Organic Vegetable Supply Chain in Vietnam: Marketing and Finance Perspectives

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Summary
International donors initiated production of organic vegetables in Vietnam as early as in 2004 when Agricultural Development Denmark Asia (ADDA) was the pioneer. Vietnamese counterparts - including governmental agencies, NGOs and associations, social enterprises, farmers, and consumers - have bought the idea which has been supported financially and technically. Sustained growth of the organic vegetables is therefore questioned since the industry was not born on an arm's length basis. This article discusses the sustainability of organic vegetable supply chain in Vietnam, focusing on marketing and finance perspectives.

Organic vegetable growers are farmers who have employed traditional cultivation methods for many years. Their shift to organic production is motivated by financial and technical supports of donors and development agencies, and expectation of premium earnings from organic produce. While the realization of the latter is essential to on-going organic businesses the formers are decisive factors. We hardly observe an organic business that is independent of aids and supports. It is a lengthy process of explaining and persuading farmers to replaced powerful chemical products by environmentally, ecologically friendly fertilizers and pesticides. In addition, to reach an economy of scale, supporters managed to form organic groups and/or collectives of disorganized farmers - what a challenge!

The demand for organic vegetables largely exceeds its supply (Truong, 2011) despite of the fact that prices of organic produce are 1.5 to 2 times higher than market average. Consumers reportedly are upper-middle income and seriously caring food safety as well as health of family members. Marketing efforts, in light of this, are not trying to sell agricultural produce but providing target groups of consumers, distributors, and traders with sufficient understanding of benefits of organic vegetable and differences from lower-level of safety produce. In addition to educate the market, marketing teams have to gain trust from market players.

Market feedback requires not only convenient services but also sufficient supply for organic produce, in terms of both volume and diversification of vegetables. To meet such requirements, close collaboration between distributors, traders and growers is simply vital. Fragmented and small-scale organic vegetable production prevents the industry from commercially financing. Vietnam's organic vegetable supply chain is lack of commercial viability since players do not pay enough attention to cost-benefit consideration.

Resources - including capital - are available to the industry given the fact that Vietnam is an agriculture-based emerging economy. How well the dots are connected shall write the success story of organic vegetable in Vietnam. Developmental funding is critical to get the business up and running. But the involvement of private players and employment of arm's-length principle assure a sustained growth of the organic vegetable industry./.

Keywords: Organic vegetable, supply chain, marketing, finance, Vietnam
1. Introduction
Organic production is not new to Vietnamese farmers. Organic manures had been used popularly until 1960s. While traditional practices are much vulnerable to natural conditions modern cultivation methods with machinery and agrochemicals help farmers increase productivity dramatically. However, abuse of chemical fertilizers and pesticides creates problems of land impoverishment and unsafe produce destroying both production capacity and demand for agricultural products.

When international donors initiated organic vegetable production in 2004 the concept was warmly welcome by the nation’s governmental agencies, NGOs and associations, farmers, and consumers. Given the strong Confucian value of face-saving (Vuong & Tran, 2009), the Vietnamese counterparts were happier to learn that traditional habits of cultivation are able to solve the above-mentioned problems than imported and advanced agricultural technology. The Vietnamese perhaps wanted the concept prior to its introduction.

Moreover, the initiation was convincing. Sustained growth of organic vegetable industry was conceptually assured by establishing business modalities. The donors provided not only concepts but also financial supports. Vietnamese partners thus entered the business without consideration for resources.

Then there should have been concerns about market consumption. Vietnamese people love fresh vegetables. Different dishes of green vegetables appear in everyday meal. Why should we worry about selling produce that every household wants to buy daily? The readiness of financial supports encourages Vietnamese counterparts enter a trial and error process.

Last but not least, there is a narrow window for private businesses to approach ODAs in Viet Nam. Most local partners are public institutions, NGOs, and social associations who are proficient in completing aid procedures and not familiar with market principles and business skills.

