Agrarian transition and peri-urban land use change in a mid-sized city of Vietnam

by

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Author’s Declaration

I hereby declare that I am the sole author of this thesis.

This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

In developing countries, land management, government intervention in peri-urban land, and the striking decline of agricultural land have all affected farmers' livelihoods and the capacity of locally supplied food for ever-growing cities. A growing body of literature has focused on the exploration of these issues in rural areas, which are believed to be the backbone of the national agriculture economy, and in peri-urban areas of large cities, which have experienced extreme changes during recent decades. But the issues are also relevant to peri-urban mid-sized cities where urbanization is in a different phase compared to the above areas. This study examines the main changes underway in the agrarian transition of peri-urban areas of Vinh city, a mid-sized city in the North Central Coast region of Vietnam. Vinh was chosen given its unique position in transforming from a mid-sized to a large city. This study explores the dynamics of agricultural production, and the role of the Vinh government in mediating urbanization and its impacts on farmers' livelihoods. In order to attain the objectives, interviews with local leaders, and a survey with farmers were conducted, and a GIS database was also developed.

The findings regarding agricultural production in the case study demonstrate that this mid-sized city, in the early phase of development, manifests itself as a duplicate of larger cities, escalating the threat of food accessibility from local sources. Duplication is in the sense that the peri-urban population in Vinh still depends largely on agriculture with a shift to commercial agriculture with higher value products despite the shrinkage of agricultural land. Agricultural production primarily uses manual family labor, and traditional products are substantially subsistent. Compared to larger cities, post-production activities (including processing, packaging, marketing, and delivery) and the organization of the agrofood supply chain in Vinh are underdeveloped due to minimum support from local and outside agencies. The case study confirms that as general trend in developing countries, Vietnam's land policies favor the expropriation of agricultural land for industrialization and modernization. The findings also demonstrate the heterogeneity of land administration in Vietnam, structured from the 'bottom-up' mechanism, through which Vinh's local authorities have the prerogative to not issue land use right certificates of agricultural land despite the national policy. This has occurred in order to control land markets to satisfy the city's goal of transforming to an independent municipality. The situation is perpetuated by the absence of agricultural land legislations in a peri-urban context while contemporary legislation has been developed to address the rural areas because of their importance in the national agriculture economy. This is an issue for land management in Vietnam as well as in other developing countries. Finally, the findings on land expropriation in the peri-urban areas of Vinh city also confirm that direct government intervention through land expropriation in developing countries, with low compensation and lack of alternative vocational training, undermines farmers' livelihoods and threatens the local food supply.

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List of Acronyms

AURDC: The World Vegetable Center

AusAID: Australian Government's Overseas Aid Program

CBPM: Central Bureau of Price Management, Vietnam

CIEM: Central Institute for Economic Management

FAO: Food and Agriculture Organization of the United Nations

FDI: Foreign Direct Investment

GDP: Gross domestic product

GIS: Geographic Information Systems

GOV: Government of Vietnam

GSO: Vietnam General Statistics Office

Hanoi DARD: Hanoi Department of Agriculture and Rural Development

HCMC: Ho Chi Minh city, Vietnam

HCMCSO: Statistics Office, Ho Chi Minh city

HSO: Hanoi Statistics Office

IDRC: International Development Research Centre

LURCs: Land use right certificates

MMWB4P: Making Markets Work Better for the Poor

MONRE: Ministry of Natural Resources and Environment

NGO: Non-Governmental Organization

NSO: NgheAn Statistics Office

ODA: Official Development Assistance

PCHD: The People's Committee of Hung Dong

PCV: The People's Committee of Vinh

SEARUSYN: Seeking Synergy between Urban Growth, Horticulture and Environment in Asian Metropolises

SUSPER: Sustainable Development of Peri-urban Agriculture in Southeast Asia Project

UMC – HAU: Urban Management Center – Hanoi Architectural University

UN: United Nations

UNESCAP: United Nations Economic and Social Commission for Asia and the Pacific

USD: US Dollar

VND: Viet Nam Dong (approximately, 16,100VND = 1USD)

VSO: Vinh Statistics Office

VU: Vinh University, Vietnam

Chapter 1
INTRODUCTION

1.1 Problem statement

Population growth and food security have become among the most serious global problems. In developing countries, the phenomenal growth in urban population (see UN, 2004) has led to an astonishing increase in urban food demand. In most cities of these countries, food production and access have become inadequate for current urban dwellers, let alone for the growing population (Argenti, 2000; Baugartner and Belvevi, 2001; Bruisma and Hertog, 2003). On the other hand, cultivated areas are steadily decreasing due to the expansion of industrial land use and urban sprawl. Meanwhile, agricultural productivity has almost reached a ceiling. The challenge of supplying sufficient food to city dwellers is substantial (Douglas, 1992; Bernstein, 1993; Mbiba, 1995; Argenti, 2000).

Even if bringing food to cities from elsewhere could satisfy urban food demand, the high "food miles" - the distance food travels from where it is grown to where it is ultimately purchased or consumed by the end user - may result in a series of unwanted consequences. The concept of "food miles", coined by Tim Lang in early 1990s (Guardian Unlimited, 2007), is part of the broader issue of sustainability, highlighting the hidden ecological, social and economic consequences of food transportation. First of all, the increasing volume of food from outside cities means more trucks coming into cities. Thus, high *food miles* worsens the traffic congestion and air pollution in cities through the flow of carbon dioxide from vehicles that transport and distribute food to the cities. Second, it makes the food supply chain in cities of developing countries become longer, putting more stress on existing food distribution infrastructure and facilities that are inherently inefficient, unhygienic, and environmentally unfriendly. Wholesalers who initially established themselves on the cities' outskirts now, as a result of urban sprawl, find themselves in the centers of cities. This situation makes traffic conditions worse and holds wholesalers back from expending their space. These wholesalers are also often old, with insufficient storage facilities, or limited management and maintenance capabilities necessary in order to adapt to a huge volume of food. Operating under such

insufficiencies may lead to increasing operational costs and food contamination. Long-distance food production also implies that poor urban households have increased difficulties in terms of food access because of the increased overall cost of food in urban areas (Argenti, 2000, Baugartner et al., 2001; Bruisma et al., 2003).

The issues of feeding ever-growing cities in developing countries could be resolved or mitigated by strengthening local agricultural activities. Numerous researchers assert that peri-urban agriculture plays an important role in enhancing urban food security and nutrition (Mbiba, 1995; Quon, 1999; Armar-Klemesu, 2000; Bourque and Caizares, 2000; Baugartner et al., 2001; Bruisma et al., 2003). More than that, the roles of peri-urban agriculture have recently been recognized as local economic development, poverty alleviation, employment and income generation, and sustainable environmental management and green space preservation in the cities (Mougeot, 2000; Bruisma et al., 2003). However, peri-urban areas are zones of transition with "unplanned conditions, fast growth, extremely fast changes and conflicts" (Baumgartner et al, 2001, p 6). The extent of cultivation in such areas is decreasing because of the increase of industrial land use and rapid urban sprawl. Under land pressure in peri-urban areas, key problems that face cities' farmers are land availability, land tenure security, land use legislation and government intervention in land (Farvacque et al., 1992; Tinker, 1994; Helmore et all, 1995; Maxwell et al., 1998; Drescher, 2003).

