop exporting processing industry.

Links with international production and export of fruit products

Compared with some other countries in Southeast Asia, Vietnam has natural conditions and fruit structures are similar, but these countries have an advantage over Vietnam in science degree - technology and experience in international trade. In such conditions, to ensure the effective and improve the export competitiveness of fruit products, should attach importance to expanding relations with international links in both production and exports. This relationship may include the following main contents:

- Coordinate in the field of scientific research - technology to create plant varieties have higher competitiveness.
- Coordinate building services system quarantine fruits exported under international standards.
- Attracting foreign direct investment into agriculture and rural.
- Coordinate trade policies of the countries in the region in the export of fruit products implementation.
- Set up by industry associations to coordinate action on the international market.

– Solutions for GlobalGAP effectively applying

Establish counseling centers and Global GAP oriented applications:

Should form the counseling center under the Department of Agriculture and Rural Development of GlobalGAP and applied towards GAP to guide and explain the requirements to practice under the provisions of these standards and guidelines to deal with the differences in geography and culture detail. This will become a foundation for the practice and application of harmonized activities in the region and provide guidance to all stakeholders. The activities of this center is:

- Advice on the use of chemicals: Guidance on the registration of chemicals used for different crops; Guide and support the use of pesticides, antibiotics;

- Support technique in the combined handling of chemical residues on field or clean the pond, aquaculture tanks; Guide about the harvest time in order to have product with no pesticide, antibiotics residues;
- Provide information about the banned chemical and regulations of the importing country for fruits production;
- Analyze and make a report of soil, water and fertilizer are used on farms;
- Conduct for farmers register on traceability for chemicals, soil, water, fertilizer and products for each farm;
- Training for farmers on handling about plant protection products or other toxic substances, use of fertilizers (organic or inorganic), use protective clothing;
- Training on hygiene, handling plant, animal after harvest; trained how to conserve soil nutrients, water conservation, water preparation and water management plan;
- Support and guide translate the text of the regulations relating to implementation of GlobalGAP standards or the rules of the importing country.

Forming the center of plant nurseries, seed: Provide on-site for farmers.

Frequently cleaning and sterilizing, sterilizing, dehumidifying: For storage systems, storage tanks, containers transporting fruit products, seafood products to protect properly and avoid mold contamination, pesticides, pests and avoid polluting the environment;

Need links to research institutes, universities to provide seedlings, seed in strong, resistant, clean, high yield, clearly originated to meet the provisions of the GAP..

Introducing models applicable to GlobalGAP and GAP:

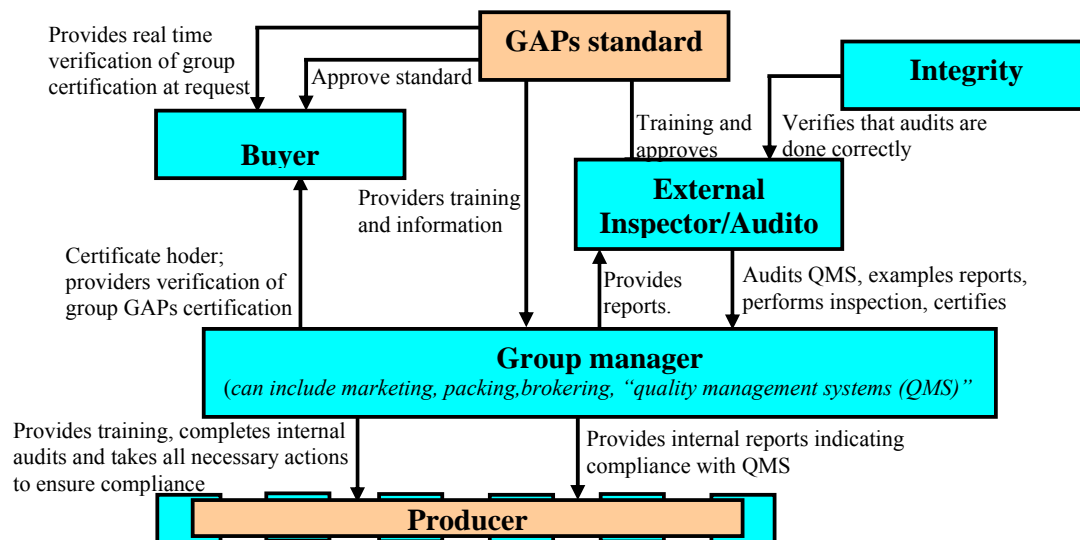


Figure 6.1: The model applies to GlobalGAP and GAP

The solution for ISO 22000 effectively applying:

