

“Enhance Vietnamese Agricultural Products” -

A students’ innovative project

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INTRODUCTION

According to Sustainable Development Strategy approved by the Prime Minister, in order to develop agriculture sustainably, one of the most important things to do is to raise quality of agricultural products to adapt to higher market demand. Nowadays, the trend of choosing and using green and organic foods is gaining its popularity as living standards become higher and so does people’s awareness of health protection. However, in recent years, Vietnam has witnessed a remarkable number of food poisoning cases. According to Food and Nutrition Research Center, annually, in Vietnam, there are 250 – 500 food poisoning cases with 7,000 – 10,000 victims and 100 – 200 deaths. There are many explanations but part of the reason was the excessive residue of plant protection chemicals. Besides, vegetables with unclear origin and are quite popular in the market, which is a potential harm to consumers’ health. Consumers, especially housewives, are extremely cautious when choosing foods for their family. They are willing to pay more for high quality and safe products. However, safe vegetables grown is quite limited and cannot fulfill a huge demand from citizens.

Meanwhile, there is a painful truth that many Vietnamese agricultural products seemed to lose trademarks in their own country. This reality is attributed to the loss of consumers' belief as hardly can they differentiate between safe and unsafe products.

This essay discusses problems about “Tips of Chayote” from Tam Dao district, Vinh Phuc province. It has been known as a well – known local specialty for long. To some extent, farmers here built a trademark for their products.

In fact, there are 2 different growing areas of “Tips of Chayote” in Tam Dao district. In areas at the foothill, local farmers apply chemicals, chemicals like fertilizers and pesticides to get the highest yield but they do not care about products' safety. Meanwhile, in the areas at the tophill, local farmers have planted and supplied market with safe and quality products for long.

Besides, there were a number of articles written about Chayote planted in this area. Nhu Bang – Vietnamnet (2013) wrote: “For the sake of profits, farmers growing Chayote in Tam Dao are willing to spray stimulants everyday as they believe that this method can help tips of Chayote be fresh and lengthen in dozens of centimeters after only one night.” But this article, like many other ones, still did not reflect all situations and to some extent, made consumers nervous and disoriented while farmers growing safe vegetables and specialty here are also negatively affected. The question how to find the right position for safe products and retain customers' belief is a thorny problem for farmers.

This paper is aimed at presenting an innovative project implemented by students from Vietnam National University of Agriculture to build trademark for safe “Tips of Chayote” and bring them closer to consumers; its impacts in economic, social and environmental perspectives.

Understanding challenges that local farmers in Tam Dao district, VinhPhuc province, Vietnam are facing with, a group of students from Vietnam National University of Agriculture (VNUA) initiated a project named “Enhance Vietnamese Agricultural Products”. The project first focused on “Tips of Chayote”. This is a practical project, aimed at building a trustworthy trademark for Chayote and consumers, finding the right position for quality agricultural products, gaining customers’ belief in domestic ones, creating safe agricultural production regions, establishing a closed distribution channel ensuring quality, origin of goods in all steps from cultivation – harvest - postharvest operation to consumers.

To finish this paper, I also interviewed 2 students directly involved in the project to get information, figures, and photos.

INITIATION OF THE PROJECT

Chayote has been known a famous specialty from Tam Dao district, Vinh Phuc province for long. It is a part of Chayote tree and a high - nutrient product. In Tam Dao district, the safe growing area of Chayote is located at the altitude of 750 – 1,000 meters above the sea level, in a favorable condition with temperate climate, high relative humidity, along with a source of fresh spring water. All of those conditions bring Chayote planted in this area a natural brittleness, freshness which cannot be found in the same products planted in other areas. Chayote here can be grown and harvested all the year, ensuring a stable growing and supplying area. Therefore, this growing area can provide the market with safe vegetables year – round, even out of season, when different growing areas cannot meet the market’s demand.

The practical project “Enhance Vietnamese Agricultural Products” was initiated by a group of students in VNUA. They are students from different majors including Economics, Business Management and Crop Science. Further, they all joined and gained experiences in practical activities and projects at the universities.

This project first focused on “Tips of Chayote” – a specialty from Tam Dao district, Vinh Phuc province. Then, it is expected to expand the project with many agricultural products which are considered “at risk” in Vietnam - products of which trademarks are fading in domestic market.

They first established “*Chayote Joint Stock Company*” with the initial capital of 700 million VND (approximately 33,333.3 USD, of which 250 million VND is the fixed capital and 450 million VND is the mobilized one. The later was borrowed from banks, mobilized from investors who realize the feasibility of the project. The main human resource includes students, experts in agriculture from VNUA.