Land is a unique commodity that can neither be reproduced nor moved. On the one hand, it is affected by the forces of demand and supply, and on the other hand, it is closely controlled by local and national government policies (Farvacque, 1992). In a situation of land scarcity in peri-urban areas, the effect of policy instruments on the performance of the market is substantial, thus having a significant influence on urban residents. Among those instruments, property rights, land use regulations, and public intervention in the acquisition of land are key. Studies pertaining to the impacts of land conversion and land administration on farming households' livelihoods in peri-urban areas have only elaborated on how much land was converted or lost for urban development, and these studies have focused only on large urban centres (Mbiba, 1995; UNESCAP, 1995; Quon, 1998; Van Den Berg, Van Wijk and Pham, 2003; Moustier et al, 2003; Kamphuis, 2004, Mai et al., 2004; Phan, 2004; Tran et al, 2005). Studies that

discuss land tenure security, land use legislations and government intervention in land for the sake of farmers and their survival have focused almost exclusively on peri-urban areas of large urban centers, and rural areas (Farvacque et al., 1992; Tinker, 1994; Kitay, 1995; Helmore et al., 1995; Maxwell et al., 1998; AusAID, 2000; Drescher, 2000; Van Den Berg et al., 2003; Akram-Lodhi, 2005a; CIEM, 2006; Ravallion et al., 2006; Tran, 2006; Liu, 2007; Ngo, 2007). There is a notable absence of scholarship in analyzing these themes in mid-sized cities, where the differences of the magnitude of urbanization could lead to the differences in land management systems. Shifting the research focus to mid-sized cities can help these cities, which are in different phases of development, by sharing experiences from large cities, in terms of their peri-urban agricultural production's strategies and land policies.

Located in Southeast Asia where the number of urban residents is expected to double in the next 15 years (UN, 2004), Vietnam has undergone a dramatic economic transition since initiating an "open door" policy in 1986 and introducing the new Land Law in 1993. Rapid urbanization has put tremendous pressure on the agricultural land base of Vietnam. Socio-economic development policies have invited and supported the conversion from agricultural land use to other uses by encouraging industry to build factories (CIEM, 2006, UMC – HAU, 2006). On the other hand, citizens change land use purposes legally or illegally to gain some immediate benefits. Consequently, a large extent of agricultural land is being converted to non-agricultural purposes, such as industry, infrastructure, housing, etc. The agricultural structure itself has significantly shifted among crops, livestock, and aquaculture under the impact of market conditions. A striking shortage of agricultural land gives rise to intensification and land degradation. Beyond environmental issues, land scarcity is also responsible for increasing land prices and changing livelihoods and food security (Adwards, 2005). To take these pressures off large cities (e.g., Hanoi and Ho Chi Minh city - HCMC), and to obtain a spatially balanced pattern of urbanization, the state government has initiated a network of cities. Hierarchically, Vietnamese cities are categorized into major cities (national and regional), provincial cities and district towns. As such, Vinh city, situated in Nghe An province of North Central Coast region - is one of the top cities that will act as a service and industry hub of the country (GOV, 1998). In seeking to position itself as a nodal city for the North

Central Coast region by 2010[1], much agricultural land in its periphery has been converted to other uses. The city's agricultural growth decreased from 6.5% in 1990 to 1.3% in 2005, alongside robust urbanization (NSO, 1996; NSO, 1999; Nghe An government, 2005). Much peri-urban agriculture has shifted from rice paddies to vegetables and aquaculture (Scott, 2005). The remaining agricultural land is focused on commercial purposes, with enhanced vegetable and fruit production[2]. The intensification and disallocation of agricultural land provoke potential conflicts of land resource management and livelihood in this city.

1.2 Research purpose and scope

This study is premised on the idea that peri-urban agricultural production can enhance local food security, and farmers' employment and income generation; and that state/local government intervention in land management in peri-urban can positively or negatively effect on the land market and farmers' livelihoods. The study addresses the need for further case study research in smaller cities, particularly in Vietnam, on the dynamics of peri-urban agriculture and government intervention in land management. The goal of the thesis is to examine the main changes underway in the agrarian transition of peri-urban mid-sized cities in order to ascertain the prospects for local food sustaining and farmers' income securing. Finally, this thesis examines whether smaller cities in Vietnam, which are in the earlier phase of development, have better alternatives or face the same situation as large cities or rural areas, in terms of peri-urban agriculture strategy and land management in the sense that they are ensuring local food needs and farmers' livelihoods during urbanization. In order to attain the goals of this thesis, the peri-urban areas of Vinh city in Nghe An province of Vietnam, was chosen as a case study site. The choice of this city was partly in order to address the notable absence of mid-sized cities from current peri-urban research, and also because of its unique position in transforming from a mid-sized to a large city.

It is hoped that this thesis enriches the growing body of literature on issues pertaining to land, with additional focuses on land tenure security, regulatory framework

[1] Decision no 239/2005/QD.TTg of Prime Minister Phan Van Khai

[2] Decision no 08/2003/QD-UB of NgheAn people's committee

and government land acquisition for the prospects of peri-urban agricultural sustainability. As well, the case study empirically provides insight into peri-urban agriculture and livelihood changes in Vinh that directs research attention to the city's agricultural households. As such, it offers a point of reference for comparative discussion within the contexts of Vietnam's national and regional cities, in terms of land use change, peri-urban agriculture and livelihoods under urbanization. The case study and its recommendations are directed to Vinh and the local government, but it may be useful to policy makers across the country who would like to achieve sustainable development. In a broader sense, the thesis tries to aggregate Vietnam's heterogeneous land legislation and policy system through agrarian transition and their impacts on farmers' livelihoods, encouraging the ongoing process of achieving their goals of political stability, social justice, and economic development.

1.3 Research objectives

This research has three main objectives:

1. To identify the traits of peri-urban agriculture in Vinh city, in terms of agrarian transition, and the roles of the local government in peri-urban agricultural productions and livelihoods' transformation;
2. To document the local land administration and intervention, in terms of land use conversion, expropriation, land transactions, and land tenure;
3. To identify the effects of land use regulation in Vinh on farmers' livelihoods, in terms of land market participation, compensation and supports, and post-expropriation livelihoods.

1.4 Research questions

To achieve the research objectives, four key questions were investigated:

1) How is the agrarian transition in Vinh affecting agricultural production and livelihood diversification?
2) In what way does the local government facilitate or impede peri-urban agriculture in terms of land use conversion and expropriation?
3) To what extent have land transaction activities been initiated in Vinh, in terms of land selling/buying, renting in/ renting out?

4) What are the linkages between urbanization and social relations of agricultural production in terms of agricultural land ownership, laborers and income generating activities: Is most peri-urban agricultural land in Vinh farmed by the landowners themselves, or rented out, or farmed by hired laborers? Are farmers in Vinh city who sell their land or whose lands are expropriated usually better off or poorer? After land sales or expropriation, do they then rent other lands to farm, work as agricultural laborers, or move into non-agricultural employment?

1.5 Organization of the thesis

This thesis consists of eight chapters. Chapter 2 reviews and integrates the current literature in order to frame the research problem, serving as premises of the study. In Chapter 2, after a brief description of the concept of agrarian transitions, the discussion of peri-urban agriculture is followed by the critical examination of issues pertaining to land use change in peri-urban areas under the context of rapid urbanization. Chapter 3 provides background information for the research, regarding land management mechanism, urbanization, and peri-urban agriculture in Vietnam, to provide a national context in both rural areas and large cities as the basis for the comparative discussion in the case study. Research design, components, and methods are explained in Chapter 4. Chapter 5 introduces the case study site. Chapter 6 and 7 analyze and present the findings of the thesis. Chapter 6 explores the agrarian transition in peri-urban Vinh city, including the change of agricultural production and livelihoods transformation, compared to elsewhere in Vietnam. In a comparative perspective, Chapter 7 elaborates on land use change and government intervention in land in Vinh, including the displacement on farmers' livelihoods, with a particular focus on the loss of farmers' livelihood and the participation in the land market. Finally, Chapter 8 provides conclusions and recommendations drawn from the research findings.