The question of sustainability of organic vegetable industry is raised. To find the answer, this article studies the supply chain of organic vegetables in Viet Nam, focusing on two vital perspectives of marketing and finance. The former keeps the business existing and growing. The latter defines its efficiency.

The next section examines players of the supply chain. The two following sections are on marketing and finance perspectives. The last section suggests some improvements.

2. Organic Vegetables Supply Chain in Vietnam
Players of organic vegetable supply chain in Vietnam are growers, traders, international donors, governmental agencies, association, and consumers.

2.1. Production and Growers
Vietnamese farmers traditionally use natural materials to enrich fields and fertilize crops. They also employ natural enemies to prevent the harvests. Organic cultivation techniques therefore can be learnt quickly.

Organic production however is small in Viet Nam. In 2010, organic agriculture was reportedly implemented on 21,000ha (of which organic aquaculture was accounted for 7,000
ha), representing 0.2 percent of the nation’s agricultural area. ADDA considers limited capacity of production is the largest challenge of the industry.

Production of organic vegetables is fragmented. To meet the demand of urban consumers, organic vegetables are produced in peripheral areas of big cities. Soc Son district (Hanoi city) and Luong Son district (Hoa Binh province) are the two largest organic vegetables suppliers for Hanoi, for example. Production areas are around 30ha and 15ha respectively, accounting for 0.15% and 0.075% of the total. Although organic vegetables help farmers to improve their income three to four times higher than normal vegetables, small scale prevents the industry from a full-swing development.

It is hard to increase the production areas. It takes months, even years, to make a field that used to be fertilized by chemicals ready for organic cultivation. The relaxation of the field is the expense of the cost-sensitive farmers. The donors could offer them some compensation for that. But it is impossible to compensate the surge of land prices since the fields are close to big cities. The farmers are suffering a twin blow (Tran, 2011). They have to refuse fascinating land purchasing offers in order to keep agricultural activities on-going while urbanization turns farming land to industrial parks, golf courses, and new cities at low compensation. It is also difficult to rearrange and merge separate pieces of land into larger ones (Pham et al., 2012).

Organic production requires more complicated procedures and standards than traditional cultivation. Such complication increases production cost and makes farmers reluctant to produce organic vegetables. Moreover, after following strict techniques, the growers still need an expensive PGS certification to prove their vegetables are organic. The certification reportedly costs about US$2,000 excluding expenses on certifying experts those often covered by international aids. It is noted that an organic vegetable grower earns nearly US$200 per month. Farmers in several southern provinces of Vietnam recently gave up their VietGap certification because of high fees and low efficiency in marketing and selling.

Pham et al. (2012) reports three groups of organic vegetable growers: traditional organic farmers, reformed organic farmers, and certified organic farmers.

The first group comprises farmers who have never utilized any kinds of agrochemicals. The group is mostly found in remote and mountainous areas where access to chemicals is limited because of limited supplies and high costs rather than consideration for health and environment.

The second group – the largest - includes farmers who used to utilize agrochemicals but have changed since they start being aware of negative. However, lack of certification remains a big obstacle on their transformation to the third group.

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1 Vietnam Agriculture Newspaper (June 3, 2012):

2 Hanoi Moi Newspaper (May 4, 2012):
http://vea.gov.vn/vn/truyenthong/1000namtihn/Pages/Huy%E1%BB%87n-S%C3%B3c-S%C6%A1n-s%E1%BA%B5n-s%C3%A0ng-tr%E1%BA%A3i-th%E1%BA%A3m-%C4%91%E1%BB%8F.aspx
Retrieved on June 23

3 Hanoi Moi Newspaper (May 4, 2012):
http://vea.gov.vn/vn/truyenthong/1000namtihn/Pages/Huy%E1%BB%87n-S%C3%B3c-S%C6%A1n-s%E1%BA%B5n-s%C3%A0ng-tr%E1%BA%A3i-th%E1%BA%A3m-%C4%91%E1%BB%8F.aspx
Retrieved on June 23
The third group is truly organic farmers who have already certified or being certified. Among three system of quality standard for agricultural production in Viet Nam – the Viet Nam Good Agricultural Practices (VIETGAP), the National Standards (10TCVN-2006), and Participatory Guarantee Systems – the PGS is considered the only organic certification. When entering an expensive PGS certification process, the farmers expect a double or triple level of income.