It is noted that students were directly involved in the whole process of the project from designing plans, mobilizing capital to establishing a distribution channel. During the project implementation, they were strongly supported by their professors for valuable advices and guidance.

IMPLEMENTATION OF THE PROJECT

The project with “Tips of Chayote” was carried out in 3 main stages.

Stage 1: Students research team carried out information collection about safe vegetables production in Tam Dao district, Vinh Phuc province. They interviewed 5 local authorities, 2 of whom directly managed safe vegetable production and 20 farmer households doing farming practices here. Information about safe vegetable production

situation (areas, yields, technology) and problems local farmers faced was collected. They realized that Chayote planted in this area had a great potential to develop but local authorities and farmers did not have suitable strategies to develop, expand production and compete fairly in the market.

Stage 2: Based on information collected and analysed in the first stage, detailed plans which covered all stages of the supply chain of an agricultural product: production, harvest, post – harvest treatment, distribution, marketing were elaborated with the support of consultants.

Stage 3: The third stage was considered to be the most important one. Our students and consultants provided farmers with on farm technical instructions including cultivation techniques applying Viet GAP standards. One special point is that all processes from cultivation, harvest to postharvest processing were controlled by cameras 24/24h at the production areas. After harvest and being preliminarily processed, each package of vegetable is assigned with a barcode. Only by scanning that code can we know all information about the product: origin (by which household), cultivation processes, harvest and postharvest handling.

CONTINUATION OF THE PROJECT

In March 2014, the project first came into effect. First high – quality packages of Chayote were sold to consumers in outlets and stores in both Hanoi and Tam Dao district. Up to now, selling price fluctuates between 19,000 VND to 25,000 VND/ kg in Hanoi. In Tam Dao – the growing area, it is from 10,000 VND to 15,000 VND/ kg. The price may change in each period of time.

In the long term, in order to continue the project, marketing strategies with products, brands and packages are implemented.

Price: “Tips of Chayote” with competitive selling price are brought to consumers.

Brands and packages: Each product’s package shows the company’s brand. It is designed to be attractive, memorable and demonstrates our message: “Using safe agricultural products for today’s meals is protecting Vietnamese people tomorrow.”

Products: All cultivation processes are strictly controlled.

Besides, plans to support marketing strategies were built:

Distribution plan: We set up a closed supply chain for Chayote, in general, similar to other agricultural products, which can be presented in the figure below:

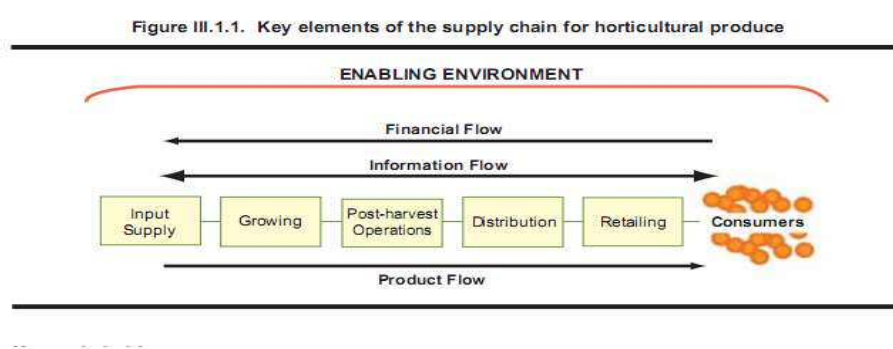


Figure 1. Key elements of the supply chain (*Source: FAO, 2009*)

After being preliminarily processed, Chayote vegetables were packaged and transported to outlets for retailing to customers. We built 4 main outlets: 1 in Tam Dao resort – near growing areas and 3 other ones in 3 densely populated districts in Hanoi. These shops are still being operated now. Also, Chayote is being sent for distribution in green vegetable shops in Hanoi and some other cities.

Communication plan: In order to popularize the products, we also developed an online shop at the address: www.susuxanh.com . Besides, with a great number of social networking website users, Facebook, Youtube... were utilized to introduce products to customers by establishing the company's Facebook page. Our products also appeared in agricultural events and well – known online newspapers and magazines in Vietnam like Dan tri, Vnexpress...

In the long run, the company plans to organize tours for visitors to learn about safe vegetables growing areas. It will be one of the company's activities in the near future and organized by cooperation with tourism companies. From this activity, the company's revenue is hoped to be stable. Also, these tours may help consumers find belief in safe agricultural products, widely popularize safe Chayote.

