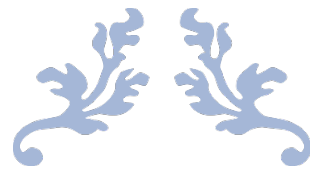


# FOOD POLITICS



Analysis of the Policies impacting the access to Sustainable and  
Healthy Food in the Urban and Peri urban areas of Hanoi, Vietnam



*MSc Thesis*

*Sanchali Bose*

# **Analysis of the Policies impacting the access to Sustainable and Healthy Food in the Urban and Peri urban areas of Hanoi, Vietnam**

MSc Final Thesis (ENP- 80436)

SUSTIANABLE FOOD SYSTEMS

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## **PREFACE**

Dear reader,

This thesis is part of my graduation for the MSc specialisation Sustainable Food systems at Wageningen University. In January 2018, I started working on this thesis. The thesis options in this area being very broad, I was able to figure out the exact topic of my interest with the help of my supervisor, Peter Oosterveer. He was a constant support and guide throughout my thesis duration. This topic helped me to gain insight about the food system of a different country. This experience of researching on my own in an abroad country will surely help me in my future endeavours. I would like to thank my colleagues in CIAT Asia specially Stephan De Haan and Thanh Thi Duong, without whom it would have been impossible to interview the policy officers at the ministry level. They helped me throughout the field research by providing relevant interviewee contacts. Another person without whom surviving in Hanoi would have been difficult for me is my interpreter, Pham Thi Thanh Binh. Of course, I would also like to thank all participants who were willing to put time and energy in the interviews. Lastly, I want to thank my friends and family for supporting me as much as they could. I hope that I have been able to do justice to the topic.

Sanchali

## **ABSTRACT**

Vietnam being one of the fastest growing economies in the world is facing a transition in its food system. Food poisoning cases has been always a point of concern in Vietnam where most of the public do not have enough trust in the current food system. The authorities in the face of criticism by the mass media is now trying to take this seriously and are framing new policies in order to deal with these issues. Mainly three laws namely Supermarket policy, Safe vegetable policy and Master Plan 2030 are discussed in the report. The laws mainly propagate modernised ways of tackling the current food system problems like establishment of modern retail outlets and replacement of the traditional markets, certification of food products, organisation of supply chain, building of big agro-parks and reduction of area under agriculture. The traditional way of operating the food system is targeted by the laws as it is considered to be not effective because of lack of traceability and organisation. The policies are analysed to understand the extent of its contribution to the access of safe, healthy and sustainable food for the citizens of Hanoi, Vietnam. Consumer perception holds an important area of discussion in the report as it reflects the extent of acceptance of the changes brought by the laws. The laws are considered to bring a transition in the food system but could not effectively meet the goals of supplying safe and healthy food to the citizens. The policies need to consider the present financial, socio-economic background of the country before planning to implement it. Also, it is thought that the policies are introduced more as a means of showing off the modern side of Vietnam to the world rather than actually having the intention of solving food safety problems of the country.

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## **1. LIST OF ABBREVIATIONS**

1. ADB- Asian Development Bank
2. AVRDC - Asian Vegetable Research and Development Centre
3. CIAT- Centre for International Tropical Agriculture
4. CIRAD- Centre de coopération internationale en recherche agronomique pour le développement
5. COD- Chemical Oxygen Demand
6. DARD- Department of Agriculture, Environment and Rural Affairs
7. DONRE- Department of Natural Resources and the Environment at the level of the province
8. DPP- The Department of Plant Protection
9. E.Coli- Escherichia Coli
10. FAVRI- Vietnam Fruit and Vegetable Research Institute
11. FDI- Foreign Direct Investment
12. GAP- Good Agricultural Practices
13. GC- General Council
14. GDP- Gross domestic product
15. GIS- Geographical Information System
16. HACCP - Hazard Analysis and Critical Control Points
17. HDOSTE- Hanoi's Department of Science, Technology and Environment
18. HPC- Hanoi's People's Committee
19. HPP- Hanoi Plant Protection Department
20. IPM- Integrated Pest Management
21. IPSARD- The Institute of Policy and Strategy for Agriculture and Rural development
22. MARD- Ministry of Agriculture and Rural Development
23. MoA- Ministry of Agriculture
24. MoC- Ministry of Construction
25. MoF- Ministry of Finance
26. MOH- Ministry of Health
27. MOIT- Ministry of Industry and Trade.
28. MoJ- Ministry of Justice
29. MONRE- Ministry of Natural Resources and the Environment
30. MPI- Ministry of Planning and Investment
31. NIN- National Institute of Nutrition
32. PCB- Polychlorinated biphenyl

- 33. PGS- Participatory Guarantee System
- 34. QSEAP- The Quality and Safety Enhancement of Agricultural Products and Biogas.
- 35. RRD- Red River Delta
- 36. SOE- State Owned Enterprises
- 37. SUSPER- Sustainable Peri-urban Agriculture
- 38. VFA- Vietnam Food Association
- 39. VIETGAP- Vietnamese Good Agricultural Practices
- 40. WHO- World Health Organisation
- 41. WTO- World Trade Organisation



## 2. INTRODUCTION

### 2.1. Background Information

Vietnam is a country in South east Asia which has earned the title of one of the most dynamic emerging economies of the world (Wertheim-Heck et al., 2014). The country is urbanising at a very rapid and steady pace with an annual 3.35% population growth rate. It is expected that the population will reach upto 120 to 130 million within 2030 (Shields, 2013). Most of the people in Vietnam, almost 75% is employed in agriculture (Hùng, 2000). Hanoi is the capital city with a population of over 7 million people and the fastest centre of urbanisation in the country (Pham, 2017; GAIN, 2017). It is located on the RRD stretching for around 3328.9 km<sup>2</sup> and is divided into 17 rural districts and 12 urban districts which are further subdivided into 22 commune level towns and 399 communes (Pulliat, 2015). It has a very fertile land where vegetable production takes place on the Northern Delta (Dinh et al., 2016). The average income of the people of city's capital is 2 to 3 times higher than the national average (GAIN, 2017).

The country has proved to have a drastic growth in agricultural sector including the exporting of food products. But the reputation has been in a vulnerable condition because of the increasing cases of food contamination both in domestic and export-oriented sectors (World Bank, 2017). According to reports by WHO, 5000 people were affected by cases of food poisoning in 2014 (GAIN, 2017). Food poisoning related diseases have resulted in a cost of US\$450 million in 2003 (Wertheim-Heck, 2015). Several reports have stated that the main cause is bacterial contamination which raises concerns on the supply chain management. Apart from these, other concerns regarding Vietnamese food are usage of antibiotics, pesticides, chemical fertilisers and the lack of traceability (World Bank, 2017). Thus, the repeated occurrences of food-borne diseases and food poisonings due to adulterated and unsafe food practices are the main driving forces behind the framing of new laws (Hùng, 2000). It is believed that the Vietnamese people have the least trust on their foods system with regards to safety issues and they have expressed their desire of safe vegetables a number of times (Wertheim-Heck, 2015). Other than that, the increased broadcasting of the news by the media at the occurrence of food contamination related incident has been a very important driver in the recent days to frame new policies by the government. Though the efforts from the government's side have been going on from the last two decades but through framing new and efficient policies they are now striving to establish food safety control systems from farm to fork (Wertheim-Heck et al., 2014, Pham, 2017). The government aims to have food safety control throughout the supply chain by 2020 while keeping consumer interest in mind (Hùng, 2000). They have issued several kinds of policies to motivate the

mobilizing of internal resources, expansion of the international cooperation relations (bilateral agreements), etc. The country's rising middleclass population, rapid urbanization, the strong economic growth, increasing food borne poisonings have favoured the modern way of dealing with food problems (GAIN, 2017).

The city of Hanoi is mostly been fed by the food items coming from urban and peri-urban areas. The informal markets which runs on trust based short supply chains feeds the majority of the population (Shields, 2013). This kind of procurement of food is being targeted by most of the policies as there are not enough clarity on the origin of the food products. Also, they are been handled in an unhygienic and under poor sanitary conditions by the street vendors (My et al., 2017). The alternative kind of food system that are being imagined by the policies are based on more certification based, traceability and integrated value chain oriented. This has paved the way for the invasion of supermarket culture which according to the policymakers has all the above characteristics. Increasing population and the emergence of higher middle class have also been important criteria to bring in a change in the food system. In addition, it, the food system is also facing changes due to continuous changes in the area under agriculture. To fit in the ever-increasing population in the cities, the territories are expanding which is resulting in conversion of farmlands into urban residential and industrial areas (Pham et al., 2015).

The Vietnamese government has issued several policies but out of them three policies that affect the food system of Vietnam at large are 1. Supermarket policy- The aim of which is to replace the informal markets and introduce supermarkets and undertake retail modernisation (Wertheim-Heck, 2015). 2. Safe vegetable policy- The policy aims to provide safe vegetables which are certified and are being produced using in the areas designated for safe vegetable production. 3. Master Plan 2030- Here the aim is to reduce the agricultural land and to convert into more residential and industrial areas in and around Hanoi. The food producing zone is intended to be shifted away from the city of Hanoi (Hùng, 2000). All the three policies envision a food system which provides safe and sustainable food products to its consumers. The city of Hanoi is the centre of all the big retailers, distributors and it is dealing on a daily basis with the problems of increasing food retail sector and supply chain management (GAIN, 2017).

The effects of the policies are not expected to be the same in urban, rural and the peri urban areas of Hanoi. Each of them has their own food systems which are quite different from each other as the income of population concerned, the rate of urbanisation, the land use pattern are not similar (Anh et al., 2007). Also, the target of the policies cannot be generalised in the three areas. It is also known that the city is dependent on the peri-urban areas for food supply. Hence, changes in the food

system in the peri-urban areas are also going to bring changes in the urban areas. In this study the above three mentioned policies will be analysed to answer what contribution it makes towards the access of safe, healthy and sustainable food for the citizens of Hanoi.

### **Research questions**

What are the contributions of the three policies (Supermarket policy, Safe vegetable policy, Master Plan 2030) in terms of supplying healthy, safe and sustainable food to the citizens of Hanoi?

-What changes does the policies bring in the food system of Hanoi?

-What are the strategies adopted in order to target the food systems of the different areas in and around of Hanoi?

-What is the consumer perspective on the changes brought by the policies?

## **2.2. Problem Statement**

Food safety has been a point of concern in Vietnam and is considered as the most important reason of public deaths in the country (VnExpress, 2017). Thus, to tackle the situation, the above mentioned three policies out of many have been framed to deal with this issue. The situation regarding food safety is so serious that Tran Ngoc Vinh, a former delegate of the law making National Assembly, have issued a statement that “the path from the stomach to the graveyard has never been as short and easy as it is today.” (Tuoi Tre News Staff, 2017). It is being said that in the last five years there have been more than 1700 cases of food poisoning (VnExpress, 2017). Apart from bacterial contamination, the usage of pesticides, chemical fertilisers etc. are the main reasons of these food contaminations. Almost 88.5 % of the Hanoi’s population is concerned over the quality of the food because of the incidences of food contamination (Wang et al., 2012). These incidences of contamination cannot be controlled if the policies are not at a proper place. It must be realised that food policies can be successful only if they ensure enough food security which means physical and economic access to sufficient, safe and nutritious food to meet the dietary needs of maintaining an active and healthy life (Hùng, 2000). It can be hypothesised that due to the Master plan policy, the supply chain can undergo a change as the production areas will go further away from the city and hence this can have an overall effect on the food system. Similarly, other policies can have other consequences which can affect the food system. Thus, it is very important to understand that whether these introduced policies are going to achieve the vision of supplying sustainable and safe food for consumption. The doubts over the level of implementation of the policies also comes from the fact there are a lot of speculations over the government infrastructure and capacity (World Bank, 2017).

### **2.3. Scope and limitations**

The research regarding land use changes have to be limited and could not be carried out in a detailed manner because of the sensitivity of the issue. The data was mostly collected from the experts and officials of the ministries, but it was not possible to conduct research at the ground level. Hence, the research regarding land use changes could not be extended to such level where the facts and data stated by the ministries and the experts could be observed in practice. The implementation part of the plan could only be judged by the background literature available and through verbal communication at a formal level which has an effect on the results as there is no scope to understand the actual state of it at the field level.

### **2.4. Study area**

The total study area will be categorized into 3 parts- urban, peri-urban and rural. The urban districts of Hanoi are 12 so all of them falls under the category of urban area. Though there are 17 rural districts but out of them some are peri-urban areas of Hanoi which are very important for the supply of food produce to Hanoi. In Fig 2, the vegetable growing peri urban districts are shown but the districts (Dong Anh, Me Linh, Gia Lam, Hoai Duc, Thanh Tri, Thuong Tin) that are growing for more than 2000 ha are being chosen for this study. These peri urban areas are chosen as traditionally, they are the suppliers of major vegetable produce to the Hanoi market (Anh et al., 2007). Fig 1 shows all the urban and rural (peri-urban) districts of Hanoi.



Fig 1: The rural and urban districts of Hanoi

Source: Wikipedia

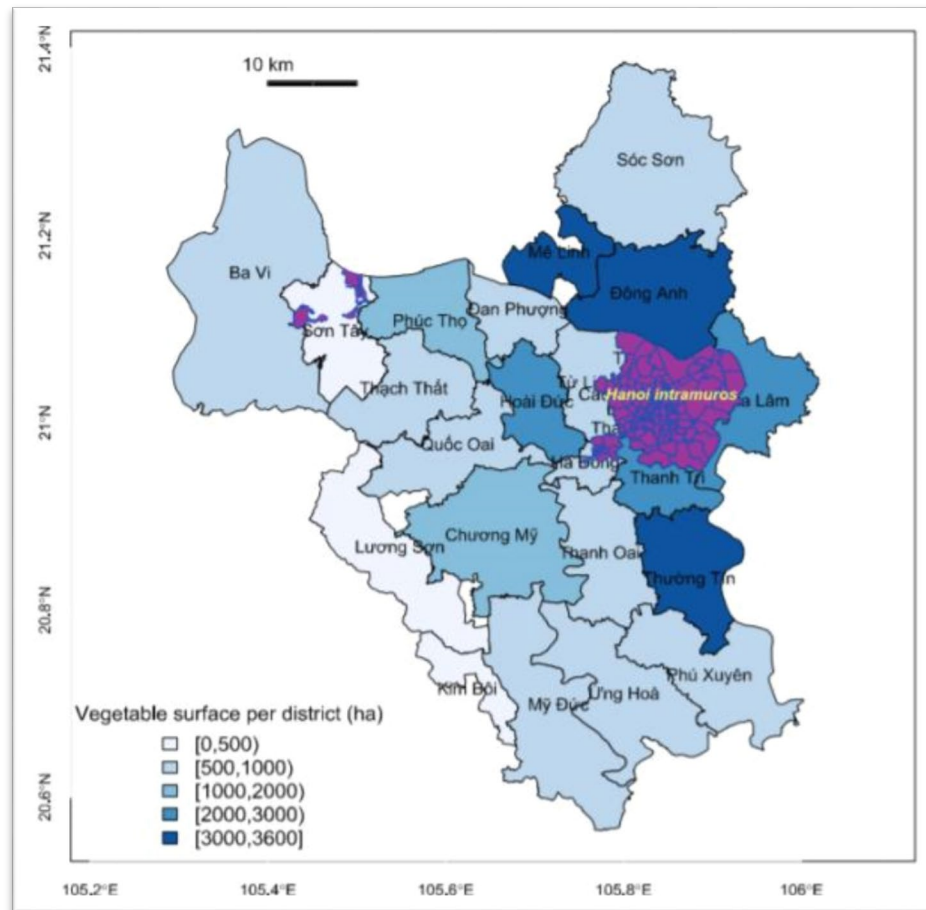


Fig 2: Vegetable growing peri-urban areas of Hanoi

Source: DARD of Hanoi, 2015

### **3. LITERATURE REVIEW**

#### **3.1. Food procurement in Hanoi**

The city of Hanoi is traditionally been supplied with food items like vegetables, cereals, and meat from its peri urban areas while the others being imported from other provinces within Vietnam. The RRD part is very fertile and it is the major area where the vegetables are grown stretching almost 9000 ha (Dinh et al., 2016). The demand of pork, vegetables are quite high in the urban areas (Pham, 2017). DARD states that 60% of the vegetables consumed were grown within the suburban areas of Hanoi (mostly Dong Anh, Me linh, Thanh Tri) while the rest comes from other provinces (Pham, 2017; Shields, 2013; HA). The trend is that the perishable vegetables mainly comes from the peri-urban areas because of its proximity to the city while the non-perishable vegetables comes from the peri-urban and rural areas (Huong et al., 2013). The leafy vegetables like, water convolvulus, various types of cabbages and mustards, herbs, lettuce and green onions, comes from within a range of 30kms from the city and the yields are quite stable throughout the year except in the colder seasons. This is mainly because the freshness of these vegetables can be retained for maximum one day without refrigeration. Normally cooling facilities are not available in the traditional supply chain (Moustier, 2007). The rural areas are important to mostly retain the food security structure as they are the areas where maximum amount of paddy and rice are cultivated by the small scale farmers (Van Dijk et al., 2012). The tropical vegetables are procured from the neighbouring peri-urban and rural districts of Hanoi while the sub-tropical vegetables are consumed from China and neighbouring mountainous regions of Vietnam (Anh et al., 2012). Fruits are also consumed in large quantities by the Vietnamese population. They mainly come from the neighbouring areas of Hanoi as well as the Southern part of Vietnam (Binh, P.C., April 23, 2018). The fruits are also imported from neighbouring countries like Thailand, Taiwan etc. In addition to it the modern chain mainly imports the fruit from countries like USA, South Africa, Japan, Korea. It can be seen that during adverse climatic conditions like during rainy reasons, the peri-urban areas are not suitable for production because of heavy rainfall and high temperatures. The rural areas, then can take the responsibility of production. Also during excessive price hikes, the peri-urban areas are affected much more leaving the onus of production on the rural areas (Moustier, 2007).

The formal structure of procurement of vegetables are being dictated by the central government and the HPC while the informal procurements are self-organised and most of the time unregistered business operations (Wertheim-Heck et al., 2014). Almost half of the total markets in Hanoi are informal (Vien et al., 2005). The food landscape is mainly dominated by small wet markets



and independent stores from where products are bought with higher frequency and in small quantities (GAIN, 2017). Fig 3 shows wet markets of two urban districts of Hanoi. Hanoi's seven wholesale markets is the source of products for the public and small neighbourhood local markets throughout the city and also to the restaurants (Vorley et al., 2015). Wherever there is a residential area, wet markets will be seen there. Thus, it can be quite hard for the Vietnamese government to track the number of wet markets.



Fig 3: The wet markets in the residential areas of Tay Ho and Tu Liem area of Hanoi

In addition to that, the street hawkers are also there who most of the times sit at roadside or are mobile on motorbikes, cycles etc or delivers products directly to households (Cadilhon et al., 2006; Moustier et al., 2009). Fig 4 shows vendors selling their fruits and potatoes in bike. The vendors in the public market mainly focuses on procuring vegetables that are low in price, fresh without having any concerns over the origin of the vegetable (Vorley et al., 2015). It must be noted that there are two



kinds of vegetables traded in the market- safe vegetables and conventional vegetables (Huong et al., 2013). Fig 5 shows hawkers sitting on the roadside or pavements.



Fig 4: The mobile street vendors selling fruits and potatoes on their bikes



Fig 5: Street hawkers sitting on the roadside

The small independent grocery shops known as 'Mom and Pop' remains to be the preferred way of shopping for most of the households because of flexibility, convenience and its strong connection with tradition and culture (GAIN, 2017). The reasons are because of low operational cost, lower rental costs and all the products are local, allowing people to bargain for the right price (Nguyen Ngoc Thuy, 2017).

The supply chain is very informal where all the relationship is knit in a trust-based network. This trust also is the basis of consumer's confidence on the quality of the food products. But, because of rapid urbanisation the farmers are losing their lands gradually and as the city is expanding, the supply chain is getting longer and more complex. The supermarket culture is also being introduced recently bringing up new issues altogether. This problem of reduced proximity somehow signals the

emerging problems of safe and insufficient supply of rice, vegetables, fruit, meat, and dairy to sustain the city (Shields, 2013). These emerging problems represent key shifts in Hanoi's food system and poses a question of how to frame policies to cope with the issue of urbanisation and raise the question of how modernisation policies can be further designed without increasing the risks for the food system.

### **3.2. The current supply chain of Hanoi**

The supply chain has become more complicated and lengthier with whole new categories of stakeholders. The linkage between the producers and the consumers are getting much complex. The co-operation between the actors in the chain is very important to overall maintain the reputation, to communicate about the standards, the methods e.g. IPM, sharing and learning from each other's experiences and also to apply science and technology (Huyen & Huong, 2017). As the distance between the production and the consumption area have increased more middlemen gets introduced in the picture to enable the product to finally reach the consumer. The collectors are now connected with a large number of farmers as the distance have increased (Vorley et al., 2015). The traditional supply chain has faced a lot of mandatory changes and it is noticed that the agricultural organisational structure is still not improving at an expected rate as stated in the policies (Petersen et al., 2017).

The producers are mostly the small-scale ones and the previous aim of the policies to connect the SOE's with the small-scale producers are still not realised (Petersen et al., 2017). The concern about the present supply chain is that the distributor gets to exercise more power and they get more information about the market than anyone else (Huong et al., 2013). The number of wholesalers in the supply chain have increased and the quantity of food products sold through them have also increased from 180- 200% in a span of 9 years (Anh et al., 2012).

The trend is that the actors in the peri-urban areas are more connected with the city market compared to their rural counterparts. They are more educated and updated about the changes in the production standards and in the supply chain. They also have more opportunities to get involved in off farm activities during off seasons. It is observed that the producers in the peri-urban areas invest more in irrigation systems, tractors, sprayers etc indicating that they earn more than the rural producers (Moustier, 2007). The farmers in the peri-urban areas receive training and also they are more aware about pesticide usage unlike in rural areas where the amount of pesticide usage most of the time depends on the momentary financial capability of the farmer. The peri-urban farmers utilise techniques like mulching, raised bed, staking etc which is not the case in rural areas (Moustier, 2007). In Gia Lam, the main problem is that the supply chain is not well connected with that of Hanoi market and thus they lag in terms of market information. The producers do not have connections with the

consumers in the city, they get to know either the collectors or the sellers. Thus, marketing for the product becomes quite difficult for them (Anh et al., 2007).

The government is taking the effort of setting aims to better manage the supply chain. They have stated that at least 78% of the suppliers, traders and the consumers in all the wards, districts should be provided with proper knowledge and officials will be made to undergo trainings (Thang & Linh, 2015). Fig 6 gives an idea of the overall supply chain of the study area.

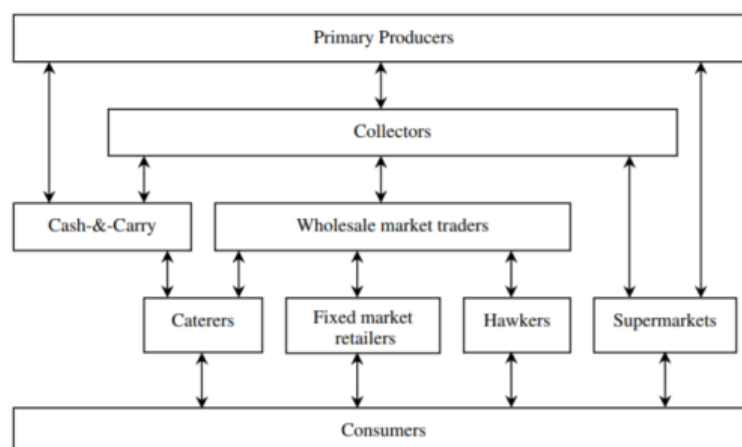


Fig 6: The overall supply chain structure of the study area

Source: Thang & Linh, 2015

### 3.2.1. Supply chain of Traditional Retail channels

In this supply chain, anyone can participate, and all the people involved in the supply chain are locals. The producers can be individuals without being a part of any co-operatives and they participate much more directly over here. The amount of produce dealt with are more diverse compared to safe vegetable supply chain. There are no written rules between the collectors, retailers and the producers in terms of amount, price, quality of any of the products. But the organisation of this chain is quite chaotic (Moustier, 2007).

In the traditional market, the wholesale market plays a big role, but it operates mostly at the night as all the products come in and go out between 2-5 a.m. The most preferred mode of transportation is cycle, motorbike in case the produce is coming from the peri-urban areas. In case of rural areas, the produce is sold by the distributors/ the collectors and the mode of transportation is truck (Moustier, 2007). The retail channels can be both official or temporary ones. The official ones are planned by the city authority's while the temporary ones are roadside stalls which are sometimes approved by the local authorities (Vien et al., 2005).

### 3.2.2. Supply chain of Modern retail outlets

The supply chain in case of foreign supermarkets is longer when compared to traditional markets or home-grown brands. A lot of middlemen gets involved in these kinds of chains and quality of the products are also not high because of the huge amount of time they are kept in the transportation (Cadilhon et al., 2006). But in-home brands who try to sell home grown products the supply chains are much shorter where they mostly acquire the products directly from the producers or through collectors. The direct dealing can help in having a trust by exchanging information between the consumer and the producer (Moustier, 2007). The supermarket supplier prefers to connect with producers/ co-operatives having larger land shares and certificates for quality assurance of their products (Cadilhon et al., 2006; Moustier et al., 2009). The problem is that most of the times the number of wholesalers and distributors in the traditional markets are more than 16 times compared to the modern outlets. Also, as the supermarket needs products in bulk they rely on large landowners but in case of traditional chain they rely on small holders, whose number is undoubtedly higher. Thus, it can be estimated that the chances of procurement of fresh vegetables in the traditional chain are much more (Cadilhon et al., 2006).

The upstream actors of the supply chain for the supermarkets are always under competition as the supermarkets always seek for quality products having a competitive price so that they can give the best price and quality products to consumers. Vingroup for instance, always strives for the best supplier in the supply chain to get the best quality product. The supplier undoubtedly gets the benefit of having its products in the supermarkets but at the same time they need to constantly fight to get that position. They are always under the pressure of getting eliminated by the supermarkets. Compared to the traditional chain the supermarket suppliers be it small or big, are always been offered different kind of discounts and increases on a yearly basis (Nguyen Ngoc Thuy, 2017).

A trend can be seen that the suppliers who want to have more steady, secure and transparent payment system are more inclined towards delivering to supermarkets. The traditional suppliers want to have a flexible price system and think that the supermarket payments are fixed, and they cannot bargain for their own price (Cadilhon et al., 2006). It is also seen that the supermarket supply chain gets inflicted with lower price volatility and risks than their traditional counterparts. It can be also observed that the suppliers who are quite young prefer the supermarket policy as they feel that it gives them a sense of security while the older ones are not keen on getting involved with an innovative network and thus would prefer the traditional way (Cadilhon et al., 2006). But it must be realised that the modern distributors keep the parallel option of selling to the traditional market as well.

In case of the duration the product requires to arrive to its destination, both the supply chains seem to be efficient. The product gets delivered in the next day to the supermarkets and traditional markets except imported products in foreign branded supermarkets (Cadilhon et al., 2006). But in case of wholesale retailers, the traditional supply chain seems to be much more efficient as they can supply the required amount in much faster time. Five star hotels, where mostly fresh and cheap products are required for bulk food preparation, they prefer the order to be placed to traditional wholesale retailers rather than the supermarkets. This is because they can vary the amount of order needed every time without having to change contracts (Cadilhon et al., 2006).

The supply chain of traditional market considers the wholesalers as the mode of clearance of their supplies or produce and they do not feel the urge of sorting the products according to their quality. It is because, the wholesalers pay similar price for all grades of product (Cadilhon et al., 2006). But the introduction of supermarket culture had an impact on the mindset of the actors as they now no longer consider the wholesalers to be a mode of clearance. Modern outlets accept products that are of proper quality and reject substandard product. Thus, this encourages the supplier/collector to communicate with the producer to produce quality products which in turn means that they will get higher incentives. As the mindset of city traders are also changing they want quality produce and that is why the producers also have started sorting out their products according to quality (Cadilhon et al., 2006). Fig 2.2.2. depicts both the conventional and supermarket supply chain.

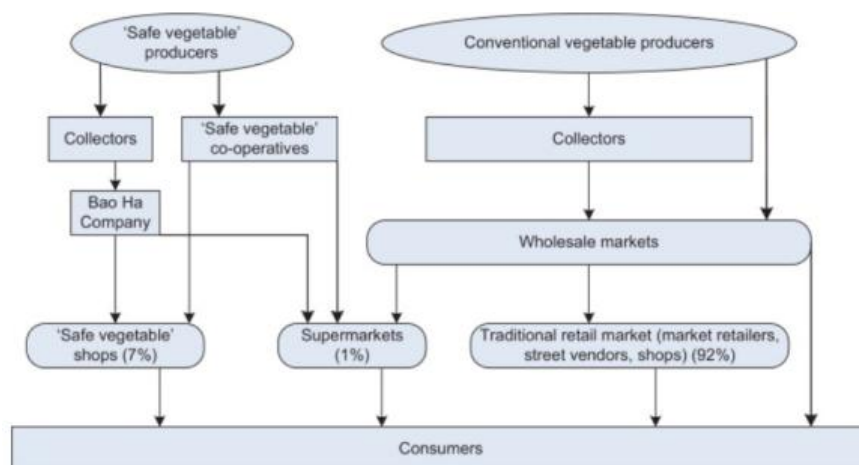


Fig 7: Supply chain of conventional/ safe vegetables

Source: Huong et al., 2013

### 3.2.3. Supply chain of safe vegetable production

- i. Producers → Marketing cooperatives → Retailers (supermarkets, shops, outlets) → Consumers.
- ii. Producers → Consumers (canteens).
- iii. Producers → Retail outlets run by producers → Consumers.

Fig 8: The traded pathways of safe vegetables

Source: Huong et al., 2013

The first channel is the most traded pathway while the next pathway trades a small amount of products. Co-operatives form a very important link in the supply chain in the safe vegetable production. There are few activities of the co-operatives like supervising the quality of the produce in co-operation with the government, joint certification of VietGAP, communicating with the farmers on behalf of the government, building a value chain for the members, technical supervision (Anh, 2017). The third pathway, on the other hand is new and not used like the other two (Vien et al., 2005). The actors in this supply chain have the license to deal with safe vegetables. The majority of the products at the supermarkets, canteens, shops comes from the collectors while the rest is being directly sold by the producers (Vien et al., 2005). Fig 9 gives an idea of the safe vegetable supply chain. In the safe vegetable supply chain, it is mostly noticed that the retailers/ the suppliers have an upper hand on the whole chain.

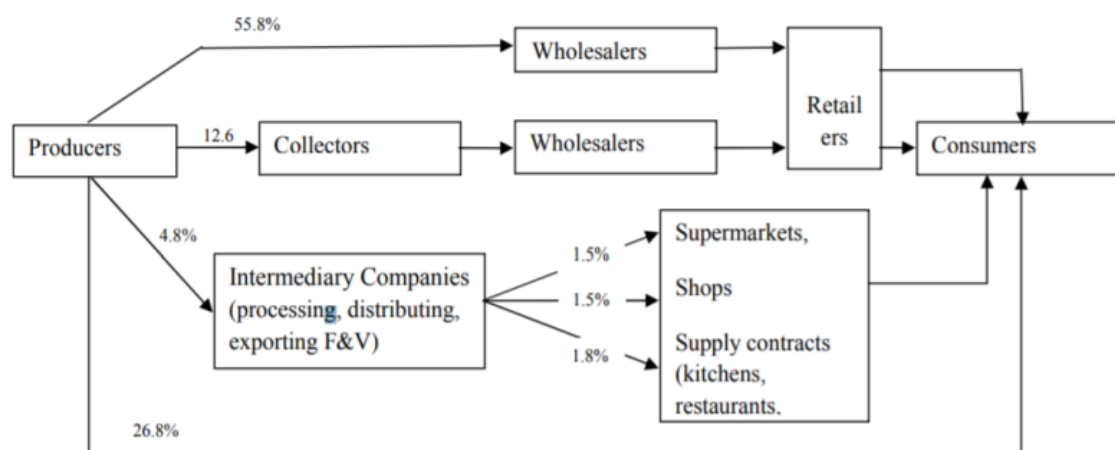


Fig 9: Supply chain of safe vegetables and the amount traded through each actor in the chain

Source: Huyen & Huong, 2017

The producers in the safe vegetable chain have sometimes more income than their conventional counterparts and they are most of the times trained with sustainable production

methods like IPM (Son, 2006). The supply chain is to a certain extent, organised in this case, compared to the traditional ones. But, the co-ordination between the actor is lacking. They have less co-ordination about the several standards and methods that must be followed. There are many cases where some of the producers are seen applying pesticides just some days before harvesting (Petersen et al., 2017). This not only affects their field but also the neighbouring fields and ultimately affecting the hygiene and safety of the produce. According to a statement released by the Head of the Việt Nam GC of MARD, Hồ Xuân Hùng, “We cannot address the unsafe food issue properly if food producers do business for their benefit only, without caring about others. This is not only a matter of law enforcement, but also of morality, public health and the well-being of the nation’s future generations” (Thuy, 2016). There is also lack of unity and co-operation between the farmers and thus, the collectors, companies and other private actors can take advantage of these by imposing unfair prices on them. The collectors and the farmers connections are also broken as sometimes the collectors have to go to remote areas as the local producers tend to sell it to far off traders who offers bigger sum. The contracts are also short termed and there is no concept of risk sharing. The producers can sell their harvest to whoever they like in different seasons. Thus, the trust relationship is not there. There are even unfair competition between the wholesalers, companies and the retailers. All these actors are mostly profit seekers and they have no loyalty towards each other and product quality. The wholesalers do not have any contracts with its buyers and they mostly operate on the basis of buy and sell policy. All of these factors lead to price volatility and low product quality. Compared to the traditional market where there is some kind of trust relation between the consumers and the sellers as most of the markets operate in the neighbourhood and deals with mostly same consumers everyday, these specialised stores do not have that option. Hence, consumer feedbacks are not taken seriously and most of the times not resolved (Huyen & Huong, 2017).

### **3.3. Policies framed by the government**

The Vietnamese government has framed new policies keeping an eye on the growing population and towards building an efficient and hygienic food systems. The integration of Vietnam into the WTO in 2007 resulted in food safety being a topic of international focus and funding has been received related to it. The MARD and MOH are directly related to the planning and implementation of these policies (Sarter et al., 2014). The public and private entities have adopted various strategies to achieve the goals of the policies like training programme for farmers, introducing standards and certifications to maintain food safety, and value chain integration (World Bank, 2017). Subsidies are given to farmers in terms of irrigation, seeds, credit. Farmers are given direct payment to cultivate rice and they are

encouraged to increase the harvest by building dykes for irrigation and it is also ensured that farmer gets a profit margin of 30% (OECD, 2015).