Chapter 2
PERI-URBAN AGRICULTURE AND LAND USE DILEMMAS

Introduction

This chapter, first of all, draws attention to peri-urban areas as a new setting of agrarian transitions. Then, it provides definitions and characteristics of peri-urban agriculture, from which the concept of peri-urban agriculture was specifically defined for the case study. Thirdly, the roles of peri-urban agriculture serve as a premise of the study, essentially the role of profoundly enhancing local food security, and employment and income generation. The last section provides a critical examination of issues pertaining to land use changes in peri-urban areas under rapid urbanization. Land use changes are investigated, through the viewpoints of urban planners and policy makers, in order to exemplify the conceptual framework for studying agricultural land use change in peri-urban areas. Both parties agree that the area of available land, the security of land tenure, and regulatory framework and government intervention in land through acquisition (especially, through expropriation and nationalization in the context of Asia) are crucial to the land use dilemma of peri-urban agriculture.

2.1 Contemporary perspectives on peri-urban areas in developing countries

2.1.1 Definition of peri-urban areas

In the age of rapid urban population growth and urban expansion as well as other driving forces, the dichotomy between the terms “urban” and “rural” with mutually exclusive landscapes corresponding to each has become profoundly blurred. In fact, the neat dividing line between urban and rural areas has been altered by transition zones, which are known as peri-urban areas. In general, the peri-urban area is “a zone of direct impact – which experiences the immediate impacts of land demands from urban growth, pollution and the like ” (Simon et el., 2006, p. 10) and “a wider market-related zone of influence – recognizable in terms of handling of agricultural and natural resource products” (Simon et al., 2006, p. 10). As such, these areas comprise a complex mixture of farmland and built-up areas, of which agricultural landscape intersperses with factories

and enterprises. Distinctive rural activities are simultaneously integrated with manufacturing or processing. They all together are essential parts of urban economy (Simon et al., 2006). Although these transition zones vary from place to place, depending on the nature of economic dynamism, socio-cultural and environmental situations of a city, they experience in a short period of time one or more of theses processes including land loss to urban uses, economic transformation away from agriculture, agricultural intensification and commercialization, and environmental degradation (Maxwell et al., 1999). Thus, these zones are full of tensions and conflicts in terms of land tenure security, land use, livelihoods, access to services, and other socio-economic and political issues (Simon et al., 2006).

2.1.2 A note on the concept of "desakota" in Asian cities

There was a vigorous debate among Asian countries about the role of cities, especially large cities, in the developmental process between the East and the West. According to McGee (1991), Western observers believed that their large cities were undesirable, counterproductive in the development process, and were considered a constraint on national socioeconomic and political development. However, ministers from Asian countries argued that urban transition in Asian countries was different from the (Western) urbanization in the nineteenth and early twentieth centuries (see McGee, 1991). Cities in Asia, especially metropolises, acted as engines for economic growth. Dissatisfaction with the West's negative notion of urban development, Asian countries differentiated their urban transition. This new concept of urban transition was positioned within a paradigm of the space-economy transition through which a spatial configuration of Asian countries was provided. Based on this model, there were five main regions: major cities, peri-urban regions, *desakota*[3] regions, densely populated rural regions, and sparely populated frontier regions (McGee, 1991).

In this model, peri-urban is referred to as "areas surrounding cities within a daily commuting reach of the city core" (McGee, 1991, p6); and *desakota* regions were "regions of an intense mixture of agricultural and non-agricultural activities that often stretch along corridors between large city cores" (McGee, 1991, p7). Despite the

[3] The term *desakota* was derived from two Indonesian words for Des (village) and Kota (town/city).

definitions, *desakota* shared some characteristics of peri-urban such as the increase of non-farm activities in areas where population had previously worked in agriculture; and the extensive conversion of agricultural land to other uses. Even being the father of the term *desakota*, these characteristics made McGee himself doubt what made *desakota* regions different from peri-urban areas or whether they were actually one type of spatial entities (McGee, 1991). In contrast, other scholars (Dick et al., 1998; Drakakis-Smith, 1996; Simon et al, 2006) in their studies treated *desakota* as peri-urban areas. However, Dick et al. (1998) also argue that distinguishing urbanization patterns in Southeast Asia from those in the West are not necessary and it would be false to assume that Southeast Asian urbanization is a distinct phenomenon. Up and down in Southeast Asian history, the divergence against the West, in terms of urban development, occurred only during the 1940s. "All main trends in Western cities in the 19th and 20th centuries have eventually become formative influences on the development of Southeast Asian cities" (Dick et al, 1998, p. 2318).

Hence, even though the thesis was conducted in an Asian country, I decided not to use the term *desakota*, partially because it is ambiguous and debatable, and partially because it was coined to argue for the model of large cities.

2.1.3 Peri-urban areas: new spatial domains for agrarian transition

Historically, agricultural development has been associated with the emergence of three agrarian systems, namely, the capitalist, the modernized peasant economy, and the collective system. The capitalist system was established in Western Europe and North America. In this system, workers were separated from the means of production that are owned and controlled by a group of non-worker individuals who hired workers for the purposes of production. The modernized peasant economy system emerged in Japan, South Korea, and Taiwan. In the modernized peasant economy system, peasants owned and controlled means of production, and employed family labor in subsistence farming. The collective system developed mainly in socialist countries. In the collective system, ownership and control of means of production are in the hands of the state government or a group of workers. The shift of a poor country to the capitalist system is commonly described as "agrarian transition" (Ghose, 1983, Akram-Lodhi, 2005b); and agrarian reforms are instruments for achieving this transition (Ghose, 1983). Classical agrarian

transition embraces “the introduction of capitalist relations into peasant agriculture, the associated transformation of agricultural production, and the role that agriculture plays in industrial development” (Berstein, 1996, p29, cited in Rigg, 2001, p10) and generally focus on the countryside (Rigg, 2001, Akram-Lodhi, 2005b).

The political economy approach examines agrarian questions relating to agricultural production, accumulation and politics (Ghose, 1983, Rigg, 2001, Akram-Lodhi, 2005b). However, according to Rigg (2001), pathways of agrarian transitions are varied between countries of the North and South because agrarian transitions currently under way in developing countries occur in different historical, social and economic contexts and face different challenges from those that confronted the developed world. While the process of agrarian transitions in the North is complete, the transition to capitalism in the South is an ongoing project. In addition, the matter of timing makes it difficult to use the successful transitions in Japan, Korea and Taiwan as potential models for agrarian transitions in other developing countries, including those in Asia. Most developing countries had to wait until independence to begin their journeys to transition. By that time, developed countries that had largely completed their agrarian transitions were operating in a world system. In this sense, “the agrarian transition not only has implications for the fate of the countryside, but has a decisive influence upon the pace, manner, limits, and very possibility of capitalist transformation” (Byres, 199, p569, cited in Rigg, 2001, p13). Thus, contemporary agrarian transitions in the South are facing a new political economy of agriculture embedded the effects of globalisation (Rigg, 2001). The re-conceptualization of agrarian transitions has born both classical and new agrarian questions, bringing a new perspective to the contemporary theoretical perspectives of transition. In this provision, spatial domains of agrarian transitions have gone beyond the agricultural core areas and encompassed new settings such as uplands, coastal areas, and peri-urban areas (Rigg, 2001, ChATSEA, 2005). Among theses new spatial domains, peri-urban areas, as a rural-urban interface, emerge as the best context for examining agrarian questions such as farmers’ livelihoods and their displacement to urban areas, and agricultural land loss due to urban expansion (McGee, 1998, ChATSEA, 2005).