FIRST ACHIEVEMENTS OF THE PROJECT

The project's idea first came when our students took part in a national competition to encourage students' belief, creativity called "For Vietnamese Desires" by Trung Nguyen Coffee Group and Ho Chi Minh Communist Youth Union in November 2013. With all great efforts of students and consultants, the project "Enhance Vietnamese Agricultural Products" won the first prize and was highly appreciated by the judges committee because of its imperativeness, feasibility and importance for a Vietnamese sustainable agriculture.

The project came into effect in March 2014. Data showed that the average amount of "Tips of Chayote" consumed is 150 kg/ day. To May 2014, the total consumption amount is approximately 13.5 tons, which is regarded as an accomplishment for students and consultants who made great efforts to fulfill the project.

ADVANTAGES AND DISADVANTAGES DURING IMPLEMENTATION OF THE PROJECT

Advantages: Students and consultants participating in the project received a lot of supports and cooperation from local farmers and authorities, especially financial support from investors. Of course, never could the project with “Tips of Chayote” succeed without them.

The market for Chayote is huge. Consumers in Hanoi are willing to pay a suitable price for safe foods and vegetables. Moreover, it is hard to find exactly safe Chayote vegetables planted applying Viet GAP standards from Tam Dao in Hanoi so market for this safe vegetable is left open. In Vietnam’s big cities like Hanoi, the vegetable growing area is quite limited. According to Hanoi Department of Agriculture and Rural Development, in 2013, the total safe vegetables growing area was nearly 12,041 ha. Up to now, among 25 safe vegetables growing projects, only 9 of which came into effects with 403 ha, which could not fulfill demand of citizens. The main reason for this problem is that those projects did not have long – term plans to maintain and expand; project’s scale was modest; investment for infrastructures for safe vegetables production was not comprehensive; distribution channels did not work effectively and relationship between farmers – distributors was not well maintained. Meanwhile, with our student’s project, every stage in supply chain was covered and strictly controlled by plans so the project can be maintained, expanded and supply the market with safe products for long.

Disadvantages: Students and consultants involved in this project faced many difficulties. When they implemented the project, long distance of 80 km from Hanoi to Tam Dao district with mountainous terrain is a big difficulty for traveling.

Market for consumption is another constrain. In Vietnam, the habit of choosing and using safe, organic foods and vegetables is not so popular. Citizens in rural areas and those with low income still do not have opportunities to access high quality agricultural products. In order to popularize such products, it takes quite a long time. In addition, Tam Dao safe Chayote is still sold with products of unclear origin. In Vietnam, there's still no specific policies to protect and insure safe agricultural products. High quality products from the project is still new and seem strange to consumers. Therefore, at first, safe products have to compete with unsafe ones by real quality and competitive price.

In order to continue and expand the project, it requires a substantial investment. A huge amount of money is required for plantation applying Viet GAP, construction of storage, processing zones, operation cost of outlets and stores...

IMPACTS OF THE PROJECT IN TERMS OF ECONOMICS

Success of this project is expected to contribute to solving one of the toughest problems in Vietnam's agriculture: marketing and consuming. Besides, with high quality products like Chayote vegetables planted applying Viet GAP and agricultural products' quality and price is significantly elevated. In fact, "Tips of Chayote" without preliminary handling and clear origin sold in the market is only 7,000 VND while ones grown in Viet GAP standards is sold at twice higher price - 10,000 – 15,000 VND. The table below shows expected revenue and profit in the first 5 years of the project:

	Year				
	1	2	3	4	5
Annual revenue	4,000,000,000	4,800,000,000	5,520,000,000	6,348,000,000	7,300,200,000
Cost of goods sold	1,890,000,000	2,457,000,000	2,702,700,000	2,972,970,000	3,270,267,000
Depreciation expense	150,941,667	150,941,667	74,666,667	46,000,000	46,000,000
Salary expense	1,393,200,000	1,532,520,000	1,685,772,000	1,854,349,200	2,039,784,120
Variable cost	470,000,000	470,000,000	470,000,000	470,000,000	470,000,000
Profit	95,858,333	189,538,333	586,861,333	1,004,680,800	1,474,148,880
Corporate income tax	23,964,583	47,384,583	146,715,333	251,170,200	368,537,220
Net profit	71,893,750	142,153,750	440,146,000	753,510,600	1,105,611,660

(Source: Supplied by students joining the project)

Moreover, growing safe vegetables, though meeting difficulties at first, can generate and maintain high profits. Farmers, thanks to joining supply chain of high quality vegetables, can find stable market for their safe products in the long run, raise their income.

