The role of Farmer Organisations Supplying Supermarkets with Quality Food in Vietnam

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ABSTRACT

The development of supermarkets in Vietnam, as in other emerging countries, goes along with an increasing concern on the part of purchasers for food quality. The paper investigates whether farmer organisations are able to help small-scale farmers get access to supermarkets, and the role that supermarkets and public support play in their emergence and development. It is based on case studies involving a number of stakeholders marketing vegetables, flavoured rice and litchi fruit in Vietnam. Eight farmer associations that work in the form of private commercial organisations are regular supermarket suppliers for the selected products. Their ability to supply supermarkets is related to the combination of functions they make available to their members, especially as regards quality promotion and control, for which they receive public support, as well as their participation in flexible contracts with supermarkets, shops and schools. Supermarket supply through farmer associations increases farmer profits per kilo when compared with traditional chains, yet the quantities supplied to supermarkets are still limited. The paper argues that changes in farmer organisation are not only due to supplying supermarkets, but also to public and international support to food quality improvement, which have been of benefit to supermarkets.

I INTRODUCTION

The fast development of supermarkets in both developed and developing countries has been covered extensively in reports in the last decade, particularly by Reardon and Berdégué (2002) for Latin America, and by a recent workshop organised by FAO

in Malaysia as regards the Asian context (Shepherd, 2004). In Asia, the first supermarkets emerged in the 1990s and it is reported that Malaysia is the most advanced country in terms of supermarket development (Shepherd, 2004). In China supermarket development has been described as soaring with annual growth rates of 40percent in the number of supermarkets and 80percent in business turnover (Zhang, Yang and Fu, 2004).

Although not as fast as in other countries of Asia, supermarket development has been going at a steady path in Vietnam (We use here the official definition of supermarkets in Vietnam, which refers to trade establishments larger than 500 m^2). The first supermarkets appeared in Hanoi in 1983 and in 2005, Vietnam had around 126 supermarkets, 55 in Hanoi and 71 in Ho Chi Minh City, including eight hypermarkets. The growth rate in terms of number of supermarkets was 14% per year in Hanoi and 17% per year in Ho Chi Minh City between 2000 and 2005 (Moustier, 2006). Growing consumers' concerns for food quality — especially safety (Figuié, 2004) has boosted the sale of food products by supermarkets as well as by new retailing enterprises operating at market stalls or shops, for who efforts to improve visual quality (attractive presentation; packaging) and communication on product safety are major promotion tools. The public authorities have so far shown a positive attitude towards the development of supermarkets. The planned fast increase of supermarkets and elimination of temporary markets and street vendors is indicated in the strategy of the Domestic Trade Department of the Ministry of Trade from the present until 2020, on the grounds of "modernisation" and "civilisation" (Vietnam Ministry of Trade, 2006). The Ho Chi Minh City People's Committee has approved a plan for fifteen new supermarkets between 2005 and 2010, which has been followed by a government call for investment. Yet the available (sketchy) figures show that the share of supermarkets in food distribution is still limited: 2% of food in 2004 in the country (Hagen, 2004), 7% of fresh food in 2002 in Ho Chi Minh City (Cadilhon, 2005), 1% of vegetables (Son and al, 2006) and 0.5% of litchi in 2005 in Hanoi (Loc, 2006).

Supermarkets in other countries are reported to bring about a number of changes that are challenging for small-scale farmers to meet. Private standards are developed by supermarkets as substitutes for missing or inadequate public ones. They serve as tools enabling them to compete with the informal sector by claiming superior product attributes (Ménard and Valceschini, 2005; Reardon and Timmer, 2005). Requirements in terms of quantity and daily delivery, requests for deferred payments and the need to have a bank account are also reported to result in the exclusion of small farmers (Rondot and al, 2005). The characteristics of small-scale family agriculture with a large diversity of farming systems and practices that results in disparity and a lack of

uniformity in agricultural produce complicate matters for supermarkets who have exacting requirements and standards. This is the typical situation of Vietnam where tens of millions of farmers cultivate on less than one hectare per household (Dao The Anh and al, 2003). There is therefore an important need and role for intermediaries such as wholesaler or farmer organisations to connect farmers and supermarkets, providing economies of scale and specialized skills in assembling, grading, and transfer of information between buyers and sellers (Rondot et al, 2005).