Indeed, farmers’ income from one hectare of organic vegetables is reportedly as same as that from three hectares of rice. As long as the yield meets their expectation the farmers keep producing organic vegetables, doubtless.

Supports of donors, governmental agencies, and organic vegetables traders encourage farmers to produce organically. On the other hand, production costs are distorted. The farmers also learn about their power of monopoly suppliers shortly. The growers become so demanding that higher costs incur on the other players in the supply chain. The growers even save costs by quietly lowering quality standards. Such saving is very dangerous to the whole industry since the marketing of organic vegetables is a process of trust building.

Industrial scale is a need of a sustained growth of organic vegetables not because of sufficient volume of output but also technical solutions. Since production area is fragmented, it is hard to develop a separate irrigation system for organic vegetables from the public system which often supplies low quality water. In addition, organic vegetables should be grown in net houses preventing them from insects and spread of agrochemicals used in the neighbor fields. Pham et al. (2012) reveals that investment in net houses could be as much as cost for agrochemicals in about four to six crops of ordinary vegetables making the investment reasonable. However, the smaller the field is the less reasonable the investment is.

It is expected that farmers could overcome these challenges when they are organized in collective groups. There have been efforts to form organic vegetable production cooperatives. While it takes time to see whether this modality works it is hard to transform separate, individual farmers to well-disciplined agricultural workers.

Establishing a company then acquiring lands, hiring employers, controlling production, and finding own ways of selling organic vegetables seems to be a solution. In 2005, Nguyen Ba Hung purchased 15ha of land on an old coffee plantation in Da Lat – the place that is famous for cool climate and has been an important vegetable supplying region for the southern provinces in Viet Nam. He employed 32 staff members – 15 work on the field and 17 are in processing and marketing – and started cultivating organic vegetable on 4ha since 2006. Dr. Hung also invested in double door system and net house to avoid insects and minimize impacts of harmful external factors, as well as, a modern packing system to maintaining freshness and good appearance. His farm – Organik Dalat - became the first Vietnamese farm that received EurepGAP certificate allowing his produce to be exported to European market (Simmons & Scott, 2008).

By late 2010, ASIMCO – a private company – applied the model in the northern province Hoa Binh, purchasing 2.2ha of land (for 50 years) and hiring workers to control the whole production progress and properly manage post-harvest practice (Veerapa & Tran, 2010).

It is noteworthy that these amounts of investment are huge to farmers.

2.2. Distribution and Traders
Organic vegetables are distributed simply. Mature vegetables are cut and bundling manually on fields before transporting to stores of organic vegetables companies (OVCs). The
companies are in charge of processing stage – including ozone cleaning and packaging with their brands and logos on the covers – then delivering to customers.

OVCs play a critical role in the supply chain. They are organizers and coordinators of the whole industry. The companies have to find appropriate locations for producing organic vegetables. Their considerations are not only quality of land, climate conditions, distance to cities, but also readiness of farmers and support of local governments. In addition to technical supports, the companies very often commit to find funding for certification and buy organic produce at premium prices.

Only OVCs trade organic vegetables. There were eight companies in the business around Hanoi. Notably all of them are related to ODA funding (Pham et al., 2012). Small volume of output and large investment in production make organic vegetable unattractive to many fresh vegetables and fruits trading companies who have been in the business for years.