IMPACTS OF THE PROJECT IN TERMS OF ENVIRONMENT

Viet GAP standards, which controls the cultivation processes from tillage, usage of chemical, biological pesticides, fertilizers... are expected to contribute to solving thorny problem nowadays: pollution from exceeding residues of pesticides and other chemical products. With Chayote, the use of chemicals is strictly controlled and follows Viet GAP standards. Measures of Integrated Pest Management (IPM) and Integrated Crop Management (ICM) are applied to minimise the application of chemicals which can lead to long term consequences to natural environment. When the use of pesticides and

fertiliser is needed, farmers need permission and consultation of technicians... Therefore, the hazards of soil, water and product contamination are minimised.

IMPACTS OF THE PROJECT IN TERMS OF SOCIOLOGY

For students, this project granted students an opportunity to apply their academic knowledge into reality. It boosts them to think deeply, creatively to elevate Vietnam's agriculture. The success of this project inspires students to develop innovative ideas which to some extent, can make the move forward. For consumers, this project helps them believe in domestic products and partly gained their belief. Consumers, especially in big cities like Hanoi, may use safe and green products widely. In other words, this project popularizes safe products and narrows invisible gap between Vietnamese people and safe agricultural products. For farmers, positive results of the project motivated them to change their farming practices in order to adapt to the higher demand of consumers with agricultural products which certainly create more profits for them, not only for Chayote vegetables but for any other products.

SOME IMAGES OF THE PROJECT



Photo 1. Students implementing the project at local area



Photo 2. Overview of safe Chayote growing area



Photo 3. Students, local farmers with first packages of safe Chayote



Photo 4. Student with a package of safe Chayote

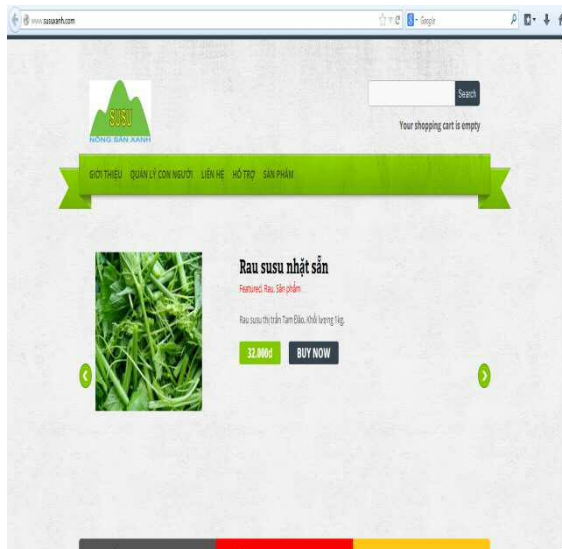


Photo 5. Online shop at:
www.susuxanh.com



Photo 6. Project's logo

CONCLUSION

Building a sustainable and healthy agriculture and bringing safe agricultural products to customers take quite a long time as changing the habit of the whole society is far from easy. Vietnamese governments are supporting farmers and local authorities to build safe agricultural products areas.

Students in Vietnam and those in VNUA who are young intellectuals are considered to be a driving force of the development in agriculture. They play an important role in solving agricultural problems, generate ideas to move forward the whole agriculture. They are also expected to be pioneers and contribute to the sustainable development of the whole agriculture.

REFERENCES

1. FAO (2009) *Horticultural Chain Management for Countries of Asia and the Pacific Region – A training package*.
2. Ministry of Agriculture and Rural Development (2008) *Good Agricultural Practices for production of fresh fruit and vegetables in Vietnam*.
3. Dr. Bui Manh Ha - Food and Nutrition Research Center. *Statistics of food poisoning in Vietnam*. Retrieved from:
<http://vesinhantoanthucpham.com.vn/thong-ke-ngo-doc-thuc-pham-tai-viet-nam>
4. Hanoi People's Committee (2009). *Scheme for production and consumption of safe vegetables in Hanoi, stage 2009 – 2015*.
5. Nhu Bang – Vietnamnet. (2013). *Chayote specialty flooded in stimulants*. Retrieved from:
<http://vietnamnet.vn/vn/kinh-te/114536/dac-san-su-su--tam--thuoc-kich-thich.html>
6. Hanoi Agricultural Extension. (2013). *Production and consumption of safe vegetables in Hanoi*. Retrieved from:
<http://khuyennonghanoi.gov.vn/ChiTietTinBai.aspx?ID=1120&CateID=11>
7. Vietnamese Prime Minister. (2012). *Decision – Approving the Strategy for Sustainable Development in Vietnam in the stage 2011 – 2020*. Retrieved from:
http://vanban.chinhphu.vn/portal/page/portal/chinhphu/hethongvanban?class_id=2&mode=detail&document_id=157753
8. Ngan Giang – Voice of Vietnam. (2014). *Wealthier thanks to safe vegetable production*. Retrieved from:
<http://vov.vn/kinh-te/giau-len-nho-san-xuat-rau-an-toan-307522.vov>