The government is mostly inclined towards modernising the present system e.g. to shift towards large-scale agriculture, replace the wet market with modern retail outlets and converting subsistence farmer into wage workers to fit into the modern economy context (Vorley et al., 2015). Recently, three policies have been framed which can affect the food system and the procurement of safe, sustainable and healthy food.

**I. Supermarket Policy-** A plan to replace the existing food system network of food provisioning with the supermarkets, which is considered to be more efficient in terms of traceability, supply chain organisation, hygiene and safety. The plan is mostly envisioned by HPC and they want to bring the down the number of wet markets in Hanoi to 15 by 2020 (Wertheim-Heck et al., 2014). The vegetables sold in the modern outlets (e.g. Supermarkets) needs to have certificates by the Vietnam authorities assuring that their production has been in accordance to national regulations (Sarter et al., 2014). The supermarket policy includes both supermarkets, hypermarkets and minimarts. It can be anticipated that the modern retail outlets are going to get a boost in the coming years because of various reasons like increased disposable income of the Vietnamese population to buy premium products, need of buying in a higher quantity because of busy schedule, westernised culture, attraction towards processed food, concerns over food safety and the urge of having pleasant shopping experience (GAIN, 2017).

**II. A safe vegetable policy** which focuses on “safe” vegetable production and an efficient supply chain management. The increasing concerns of consumers over food safety and the increase in incidences of food poisoning and foodborne diseases in recent years have led to the framing of this policy as vegetables are one of the highest consumed food product in Vietnam. Recently, in Hanoi the focus has been to expand the area under safe vegetable production zone in order to provide safe vegetables to the inhabitants of the city. Any individual or business willing to produce safe vegetables must be acknowledged by HDOSTE (Vien et al., 2005). The main focus in this area has been controlled pesticide usage and farmer’s training is one of the option chosen to control this. ‘Sustainable Safe Agricultural Zones’ could ensure (i) food safety risks in agro-production are avoided, (ii) production activities are organized and efficiently linked with processing and marketing, (iii) efficiencies from investments in processing and marketing infrastructure are attained and (iv) the climate for encouraging greater investments by farmers and agribusiness is conducive” (World Bank, 2017). The ADB and QSEAP development projects supports the expansion of Safe Agricultural Zones in 16 provinces (World Bank, 2017).



The safe vegetables are being sold through a. traders getting access to safe vegetables through wholesalers b. through stores, supermarkets and shops in Hanoi c. direct selling to households. Some farmer's organisation is now certified to produce safe vegetables and they are trained to produce with lower pesticide usage and mostly these vegetables are sold in schools, supermarkets, canteens and public institutions (World Bank, 2017).

Safe vegetable policy can ensure improved consumer health through having certified products with less pesticide usage (Shields, 2013). There are few standards which when complied by the producers can sell the vegetables in public institutions like hospitals or canteens (World Bank, 2017). Some of the standards have been framed according to the principles of GAP but the vegetables sold in the market having such standards are still lower than 35% even after several years of the implementation of the policy (World Bank, 2017). Farmers are given free technical training and subsidies for adopting VIETGAP (Pham, 2017). VietGAP introduced in 2008, helps to trace products and maintains the production protocol (Moustier & Sacklokham, 2009). There are other two certification labels called GLOBALG.A.P (previously known as EurepG.A.P) and HACCP (My et al., 2017). As sometimes the conventional certifications cannot be adopted by the farmer, community-based certification is introduced for small scale production through PGS.

**III. Master Plan for 2030** which aims to convert the agricultural land into commercial, industrial, or residential use and to reduce the agricultural land in Hanoi province by 30% before 2020. It plans to convert 450000 ha of agricultural land to urban land within 2025 (Leducq & Scarwell, 2018). The plan is to incorporate Ha Tay Province, Vinh Phuc Province, Me Linh District and four communes of Luong Son District, Hoa Binh Province within the urban areas of Hanoi, consequently tripling its size (Leducq & Scarwell, 2018). This implies that the supply of agricultural products from nearby areas can be impeded but they also mention about green belts which reserves some space for the production (Vorley et al., 2015). There is a plan of preserving 60% of the province territory as a green corridor which along with cultivated areas also includes forest areas and natural parks. The modernised form of urban agriculture is meant to be incorporated within the urban infrastructure. This is planned to mainly have a supply to feed the urban population on one hand while on the other hand to keep the supply chain short (Pulliat, 2015). The policy envisions to have a standardized formal supply chain and to push farmlands quite far from the main urban centres. The plan also mentions about having large scale commodity based mechanized agriculture having high yielding varieties by application of modern technology and science. The main aim is to increase productivity, efficiency, food security and maintain high quality safe food products. It wants to improve land, water efficiency and have less impact on the environment (Thang & Bao, 2014).

### **3.4. The regulatory framework of the policies**

The sustainability of the food sector in Vietnam is mainly under three ministries namely MOH, MARD and MOIT and divided amongst them on the basis of commodities. Fig 11 gives an overview of the regulatory framework for the implementation of the policy. Fig 10 shows the general method of development of policies in Vietnam. The responsibilities have been assigned under the Food safety law (World Bank, 2017).

MOH- It has the overall responsibility of the safety, hygiene and sustainability of the domestic food sector. MOH through VFA helps to maintain co-ordination between the state level activities (World Bank, 2017).

MARD- It is responsible for maintaining the safety standards of cereals, all kinds of animal products, genetically modified food, salt and other farm products under the government's regulations. It is also responsible for fisheries, livestock sector inspection including the slaughtering section, the post-harvest handling of agricultural products.

MOIT- It controls the standards for both the domestic processed products like liquor, beer, beverages, processed milk, vegetable oil, powder and starch-based processed products as well as the exported products (World Bank, 2017).

	Laws and ordinances	Decrees
<b>Who can draft the document?</b>	President, National Assembly Standing Committee, Committee of the National Assembly, the Government, the Supreme People's Court, the Supreme People's Procuracy, the State Audit, the Central Committee of Vietnam Fatherland Front and the central agencies of the member organisations of the Front	Ministries and ministerial agencies themselves, or as directed by the Government, Prime Minister, recommendations of agencies, organisations and individuals
<b>To whom is the document submitted?</b>	National Assembly and National Assembly Standing Committee	Prime Minister
<b>Before presenting the proposal, organisations or individuals must perform the following:</b>	<ul style="list-style-type: none"> <li>• Review related legislation</li> <li>• Survey and assess the situation of related social issues</li> <li>• Carry out scientific research on related issues</li> <li>• Study related information, reports and international conventions of which Vietnam is a member; if necessary, request agencies, organisations and individuals to provide documents and information related to the proposal</li> <li>• Develop policy content in the proposal and assess the impact of the proposed policy</li> <li>• Estimate required resources and conditions for implementation of the policy after approval</li> </ul>	
<b>Consultation</b>	<ul style="list-style-type: none"> <li>• The author of the proposal should consult with agencies, organisations and individuals expected to be impacted by the proposal. This consultation process should include a clear explanation of the proposed policy, and related research findings with relevant explanations. The proposal should be amended to include comments and changes resulting from the consultation process.</li> <li>• Final reports and impact assessment reports of the proposed policy should be published on the government portal as well as the portal of the proposing agencies or organisations. This must be done at least 30 days before it is presented.</li> <li>• Consultation must include the Ministry of Finance, the Ministry of Home Affairs, the Ministry of Foreign Affairs, the Ministry of Justice, and other impacted agencies and organisations. If necessary, meetings/workshops should be organised for comments on the policy proposal.</li> </ul>	
<b>Appraisal</b>	The Ministry of Justice presides over the appraisal process, in collaboration with the Ministry of Finance, the Ministry of Home Affairs, the Ministry of Foreign Affairs and involved agencies and organisations. Appraisals are submitted to the Government within 20 days of receipt of appraisal application.	
<b>Legal verification</b>	The Legal Committee verifies law and ordinance proposals and recommendations for the National Assembly. The Committee of the National Assembly and the Parliament Committee are responsible for coordinating the legal commission in examining law and ordinance proposals and recommendations, giving their opinions on the need of promulgation of policies and documents, and the priorities of policies and documents in the fields under their charge.	Ministry of Justice presents an evaluation report
<b>Consideration of approval</b>	National Assembly	Government vote

Fig 10: General process of Development of Laws/ Changing of existing laws in Vietnam

Source: Petersen et al., 2017

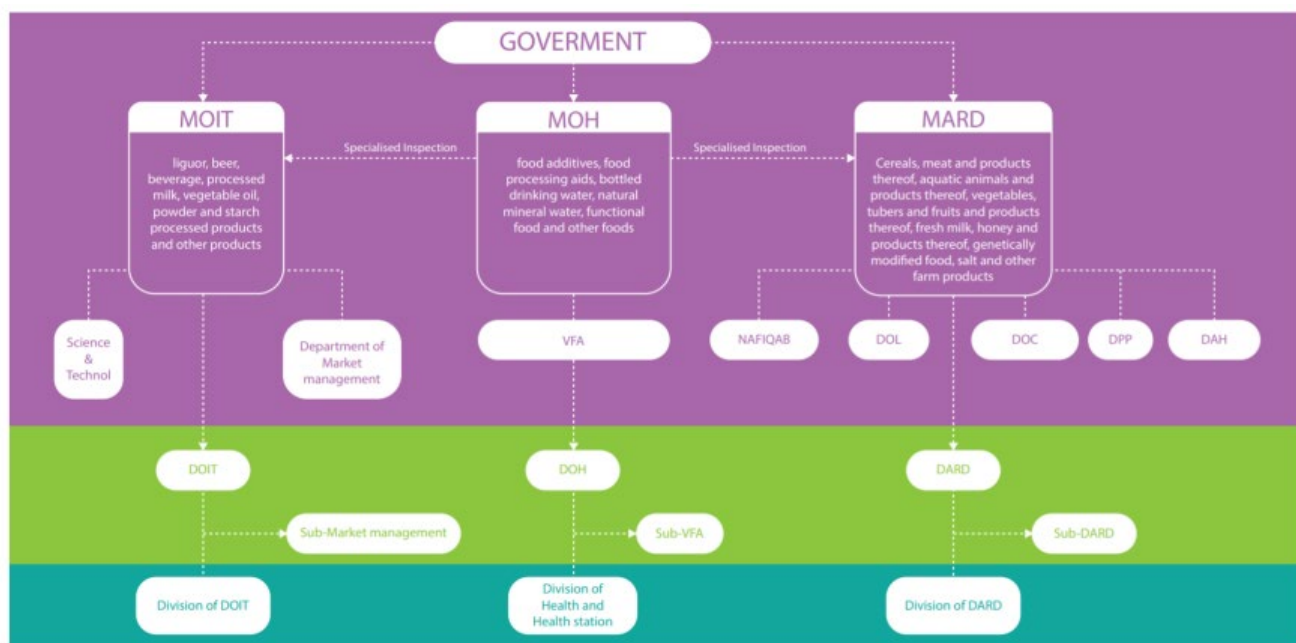


Fig 11: The regulatory framework of the implementation of the Food safety laws

Reference: World Bank, 2017

### 3.5. Hanoi's Agricultural Administration

The city of Hanoi is being divided into several districts and districts are further divided into communes. The districts are being administered by the MARD while the communes are not directly under MARD but individuals are appointed at the commune level by them to bridge the gap between the officials and the farmers. The commune level agricultural production and decision activities are being controlled by some cooperatives which are precisely known as Communal cooperatives. These are not for profit organisation and they are strongly connected with MARD (Pham, 2017).

### 3.6. Food safety situation

In 2012, the number of reported cases of cancer were about 125,000 but it expected to rise to almost 190000 cases by 2020 (Nguyen-Viet et al., 2017). The belief among people is that, the cases are related to food contamination. Though proving this seems to be quite difficult but there are evidences that some of the pesticides like diazinon, malathion and glyphosphate, still used in agriculture are carcinogenic (Nguyen-Viet et al., 2017). According to a delegate of the National assembly, "Every year 70,000 people are dying from cancer, a significant proportion of which is due to unsafe food. Is it an overstatement to say that we are poisoning ourselves?" (Tuoi Tre News Staff, 2017).

Pork which is the second most sought after food product, are detected with prohibited veterinary drugs like sulfamethazine and chloramphenicol. The presence of Lead and Salbutamol are

also detected in pork (The Food Safety Working Group, 2016). Salmonella was also detected in the final product in the market which poses an important health risk for the consumers (The Food Safety Working Group, 2016). According to a World Bank report 2017, 76% of the pork that are consumed are being slaughtered in areas where proper hygiene is not maintained (Minh, 2017). In case of consumption of eggs and meats, the amount of PCB and dioxin intake is higher than the permissible limit set by WHO (The Food Safety Working Group, 2016).

The Vietnamese government have been trying to deal with food safety issues since 1990's but the extent of improvement of the situation is not noteworthy yet, which was even agreed by Nguyen Xuan Cuong, the minister of MARD (Petersen et al., 2017). There is a popular saying in Vietnamese that 'the Vietnamese are killing the Vietnamese' which itself explains that the Vietnamese consumers have no trust on the actors of the current food system (Tuoi Tre News Staff, 2017).

The government of Hanoi have aimed to reduce the food poisoning cases to only 6 cases per 100,000 people and also have aimed in the reduction of food borne diseases (Thang & Linh, 2015). The government have set a goal of reducing the number of products containing pesticide residues by 10% by the end of 2018. They have already implemented 60 authorized food chains in the city of Hanoi (Asia News Network, 2017). In 2016, keeping the increasing cases of food contamination under consideration, the Prime Minister of Vietnam instructed MOH, MOIT and MARD to tighten controls over food inspection. He demanded that the violators be strictly punished. The articles in a local magazine states that "The Prime Minister instructed local authorities to build safe agricultural zones, apply safe production models and develop safe food distribution networks. He demanded producers and traders announce their production and trading processes which must ensure food safety and hygiene" (Minh, 2016).

The policies wanted to impose standards to increase the guarantee about food safety and to increase traceability but, according to Pham, 2017, the farmers do not comply to the standards stated for certification to produce their vegetables. The reason is that producing vegetables according to the standards results in some extra fixed costs which a small-scale farmer cannot afford most of the times (Pham, 2017). It should be mentioned, that reports have suggested that the vegetables coming from the peri-urban areas are of higher standards than from the rural areas as there is almost no inspection services in those areas and the farmers do not take part in any kind of training. Thus, they apply pesticides without any limits or without knowing the legal brand. The poverty level being also high, the producers cannot afford to certify their products. The rural farmers mostly save/ exchange their seeds which sometimes are not of high quality while the peri-urban farmers buy the seeds from specialised retailers or town markets (Moustier, 2007).

Some changes have happened over the years, as a study states that the number of pesticide retailers in the Dong Anh district have decreased from 128-28 between 1998 to 2006. Another incidence which proves the above statement, is that in the same district in 2005, 7000 sq.m. of mustard got wasted and the farmers blamed it on one retailer for selling illegal pesticide and complained to the commune authorities. The retailer got fined but he still runs his business. But the good part is that he runs it properly without any dealings of illegal pesticides (Van Hoi et al., 2009). On the government's side, they have also taken action and have banned 300 pesticides in 2016 (Asia News Network, 2017). A trend can be observed that the farmers are still using pesticides but with a lower intensity and toxicity (Van Hoi et al., 2009). Thus, the problems related to pesticide usage, heavy metal usage and micro-organism contamination are persistent in the supply chain of fruits and vegetables. According to a study it was seen that the farmers are still using pesticide sprays of 2-3 kinds on vegetables like lettuce, cabbage and tomatoes. The amount of fertiliser usage is higher than the permissible limits set by 1.5- 2 times of Nitrogen and Potassium and 3 times of Phosphorus (The Food Safety Working Group, 2016).

The increased efforts of the government to bring in change in the food safety levels somehow does not reflect what it aims to, and it is observed that the vegetable supply chain still believes in meeting the quantity rather than quality (The Food Safety Working Group, 2016). On one hand, the state wants to regulate a supply chain concerning the supply of safe vegetable products, while on the other they subsidise the supply of natural gas, electricity water etc. to the SOE's producing bulk amount of fertiliser and pesticide for domestic usage. The trend of using these are much more in the domestic food chain rather than export-oriented products as Europe has made the safety standards for Vietnamese products much higher (World Bank Group, 2016). This problem of pesticide usage is also degrading soil and water used for agricultural purposes, aggravating the food safety problem much further (World Bank Group, 2016; Petersen et al., 2017). Though the aspiration of safe agriculture has been an aspect of the policies but not much is done to protect the resources which are partly responsible for safe and sustainable agriculture. National policies are at place, but at the regional level, the aim is to earn revenue and get more output from one plot of land. Thus, in turn, intensifying agriculture (World Bank Group, 2016).

The Master plan, 2030, has an advantage of better land planning which states that land planning in some way also helps in getting access to safe food products through green belt areas, safe agricultural zones (Pulliat, 2015). On the other hand, the policy has indirectly put pressure on agricultural lands, which indicates towards increased intensification of the green belts. This means an increased usage of pesticides and fertilisers to get the maximum yield per unit area (Pham, 2017).

According to a study, the awareness of certified products is quite low among Vietnamese people. It was being noticed that people were aware about good agricultural practices but were not aware about the specific labels like VietGAP and GLOBALG.A.P. In the study 40% of the participants were aware of what sustainability and safe food means but were not aware of the certifications. Only 10% of the participants knew about the standards and it was seen that people who knew about the standards are frequent buyers of supermarkets. (My et al., 2017). Thus, it can be predicted that the food safety standards are not quite known among people to consciously decide on what they need to eat. According to Head of the Việt Nam GC of MARD, Hồ Xuân Hùng, stated that “consumers, food firms and even those working in the food safety sector have not been sufficiently aware of food safety” (Thuy, 2016).

In case of Thanh Tri, one of the important vegetable supplying area of Hanoi, the condition of growing vegetable is quite poor without much infrastructure. The Thanh Tri district is located at the downstream of the main built areas of Hanoi and all the pollutants of the city enters through the rivers. It gets most of its irrigation water from the To Lich river. The vegetable production, thus, thrives in the water consisting of industrial, domestic, hospital effluents (Van den Berg et al., 2003; Hoang Fagerström et al., 2011). The water has high COD, nitrate, phosphate, heavy metals and coliform bacteria (Hoang Fagerström et al., 2011). There are also no proper drainage system and the irrigation water gets mixed with the drainage water. The problem gets worse in the rainy season (Hoang Fagerström et al., 2011). There are no proper techniques still available through which the beneficial nutrients from the sewage can be separated from the waste water. It is also observed that the farmers in these areas use pesticides and chemical fertilisers which also adds to the pollution of the nearby water and the vegetables (Van den Berg et al., 2003). The farmer seems to know about the problem and they agree that because of the bad water quality, the vegetables contain higher toxic elements, but they do not know how to change the present condition (Hoang Fagerström et al., 2011).

### **3.7. The background and state of Supermarket growth in Hanoi**

The supermarket culture has expanded itself very recently in Vietnam. Though all over the world, the supermarket culture has been present from a long time, but in Vietnam it is quite recent because of reasons associated with logistics, the uncertainties of developing a modern retail chain and also constraints related to the fragmented nature of primary and secondary production (World Bank Group, 2016). Hanoi is considered to be one of the most targeted city for the modern retail market (Deloitte, 2014). The government has undertaken the Retail Modernisation policy to keep supermarkets at front (Wertheim-Heck, 2015). To promote supermarkets, the government (Domestic Trade department of Ministry of Trade) have targeted the informal markets and the vendors are now

prohibited to sit in 63 major streets and 48 public places (including hospitals, bus stations) in 2009 (Vorley et al., 2015; Thi Tan Loc & Moustier, 2016). The strategies that are mainly undertaken by the government to reduce the numbers of traditional market are: 1. No new planning of such markets within the city planning 2. Raising the standard of food retailing which cannot be complied by the traditional market 3. Acquisition of the land that are presently allotted for traditional market to transform them into supermarket/ convenience stores (Wertheim-Heck, 2015). Within 2020, the state has aimed to reduce the number of wet markets to only 15 by replacing them with supermarket, convenience stores, hypermarkets etc (Wertheim-Heck et al., 2014). The street vending, according to the trade authorities are considered to contribute to problems like bad image of the city, traffic jams, lower food quality standards, attracting migrants from other provinces to the city (Moustier et al., 2009). This strategy, to a certain extent, threatens livelihood and food security of a lot of people (Thi Tan Loc & Moustier, 2016).

The supermarkets have set their own standards which compensates for the lack of public standards (Moustier et al., 2009). The modern retail market can be of several types like supermarkets which are over 500 sq. m in size and offers more than 4000 different goods. They operate under the self- service concept. The next are convenience stores which are of less than 100 sq. m in size and are located within the neighbourhoods. Another type is independent stores which have their own facilities (Cadilhon et al., 2006). The investment in modern retail sector like supermarkets, trade centres are considered as a priority to meet the needs of consumers and to achieve urbanisation (Thi Hong Nguyen et al., 2013). Till 2017, there were 4 hypermarkets, 91 supermarkets in the Hanoi city compared to that of 2 supermarkets in the late 90's (GAIN, 2017). As most of the modern retail stores are concentrated in the cities like Hanoi and Ho Chi Minh, it can be stated that the modernisation of the food sector is mainly targeting the upper middle class urban section of the population (GAIN, 2017). But within 2003-2006 some of the minimarkets and convenience stores have entered the secondary cities while after 2007 it started invading into the smaller cities nearby big cities (Thi Hong Nguyen et al., 2013). In the last 10 years, CircleK, Shop&Go, FamilyMart, BigC, Fivimart, Citimart, Simply Mart, Aeon, Lotte, Parkson, Takashimaya, Intimex are the international supermarkets that have entered the Vietnam market while Walmart is also trying to take the opportunity of entering the market (Nguyen Ngoc Thuy, 2017). Some home brands are Saigon Co.op, G7 Mart and Vinmart (Thi Hong Nguyen et al., 2013). Vinmart already launched 15 supermarkets in Hanoi at a time and now they have spread all over the nation. Alongside that, they have numerous stores accounting to almost 880 only in Hanoi and Ho Chi Minh city (Nguyen Ngoc Thuy, 2017). Table 1 &2, shows the details of supermarket and convenience stores in Hanoi respectively.



Table 1: The details of the supermarket, hypermarket brands in Hanoi

Brands	Numbers in Hanoi	Owned by and the date of opening
Big C	6	Central Group Thailand, 2005
Fivimart	23	Vietnamese company and co-operates with Aeon, Japan, 1997
Lotte	2	Korean company, 2014
MM Mega market	3	Owned by TTC Thailand, 2017
Intimex	7	Vietnamese joint stock holder, 2007
Aeon	1	Share-holding company and the major shareholders are AEON (Japan) and Fivimart (Vietnam), 2015
Co-op market	2	Local, belongs to Saigon Coop, 2010
Vinmart	15	Vietnamese private company, 2014

Table 2: The details of the convenience store brands in Hanoi

Brands	Numbers in Hanoi	Owned by and the date of opening
Co-op food convenience store	3	Local, belongs to Saigon Coop, 2017
Annam Gourmet	2	Vietnamese company, 2015
Vinmart+	400	Vietnamese private company, 2014
Circle K	55	U.S. owned company, 2015
T mart	16	N.A.
Shop & Go	15	Malaysian invested company, N.A.
Homefood	2	Vietnamese joint stock company, 2015
Orfarm	4	Vietnamese company, 2013

The Vietnamese government have liberalised its trade sector allowing more and more international brands to enter and thus, transforming the retail sector (EUROMONITOR INTERNATIONAL, 2017). The markets are getting flooded with imported products which in one way is offering a variety of products to the consumers but also these are transported from the opposite part of the globe. This gives an indication that how long the product stays in transportation which means that they are most of the time not fresh or are treated with preservatives to increase their shelf life. The positive side is that the supermarkets have set their own standards which compensates for the

lack of public standards (Moustier et al., 2009). Supermarkets have had a kind of good impact in terms of quality on the supply chain as the supply chain actors and consumers have got more concerned about quality, hygienic condition of the products. But, on the other hand, it can be expected that only getting supplies from producers having land shares and forcing them to undertake few standards to maintain quality without much compensation initially, can force the smallholders to be out of the chain.

According to “Grocery Retailers in Vietnam report 2016”, the total amount of sales from modern outlet is 6% while that from the traditional market still accounts for 94%. They are expecting that by 2025, the sales from the modern retail market might reach 20% (Deloitte, 2014; Nguyen Ngoc Thuy, 2017). Though Vietnamese consumers are more familiar with the traditional way of buying products but due to the fast pace of life, the younger generations are getting attracted towards processed and ready to eat products (Thi Hong Nguyen et al., 2013). The change in dietary patterns are observed and the consumption of rice is declining while the consumption of processed food, animal products are on rise. The sales for ready to eat products, snacks, processed food have considerably increased over the years since 2000’s. The proof is that there is a shift in the contribution towards GDP by the primary agriculture, which is now becoming significantly lower as compared to agribusinesses/ agro-industries (World Bank Group, 2016).

80% of pork and 85% of the vegetables are still sold from wet and small scale neighbourhood markets (World Bank, 2017). Vietnam stands as one of the top five countries with the fastest growing traditional food sector (Phuong, 2017). Though Vietnamese modern retail market was one of the dynamic market because of increasing consumer concern over healthy and branded food products, but to the economic slowdown, most of them are preferring to stepdown from the ongoing trend. The GDP has gone down from double to single figures within a span of 2007 to 2017 (Leducq & Scarwell, 2018). The GDP of Vietnam is still quite low compared to other countries in South East Asia and this also has an effect on the growth of modern retail sector of food products. In 2016, there is negative growth of 0.6% of the modern retail sector.

To increase sales, the supermarkets are now coming up with attractive loyalty programmes and discounts (Deloitte, 2014). Fig. 12 shows the advertisement of discounted products available at the Intimex supermarket. The home grown brand of Vingroup are strategically using consumer’s concern over food safety and assuring a shopping experience where the consumers can buy food items which are safe and of high quality. To increase the convenience of the shoppers they have opened Vinmart and Vinmart+ which are small stores and minimarkets allowing the shoppers to shop quickly and conveniently. They also launched eco agricultural-branded Vineco which are only available in their

stores. Most of the products in the Vinmart stores are sold under the brand name of Vineco. To increase the quality of the food products and earn consumer trust they are transferring the sophisticated technologies from countries like Netherlands, Israel and Japan (Nguyen Ngoc Thuy, 2017). They have started a programme called "Companionship, support and promotion of domestic production" to help the local businesses produce safe and sustainable products and then they assist them to enter the supermarkets under several conditions. They also collaborate with the small and medium scale businesses and they aim to make the supply chain more sustainable and safe. This is part of their social responsibility and a market strategy to collaborate and keep the competition in place for the foreign brands trying to enter the Vietnamese market. The Vingroup also tries to keep the price attractive (Nguyen Ngoc Thuy, 2017). The intense marketing and promotion, shopping experience in a clean environment, the discounts, the luxury of having already cut fruits and vegetables are the strategies that are used by the supermarkets to attract consumers (Cadilhon et al., 2006).

Most of the supermarkets do not have fresh stocks of vegetables and fruits. Many factors are responsible for this like most of the consumers prefers to buy fresh vegetables from the traditional market and another is that the distribution of such perishable products become quite difficult for foreign branded supermarkets as most of their products are imported from outside and needs a lot of time to reach its destination. But recently, due to the emergence of more and more home brands, they are concentrating on keeping more fresh products like traditional markets to attract consumers (Cadilhon et al., 2006). The supermarkets have been changing their trend over the years with the introduction of processed food (canned, dried and packaged products) to semi-processed food products (packaged fish, meat, dairy products etc) and now they have changed their focus to fresh vegetables and fruits. In most of the places, they are trying to keep all of them simultaneously to give the consumers a complete shopping experience. But with the increasing dealings with perishable products, more questions about the quality standardisation, freshness comes into the picture. Concerns over safety issues regarding pesticide and antibiotic residues, food contamination have also increased because of higher demand of high value perishable products (World Bank Group, 2016).



Fig 12: Intimex supermarket giving discounts to attract customers

### 3.8. Safe vegetable production and certification

Certification of the safe vegetables by MARD is the only way to ensure the safety protocols of the vegetables (Moustier & Sacklokham, 2009). In 2013, MARD have set criteria for declaring areas as safe production area. Some of the criteria are: limited usage of pesticide and chemical fertilisers, capacity of production should be at par with the local households (Thang & Linh, 2015). Out of the 9000-ha used for vegetable production in the city, 2000 ha are allocated for safe vegetable production (Dinh et al., 2016). The producers dedicated towards growing safe vegetables receives training from the government on IPM and other production processes. They also receive aid in the form of net supplies, fertilisers, pesticides, better irrigation systems so that they are encouraged to grow in larger areas (Mergenthaler et al., 2009). The AVRDC-The World Vegetable Center is working on the safe vegetable supplies in the peri-urban areas of south east Asian countries and efforts are being made to decrease pesticide usage, improve the environmental conditions and human health. AVRDC and CIRAD - French Agricultural Research Centre for International Development, then joined hands to initiate SUSPER project whose aim is to enhance the agriculture in the peri-urban areas in a sustainable way (Moustier, 2007).

The farmer's organisation/ co-operative in Hanoi, who have the certificate to produce safe vegetables are quite young. The increase in the number of co-operatives helps in enhanced internal quality control (Moustier & Sacklokham, 2009). They are mainly formed by the local government and institutes and they follow their own protocols. Presently, the government is providing training to the farmers to make them aware of the protocols and the regulations. The farmer organisations which supply goods to supermarkets, schools and canteens have higher standards than the others and thus, the government uses them as an example for others and they are used as mediators to link others to

a quality supply chain (Wang et al., 2012). Till 2015, the total VietGAP certifying agency in Hanoi were 4 which could successfully monitor 51.6% of the total vegetable planting area. There are till date 5 agricultural products that are been certified by VietGAP i.e. rice, vegetables, fruits, tea leaves and coffee beans (Thang & Linh, 2015). The adoption of VietGAP in 2008, has helped to enhance the internal control standards as it helps to track the origin of the produce till it is sold to the final buyer. The farmers certified by VietGAP must keep record of the amount and type of fertilizers and pesticides. The records should be checked when the yearly inspection is carried out. Also, the farmers have to leave a gap of atleast 2 weeks between the last application and the harvest (Kote, 2014). Majority of the vegetables in the supermarkets are being certified with VietGAP. Most of the rice products are certified with HACCP label. MARD have certified 266 standards for agricultural, forest and fishery products (Thang & Linh, 2015). The government is currently providing all the necessary costs for determining areas for production of VietGAP certified products and the local government acts as the main actor who will look over this activity. The government has a target of making all the stakeholders and consumers aware about the food safety standards and they should practice and have the proper knowledge about these standards. Moreover, they aim that within 2030, all the trading, processing production, facilities will meet the food safety requirements and standards (Thang & Linh, 2015). The small/medium scale producers who adopts the standards for the 1<sup>st</sup> time will be supported by the government for the first year in terms of keeping up with the requirements (e.g. testing food samples and providing test kits). But in any case, only the subsidised farmers can afford to undertake certification which equals to almost \$850/ ha (Thang & Linh, 2015; Kote, 2014). The certification costs are not affordable for small scale farmers and thus, the uptake of the certification standards is really low (Hùng, 2000). Complying to the standards by most of the farmers in a country like Vietnam is heavy burden both in terms of costs and time. It was reported that GAP fails to cover the costs of certification and re-certification, farmer investments (Hùng, 2000). The training provided by the government takes weeks and every farmer does not get the training. The certified fertilisers and pesticides are also more expensive than the traditional ones (Vorley et al., 2015). After all these, the uptake of GAP has been quite low amongst the Vietnamese food supply chain. The reasons can be scattered like small scale production, low capacity of handling, processing, preservation and cultivation throughout the supply chain of fruits and vegetables (The Food Safety Working Group, 2016). But at the same time, it is quite important for the farmers to get access to a certain profitable segment of the market (Moustier & Sacklokhham, 2009). It must be realised that though certification is important but it most of the time fails to ensure the long-term safety of the products because of lack of internal control.

As discussed before, there are generally 3 outlets through which citizen gets access to safe vegetables. The shops belong to Food companies, Seed companies, Fruit and vegetable companies (Vien et al., 2005). The stalls in markets can be demarcated from others as they have some information like name and address of production unit and selling unit written on it (Son, 2006). Along with specialised shops there are some retail units through which large amounts of such vegetables are sold like Big C, Fivimart, Hom market, Thanh Cong market, Hghia Tan market etc (Son, 2006; Deloitte, 2014; GAIN, 2017). New plans have been made where these produces can be procured by the consumers through online platforms directly to homes, offices and restaurants (Anh et al., 2012) The number of selling places have increased considerably over the years. It was only 5 in 2005 while it is 164 in the year 2015 (Dinh et al., 2016). They are mainly traded through co-operatives, collectors/ distributors and then reaches the sale outlets. Most of the safe vegetables are sold to the schools, restaurants, retail stalls, factories. Only 8% are sold through dedicated safe vegetables sales outlet. Rest are sold in the free market (Huong et al., 2013). In co-operation with the farmers, the local authorities organise annual fairs where the safe vegetables are advertised to the retailers and the consumers (Mergenthaler et al., 2009).

The most important vegetable in the safe vegetable supply chain are leafy vegetables (Huyen & Huong, 2017). At present there is a demand of 3000kg of safe vegetables per day, but Hanoi and its neighbourhood can meet the demand only by 30%. The vegetables grown in the safe vegetable area are quite limited in Hanoi. Dong Anh and Gia Lam are leading in the production of safe vegetables (Vien et al., 2005). The prices are quite premium when compared to normal ones which poses difficulty in accessibility and affordability (Dinh et al., 2016). It was observed that people having higher incomes prefers to buy safe vegetables compared to low income groups (Hoang & Nakayasu, 2006). Also because of inconsistent results about the quality of the safe vegetables and due to lack of transparency in the market, consumers are sceptical about the actual quality of it. Government have made efforts to run a pilot project in 2011, to introduce the concept of specifying the origin of the products which can serve as an identification label for the safe products. In 2012, the labelling has been started for products coming from few provinces. In 2015 another pilot project was done where an identification stamp and code were introduced on the products. Keeping the success of these projects under consideration, the Department of Plant Protection have introduced a concept of “certification of safe vegetables” but now most of the safe vegetables are sold without any stamp raising a question about traceability which has a negative impact on the trust of consumers (Huyen & Huong, 2017). The products which can be differentiated as safe products have the name of the production unit, address, contact number, kind of product, harvesting date and price etc written on it. These are mainly done for those items which are specifically having VietGAP certification and are sold in the supermarkets

(Son, 2006). To get a certificate by the Department of Plant Protection few inspections of soil (nitrates, pesticides, heavy metals), water (heavy metals, pathogens), vegetables (pathogens, pesticides, nitrates, heavy metals) are carried out along with checking of relevant documents (statement of compliance with proper standards, statement of participation in IPM training sessions, list of items sold in the outlet, map of the production zone) (Moustier, 2007).