OVCs establish their own stores and sell directly to households. On average, one store supplies 30 to 100 kilogram of organic vegetables per day (Pham et al., 2012). Good location and nice design of the stores help the companies build consumers’ trust in their professionalism and quality of products. However, home-delivery is preferred while most orders are placed on phone and via internet.

OVCs can develop a loyal customer base quickly. First clients are friends and relatives who concern about healthy fresh food and able to afford premium prices. The companies keep loyal consumers frequently updated on the growth of vegetables, cultivation of new crops, and new benefits of organic vegetables. The loyal consumers, in return, tell the companies what kinds of vegetable they want, how the vegetables should be delivered, and suggestions on improving service quality and promote the business. These consumers hardly concern about the prices. They even voluntarily involve in marketing and selling activities.

Despite of small volume and undiversified produce some companies try to inject organic vegetables into other distribution channels such as restaurants, schools, and supermarkets. Phuc Dai Viet has successfully sold organic vegetables at two BigC supermarkets in Hanoi. It is worth to have a sale point in the super market. Pham et al. (2012) reports that sale volumes in the two BigCs and Hapro convenient stores are accounted for up to 50% of weekly organic vegetable consumption in Hanoi.

Vietnamese people want vegetables every day. But the consumers cannot buy the same vegetable for a whole week. The problem is that growers are not able to produce as many kinds of vegetable as the consumers want. The companies learn that if consumers cannot buy some vegetables after two or three visits then they won’t return in the future. In order to keep consumers visiting their stores every day, several companies – e.g., VinaGap, Greenlink and Ecolink in Hanoi – sell safe but non-certified organic vegetables in parallel to PGS vegetables. Such effort works in term of meeting the market demand. But the companies put themselves and the industry in a dangerous situation.

There is a grey area between organic vegetables and safe vegetables especially those are in transition to organic production. It is also very difficult for consumers who are still unclear about organic vegetable to distinguish the two classes. If consumers feel they are cheated then whole business shall be collapsed.

Essential role of the OVCs should be appreciated. They introduce new cultivation technique, convince and support farmers to start production, do marketing job, and deliver organic vegetables to consumers. In short, without these companies there is no organic vegetable
supply chain. The future of the industry relies on the sustained growth of the companies. While the OVCs are facing a number of challenges it is believe that their entrepreneurial spirit and creativity energy are decisive factors.

2.3. The Development and Government Agencies
International donors and development agencies are initiators of the industry. Their approach, however, focuses on development goals—i.e., to improve income of farmers and reduce poverty—rather than commercial viability of the business. ODA funding on organic vegetables prefers governmental institutions and social organizations to commercial entities to be executing agencies. Despite of the forms of a business most OVCs work as if development projects.

Local governments have their own motivation in welcoming the organic initiation. Their responsibility is to design and implement as many as possible ideas to improve farmers’ income and reduce poverty. It is hard for them to reject the offers providing both the ideas and implementing resources. Local governments help the companies persuade farmers to grow organic vegetables, and more important, reserve good fields for production. Urban governments are strongly interested in organic vegetables as a solution to the rising unsafe food problems.

Viet Nam Organic Agriculture was established in October 2011. The Association, however, is still struggling with uniting different players of the industry.

2.4. The consumers
Consumers of organic vegetable are above-average income, urban households who much concern about safety of food and family health. These buyers do no pay attention to the premium prices of organic produce. Their consumption relies on their belief that organic vegetables prevent their families from negative impacts of chemicals which are very often abused in ordinary cultivation. They highly request for the best quality.

The consumers are also well educated. To build their trust the companies have to supply sufficient information about how organic procedures are ensured in growing, processing, and even delivering stages.