The deployment of application development and quality management system according to ISO 22000 in enterprises / fruit production facility is a long process, requiring an appropriate resources, this process can be summarized through the following steps:

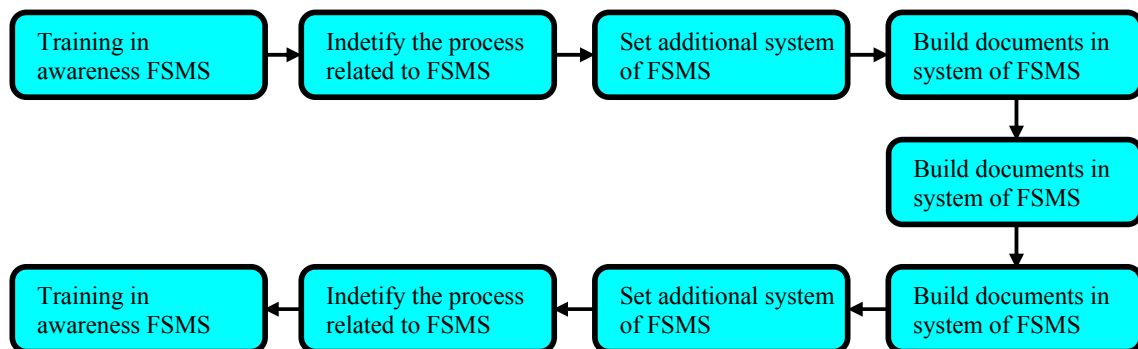


Figure 6.2: The steps of implementing ISO 22000 in facility

Requirements for successful application in ISO 22000 Fruit Safety Management System

Prerequisites: Business Leader

Closely direct the deployment process to apply ISO 22000; Grasp the basic content of the ISO 22000 standard; Establish policy, quality objectives, implement content; Let the board members are in charge of the program; Provide necessary resources to train and deploy.

Determinants: The involvement of members of the Enterprise

Understand the meaning, the purpose of safety and quality management; Aware of its responsibility for assigned work; Comply strictly with the regulations to the job detail.

The technological level

To meet the requirements of GMP, and SSOP; Ability to limit the identified hazards; Meet the regulations of the State, of the industry.