Government has framed policies to support the expansion of these market in a proper way through agricultural extension services, technology transfer and scientific support. But, all of these are not formalised in a proper way (Huyen & Huong, 2017). The planning of the production areas is not properly done. The communication about hygiene and standards are quite loose and there is a lack of clarity between the job division between the different ministries. Also, because of the fragmented structure of the cultivated plots, the costs of supervising, providing technical assistance/ advice are quite high (World Bank Group, 2016; Petersen et al., 2017). The violation of the rules is quite high as the government is quite lenient in imposing penalties and most of the violators are not even identified. A Vietnamese lawmaker, Phung Quoc Hien, have been quoted saying to a local newspaper that “Nearly 680,000 violations had been detected in the past five years, but only 20 percent had been punished and just three people had faced criminal proceedings” (VnExpress, 2017). According to Hồ Xuân Hùng, the Head of the Việt Nam GC of MARD “However, we should not hastily blame the problem on farmers. One major cause of the rampant sale of unsafe food is a lack of regulations and punishments that are strong and strict enough to deter violators” (Thuy, 2016).

The certification brands are not properly advertised and most of the actors in the chain are not aware of the importance of brand development and advertisements. The usage of pesticide is a common thing in the safe vegetable chain and it was seen in a study that the farmers in the Dong Anh commune do not want to use pesticide, but they do it because the downstream actors wants to have products that looks attractive and are without any pest infestations (Huyen & Huong, 2017). It can be observed that just to earn profit the wholesalers most of the time mixes the safe vegetable and the normal produce. Throughout the supply chain, losses occur at each stage. The awareness among the actors in the supply chain about hygiene, safety is very low. The producers are squeezed by the downstream actors and they are less conscious about brands, hygiene, quality seeds. The consumers are losing trust on domestic products as the incidences of food safety have not considerably decreased over the years and they are now moving towards expensive foreign products as they feel that they are better processed than their domestic varieties. But consumers who cannot afford the imported products are left with no choice of choosing the domestic products. Thus, they are not given enough choice to choose from safe, sustainable and cheap domestic products Huyen & Huong, 2017).

In Gia Lam, the Dong Du commune produces vegetables for the Hanoi market and is one of the area which produces safe vegetables. The farmers have received training from The Centre of agricultural Extension, based on the protocols defined under the safe vegetable standards and they are one of the communes who could implement it successfully. The production area has increased due to the land transfer from rice cultivation within the period 1998-2000 and the production have also increased. The produce in this commune is safe and due to the safe vegetable production e.g. in Van Duc, Dang Xa the environmental quality of this area has also improved (Anh et al., 2007). The commune has also been part of the project where the farmers have received training on the implementation of IPM. In 2002, a specialised shop has been set in the Hang Da market of Hanoi, where they used to sell high quality products of this commune. But due to the high running cost they have now shifted the stall to Gia Lam, which poses a question of accessibility for the residents of Hanoi while on the other side the residents of Gia Lam are not aware about these type of outlets (Anh et al., 2007).

Dong Anh has a wholesale market for safe vegetable supply with all the vegetables coming from within the district and it has over 100 traders (Dinh et al., 2016). The district is an important supplier of safe agricultural produce and particular areas like Van Noi are dedicated towards farming of these products. The co-operatives are active in the safe vegetable supply chain (Anh, 2017). A co-operative called Van Tri within the safe vegetable supply zone of Van Noi was being inspected and it was found that almost all the standards are complied in case of tomatoes and cabbages but in case of Chinese peas it was found that the recommended gap between the day of harvest and that of last pesticide spray is not being complied with. According to the producers, the kind of pesticides, manure, fertiliser is being maintained well according to the standards. The co-operative is well embedded into the market value chain. It is supplying to supermarket, restaurants and schools. Also, during the off season it is dealing with the vegetables of another co-operative called Moc Chau and it sells its vegetables through retail points which are managed by the members of the Van Tri co-operative (Moustier, 2007).

One of the co-operatives in Dong Anh called the Dao Duc Safe Vegetable Cooperative have a large share of the produce sold in the Hanoi market. The co-operative started in 2003 and have increased over the years and now has 352 members under it having a total area of 25 ha producing all kind of vegetables mostly leafy ones. The location is quite prime, and it thus takes very less time to supply the vegetables to the stores and supermarkets. But there are many problems as the co-operative does not have proper control on it's members leading to fragmented and disorganised production. Though the awareness among the co-operative members are quite high but the inspection of the quality of the vegetables is not within the capacity of the co-operative, leading to a very weak



level of hygiene and safety management. There is also a tendency of not sorting the vegetables and mixing both unsafe and safe vegetables together (Anh, 2017). All in all, the co-operative fails to take advantage of its proximity to the Hanoi city.

In the Hoai Duc district, the HPC is co-operating to designate areas specially for safe vegetable production. The main 3 co-operatives producing safe vegetables are in the Song Phuong (Phuong Vien & Phuong Bang) and Tien Le (Tien le co-operative) communes of the district (Moustier & Sacklokham, 2009). The HPC is financially helping the co-operatives to get all the vegetables produced in this area be VietGAP certified. The areas are in a very much fragmented manner but after forming the co-operatives, the farmers have got access to the market and now they earn decent amount for their produce. The farmers in the Tien Le co-operative were much aware about internal quality control and the co-operative is mainly represented by a young people. The community is also acknowledged time and again for their efforts of producing safe vegetables. The number of members of this cooperative is relatively small. They also sometimes guide the farmers of the other two cooperatives. These co-operatives previously used to sell to the military camps and pre-schools. After getting the certification, they have started commercially selling the products as safe vegetables. One of the main problem for the co-operative is the lack of diversity of the products which is most of the times required by the companies as well as the supermarkets. Also, the other requirements like early harvesting, details of calculation etc becomes a difficulty for the co-operative to maintain. Thus, they face irregularity in selling their products (Moustier & Sacklokham, 2009).

### **3.9. Current situation of monitoring and inspection**

The stakeholders involved in the supply chain have stated that the implementation of food inspection and monitoring as part of the safe vegetable policy have been quite weak and ineffective (Petersen et al., 2017). The laboratory testing for quality is mainly carried out in the specialised or certification agencies. MARD has issued circulars which states that the activities of the producers, traders will be inspected, and they will be rated in 3 levels- A being the best C being the worst (Thang & Linh, 2015). In the last few years efforts have been made to upgrade the laboratory conditions for the testing of pathogens in food products. Also, to reduce the complexity, the number of ministries in charge of food testing have been reduced from six to three (World Bank Group, 2016).

But it must be noted due to lack of equipment's like sampling tools, food safety testing kits etc and trained inspectors, the capacity of inspection is quite low and even if it is there, it can detect only a limited number of pesticide residues (Dinh et al., 2016; World Bank, 2017; Mergenthaler et al., 2009). Most of the inspection are done for the final products and very less is done for the raw materials or the processes higher up in the supply chain (World Bank Group, 2016). The lack of trained personnel

is because the number of experienced and trained inspectors decreases as it goes down from the central to the commune level. Inspection is hardly conducted in the certified co-operatives (Mergenthaler et al., 2009). According to an economist at the Fruit and Vegetable Research Institute, all the required inspections in a certified farm cannot be done because of the lack of funding, e.g. in case of insecticides. He also states that the results of tests, most of the time comes even after the produce is sold in the market (Kote, 2014). Once the co-operative/farmers organisation receives the certification, after the production the quality controls are mostly carried out internally without any external inspection which means that there are no standardized rules of compliance of requirements. The co-operatives can frame their own rules and there are no formalized rules of what to do in case of non-compliance (Mergenthaler et al., 2009). There is no proper rule as to how many times the inspections have to be carried out, the objects that should be inspected, the protocol, need of specialized activity etc (Thang & Linh, 2015). Adequate finance and supporting policies are also not at place in the grassroot level. At the commune and district level, there is lack of policies which defines the role of an individual and the officers who come for inspection operates far from the actual production field (World Bank, 2017)

### **3.10. Current Land use change situation**

The definition of Urban agriculture is “the growing of plants and the raising of animals within and around cities” (RUAF, 2011; de Wit, 2013). The difference of urban agriculture from rural agriculture is that it is embedded into economic and ecological aspects of an urban area. But in Vietnamese context, the definition is constantly changing as the city limits are constantly increasing and suddenly more and more rural areas are attaining the tag of “nominally urban” (de Wit, 2013). Here, still most of the agriculture is done by small scale farmers with a changing trend, that the farmers now can do part-time jobs in the cities. Because of the wave of urbanisation, the authorities now feel that farming should move away from the city and must be done intensively in giant agro-parks with the help of high-end technologies (de Wit, 2013). Presently forms of urban agriculture are co-existing with each other but in a chaotic way. On one hand the authorities want to realise the above mentioned plan but on the other hand they are also building green belts around the city to sustain agriculture. Technical assistance is also given to the farmers in the peri-urban areas to carry out farming in a sustainable way. The farmers are trying to adjust with the wave of modernisation for instant, by forming collectives to serve the supermarkets (de Wit, 2013). Thus, the Master Plan is aiming to achieve goals which are sometimes contradicting with the other policies which are trying to make the food system sustainable, secure and safe.

The *Doi Moi* reforms resulted in handing over a single patch of land (one sao) to the inhabitants of rural communities which was primarily used as rice field, vegetable field, or sometimes fishponds. This, on one hand gave the families residing in the peri urban and rural areas a sense of security and stability while on the other hand, these were also means of income diversification (World Bank, 2017). But these reforms also resulted in the fragmentation of lands into small plots. After the reforms, the conversion of agricultural land to meet the urban needs was not allowed and was made stricter during 1990's but in the beginning of 2000's this was relaxed. In 2006, decentralization took place and the land conversion affair now was the responsibility of the municipalities and provincial governments (Nong et al., 2015). At present land management is mainly at the hands of HPC (de Wit, 2013). The increase in FDI's have led to the proposal of more and more industrial and urban development projects sacrificing agricultural areas. It is being observed that the contribution of industrial growth towards the Vietnamese GDP is increasing while that of agriculture is decreasing inspite of the fact that 70% of the population is still involved in the agricultural sector (Lodder, 2012). Within a span of 10 years (2000-2010) 1736 projects were implanted on agricultural lands targeting 11,000 ha of annual crop area (Nong et al., 2015). It is stated by one source that annually there is a loss of 10,000 ha all over Vietnam. Hanoi's agricultural land is lost by 270 ha annually (de Wit, 2013).

Since 2008, the city limits of Hanoi have increased considerably and thus incorporating the periurban and rural areas. It is observed that the main changes occur within 10 to 30 kms from the city centre thus, mainly in the peri-urban areas. The urban core and areas after 35km shows very little changes due to urbanisation. It can be said that the rural areas, do not face drastic changes (Nong et al., 2015). Most of the lands for industrial and economic purposes are acquired in the flat arable lands called *bờ xoi ruộng mật* around the city where there is better access and the population is high. The less fertile highlands are thus, not considered, for such developments (Van Suu, 2009). Most of the changes have taken place between 2002- 2010. The follow-ups are continuing now at a very fast pace, but it is now predicted that the expansions will continue beyond 50 kms in the coming years (Van Dijk et al., 2012). The population also is continuing to increase within 10 kms from the city centre (Nong et al., 2015). Thus, this resonates the spatial concept of peri-urban areas as most of the changes are observed in the peri-urban areas which serves as the meeting zone for both the urban and rural sector. It is expected that in future the changes will continue, and more and more peri-urban areas will be consumed to cater the needs of the urban population. Fig 12 & 13 shows the land use changes based on the distance as well as the zones.

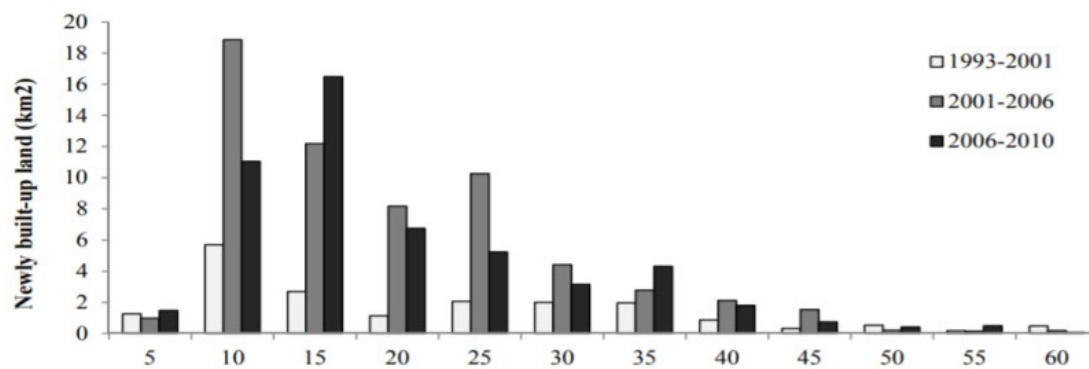


Fig 13: Land use changes plotted based on distance from the centre of the city

Source: (Nong et al., 2015)

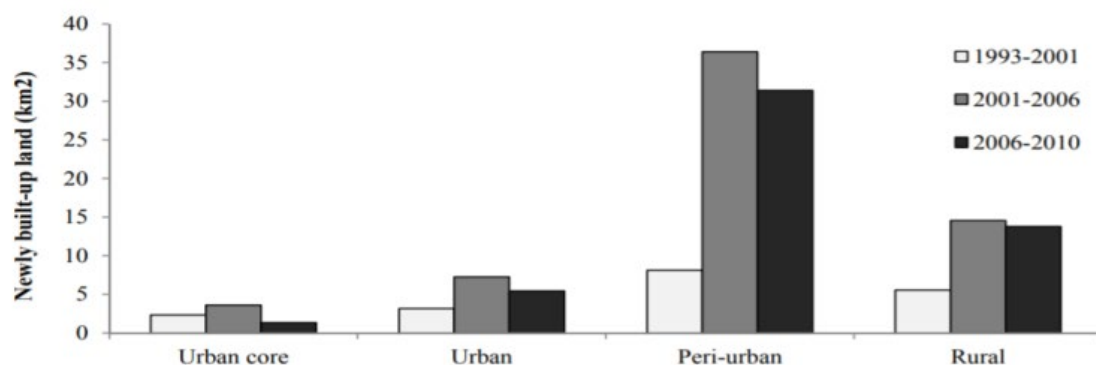


Fig 14: Land use changes plotted based on different areas of the city and the outskirts

Source: (Nong et al., 2015)

It is normally seen that in case of Hanoi, the rural areas are having higher agricultural area than the peri-urban areas but the diversity of crops are higher in the peri-urban areas (Moustier, 2007). The conversion since 2008 has been very rapid and the administrative limits of the Hanoi city has been tripled since then, all at the expense of farmland which is been considered more as a land reserve than a medium of food supply. After the implementation of the plan many rural communes have been acknowledged as urban wards meaning that they have to meet the criteria of the urban district. Thus, the agricultural production areas are converted into urban residential areas. One example of this is that 10 communes of each of the peri-urban areas of Gia Lam and Thanh Tri have been splitted to form new urban districts called Hoang Mai and Long Bien of Hanoi (Vien et al., 2005). The green belt areas are being built by the side of high speed roads connecting metropolitan cities, there are chances that the areas under green belt will also be compromised in the future (Leducq & Scarwell, 2018). As more and more areas are earning the status of urban district, the areas under agriculture is becoming smaller but the peri-urban areas are more well connected to the Hanoi market and consumers compared to the rural counterparts (Huong et al., 2013; Pham et al., 2015). Problems

like clogged irrigation channels and unequal distribution of irrigation water are arising due to the urban extensions into the agricultural areas and the water used for agriculture is polluted (Leducq & Scarwell, 2018; R; Vien et al., 2005). Due to the land acquisitions the land prices are uncertain and most of the times the farmers do not have prior information as to which part of their land will be acquired. Thus, posing a lot of risk and uncertainty for the farmers (World Bank, 2017). The land acquisitions have led to betterment of livelihoods of some who can take advantage of urbanisation or are well off even without their lands. But, on the other hand it has left many farmers jobless and clueless about their future (Tuyen & Van Huong, 2014). Land scarcity has created a lot of pressure on the available land area forcing farmers to cultivate more profitable crops replacing staple food products like rice and paddy which can directly lead to malnutrition and food insecurity (Hùng, 2000). The rice and paddy cultivation areas on the RRD are compromised because of urban growth posing serious questions about food security (Van Dijk et al., 2012). Fig 14 shows how the changes will intensify in the coming years under the Master Plan 2030 and a comparison has been shown between the urban built ups's in 2007 and 2030 (Van Dijk et al., 2012).

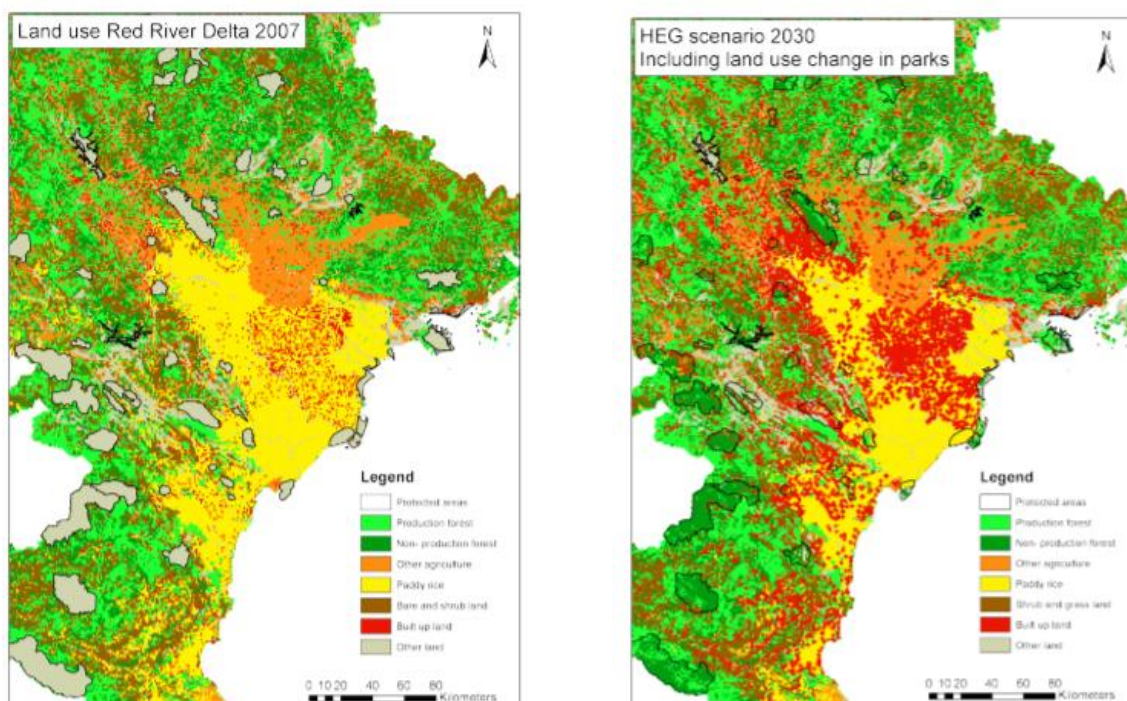


Fig 14: The changes that will take place in the coming years

Source: Van Dijk et al., 2012

Due to changes in the administrative status, the agricultural land use changes in the rural areas are expected (Pham et al., 2015). E.g. The rural, peri-urban areas that supply vegetables to the city are now under urban governance (Anh et al., 2012). The planned urbanisation has allowed in creating

secondary urban poles in the peri-urban areas. An example of this is that Hà Tây has been already merged with Hanoi converting Hà Đông into a urban district and Sơn Tây into a district level town. The farmlands have been seized and numerous projects are on its way of implementation in the outskirts of Hanoi. They are being converted into highways, industrial zones, factories of international companies like Samsung, Toyota etc (Pulliat, 2015). The remaining production zones in the peri-urban area have been intensified and the total area have got a lot fragmented resulting in small patches of land (Pham et al., 2015). For instance in the Dong Anh District, the cropping intensity have increased at a considerable rate (Van Hoi et al., 2009). The effects of fragmentation of the production zones has led to the formation of small plots which produce very small amounts of vegetables. Alongside the plots are also quite distant from one another. This fragmentation is very high in RRD area compared to any other areas (World Bank Group, 2016). Thus, the producers have very low integration with the market which in turn means that they are not aware of the new standards for safe vegetable cultivation (Huong et al., 2013). In this regard, the Vietnamese government have put some efforts towards land consolidation and the situation have improved a bit. But problems like high transaction costs in land transferring, reaching consensus among all the stakeholders remains a big problem to achieve this goal (World Bank Group, 2016).

It is observed that out of the peri-urban study areas, the Dong Anh, Gia Lam and Thanh Tri have the highest share of good arable lands which is an opportunity for better production in future. According to the study, it is being stated that “The Gia Lam district, Thanh Tri and Dong Anh have 32, 23 and 18 communes out of 35, 26 and 24 as very good for peri-urban agriculture, respectively.” The study has differentiated between very good, good and fair areas for agriculture in particular peri-urban districts. Apart from the land for very good farming, there are large areas in these districts which are having good and fair potential for agricultural purposes (Thapa et al., 2009). This means that, if land is been taken from these areas, then future food security can get hampered. In the urban core, there are not enough areas for green spaces (parks) which according to the plan, are going to be realised in the peri-urban areas in the future. But, according to an analysis by Uy et al., the built green spaces will be isolated and fragmented in nature. (Uy et al., 2008) This along with the other factors can pose problem for agriculture (de Wit, 2013).

The urban areas seem to have much more strict policies regarding land usage in comparison to the peri-urban and rural areas where there are many illegal usages of agricultural lands. E.g. inhabitants have built houses on agricultural land which is officially prohibited but the administration of the rural communes are not capable enough to monitor such cases (Pulliat, 2015). The main reasons for the encroachment of agricultural areas are that the land prices in the peri-urban areas are quite low. Thus, investing here is a very lucrative deal for many (de Wit, 2013). The illegal activities are on

rise as most of the land owners do not take proper permission from the authorities as most of the time the procedure takes a very long time and is very tedious. Also, some of the land owners do not get permission even after waiting for long. As the penalty system is not strict enough, they feel that they can escape if they are caught (de Wit, 2013).

It is very important to mention that the Vietnamese government has lost control over the Master plan and it is now mostly controlled by private sector and big firms (Leducq & Scarwell, 2018). The government people have no other way than to depend on the private sector to see where ultimately the development plans are leading to, as it is already quite late. At present there is no detailed plan as to exactly which part of the peri-urban areas will be taken for urban needs and it mostly depends on a rural masterplan which can change anytime according to the needs of the companies, authorities of the rural communes (Van den Berg et al., 2003; de Wit, 2013). There are many other factors why the plans are not implemented as it should be. According to sources, it is said that plans are prepared with great enthusiasm, but they are not implemented with the same, simply because of lack of co-ordination. It must be mentioned here, planning is mostly state activity while the implementation is mostly carried out by private actors leading to disagreements between the two parties, most of the times. Also, as it is much more decentralized now, the local governments are trying to experiment on their own without any approval from the higher authorities. Thus, creating a formal and informal dualism (de Wit, 2013). Apart from the SOE and HPC, there are other stakeholders involved like MARD, MOF, MPI, State bank, MONRE, DONRE, MoC, MoJ. The links between all of these stakeholders at the implementation level is quite low (de Wit, 2013). The Capacity on the urban management skills are quite low. According to some sources, most of the times the editorials in Vietnamese newspaper shed light on corruption issues in land conversion cases stating that the government officials are 'greedy and corrupt individuals who took advantage of their position and did not follow the official regulations' (de Wit, 2013).

It is been projected that within 2020, the agricultural area will decrease by 29.3% (Pham, 2017). Vietnam is already one of the countries with lowest (0.3 ha per capita) land allotment (Tuyen & Van Huong, 2014). The situation will get worse on the coming days as more and more people will migrate towards the urban areas creating pressure on the administration to increase the urban territories. Strict land laws needs to be established to control the situation and in order to preserve areas for agricultural production. Proper planning is also required to strike a balance between meeting the industrial, residential needs and the agricultural needs of the growing population.

In the Me Linh district, it was observed in 2009 that 80.1% of the extended industrial areas and 96.1% of the residential areas are on paddy fields (Van Trinh et al., 2009). The Tien Phong

commune of the Me Linh district is very important area for Hanoi's food production but at the same time is also getting urbanised at a very fast rate (Van Trinh et al., 2009). The area under rice cultivation has decreased over the years from 1066 in 1996 to 800 ha in 2002 in favour of high price vegetables. The previously cultivated area for soya-bean and groundnuts have been replaced with flower production (Anh et al, 2007). The reason behind this is that the farmers are forced to replace with these crops because of the broken irrigation systems (Van Trinh et al., 2009). The areas surrounding the newly acquired industrial zones have problems of irrigation system making the production levels worse creating environmental problems (Van Trinh et al., 2009). Most of the times the acquired areas for industrial purposes remains barren for 10-12 years. This on one hand indicates towards the wastage of natural resources while on the other hand also means that the farmers cannot cultivate posing a question of food shortage (Van Trinh et al., 2009).

The Dai Thinh commune of the Me Linh district is located quite near (15 km) to the Hanoi city and thus, is at a very vulnerable position. Increasing land pressure due to other kinds of land activities like increasing urbanisation and industrialisation has led to the reduction of the land area allotted for subsistence farming (rice, maize and groundnuts). They have been replaced with high economic value crops (Anh et al, 2007).

The Thanh Tri district's agricultural area have decreased significantly between the year 1993 to 2002 reducing it from 5,559ha to 5,025ha (Vien et al., 2005). The total area under sown annual crop decreased from 9,032 to 7,620 ha while the area under vegetables and more commercially oriented crops have increased significantly. The gross output for vegetables and flowers have increased by 1.5 times and now it is an important source of vegetable for Hanoi (Vien et al., 2005; Tuyen & Van Huong, 2014). A large part of the area is being invaded for rural housing, industries and infrastructure indicates the conflict between urban and rural fringes. The more the district is getting closer to the urban areas, the demand for more vegetable and perishable products are increasing. This is how majorly the production trends responds to increasing urban pressure. But also the farmers are resorting towards the option of "sit and watch" as they are uncertain as to when their lands will be taken and thus, they prefer to observe. This has resulted in 10% of the total area of the district be left as fallow areas (Van den Berg et al., 2003).

Hoai Duc's area has shrunk the most to make way for urbanisation. A large number of land acquisition projects have already/ are going to be realised in the upcoming years. Before getting merged into the Hanoi province, this area was under Ha Tay province. In the past years more than 85 big projects have been executed and the numbers are on the rise because of it's prime location along the highway, industrial zones and newly formed urban areas (Tuyen & Van Huong, 2014). The



agriculture area under paddy and other crops have been considerably replaced by vegetables (Van den Berg et al., 2003). It remains as the most important area for rice cultivation.

## 4. METHODS

The research was conducted over a period of one month. Each policy was researched upon by targeting different areas and population group. Mainly the research is a qualitative one, but some quantitative data was also collected in terms of understanding the certification part. The questionnaire was mainly semi structured and structure ones. Observation was a major part of the research. Snowball sampling, purposive and convenience sampling are the three methods used while targeting the interviewees. Face to face meeting was preferred and was done in most of the cases but otherwise telephonic interview was done. The identity of the interviewees is not revealed in the report unless they gave permission to do so and the same was done in case of recording the interviews. Except the interviews with the ministries, most of the interviews were carried out in Vietnamese where the help of an interpreter was taken. Most of the locations for research like local markets, wholesale markets, supermarkets etc were located by google map, exploring by foot or bike and through recommendations. All the interviews were transcribed using online software, and notes were taken during the observations and interviews. The quantitative data was stored in excel which served as a purpose of analysis and preparing the comparison studies. The transcriptions were the basis for further textual analysis.

The supermarket policy was studied by first going into supermarkets of different brands throughout Hanoi. The products mainly the fresh food section like fruits and vegetables were targeted and observational research was done. It was mainly done to get information about the certified products and the kind of certification. The supermarket staffs were intended to be interviewed. Either it was convenience sampling where we interviewed whoever had time to give the interview or most of the times it was snowball sampling where the supermarket staff recommended higher officials. Some of the interviews were telephonic conversation as most of the supermarket staff present in the supermarkets are not quite aware about the supply chain. Hence, they recommended higher officials who did not find it convenient for us to visit them. To get an idea about the consumer preferences of supermarket, quantitative data was collected regarding the number of people actually buying vegetables or fruits from the supermarket. Their habits, time of visit could also be tracked down. Visiting all the brands in and around Hanoi helped to plot a comparison study of the prices, variety and quality of products.

The local markets of different districts were visited including some in the peri-urban areas. Some of the local markets were found by taking help from google map while the others we could locate by walking around a certain area. Alongside observational research some interviews were also done. But mostly it was informal as the sellers were not willing to give the answers to some question

and they were always in a hurry. The sampling type was convenience sampling. This helped us to understand the change that is being brought by the new modernisation policies. Having an insight on the origin of the products, an idea of the supply chain could be acquired. In addition to that, we could also get hold of consumer behaviour towards local market and their preferences. Similar to supermarkets the prices and quality of the local market products was noted in order to see the differences with the supermarkets. Five wholesale markets were visited but out of them three wholesale markets (Dong Anh, Phung Khoang, Long Bien) could be properly investigated. In the other two wholesale markets the sellers were not willing to interact. Observational research was done both in the peak hours and mid-day when the crowd subsided. Convenience sampling was done considering people who were ready to interact informally. The co-operative shops were also part of the research plan but only a handful number could be spotted, and the staff could not help with anything other than recommending us to talk to the head of the co-operatives. Only two of the co-operative shops belonged from the farmer organisation of the study area. In case of street hawkers, they could be located by walking around any area. Mostly informal conversation took place with the street hawkers.

The farmer's co-operatives of the study area were also a part of the research plan. Interviews with the head of the farmer's co-operatives were conducted. Previous background literature survey helped to point out some co-operatives. Only co-operatives dealing with safe vegetables were targeted as the information about their contact details were readily available. The reason behind considering the farmers' co-operative is to get more technical details about the procedure of certification, the inspection procedure, government support etc. Some of the co-operatives were found to be not operating anymore or they could not be contacted. The others were contacted, and all the interviews were done with the head of the co-operatives. Individual farmers of the co-operatives were not easy to be interviewed because of two factors- 1. The head of the co-operative did not want us to talk to the farmers. 2. The farmers were very busy to give an interview and also they are scared to come in front for an interview. Sometimes the interview was conducted over the phone while some of the co-operatives were visited.

The safe vegetable shops selling both safe and organic vegetables were targeted. They were spotted by taking help from the google map but some of them are not operating anymore. We could do a structured interview with the staffs of the shops because of relatively low number of customers. Most of the other things were done similar to local and supermarkets.

To get insights about customer preferences and perspectives about the effects of the modernisation policies, interviews with 30 people were conducted. The kind of consumer targeted were classified in different age groups and by their profession. The age group classification was 22-35-

Young; 35- 50 middle aged people; 50 above is people from older generations. Though income level could have been a better indicator for understanding the reason of preferences, but the data cannot be easily acquired. Thus, by knowing the profession, an estimate of the income level was done. But most of them were informal talks as they get conscious when talking about food safety issues as they do not want to malign their country's image in front of a foreigner. Only few whom I got to know through common contacts allowed me to record their interviews. All the recorded interviews were carried out following a structured questionnaire.

The topic of land use changes is quite sensitive in Vietnamese context and it was not easy to collect data regarding it. Apart from the background literatures, interviews were conducted with some experts and the officials of ministries to get insights into topic like the effects of urbanisation on the agricultural areas, the technical and the legal details of the land use changes. The details of the master plan, if any, is also very confidential and was not revealed by the higher authorities. Observational research was not also not quite helpful as the new or ongoing infrastructure projects could be seen but the past details of the land acquired for the project was not available. The people who are victims of the land use changes like farmers could not be interviewed.

Some experts as well as ministry officials of MOH and MARD were interviewed. Experts were mainly from the field of food system, agriculture and certification. The ministry officials were interviewed to know about the different aspects of the concerned policies, the technical details and also to know about their perspectives. All of the interviews followed structured questionnaires and were recorded. The interview with the officials and experts were set with the help of CIAT.

## 5. CONCEPTUAL FRAMEWORK

### 5.1. Retail modernisation

The retail modernisation mainly started in the US in 1930's followed by Europe. Till 1990's this phenomenon was restricted to the western countries and there was no big company in power and thus the economies related to this modern retail remained modest. But since 1990's the advent of globalisation occurred, and big companies started operating in more than one country. The local powers started the trend of consolidation and thus could expand their roots internationally. Slowly, the global wealth was distributed even to the developing countries. All over the world retail market became more liberalised because of WTO's moves on trade liberalisation, bilateral and multilateral agreements (Reardon, Timmer and Berdegúé 2004). The FDI's helped in the spreading of these businesses in the developing countries which led to the development of new changes in the domestic retail sector. These changes were mainly targeted to keep the competition in place (Altenburg et al., 2016). There are different kinds of modern retail formats out of which supermarkets and convenience stores are most popular (Altenburg et al., 2016).

There are four waves of supermarket expansion out of which the third wave affected Vietnam. This happened in the early to mid 2000's. Fig 15, shows the different waves of modernisation. The trend in supermarket expansion remains the same everywhere where at first after entry they target highly urbanised cities and serves mainly a small group of wealthy people. After establishing supply chain and distribution centres, they try to target middle class population in the mid- sized cities (non-metropolitans). At last, if they are enough successful in the first two invasions then they open their outlets in small cities where they can serve lower middle-class population. It is quite evident that it takes till the last tier to start replacing the dominant traditional food procurement system of the country (Altenburg et al., 2016).