From the above exploration, the questions of agrarian transition and the issues of urbanization are overlapping. Overlapping is in the sense that urbanization is empirically

characterized by population and economic growth, and their incentives, especially the promotion of labor-intensive agriculture, capital-intensive industry, and direction to new industrial centers.

2.2 Peri-urban agriculture

To recognize peri-urban agriculture for the purposes of this thesis, it is necessary to discuss urban agriculture and peri-urban agriculture. There are many definitions of urban and peri-urban agriculture that are commensurate with the varying of local socio-economic, physio-geographic and political conditions. Among them, some distinguish between urban and peri-urban agriculture, however, but a majority does not. Aldington (1997), FAO (1997), and Maxwell and Armar-Klemwsu (1998) are delegates of the former notion that refers to urban agriculture as agricultural activities taking place "within certain boundaries which may extended quite far from an urban center" (Aldington, 1997, p 43), or within the cities (FAO, 1997). On the other hand, peri-urban agriculture is undertaken "beyond that often geographically precise boundary, although its own outer boundary may be less well defined" (Aldington, 1997, p 43), or "around cities" (FAO, 1997), or "in the area immediately surrounding the city" (Maxwell and Armar-Klemwsu, 1998, p7). Although differentiating between urban and peri-urban agriculture in terms of location, the three authors look at them as one entity regarding socio-economic and political conditions. Both agricultural practices are impacted by the regulations of land use and tenurial rights, water usage, environment, and are driven by urban market and demand.

As said above, many researchers do not differentiate urban agriculture from peri-urban agriculture, and consider peri-urban agriculture to be a subset of urban agriculture. Definitions from this concept focus on socio-economic conditions. In 1994, Mbiba defined urban agriculture as the production of crops for urban consumption that could take place in the built-up or the periphery of urban areas, i.e., peri-urban areas. In fact, urban agriculture has been considered in a much broader sense. According to Rees (1997), urban agriculture is not solely comprised of cultivation but also includes husbandry in or near cities for local needs. Furthermore, forestry and aquaculture practices within or on the fringe of urban areas are included as activities of urban agriculture (Frojmovic, 1996). In the broadest sense, Smit et al. (1996) and Mougeot

(1998) emphasize that urban agriculture includes the producing, processing, distributing, and marketing of food and other related products.

The above definitions show that the boundaries between urban and peri-urban agriculture are not well defined. Furthermore, the distinction between urban and peri-urban agriculture is vague since they share common issues, including production, marketing, and the motivation of producers. Features of urban and peri-urban agriculture are generally described together. The reasons for the differentiation may only be that a peri-urban area – a zone of transition – is a fragmented institutional landscape, with unplanned condition, undergoing fast growth, fast changes, and suffering serious increased use conflicts (Bruinsma et al., 2003). Therefore, in this thesis, the literature reviewed includes a combination of urban and peri-urban agriculture, which are hereafter called peri-urban agriculture.

Despite a variety of definitions, peri-urban agriculture is considered within very specific contexts. In order to arrive at a comprehensive definition of peri-urban agriculture, the following factors should be considered as characteristics of peri-urban agriculture: location, scales of production and technology used, activities and products, stakeholders, motivation, and degree of market orientation. Below is a synopsis of the six characteristics in developing countries:

2.2.1 Location

Most reviewed definitions include where urban agriculture occurs. The location is generally described as existing on the urban fringe (Mbiba, 1995; Quon, 1999; Bruisma et al., 2003). Activities may take place on homesteads, land away from residence, private land owned or leased, available public land/open spaces, or institutional land (Mbiba, 1995; Bruisma et al., 2003). However, criteria determining peri-urban agriculture tend to be qualitative and flexible (see Mougeot, 1999; Quon, 1999; Baurgartner et al., 2001). Luckily, in all cities of Vietnam, peri-urban areas can be defined easily based on administrative boundaries and how they are named - *ngoai thanh*. Administratively, major cities (such as Hanoi, HCMC, and others) are equivalent to provinces that are constituted by the collections of districts, whereas smaller ones (such as the one in the case study of the thesis) are tantamount to districts that embrace sets of communes. In

these cities, *ngoai thanh* refers to districts or communes that have the prefix *huyen* or *xa*, respectively. Consequently, all *xa* in Vinh are refered to as peri-urban areas in this thesis.

2.2.2 Scales of production and technology used

The scales of peri-urban agricultural production vary from individual or family farms, group or cooperative farms to micro-, small-, medium- and large-scale enterprises (Mougeot, 1999; Bruisma et al., 2003). Although the majority of peri-urban agriculture enterprises have a rather low level of technology application, the tendency towards advanced and intensive agriculture is desired (Bruisma et al., 2003). In this thesis, rather than focus on cooperatives and enterprises, I concentrate chiefly on farming households.

2.2.3 Activities, market orientation and products

Peri-urban agricultural activities, as a whole, comprise agricultural production and "post-production". The accepted components of agricultural production are horticulture and crop production, animal husbandry, forestry, and aquaculture (FAO, 2001). Hence peri-urban agricultural products are diversified among food and non-food products. It produces many kinds of food including crops (grain, vegetable, fruit); animals (poultry, cattle); spices and medicinal herbs. The non-food products consist of ornamental plants, tree products (seed, wood, fuel, etc), tree seedlings, and so forth. In particular, peri-urban agriculture tends to produce more perishable and relatively highly valued vegetables and animal products and by-products (Baugartner et al., 2001; Bruisma et al., 2003). The "post-production" activities relate to processing, packaging, marketing, and delivering. The interaction between these activities creates crucial clusters in which producing, marketing, and processing are closely interrelated in terms of time and space (Bruisma et al., 2003). The main market for peri-urban agricultural production is domestic consumption in urban areas. Products are sold at farm gates, from carts, in local shops, in local markets or to intermediaries and supermarkets. Most products are sold fresh, while the rest are processed, cooked, or packaged for sale on the streets or the outlets mentioned above. The surplus is traded nationally or internationally (Bruisma et al., 2003). To capture peri-urban agriculture in a mid-sized city, these themes are covered in the case study at the household scale. Predominantly, however, forestry activities and supply are not areas of interest in this thesis.

2.2.4 Stakeholders and motivation

Various actors are involved in peri-urban agriculture including suppliers of inputs, producers, transporters, processors, retailers, promoters, managers, etc (Baugartner et al., 2001). Among them, producers (farmers) and processors are largely small-scale. More often, farmers undertake the roles of other stakeholders in cleaning, processing and packaging. They engage in production for themselves and their neighbors, and often use low-input processing and low storage techniques (Baugartner et al., 2001; Bruisma et al., 2003). As the interest of this thesis, small-scale farmers are designated as main stakeholders to be explored in the case study.

A contradictory belief concerning motivation exists among studies of peri-urban agriculture in large cities of developing countries. While some argue that peri-urban agricultural producers are not recent immigrants from rural parts (Mbiba, 1995; Bruisma et al., 2003), others conclude that peri-urban agriculture is the result of urban crises. Rural people who migrate to cities get involved in peri-urban agriculture after being disappointed in the lack of employment (Baugartner et al., 2001). Some claim that migrants leave their villages for towns not because of any appeal of towns but because of their hope of increasing their income by participating in different activities including farming and non-farming work (Binns and Lynch, 1998; Streffeler, 2000). Also, the neglect of local governments towards city farming strongly influences peri-urban agriculture performance as well as the action plans of organizations and institutions in the field. This disagreement leads to the following question: what is the primary motivation behind peri-urban agriculture in mid-sized cities?