Yet the conditions for the emergence, development and sustainability of farmer organisations supplying supermarkets are rarely documented, including the respective role of supermarkets, local administrations and farmer initiative. The purpose of this paper is to investigate whether farmer associations have indeed developed as a result of supermarket development in Vietnam and have proven successful in facilitating small-scale farmer access to more profitable market opportunities. It is based on the case studies of four food chains supplying Vietnamese cities: vegetables to Hanoi from Soc Son, Dong Anh and Moc Chau, vegetables to Ho Chi Minh City from peri-urban areas and from Duc Trong and Don Duong districts in Lam Dong Province, litchi from Yen The district in Bac Giang and Hai Duong provinces in the North and flavoured rice from Nam Dinh (Hai Hau district) in the North. These commodities have been chosen because they involve poor and small-scale farmers (less than 0.5 hectare) and supply supermarkets. While fruits and vegetables are characterised by perishability, seasonal and unstable supply, and consumers' concerns for vegetable safety, a credence attribute, rice can be stored, and its supply can be more easily predicted. This indeed results in differences in the organisation of commodity chains, with a more likely role for wholesalers in the rice chain. But we chose to consider the rice chain together with fruit and vegetable chains because it also entails attributes which are difficult to measure, that is the origin from Hai Hau region, which is considered by consumers to result in a specific taste quality. The research of this attribute, like product safety, generates specific transaction costs – even though these are lower than for a credence attribute. We also considered flavoured rice chains because in these chains the comparison "with and without organisations" is easier than in other chains (see later).

We present below the questions targeted in the paper with corresponding hypotheses and the data we use to answer them (see also Table 1 on the sample).

1) Are there differences in the organization of supplying chains of supermarkets when compared with supplying chains of

traditional markets?

Dedicated wholesalers and farmer organizations are assumed to be more observed in supermarket supplying chains than in traditional chains. This is investigated by cascade interviews starting by supermarket managers and market retailers, who we ask about the nature of their suppliers and place of purchase, then interviewing the identified suppliers about their own suppliers, up to the final producers.

2) What advantages does collective action bring to farmers relative to individual action, in the supply of supermarkets?

We assume that collective action helps in the regular delivery to supermarkets and the guarantee of quality criteria by reducing transaction costs relative to individual transactions, thanks to a combination of incentives and sanctions to members.

This is investigated by the identification of transaction criteria asked for by supermarkets in the supermarket interviews, and by the detailed analysis of the operations performed by the farmer organizations gathered from the in-depth interviews of the heads and a sample of members of the eight selected farmer organizations.

3) What is the role of supermarket development, public support and private initiative in the emergence of the identified farmer organizations?

It is assumed from the literature that supermarket development is the source of the emergence of farmer organizations, because of their specific requirements in terms of regular quantities and quality which cannot be fulfilled by individual farmers.

This is investigated by in-depth interviews of the heads and a sample of members of the selected farmer organizations, where data on the history and on the rationale of collective action is looked for, with details on the respective intervention of local and national administration, supermarket buyers, and farmers.

4) Are the advantages of collective action in the supply of supermarkets translated into higher profits for farmers joining collective action relative to individual farmers?

The hypothesis is that the advantages of collective action result in higher profits for farmers. This is assessed through the comparison of profits belonging to associations relative to farmers outside associations, all supplying supermarkets.

There are difficulties involved in relating differences in profits between farmers to the role of collective action. Only in the rice chain can we observe individual farmers supplying supermarkets (through wholesale companies) and compare them with farmers inside organizations supplying supermarkets. In the vegetable and litchi chains, only farmers in groups supply supermarkets, so the comparison is rather between farmers supplying supermarkets (and belonging to organizations) versus farmers (in organizations or outside organizations) supplying the traditional markets.