There are still different understandings of organic vegetables. In the simplest form, organic vegetables are understood as vegetables grown without chemicals. In addition, most people agree that if fertilizers could be used then these must be ‘organic’ fertilizers such as manure from plants or livestock. For some experienced organic vegetables farmers, vegetables are organic if the residues of nitrate (NO3), heavy metals, pesticides as well as harmful microorganisms do not exceed the thresholds specified by authorities. In most cases, organic vegetable productions are perceived as eco-friendly crops which exert little negative effects on farmers’ and consumers’ health as well as the environment (Pham et al., 2012).

3. Marketing Perspective
Organic vegetables are new products. Therefore, new ways of marketing should be employed. Indeed, there are many creative marketing solutions, especially when the OVCs are not much concern about cost-benefit efficiency.

Truong (2011) reports that organic vegetables are accounted for 0.5 percent of market share while facing no competitor. In addition, many traders are willing to distribute organic vegetables but not able to find sufficient suppliers.
Virus marketing works very well in the industry. Loyal consumers tell colleagues, friends, and relatives about how organically the vegetables are cultivated, and how healthy they are. They update their group on new arrivals. They take orders from group members then ask the companies to deliver a sum-up order. The group then distributes the vegetables by themselves.

Such voluntary jobs are considered social responsibility. The companies appreciate the volunteers in different ways which are not expensive and even very helpful for business improvements. They frequently ask for feedback on product and service. Then they win the clients’ hearts by applying some adjustments shortly. The adjustments are often as simple as providing clients with next week menu and replacing daily by weekly payments. All are to increase the convenience of consumption.

The heads of consumer group also receive special treatment. Since the demand usually exceeds supply, they have right to buy larger volume than walk-in clients. The heads often use that right not for them but that of their group members in order to strengthen and expand the group. The companies often provide the heads with free samples, especially early harvested vegetables.

The companies try their best to provide existing and potential clients with sufficient information. They distribute well-designed leaflets, brochures, DVDs and even pocketbooks on their productions and products. The efficiency of these marketing materials is low. It is not because of their contents which are quite good. It is because of the limited supply capacity. Although the companies distribute these materials to many people they cannot increase their sale volume. Meanwhile the companies have to prepare large amount of materials in order to reduce unit cost of designing and printing.

An e-commerce website is also important marketing vehicle since most consumers are office-workers who use to check products on browsers and place orders by sending emails or calling the distributors. The development cost of the website is one-off while maintaining cost is ongoing concerns. To make their website more active, some companies try to develop online communities of organic consumers. This is a good idea but cost the companies more. When actual revenues are far below the break-even point and ODA funds are running out, the website becomes a burden. The companies step in their own trap. If they withdraw the efforts on the website then their performance shall be questioned.

Since consumers buy organic vegetables because of their belief on its healthy effects it is extremely important to build their trust in the organic products. In addition to showing evidence of organic production to customers, the companies arrange field visits for loyal groups. It is worth to bring the customers to the fields. Their affirmed confidence has a spillover effect. Such visits also assure the farmers and local governments of certain demand. Again, there is the problem of limited supply. If the increasing demand cannot meet by higher supply then what is the meaning of the field visit?

Marketing efforts face some unsolvable issues. Lack of quantity and varieties of vegetables is a serious problem that not only keeps the traders making losses but also prevents consumers from getting accustomed to daily use of organic vegetables. Meanwhile, rampant food unsafety in big cities makes consumers more conservative on organic produce. Since they perceive all vegetables are ‘dirty’ there is no reason to try ‘clean’ vegetables at double prices.

Marketing efforts, however, are not sunk costs. Farmers now experience that organic production could bring them higher incomes. Consumption of organic produce is considered social responsibility for supporting farmers following green production and protecting
environment towards a sustainable growth of the society. Local governments learn that there is other choice to develop rural economies rather industrialization and urbanization.

OVCs do good jobs of educating that changes production and consumption behaviors. The generation of ODA funding OVCs may be gone but since a market for organic vegetable is created some entrepreneurial businesses will appear.