2.3 The roles of peri-urban agriculture

Peri-urban agriculture plays an important role in enhancing urban food security, income generation and job creation, and managing urban environment in cities. Out of these roles, the enhancement of local food security, and income generation serve as the premise of the thesis in regarding to local food security, particularly to the poor, and the change of farmers' livelihoods, which are discussed in Chapter 6.

2.3.1 Urban food security and nutrition

At the threshold of the 21st century, rapid urbanization and growing urban population in developing countries have made urban food security and nutrition critical problems. Most cities in developing countries are not able to generate sufficient job opportunities for the rapidly growing population. Food production and access become inadequate and unreliable to urban poor; whereas the cost of supplying and delivering food produced elsewhere rather than local peri-urban agriculture are endlessly rising (Argenti, 2000; Baugartner et al., 2001; Bruisma et al., 2003). Therefore, peri-urban agriculture becomes an integral part of the urban food system as it ensures food security and nutrition. Peri-urban agriculture supplies a substantial volume of food that could be used for either subsistence or sales. For instance, 70% of poultry consumed in Kampala is locally produced (Quon, 1999). In Shanghai, 90% of eggs, and 50% of pork and poultry are sourced from peri-urban areas (Bakker et al, 2000). Peri-urban agriculture provides 90% of vegetable consumption in Dar es Salaam, 90% in Accra, 70% in Dakar, 60% in Shanghai (Baugartner et al., 2001). In other cities, peri-urban agriculture for self-consumption, especially among low-income group, is sizable, for example, 60% in Hare (Bowyer-Bower and Drakakis-Smith, 1996). Local food production and marketing make food locally available at a lower price, improving the nutrition balance of family diet by providing access to a cheap source of proteins and quality of food, especially fresh food. As a result, peri-urban agriculture may ameliorate the nutrition and health of vulnerable urban groups (Mbiba, 1995; Quon, 1999; Armar-Klemesu, 2000; Bourque and Canizares, 2000; Baugartner et al., 2001; Bruisma et al., 2003).

2.3.2 Income generation and job creation

Income generation and job creation are the most important economic benefits of peri-urban agriculture. By locally grown, processed and sold, agricultural products (especially perishable products) have lower costs because the expenditure for food transportation, storage, and loss in transport and storage has been cut down. In addition, fewer middlemen involved in the supply chain and less investment for marketing may also be key factors in lower food costs and saving money for urban residents on food expenditure. This saving is particularly helpful to the urban poor whose significant

portion of family income (50 – 70%) is contributed to the food need (Bruisma et al., 2003).

Peri-urban agriculture can also help urban farmers earn a sizeable income. Smith et al. believe that 800 million people are involved in peri-urban agriculture worldwide. In Dar es-Salaam, peri-urban agriculture occupies the second largest labor force. Horticulture can be practised on small plots, making efficient use of limited water and land resources with considerable yield in a short period. Livestock reared on front yards are found to be a vibrant supplement to household income. Hence, cities quickly respond to emergency needs for food, and the farmers realize a quick return to meet their families' daily cash requirements (Mougeot, 2000; Bruisma et al., 2003). For instance, in Mexico City, swine production could bring 40% of household income, milk supplies 100%, vegetable 80%, and maize 30% (Bakker et al, 2000). Moreover, subsistence farming constitutes a substantial part of peri-urban agriculture, contributing to household and community economy. This kind of contribution is called fungible income – the "substitution of goods or labor for money that would have [to be] earned to acquire these or equivalent goods" (Baumgartner et al., 2001, p 10). With money saved from subsistence farming, farmers can finance other basic needs or invest in other income generation activities. That is a very significant contribution to poverty alleviation. Unfortunately, fungible income from peri-urban agriculture is difficult to calculate and not usually included in the government statistics of cities' economies (Quon, 1999; Baugartner et al., 2001).

Most studies on peri-urban agriculture focus primarily on large urban centers, i.e., national capitals or major cities, as discussed above, while mid-sized cities are virtually excluded from researchers' concerns. Meanwhile, to a lesser extent of urbanization, mid-sized cities can have differences, in terms of peri-urban agricultural production. Turning research towards mid-sized cities can help these cities, which are in a different phase of development, by sharing experiences with large cities. Thus, in this thesis, *I examine peri-urban agriculture in a mid-sized city, based on the premise that peri-urban agriculture can provide local food security, job creation and income generation.*

2.4 Urbanization and agricultural land in cities of developing countries

Regarding peri-urban agriculture within the context of urbanization, Allen (2006) conceptualizes the process of change in peri-urban areas, discussing various scales and sources of change (Figure 1). Figure 1 shows that local pressure (e.g. the competition between urban activities and agriculture for land base), the sub-national and national conditions (like promotion of decentralized industrialization) and international intervention (for example, falling prices of export crops) are driving forces in the use of peri-urban environmental resources. These forces result in numerous benefits and burdens via three major processes of change: land use and natural resource use, the generation of waste, and the use of environmental services.