In the rice chain comparing profits of farmers belonging to associations relative to farmers outside associations supplying supermarkets may involve other biases, as some observable and non observable characteristics may differ between members and non members of associations, including education and motivation. These biases may be provided for by various econometric tests including propensity score matching (Francesconi and Ruben, 2007). These were not performed in the present study. Yet we have compared the size of farms in the chains involving grouped farmers versus individual farmers. The average size of rice farms in the sample of members of the organization is 0,22 (minimum: 0,07; maximum: 0,37), while it is 0,20 for non members (minimum: 0,08; maximum: 0,37).

II MAIN RESULTS

A) The importance of farmer associations in supplying supermarkets

When tracking the origin of food products retailed by supermarkets in Hanoi and Ho Chi Minh City and comparing it to the situation in traditional retail markets, the importance of farmer associations appears conspicuously, while collectors or wholesalers operating in night wholesale markets, who are key actors in traditional retail markets, play a much more limited role. This is all the more so where food commodities are sold fresh and/or are specific in terms of quality characteristics. As regards vegetables, Hanoi supermarkets receive most of their supplies from five cooperatives located in Van Noi and Duyen Ha communes, involving less than 450 farms and 50 hectares, as well as from the Technical Fruit and Vegetable Centre, a mixed public-private establishment, covering around 3 hectares, all of which are located in the peri-urban zone of Hanoi (see Figure 1). In Ho Chi Minh City, supermarkets are supplied by five to ten farmer cooperatives in the Dalat area for temperate vegetables, either directly or through a dedicated consolidator. Leafy vegetables are supplied by two groups in Cu Chi district (one association, one cooperative), or by Vegfruco, a State-owned company. Litchi chains have a similar organisation. While

traditional market retailers are supplied by wholesalers in night wholesale markets, supermarkets selling litchi get their supplies from the Thanh Ha Litchi Farmers' Association which has a membership of 138 households—and also from some individual farmers acting as collectors in the same area.

The case of flavoured rice is slightly different. Supermarkets are mostly supplied by private companies (called food companies, formerly State farms), which buy from a network of wholesalers supplied by collectors. The same wholesalers and collectors operate in the traditional chain supplying market and shop retailers. But since 2003, an association of 437 members supplies rice to supermarkets through two dedicated food companies. This accounts for 89 tons out of a total of 543 tons traded by supermarkets (and 5,560 tons retailed in Hanoi). Through the trading companies, this association supplies 16 supermarkets (30percent of Hanoi supermarkets) and 20 shops in 7 of the 9 Hanoi districts.

Our interviews with supermarket managers evidence that the limited role of dedicated wholesalers results from supermarkets preferring to deal directly with farmer's groups to save on costs, but the situation is variable between products: while this is feasible with vegetables which originate less than 50 kilometers from the city, this is more complicated for rice grown more than 100 kilometers away. A growing role for dedicated wholesalers may be observed when supermarkets will require larger quantities (at the moment the biggest supermarket in Hanoi buys one ton of vegetables per day).

We will now explore the characteristics and functions of the farmer organisations supplying supermarkets.

B) The role of farmer organisations in supplying supermarkets

All of the farmer organisations supplying supermarkets surveyed herein are of a voluntary economic nature, gathering farmers who choose to perform some joint social or economic activities. Some are in the form of "new" cooperatives, others in the form of associations. Voluntary farmer organisations in the form of commercial joint-stock cooperatives were legalized in 1996. The new cooperative law of 2003 makes the voluntary cooperative the basis to get an economic status, negotiate contracts, and pay taxes – while associations still lack a clear legal economic status (with the advantage of tax exemption), so that it is the household members who have the right to make contracts rather than the group. We did not identify differences in the nature of the economic and social functions performed by the farmers' groups be it a "new" cooperative or an association, so that they were considered together in the case studies.

The functions of the farmer organisations surveyed are summarised in Table 2. Farmer organisations are vehicles of government support, in particular in the area of quality development at the production, packaging and processing stages; in addition, they are involved in joint negotiation with purchasers and quality labelling, which enables all parties to enjoy a good reputation for quality.