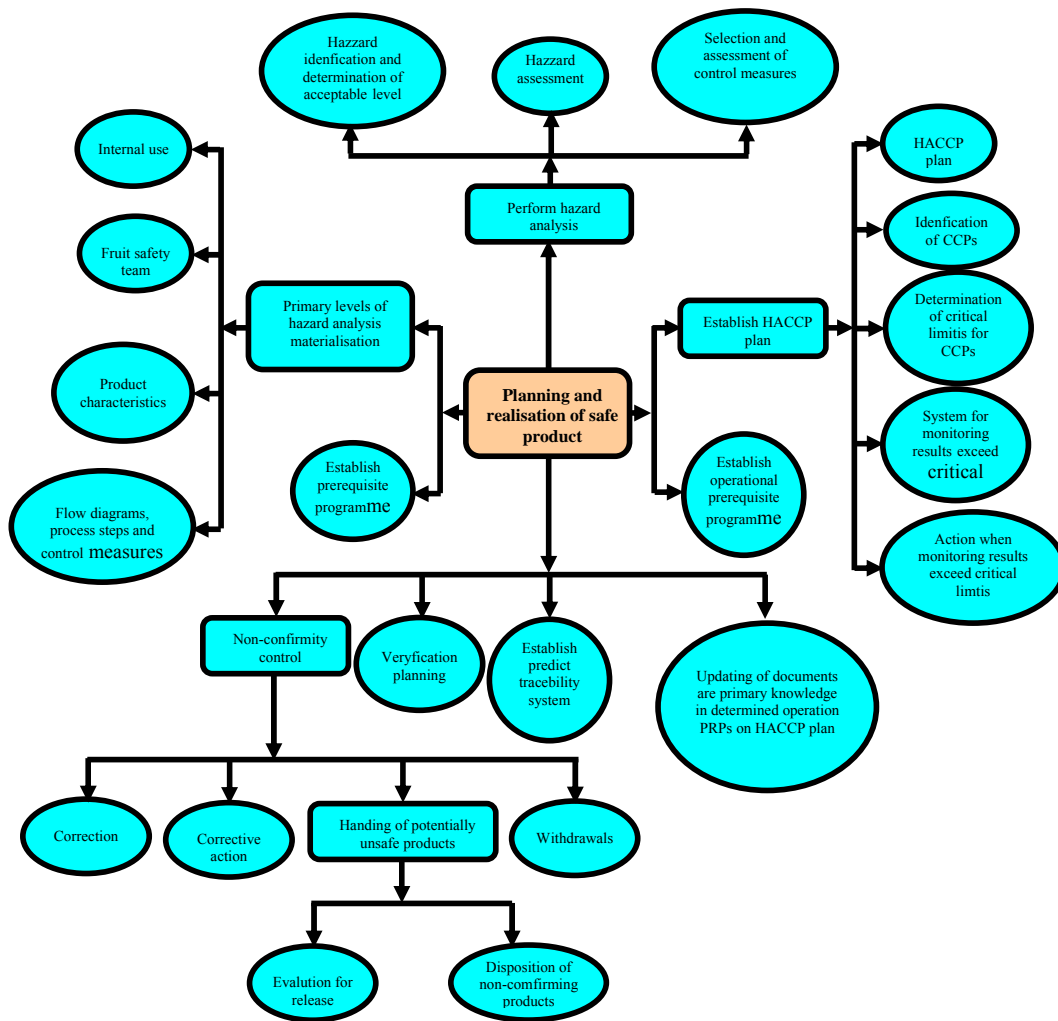


Figure 6.3: ISO 22000 modes applied to facility

In addition to Vietnam fruit can thrive largest market in the world :

- + Government should have the practical support to form cooperatives organization specializing in fruit trees 2 specialty focus in the Southeast region and the Mekong Delta to form towards intensive production , procedures applicable export GAP standards , communicate the company purchasing the focal delivery of fruit , can help farmers to develop fruit products for export.
- + Government intervention reduce air freight charge about 1.5 USD / kg while fruit exports to Europe , the U.S. to compete with other countries in the region .
- + Ministry of Agriculture and Rural Development requirements based on local conditions and their strengths should be determined from 1-3 major fruits to focus on investment , with priority given to those selected fruits compete as mangosteen , pomelo , mango , dragon fruit , durian , longan , rambutan , banana , pineapple ...

7. Conclusion

In the trend of international economic integration and comprehensive competitiveness in the new context requires the fruit production and exports should meet all the quality standards of export good, and meet the increasing requirements of the importing country . Farmers and businesses that need to quickly deploy standards organizations and consumers worldwide recognition as GlobalGAP and ISO 22000 . VietNam Government so popular and widely deployed set of solutions in a systematic way from the governing body for the farmers and from intermediate distributors to retailers and ultimately in every season policies should be consistent with the practice of each type of fruit for export . With the practical support of the VietNam Governmen and international organizations , together with a reasonable investment in cultivation , product development , export fresh fruits from Vietnam to the EU , the U.S. –“ the difficult market” in particular and the world in general will grow rapidly in the coming years , making Vietnam become the Center of the fruit export in Asia region . So it can be stated that the adoption of GlobalGAP and ISO 22000 standards for quality will bring real benefits for the fruit production and exports of Vietnam and beyond the standard application this will ensure faster and sustainable development through the provision of safe fruits , have clear origins , values of economic efficiency , especially creating more types fruit exports clean, green and environmentally friendly.

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