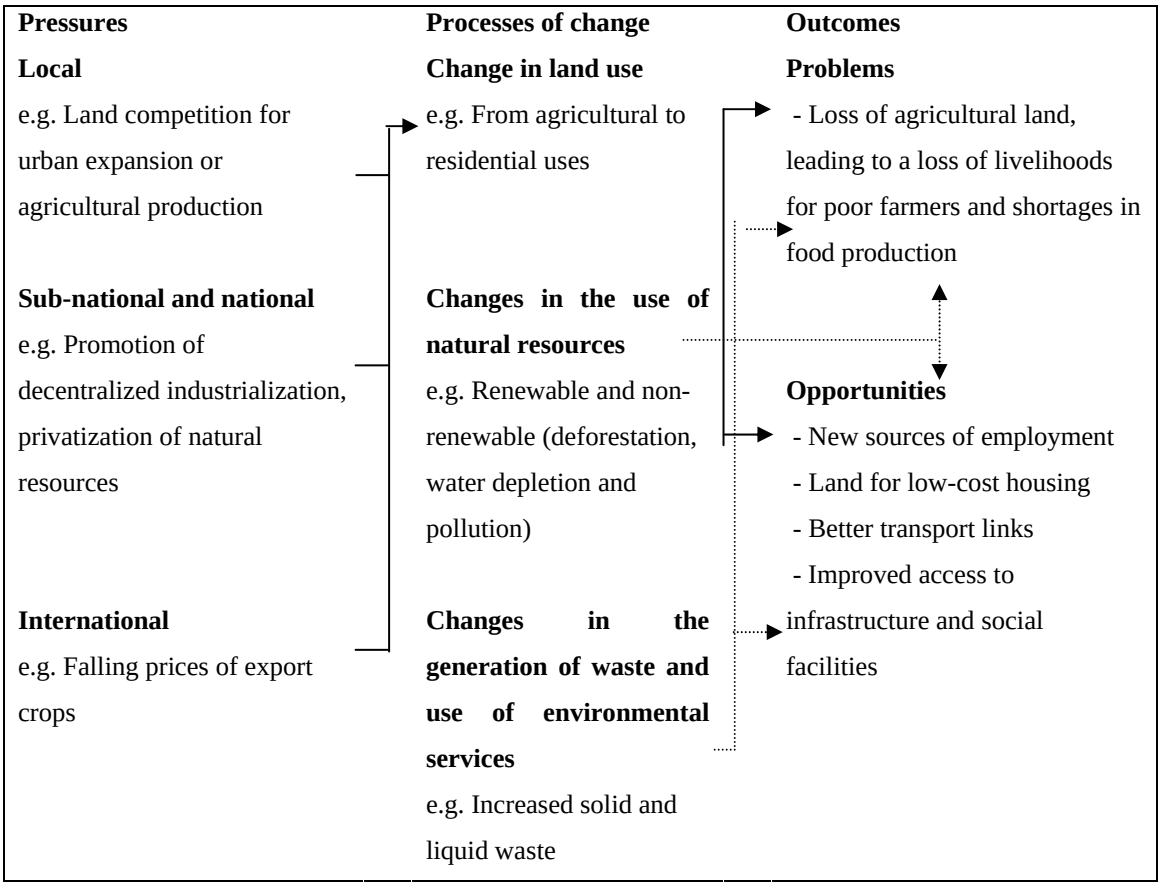

Figure 1. Process of change in peri-urban areas

(adapted from Allen, 2006, p 33)

The fact that the loss of prime agricultural land in urban and peri-urban areas is an unavoidable impact of urbanization challenges peri-urban agriculture and farmers' livelihoods. Its subsequent effects on food security, local development, poverty alleviation and the environment cannot be fully anticipated. In addition, *food miles* that are produced elsewhere may increase food cost as well as environmental cost (Douglas, 1992; Bernstein, 1993; Mbiba, 1995). Allen (2006) also highlights that although research on regional, national and international perspectives are needed to understand insightfully the trend of peri-urban areas, localized examination of the distribution of problems and opportunities among peri-urban residents should not be prevented. *In the vein of this approach, this thesis analyzes the loss and change of land in peri-urban areas and discusses its impacts on the livelihood strategies of farmers*.

2.4.1 Land use dilemmas through different angles

Development is re-organizing the use of space that can produce displacement. Displacement can be direct or indirect. Indirect displacement occurs "when people are not physically forced to move, but development planning and policy undermine or constrain livelihoods to such a degree that people decide to move" (Vandergeest, p136). Rapid urban population growth and considerable urban sprawl in developing countries have demanded enormous tracts of land for residential, industrial, commercial or other spaces necessary for urban development. Under this pressure, agricultural land on the peripheries of cities has been converted to urban use (Douglas, 1992; Bernstein, 1993; Mbina, 1995), which inherently displaces farming households. Displacement in agricultural land could also be caused by policies that do not provide resources, infrastructure, and services facilitating farming. The "land war" in cities can be viewed from different respects, among which are discussed below.

2.4.1.1 Urban planners' point of view: availability, accessibility and usability of land

Land availability, access, and usability are of vital importance to and are of particular concern to peri-urban farmers. Nevertheless, agriculture cannot benefit the economic development of cities to the extent that industry or housing do. At household levels, urban development pressure (e.g., land conversion, speculation and high land

price) may lead to the loss of cultivating land (Mbina, 1995; Quon, 1999). These issues are imposed by urban planning policy through a lack of formal recognition of peri-urban agriculture, a lack of awareness about its roles, and/or attitudes of resistance to peri-urban agriculture (Tinker, 1994; Helmore and Ratta, 1995; Maxwell et al., 1998; Quon, 1999; Drescher, 2000), especially in land-scarce Asian cities (Yeung, 1993). Quon also asserts that the amount of land available for farming in peri-urban agriculture remains unknown, partly due to the state-of-the-art in land description and classification (i.e. airphoto interpretation), due to miscalculating the amount of land available and the extent of peri-urban agriculture, and due to a lack of ownership records.

The second importance of land to urban farmers is accessibility. Land may be available, but farmers may not be able to access due to socio-political constraints. For instance, land may be off-plot (far away from farmers' residence) where transportation is not convenient or accessible. Land may be too expensive for farmers to purchase or rent. Farmers, particularly the newcomers, may lack the social or political networks necessary to contend for land. Their accessibility to land may also be impeded by the ingrained resistance to farming in cities resulting from a conceptualization of peri-urban agriculture as "temporary". Socio-cultural restrictions on who can own land and who can use land and different kinds of land tenures in these areas, may also contribute to the issue of accessibility (Tinker, 1994; Helmore and Ratta, 1995; Maxwell et al., 1998; Quon, 1999).

Additionally, land may be available and accessible but not usable due to its inherent characteristics as well as facilities and services available for it. Biophysical features of land parcels such as soil, water, and microclimate may prevent farming activities or make land non-arable. Similarly, physical dimensions (i.e., size, shape and location) and the amount of time available may hinder farmers by narrowing the selection of crops and technology used. Agricultural inputs and services, and market facilities may also have tremendous impact on the usability of land. As a result of bearing greater economic and environmental pressure than rural agriculture, peri-urban agriculture demands a more intensive and effective production system in order to gain a competitive and safe survival. Otherwise, small plots without other facilities would not be worthwhile to strive for (Mougeot, 1998; Quon, 1999; Drescher, 2000).

2.4.1.2 Policy makers' point of view: land market and related problems

Land, from the perspective of policy makers, functions as a market commodity and an environmental resource. However, environmental issues perpetuating land use problems are not discussed in this thesis. Instead, land market is disaggregated since it is directly and more related to peri-urban farmers' livelihood and land base. Several researchers (Farvacque and McAuslan, 1992; UNESCAP, 1995; Drescher, 2003) conclude that a well- or poorly-functioning land market, beside its geographic features, is strongly affected by the security over property rights, land regulations, and direct interventions (i.e., land acquisition). The authors characterized these factors as follows:

A. Security of property rights

The property rights of land are represented through land tenure systems. Every system of tenurial rights is founded upon different cultural, social, political and economic concepts. In traditional societies governed by custom, land can be considered a part of social relations between an individual and the society. In modern societies dominated by the market, land is a part of an economic relationship between people – it becomes a commodity and a factor of production. There are two principle types of land tenure systems on the basis of possession: Civil Law Tenure and Customary Land Law. The former, influenced by Roman law or Napoleon code, treats land as a commodity that can be owned outright. The latter, used widely in Asia, is strongly influenced by British Common Law on the concept of land rights. The rights can be a freehold or leasehold. A freehold is the absolute ownership of the land with indefinite duration and inheritable, whereas a leasehold tenure can be granted for a limited period of time. The freeholder is usually the government and leaseholders are residents. Accordingly, citizens cannot own the land but instead have a bundle of rights on a land parcel. These rights include the right to build house(s), to live and farm on the land, and to trade the right(s). Leaseholds are approved through a title or a land use certificate that shows the evidence of the person's rights to the property. It is said that the absence or presence of a land use certificate is the official determinant of landownership security. In developing countries, because the freeholder(s) is either the state or a public body, there exists a general feeling that leasehold tenure is less safe, and less free (Farvacque et al., 1992). For instance,

"what happens at the end of a lease: Will it be renewed? On what terms? What redress does one have?" (Farvacque et al., 1992, p48).

B. Land use regulatory framework

The regulatory framework of a city is the one of most serious obstacles to its agricultural activities along with access to land. Zoning can significantly impact the availability of land use types by skewed designs in favor of some activities more than others. In this sense, agricultural zones may be squeezed out under the pressure of city development. Furthermore, the regulatory environment may financially burden the poor by enforcing a cost for meeting minimum standards, e.g. for getting land use certificates, transaction, land use taxes. There can also be costs for time and labor spending to obtain indispensable documents and permits. Whatever the cost is, the affordability is often beyond the reach of most urban poor, including urban farmers (Maxwell et al., 1998).