The centralisation of marketing decisions varies from one co-op to another. The usual situation is that the co-op employs a salaried worker in charge of marketing and then pays the farmer the resale price minus a fee for some administrative costs and transportation. In the safe vegetable co-ops in Hanoi such as Mr M's Co-op in Van Noi, marketing operations are decentralised. Each member deals directly with a point of sale (supermarket, shop or school) for product delivery and payment. The co-op management board made up of four salaried members establishes contacts with customers, allocates customers to each member and influences crop planning. It also negotiates the annual contracts with the purchasers.

. All reviewed organisations have a contract with supermarkets (or in the case of Hai Hau, with companies supplying supermarkets). These contracts are written for 80percent of supermarkets. They specify the frequency of delivery of vegetables, quality requirements and conditions of payment (cash, 15 to 30 days after delivery). As regards vegetables, in Northern Vietnam, quality requirements are limited to providing a certificate of safe vegetable production issued by the Department of Science and Technology on the basis of farm inspections. These certificates are no longer current (have not been updated in the last seven years!) but are an indication of past training and efforts in terms of quality put forth by the buyers, and they have been progressively put back since 2005 by the Department of Plant Protection. In Ho Chi Minh City, the certificate is granted by the Department of Agriculture and Rural Development on the basis of two farm inspections per month and collection of samples for analysis of chemical residues and pathogens. Supermarkets rely on certification by the Department of Agriculture and do complementary ad hoc inspections. In Ho Chi Minh City, contracts specify visual quality characteristics such as vegetables must be Grade 1 in reference to colour and softness (for leafy vegetables) or size and uniformity (for tomatoes).

The Hai Hau Rice Association and the trading companies have signed an exclusive three-year contract based on the sale of 100 tons of perfumed rice per year (83percent of the production in 2004) and specifying the price, packaging style, certificate delivered by the Ministry of Health, monthly payment, replacement conditions in case of damage or expiry date. The Thanh Ha

Litchi Association has a contract with two supermarkets and a wholesaler supplying supermarkets, agreeing on a minimum quantity supplied during the one-month litchi season, various quality characteristics in terms of packaging, labelling, product uniformity and possible return of unsold products.

Contracts have no legal status and there is no judicial administration to have them enforced. Yet no cases of conflicts in the application of the contract was mentioned to us, either by farmers' groups or by supermarket managers, who declare that the threat of the break in the relationship act as a sufficient incentive.

C) The role of public and farmers' initiatives in the development of farmers' organizations

The historical development of farmer organisations involved in the marketing of quality food products shows that supermarkets are not the primary vectors of change, even though they contribute to it. In fact, supermarkets benefit from changes made by the public administration and from the initiatives of some pioneer farmers in response to changes in consumer demand for increased food safety.

The main driver of change is indeed consumers' growing concerns for food safety and tracability of food they buy from the market, and the response of public authorities and some pioneer farmers. In 1995, public interest in the safety of vegetable products led the Vietnamese Ministry of Agriculture and Rural development to implement an ambitious programme called "safe vegetables". The programme educated farmers in the reasonable use of fertiliser and pesticides, as well as the use of water from wells and non-polluted rivers. In Hanoi, a total of 370 training sessions were organised between 1996 and 2001 with 22,000 participants, and 50,000 technical leaflets were distributed. The programme also helped the marketing of "safe vegetables" through various communication strategies including the organisation of safe vegetable fairs every year and the support to farmers and traders to open "safe vegetable" shops or market stalls. In 2001, it covered 30percent of the vegetable farming area of the municipality of Hanoi. In Ho Chi Minh City, the programme was implemented by the Department of Agriculture in 1997, the first targeted area being Ap Dinh, where households formerly belonging to a co-op in the early 1980s were farming individually. In 1997, five of them formed an association so that they could join the training program. Membership expanded from five members to forty from 1997 to 2000. After the city's vegetable fair in September 2000 in HCMC, the Ap Dinh Association received many orders from vegetable companies, city caterers and shops. To meet such an increase in demand, the association

has gradually included more members, up to 200 households divided into 4 smaller groups based on farmer locations in four villages.