<u>First wave: early 1990s</u>
South America, East Asia (outside China and Japan), parts of Southeast Asia (e.g. the Philippines and Thailand), North-Central Europe (e.g. the Baltic states and Poland) and South Africa
<u>Second wave: mid to late 1990s</u>
Mexico and parts of Central America, much of Southeast Asia (e.g. Indonesia), South-Central Europe and South Africa
<u>Third wave: early 2000s</u>
China, Eastern Europe, Russia, other parts of Central America and Southeast Asia, and India
<u>Fourth wave: late 2000s</u>
South Asia (outside India), sub-Saharan Africa (outside countries falling under the second and third waves), and poorer countries in Southeast Asia (e.g. Cambodia) and South America (e.g. Bolivia)

Fig 15: The waves of modernisation

Source: Reardon et al., 2003

The effects of the modern retail sector on the supply chain is quite prominent. The supermarkets need bulk product of a standardised quality (certification, license etc.) which very few of the actors in the supply chain in developing countries can actually meet. Hence each of the step in the supply chain gets concentrated, with a number of actors actually getting eliminated from the chain. The foreign supermarket brands mostly prefer products that are imported instead of locally procuring them. This trend is expected to be not there in case of domestic brands. It is expected that the actors get more acquainted with high end technologies and the dealings are done in a more sophisticated way. This, in turn gives them a steady, high income if the upstream actors are not squeezed unfairly by their downstream counterparts (Altenburg et al., 2016). Fig 16 shows the number of stakeholders at each of the step in the modern as well as traditional supply chain.

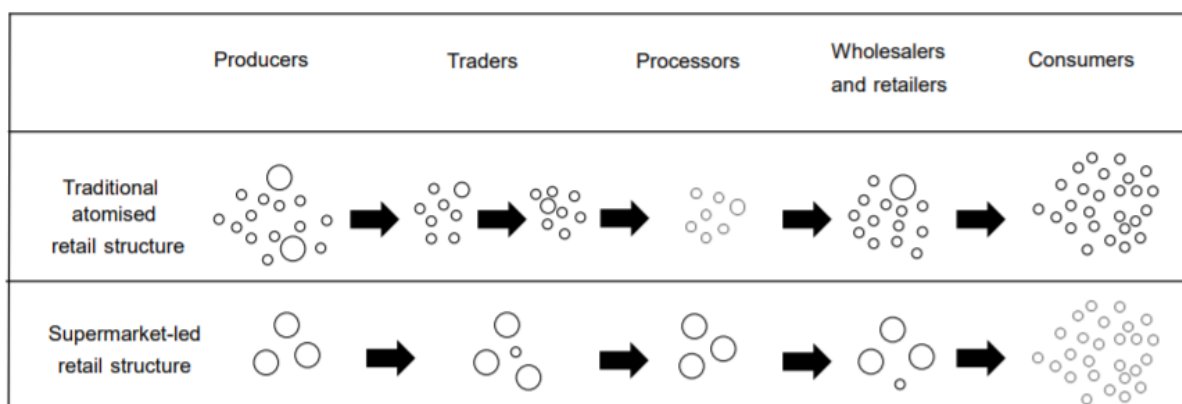


Fig 16: The number of stakeholders at each step in the modern and traditional supply chain

Source: Altenburg et al., 2016

With the increase in population and income, people started to become more aware about food safety issues (Altenburg et al., 2016). To tackle with the food safety issues Vietnam government has resorted towards retail modernisation. According to MOH modern solutions can help in tackling food problems through increased traceability, more hygienic standards, controls systems and production regulations (Wertheim-Heck, 2015; Altenburg et al., 2006). It is being considered that the private standards which are imposed on the local suppliers helps to compensate with the inadequacies of the existing system which operates mainly through informal/channels (Wrigley & Lowe, 2007). The government of Vietnam thus, have framed two policies (supermarket policy and safe vegetable policy) which enables such modernisation (Wertheim-Heck, 2015).

## **5.2. Rational choice models**

Rational choice model is an important concept to understand as most of the policymakers rely on this model. It is being stated that individuals will choose that option which satisfies them or serves their self-interest or in other words they will choose the option that will give them maximum benefit. This model predicts that as consumers are concerned over food safety issues, thus, it is expected that they will move towards safe shopping outlets once it gets available for the society. But according to critics, this is not always the case (Shove, 2010; Warde & Southerton, 2012). When it comes to fresh food, mostly people rely on the traditional system and it cannot be predicted that they will integrate the supermarket culture into their lifestyle easily (Wertheim-Heck, 2015).

According to critics, there are two kinds of brain responses- a. “automatic” which does not involve any thinking and happens effortlessly b. “reflective” which happens consciously and is quite controlled. They state that consumption follows the first response, thus assuming that people will take rational decisions regarding it, is not expected (Warde & Southerton, 2012).

## **5.3. Practice based approach**

Practice based approach is a concept where it is being said that consumption is more a habitual human behaviour than a well thought process. Thus, consumption is considered more as an outcome of social practice than based on an individual thinking process. Consumption is part of everyday habits and practices. Thus, it takes place because of an established practice of an individual. It is thought that not much deliberate thinking goes into this. (Evans et al., 2012; Spaargaren, 2003; Warde, 2005). With the help of this kind of approach it can be understood that whether the interventions made by the policies, is actually yielding positive results or the people continues to procure food from areas which can be harmful, or they are developing “hybrid alternatives” (Wertheim-Heck, 2015).

According to critics, in the western society, practice-based approach has failed to answer the results of implementation of policies (Wertheim-Heck, 2015). With more and more concerns over food quality and sustainable development in the developing countries, it is high time to overcome “Eurocentric bias”. The consumption practices in the South East Asian countries are quite different from the European practices both in terms of institutional setup as well as consumer concerns (Wertheim-Heck, 2015). The reason can be because of concerns about food safety is not a case of personal urgency in case of western society. The western society has a decent amount of trust on their food system which is mainly based on certification, labels, license while in case of developing countries, the trust is mostly based on human interactions.

Vietnam is an important country for such a research as here we can see a strong intervention from the government to introduce modernisation in the food retail sector while on the other hand, majority of the population still prefers to buy food from the open air markets (Wertheim-Heck et al., 2014). Thus, it can be quite interesting to see how these policies can bring in a change in the consumption practices of Vietnamese people which is strongly embedded in their culture (Wertheim-Heck & Spaargaren, G, 2016).

#### **5.4. Concept of informal-formal sector dualism**

The concept of informal- formal sector dualism was coined by Keith Hart. Hart first coined the term informal and described it as indigenous, small scale, labour intensive (Harper, 1996). In developing countries, the concept of informal employment and businesses were termed as informal sectors. This is a characteristic of low industrialised countries where most of the daily needs are fulfilled by this informal sector. They are mainly characterised by portable business setups, street shops and vendors and most of them are equipped with either low or no technicalities. It is sometimes debated whether the actors in the informal economic sector are opted out by the formal institutional setup or they choose this intentionally. But it must be acknowledged that these kind of informal economy offers jobs which are sometimes the last resort for many who suffers from social and legal insecurity (Clement, 2015). Before Hart actually coined the concept, a Dutch sociologist and economist, Dr. Julius Boeke actually explained the economic dualism where he said that the institutional structure differs across cultures. Hence, if a particular institutional structure which is successful in a developed nation is imposed on another developing or under-developed country, then a small part of the population will accept it while the other part will continue with their traditional, inherent culture. This, mainly leads to these economic dualism (Clement, 2015).

In the middle age, with low concerns over food safety and more focus on self-employment, these informal sectors sprouted everywhere (Geertz, 1963). But with globalisation and urbanisation,



the incidences of food safety became a topic of concern and this paved the way for formal sector in the developing countries (Lam, 1982). This concept is quite interesting in the case of Vietnam as in this study we are trying to map the changes the formal modern retail sector is trying to bring in the already established informal sectors and whether actually the formal sector can take over the informal one as predicted by Keith Hart.

### **5.5. The spatial concept of peri-urban areas**

Peri-urban areas can be considered as those areas where the activities of the urban and the rural meet and interact on the edge of the cities (Adam, n.d.). It forms a buffer zone between the urban set up and rural agricultural areas. It can be thus understood that the peri-urban areas are affected by policies of both rural and urban areas as most of the times there are lack of policies which are exclusively dedicated towards peri-urban areas (Narain & Nischal, 2007). It becomes very important to consider the dynamics in the peri-urban areas as this is where all the effects of urbanisation of the city is concentrated. Peri-urban areas which were agriculturally important are getting included in the territories of the city and there is an intense competition for the allotment of the areas between agricultural and non-agricultural purposes (urban growth for residential and industrial purposes) (Cotula & Neve, 2007). The agricultural lands in Hanoi's peri-urban are facing new challenges of expansion for on one hand, creating opportunities for rural employment and on the other hand to allow urban growth (Allen, 2003). Thus, it will be interesting to see how the existing traditional land usage pattern changes in Hanoi's peri-urban areas can make way for new ones. The Master plan 2030 have already legally allowed these changes in those areas but is important to see how these changes have affected the food system.

## 6. FINDINGS

In this section, all the findings of the research in Hanoi regarding the three policies are presented. Some of the common aspects which are targeted by all the policies are discussed at the beginning. Food safety and conditions of inspection and monitoring are discussed irrespective of any particular policies as it is a crucial factor for attaining the main goal of supplying safe, healthy and sustainable food. Implementation and follow up of the policies is also a common factor for the three policies and is being discussed next. This factor is very important to predict the future of these policies as this gives an indication as to how the plans are implemented and how they are followed up after framing and implementation. This is being followed up by a proper structure stating findings of the supply chain of both the traditional and modern retail units which also includes the safe vegetable production. Next, all the three policies are analysed and the key findings are discussed separately covering the topics which are suitable to understand how the policies are trying to promote the access to safe, healthy and sustainable food.

### 6.1. Food safety

The current situation in Vietnam, in terms of food safety has not improved considerably. But the number of acute poisoning cases have decreased as the government has banned certain kinds of toxic pesticides. The number of food poisoning cases have decreased by 15% in 2017 compared to 2016. But it is widely known that the number of food poisoning outbreaks are underreported as the reporting system is quite weak. Mostly the cases come to limelight because of media broadcasting. According to an expert in the food system of Vietnam, banning certain kinds of pesticides cannot give a solution to the problem as the amount of pesticide residue is there on the produce because of over usage of pesticides. It is stated that the government is providing subsidies to the chemical industries producing fertilisers and pesticides and they kind of encourage the farmers to use such pesticides to earn revenue. Relying on pesticides for a long time have destroyed the natural ecosystem and thus to get high yields, the farmers use more pesticides leading to the overdosage of such chemicals.

The common public also feels that the food is not safe. According to Linda, a 32-year-old bank employee, the food in Vietnam is not at all safe and she does not have any trust on the current food system. She is really concerned about her health as everyone in her circle is talking about food safety issues. The people in Hanoi, still believes that the government is not doing enough from their part to promote food safety. It is noticed that Vietnamese people are concerned about their food safety levels as the number of cases are on rise in the country. In a local newspaper, it is stated that till now there is no such week where there is no news related to food contamination. Almost all the interviewees

reported about the everyday news regarding food scandals that scares them, which is why they have become more concerned about food safety. Binh, my 23-year-old interpreter, told that there is a T.V. programme which focuses on food safety issues called “Say No to dirty food”. Here, different issues regarding food safety are discussed and people reports about the prevalence of dirty food counters/ businesses in their area.

Despite all of these hype, 92% of the population still prefers to buy from informal markets where there no formal guarantee of food quality. The main reasons being, lack of trust, awareness and interest on certified food products. Also, another factor is the high price in the modern retail units compared to the local markets. The safe vegetables sold in the specialised sales outlets are not famous amongst the people. The evidence of this fact is that some shops previously dedicated towards the selling of safe vegetables like Clever food, Big Green etc are not operating anymore because of lack of enough number of customers. They have been replaced by big supermarkets like Fivimart. One of the important reason can be the lack of information that is provided to the customer and thus the inability of the customer to differentiate between products. In a specialised store called Yuki’s store, there were no information written on the products. The cabbages in the Co-op market, were both certified and uncertified but it could not be properly differentiated. This kind of lack of information is quite misleading for the customers.

The government has still a lot to do to improve the situation. However, some changes in the condition, have been noticed while doing this research. Succumbing to the pressure created by the media, recently the government have seized many businesses for selling dirty food. The farmers have also become aware about the usage of pesticides and are using it less because of the training they receive from the MARD. Some of the co-operatives are also provided with the pesticides by the government. The head of the Tien Le co-operative in Hoai Duc, said that they are using pesticides but within the standards set in the regulation. Other co-operatives also gave similar kind of responses. But in case of some farmers/ co-operatives, the amount of pesticides that should be used depends more on the financial capability of the producer and less on the regulations that are there for pesticide usage. One of the co-operative owner revealed that they do not know what kind of pesticide they are using nor the composition of the pesticides, but they buy it from the pesticide sellers. It mainly depends on the trust relationship between them and the pesticide sellers. They use pesticides whenever they notice pests on their produce.

An investigation of the supply chain of the pork revealed that the hygiene practices are not properly followed as the E.coli levels were quite high in the different stages of the supply chain. In most of the market places, the pork is not sold in proper hygienic condition. Fig 17 shows such places.

They do not sanitize the area before or after selling the pork and sometimes it was seen that they use the same knife to cut the pork daily without thorough washing and de-sanitizing. In some of the places mostly in the local markets, they sell even week old pork. They time and again sprinkle water on them to make it look fresh. They are sold in the roadside stalls (Fig 18) where there is normally a lot of pollution which makes the product even more unhygienic.



Fig 17: Pork being sold in a roadside stall without following proper hygienic practices



Fig 18: Roadside stall selling pork in a polluted street

In case of the local markets, the condition under which the vegetables and the fruits are sold are not hygienic and clean. In the local markets, the people enter with their bikes and the emissions from the bikes (the particulate matters, the pollutants) gets accumulated on the vegetables (Fig 22). Most of the times, the sellers are seen sprinkling dirty water on the vegetables, to make them look fresh. Fig 20 shows a bucket filled with dirty water which the seller uses to make the vegetables look fresh. There is litter everywhere and sometimes even the discarded vegetables are not thrown

properly but are kept in piles inside the market area creating nuisance and bad odour. There is no provision of cleaning the market area daily and the sellers are dumping the waste nearby their stalls. Fig 19 shows the unclean premises of a local market. At the Tu Lien local market, it was seen that the stray dogs were licking and sniffing the vegetables and fruits. They were even walking on the sheet on which the vegetables were kept. The street vendors were observed to keep their products on the dirty streets used by the pedestrians (Fig 21). It is normally on records that the local markets should be inspected twice in a year which is very rarely done.



Fig 19: The unclean premises of the Phung Khoang wholesale market



Fig 20: The seller at the Bai Anh local market using the dirty water from the bucket to keep the vegetables fresh





Fig 21: Some of the fruits and vegetables lying on the dirty streets and pavements



Fig 22: People entering the local markets with bikes

The supermarkets which are part of the policies are used as an option of dealing with the food safety issues are also not quite safe. The products in most of the supermarkets are not having any expiry dates even though the product is certified. The tomatoes of Vinmart, one of the leading domestic supermarket brand was found to be rotten from inside (Fig 23). The leafy vegetables and herbs were sometimes found to be not at all fresh (Fig 24). There were times where the products were kept in the shelves even if the product is already days old. The old products were sold at a discounted rate to clear the stocks (Fig 25).



Fig 23: The rotten tomatoes sold by Vinmart



Fig 24: The dried leaves indicating the vegetables are not fresh at all in the Intimex supermarket



Fig 25: The not so fresh fruits are sold at a discounted price

The condition is expected to improve in the coming days because of the continuous revision of laws involving monitoring and inspection, banning illegal businesses, making the criteria for certification much stricter. Also, the initiative of the government to organise the value chain is going to make the producers more responsible towards their produce. This is because the traceability factor is stressed upon by the authorities. The MOH is also trying to increase the capacity of food testing by sending the staffs of their research institutes to work with the officials at the local level. According to the officials of MOH, the number of outbreaks is going to decrease but the number of reported cases are going to increase. This is because the present reporting condition will be improved, and this will in turn help in officially confirming more cases. The more the actual number, location and types of cases are detected, it will help in framing and implementing the policies in a much more effective manner.

## 6.2. Food inspection and monitoring

The food inspection and monitoring are quite weak in Vietnam which was agreed by even the ministries of MARD and MOH. The capacity of regular inspection is not adequate even though strict regulations are there. The standards of inspection and the permissible limits of chemicals are mainly set by the National Technical Regulations and MOH.

The main testing is being done by the research institutions like NIN under MOH. NIN does the testing for nine provinces of the north of Vietnam, including Hanoi. NIN requires accreditation by the MARD as well as MOIT. Thus, if any producer wants to get any certification, then they must get their samples tested from MARD accredited institutes. At the local level, staffs are trained for inspection. Sometimes, if there is a problem or if there is any lack of knowledge among the officials at the local level, then the people from NIN visit them and train them properly. Otherwise twice or thrice a year some staffs of the local food safety department are sent to NIN to undertake a training course where they learn the technical aspects of inspection as well as get some knowledge on microbiology, toxicology and food chemistry. The testing of the products is being done on two occasions- 1. When the producers approach the research institutions to test their products to get certification or if they want to announce something. 2. The testing can be done as part of routine checks. The inspection on the producers are done at two levels – at the national level, when products are imported or coming from FDI, then it is the responsibility of VFA while at the provincial level it is taken care of by the local authorities. There are all total 40 testing laboratories in Hanoi but only 12 is being acknowledged by the three ministries. But according to an expert, the capacity of the laboratories is quite low as only few tests can be done there. For a complete list of all the tests, the samples must be sent to the Ho Chi Minh city. The inspections at the commune level is mainly the duty of the local authorities. The local authorities conduct some quick testing in the areas under safe agricultural zone and if they find any irregularity, then they send the samples to NIN. In case of certified co-operatives, the kind of inspection and number of times it will be done is stated in the contract between the producers and the certifying agency. Once the preliminary inspection for providing certification like soil, water testing is done, most of the times the rest of the responsibility of maintaining the quality is left on the co-operatives. But it should be mentioned that the internal control of the co-operatives is quite weak because of lack of resources. Sometimes, under pressure the officials of MARD randomly collect samples from the co-operative area for testing but this is not consistent everywhere. The producers most of the times never get to know the results. The co-operatives are required to maintain records of the types and amount of pesticides they are using but most of the times there is no way that the government can crosscheck the actual credibility of the records. Compared to government, the actors of the private sector are more active in monitoring and inspection. The local authorities sometimes are directed by MARD to check the quality and they do it both for the certified co-operatives as well as the safe agricultural zones designated areas.

The local markets have some rules dedicated only towards it. In principal there should be food inspectors visiting the local markets to check the standards and hygiene. But most of the sellers stated that it is quite rarely been done. A thorough check of the local markets should be done by the food



safety department twice a year. According to the official of the MOH, there are some checks that she knows about on the poultry and meat items, but for vegetables not much is done. There are few initiatives taken from the government as well as the private sector. The government has launched a Food Control Inspection Authority at three different levels- the municipal, district and at ward level in the cities of Ho Chi Minh and Hanoi. This was a pilot project launched 2-3 years back where they will mainly inspect businesses dealing with dirty food as well as they also have some plans of establishing some controls over the local markets. Considering the success of the project, it has been further expanded to seven more cities. The level of inspection also depends on the resources of the authorities of the concerned city e.g. the authorities of Ho Chi Minh city is having more resources compared to the Hanoi city. NIN does some random samplings of the street vendors but being a research lab, they mostly send the reports to other departments with MOH. Then they analyse the data and take proper actions. But the number of street vendors are extremely high thus controlling them is not an easy task for the authorities.

The supermarkets are having private control over the supply chain. Most of the supermarkets who procure directly from the producers get the products inspected by their own staff according to their standards. They randomly collect samples from the area in presence of the co-operative members. Those supermarkets who get their products through big companies get it inspected by the company staff. Sometimes if the products are not upto the standards then they are returned to the co-operatives.

Actions against offenders is not strict till the present time but there are some changes that are expected in this aspect. Some of the changes are expected in the regulations to deal with offenders. There are some changes in the form of special decrees and sections to deal with people dealing with food products that are not upto the standards of MOH and National Technical Regulations. The rule against offenders are in place but the enforcement is weak. If a business gets banned due to past records of illegal activities, it is seen that they get back to their businesses within a year. Thus, proper follow-up is lacking and the offenders lack fear towards the system. Most of the times they bribe the officials to get rid of the fines that are imposed on them and also to let them continue their businesses. There are also confusion regarding the division of duties between the three ministries (MOH, MOIT, MARD). It takes a lot of time to pass any order or plan and the implementation become more difficult as there is a lot of bureaucracy within each ministry.

### **6.3. Implementation and follow up of the policies**

The hierarchical structure of Vietnamese administration is as follows- Central which is the highest authority → Provincial level → District level → Communal level. There are several village in a

commune, but they do have any separate official administration. All of them are under the communal administration. Following the central level where all the policies are framed, there are People's committee (the execution committee of the elected government, People's council) which can be at district level, city level, communal level, provincial level. The implementation is mainly at the hands of People's committee operating at different levels and the local agricultural department. The capacity of policy reviewing is not very strong in Vietnam. The only way they get to see the progress and effectiveness of the policies is by getting reports from the different local authorities. But how the local authorities collect the reports is a questionable fact, the most probable way is that they ask for reports from the communal level authorities. Then they combine it and send it to the higher authorities. This is the only yardstick to understand the track of the progress.

## **6.4. Supply chain**

### **6.4.1. Supply chain of traditional markets**

In the traditional market, the wholesale market plays a big role, but it operates mostly at the night as all the products come in and go out between 2-5 a.m. Thus, after a product is cultivated by the producer, the distributors bring it from the producers and in most of the cases they come from the peri-urban areas which is maximum 50 km away. Thus, the vegetables are fresh and is only in the transportation for one night. The wholesale markets are temporary and most of the times do not have a proper infrastructure. The sellers in the wholesale market are either the producers or the collectors and the buyers are either the retail traders/street vendors or sometimes the consumers (the percentage is quite low). Over 40% of the sellers in the wholesale markets are producers and in case of vegetables procured within a range of 10 kms almost all of them are producers. The most preferred mode of transportation is cycle, motorbike in case the produce is coming from the peri-urban areas. In case of rural areas, the produce is sold by the distributors/ the collectors and the mode of transportation is truck (Fig 29) In case of the Long bien market, which is one of the biggest wholesale market in Hanoi, the vegetable mostly comes from the nearby areas and the vegetable sellers are mostly the producers. The products coming from the rural highland areas like Dalat, Moc Chau comes in trucks and mostly are brought in by the collectors or the companies. In case of the fruits, most of the them comes from the southern part of Vietnam are transported by trucks by the supplier companies. Fig 28 shows the shop of the supplier company selling fruits of the southern part of Vietnam. Fig 30 shows a truck loaded with mangoes coming from the southern part of Vietnam. The sellers buy from the collectors and then sell it in the wholesale market. Most of the sellers in the nearby local market buys the product from this wholesale. In some cases, it was reported by the sellers in the local markets, that some supermarkets also buy from the same suppliers in the wholesale

market as in the local market. It is quite true in case of the fruits as the same imported fruits are found in both the supermarkets as well as in the Long Bien wholesale market. Also, in case of grapefruit, the same supplier from Vietnam, supplying to the Long bien is also supplying to most of the supermarkets. Fig 26 & 27, shows the fruits in the supermarket from the same supplier or brand as in Long Bien wholesale market.

Producers —> Collectors —> Wholesale sellers —> Local market sellers/ Street vendors



Fig 26: The same brand of Vietnamese grapefruit in Intimex as in the Long Bien and Phuong Khoang wholesale market



Fig 27: The same brand of imported Korean pear found in all the supermarkets as in Long bien



Fig 28: The shop of the supplier selling the fruits brought from the southern part of Vietnam



Fig 29: Company trucks bringing in products from the rural/ distant areas in the wholesale markets



Fig 30: Trucks loaded with mangoes brought from the Southern part of Vietnam

The district of Gia Lam is the main supplier of conventional vegetable to Bac Qua-Long Bien wholesale market while the Me Linh district is an important supplier of Dich Vong wholesale market. The Mo and Nga Tu So markets are being supplied by Thanh Tri district. Several communes in the Thuong Tin district like Ha Hoi, which is within 30km from Hanoi supplies all the year round with perishable vegetables like coriander, lettuce, spinach etc to the Hanoi market. They also grow leafy vegetables with short duration.

In the local markets, the products are bought from various places. Some of the products comes of the farms of the sellers or their neighbouring farms, some buy the products from the wholesale markets, some buy from the neighbouring local markets while some are supplied by the sellers coming with their products from the wholesale market. But one thing is observed to be common in almost all the local markets that, some of the sellers buy the produce from the farmers who sits with their vegetables/ fruits in trucks along the highway of their province. It was observed that each of the market have their own supply chain. E.g. In case of the Tu Lien local market in the Au co area, most of the products are bought from the farms of the sellers or they are bought from the

Long Bien wholesale market. In case of the Yen Phu local market in the Tay Ho area, the products mainly come from the Long Bien and Dong Anh wholesale market. In almost all the local markets, the fruits were coming from the Southern part of Vietnam. It must be mentioned that, compared to the supermarkets where the products mainly come from certain provinces, here the origin are really diverse like Dalat, Dong Anh, Thuong Tin, Thanh Hoa', Hai Duong, Trung Van, Gia Lam, Hoai Duc, Me Linh, Hanam etc. In case of the local markets, it was reported by some sellers that they also sell to elementary and kindergarten schools.

Apart from the wholesale and local markets, the street vendors also part of the supply chain. They are sometime farmers selling their produce directly to the consumers. Sometimes they collect produce from local markets and then sell it. There are innumerable number of such street vendors and most of them are unregistered.

#### **6.4.2. Supply chain of the modern retail units and the safe vegetable products**

The farmer's co-operatives play a big role in the supermarket chain. The co-operatives mostly have a bigger area of land and can provide a stable amount of produce to the supermarkets compared to individual farmers. Almost all the co-operatives that were contacted in the different provinces sell their produce to the supermarkets. The supermarkets either contact with the co-operatives directly or they contact with collectors/ supplier companies to get the products. Some of the supermarkets have the provision of controlling their certified supply chain. Mostly such products are having the supermarket's brand name. One such supermarket is Lotte where they have full control over the supply chain of certain products. The products are branded as L choice and L fresh.

The individual collectors, who are sometimes part of co-operatives, sell it to the consumers who can be retailers like supermarkets, shops etc and also to direct consumers in kitchens of kindergarten and primary schools. The big supplier companies in the chain also acts like collectors, like the one that collects the products from Tien Le co-operative called Lien Anh. Most of the supermarkets contact with such suppliers who in turn contacts with the farmers/ co-operatives. These companies then sell it to the relevant retailers (shops, stalls, supermarkets) e.g. Lien Anh supplies the products to some Vinmarts and the Vincom mall in Hanoi. The capacity of these companies is much larger than the individual collectors and they can process upto 400-200kg/day of 10-40 varieties (depending on the season). They can co-operate with the HPP to maintain the quality of the products by supervising the packaging, production, post-harvest quality, pasting bar codes. Mostly in the supermarkets like

Big C, Lotte and Co-op market it was noticed that most of the products are been supplied by the same supplier. They tend to have contract with these companies in a long-term basis.

The companies who prefers to buy directly from the producers or co-operatives, contacts them through HPP who supervises the production standards. Vinmart and some small supermarkets like Minh hoa have direct contact with the producers. Mostly the trend is that the retailers have contract with 10 producers of at the most 4 districts, but at a time they can buy from 4-7 producers and their capacity can vary from 40-100 kg/producers. In this kind of chain, the transportations are arranged by the producers like in case of Tien Le and Van noi co-operatives. This is the most profitable chain both for the producers and for the end of the chain consumers as there is no middleman involved.

There are some co-operative shops where they sell the products directly to the consumers. But it seems that some of the shops had been closed because of lack of profit. According to the Head of the Tien Le co-operative in Hoai Duc “We tried selling it, but they demand low prices otherwise they do not buy it. The low price cannot cover all our expenses that is why we stopped.”

The Dong Anh district is the main supplier of safe vegetables to the supermarkets, schools, canteens, private companies etc. The communes supplying safe vegetables within the district are Van Noi, Nam Hong, Bac Hong, Nguyen Khe, Tien Duong, Kim Chung, Kim No. A co-operative of the Dong Anh district Tien Kha gets government support but does not co-operate with them in quality management. In this case the co-operative does not have its own value chain and the farmers have to look for their own consumers making things more complicated. This gives an indication that the co-operative do not have much control over the farmer’s activities as each of the farmer will produce according to the needs and demands of its own consumers or the downstream actors. Another co-operative called Van Noi in the same district, supplies to some small supermarkets directly but previously it used to sell to many supermarkets. According to the head of the co-operative, they could not really meet the requirements of the big supermarkets. The products are mainly transported by the co-operative to the supermarkets. They also seem to supply to the kitchen of some schools and companies. The Bac Hong co-operative of the same province supplies their produce to supermarkets like Big C, local markets and similarly to the kitchen of elementary schools. The duration of the contracts with the supermarkets is for 6 years.

In the Gia Lam district, the main communes involved in safe vegetable production are Dong Du, Dang Xa, Le Chi, Van Duc. The Dong Du commune in the Gia Lam district, who are involved in the production of safe vegetables, sells them on spot to the collectors or they are sold to the wholesale/retail market of neighbouring villages. Some amount of produce are also sold to factory

canteens. The Van Duc co-operative of the same province sells their products to supermarkets like Fivimart and Megamart. They also have recently started to export their products to Taiwan and the quantity varies from 1000-2,500 tons/ year. In Gia Lam, another co-operative called Dang Xa, do not sell to supermarket but like most of the others, they sell their produce to the local markets and the kitchen of elementary schools.

In Thanh Tri district, Linh Nam, Yen My, Duyen Ha are the ones producing vegetables. The Yen My so-operative sells to some supermarkets, local markets and the kitchen of elementary schools.

In the Hoai Duc district, a co-operative called Tien Le is certified with the VietGAP certification and it mainly produces for the Vincom mall as well as the Vinmart supermarkets. But the product mainly goes to the company called Lien Anh and then it is supplied to the supermarkets. The co-operative is not willing to sell to other supermarkets because of extra requirements like exact details of calculation, early harvesting of vegetables to have better quality etc. The co-operative tried selling directly to the consumers, but they mostly demand lower prices which does not cover the expenses of the co-operative.

Most of the co-operatives who sell safe vegetables, are selling to the supermarkets mostly because of the higher margin and the lower range of price fluctuations. The co-operatives mostly want to continue supplying to the supermarkets alongside the other places. This gives them a sense of security. At the same time, the farmers who have been dealing with traditional way of selling their produce also cannot cope with the high expectations of the modern retail sector as they must possess minimum education to understand the payment schemes of the supermarkets and also maintain a standard which is unaffordable for them. The head of the Tien Le co-operative of the Hoai Duc district when asked about why they have stopped delivering to multiple supermarkets, stated that "As they demand many things like exact details of calculations, early harvested products to get good quality etc. Early harvesting can result in higher losses." The farmers also need to have their own conveyance to deliver the produce. Fivimart supermarket is purchasing the product directly from the farmers but the latter have to deliver the product to the supermarket. Similar kind of opinion on arrangement of transportation, as given by the head of some co-operatives supplying to the supermarkets. But the positive side is that the farmers can take advantage of the stable price and quantity of the supermarkets and most of the times the big farmers selling to the supermarkets have a higher margin compared to the traditional chain. The co-operatives also face problems like lower integration with the market and they wanted to have more updated information of the supply chain. Some of the co-operatives wants the government to support them financially as getting loans from the bank becomes quite difficult because of a lot of requirements as well as the high rate of interest.



Wholesalers, like traditional supply chain also play an important role in this supply chain and they can help in distribution of bulk amount of produce. The mode of distribution can be of two types- by selling them at the spot or delivering them to the retailers and the transportation can either be arranged by the producers or by the wholesalers. The retailers mostly consist of specialised stalls, stores and supermarkets. The stalls have the capacity of consuming upto 120kg/day while the stores have the capacity of dealing with 200kg/day. Compared to them, a normal supermarket can deal with 80-350kg/ day. But there are supermarkets where the vegetables are on high demand like Big C and Intimex where they can currently consume 500-700kgs/day. The wholesale chain involves the highest number of actors and thus the lowest profitable one. The prices are higher as every actor needs to have their own profit and the products are also not of satisfactory quality. The farmers get the lowest benefit in these kinds of chain and they are thus, forced to adopt unsustainable ways to make profit. The actors in the middle position in the supply chain are the ones who actually dominates the actions of the chain. They pay very less to the farmers and the farmers, on the other hand are helpless as they have to depend on these people for the selling of their vegetables. According to the expert, “Atleast the farmers in Hanoi can sell their produce and earn more money but the farmers from other provinces have to rely on the retailers and they dictate the price. Thus, the farmers are really ill paid”.

In case of the supermarket, the origin of the products are not quite varying in a specific supermarket as well as between the supermarkets. Most of the VietGAP certified safe vegetables in Megamart, Fivimart, Co-op market, Lotte, Big C etc comes from the highlands of Dalat, Moc Chau, Gia Lam and Dong Anh. Fig 32 shows the diverse origin of the vegetables. The other ones come from Nam Dinh, Me Linh, Hoai Duc, Sai Gon etc. The fruits in almost all the stores are from the Southern part of the Vietnam or are imported from USA, Australia, New Zealand, Korea, South Africa. Fig 31 shows the origin of the imported fruits.



Fig 31: The origin of the imported fruits in the supermarket (New Zealand and Japan)





Fig 32: The origin of the vegetables coming to the supermarkets (Dong Anh and Moc Chau)

The safe vegetables or fruits can also be found in specialised shops. Few shops which claim to be specialised in organic products like Tasty agricultural products, Yuki's store, Homefood, Gourmet Annam, Orfarm were visited. Fig 33 shows the supply chain of Orfarm. Most of these products were bought directly from the individual farmers or farmer's co-operative. In case of homefood, the products are grown organically in a small plot at the Hanam district, by an individual farmer with whom the company has a contract. The district is within 50 kms of Hanoi. Every day the products are being brought in by trucks. The origin of Yuki store vegetables is from Dalat and they buy directly from the farmers. The fruits are either imported or are from the Southern part of Vietnam.