C. Direct intervention of land acquisition

Land acquisition is a powerful instrument of government to intervene into this special commodity. Acquisitions can fall into three major categories: nationalization, expropriation, and readjustment. Nationalization is usually designed to nationalize all land exceeding personal needs criteria and transfer full control of land transaction to local governments. It can also be the transfers of freehold tenure to the state and then the state allocates land to citizens – leaseholders (Farvacque et al., 1992, UNESCAP, 1995). According to UNESCAP (1995), this type of acquisition is no longer utilized but the consequences of its previous implementation are challenging many countries, for example the problem of communal ownership.

As previously mentioned, another type of acquisition that has been implemented in many developing countries is expropriation.

> The concept of expropriation is based on a sovereign's power of eminent domain; this power is generally accepted worldwide and allows the state to take private land for the good of the society. Much of the laws [sic] pertinent to eminent domain in developing countries is inherited from former colonial powers. By way of expropriation, governments acquire land in advance of needs for land banking in accordance to new pattern of land use planning at cheap prices. Land banking has strongly been used in peri-urban areas where enormous agricultural land can be "purchased" at low value. However, the cost and time to legally implement expropriation make the whole process almost useless. The majority of land

> legislation needs to be drastically revised in order to perform expropriation effectively during periods of rapid urban expansion (Farvacque et al., 1992, p79).

The last category of land acquisition is readjustment. Readjustment involves "the consolidation of a group of adjoining landholdings in a urban fringe area for their design, servicing and subdivision as a single estate into a layout of streets, open spaces and building plots (sites) for the planned urban uses for lands" (Farvacque et al., 1992, p 79). Some new plots are sold to recover the costs of adjustment, and others are re-distributed to landowners to sell or to build on themselves (Farvacque et al., 1992). However, issues of land readjustment are not discussed in the thesis.

Regarding land expropriation, the purposes of expropriation vary from one country to another. According to Kitay (1985) and UNESCAP (1995), purposes of land expropriation mainly include:

- Construction of transportation, public buildings, creational parks, public utilities (e.g., water, sewage, electricity, gas) and military bases.
- Agrarian reform laws through which land is expropriated for redistribution.
- Housing is also one of the most frequent uses of land expropriation in urban areas.
- Industrial development through which governments "assemble a large block of land to be resold to private industry for industrial use…The company pays the cost of the land acquisition, as determined by the government offices" (Kitay, 1985, p.47).

As a form of forced sales, the main concerns about expropriation were compensation. The objective of this thesis is not to explore the procedure of expropriation or of the calculation of compensation, but to identify problems caused by expropriation and compensation. Studies in cities and rural areas of developing countries have shown the variation on the evaluation of compensation. For example, according to Vandergeest (2007), the loss of paddies of villagers for a dam construction in Laos was not compensated. In another instance, the Karachi government "purchased" land at a price that is equivalent to only 30% of the value of the land (UNESCAP, 1995). In Brazil, the compensation was evaluated based on market value of land, the location of land, and the valuation of remaining land after expropriation (in case of partially expropriation).

Furthermore, considering land as a profit-earning property, Brazil offered compensation for the loss of profits earned from the land, as a result of the interruption of production (Kitay, 1985). Similar to Brazilian policies, the Indian Land Acquisition Act of 1984 provided displaced households compensation including property cost (130% of the market value of that land[4]), and long- and short-term damage by taking away or effecting other properties on that land (Kitay, 1985). In Dhaka (Bangladesh), the cost of land is up to 150% of market values (UNESCAP, 1995). More favorablely, South Africa provides compensation in the form of income replacement rather than land replacement: agricultural incomes from expropriated fields were compensated annually in the period of less than fifteen years from the date of expropriation (Farvacque et al., 1992).

Now we look at issues of land expropriation in China, Vietnam's neighbor to the north with similar socialist economic experience: shifting from collective economy to a market economy, and accelerating urban expansion (Leaf, 2002). To develop the local economy, local governments in China welcomed investors to set up industrial and commercial sites. Agricultural land was expropriated from farmers and transferred to industrial or commercial developers. Industrial zones were developed in many villages thanks to the so-called entrepreneurship policy of local governments (Wang, 2005). By laws, the compensation of agricultural land is based on the annual output value of crop(s) originally assigned to the land (Liu, 2007). Total compensation is comprised of the compensation of land value (six to ten times the output value), for properties on land, and for displacement (four to six times the output value per household member). Total compensation can reach thirty times the output value. In fact, the lump sum of compensation is low, partially because output values of crops applied in contemporary China are still based upon the prices in the planned economy period[5]. The low compensation is perpetuated by the corruption of local authorities and collectives' officials who are in charge of the distribution of compensation of land value. The compensation of land value is not paid directly to farmers but goes through local

[4] Compared to the Indian Land Acquisition Act of 1984, that of 1894 had provided compensation for property cost at only115% of the market value of that land (Farvacque, 1992).

[5] Output values are regulated in "The Plan for Land requisition for State construction," issued in 1953 (Liu, 2007)

governments and collectives, inviting corruption during distribution to farmers, by way of delaying or embezzling the compensation. Liu (2007) states that in the east of China, total compensation per household is equivalent to the average income earned by an agricultural laborer in one year. Displaced farmers have difficulties in finding non-agricultural jobs due to lack of education and skills and thus "sit idle at home eating away a fortune as big as a mountain" (Liu, 2007, p16). Wang (2005) concludes that the low compensation that was imposed by the governments, the corruption of government officials, the breaking of the commitment of enterprises in industrial zones to provide jobs for displaced households, and the difficulty of displaced farmer to find non-farm jobs had contributed to the rise of illegal conversion of agricultural land in China. Furthermore, Wang (2005) observes that in Hainan, illegal land conversion was conducted by the locals with intentional support and concealment of the lower government (township) from higher governments (local and state governments). Unlike expropriation, directly leasing land to and negotiating with enterprises provides farmers with more cash. In this way, the township officials do not have to shoulder the burden of finding jobs for landless farmers due to expropriation.

2.4.2 Gaps in knowledge and significance of the thesis

As discussed earlier, while the urban planners have concerns about land availability, accessibility and usability, the policy makers consider land a market commodity and an environmental resource. Despite the difference, both of these two standpoints underscore the key issues pertaining to land use in peri-urban areas. The main issues include (1) area of land available for agriculture (conversion or change); (2) the security of land tenure; and (3) land use regulatory framework and government intervention in land through acquisition (especially expropriation in the context of Asian countries). Nonetheless, studies that cover all three problems cater to residential land and housing for the urban poor (Farvacque et al., 1992; UNESCAP, 1995; Payne, 1997) or for environmental protection (Bernstein, 1993). Other studies emphasize planning frameworks and politicians' attitudes that impose or perpetuate land constraints in cities (Quon, 1999; Drescher, 2000; Drescher, 2002; Drescher, 2003). Studies of land expropriation, as discussed above, have by far been conducted in large cities and rural areas. A review of other studies that particularly elaborate on agricultural land dynamics

and their impacts on farmers' livelihoods in Vietnam are presented in the next chapter. However, each of them looks at the problems separately, regarding security of land tenure, regulatory framework, and government intervention in land through expropriation.