In Northern Vietnam, the Hai Hau and Thanh Ha Associations were set up with the help of the Agricultural Science Institute in 2003 to respond to marketing problems encountered by farmers. Urban consumers look for products of specific quality characteristics (special taste and safety) related to a special origin; Thanh Ha litchi and Hai Hau rice products are among these "speciality products" which consumers appreciate and would like to find in the market with increased certainty about their origin (Tran Thi Tham, 2005).

D) The advantages for farmers of organizations supplying supermarkets

Profits per kilos of farmers belonging to associations supplying supermarkets are found higher than farmers outside those chains. This is due to higher prices (by 10 to 70%) and limited increases in production costs (0 to 20%). But due to small quantities sold to supermarkets, increases in profits per kilo do not necessarily translate into the same increases in total incomes (Moustier and al, 2006).

In the rice chains, selling to supermarkets through the association generates the highest profit per kilo of flavoured rice: 5,442 VND/kilo (standard deviation: 177,8) compared with 3167 VND/kilo (standard deviation: 195,6) in the supermarket chain with no association, and 2,196 VND/kilo in the chain supplying traditional retailers (standard deviation: 28,6). The farm gate price of the association is 12,500 VND/kilo while it is 7357 VND/kilo in the supermarket chain without association and 8,021 VND/kilo in the traditional chain. Yet quantities sold by the association are still limited (275 kg of flavoured rice per member per year compared with 692 kg for non members).

Litchi farmers involved in the association chain from Thanh Ha and selling to supermarkets earned 3,545 VND/kilo in 2004 (standard deviation: 530), compared with 2,567 VND/kilo for Thanh Ha farmers outside the association (standard deviation: 850), 2,151 VND/kilo for Luc Ngan litchi sold in shops and 1,766 VND/kilo for Yen The litchi sold by street vendors. Quantities sold through the association are higher than quantities sold by individual farmers: 2,500 kilos on average instead of 1,500 kilos (this includes around half of sales to supermarkets, and the other half to shops and stalls at the same price than supermarkets). This translates into incomes more than twice higher for members of the association (8,900,000 VND rather than

3,900,000 VND).

In Ho Chi Minh City, profits per kilo for farmers are higher in supermarket-driven chains than in traditional chains, especially as regards ordinary tomatoes supplied from Anh Dao cooperative in the Dalat area to CoopMart supermarket (890 VND/kilo compared to 176 VND/kilo). With a supplying capacity of 1,250 kg/month, it gives a monthly income of 737,500 VND for farmers inside association and 220,000 VND/month for farmers outside association. As quantities sold to the supermarket make around the third of the total sales, monthly incomes of the association members are an average of 490,000 VND/month.

Besides higher prices, the main advantages of supermarkets quoted by interviewed farmers stem from the stability in quantities demanded on a weekly basis, at more stable prices than do the traditional chains. This can translate into yearly contracts with estimated quantities and prices that are negotiated more precisely each week. Supermarkets buy from 10 to 100 kg every day of vegetables from one supplier. However, the stability in quantities and prices demanded vary among supermarket chains. While the head of Ap-Dinh association expresses his satisfaction about the reliable and loyal business relation he has with his supermarket customer, four organizations in Lam Dong Province have complained that another supermarket frequently change their suppliers to cut down prices.

III DISCUSSION

The results show that farmer associations play a crucial role in the supply of supermarkets, especially through quality promotion. Supermarkets state that quality is the priority factor in the choice of suppliers, relating to safety as regards vegetables (no excess of chemical residues) which is a major concern for urban consumers, while quality of rice and litchi refers to a typical taste in relation to a specific location. These dimensions of quality involve problems of uncertainty and risks of opportunistic behaviour by suppliers, to which labelling can provide an answer. It is indeed in the area of quality labelling that grouped suppliers appear as more distinct from the other suppliers, and it is also in this area where supermarkets want to differentiate themselves like in other contexts (Codron, Giraud-Heraud and Soler, 2003). All vegetables sold in supermarkets are sold under the “safe vegetable” label (either on the packages or on a sign referring to the shelves). Collective action plays a crucial role in the promotion of quality first because it facilitates access to the training resources offered by the government’s agricultural services.