4. Finance Perspective
It is the fact that most OVCs are resulted from ODA programs. International donors provide working capital for distributors, price subsidy for growers and cover expenses on market study, training classes and other professional services, and PGS certification. As long as the donors considered these businesses development projects financial ability is overlooked.

The donor and the executing agency agree on setting up a company that is going to learn about how to do the business. Profit generation is considered a process of trial and error. As long as expenses are followed project procedures and the income of farmers are increased indeed things are fine. We leave the controversy on low return on investment of the development-oriented companies for other discussion.

For example, Institute of Policy and Strategy for Agriculture and Rural Development (IPSARD) – a body of Viet Nam’s Ministry of Agriculture and Rural Development (MARD) – set up the OVC Greenlink funded by Spanish Development Agency. Managing team of Greenlink consists of researchers of the IPSARD. In 2011, IPSARD and Central Institute of Vegetable and Fruit conducted a survey that reveals thoughtful business plan is critical to safety vegetable business. Greenlink did have a business plan that presents clearly source and uses of funds, and no estimation of break-even sale volume.

The success of Greenlink was to kick off organic vegetable production in Hoa Binh, a neighboring province of Hanoi. To support local farmers, the company sent agricultural engineers to the fields every day to consult with farmers on technical issues and inspect the compliance with organic standards. Greenlink also gave farmers facilities, such as wells, pumps and net houses. ODA funding allows the company made large investment at the beginning of the business that many long-staying vegetable traders cannot. The company, in addition, educated city consumers on organic vegetables.

OVCs can make a gross margin of 45 to 47 percent (Pham et al., 2012). However, given a limited sale volume they have just reached a gross income between US$80 to US$150 per day. After subtracting administration costs and selling expenses, the companies hardly survive on revenue sources. Greenlink’s chairwoman reported that her company had reached a top sale of nearly US$2,000 in a quarter. She did not mention that the company paid US$1,000 per month for a manager position alone.

As a result, by the end of the Spanish ODA project, Greenlink had to arrange an acquisition. There was no information about the deal’s value. The acquirer – Ecolink - is an organic company that reportedly made success story of organic green tea production and exportation. Ecolink’s monthly revenues of organic produces are about US$10,000 while the company is still struggling with the business. Ecolink’s motivation in the acquisition is the opportunity for funding of the project second phase. The company management believes that its ten-year, market-oriented operation is able to use the funds much more efficient than the predecessor.

Organic vegetable businesses rely on donor funding and owner equity. The companies are unable to borrow money from credit institutions because of no collateral. But if they get the loans then how long can they bear such debt burden?

Despite of low commercial viability, there are still private investors eying the industry. They are entrepreneurs pursuing green development and often in a related business. An ecological resorts developer wants to facilitate organic vegetable production in order to add values to his real estate products, for example.

Organic vegetables are still attractive because of not only its environment-friendly and healthy features but also a blue ocean market. It is expected that entrepreneurial efforts shall resulted in a creative and sustained *modus operandi* of the business.

5. Conclusion Remarks
“Whatever is reasonable is true, and whatever is true is reasonable – G.W. Hegel”. And there are still organic vegetable businesses, even more are coming.

The market senses the opportunity. To prevent their ‘rich’ lands from begin exhausted, farmers in the riverside of Red River in Hanoi prefer lending lands to organic vegetable to bonsai growers although the latter offer a much higher rent. Such advantage encourages an entrepreneur starts looking for workable financing methods and setting up the business. Creative disciplines are statistically important to a successful entrepreneurial endeavor in Viet Nam (Vuong et al., 2012).

Education plays a critical role in the supply chain. Marketing is to educate growers on organic production, consumers on organic consumption, and traders on ‘organic’ cooperation. The improved awareness make farmers work more on the fields, consumers pay more for organic produces, and even donors and governments more concern the industry as a poverty way out.

Connecting the dots is a key to success. An efficient coordination of players makes the best uses of resources, reduces investment barriers, increases gross margin, and results in profitable organic business./.

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