Fig 33: The supply chain of Orfarm

It can be seen that in such kind of supply chains, the downstream actors have a lot of upper hand on the upstream actors about the quality and quantity required. The retailers mainly decide on the overall requirements which are then passed on to the collectors. The farmers are then compelled to serve the requirements of the other actors in the chain. The interviews with the Head of the Tien Le co-operative in Hoai Duc revealed that the collecting company mainly inspect the quality of the products of the co-operatives that can be delivered to the supermarkets and the company takes all

the decision about quality and price. The owner of the Van noi co-operative in the Dong Anh district said that the products that are not upto the mark, are sent back to the co-operative. Thus, the company has all the authority to control the upstream actors. There has been initiative from the government to decrease the number of middlemen in the chain. The government feels that this on one hand can make the chain more organised while on the other hand the producers will also get much more money as now they have to deal only with the companies. The supply chain is much shorter and principally they should get more money. But in reality, the farmers are really ill paid by the companies. Farmers that are in and around Hanoi can atleast earn more money by selling their products directly but in case of farmers from other provinces they have to depend on middlemen who dictates the price to them. The government does not intervene in the decision taken by the private companies and thus, they can buy from individual small farmers with a very low price while can sell the products at a much higher price. As mentioned above, the co-operatives or the farmers having big plots are relatively at a better condition. The co-operatives also lack their own marketing channels as it is very costly and requires a lot of resources to find individual marketing channels. Thus, individual farmers who are certified cannot always find buyers from the supermarket. They have to supply the certified products to the local markets. This is the main reason that they turn into small street vendors to have side incomes. Also, sometimes, they become traders as they collect produce from several farmers and then sell it. The main reason out of many, that experts feel that VietGAP could not be as successful as was predicted is because of the lack of organisation of the marketing and distribution channels. Thus, many of them predict if the government becomes successful in organising a proper supply channel then maybe certification will have the predicted impacts.

## **6.5. Supermarket policy**

### **6.5.1. The strategy of promoting the supermarkets by the authorities**

Supermarkets though newly introduced in the food system of Hanoi but have expanded at a very fast rate. In every 500 m either there is a supermarket or a convenience store. E.g. Fivimart opened nearly 3 years ago in Hanoi but already have more than one branch in every locality. Vinmart, the home brand, has the highest number of branches all over Hanoi. They are mostly convenient stores. In the small provinces, which is like the peri-urban areas of Hanoi, supermarkets have started to come up. Vinmart is the most popular brand in the peri-urban areas. Almost 50% of the supermarkets are presently owned by foreign brands like Lotte which is a korean brand, Fivimart, AEON are owned by a Japanese company. Big C, which is one of the oldest brand in Hanoi, previously was a home brand. But

later on it was sold to a foreign company which the locals believe is to be a Chinese company. This has decreased the level of acceptance of the brand. Other home brands are Co-op, Intimex, Vinmart.

The supermarkets are promoted by the authorities to increase the safety levels but it is believed by the experts that it is also a strategy to attract more foreign investors. The policy department of MARD also stated that the promotion of supermarkets serves both the purpose of modernisation of the retail sector as well as also it is part of the urbanisation plan. They feel that if the retail chain is modernised then the food safety can be enhanced as the products in the supermarkets can be traced back. According to them, the control standards in supermarket is high unlike the local markets where it is difficult to control the standards as most of the produce comes from small household farms and thus the seller just transport it and sell the products. In this way, they skip all kinds of quality checks.

In reality, there are many speculations about the actual motive of introducing the supermarkets. The experts feel that it is also utilised as a way of showing the metropolitan side of Hanoi. The fact that the government is trying to promote the supermarket is not considered to be a wise decision. According to an expert on this topic, supermarket is not a success considering the low acceptance of consumers and the negligible amount of healthy products that are sold through it. He further added ““My son studies in a high end private school. They are provided meals in the school and the school procure the ingredients from the Japanese supermarket called Fivimart (AEON) but still he suffers from food poisoning twice in 3 months. This is not only the case with him but also most of his friends”. Thus, he meant to say that there are still cases of food poisoning even after procuring food from the foreign supermarkets who are considered to keep high quality certified products. The supermarkets are the main outlets for selling certified products but there is not much belief even on the certification process. There seems to be such illegal businesses where certification can be acquired in exchange of money. Thus, it cannot be fully believed that the certified vegetables in the supermarket are fully genuine. Also, the supermarket policy is under the three ministries making things very complicated. At the central level both the supermarkets and the local markets are under MARD while at the local level it is under joint jurisdiction of both MOIT and MARD. Thus, taking a decision regarding this policy requires to deal with a lot of bureaucracy.

### **6.5.2. Strategy of bringing the supermarkets in the mainstream**

The supermarkets are coming up with new strategies to attract consumer attention. They are offering loyalty programs, discounted price to their customers (Fig 34). They are focusing on advertisement to a large extent. On the other hand, the government in order to enhance the supermarkets and to bring it in the mainstream are constantly trying to replace the local and traditional markets. The authorities

have the plan of replacing the local markets and is trying to curb the informal businesses like street vending. This is according to the plans of the supermarket policy. According to the policy officers, local markets are not anymore, the part of urbanisation plan. They will be gradually replaced and many markets that were there have been already replaced. There are many such local markets which have illegally come up in almost all the neighbourhoods throughout the city. These will be replaced as it is not part of the urbanisation plans of the city authorities. One such example is that there was a local market in the centre of the Hanoi, but the authorities have allowed a supermarket to come up and have pushed the local market in the basement. This does not only affect the buyers but the sellers as well. Most of the consumers in Vietnam do not like to get down from their bikes while shopping which cannot happen while shopping in the basement markets. Thus, the sales of these market will gradually decline. The theory of rational choice model is implied by the officials in this case as they feel that the consumers will go towards the supermarkets instead of the basement local market as they will care more about the product quality and will gradually change their habits. They have assumed that the consumers will think rationally and will go towards the modern retail system as they are considered to be much safer than the local informal or formal markets. Moreover, they have the perception that as the local markets will be replaced so the consumers will not have any choice other than going to the modern retail sector. So, the consumers will gradually change their habits and would choose quality over traditional habits.



Fig 34: Intimex supermarket giving discounts to attract customers

On one hand the policy officials feel that this is a strategy of modernising the value chain but they also agree that replacing the local markets can be a problem for most of the people who are of below income as the prices of the supermarkets are quite high. According to the reports of a Canadian NGO, Health Bridge, 40% of the people in Hanoi earns less than 5\$ per day. Thus, taking the economic condition of Vietnam under consideration, this approach of modernisation cannot be a success.

Replacing the local markets is also not a wise decision taking the health aspect under consideration. Before the supermarket wave in Vietnam, very few people consumed processed food. But now small children and the younger generation are attracted towards these increasing the risks of obesity and heart related diseases. The variety of fresh vegetables in the supermarket is quite low compared to the local ones which also poses a risk in deficiency of essential micronutrients amongst the people.

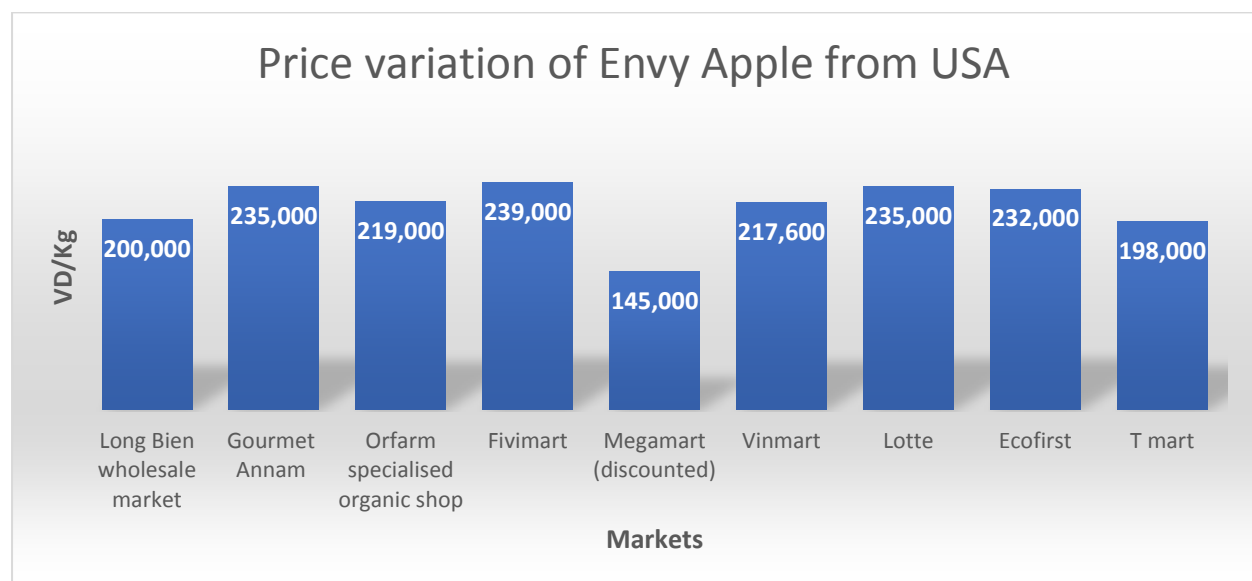
The street vendors are targeted by the policies. The justification of keeping the street vendors away from certain main roads to avoid traffic congestion is acceptable as the condition of roads and traffic in Hanoi is quite miserable. But mainly the street vendors were noticed in the small alleys and in the neighbourhood areas. The police sometimes come on patrolling, but the street vendors have already found their way out by making makeshifts. When they are chased they find some other place to continue their business. The sellers in the local markets are completely unaware about government's plan of replacing them and even some of the sellers in the Phung Khoang market claimed that they would continue their business in the same place throughout their lifetime. Some street vendors were observed sitting just opposite to the supermarkets and they were very confident that the presence of supermarkets would not hamper their sales. Thus, it can be concluded that the informal market is quite confidently dominating the landscape and it is the one which is meeting the everyday financial and dietary requirements of the majority of the population.

### **6.5.3. Price variation in the supermarkets**

Due to frequent inflation, the middle-class consumer mostly prefers to buy from traditional shops where there is provision of instalment services, the amount available according to the needs and that too for a much lesser price. The prices in some supermarkets of some commodities were cheaper or similar to that of the local markets. But the results are quite inconsistent which makes it quite difficult for the customer to actually make a decision. The economic condition of Vietnam being not at a stable condition, people cannot afford to invest too much on food.

In case of Fivimart the prices of some vegetables like tomatoes, cabbages were similar to the local market but at the same time other vegetables and fruits were having higher prices. In another supermarket called Lotte, the prices of tomatoes were four times than the normal ones. Megamart which is considered as the wholesale supermarket is having one of the cheapest range for vegetables and fruits out of all the supermarkets. Big C is also quite affordable. In Co-op market, the prices of leafy vegetables and herbs are double than those of the local markets. It cannot be declared that the prices are higher for only those varieties which are certified but there are many uncertified products in the supermarket where the prices were quite high. E.g. Garlic in the Co-op supermarket was high even though it was not certified. The same brands of mushrooms were sold in the local market, Big C

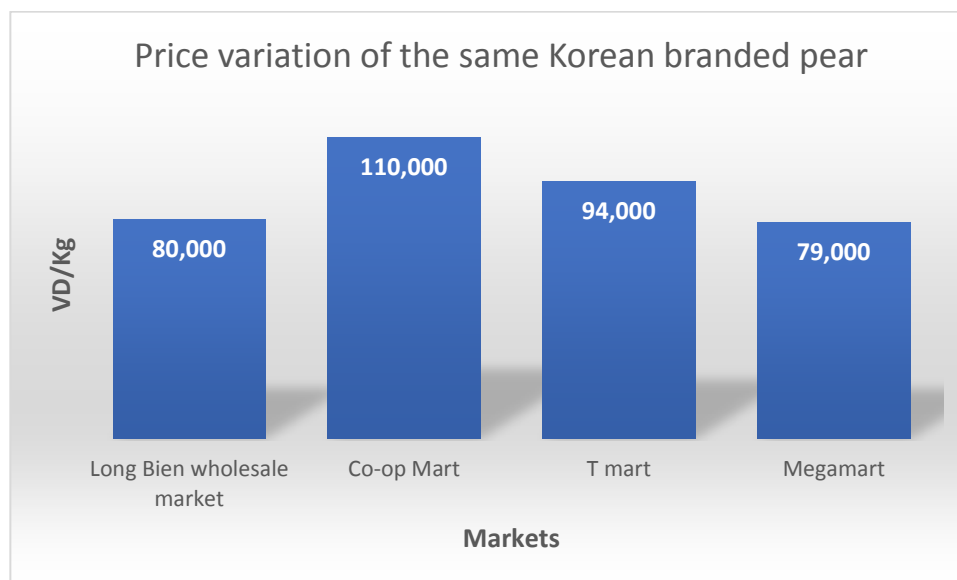
as well as in the supermarket called Lotte but the prices are extremely higher in Lotte even higher than Big C. In case of organic brands, the prices are quite high. Big C has a separate section for organic products where the prices are unacceptably higher. Compared to another specialised shop called Gourmet Annam, where the price of ginger is 80,000 VD/kg, the price in the organic sector of Big C is 100000 VD/kg. In Yuki' store (which seemed to be a specialised store), though it was not clear whether the products are organic or safe because of lack of information, but still the prices are quite high. Some of the specialised shops did not have any information about the prices on the products. As mentioned before, most of the supermarkets are having imported brands for fruits and similar branded fruits are sold in almost all the normal supermarket, specialised safe or organic stores as well as the Long Bien market. The variation in prices is really high. Out of the products procured from several origins, the vegetables from Dalat is the costliest one. The reason is that Dalat is quite progressive in case of farming technology and it has a number of organic farms. According to Binh, the price of pork in local markets is half as compared to the supermarkets. An example of the price comparisons of an imported brand of apple, Korean pear and ginger are provided in the chart below (Graph 1, 3 & 3). Fig 35 shows the price range of envy apples in Gourmet Annam store.



Graph 1: The price variation of an imported brand of apple

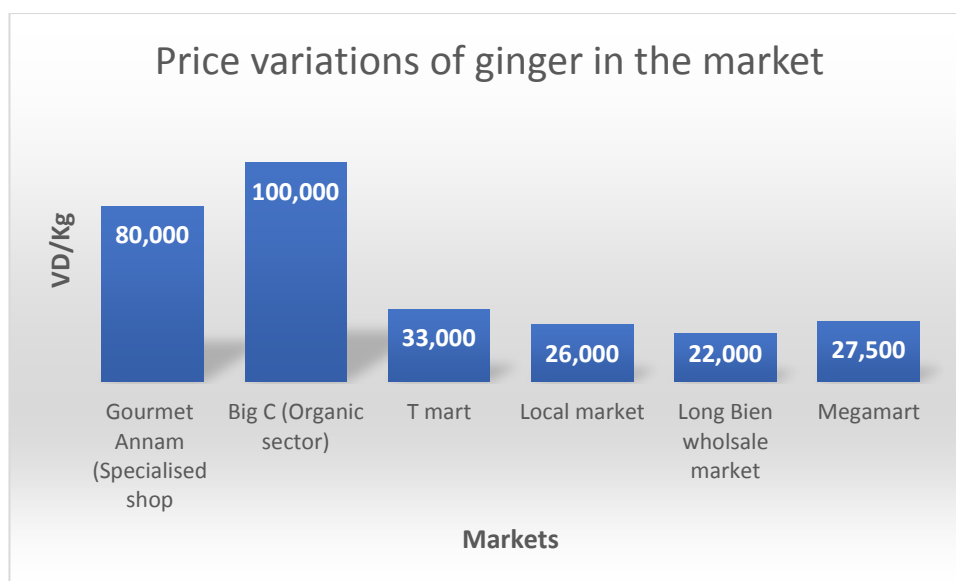


Fig 35: Envy apple in the Gourmet Annam store



Graph 2: The price variation of a Korean branded pear





Graph 3.: Price range of ginger in different markets of Hanoi

Note: Except the organic ginger in Big C and the VietGAP certified ginger in Gourmet Annam, all of the other gingers were without any certification or there were lack of information on the product.

#### 6.5.4. Consumer perception of supermarkets in comparison to local markets

According to most of the interviewees, most of the people in Hanoi prefers to go to the local market as it is quite convenient as well as the prices are quite cheaper. The choice of not moving towards the supermarket for vegetable purchasing cannot be judged in isolation without taking other factors into account. The choice is mainly interlinked with other practices and social norms which shapes the daily preferences of activities. It can be seen that though people actually are concerned about the food safety, but it cannot actually be noticed in their practice. It was stated that the local markets are preferred as people can bargain with the sellers which is not possible in supermarkets (Ha, P.C., April 28, 2018). Also, there develops a sense of trust between the seller and the buyer in the local markets which the people in general respect. They feel that such kind of relationship cannot be developed in the supermarkets. The fact that most of the dealings in the wet markets are done on this trust based relationship, people feel that the sellers in the local market have a close bond with them personally. Hence, they would not sell bad products to them. According to Binh, the sellers in the local market knows her mother by her name which explains the kind of relationship between them. The same opinion was given by the lecturer of the Agricultural university as he said "I trust my local seller because he/ she sees me daily and knows my preferences. But in supermarket I do not know who is producing for me and I do not trust them".



Some people prefer supermarkets only when there is a special occasion, or they are having lack of time to go to the wet markets e.g. According to a 40-year-old resident of Au Co locality, her sister always used to go for shopping to the local market, but now she is pregnant and hence, to have a healthy pregnancy and a baby, she goes to the supermarket. At this point, she wants to have guaranteed quality of food and a safe shopping experience. That is why, she prefers to go to the supermarkets. Also, people normally go to the supermarkets in the weekend along with their whole family or their sons which is a kind of bonding time for them. Thus, it is not yet an everyday choice for most of the shoppers.

The definition of fresh vegetables and fruits, according to the Vietnamese consumers, are mainly associated with the traditional markets where the produce are brought just the next day of harvest. They feel that the frozen foods in the supermarkets are stored for a long time and is not safe. According to Ha who is a bachelor college student, most of the people in Vietnam believe that in the local markets they can get access to fresh products as they do not have the option of storing them for a long time as compared to the supermarkets. It was also observed that in the supermarkets, the old stocks are not cleared and sometimes they even rot in the shelves. Sometimes the old stocks are cleared at a discounted price. A countermovement against the supermarket culture is being noticed among the citizens. The residents of the complex in which Pham (working in the IT sector and 30 years old) stays have a demand for food which are fresh and of cheap price. Even though, there are two supermarkets like Vinmart and Co-op in their complex, they do not like to go there. To find an alternative, all the residents have formed a facebook group through which they communicate with each other about the whereabouts of the availability of safe and healthy food. In addition to this, they have contacted with a farmer in the suburbs of Hanoi. In every 3 days, the farmer supplies them with his fresh produce. As part of the contract with the farmer, the residents can also check the whole process of growing the vegetables if they want to. Another such example of countermovement is forming rooftop gardens. The residents of the building having rooftop gardens, mostly procure food from these gardens.

In case of supermarkets, mostly a bike or a car is needed to carry the bulk amount of products but in case of street vendors, or informal markets in the neighbourhood, people can go by foot which is a helpful option for people who cannot afford to own a private conveyance. According to Binh, her parents do not really like to get down from their bike and then enter into the supermarkets. Ha stated that working women while coming back from their work pick up their everyday needs (fruits and vegetables) which is quite convenient for them. Going to the supermarket needs a planning which takes more time sometimes.

It is seen that most of the people from the older generations and middle/lower income people, still prefer to buy from the wet markets and small grocery shops. Linda and Binh, was quoted saying that most of the older generation people have the habit of going to the traditional market and cannot accept the culture of going to the supermarkets. They also said that the old people have the experience of choosing quality products in the market which the younger generation is lacking. Also the fact that in supermarket bulk purchase are mostly done is a problem for some consumers, as they do not have refrigerators. For them, traditional market is much more convenient as they can buy in small quantities almost daily. Ha, stated that she likes to go to the local market in her neighbourhood to buy everyday products, as she can buy the quantity she wants. She only goes to the supermarket to buy bulk quantity of products. Thus, it can be seen that the consumption behaviour is mostly based on long term cultural and social habits rather than a practice of rational thinking.

On the contrary, the young generation, who are more concerned and aware about food standards feel that they should rely on supermarkets as the products are much safer than the traditional market. All the interviewed candidates reported that, the products in the supermarkets are guaranteed and the standards are quite high. The younger generation people in Hanoi are already having the habit of going to the supermarkets as they are scared about the food quality available in the local market. Thus, this has become their practice. According to Linda “because the food is not safe. I am afraid of buying from the local markets. I feel the product is guaranteed in the supermarkets.”. Except the fact that some of the people in the younger generations have lower income as they are either students or have started their career are short on money. Hence, they cannot go to the supermarkets daily even if they strongly feel that the product quality is ensured. According to Ha, though all the members of the family mostly prefer to go to the local market, but the wife of his elder brother goes to the supermarket. She feels that though she will get access to cheap vegetables/ fruits in the local market, but this kind of low quality products can, in long term cause negative effects on her health. It was noticed in the markets that the foreigners who have come to Vietnam mostly prefer to go to the supermarkets. The sale of imported products or locally produced foreign brands are getting higher as the younger or sometimes the wealthier segment of the population feel that they are of higher quality than domestic products. Regarding to processed food, it is very difficult to judge the quality simply by tasting or smelling it. Thus, the consumers are trusting on popular brands available in the supermarkets. It is expected that, as the dietary patterns are changing there will be demands for more processed food, ready to eat food products and animal derived products (expected to get doubled within 2015 to 2030). Most of the effects are linked with urbanisation and retail modernisation.

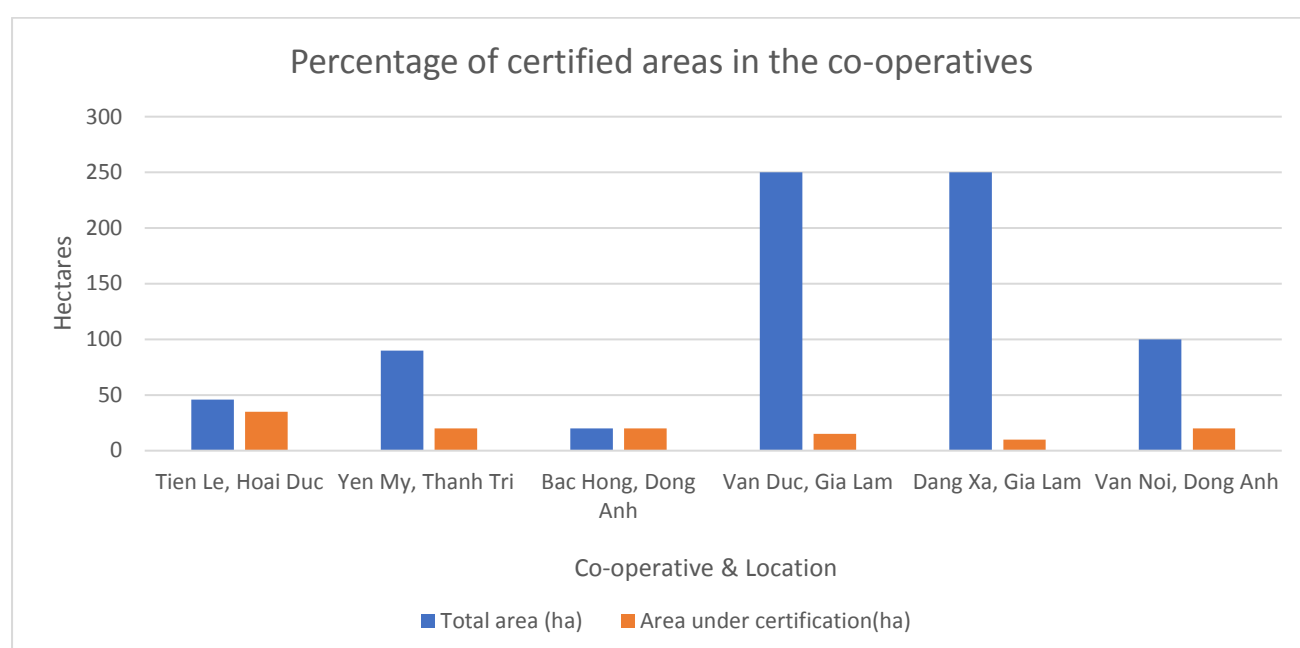
## **6.6. Safe vegetable policy**

### **6.6.1. Safe vegetable Zones and Certification**

The government has started the initiative of certification of the produce to maintain food safety standards and enhance traceability. They have also acknowledged some parts of the areas as safe agricultural zones. This is mostly done by the local authorities at the communal level. The lands which are under safe agricultural zones are mainly certified but to certify other areas not under the zone requires individual and higher payments by the farmers. There are altogether 68 to 70 criteria that must be fulfilled in order to get certified. VietGAP is the most popular kind of certification in Vietnam followed by PGS. There is also another kind of BasicGAP certification which means that the criterias are more diluted in this case, but it does not have its own label. After applying for certification, the officials from the certification agency, visit the farm and take soil and water samples, following which they decide on the request of getting certified. Another process of getting certification is that the producer themselves take their products to research institutes like NIN which operates under MOH. After getting the laboratory test results they take it to MARD to get their certification. The certification is usually given for 2 years after which it should be renewed. The government mostly provides some aid to the co-operatives when they get certified for the first time, but the process of renewing is solely on the co-operative/ producer. The supermarkets to which the co-operatives supply also provides some aid to the farmers but mostly they are in form of loans. The kind of aid is stated in the contract between the supermarkets and the co-operatives which most of the supermarkets were not willing to share. The total amount of certification cost is 30-40 million VND/ year/ 20 ha. The aid can be of different kinds like providing them with fertilisers, building them proper infrastructure and irrigation system, maintaining the transportation within the farm boundary. The trend is that mostly those co-operatives supplying to the supermarkets receive more subsidies. MARD provides the training to the farmers about how to use the machinery, about IPM practices etc. The training lasts from three days to one week or even one month.

Most of the farmer co-operatives interviewed, had only part of their land certified by VietGAP while the rest of the land falls under the safe agricultural zone E.g. Yen My co-operative in Thanh Tri have total area of 90 ha but only 20 ha are actually certified by VietGAP and Van Duc co-operative in Gia Lam, has total area of 250 ha but only 15 ha is certified. It becomes quite difficult to fulfil the criterias for VietGAP. Graph 4 shows the area of different co-operatives that are under certification. According to the expert in this field, it is not possible for anyone to produce products without pathogen, without any odour, without any pests etc. Thus, though the farmers get certified, but they do not really comply with the standards. It is mandatory for the farmers to have proper records on the

number and types of pesticides used. But there are all total 40 kinds of vegetables only in a particular province for which there is no prescribed pesticide. Hence, the farmer uses pesticides based on his experience. But they simply do not write it on records. Thus, the actual meaning of getting the produce certified is lost. According to the lecturer and expert on this particular topic, more than 40% of the farmers in Dalat, which is considered to be one of the progressive areas in terms of farming are not aware of certification. Another alarming fact is that there are many such illegal businesses where the products are stamped as VietGAP illegally. The local authorities are entitled by the higher authorities of MARD to have a certain number of certified co-operatives or farm in their area. Under the response to such pressure, the local authorities force some co-operatives to take up the certification even if they do not meet the required standards. Thus, certified products always do not have high quality.



Graph 4: The areas under certification in different co-operatives

The producers in the study area did not show interest towards VietGAP. Though VietGAP has its own share of benefits like getting access to modern marketing channels which can give farmers higher price benefits and stability in the long term but getting certified is not quite an easy process. The producer must meet many requirements and also the costs of getting certified is very high. It is very difficult for the individual farmers to get certified. Most of the co-operatives do not have their own marketing channel. When individual farmers cannot find buyers from supermarkets they need to sell their certified products to the local markets along with the uncertified ones without any labelling. Thus, the price they get is not sufficient to cover their production costs. But the competition is increasing day by day and as more and more supermarkets are coming up, they are having ties with the co-operatives or farms having bigger plots to have a steady supply. As mentioned before, most of

the land in Vietnam mainly around the delta is highly fragmented which means that the number of small farmers is high. As the modern retail channels are becoming dominant they are struggling for their existence. The policy officials of the MARD feel VietGAP did not develop as expected, because of the lack of proper marketing and distribution system. He hopes that if the supply chain gets more organised then maybe the farmers will also be motivated to take up VietGAP in the future. Another expert feels that the bureaucracy of the government is also a factor behind this failure. But it must be mentioned that the certification which is used as a strategy to enhance the safety standards, has been able to raise a level of awareness among the stakeholders of the supply chain, which according to an expert of certification, is the first step towards stopping bad practices.

### **6.6.2. The situation of the sales of safe and certified products**

The supermarkets are one of the most important retailers of certified products. The vegetables sold in as certified ones are having proper information written on the labels including the name of the supplier, phone number, email address in case the product have been supplied by the supplier/ collector. The products coming directly from the farmers/ co-operatives had the name of the co-operative or the farm (Fig 36). The origin of the products are specified on the products that are certified and barcode is provided so that the origin of the products can be traced back. Some of the products were not having any labels which according to the staff of the supermarkets, are produced by individual small farmers (Fig 37). It must be noted that the diversity of vegetables was quite less than the local markets.



Fig 36: The name of the VietGAP certified farm mentioned on the package



Fig

37: The uncertified products or the products without any information or packaging in the supermarkets

In the imported fruits section, the origin of the fruits was mentioned but there was no information available on the domestic fruits. Some of the supermarkets are already having their own brands. E.g. Vinmart is having their own brand called Vineco (Fig 39) while the one of Lotte is called L Choice and L fresh. The brands are controlled by the supermarket and the standards are equivalent to the VietGAP standards. Keeping customer concerns over food safety in mind, some of the supermarkets like Fivimart, has even opened a service of a special hotline number where the customers can call and know everything about the origin, quality of their products. Fivimart also had their certificates of domestic fruits displayed while the column for vegetable certification was empty (Fig 38). But, on the other hand Intimex supermarket staff members usually paste the price labels on the certification information making it quite difficult for the customers to read the actual information. This shows that the awareness among the staff members are quite less and also, they do not receive proper training from the supermarket. Most of the supermarket officials seemed to be completely blank about the details of certification and they tried to avoid the question when asked. Their knowledge is limited to the name of the retailer/ the company supplying to the supermarkets.



Fig 38: The certification of imported and domestic fruits displayed in Fivimart but nothing is there in the vegetable section





Fig 39: The VinEco brand of Vinmart

Out of all the supermarkets, only Big C had a special counter for organic products. The specialised organic or safe vegetable shops are also there but the numbers are quite less and some of the shops have been closed permanently. Half of the specialised shops were having proper information. Out of all the shops visited, the shop called Tasty agricultural products, had proper information about the origin, certification labels etc written on the package of almost all the products but information about the price was lacking. The proof of PGS certification was displayed (Fig 40) inside the shops though the fruits were not having any kind of certification. Organic Shops like Orfarm and Gourmet Annam had most of the products certified while others had no information. In case of Gourmet Annam, the products were having certification of GAP and not specifically VietGAP (Fig 42). The brand of fruits were similar to any conventional supermarket. The other specialised shops like Homefood, Yuki either had only one or two kind of vegetables (Fig 41) or did not have any information written on the fresh products.



Fig 40: The PGS certificate and other relevant certificates in the Tasty Agricultural products shop



Fig 41: The low diversity of vegetables in the specialised shop of Homefood



Fig 42: The GAP certified products of Gourmet Annam

The government has a plan of introducing safe vegetable shops in the local markets but the initiative is still not worth mentioning. None of the local markets visited were having any safe vegetable outlets yet. There were very few co-operative shops noticed in different areas of the city claiming the sale of safe vegetables (Fig 44). The wholesale market of Long Bien had a board in its entrance which mentioned that they were selling products that were having proper standards (Fig 43).





Fig 43: Signboard at the entrance of the Long Bien stating that they are selling according to safe standards



Fig 44: Co-operative selling safe vegetables

### 6.6.3. Consumer perspective on the sale of certified and safe vegetables

Most of the common public who were interviewed, agreed that they feel the vegetables and fruits in the supermarkets are safer than the local markets. They have seen the VietGAP standards but it seemed that they are more attracted towards the overall ambience, hygiene condition of the supermarkets. They value the shopping experience but most of them do not really go through the details on the labels. The word VietGAP is written on the packages in bold so they notice it. An expert who did a study on consumer behaviour towards certification stated “I did an interview among customers and mostly people are not conscious about certification and brands. People do not even read what’s written on the labels. They buy sometimes because they feel that the products are packaged so they are safe. They confuse good packaging with food safety”. Most of the interviewees have never gone to a shop specially meant for safe vegetables. They were also not aware of the existence of such shops. In case of shops selling organic products, the customers had an instant reaction that the product prices are extremely high, so they are scared of going to such shops. The supermarkets seemed to follow the protocol but they themselves were not quite aware of the value of consumer awareness. Most of the supermarkets had the price label attached on the certification labels. Thus, people dealing with the certified products also do not take the initiative of spreading consumer awareness. Out of the supermarkets only officials of Fivimart seemed to know about the details.

## 6.7. Masterplan 2030

Urbanisation has lead to many changes in the urban and peri urban areas of Hanoi. According to the Master Plan 2030 or 2050, the areas around Hanoi is intended to be modernised. More and more peri-

urban areas are strategized to be included in the urban districts as well as some rural districts are getting transformed into the peri-urban areas. Many experts believe that this is a tactic to increase the land prices as more the areas get urbanised and are well connected with the main city centres, the industrial zones more will be the demand of those lands. Many residential and industrial areas have been built in the agricultural lands of peri-urban areas. A number of highways have been constructed which pass through the major peri-urban areas which connects to the city and the main transport centres. A major example is Gia Lam, where a major highway is constructed sacrificing agricultural lands. It can be predicted that the agricultural land around the highways will also be targeted in the coming days. Compared to the peri-urban areas, the rural areas have not till date faced massive changes. Most of the people in the rural areas still grow their own food as well as for the local markets in their own gardens. Some of the areas are bought now by the actors of the private sector like big companies who produce their own vegetables in these plots. They do this in a very big scale and this is a way of having a supply chain of their own. According to experts, they feel that slowly the food production area will move away from the peri-urban areas and thus, the rural areas will be targeted. Previously, the land use changes were in the hands of provincial authorities but now, any kind of land use changes have to be taken permission from the higher authorities. But it mainly depends on the scale. If there is a planning of big industrial area then the permission has to be taken from the central authorities but if it is at a small scale in the local level then the main permission can be given by the local provincial authorities.

The land laws are much stricter now. In case of rice and paddy area, the laws are very strict. The land cannot be used for any other purposes even cannot be converted for growing other crops. According to the Policy officer of MARD, there is a masterplan and a plan for each district. The planning is done by experts, but the implementation is not done as per the plan. Because of the sensitivity of the issue the exact details of the masterplan could not be known. Also, the officials of the MARD did not have proper track record of what have been done till date.