All farmer organisations surveyed have a joint sign of quality in the form of a logo along with mention of the name and address

of the co-op either on the package or on a sign at the points of sale. This quality signal and the reputation that goes with it are collective goods which imply specific governance structures in terms of inclusion and exclusion mechanisms (Olson, 2000 edition). These are at the core of the creation of farmer organisations in Vietnam. Collective action also plays the classical role of enlarging product catchment or consolidation, a crucial factor in delivery to supermarkets.

The efficiency of collective action in reducing uncertainties as regards quality characteristics results from various mechanisms. The interlinkages between the supply of inputs and training services, quality control and output marketing reduce opportunistic behaviour that would result in a breach of one's commitment such as with regard to production procedures, and may have consequences on other transactions such as input supplies (Bardhan, 1989). Four of the reviewed organisations are characterized by neighbour and kinship relationships between the members, which allows trust to develop and facilitates the control of farmer behaviour, in particular in terms of chemical use. Each organisation has a board of directors, usually those holding the highest number of shares, who exert hierarchical power on the other members.

Changes in consumers' demand, public support to quality promotion and pioneer farmers' initiatives explain the development of farmer organisations involved in the marketing of quality food products in addition to supermarket development. There are indeed outlets other than supermarkets which may prove to be more accessible and more profitable than supermarkets. We estimated that 3 tons of vegetables per day were traded in Hanoi supermarkets in 2004 compared with 24 tons per day in safe vegetable shops and market stalls, and 350 tons per day in all Hanoi retail places (Son, Binh and Moustier, 2006). This shows that supermarkets still account for a very limited market opportunity for vegetable farmers. A major vegetable cooperative, Van Tri, has stopped supplying supermarkets after three years in order to concentrate on marketing through ten shops or market stalls in 2004 (compared to four in 2002), where co-op members sell directly to consumers. They considered that supermarkets were too demanding in terms of payment times (fifteen days) and returns of unsold products. The innovative pattern now surfacing is that of direct contact with consumers, who ask questions and are given answers concerning the production methods used by the cooperative.

All reviewed organisations have plans for the future, which commonly include the diversification of retail outlets, increasing production in response to diversity requirements and making investments in storage, refrigeration and processing infrastructure

to satisfy buyer quality requirements and minimise the risks of loss. In Southern Vietnam investment plans may receive the support of the local administration, which is less commonly observed in Northern Vietnam. It is noteworthy that none of the surveyed organisations are benefiting from any investment made by the supermarkets in terms of training or infrastructure, while patterns of vertical integration and investments in farmers' training to solve problems of asset specificity in quality management have been observed in other contexts, e.g. for Kenya green beans exported to Europe (Gereffi, Humphrey and Sturgeon, 2005), or for Thai and Chinese supermarkets (Reardon and Timmer, 2005).

The need to have access to a wide range of produce in regularly supplied quantities may push the farmer organisations into commercial enterprises buying from many different farmers (as is the case with Ap Dinh Association). This is a threat to the sustainability of farmer organisations.

IV CONCLUSION

Farmers' collective action plays a crucial role in the supply of supermarkets in Vietnam, mostly because of their role in the development and promotion of quality food. Supermarket development has benefited from innovations brought on by public support and farmer initiatives to meet new consumer demands for food safety and the labelling of food origin. Supermarkets are presently one of various other options, albeit minor, for farmers to market their "quality" product with a price premium. But this type of outlet is growing in size, with growing competitive strategies as regards the range of suppliers. On the one hand, it may result in the further development of innovations in terms of production to sharpen supplier comparative advantages, in particular as regards quality development. On the other hand, it may result in less advantageous pricing conditions and provide further incentives for farmer organisations to sell outside supermarkets, in particular through their own outlets. Supermarkets may also tend to put to the fore their own labelling rather than the labelling of farmer organisations to capture more of the economic rent gained from signalling quality. This is already observed with vegetables being increasingly sold in bulk with supermarkets putting them on the shelves under a general "safe vegetables" sign. Local administrations should play a crucial role in helping farmer organisations to adjust to such trends in terms of supporting investment in infrastructure to promote product quality and access to retail points in the form of market stalls, shops or farmers' markets, which are still not observed in Vietnam, unlike other countries such as Malaysia or India (den Braber, 2006), or in Europe (Kirwan, 2004). It is also important that local