Apart from the government led plans there have been sprouting of many informal activities. These activities are mainly led by government officials, citizens or private actors. There are many reasons why this is taking place, mostly because getting the permit through proper official way is too expensive or takes too much time. It is normally seen that by the time the plan is being implemented, the actually plan is no longer feasible in that area. In one of the informal talks it was revealed that the fines for violations were too low and people felt that they can pay that later if they are caught. Thus, where 40% of the construction is informal, we can expect that the formal sector has already lost control over it.

Urbanisation is having a disastrous effect on agriculture. The proximity of the residential areas with the agricultural lands results in the diffusion of the residential waste into the agricultural irrigation water. The irrigation system gets disrupted as the water containing waste products which is high in heavy metal concentration gets mixed with irrigation water. The application of these water onto the vegetables mainly leafy ones can result in the accumulation of heavy metals and chemicals. The usage of such water results on soil pollution contaminating the next batch of vegetables as well. Waste management is one of the most difficult issue. The air pollution because of industrial emissions results in contamination of the agricultural produce mainly with the particulate matter deposition. As more and more areas are claimed for non-agricultural purposes, the area under agriculture is getting smaller. Thus, the farmers are trying to intensify to get thigh amount of yields from a smaller patch of land. This in turn will result in increased usage of pesticides and fertilisers. The effects are detrimental for soil, water and air. Under such conditions, the production of safe vegetables remains a question.

## **7. DISCUSSION**

### **7.1. Supplychain**

Vietnam is one of the countries in the world facing a transition in its food economy and landscape. The government has framed policies which aims to modernise the food system which according to them, can help in tackling with the food safety problems. The important strategies include opening of supermarkets and replacing the traditional wet markets, certifying the products, making agriculture being operated in a much larger corporate scale etc.

The underlying objective of most of the strategies is to organise the supply chain to enhance the traceability factor and making the activities within the supply chain more transparent. This has been achieved to certain extent through the introduction of supermarkets where most of the products are tagged with the details of their production sites, distributor companies etc. But at the same time, it is a fact that the amount traded through the supermarket forms a very small portion of the total sales amount. The food landscape of Vietnam is dominated by small farmers who either deals with their customers directly or through some distributors. Most of the farmers, even the co-operatives do not have proper resources to deal with the supermarkets because of various reasons like financial constraints, lack of literacy etc. Thus, most of the products are dealt with informally without any tracking system. Most of the farmer population is underpaid and to deal with the supermarkets they require to upgrade themselves which can only happen if they have proper marketing channels which in turn can accrue them financial means. Being a part of the co-operative also does not mean that the farmers are secure as most of the co-operatives lack proper marketing channels. The underlying problem thus, is that the government is trying to organise the supply chain quite superficially without going in depth into the problem. Only considering the supermarket chain would not solve the problem. There are many reasons in Vietnam as to why the supply chain is so messy. One of the prime reason being the lack of control of the government over the private actors. The private actors in the agricultural sector are squeezing the producers making their condition worse. This segment of the population would not have proper means to compete with the other actors in the modernised supply chain in the near future. Thus, it can be predicted that the smallholders will be slowly eliminated from the chain which can be a serious blow to the Vietnamese economy which is dependent on agriculture.

### **7.2. Certification**

Regarding certification, which is another strategy to improve the food system assurance structure, similar kind of theory as above applies. The government is providing proper financial aids for

certification to those co-operatives or farmers selling to the supermarkets. This is an incentive to inspire them to move towards the supermarket chain. Thus, the co-operatives or farmers not having resources cannot get certified which directly means they do not have any other option other than being cornered in the modernised supply chain. The problem of marketing channel can become more serious here as the production costs being high, if the farmers cannot sell their products to the supermarkets or specialised shops then they must sell them at a much lower price to the local markets. This discourages and will continue discouraging more and more farmers to get certified in the future unless the government tries to improve the marketing channels.

Certification in Hanoi has become more of a business than a way of providing quality assurance. In order to prove that the system is dealing with quality products the government has set targets for the local authorities to certify certain number of co-operatives. Hence, it does not mean that even if the co-operative is certified, it actually deals with quality produce. Certification is surely not helping to deal with problems of food safety in case of Vietnam. The way the government perceives certification will make the situation more problematic instead of solving it. The Vietnamese government had the problem of focusing more on quantity compared to quality even previously and still now they are continuing to do so. They are focusing more on the amount of certified products rather than their quality. The capacity of quality check is very low. Also, the confusion in the division of duties between the three (MOH, MOIT, MARD) ministries is a considerable barrier. All these factors together does not guarantee the quality of certified products. Instead of focusing on increasing the number of certified products, they need to first increase the transparency in the system and the capacity of each ministry including the food inspection and monitoring.

### **7.3. Supermarkets**

The supermarket concept is not a success as far as establishing an access to safe, sustainable and healthy food is concerned. The introduction of supermarket has surely bought a transition in the food landscape of Vietnam but has failed to provide safe food for the masses. Considering the price in the supermarkets and the average income of the Vietnamese population, only a higher-class segment of the population can afford it. Also, for Vietnamese people, culture and tradition holds a very important position in their everyday lives which they feel is not part of the supermarket shopping. Shopping in the supermarkets can be considered an option of hanging out with the family or an option when going to the wet market becomes difficult for any reason. In spite of all the strategies undertaken by the government it is not accepted by the mass. One of the main strategy the government took to make way for the supermarkets is to replace the wet markets. Though the government defends itself by saying that they are replacing the wet markets as controlling the standards in the local markets

become very difficult. But in most of the cases it is seen that there is no initiative as such to actually control the standards in the wet markets. They feel that the wet markets cannot help in enhancing their image as a modernised society globally. Hence, they came up with the decision of coming up with supermarkets all over Hanoi. This decision in future instead of lowering the numbers of wet market will make way for more and more informal and illegal establishments of wet markets. The government will not legitimise the wet markets but the demand of the same will be high considering the high prices in the supermarkets. Hence, they will set up local markets without proper permissions. This will in turn worsen the situation in terms of quality control and traceability. The banning of the wet markets will increase the number of people under poverty.

The street vendors are also targeted by the policies and it is quite unfortunate that most of the farmers in and around Hanoi turns into street vendors as only farming is not enough to sustain. With more and more areas being converted for other usage, the farmers including their family members are turning into street vendors and the numbers are expected to rise in the future. The migrants will also increase in the urban areas as farming jobs in the rural and peri-urban areas are decreasing. All these people require a mode of income for sustenance. Street vending, atleast helps this section of the society to survive in a decent way. Also, they constitute a very important part of the food landscape as majority of the people buy from the street vendors as the prices they offer are quite cheaper. Replacing it will mean that the government will push more people towards malnutrition and extreme poverty.

There are also concerns over the expansion of the modern retail sector like the increase of obesity and heart related diseases because of the increased sales of processed food. This along with the less diversity of fresh stocks in the modern retail units can pose a threat to the traditional diets. In addition to this, the dominance of the modern sector will mean that there will be less competition and the urge of the supermarket to have quality products will reduce. With wiping out of the traditional sector, they might further increase the price posing a serious problem for the poor people. Thus, either the government needs to keep both the option of modern retail units and the wet markets which is in line with the informal-formal sector dualism theory. But in such case, it will surely take a longer time for the modern units to become the mainstream option. Otherwise they can try to tactfully formalise the traditional sector and can invest more power and energy towards it considering the high embeddedness of this sector into the cultural and social practices of Vietnamese population.

#### **7.4. Land use changes**

The Masterplan 2030 has unprecedented effects on the agricultural areas of Hanoi. It can be said that the effects are more on the peri-urban areas as compared to the rural areas. Land has always been a very sensitive issue in Vietnam and that influenced the research as not much could be investigated at

the ground level. There is a huge pressure to urbanise Hanoi and in context to it more and more areas are utilised to build modern infrastructure and slowly the agricultural areas are moving away from the city. The administration is on one hand dreaming of having safe agricultural products while on the other hand they are building industrial and residential zones next to the agricultural areas. In future the problem will worsen which can mean that the main target of the policy will fail miserably. The idea of having big agro-parks means that agriculture will get intensified and there will be no place for the small farmers. How can the government of a country which is mainly dependent on agriculture frame policies which in future can destroy their backbone? Big agro-parks also mean that farming will be machine dependent, and people will lose their jobs in these areas. Thus, the problem of migrants will increase as they will come towards the cities to search for jobs. This in turn means that there will be more pressure on the existing urban lands and the only option left will be increasing the territories again at the expense of agricultural plots. The aim of the policies is itself ending up being negatively affecting agricultural production. Problem regarding land cannot be solved without proper planning and most importantly implementation according to the plan at the local level. The local actors are having almost no respect towards the law and if it continues agricultural lands in the peri-urban areas cannot be saved. The plan of incorporating the agricultural zones into the urban infrastructure is a dream which cannot be realised atleast in the near future. The rate at which the population is increasing, and illegal activities are taking place, there is no place to integrate agriculture. Though the research could not be conducted at the ground level involving the people who are affected, but it can be predicted that the farmers are leading a life of uncertainty where they do not know how to plan their future production. There is no plan which states the areas that can be acquired in future for expansion purpose.

## **8. RECOMMENDATIONS**

1. The areas in the peri-urban districts should be delineated according to arable and non-arable areas with the help of GIS, Remote sensing technologies. The areas which are not suitable for agriculture can be utilised for urbanisation purposes. In this way, lands can be allotted according to priority and also level of suitability to serve a particular purpose (Thapa et al., 2009).
2. Proper investment should be done in training and capacity building in the arena of food inspection and monitoring. This will not only evoke the motivation within the producers to comply with the standards, but also will help in gaining consumer trust. The doors for international trade will also open (Petersen et al., 2017). PGS should be encouraged as this will help in forming a sustainable relationship between the collectors, farmers and the supermarkets.
3. A policy can be implemented in a much more concrete way when the opportunities and constraints can be analysed before planning to proceed with the plan. This requires participatory approach where the grassroot representatives should also be counted. This will help in reducing the barriers during the implementation stage and enhancing transparency.
4. The fragmentation of agricultural lands is an important problem but presently state has all the land rights. It can be argued over here, that handing over the rights from state to private sectors can help in speeding up the consolidation process and also will enhance rural development. Higher involvement of the private sector is also recommended by the experts.
5. To gain consumer trust, the products must be stamped with it's origin and other information. To increase the sales of these products, the government should form a brand and start advertising about it. They should help in building up proper distribution channels and also should connect all the stakeholders in the value chain. They should prove to the consumers, that they are sticking to the international standards. Branding can also encourage the supply chain actors to maintain the standards as it supposedly will increase the incentives and sales rate. The government must take proper step to ban products that do not bear any labelling, and which cannot be traced back to its origin.
6. Media should be given priority in dissemination of information related to food products and also the government should carry out campaigns to make people aware about the sources of safe vegetables and where they can procure them. Also, the government can themselves maintain a platform e.g. website where proper information is available for the consumers as well as the actors in the supply chain. The consumers can bring enough changes in the food systems once they feel that it's their right to have access to safe and sustainable food products. The myths around supermarkets



can be changed by increasing their awareness and knowledge. This will help to increase their acceptance rates.

7. The street vendors and the sellers in the local market should stress on the advantages that they offer to their consumers like low price, trust relationship and freshness. At the same time, the government should try to enhance the standards in the local markets by enhancing the inspection, infrastructure and also by coming up with plans to trace the products as most of the products are still sold through local markets. The food poisoning cases will be difficult to curb if on one hand the supermarket prices are higher while on the other hand, the wet markets sell contaminated products as the lower and middle class people are only left with this option.

8. The supermarkets, on the other hand, should trade with the small scale farmers and help them financially, technically to enhance the safety standards of their produce (Moustier et al., 2009). To increase the long-term contracts with the supermarkets a proper network must be formed connecting all the co-operatives. This will help them to have a stable supply year-round. They can exchange their produce amongst each other. This will help all of them survive in the supermarket chain. The co-operatives should try to have more communication directly with the consumers and this is possible through opening new channels like co-operative shops. Though this is not a favoured marketing channel for many because of the higher rent prices and lower rate of customers. But adequate location must be researched upon where there is demand for safe vegetables and this should happen in dense urban areas. Once the group starts incurring profit then they can open new shops other areas in the city.

8. The authorities should not focus on eliminating the street vendors and local markets but try to “formalise” them and frame policies targeted solely towards them. The government should extend credit support to these smallholders so that they can upgrade their business. As most of the food products are still sold from the wet and small scale informal markets, hence the risk analysis having the farm to fork approach should be implemented over here to assure enough hygiene. The actors operating in this chain, who do not have access to high end technologies, should be given training of some simple processes which can help in keeping the food safe. E.g. The chicken carcass should be sold after washing in chlorine so that the chances of bacterial contamination can be reduced (Nguyen-Viet et al., 2017).

9. Incentives should be given to the producers who are producing according to the standards and also following the IPM methods. At the same time, producers who are using toxic pesticides should be heavily penalised. They should be used as an example for the rest of the lot. The sale of environmental

friendly pesticides should be subsidised so that small scale farmers can get hold of it. The state should stop giving subsidies to the factories producing chemical pesticides.

10. The three ministries (MOH, MARD, MOIT) responsible for safety should have a proper co-ordination with the other ministries and lower levels of food safety authorities, so that enough communication is there between them and the level of implementation remains the same throughout. The food safety laws are quite complex, and a co-ordinated mechanism is expected to bring much more simplicity. They should have a unified voice so that the message to the concerned parties are clear enough to understand and work on it.

## 9. CONCLUSION

The policies, laws and regulations, in Vietnamese context have improved the situation of having access to safe, sustainable and healthy food in terms of initiating the ideas of safe vegetable zones, certification, green belt areas, supermarket culture and raising stakeholder awareness. But there remain gaps where much can be improved, and a viable solution is first increasing acceptance and changing behaviour of the stakeholders and the consumers towards these initiatives. There are several things to consider when framing policies around food safety as food is embedded in the daily social and cultural practices of an individual. The improvements in terms of modernisation, must be done taking the existing situation under consideration. The Vietnamese government is considering modernisation as the solution for the problems of safety e.g. VietGAP is not showing expected results and it is highly recommended at this point of time to invest in alternative solutions while working on the existing ones. At present, the Vietnamese scenario is not ready to completely get rid of the informal markets as most of the food is still procured from the wet markets. The modernisation policies are sometimes framed with a western mindset, but it must be realised that imposing a western trend on a developing country like Vietnam can result in exclusion of a major part of the population who are having lower income or education. Thus, before planning for a policy, proper research about the socio- economic, public preferences etc must be done. Instead of imposing a policy with western influence, a custom-made policy must be framed so that it can actually meet the requirements of the concerned population. Also, proper follow up's must be done so that it is known whether the policies are actually yielding expected results. One such policy which is clearly not showing positive signs is the MasterPlan 2030, where there eventually is no plan regarding the land use changes.

The policies should try to integrate the wet markets along with the modern retail sector as this will help to keep the diversity both in financial and technical terms. The abolishment of the wet and informal markets will increase the cost of food supply for the poor. Also, dealings in the modern retail sector needs a minimum amount of literacy which a considerable proportion of the population is lacking. The stakeholders in this sector should be given appropriate tools, financial support, license and opportunities to upgrade themselves to maintain proper hygiene in their area of operation. At present, the target is to have labour intensive, high end technology, long supply chain-oriented market which aims to replace the small-scale spot markets. But, the extent to which this target can be achieved in the future depends on a number of factors like the GDP, the acceptance of the modern retail sector amongst the Vietnamese population and also upto what extent these small scale wet and informal markets can update itself.

It must be acknowledged that there are many policies framed towards food safety, but there is a lack of common fund and each of the policies have its own resources allocated towards it. Hence, due to the inability to accumulate the capital, the efficiency gets reduced to a certain extent. The division of work between the three ministries are quite blurred in nature and most of the times overlapping. There is lack of co-ordination between the ministries as well as among the local authorities. Most of the stakeholders feel that the policies are there but they cannot actually see how they are progressing. This gives an indication towards their lack of trust towards the system.

Thus, agriculture in Vietnam has to be modernised in a sustainable way that actually helps in increasing the GDP rate by improving the domestic as well as international export food standards. The planning and implementation of the policies have to be done in such a way that the planning actually takes in consideration of the available resources and the existing economic condition of Vietnam. The policies have raised awareness amongst the stakeholders including the consumers but could not assure access to safe, sustainable and healthy food for the masses.

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## **APPENDIX 1 (TRANSCRIPTIONS)**

### **Supermarkets**

**19/04/2018**

#### **Interview with the staff of T Market (Au co)**

\*S: Who brings in the vegetables to the supermarket?

T: vegetable to the supermarket mostly brought by the supplier They bring the vegetables to the supermarket; the company will contact the supplier and they will check the process of the farmers who are supplying the products to the suppliers then there's a contract and then the supplier brings in the vegetables to the supermarket.

S: why are some of the vegetables or the fruits not labelled?

T: The vegetable is not labelled are produced by small farmers that is why they did not have any information written on the labels. They did not have any Grant and mostly the Farmers Supply to the suppliers who contact the supermarkets that are big farmers and sometimes vegetables like potato they are being brought by small farmers and that is why I did not have any labels. Farmers who supplied to the supermarkets are mainly part of cooperatives and the small farmers they are individual farmers.

(\*S- Sanchali; T- Officials of the T mart)

#### **Conversation with Binh in Vinmart**

\*S: They are having Vietgap certification for the products. But in case of mangoes, banana and avocado there are no labels.

I: One thing I would like to say, though they all products which are safe are not organic. Atleast in the food sector in Vietnam the word organic has not appeared much.

S: All of them are having barcodes, so if you scan them you are going to get all the information.

I: All the products are having VinEco standards which is equivalent to the standards of VietGAP. Almost all the fruits in the supermarket are imported as the Vietnamese apples are really smaller. Most of them are from New Zealand, Australia, USA etc. The big apples are from Korea. All of them are quite costly.

S: Why are these section of apples cheaper?

I: Mostly I observe that the fruits or vegetables are there on the shelf for longer time are sold in discounted prices. They are not fresh.

(\*S- Sanchali; I- Interpreter)

**20/04/2018**

#### **Conversation with my interpreter in Yuki's store specialised in safe vegetables and fruits**

\*Y: The products are from dalat, the highland.

I: It is quite strange for me as the veggies in the highlands are not that fresh and delicious like the others in the delta. And there is a smaller range of vegetables.

S: They are also not having any kind of labels, standards or identification on them. The prices are also quite higher. Nothing is written. The prices are higher just because it is sold in a specialised shop. But the customer cannot get any information about the products. It is written Yuki's store and label everywhere but no proper label. I do not then understand the difference between a normal store and a specialised store as atleast the supermarkets are better in this aspect as they are providing information to their buyers.

I: Yes, this is the first time I am in this kind of store. In Dalat there are number of organic and safe vegetable producing farms. I have to admit that the technology in planting and farming is quite advanced there. Maybe Yuki is in itself an organic brand.

S: They are having imported fruits

I: The veggies are from Dalat while the fruits are imported.

(Y- Yuki store staff; I- Interpreter; S- Sanchali)

**21/04/2018**

**Conversation with Binh in Fivimart:**

\*I: on most of the items it is written that the items are coming from Dong Anh, Dalat. The prices of the tomatoes are quite similar to that of the local market. Fivimart is owned by a Japanese brand called Eon and they mainly have local produce from the other provinces around Hanoi.

S: They are also coming from Hoai Duc but mostly from Dong Anh. They are having certifications for the safe vegetables and fruits.

I: Yes, I can see the certification for the domestic and imported fruits but there is nothing written on the certification column for vegetables.

S: Look there is a declaration that if any customer wants to know about the origin of their vegetables and fruits then they can contact on the company hotline.

I: Yes, I think this initiative is quite new. I have never observed this before.

\*(I- Interpreter; S: Sanchali)

**Interview with Fivimart Supermarket official**

\*F: Most of the products comes from Dalat, Moc chau and other provinces around Hanoi.

S: what kind of farmer do you buy from?

F: We buy from small and big farmers directly.

S: Who arranges the transportation.

F: the farmers bring their own products to the supermarket.

S: How do they check the production process and the certification standards?

F: The supermarket checks the certification process while they also go to the farm to check all the production processes and to also check whether the certification is real or not.

S: Do you provide the farmers with any support for the certification process?

F: umm. I would not like to talk about it as this varies with individual farmers and it is mentioned on the contracts/ agreements between the farmers and the parties.

\*(F- Fivimart supermarket official; S: Sanchali)

**23/04/2018**

**Conversation with Binh in Co-op Market**

\*I: I found an information through a person who works in the food sector that the codes on fruits and vegetables can give an indication about the amount of pesticides used. The code starts with 4 has higher than those starting with 3 and thus the prices are also lower for the former.

S: The domestic varieties of fruits are not certified but are now sold at a discounted rates.

I: Yes, the fruits are not really fresh. That is why they are selling at a lower price.

S: The vegetables having VietGAP certification are from Dalat while the others from Nam Dinh. What about the prices?

I: It is a little bit higher. Look there are two kinds of cabbage, one is certified while the other one is not. But it cannot be differentiated.

S: All the certified ones are from Dalat.

I: Yes, because the technology is quite advance there.

S: Some of the leafy vegetables are from Khanh Hoa. What about the prices?

I: Well, a bit higher almost double the price of the vegetables in the local market. The prices are higher even in vegetables without certification.

S: In case of leafy vegetables, if they are certified they are from Nam Dinh unlike the other certified ones which are from Dalat. The garlic are not having standards but the prices are also higher. All of them are from Dalat.

\*(I- Interpreter; S: Sanchali)

### **Conversation with Binh in Lotte**

\*I: Most of the fruits are imported. The envy apple prices are quite high. The tomato prices are 4 times higher than the normal ones while the chilli prices are also considerably high than in the local market. The lotte market have their own brand called L fresh and most of the products are from Dalat (Thao Nguyen farm).

S: They are having VietGAP standards. Some are branded with L choice which can also be Lotte's own brand. They are having VietGAP, maybe Lotte controls the supplychain of these products.

I: In case of leafy vegetables, only one kind is from Thao Nguyen farm. Other than that the standards are not there.

S: Look there is a basket which says that the customer can put the bad vegetables into that.

I: Look at this mushroom, the same brand is also sold in the local market as well as Big C but the prices are really high.

S: Compared to the other supermarkets, the number of VietGAP certified products are quite less. There are products are from Dalat but there is no mention of certification on the products.

I: Products of lotte and those from the Thao Nyugen farm of Dalat are certified. Other than that mostly the products are not having standards. The variety of vegetables are quite less.

S: Most of the products are from Sai Gon (southern part of Vietnam).

I: It is mentioned that the products are packed in Hanoi.

S: The domestic fruits are not certified. Some of the fruits are being supplied by the same supplier supplying in the Long Bien wholesale market.

(\*I- Interpreter; S: Sanchali)

**24/04/2018**

### **Conversation with Binh in Big C**

\*I: The main supplier of the products is from Ho chi minh but the products are grown in north, mostly in Dalat. Only one vegetable is having VietGAP standards but the supplier is same for both certified and uncertified ones.

S: what about the price?

I: The prices are acceptable. It does not differ much from the local markets.

S: Almost all the leafy vegetables and herbs are certified by VietGAP standards. The supplier is same for most of the vegetables.

I: Look, there is a completely separate section where all the vegetables are certified by VietGAP.

S: The prices are really low, even lower than megamart sometimes. Some of the product prices are equivalent to the local markets. Potato, onions and pumpkins not certified

I: The apples are mainly from USA here.

S: The supplier is same from Ho chi minh city. They are even supplying the apples.

I: On some of the herbs and leafy vegetables, there are even organic labels. They are having the brand name Thai Eco. The mushrooms are even cheaper than the local market.

S: There is a complete sepearte section for organic products. The products are from Bavi farm. Is bavi an area's name?

I: Yes, it is nearby Hanoi. It is famous for the organic products.

S: Is the price affordable?

I: The prices are extremely high. The prices are almost 3 times higher than the normal ones even in the supermarkets. The gingers in specialsied organic shops is 80000VD/kg while it is 100000VD/kg.

(\*I- Interpreter; S: Sanchali)

### **Conversation with Binh in Megamart**

\*S: What is written on the fruits? From where are the fruits?

I: The seeds of the jackfruit are from Thailand but they are grown in Vietnam. The mangoes are from Vietnam but they are from South.

S: The apples are from New zealand, USA and australia.

I: To buy from here you mostly need to have a business license.  
 S: The Korean pears, similar to Long bien market. The prices are 79,000/ kg which is a little bit lesser than the wholesale market. The vegetables are having low price but they are not having any certification.  
 I: The fruits seeds are from Taiwan about they are grown in Vietnam.  
 S: The domestic fruits do not have any certification. The envy apples are really cheap 145,000 compared to 200,000 in the long bien market.  
 I: the seeds of the beans are from Japan but they are grown in Vietnam. They are also having VietGAP standards.  
 S: Some of the leafy vegetables are certified by VietGAP. Most of the vegetables are also certified except the carrots. They are from Dalat, Moc chau.  
 I: Cabbage, broccoli and some leafy vegetables are not certified.  
 S: Cabbages are from 3 places and each of them are having different prices.  
 I: Normally, the vegetables that are from Dalat will be of higher price because of the transportation cost etc.  
 S: The cabbage from Moc chao are of 12,900 VD/ Kg but without any certification. Another kind of variety was of 9,900 VD/kg while the cabbages from Dalat are certified and the price is similar to the one from Moc chao.  
 I: Do you remember in the specialised organic shop called Gourmet annam the prices of ginger were 80,000VD/kg while the uncertified ones in Megamart it is 27,500 VD/kg.  
 (I- Interpreter; S: Sanchali)

## **Local vendors and markets**

**24/04/2018**

### **Interview with a Street vendor 1(Au co alley)**

\*S: What kind of market is this? The vendor is sitting with a lot of products.  
 I: This is not a big market but she is a big street vendor. This place is not used anymore, hence she is using it. Once the police comes they will run.  
 S: Have you ever seen a food inspector in the local market?  
 I: sometimes, but it is quite rare.  
 S: Can you ask her from where did she bring the products?  
 T: Bought from a local market, not far away called Tu Lien market  
 (\*I- Interpreter; S: Sanchali; T- Trader)

### **Interview with a street vendor 2 (Au Co alley)**

\*S: This is a shop, right?  
 I: Yes, maybe she has rented the place  
 S: Is she a farmer?  
 V: No he bought it from The Neighbors as they are farmers in Hung Yen  
 S: Does she sit over here daily?  
 V: Yes, daily  
 (\*I- Interpreter; S: Sanchali; V- Vendor)

### **Interview with the sellers in Phung Khoang wholesale market**

\*I: The 1st seller took the vegetables from Thuong tin. She took from different small farmers. She also seemed to convince me that the supermarket also took from these farmers and are selling them under their brand name. They are then selling them in high price.  
 S: umm, that is weird.  
 I: 1st three sellers sell only vegetables and they bought the vegetables today early morning. They bought it from farmers. The 2nd one also took it from Thuong Tin and all the sellers said that they always sit at a fixed position in the market for many years. They will stay there for their whole life. It

is like a permanent job. For the 2nd seller, some of the vegetables are being planted by her in her own plot while the others are being bought from other neighbouring farmers.

S: It seems that most of the vegetables in the market are coming from Thuong Tin.

I: Umm, yes but there are sellers who stays in the neighbouring areas around the market but the veggies from other provinces like Thanh Hoa, Truc son, Trung Van, Hai Duong, Dalat. The fruits are mainly coming from the southern part of Vietnam. Most of the vegetables and fruits are bought in the early morning. Look at that seller. Her vegetables are not looking fresh

S: Can you ask her when she bought it?

I: She is not willing to tell me that. But maybe she bought some days ago as the tomatoes are already soft. Look the marketplace is really dirty.

S: yes that is making the place more dirty. The emissions from the bikes are also depositing over the vegetables and fruits. Very few people is actually walking through the market. Most of them are passing by bike.

I: Yes, some people are aware about this fact but the number is really less. The market is very crowded at this point.

(Me pointing at a seller who was selling bulk amount of products asked Binh to question the seller)

I: I asked her about the origin but in turn her husband is asking me whether I am buying the vegetables for elementary and kindergarten kids. As there are some school who comes to them to buy their products for lunch.

S: But normally in many policies it is written that the elementary schools and the kindergartens are supplied with safe vegetables to take care of the health of the kids.

I: But normally when we were in the elementary school, the vegetables used to come from the local markets or from the school garden. So I am used to it. But now the rules are changed but maybe these schools are for the lower income groups. The cost of buying safe vegetables cannot be afforded by them.

(\*I- Interpreter; S: Sanchali)

**25/04/2018**

#### **Interview with Street vendor selling Pineapple (Tay ho)**

\*I: This is a plant grown in her garden which is quite far from here. But she bought it here by bike.

S: She has a garden?

I: YES

S: She sits here daily?

I: Yes, daily here

(\*I- Interpreter; S: Sanchali)

#### **Interview with Street vendor selling mangoes (Old Quarter)**

\*S: She is sitting in front of a supermarket. Does not that affect her sales?

I: No, that does not affect her sales. She has her own share of customers which she feels is quite loyal towards her. Supermarket sells same kind of products but with higher price. The products are also not fresh in supermarkets.

S: From where did she get the products?

I: She bought it from the wholesale market Long Bien. It is a big wholesale market

S: She sits over here daily?

I: Yes, she seems not to be quite interested in answering the questions as she feels that we are doubting the quality of her products.

(\*I- Interpreter; S: Sanchali)

**26/04/2018**

#### **Interview with the sellers in Bai Anh local market**

##### **Seller 1**

\*S: Where are the mangoes from?



I: Some of the mangoes are from Thailand but the others are from Southern part of Vietnam

S: What is the name of this market? Who brings in the fruits?

I: Her family

Seller 2

S: From where does she bring in the vegetable?

I: Me Linh

S: Who brings in?

I: She brought all of the vegetables by herself with motorbike.

S: She bought it from the farmer?

I: Yes

S: Does she buy from the same farmer everyday?

I: She does not want to answer this question but normally Vietnamese people buys from the same person

(\*I- Interpreter; S: Sanchali)

**Seller 3**

\*I: This is from her own farm. It is from Tu Liem. She keeps on saying that the vegetables are safe and clean.

(\*I- Interpreter)

**Seller 4**

\*I: She is saying that she bought most of the products from the wholesale market, Long Bien.

(\*I- Interpreter)

**Seller 5**

\*I: She just knows that all of them are from the Long bien wholesale market. She is in place of her mother so she does not know.

(\*I- Interpreter)

### **Interview with sellers in Long Bien wholesale market**

\*I: They get the fruits from the south.

S: how does they bring the fruits in the market?

I: In the big trucks?

S: Who brings them?

I: I think the distributor companies

S: Almost all the fruits are coming from the south

I: Yes, the southern fruits are tasty and they have a lot of variety. The south weather is like Cambodia and Thailand. They do not have any winter. So hot waves throughout the year.

S: There is a large number of trucks and all of them are loaded.

I: Yes, because of the trucks, there are many accidents.

(\*I- Interpreter; S- Sanchali)

**27/04/2018**

### **Conversation with Binh in Tu Lien local market**

Seller 5

\*I: She buys the vegetable from several local markets and she will be honest unlike others who always claim that the produce are from her own farm. It is not very common in this market to find people selling products from their own farm.

(\*I- Interpreter)

### **Interview with the sellers in the Yen Phu local market (Au co)**

\*I: The veggies are from her own farm along the red river coast.

S: From where did that seller get the vegetables?

I: She got from Dong Anh and Long Bien wholesale market. Another seller told that the vegetables come from the Dong Anh wholesale market. The sellers come from the wholesale market comes in to sell the vegetables.

S: So, mostly the vegetables are coming from the Dong Anh and Long Bien wholesale market. The sellers from the market come in to sell their vegetables.

(\*I-Interpreter;S-Sanchali)

## Public Interviews

**19/04/2018**

### **Interview with Binh (Interpreter)**

\*S: have you heard of safe vegetables?

I: Yes, There are some brands in Hanoi like VietGAP, Eco first

S: do you buy it?

I: yes sometimes.

S: from where do you buy it?

I: in the supermarket of my complex

S: do you feel the costs are much higher?

I: yes because it includes the service tax.

S: Do you feel that the vegetables are much safer

I: yes

S: do your parents also buy from there?

I: no they have their own garden sometimes they exchange with their neighbours it gives them a feeling of living together.

S: Do you see that quite often in Hanoi

I: no but in smaller provinces in Hanoi did not have much time so they go to the local market to buy vegetables those who are having high salary they go to the supermarket and those with lower salaries they go to the local markets. They will buy from the ones we believe.

S: so it is a kind of trust relationship. Do you buy from the same person everyday in the local market?

I: yes because I believe them.

S: are you the only one who believes like that or your friends also believe the same?

I: Most of my friends are students. So they prefer to go to the local market because the prices are much lower over there.

S: Do you feel that the food is much safer now or was it safe for 5 to 10 years back?

I: no I think it is much safer now after all this food scandals. The government is now trying to set standards and control the food safety standards as well as the price

S: okay so do you think that the government is doing enough or do they need to do anything more?

I: I think they need to do a lot more

S: Do you know that the government is trying to replace the informal market and they're trying to push the supermarket into their big cities? What about your province how far is it from Hanoi?

I: It is around 80 kilometers from Hanoi. There's a new Supermarket over there. It has just opened a few months back and this is the first supermarket in my province.

S: Do you know see people from your province going to the supermarket?

I: They go to the supermarket to just roam around.

S: Do you think the people in Hanoi are aware of the food condition that the food is not safe and that the producers are using pesticides. Do they know about it?

I: They knew about it but because of the economy condition and the low salary they cannot afford to go to the supermarket because it is really highly priced.

S: Apart from vegetables which one do you consume the most pork chicken or beef?

I: Pork

S: from where do you buy pork?

I: from the local markets because the price is half over there compared to the supermarket.

S: But do you feel if the prices go down in the supermarket then people will accept it or they will still go to the local market

I: If the prices go down then I think the people of Hanoi will accept the supermarket's because the quality is guaranteed over there.

S: Have you noticed any local market getting disappeared in the recent days

I: for almost I'm here in a Hanoi for 4 years and I always go to the same local market so I really don't know if there's any local market which has been abolished.

S: do you know about any Specialized or safe vegetable shop?

I: Yes there are some safe vegetable shops but they are really not famous amongst people.

(\*I- Interpreter; S- Sanchali)

**20/04/2018**

**Interview with Pham (Binh's friend)**

\*P: We have a Facebook group in our complex actually the people in my complex does not like to buy the vegetables and fruits from the supermarket in the complex it's a K Market. They want to have safe vegetable with a reasonable price. So they together go to a farm which is in the suburbs of Hanoi they make a deal with the farmer the farmer brings in the vegetable every 3 days so they do not need to go to the supermarket and also the people of the complex can check the whole process of growing the vegetable if they want to.

(\*P: Pham)

**25/04/2018**

**Conversation with a resident of Au co area (40 years age)**

\*R: For us buying from the supermarket means that there is a special reason for that. For e.g. when my sister was a student she used to go to the local market but now when she is pregnant she prefers to go to the supermarket because she wants to have good food at this point of time. She believes in the safety and quality of the supermarket.

S: then we can say that it is a kind of luxury to buy from the supermarkets.

R: In the past it was a luxury, we never thought of going of going to the supermarkets. We went there to wander around. But now for the rising living standards, the salary has also increased. That is why the now atleast some people find the prices in the supermarket to be acceptable.

(\*R- Resident; S- Sanchali)

**24/04/2018**

**Conversation with Binh**

\*I: The farmers from different districts sit alongside the highways with their produce sometimes, the sellers in the local market buys from them. I have normally seen them selling only one kind of product at a time.

S: What about the food system in the rural areas? From where do they get their food?

I: Most of the people in the rural areas grow their own vegetables. They do not really buy from the market. They have small plots where they produce. The income of the people in the rural areas are quite low

S: What is their mode of survival? What do they do for a living?

I: The main source of earning is farming. In my province also it is farming. They also have a lot of fish farms. the villages along the coastline survives on tourism while the others mainly do farming which can also include fish farming. They also process the fish and produce fish sauce or dry fish.

S: From where do you get the irrigation water?

I: Well there is no special irrigation system. My uncle has a farm in the outside of Hanoi. They have a pipeline system where they normally use water from the tanks. I must say the water in the tanks are not clean but I am not sure they have any purification system or not. Mostly they do not have.

S: Is the general quality of Hanoi good?

I: No it is not at all good.

(\*I- Interpreter; S- Sanchali)

**30/04/2018**

**Interview with Linda (32 years old)**

\*L: I mostly eat from outside restaurants but I buy vegetables from the market and boil it.

S: Do you go to supermarkets?

L: Yes once in two weeks.

S: Which one do you prefer- supermarkets or local markets?

L: Supermarkets

S: Why don't you go to the local markets?

L: because the food is not safe. I am afraid of buying from the local markets. I feel the product is guaranteed in the supermarkets.

S: Do you see the labels/ certification before buying from the supermarkets?

L: Yes, I trust the supermarket because if I have any problem I can go to that place and claim. But in local markets I cannot go anywhere. I don't know whose food I am eating but in supermarket I know about the brand. They have to protect the reputation of the brand.

S: In your circle do you see people going mostly to the supermarkets or the local markets?

L: Young people, they mostly go to the supermarkets but for the old people they have the habit of going to the local market. Also because it is cheaper and they have experience of choosing the good vegetables but for me I see everything of same kind.

S: Do you prefer to go to the T mart or the Vinmart? (As those markets are near to her place)

L: I choose T mart as the prices are cheaper there.

S: Do you choose the organic ones or the normal certified/ uncertified products from the supermarket?

L: The normal ones. The organic ones are too expensive for me.

S: In the next 10 years whom do you think will be leading in terms of customer attraction- local market or the supermarkets?

L: The number of supermarkets will be higher and customers will be going towards it as the food there is clean,

S: Would you mind it that the prices are higher in supermarket?

L: No, because the food is cleaner and I do not mind the higher price because I feel I am protecting my health. In the media they are talking about dirty food. I do not want to fall sick.

S: Do you feel that the supermarkets always provide you with good, clean and fresh food?

L: I do not have any way other than trusting them. I just hope that they are selling good products.

S: Do you see a lot of people talking about the food safety standards in Vietnam?

L: Yes, I see a lot of people talking about it but not many people can actually afford to go to the supermarkets because of the high price all the time. There are now many industries, the waste pollute the soil water. So the products growing on such soil water is also not clean. But in case of Vinmart, and other big companies they care about food safety. They have their brand name associated with the products.

S: Do you think that the government is doing enough to make sure about the access to safe food?

L: No I do not feel so. Only the private sector, research institutes etc they care about this and are taking steps. The government have started caring after a lot of incidents. Recently they have found out centres who were serving dirty food to the public. Other than that I do not see many government officials actually checking the standards in the local market. I think that the people involved in this sector are taking bribes from these people selling dirty food. They are getting money under the table and letting

it happen. They are really inactive. I think in the coming future in the income of Vietnamese people rise then only poor people and the young people will be going to the local markets. The young people already have their habits to go to the supermarkets.

S: Sometimes, I see that the products in the supermarket are not that fresh because they are sold for a long time. Do you care about this?

L: Umm.. we see that if the product is not fresh and we do not buy it. If we complain then the supermarket people will take the feedback and they will warn their suppliers maybe.

(\*L- Linda; S- Sanchali)

**28/04/2018**

**Interview with Ha (Binh's friend, 28 years old)**

\*S: From where are you coming?

H: I come from a rural area around Hanoi. It is more than 80kms from Hanoi. I am staying in Hanoi for four years.

S: How often do you go to a SM?

H: Once a week.

S: Do you prefer to a supermarket or the local market?

H: For my everyday vegetable needs I go to a local market. It is within 200 m of my house but I go to supermarket once a week to get fruits and maybe someday if I like I pick up vegetables.

S: Do you think that the prices in supermarket are much higher than the local markets/

H: Umm, yes about 20%.

S: To which supermarket do you go?

H: Lotte. It is 2km away from my place.

S: How often do your parents go to a supermarket?

H: actually in rural areas there is no such supermarket but my uncles stay in a peri-urban area near Hanoi. There two supermarkets have opened recently but still mostly all of them prefer to go the local markets.

S: Why is that?

H: because in the traditional market they can bargain the price and my mother can actually bargain a lot and she can get in really cheap price. She believes that the fruits and vegetables in the LM are fresher than those in SM.

S: Do you talk about food safety often?

H: not really, but I get to see the news regarding the food scandals.

S: Are your parents or you concerned about the food safety?

H: yes, I am concerned about food safety, that is why I go to the supermarkets. At least the vegetables, they say are safer. I have an older brother who is 29 years old. His wife goes to the supermarket. She prefers the supermarkets than the local market as she is young. The supermarkets are cleaner and they are cooler in the summer.

S: So we see that the young people, they go to the supermarkets at least once in a week while the older people above 50 years old they go to the local markets. Do you think that the fact that the people get to socialise in the local market is also an important factor for going to the local markets?

H: I think so. When I go to the local market with my mother all the sellers know her name. If I go to the local market near my place in Hanoi early in the morning, I see many grandparents buying vegetables and they are talking to their neighbours and having a good chat.

S: Do you think that SM are mainly for the higher class people?

H: I think more and more middle income families are now going to the SM. In the weekend the whole family goes together to the supermarket and can spend some time there. While throughout the week, the women will mainly buy from the local markets while coming back from office or her workplace. The prices of normal goods have also increased in the recent years because of the inflation.

S: do your friends also buy from the supermarkets or the local markets?

H: the house in which I stay, they all buy from the local markets and maybe go to the supermarkets once a week. I think that in the coming years the number of supermarket and convenience stores will increase and because if increasing income, mostly people will go to the supermarkets as the quality is guaranteed. The shopping habits of people are also changing.

S: What about the rural areas? Do you think anything has changed there in the recent years?

H: I come from a rural area and I personally have not seen much changes in the recent years but I have seen a lot of changes in the place where my uncle stays. In the rural areas mostly people grow their own food. They also supply to the market as farming is the principle mode of earning. But I must say that the farmers do not get a proper price as the price is fixed by the distributors. Mostly in Hanoi the distributors will come to the farmer to buy the vegetables. They will then sell it to the sellers in the wholesale market or in the local market. The sellers in the wholesale market can also sell it to the sellers of the local market.

(\*H- Ha; S- Sanchali)

**2/04/2018**

**Interview with Binh's friend (Luci- 25 years old), a farmer (Binh's uncle), landlord (45 years old)**

\*S: Yes that is true. Ok tell me I have heard about factors like affordability, freshness which motivates people to buy from local markets but tell me, is the social interaction that takes place in the local market plays an important role? Do you think that the factor that when they go to the market they get to socialise a bit by talking to their neighbours maybe is important for them?

L: Yes, I see it every time I go to the market. I see the ladies coming to do their everyday marketing talking to the sellers. They like this interaction. My aunt also likes this factor and that is why she never goes to the supermarket.

S: Do you think the factor that if you have to go to the supermarket you have to park the vehicle and then go inside is a kind of inconvenience? And also you have to buy in a larger quantities.

B: Yes, my parents do not like to park their bike and then go inside.

S: Do you think that within the next 10 years the influence of the supermarkets will increase or the impact will go down or it will continue like this?

F: I think that there will be more supermarkets as the income of people are increasing. It is also because of the ongoing food scandals. If the price goes down, then people will start accepting. They should reduce the number of middlemen in the supplychain of the supermarkets.

S: So the impact will increase in the coming years. Do you think the number of middlemen are much more in the supermarket as compared to the local market?

B: yes, I am very sure of it. In the local market, mainly the sellers will get it from their own garden or they will get it from their neighbours. Yes, sometimes they get from the wholesale market but still the number of middlemen are much lesser. If the supermarket buys from the farmer and if the supermarket tries to control their supplychain then the farmers will plan their farming according to their needs. Then they can provide directly to the supermarkets

S: But it is said that the Vinmart buys the product directly from the farmers.

B: Yes, they say that they do it and they claim that they provide just price to their farmers.

S: But the prices are still really high.

B: Yes, maybe because of the prices for certification

S: Then the farmers are also getting paid higher.

L: Actually the farmers selling to the supermarkets are having bigger plots compared to other farmers. So they can afford the certification prices and in turn they get higher prices.

S: Then it can be expected that if the number of supermarket increases then the small scale farmers will be eliminated from the chain.

F: I think that they need to join big cooperatives to sustain. The problem is that the lands in and around Hanoi is really fragmented. Thus, these farmers cannot sell it to the supermarkets as supermarkets need in large quantities. My grandmother received a certain amount of land. After her death it was passed over to my uncle. HE did not know how to do the farming that is why he hired people. The rice

from the farm is only sufficient for his kids in Hanoi. The same condition is also with other people. They simply hire other people to work on their plots.

(\*F- Farmer; L- Landlord; B- Binh's friend; S- Sanchali)

## **Co-operatives**

**1/05/2018**

### **Interview with the owner of Van noi co-operative (Van noi commune, Dong Anh district)**

\*S: Do you have certification?

O: Yes, we have VietGAP certification.

S: Do you supply to any supermarkets?

O: Yes, previously, we used to supply to a number of supermarkets but now we supply to 2-3 supermarkets. The name of one is Minh hoa which is a small supermarket. We could not meet the strict requirements of the big supermarkets.

S: So do you have long term or short term contracts with the supermarkets?

O: We have long term contracts.

S: what about transportation? How do you arrange it?

O: we have to transport the products to the supermarket. Sometimes when the vegetables are not of good condition, they are returned to the co-operative by the supermarkets.

S: where else do you supply your produce?

O: We have long term contracts with the kitchen of some schools and companies.

S: what kind of standards you try to adopt in the production process?

O: we try to follow the protocol and standards that are stipulated by the VietGAP and government standards.

(\*O- Owner of Van noi Co-operative; S- Sanchali)

**26/04/2018**

### **Interview with the head of Tien Le co-operative (Hoai Duc)**

\*S: How many hectares do you have?

H: The total hectares is 46.

S: Is your co-operative certified by VietGAP.

H: Yes, but only 35 ha area is certified.

S: Do you use pesticides of any kind?

H: Yes, we use pesticides but complying with the standards of VietGAP.

S: Do you receive any support from the government?

H: Yes, previously we received support while getting the certification but now we only get help during the harvesting time but only at the 1st stage.

S: In what form do you get the help?

H: It is quite confidential.

S: Do you have your own trusted supply chain or do each of the farmer has their own chain?

H: Umm, mostly the products go to a mediator, a company called Lien Anh. The final destination is VinCom means as well some supermarkets like Vinmart.

S: Do you get any feedbacks from the company or Vinmart?

H: We did not get any feedbacks from them.

S: How is the process inspected to see whether it is upto the standard or not?

H: The process of planting in case of each farmer is mainly carried out in the supervision of the Lien Anh company and the co-operative members. If a farmer does not comply with the standards, then proper action is taken against them. Mainly the inspection and supervision process is carried out by private sectors like these companies.

S: What role does government play in the supervision?

H: Umm.. till the certification process, we get to see the government official but after that, we really do not get to see them often.

S: What is a problem that you face everyday?

H: I think the lack of diversity of our products because of high fragmentation of the land is one thing that we think is a major drawback and hence, we have to mainly stick with Vinmart. Some of the products requires more effort under the VietGAP standard which is why we do not plant them. Previously, we used to supply to the military camps and pre-schools but after getting certification we are now supplying to the supermarkets.

S: Why don't you sell the products directly to the consumer?

H: We tried selling it, but they demand low prices otherwise they do not buy it. The low price cannot cover all our expenses that is why we stopped.

S: Why do not you try to sell to other supermarkets?

H: As they demand many things like exact details of calculations, early harvested products to get good quality etc. Early harvesting can result in higher losses.

(\*H-Head of Tien Le co-operative; S- Sanchali)

#### **Head of the Yen My co-operative, Thanh Tri**

\*S: What is amount of total area?

H: The total area is 90 ha. But only 20 is under VietGAP standards but the rest is designated as safe agricultural zone but do not have any certification.

S: Do you use pesticides?

H: Yes, we use pesticides but according to the regulations of safe agricultural standards.

S: Do you get any support from the government?

H: Yes, the irrigation system is built by them and also they help in transportation within the farm.

S: Where do you supply your products?

H: We supply for both supermarkets and local markets. Also, the kitchen of elementary schools but only within the commune.

S: How do you maintain the quality?

H: umm, the quality is maintained according to the VietGAP standards.

S: What about the duration of the contracts with the supermarkets?

H: we have long term contracts.

(\*H-Head of Yen My co-operative; S- Sanchali)

#### **Head of the Bac Hong Co-operative, Dong Anh**

\*S: What is the total amount of area?

H: Total 20 ha

S: How much is certified by VietGAP?

H: The whole farm is certified?

S: Do you use pesticides?

H: Yes, organic pesticides.

S: Are you trained by the government on IPM?

H: Yes, the training is given MARD. The training lasts from 3 days, 1 week, and even 1 month. The officials from the department comes to the farm and gives us training on the technique of using the machinery.

S: Where do you supply your products?

H: We supply to the supermarkets, local markets and the kitchen of the elementary school.

S: Which supermarket do you supply?

H: One of it is Big C, the other one is a small store.

S: What is the duration of your contracts?

H: The duration with Big C is for the last 6 years.

S: How is the quality inspected before or after consumption?



H: Before the product is released the quality is inspected by the people of the co-operative. But every one or two months the people from the MARD takes random samples from the farm to their labs and check the quality. Also, the supermarket officials also test the samples before buying.

S: What are the common problems you face?

H: The common problem is that the consumers want high quality products but at a cheaper rate. Also another problem is the capital. We want the government to provide us with capitals as getting a loan from the bank is not easy. The interest rate is really high. We want to have more updated information of the market as now we are not really having good integration with the rest of the supply chain. We are going on following the same system for a long time. Also we want a more liberal land use policy from the government.

(\*H-Head of the Bac Hong Co-operative; S- Sanchali)

#### **Head of the Van Duc co-operative, Gia Lam**

\*S: What is the total amount of area?

H: The total area is 250 ha.

S: Do you have any certification?

H: 15 ha is under VietGAP standards, the rest is recognised as safe agricultural zone.

S: What kind of government support do you get?

H: We get support to build infrastructure and the transportation system inside the farm.

S: Where do you supply?

H: We supply to the supermarkets and we also export outside to Taiwan. The amount of vegetables that are exported to Taiwan differs from 1000- 2500 tons/ year. For the supermarkets, we supply to Fivimart and Metro. We have started to supply to the supermarkets since 2015 and the export we have started from 2017.

S: What kind of problems do you face?

H: We have a problem to get capital because we have to apply for loans. But it is not easy to meet all the requirements and also the interest rate is very high.

(\*H-Head of the Van Duc Co-operative; S- Sanchali)

#### **Head of the Dang Xa Co-operative, Gia Lam**

\*S: What is the total amount of area?

H: The total area is 250 ha. We grow vegetables in 130 ha.

S: Are you having any certification?

H: Yes, 10 ha are certified by VietGAP, others are under safe agricultural zones.

S: What kind of support do you receive from the government?

H: We do not receive much help from the government. We receive the pesticide from the government and some support in packaging.

S: Where do you supply?

H: We sell it to some local markets and to the kitchen of elementary schools.

S: How is the quality inspected?

H: The quality is inspected by the MARD.

S: What kinds of problem do you face?

H: There are a lot of problems. The common problem is price fluctuation.

(\*H-Head of the Dang Xa Co-operative; S- Sanchali)

### **Interviews with experts**

#### **Lecturer of Agricultural university and expert on the food system of Vietnam**

\*S: Have the incidence of food poisoning decreased in the recent years?

L: The number of food poisoning cases maybe have become stable. The acute poisoning cases have decreased over the years. I think the farmers are forced by the stakeholders to take up dishonest activities. The application of pesticides require a lot of investment and also they know what should

not be used but they do not have anywhere to go. Application of pesticides have degraded the ecosystem services to a large extent and thus the balance have been destroyed. The government lacks knowledge on sustainability. The government is supporting the farmers with pesticides.

S: Do you think the government is properly following up on these cases?

No, the government is not properly following up on these cases. They are doing the easiest things like banning some toxic pesticides. They are not doing which is actually necessary. The people in Vietnam do not really have enough expertise on administration. The government is most of the times giving subsidies to the chemical pesticide, fertiliser producing industries. They promote it. The government is corrupted and they only want to stress upon productivity.

S: Is the government trying to promote the supermarkets to increase the food safety standards?

The supermarkets being promoted by the government but not for the sole purpose of tackling food safety issues. They are built more for show off, as these can attract foreign investment and tourists. I do not think supermarkets can anyway help in curbing the food safety issues. The supermarkets cannot help in tackling food safety problems. My son studies in a high end public school. They are provided food in the school and they procure the ingredients from the Japanese supermarket called Fivimart (AEON) but still he suffers from food poisoning twice in 3 months. In the supermarket chain, the retailers have full control. Why do government need that? They can have wholesale market and the government can control the full chain and it is also easy. The government have to take one step at a time. The government is fully corrupted and VietGAP cannot become successful because of the bureaucracy.

S: Other than VietGAP, what are the other certification labels that are mainly handled by the government?

There are others like PGS. Most of the farmers do not have any interest in VietGAP. There is no use of having VietGAP. Maybe they will have new marketing channels but the production costs increases a lot. Also, they have to meet too many requirements which is not possible for any person. Their produce have to be pathogen free, bacteria free, production site have to free from odour etc. All nonsense things.

S: What are the ways it is checked whether the certified farmer or cooperative is complying with the standards of VietGAP?

There is not much inspection carried out. But what will be inspected. The record? The farmers will never write the truth. There are 40 kinds of vegetables in Dalat only without any registered kind of pesticides for them. So the farmers use pesticides which are not legal as they have to grow such crops. Obviously they will never write it on records. That is why VietGAP failed. Also, there are many illegal businesses where they stamp the VietGAP brand on the products which are sold in the supermarkets. In Dalat, only 40% of the farmers know about VietGAP.

S: For how many years do the farmers get the certification?

After the testing, the farmers geet thee certification mostly for 2 years and then they have to renew. Most of them do not really apply for recertification.

S: Do you think that Vietnamese consumers are aware about the certification and are they willing to buy certified products?

No, I do not think so. I did an interview among customers and mostly people are not conscious about certification and brands. People do not even read what's written on the labels. They buy sometimes because they feel that the products are packaged so they are safe. They confuse good packaging with food safety.

S: Why do you think that still most of the Vietnamese people are inclined towards traditional market?

The income of Vietnam is not high but the prices in the supermarkets are really high. I mostly go to the supermarkets to accompany my son but not to buy anything. Why should I buy from the supermarkets? I trust my local seller because he/ she sees me daily and knows my preferences. But in supermarket I do not know who is producing for me and I do not trust them.

S: Do the government have any provision of checking the standards in the supermarket?

They go sometimes and they check whether the labellings are proper or not. That's it.

S: What are the main criteria's for safe agricultural zone?

There are 68 criterias. But it is not possible to comply with all of them. The officials collect the samples of water and soil and test it.

S: Are there any kinds of measures taken to check the quality of produce sold in the local markets?

They should inspect twice in one year but it is rarely been done.

S: What does the government do to keep the number of unregistered businesses/ street vendors under check?

Nothing. I think the farmers also become street vendors when they do not get enough profit only by producing. It is a way of living and they are atleast earning their living expenses from them. The farmers are always under pressure by the other actors in the chain. Atleast the farmers in Hanoi can sell their produce and earn more money but the farmers from other provinces have to rely on the retailers and they dictate the price. Thus, the farmers are really ill paid.

S: How do the government compensate for the amount of agricultural area they are converting in the peri urban areas terms of production?

A number of area has been converted but I do not have enough statistics to show how much. Previously land conversion was under district level but now from the permission has to be taken from higher authorities.

S: Do you expect any negative effect of this conversion on the remaining agricultural area?

Many negative effects, waste from the urban areas, agricultural intensification because higher number of farmers on much lesser land.

S: Do the government have any plans of increasing the area under safe agricultural zone/ certification in the peri urban areas near Hanoi? How do they plan to do so?

The government has failed and they should allow the private sector as they are much more responsible and advanced.

S: Any policies targeting towards providing incentives or financial support to the farmers who are certified or who wants to get certified

The government mainly helping farmers selling to the supermarkets as they earn more money out of it. They supported the farmer in getting the certification. They spent on about 1000\$ on each households. They spent on training but proper results were not visible.

S: Any plans regarding the protection of agricultural areas in the peri-urban areas?

The government wants more and more rural areas to get integrated in the urban area because they know that they will get higher prices in land if the areas are integrated into the urban areas.

S: What changes have you seen in the Gia Lam area?

Gia Lam area is the more affected than Dong Anh as most of the highways have passed through these area.

S: How many food testing laboratories are there in Hanoi or the surrounding areas?

There are some but very few of them are registered. For pesticide residue testing most of the samples have to be sent to the Ho Chi Minh city. I wanted to open one laboratory but was not supported by the government.

S: What are the main problems do these co-operatives face?

They face many problems but mostly they have to find their own marketing channels. Small farmers who are not properly supported by the govt and also the amount they produce is not enough to supply to the supermarkets, they become mainly traders as they collect products from different farms and sell them to the supermarkets.

S: Is the certification of products helping the government to deal with the food safety issues?

I do not think so. I think the government has to start thinking in a different way. The policies written on paper is not enough to start making people think in an organised and ethical way. We need the intervention of the private sectors.

(\*L- Lecturer; S- Sanchali)

### **Interview with the official of IPSARD (O) and an expert on the certification of agricultural products in Vietnam (E)**

\*S: Is the government trying to promote the supermarkets to increase the food safety standards?

O: Yes, the government is trying to promote the supermarket, convenience stores but not only this is a strategy to increase food safety standard but this is also a part of urbanisation plan. The government is trying to modernise the supply chain. At present most of such policies are targeted towards the urban area and no such is found for the rural areas.

S: Do they have any plans of replacing the local markets in future to make way for supermarkets?

O: Yes, those traditional or local market that are not part of the urbanisation plan will be removed in the future. Till now many markets have been already replaced with modern trade centres or supermarkets.

E: One such example is one local market at the centre of Hanoi where the government wanted to build a supermarket. That is why they have moved the local markets in the basement and have built supermarkets above it.

S: Do you think that will hamper the business?

O: yes at first it will surely hamper the business as Vietnamese people normally wants to shop while on their bike. They will not prefer to go down but gradually they will get accustomed.

S: What plans do they have to increase the food quality standards of the existing local markets?

E: It is very difficult to control the food standards in the local market as they are mostly supplied by the small farmers or households. Thus, it is very difficult to control as they skip many control policies. They just transport the product and commercialize it without any proper check. Proper regular inspections should be carried out but the capacity is quite low and mainly it is the responsibility of the local authorities of the districts.

Also, government have started a new Food Control Inspection Authority who mainly control food safety standards. It is mainly launched at the municipal, district and at ward level in the cities of Ho Chi Minh and Hanoi. The pilot project was launched 2- 3 years ago and after it's success now it is spread to seven cities. Their aim was to control the standards in the local markets and street vendors, hopefully they are doing it.

O: The food safety department at the provincial level, in principle should take samples from the local market to check the quality for chemicals, microbiological standard etc. This should be done twice every year but the capacity is quite low. It also depends of the resources of the authorities of each province. E.g. Ho Chi Minh city authorities have much more financial resources. They can carry out much more inspections. They also take samples from the supermarket and send it to the lab.

S: Do the government have any plans of increasing the number of supermarkets?

O: Yes, in future the number of supermarkets will increase as the government is trying to modernise the chain

S: Any plans to attract more consumers towards the supermarkets?

O: Vietnamese people normally shops from traditional market but most of the markets are developed without any permission. The urbanisation plan once implemented will replace such markets. Then maybe the consumers will have to buy from the supermarkets as they will have no other choice. Research is saying that the number of consumers in the supermarket is increasing. But the replacement must be done in a very careful way as the income of the Vietnamese people is still quite low and hence decreasing the number of local markets can mean that a large part of the population will be missed.

S: Any policies targeting towards providing incentives or financial support to the farmers who are certified or who wants to get certified

E: The co-operatives receive aids when they get certified for the 1st time and then when they need to recertify they need to pay on their own. But they can get help in different forms like infrastructure, training etc. by the local authorities.

S: Ways of getting certified

E: VietGAP is a 3rd party certification. We have PGS. There is also BasicGAP which is another simplified version of vietGAP. It is also owned by MARD. It is not that famous and the criterias are also much

less. In 2014, they issue basic principles of VietGAP. The name can be understood as a basic guide to VietGAP but it is actually a separate kind of certification. In the whole market it is mandatory to follow the standard of safe agricultural production. The area which is under safe agricultural zone can get certified. If that is not the case then they have to pay a lot more and the process is also quite difficult.

S: Problem of not certifying the whole area

E: certification scheme really costly. It is quite difficult to implement both safe crop production standards as well as VietGAP standards. The inspection is done by the local authorities.

O: But another reason is that the production cost is really high and if they have to sell to the local market in case they do not find a buyer from the supermarket then the price is not sufficient to cover the cost as they do not have any packaging, any labels so they cannot sell it under premium price. That is why they do not certify the whole area. That is why they do not have the motivation. This is the reason why VietGAP has not really developed as the market system, selling and distribution system is not properly organised. If the supply chain is more organised then the farmer can extend the area under certification.

S: Finding the distribution channel

O: There are some big co-operatives have their own channel but otherwise the farmers have to find their own buyers which is the case in most of the co-operatives. Most of the co-op do not have their own channel as finding distribution channel is quite costly and requires a lot of resources.

E: Old form of co-operatives do not have their own distribution channels but co-operatives under the new law of Co-operative law 2012 maybe they have their own marketing channels.

S: Do they have any plans the supply chain more organised?

O: The government has plans to make the supply chain more modernised and wants to link all the stakeholders in the value chain. The government wants the farmer to work directly with the company. This will help in making the chain more organised. The farmers will now sell the products to the middlemen like big company or retailers who will in turn sell them to the supermarkets. Thus, in comparison to the normal chain where individual farmer's produce cannot be detected but in this chain they will be responsible for their produce. It can be said that they will act more responsibly as they will be under pressure of getting eliminated from the chain. The supply chain now is much more lengthier but in this case it will be shortened to only one middleman, the big companies. In principle they should earn more money because they skip a number of middleman and also the quality is assured. So this kind of organization is much helpful.

E: Also the farmers who supply to the supermarkets also have much stable price. When they have long term contracts they will have much more security.

S: How do the government check whether the policies are working or not?

O: Yes, there is system to check whether the policies are working or not. After implementation, in about 3-5 years the higher authorities asks for report from the local authorities. The regular monitoring is not very strong. The govt is relying more on the reports from the local governments. But how the local authority collects the data is not uniform everywhere. Maybe they ask the commune level to make reports for them. The authorities summarise them and report back to the higher authorities.

S: About People's committee

E: The people's committee can be at many levels. It can be at the city level, province level at the district level.

O: The organisation at Vietnam is like the lowest level is the communal level, the district, the province and the central. In the communal level there are villages but the administration is not official. In the official document the villages are not treated separate and the same laws like commune are also valid there. Commune level is the last level.

S: Any plans regarding the protection of agricultural areas in the peri-urban areas?

O: Yes, there are plans like if they want to convert any area for other agricultural purposes then they have to take permission from the higher authorities. But it mainly depends on the scale. If it is a big industrial project then the permission has to be taken from the central authorities while in case of communal level, district level permission is ok. But the land laws are much stricter now.

S: Do you think in the near future a lot of changes will be seen in the peri-urban areas in terms of agricultural production? Any problems?

E: I think so, the urbanisation is taking place very fast. I think mostly the products are coming from the rural and the peri-urban areas and mostly the changes in the peri urban areas is taking place at a very fast level. There will be a lot of problems if the agricultural areas are converted into other usage. The irrigation system gets affected, the water quality as well as the air quality can be affected which can hamper the production of the safe and clean agricultural products. But also it must be noted that people from these areas are also migrating as they want to earn more money.

S: Any proper urbanisation plan?

O: Yes, ofcourse, all provinces especially big cities Hanoi, they have a plan. There are areas specially meant for residential, production. The areas specially meant for rice and paddy are strictly protected and they are not allowed to be converted to other usage even when they want to produce some other type of crops. They need special permission from the authorities. I think now it is quite strict. They have a plan for 2030 or 2050. They have a detailed plan but the implementation of the plan maybe it is a different story but the plan is there. The implementation is dependent on the scale of the project. If any land wants to be converted into an industrial area then they need to have permission from the central authority otherwise they will be penalised. It mainly depends on the are been transformed.

E: There are some areas which are recognised as safe agricultural zones. The local government recognized certain parts of the land as safe agricultural areas.

S: Frequency of checking the standards in the VietGAP certified areas

E: The farmer co-operative have contracts with the certifying agencies and in the contracts all the regulations are written. Once or twice the year the standards are checked and it also depends on the contracts between the certifier and the co-operatives.

O: In regulation, there are provision of checking the standards but in reality the control system is quite weak. They leave it on the farmer after certifying and they leave it on the farmer about the technical process. It is all done in the beginning but maybe later in the process it is not done as it should be done. They should check the quality of the products like the quality of the soil, water but maybe it is not done.

E: Also, about the soil and water quality, it is checked mainly by the local authorities and it is done once the area is acknowledged as safe agricultural zone. Once the co-operative gets the certification, it is then combined with the conformity with the standards of safe agricultural zone.

S: About control of the pesticides by the producers

E: There is a list of authorised and illegal pesticides and other pesticides which can be used under control. I practice there is an internal control of the co-operatives. It should also be checked by the local authorities but if it is certified then it also has to be checked by the certifier.

O: The capacity and resource is quite limited so after certification it is mainly dependent on the co-operatives to produce responsibly. This is a problem as even though you are certified but still you can produce low quality products. Some of the co-operatives also lack internal control capacity.

E: They keep the books but it obviously does not reflect all what they are doing. Also, VietGAP is supported by the government and the local authorities wants to show that most of the land in their province is certified they even certify even cooperatives which are not even qualified. They cooperatives accept it under the pressure from the government. The local authorities should have a number of certified cooperatives in their area so they push the co-operatives to take it. There also has been some changes in the certification criteria in 2017. Previously it the criteria's were set by regulations of MARD but now it is being given under National Technical regulations.

S: Any provision of training individuals under MARD for this certification related work

E: Under MARD, there is a appointed certifying body. Their activities are checked by the provincial level department of agriculture and also by the Central.

S: Role of MOH

O: The food safety standards are set by National Technical Regulations. The role of MOH is mainly detecting the amount of chemical contamination, pesticide residue, microbiological and also setting the maximum permissible limits.

S: Problem of having 3 ministries

O: The overall management food safety are overlapping between the 3 ministries. Some roles are clearly not defined and there is some confusions. The confusion is about who is the main responsible for any problematic situation and thus while taking any action it takes a lot of time and patience. It has to pass through many levels. This is still under debate.

E: For example, at the central level, the local and wholesale markets are at the MARD jurisdiction while when it goes down to the city level it is then co-managed by MARD and MOIT. This sometime causes a lot of confusion as well as problem in allocation of resources. But in 2018, the overlap has been much lesser and now there is division in terms of commodities.

S: Changes in the agricultural lands in the peri urban area

O: In the Hung Yen province, a huge residential complex have been built replacing huge areas of agricultural lands. In Gia Lam there have been many changes because of more and more infrastructure projects, and also many highways. In Dang Xa in Gia Lam district, there have been more changes. All over because of more and more infrastructure projects and highways connecting the rural districts with the main cities, many lands are being taken.

S: Is the certification of products helping the government to deal with the food safety issues?

E: it is very complex question. The food poisoning cases are fluctuating. The food poisonings cases are very underreported. There are very few cases officially reported. The certification have helped in raising awareness and that I think is an important step. And also the government now have started to change their way of thinking and they feel that the stakeholders also should make a change they think about doing their businesses. This is the primary step to stop the bad practices.

S: Will the policies to deal with any offenders be made more stricter?

E: I think that there will be changes in the penalising system as it is been discussed widely.

S: Do the mentality of the people are going to change in the coming days?

E: The economic landscape is changing very fast and we can see increasing share of the modern channels. The prices are also quite high so that is a problem for the middle income people. There have been initiative of setting up safe vegetable retail points in the traditional market. It has been started but it is very less now.

(\*S- Sanchali; E- Expert; O-Official)

### **Food safety official of the Ministry of Health**

\*S: How many food poisoning cases have been reported in the last 2 years?

O: Yes, compared to 2016 the food incidence cases have gone down by 15%. The data is coming from VFA (Vietnamese Food Association).

S: Is the government trying to promote the supermarkets to increase the food safety standards?

O: The food producers, distributors and retailers everyone in the chain needs to increase their standards. The private sector building the supermarkets on themselves but the government is encouraging them. But also the government is trying to uplift the standards of even the wet markets. But for the supermarkets I think the brands need to promote themselves and thus they need to maintain some standards.

S: What plans do they have to increase the food quality standards of the existing local markets?

O: The poultry products, the meat, they have some inspection activities but for others like vegetables I do not have any idea

S: Authority directly associated with maintaining the standards in the wet market

O: The food safety law is quite different in Vietnam than other countries. In Vietnam, the food safety standards are divided in 3 ministries by the food commodities. In the wet market it is the responsibility of MARD.