administrations be more closely involved in the control of food safety at the production and marketing stages, primarily for public health, but also to strengthen the credibility of farmer organisations.

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Table 1-Sample for interviews of farmers and traders

Sample	Commodities			
	Litchi, North	Vegetables, North	Vegetables, South	Rice, Hai Hau
Supermarket managers or purchasers (1)	13	13	8	19
Wholesalers (2)	3	4	4	6 Hanoi wholesalers 3 food companies 20 Hai Hau wholesalers
Market retailers (3)	6	8	6	10
Shop vendors (2)	6	11		10
Street vendors	6	12		10
Collectors (2)	3	5	4	13
Farmers	80 in Luc Ngan (randomly chosen from list given by local authorities) The head and five members of litchi association of Thanh Ha; 30 Thanh Ha farmers outside the association, 30 inside the association	Moc Chau: 32=16/village of randomly chosen from list given by collectors The head of Moc Chau farmer association and five members of the association Soc Son: 4 farmers in the groups supplying supermarkets, 12 farmers outside the groups supplying supermarkets Dong Anh: the head of farmer association (Van Noi) supplying one supermarket	Lam Dong Province: 3 heads of farmer organisations 120 farmers, including one third members of organisations Cu Chi district: 2 heads of farmer organisations 5 members of organisation, 5 outside the organisation	44 farmers in 2 communes (Hai Phong, Hai Toan) randomly chosen from list given by local authorities including 24 non members of the organisation and 20 members Head of rice famer association

(1) The number accounts for more than 80% of the total of supermarkets selling the selected products
(2) The number accounts for more than 30% of the total of traders selling the selected products
(3) The study also used results of secondary studies on the organisation of traditional fruit and vegetable markets in Hanoi giving data on the source and nature of intermediaries of commodity chains based on a representative sample of traders (Moustier and Vagneron, 2006; van Wijk and al, 2005).

Table 2-Main characteristics of farmer organisations supplying supermarkets

Location	Peri-urban Ho Chi Minh City		Lam Dong province			Peri-urban Hanoi	Nam Dinh province	Hai Duong Province
Products	Vegetables						Flavoured rice	Litchi
Name	Ap Dinh Ta Association	Tan Phu Trung Coop	Xuan Huong Co-op	Phuoc Thanh Co-op	Anh Dao Co-op	Van Noi Mr M's Co-op	Hai Hau Association	Thanh Ha Association
Date established	2001					1996	2003	2003
Number of members	200	50	21	15	11	16	437	138
Area (ha)	20	7	0.5	1	0.5	7	54	
Output (t)	630		100	250	720	900	180 t	500 t
Conditions for membership	A wide range of incomes, production volumes and size; no membership fee		Close relationship, experience and ability to invest in green houses Membership fee: 60 USD	Close relationship, experience, Membership fee: 200 USD	Membership fee: 60 USD	Neighbour and kinship relationship Shares = 60 USD	Belonging to the same limited geographical area	Neighbour relationship
	Agree to comply with common association production protocols and labelling							
Main functions	Training on safe vegetable production						Training on quality rice production, labelling and packaging	Training on quality litchi production, labelling and packing
			Credit in cash				Credit in input	
	Input supply			Input supply			Input supply	
	Marketing: joint branding and contact with purchasers, joint transport and delivery							
								Processing and packing
	Organisation of external vegetable safety inspections and internal safety control							Commitments to follow production protocols

Figure 1-Organisation of Vegetable Supply Chains in Hanoi and Ho Chi Minh City