S: What do you think that the main strategies are to decrease the level of outbreaks?

O: From last year we have some special decrees or legislations under the food law to widely make the food standards much stricter- to ban or fine illegal activities in the way if they cannot reach the food safety standards.

S: Any training available to the stakeholders?

O: It is actually applicable that all the stakeholders who join the business should be trained before they do their business. Every year they should join refresh course. This is already stated in the food safety law. I think the enforcement is still not up to the mark but maybe it will improve in the future.

S: Who is responsible for checking the standards with the producers?

O: We divide it into two levels. We divide into food producers and suppliers. In case of food producers we have two systems- At the national level one is food imported or food coming from FDI, these will be under the inspection of VFA (Vietnam food administration) and another the local one (the household level and farms), it will be under the local provincial level. We divide according to food commodities within the 3 ministries.

S: Does it cause any confusion between 3 ministries to work together on the same issues?

O: Yes, sometimes it causes. We (NIN) are under MOH and we are accredited by them to do food testing on certain products like bottled water, food additives etc and if we want the test results to be recognized then we have to be acknowledged by both the other ministries. So once the test results are accredited the producer can take the results to the ministerial level to get the certificate. Also, if we want to test a food product of a producer who is under MARD then our testing centre must be also accredited by MARD.

S: When do you test the products from the producers?

O: The products are being tested on two occasions- if the producers want to get certified or they want to claim something about their products as a marketing strategy then they come with their samples to our testing centres. The 2nd thing is that the government research centres like NIN have some budget allocated from the government for monitoring. So we have to take the samples and do the testing.

S: Capacity of the government for testing products?

O: The capacity of the government is increasing. The local market is under the MARD. But we collect samples monthly as under the regulation of MOH.

S: Where are the main activities of NIN targeted to?

O: NIN is working in 5 provinces in the north of Vietnam. In the central there is Pasteur Nha Trang and Pasteur Tay Nguyen Institute while in the southern part there are Pasteur Ho Chi Minh and Institute of Hygiene and Public Health to test the food samples.

S: Did awareness among the stakeholders in the food chain increase in the recent years?

O: This type of question is very difficult to answer as there are differences between their knowledge and their practices. Knowledge can be there but there can be many reasons why they cannot implement it in reality. In theory if they are having proper training, getting proper training then their practices should also be of high quality but it is not like that in reality. Also it must be noted that in case of retailers it is not easy to control them as there are millions of retailers in Vietnam and some of them are also doing seasonal activities. This season maybe they are doing something but in the next season maybe they will be dealing something completely different. We have some experience to work with street food vendors and we think it is extremely difficult as the number is too big.

S: Do you take samples from the street food vendors as well?

O: Yes we do. We report the data to another department and then they analyse the data and they will go back to the channel. Mostly is done by VFA. Banning and penalising is another department's job.

S: Have the penalising system made stricter in the recent times?

O: By law everything is strict but how far it is enforcement depends on many factors.

S: What about the unregistered business?

O: The number of unregistered business is too big and we cannot really do anything about them. The number is too big. By law all the food vendors, sellers must be registered but it is not happening



in practice. Proper rules must be there. To register they 1st must go to the People's committee and they will report to the higher authorities.

S: Who and how does the testing is being done in the rural area?

O: As I have mentioned before that we cover some provinces and then at the provincial level they also have their own monitoring system and they sometimes do quick testing and if they find something then they send the samples to us.

S: Do you think that the food outbreaks will decrease in the next coming years?

O: Yes the food outbreaks will decrease because of more awareness in the supply chain but I think that the reported cases will increase as the reporting system is improving which means there will be much more reported number of cases. Because the data is really underreported. In reality if there is only 150 cases then Vietnam is a totally safe country. So the number of outbreak will decrease but the reported cases will increase.

S: Any training courses for the people appointed by MOH?

O: Annually we conduct two or three courses for the staff of the food safety department in the 28 provinces in the north of Vietnam. Each province they will send their staffs here and they will learn about the microbiology, food chemistry, toxicology. Also training of sampling is done. We also try to increase the capacity of food analysis of each province. So we go there on demand and our staffs will work with them.

S: How many food testing laboratories are there in Hanoi or the surrounding areas?

O: In Hanoi there are about 40 testing centres, but the number of accredited testing centres who are acknowledged by the three ministries, it is only about 12 testing laboratories.

S: What tests do they carry out to check the food standards?

(\* O: Official; S: Sanchali)

### **Interview with the Representative of Canadian NGO**

\*S: What is the name of your organisation?

R: Health bridge. We get fundings from different institutes, ministries of Canada. We focus on public health sector, agriculture over the world but mainly increasing the food safety standards in countries like India, Vietnam and some parts of Africa. I have been with the NGO for last 5 years.

S: Any idea about food safety issues in Vietnam?

R: Food safety includes a lot of components like production, processing and consumption. It includes multinationals, small businesses etc. From my perspective, Vietnam faces a lot of problems especially in terms of food environment, food safety, production. In case of production, some species and varieties degradation. Many varieties of agricultural species have died out in face of human exploitation and climate change. The food environment in Vietnam has changed a lot, we can call it diet transition. In Hanoi, mainly there have been suppression of the local markets by the supermarkets. The supermarkets promote to sell ultra processed food product while the local markets sell varieties of vegetables which is fresh and promotes diversity on the palette.

S: Do you think the supermarkets are going to increase the food safety standards in Vietnam?

R: Umm, I feel that compared to supermarkets the traditional market is much better as Vietnamese people mostly prefers those markets. They promote more diverse and cheap products. Also, people can have social interaction in the market like can talk to their neighbours etc. They can also walk around the market which helps in getting some physical activities. These diversity in items is required for a healthy diet. I would like to also mention that supermarket promotion in the name of modernisation increases the risk of non-communicable diseases like obesity and cardiovascular diseases. People in young age are facing the risk of getting obese and also the risk of increased associated diseases like heart problems, bone problem etc.

S: What do you think about the certification system in Vietnam?

R: From my perspective in regulation it is a very good standard for check or verify quality of food but in vietnam the food management and check is very weak. There are some regulations and the benchmark but it is failing. In Vietnam, when you buy some product you buy the seller and certification does

not really have any impact. There are some NGO's who have taken the initiative to open some safe and organic stores and are also connecting the urban customers with the rural producers. But organic food is quite costly. 40% of the people in Hanoi are living with a salary of 5 dollars per day so it is not possible for them to buy organic food or even buying from the supermarkets. But the remaining part demand high quality food and they prefer products that have quality rather than the quantity.

S: What do you think about the producers who are VietGAP certified? Did this benefit them?

R: Most of the producers in the value chain are small scale. They can take advantage of some networks promoted by the NGO's or private sector. The big corporations or collectors they collect the food from the producers. They take it at a very low price but they sell it in a very high price. That is why I do not like supermarkets. It is better to have local markets as it promotes equity for all though the price is unstable sometimes.

S: What do you think that Vietnamese people concerned about quality of food?

R: Following our research in marginal areas of Hanoi, do not really have high concerns about the quality of food. They buy vegetables depending on the texture, freshness.

S: What about the quality checks?

R: It is a problem in Vietnam. There are no information available about the products at the back of the package. Only some simple informations like the fat, carbohydrate, protein contents are given. If you have some allergies you do not know the ingredients. Currently Hanoi authorities have a project regarding quality checks of vegetables, fruits etc. But the capacity is very limited and does not really cover the whole areas.

S: What about the agricultural production in the rural areas?

R: All of the households in the rural areas have their own gardens where they can grow their own food. There are some companies where they bought big plots to grow food for the supermarkets in a big scale. Also specialized shops have their own plots where they grow their produce by having individual contracts with farmers.

S: Is there any effect of urbanisation on the agricultural areas?

R: Yes, it had an effect on the food environments. Increase of supermarkets, food safety issues because of high population and the demand is higher than supply. The producer focus more on quantity than on quality. Thus there are problems about food safety. In addition to these, there are problems like air pollution, water pollution which can degrade the quality of the agricultural products.

(\*R-Representative;S-Sanchali)

## **APPENDIX 2 (NOTES TAKEN DURING FIELD RESEARCH)**

**19/04/2018**

Binh- They do not really buy from the supermarkets as they feel that the products are not fresh and the prices are higher than the local markets. She mostly preferred to buy from the local markets where she knows the seller and also can trust the products provided by him. She cannot bargain for the price in supermarkets and the prices are not quite acceptable for students. The situation is quite same for her friends. She only goes to the supermarket when she does not have any time. She comes from a place which is 50kms away from Hanoi where her parents grow their own vegetables as they feel it is much more safer. They sometimes exchange their vegetables with their neighbours. If they need to buy fruits they buy the imported ones as they feel it is safer than the domestic ones. This way of living is common in the rural and peri-urban areas. There is now a supermarket in her province but it is not popular within the residents. The complex in which she stays has a supermarket but the residents do not want to buy there. That is why they have formed a facebook group where all the interested and concerned residents are there who have jointly approached some farmers in the suburbs of Hanoi to supply them with fresh vegetables and fruits. They have made an agreement which states that the farmers will supply them with his produce in every 3 days. Also, the residents are allowed to check the process of growing anytime they feel like. According to her, supermarkets are for only a segment of the population who are wealthier and not for middleclass and poor people. Convenience also is a big factor as she feels that while riding back home people can pick up the produce from roadside vendors anytime they want to but in case of supermarkets they have to park their vehicles and then go in. For smaller amount of proportions it is not at all convenient, She said that even 5 years back thinking that they are going to buy vegetables from supermarkets was a luxury. Her sister is pregnant and she now cannot go to the local markets as it is very crowded and she feels that the need of having good food is important at this stage, so that her baby is healthy. That is why now she prefers to go to the supermarkets. She does not deny the fact that the products in the supermarkets are having guaranteed standards but at the same time she feels that it is overly priced and also does not offer a higher variety of products. She thought that the products that are for promotion (discounted ones) are mostly not fresh and that is a way the supermarket tries to sell the leftout ones. This is how mostly the Vietnamese people perceive the discounted products. There are some small convenience stores which do not sell fresh vegetables but sell canned and processed food products.

Binh felt that situation now is much better than it was 5-10 years ago as there used to be food scandals everyday but the numbers have decreased over the years. But she feels that there is lack of control over the food safety and security which must be further tightened.

I asked why there is no customer in the supermarkets mainly in the vegetable section, Binh told that they mainly come in the weekends as they have free time, but the numbers are still less.

Vinmart (Au Co; Xuan Dieu; Tay Ho)- Home grown brand and they have their own organic label (Vin Eco) which is equivalent to the standards of VietGAP. The variety of vegetables are low as compared to a local market. Did not find any costumers there. They have fruits like apples, avocado from countries like USA, New Zealand and Australia. The prices are much higher as compared to local markets and even one neighbourhood market. Almost all the products are labelled with the brand name. The expiry date is not present on any item. The place of origin is not observed but they have barcode on the labels which can help in tracking. The number of varieties also depends on the size of the store. All the stores that I visited of Vinmart I saw people not really buying any vegetables and even the number of costumers are really low.

Ti mart (Au co)- Homebrand. It is a market near another Vinmart in Au co. It is quite big compared to the Vinmart in the neighbourhood. The prices are also quite lower when compared to Vinmart. Mostly the products are from Gia Lam and were having Vietgap standards. The name of the co-operative, the

email id website were given on the products as well as a barcode to track the produce. The number of customers were quite low both in the morning time as well as in the evening. Some of the products were not labelled and were being sold loose. According to the store workers they were supplied by individual small farmers who are certified to produce vegetable under the Vietgap standards. When asked from where do they get the vegetables they said that the supplier delivers it. They seemed to track the details as they showed us a sheet where the name of the company as well as individual suppliers were given. But the origin of the products could not be specified by them.

Street vendors (Au Co neighbourhood)- They are seen everywhere wherever there is a locality. Street vendors were mainly seen to be moving on bicycles or bikes. They sit in the local markets but if anything is left then they roam with their vehicles to sell their products. Few street vendors were moving in the roadside. Some were owning shops where they were selling vegetables, chicken pork eggs etc. The number of customers were much higher in this shops and we could see people constantly coming on their bikes/ bicycles, stopping by and buying vegetables. Most of the time it looked like the vendors and the customers knew each other. Binh told me that they people who do not have proper stall and sits on the roadsides are sometimes chased by the police and then they will flee with their products. But in the inside roads, mostly this happens rarely as the police mostly concentrates on the main roads. The vendors were exchanging their own vegetables within themselves. It was felt as if the vendors were not quite happy that we were trying to get information from them. Sometimes they were seen sitting opposite to small convenience stores but according to them that does not affect their sales.

#### **Yuki's Fresh Fruits And Vegetables (Seemed to be a specialised organic/ certified shop) (Xuan Dieu)**

The prices were high, the variety much less. No customer and they were not having any labels on the products except the imported ones. They seemed to be a shop specialised in safe vegetable products but clear information was lacking. According to Binh, the consumers do not prefer this as she has entered this kind of shop for the 1<sup>st</sup> time.

#### **Fivimart**

A comparatively very big supermarket. In the entrance only there is a board where it is declared if the consumers want to have information about the origin of their produce then they can call them on their hotline number. The origin of the vegetables were written on a board above them clearly and mostly were from Dong Anh, Hoai Duc, Moc chau and Dalat. The produce from Dalat are considered to be of high quality. The prices are quite acceptable. According to Binh, some of the prices like tomatoes were similar to local markets. They have the certification for fruits both imported and domestic hung near the fruit and vegetable section but the certification in vegetables were empty. Mostly all the products were labelled with barcode, email id and phone numbers of the co-operatives. A lot of cut vegetables and fruits were observed. The number of Fivimart have increased drastically within the last 3 years.

**20/04/2018**

#### **Local wholesale market (Phung Khoang)**

Went to the local market called Phung Khoang. The market place was not clean and the customers were entering the market with their bikes. They were stopping by and purchasing items. There are many big supermarkets in the area but still most of the customers buy from this local market. One of the seller said that the supermarkets buy from them and sell it with a brand name. According to them, this is a strategy to take more price from the customers. Another seller reported that, the staffs from elementary schools and kindergartens comes to them to buy vegetables for the meal for school students. It was observed that most of the sellers were trying to convince us that their products are safe and the standards are better than supermarkets as they are fresh. Binh said that mostly one customer will be loyal to a seller and will especially buy from them. The farmers in the different provinces normally hire trucks and loads their goods in them. They then sit alongside the road, the

sellers directly buys from them. Some of the sellers have bought the goods from the farmers of Thuong Tin district. Some bought from Thanh Hoa', Hai Duong and Dalat. Some of them have their old lands where they produce. A seller said that they have a garden near Trung Van of Hanoi where they grow the vegetables but the land is rented. The sellers mentioned that they have been sitting at a fixed position every day and would continue to do so till the time they will be active. Almost most of the fruits were coming from the southern part of Vietnam. Binh said that mostly people prefers fruits from the southern part as they are much tastier than those produced in and around Hanoi as the temperatures are higher. The price of tomatoes were much less compared to the supermarkets (8000VD compared to 21000 in the supermarkets) and they looked much fresher. According to the sellers most of the items were bought in the morning or harvested the day before while two of the sellers did not want to mention the time of purchase. Out of the two, the produce of one was not looking fresh at all.

#### **Intimex supermarket (Lạc Long Quân, Bưởi, Tây Hồ, Hà Nội)**

The intimex supermarket had vegetables and fruits but the varieties were less. Some of the products like potatoes and cabbage were not having any identification while the beans, tomatoes and some leafy vegetables were having certified with VietGAP and are being supplied by the same supplier. According to the supermarket they have contracts with 3-4 suppliers. The products were mainly coming from Sai Gon and Phuc Tho districts. It can be seen that the workers are not very concerned about consumer awareness as in most of the products, the price tag is attached on the top of the identification and certification label. Thus, the details are not visible most of the times. The leafy vegetables were not looking fresh at all and were probably on the shelf for a number of days. Fruits like jackfruits, watermelon are not labelled. The fruits were mostly imported from USA, France, South Africa, Japan, Korea etc. Only one variety of small apples were produced in Vietnam but no identification was given on it. Did not notice any consumer.

#### **Specialised fruit stores**

There are some specialised fruit stores which sells normal fruits as well as the imported ones (the same in supermarkets).

#### **Big C**

It is one of the oldest supermarket and was previously owned by Vietnamese brand but now it is being sold to a joint company of China and Thailand. Vietnamese people do not have a lot of trust in Chinese brands and thus, the sales have declined over the years. The prices have also gone up and they mostly now have imported products only the vegetables are from Hanoi.

#### **Local Market (Bai Anh)**

Small local market. Small stalls for pork and the place they were cutting the pork was not clean. The water they were using to wash the vegetables did not seem to be clean. One of the seller were selling fruits from the southern part of Vietnam and also had varieties from Thailand. There were a wide variety of vegetables. The prices were much lower than the supermarkets. Customers were passing by with their bikes. Some of them were sitting in some shops which seems to have been rented by them while others were sitting on the stairs of some shops.

#### **Long bien wholesale market**

It is one of the biggest wholesale market in Hanoi from where most of the sellers buy their items. At the entrance of the market there is a sign board where it was written that the products sold are all according to certain standards of safety. In the morning, it is bustling with customers which make it quite difficult to interview the sellers. But it was observed that most of the fruits were coming from the southern part of Vietnam. They were being transported by trucks of the suppliers. The vegetables were being sold by the farmers, distributors at a very cheap price. There were shops where the same

imported fruits that are being sold in the supermarkets are sold but the prices are very high in the supermarkets (Pear LB- 80000/ KG SM- 110,000/KG (k Market); 94000 (T mart) ;Apple LB-220000 SM- 232,000/kg (Ecofirst), 198,000/ kg (T mart, stored for along time apple not fresh, discounted price). Some of the interviewees said that the same supplier from whom they buy vegetables and fruits also supply to the supermarkets. We could see trucks which were loaded with fruits and vegetables

22/04/2018

Wanted to cook but tomatoes bought from Vinmart were all rotten. The brinjals in Ti mart were rotten but were not cleared up from the shelves. It could be visible that most of the products were getting rotten because of expired date but the employees were not concerned about the quality of the products. A shopping basket survey of 15 people in 4 supermarkets suggested that people bought groceries other than vegetables and fruits from the supermarkets. Only 3 people out of 15 had very small amount of vegetables and 1 person had bought fruits. Out of the 3 people 1 were foreigner who believed that the quality of the supermarket vegetables are better than the local markets while his companion (a Vietnamese woman) has bought some fruits which she said she wanted to gift a relative whom she will be visiting the next day. The other 2 people who have bought vegetables said that they are not getting time to visit the local market for the last week and they stay just 2 minutes away from the supermarket. But both of them agreed that they do not buy from supermarkets frequently only when they do not get any time.

Note: Most of the people from the rural areas are having their own gardens. As the areas in the rural districts have not been changed, their mode of consumption and production remains quite the same.

#### **Fivimart**

The highest price of all in envy apple is in Fivimart which is 239000/ kg. Some of the products were completely spoilt but were still kept on the shelves like some fruits, ginger etc.

23/04/2018

#### **Megamart**

It is a wholesale supermarket. You need a business license to buy from here.

The prices in megamart were quite cheap

#### **Tu Lien**

Went to the local market near Au co, when the market was bustling with people. Mostly the fruits in the market were either coming from Thailand, Taiwan or from the southern part of Vietnam. The prices were cheap but it was extremely crowded. At one point of time it was seen that the dogs were licking the vegetables. People entered the market with their bikes and it was making the place more dusty and polluted. Some of the sellers bought the vegetables from the Long bien wholesale market while the others were farmers who bought the vegetables from their own or neighbouring farmer's farm. There were other sellers who bought it from different local markets. Some seller bought the vegetables from the trucks of the farmers in different provinces. The vegetables looked fresh and it seemed that all of them were trying hard to convince their customers about the quality and safety of their vegetables.

#### **Street vendors in the Au co alley**

Most of the street vendor in the Au co valley bought their vegetables from the nearby local market Tu Lien (Au co). The fruits were coming from the main southern part of Vietnam and the sellers were buying either from the local market or from the wholesale markets or from the farmer trucks.

#### **Yen Phu market (Au co)**

The market is a relatively small one compared to the Tu Lien market. The fruits were from either the south of Vietnam, near Ho Chi Minh city or from Thailand, Taiwan. The vegetables are mainly bought from the Dong Anh or the Long bien wholesale market. Some of the sellers told that the trucks from the wholesale market comes to the market along with the sellers to sell their products in the morning.

#### **Farmer's co-operative shop**

A farmer's co-operative shop was spotted which was selling vegetables from their own co-operative. The co-operative is VietGAP certified and is of the Dai Loi province.

#### **Specialised organic/ safe vegetable shops**

##### **Clever foods**

These was another organic shops but it has been permanently closed. It has been replaced by Fivimart.

##### **Homefood (Organic and Natural)**

The shop has many organic products. But there are no fruits. There is a separate cold storage room for the vegetables to keep them fresh. But there were almost no vegetables. The variety were only of 2 kinds. There were only carrots, spinach but with no labels. The co-operative has made a deal with a farmer in the Hanam district which is about 57 kms from Hanoi. Everyday the vegetables are transported by trucks The farmer is growing the vegetables organically but the quantity is very less because of the size of the land.

##### **Big greens**

This organic shop is also closed

##### **Nong san Ngon (Tasty agricultural products)**

The shop had fruits as well as vegetables. The prices were not mentioned on the products, but the products had PGS organic certification. Except some mostly all of them had this certification. There were nothing written on the fruits (no origin, time, price). Only one vegetables were having VietGAP standards. All the certificates including the PGS certification, VietGAP etc were hung on the wall.

##### **Gourmet Annam (Xuan Dieu)**

A specialised shop in organic products where most of the products are certified by GAP. But the fruits did not look very fresh . It must be mentioned that the certification is GAP and not VietGAP. The same imported fruits as sold in the supermarkets are found there. The price for envy brand of apples were 235,000/kg while those in the supermarkets are 220000/kg. Unlike in the supermarkets the expiry date was written on the products. But no customer were noticed in the vegetable section, even after waiting for 1 hour.

##### **Orfarm**

A specialised organic store where no customers were observed in 1 hour. The products did not look fresh. The price of envy apple were sold at 220000/ kg at a discounted price which is actually the price in wholesale markets.

Note: Orfarm, Gourmet Annam are located in the same mall side by side.

## **APPENDIX 3 (INTERVIEW GUIDE)**

### **Wholesale markets**

Sellers

1. From where are you bringing the vegetable and from whom?
2. Who is selling the vegetable? (Producer, collector ?)
3. Who comes to buy the vegetables?
4. How do you know about the quality of the vegetables?
5. Do you deal with safe vegetables?
6. Do you have any idea to which market mainly the vegetable from this wholesale market goes?
7. Are you acknowledged by the government?
8. Are you part of any co-operative?

### **Sellers in the local informal markets**

Market:

Actor in the supply chain:

(If not producer)

From which market do you buy the vegetables?

Do you know about the origin of the vegetable?

From whom do you buy in the wholesalesmarket? (Actor in the supplychain)

Do you buy from the same person everyday?

When do you buy and when do sell the products? (understand the gap between buying and selling)

How do you know about the quality of the vegetables you are buying ?

(If producer)

From where are you coming?

How many ha do you have?

How can you say that your vegetables are safe?

Are your vegetables inspected by anyone?

Are you part of a co-operative?

Do you always sell your vegetables on your own? Why do not you give it to the collector?

Common

how do you communicate about the quality of vegetables to the buyers?

From what time are you selling over here and did you see any changes in the number of buyers over the years?



What, according to you are the main concerns of the consumers while buying vegetables?

What do you do with any leftover products that you cannot sell on that day?

How do you set the price?

Are there any inspections carried out in the market by the authorities?

Has there been any problem in the continuation of your business here? (Any intervention by the authorities, any notice that the market can no longer be continued)

Are you registered by any authority?

Specialized shops for Safe vegetables

Location:

Having any brand name: y/n

1. Are the prices of the products higher than the conventional market?

2. Do you know the origin of the vegetables coming to this shop?

If yes, from where?

Is this produced by any farmer co-operatives?

If no,

How can you be sure of the quality of the product?

3. How do you receive the vegetables?

From how long are you operating in this locality?

4. Have you observed any change in the trends of vegetable sell from this outlet (Increase/ decrease)

5. (If nothing is written on the vegetable) How do you communicate about the vegetable quality to your consumers?

6. Who has given you the license?

7. Does the government bodies carry out any inspection?

8. Do you get to see the common customers everyday or they change?

9. What do you do if the vegetables do not get sold on the same day?

10. Do you get to hear consumer feedback?

If yes, what kind of improvements do they seek?

11. Do you think the consumers come to your shop

a. As they are aware of safe vegetables and only want to buy them

b. Or they come just to shop without knowing much about the concept of safe vegetable

**MARD**

**MOH**

How many food poisoning cases have been reported in the last 2 years?

Have the incidence of food poisoning decreased in the recent years?

How do they investigate on any case regarding food poisoning?

### **Certification**

Other than VietGAP, what are the other certification labels that are mainly handled by the government?

How many hectares are at present under the safe agricultural zone at present?

What are the percentage of products in the market that are certified by VietGAP?

What are the ways it is checked whether the certified farmer or cooperative is complying with the standards of VietGAP?

How are the standards and rules communicated with the concerned farmer/cooperatives? (How do the farmers get to know about the rules if they want to get certified?)

After certification, how to the farmers know about the updated rules?

For how many years does they get the certification?

Does all of them qualify for recertification?

Do you think that Vietnamese consumers are aware about the certification and are they willing to buy certified products?

Do you have any data to show what percentage of the consumers really buy certified products?

Do they have any provision of checking the standards in the supermarket?

Do they control the supermarkets in the opening of new branches?

### **Safe agricultural zones (MARD/ Hanoi agricultural department)**

What are the main criteria's for safe agricultural zone?

How frequently are the outlets checked whether they are actually selling safe vegetable produce?

### **Informal markets**

How many registered traditional markets are there in the Hanoi province including the peri-urban areas?

From where does the majority of fruits and vegetables come in the markets?

What kinds of measures are being taken to check the quality of produce sold over there?

Has any of the informal markets been shut to make way for the supermarkets in the neighbourhoods?

What does the government do to keep the number of unregistered businesses/ street vendors under check?

Why do you think that still most of the Vietnamese people are inclined towards traditional market?

Are there any kind of strategies to make the informal markets safer for consumers?

Are there any kind of strategies to make the consumers accept the supermarket culture of shopping?

Where are the plans for food safety control mostly targeted to?

a. Urban Hanoi area

b. Peri-urban areas

c. Rural area

What percentage of the safe vegetable produce and the certified products are sold in the rural or periurban areas?

Is there any particular strategy to make the consumption much safer in the peri-urban areas/ rural areas?

#### **Land use changes**

How much of the agricultural area till date have been converted for other kind of uses?

Is there any strategic plan which states which part will be converted next?

How do you compensate for the amount of agricultural area you are taking in terms of production?

How much amount of produce is coming from green belt areas?

What is the total amount of green belt area formed till now?

How do you inspect the quality of the produce from these areas?

Do you expect any negative effect of this conversion on the remaining agricultural area?

What are the plans in Dong Anh, Me Linh, Gia Lam, Hoai Duc, Thanh Tri, Thuong Tin in the next coming years?

#### **Food inspection**

Who takes care of the inspections for food quality at the co-operatives certified to produce safe food?

How many times is the inspection carried out after a co-operative is certified to produce safe vegetables?

Who takes care of the inspections of certified food and the production standards before or after they are sold in the market?

How many food testing laboratories are there in Hanoi or the surrounding areas?

How many trained officials are there at the district and commune level and who trains them?

What tests do they carry out to check the food standards?

How do they penalise any offender?

#### **Peri-urban areas (5 co-operatives each district)**

Hectares of area under cultivation

Any part that have been taken?

Certified or not

Safe vegetable or not

Received any training for IPM/ fertiliser/ pesticide usage

Any support from the government

Do the co-operative have its own supply chain or the farmers finds their own?

Do they sell it to any supermarket?

How do they ensure about the quality of their produce?

Any inspections carried out? What do they inspect

Do they communicate about the results of the inspection to them?

### **Farmers**

Do they find their own consumers?

Does all of them receive training?

Do they prefer supplying to the supermarkets or the traditional market?

How do they ensure about product quality?

Do they sell through collectors/ companies / their own?

Do they feel that the hype about quality has been more in the recent years?

Any inspections carried out? What do they inspect

Do they get to know about the results of the inspection?

Do they have changed their land usage pattern for crop cultivation in the recent years?

Do they get any feedback from their consumer?

Do they feel that the market is changing?

How they manage with pest problems?

### **If supplying to supermarkets**

For how long are they supplying it to supermarkets?

How many supermarkets do they supply and where?

Do they sell it directly to the SP?

Do they need to take any extra care if they want to sell it to the sp? How do you take care of the quality?

Do they get feedback from them?

Will they continue selling it to the supermarkets?

Do they feel any insecurity in the supermarket chain?

Will you prefer to supply to the markets than the supermarkets?

Do they face any problem which they want the government to solve?

### **Supermarket officials**

From does the produce mainly come?

From whom do they buy?

Do they have any long term official contracts with the ?

Is the transportation arranged by them?

Do they financially support the farmers?

How do they check the safety of their products?

#### **IPSARD**

What are the main policies that the government is considering to increase the access to sustainable and healthy food for the citizens?

Is the government trying to promote the supermarkets to increase the food safety standards?

Why do they feel that this kind of promotion will help in tackling the food safety problems?

Do they have any plans of replacing the local markets in future to make way for supermarkets?

What plans do they have to increase the food quality standards of the existing local markets?

Do the government have any plans of increasing the number of supermarkets? Do they have any policies to help in the promotion of home brands?

Do they want to motivate the entry of more international brands?

Any plans to attract more consumers towards the supermarkets?

Are there any particular policies which are mainly targeted towards the control of the standards of products in the supermarkets?

Do the government have any plans of increasing the area under safe agricultural zone/ certification in the peri urban areas near Hanoi? How do they plan to do so?

Any policies targeting towards providing incentives or financial support to the farmers who are certified or who wants to get certified

Policies to improve the quality of inspection

Do they have any plans the supply chain more organised?

How do the government check whether the policies are working or not?

Any plans regarding the protection of agricultural areas in the peri-urban areas?

Do you think in the near future a lot of changes will be seen in the peri-urban areas in terms of agricultural production?

Which of the areas will be the most targeted place for the agricultural policies and how-

Gia Lam

Thanh Tri

Thuong Tin

Me Linh

Dong Anh

Hoai Duc

Is there any plans to promote the opening of more supermarkets/ convenient stores in the peri-urban or the rural areas?

Will the agricultural zones from the peri-urban areas be shifted more towards the rural areas in the nearby future? Why?

Is the certification of products helping the government to deal with the food safety issues?

Will the policies to deal with any offenders be made more stricter?

**Food safety working group/ NIN**

How many food poisoning cases have been reported in the last 2 years?

Have the incidence of food poisoning decreased in the recent years?

Is the government trying to promote the supermarkets to increase the food safety standards?

Why do they feel that this kind of promotion will help in tackling the food safety problems?

What plans do they have to increase the food quality standards of the existing local markets?

Is the certification of products helping the government to deal with the food safety issues?

Are there any particular policies which are mainly targeted towards the control of the standards of products in the supermarkets?

What are the percentage of products in the market that are certified by VietGAP?

What are the ways it is checked whether the certified farmer or cooperative is complying with the standards of VietGAP?

Do the government have any plans of increasing the area under safe agricultural zone/ certification in the peri urban areas near Hanoi? How do they plan to do so?

Any Policies to improve the quality of inspection of the products?

Where are the plans for food safety control mostly targeted to?

a. Urban Hanoi area

b. Peri-urban areas

c. Rural area

Is there any particular strategy to make the consumption much safer in the peri-urban areas/ rural areas?

Do you expect any negative effect of land conversion in the peri-urban areas on the remaining agricultural area?

Who takes care of the inspections for food quality at the co-operatives certified to produce safe food?

How many times is the inspection carried out after a co-operative is certified to produce safe vegetables?

Who takes care of the inspections of certified food and the production standards before or after they are sold in the market?

How many food testing laboratories are there in Hanoi or the surrounding areas?

What tests do they carry out to check the food standards?

**Dr Hoi**

Have the incidence of food poisoning decreased in the recent years?

**Do you think the government is properly following up on these cases?**

Is the government trying to promote the supermarkets to increase the food safety standards?

Why do they feel that this kind of promotion will help in tackling the food safety problems?

Other than VietGAP, what are the other certification labels that are mainly handled by the government?

What are the ways it is checked whether the certified farmer or cooperative is complying with the standards of VietGAP?

How are the standards and rules communicated with the concerned farmer/cooperatives? (How do the farmers get to know about the rules if they want to get certified?)

For how many years do the farmers get the certification?

Does all of them qualify for recertification?

Do you think that Vietnamese consumers are aware about the certification and are they willing to buy certified products?

Why do you think that still most of the Vietnamese people are inclined towards traditional market?

Do the government have any provision of checking the standards in the supermarket?

What are the main criteria's for safe agricultural zone?

Are there any kinds of measures taken to check the quality of produce sold in the local markets?

What does the government do to keep the number of unregistered businesses/ street vendors under check?

Are there any kind of strategies to make the informal markets safer for consumers?

Is there any particular strategy to make the consumption much safer in the peri-urban areas/ rural areas?

How do the government compensate for the amount of agricultural area they are converting in the peri urban areas terms of production?

Do you expect any negative effect of this conversion on the remaining agricultural area?

Do the government have any plans of increasing the area under safe agricultural zone/ certification in the peri urban areas near Hanoi? How do they plan to do so?

Any policies targeting towards providing incentives or financial support to the farmers who are certified or who wants to get certified

Any plans regarding the protection of agricultural areas in the peri-urban areas?

Will the agricultural zones from the peri-urban areas be shifted more towards the rural areas in the nearby future? Why?

Do you know of any particular land use change plans in Dong Anh, Me Linh, Gia Lam, Hoai Duc, Thanh Tri, Thuong Tin in the next coming years?

Which of the above provinces will be most affected in the coming years in terms of agricultural production?

What changes have you seen in the Gia Lam area?

How many food testing laboratories are there in Hanoi or the surrounding areas?

What tests do they carry out to check the food standards?

Do you think the farmer's co-operative always comply to the standards and are they properly penalised if they are not doing so?

What are the main problems do these co-operatives face?

Is the certification of products helping the government to deal with the food safety issues?

Do they have any plans the supply chain more organised?