There is virtually no comprehensive research on these issues. Covering all them in the research would be the contribution of the thesis into the peri-urban agriculture knowledge. Furthermore, as mentioned at the beginning of this chapter, peri-urban agriculture and land use change is typically studied in major cities (both in Vietnam and other developing countries), and as discussed in Chapter 3, studies of Vietnam's land administration and its impacts on farmers' livelihoods focus on large cities or rural areas. Meanwhile, Vietnam has many mid-sized cities that are in a different phase of 'development and urbanization, and hence need to be explored. Firstly, the exploration of mid-sized cities could help to build a better sense of diversification of Vietnam land administration. Secondly, it could provide the opportunity to track and direct the changes in a way that these cities could learn from their "ancestors" lessons for a sustainable development, in terms of food security and peri-urban farmers' livelihoods. Therefore, drawing out a panorama of land use dynamics and their impacts on farmers' livelihoods in peri-urban areas of a Vietnamese mid-sized city, would be another contribution of the thesis.

Chapter 3
LAND ADMINISTRATION, AGRICULTURE, AND URBANIZATION IN VIETNAM

Introduction

This chapter reviews the history of the land management, urbanization, and peri-urban agriculture in Vietnam to provide a national context for the case study.

During the review in this chapter, most research focuses on the rural context or that of large urban centers. It begins with Vietnam's land legislation, which is divided into three periods: pre-collectivization (1945 – 1958), collectivization (1959 – 1986)[6], and de-collectivization (1987 and beyond). Then, the chapter discusses Vietnam's land law system in which, as in many other Asian countries that apply the Customary Land Law system, the government is the freeholder and individuals are leaseholders. This land law system results in government intervention in land through expropriation alongside economic development and industrialization across the country.

The next part of this chapter underscores agricultural land administration and livelihood changes under urbanization in peri-urban Vietnam. Although agricultural land use conversion for industrial and commercial uses is a driving force of economic growth of cities, it could adversely impact farmers' livelihoods in peri-urban areas. Urbanization is considered a threat to peri-urban agriculture in large cities of Vietnam: the declining role of the agricultural economy, the consistent loss of agricultural land, and the gap between supply and demand in cities. The chapter also reviews the effects of other land administration issues such as land transaction and tenure. Finally, the chapter describes displacement of farm households in terms of livelihood disruption and social dislocation. The purpose of this part is to draw attention to the necessity of planning for food requirements of cities' inhabitants (especially the poor) and for ensuring the livelihood of a large number of farmers in peri-urban areas.

[6] There are variations in determining the year(s) of the collectivization period. In this thesis, the time of this period is specified based on Akram-Lodhi (2005).

The chapter concludes by linking national land management with the peri-urban agriculture situation of large cities and rural areas in order to illustrate their potential contribution (as a lesson of peri-urban agricultural sustainability) to smaller cities, which are in a different phase of development. This conclusion also becomes the basis of comparison for the case study, from which the thesis stresses the heterogeneity of Vietnam land administration.

3.1 History of land tenure and agriculture in Vietnam

Land has always been considered a vital productive asset in Vietnam. National development policies have been closely connected with the reforms of land management, which can be divided into three main stages (Table 1): pre-collectivization (1945 – 1958), collectivization (1959 – 1986) and de-collectivization (1987 and beyond).

No.	Key land policies	Main features
Pre-collectivization		
1	Land Law Reform in 1953	The end of feudal land ownership; Land under farmers' ownership
Collectivization		
2	The second Constitution in 1959	The implementation of State and collective ownership in northern Vietnam
3	Directive 100 in 1981 and Directive 35 in 1984	Land allocation to farming households for a few years on the basis of adult workforce in a family; Other production resources still collectively owned; Tax deduction for agricultural land and products' sales
De-collectivization		
4	The sixth Congress of the Communist Party of Vietnam 1986, Land Law in 1988, and Resolution 10 in 1988	Recognition of households as basic economic unit and land use rights of individual households; Land allocation to farming households for 15 – 40 years, based on family size and the number of adults working in agricultural sector;

		Absence of LURCs and transfer rights
5	The Land Law in 1993	Agricultural land allocation for 20 – 50 years; Legalization of land use right transactions such as exchange, transfer, lease, inherit, mortgage and compensation if land expropriated; First issuing of LURCs; Remission of agricultural land tax
6	The Land Law Amendment in 1998	Supplementation of land market regulations; Promotion of large- and mid-scale farms
7	The Land Law Amendment in 2003	Endorsement of the rights to assign land use rights, the right to grant land use rights, the right to use land use rights as collateral, the right to use land use rights with others to generate capital; Clarification and specification of the regulations for compensation and support for displaced households.

Table 1. Land management mechanism milestones

3.1.1 Pre-collectivization

The victory of the August 1945 revolution ended the French and feudal ownership regimes, when the majority of land belonged only to a minority of landlords. Many legal documents on agrarian issues were passed. In particular, the 1953 Land Reform Law devastatingly disposed of the feudal land ownership system and established the motto of "Land to the tillers" (Pham, 2005). Most importantly, the government reduced land rent, exempted other rent fees to tillers, and confiscated land from landlords in order to allocate to tillers. This resulted in the establishment of the nationwide labor class – the class of small-scale farmers who could farm on their own land (Nguyen, 2002).

3.1.2 Collective economy

After Vietnam seized power in 1954 from the second invasion of French colonialists, North Vietnam[7] embarked on a socialist transformation in the spirit of the entire people's ownership and collective ownership. This ownership regime was extremely promoted under the second Constitution in 1959. The basic economic unit of the national economy was collectives. The state strongly encouraged and assisted the development of the collective economy and collective ownership (i.e., all properties of a cooperative belong to all of its members). In agriculture, the collective ownership of production resources was applied, including land, other natural resources, and labor (Pham, 2005).

However, for reasons of political control and social transformation, collectivization in North Vietnam and South Vietnam are two very different agrarian universes. During 1958 – 1975, the collective movement was strictly implemented in North Vietnam, where private ownership was abolished in favor of state ownership. Almost all private agricultural land was collectivized. Agricultural production in North Vietnam was based on tenancy and sharecropping relations through which farmers were compelled to sell wage labor (Monstesi and Haque, 1996a; Akram-Lodhi, 2005a; Bui, 2005). Each household received a share of outputs on the basis of its labor hours (work points[8]). In South Vietnam, a totally different land management system – governed by Ngo Dinh Diem[9] and Nguyen Van Thieu[10], and masterminded by the Americans who took over from the French – resulted in land concentration for the rich and land dispossession of the poor. During 1958 – 1975, a great amount of land in South Vietnam

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[7] After the Geneva Accords, approved on April 27, 1954, Vietnam was divided into North Vietnam and South Vietnam at the 17th parallel. North Vietnam was governed by the Democratic Republic of Vietnam, and South Vietnam still remained under the control of the French.

[8] A work point was a working day that a member of a collective spent for that collective.

[9] Diem was the president of South Vietnam in 1955 – 1964. He returned to wealthy landlords the lands that peasants were distributed thanks to the motto of "Land to the tiller" of the Land Reform in 1953.

[10] Thieu was the president of South Vietnam in 1967 – 1975. Thieu pushed another "Land to the tiller" in 1970, granting agricultural land to a small number of landless peasants, to blur their struggle from landlessness resulting from Diem's regime.

was in the hands of landlords, and approximately 30% of farmers were landless (Bui, 2005).

The agrarian structure of Vietnam was then unified in accordance with the liberation of South Vietnam in 1975. The collective economy dominated the whole country. In the north, the collective farming system reached its climax: 97% of farming households joined cooperatives. The situation was much different in the south due to its late launch of agrarian reform. The percentage of farming households that belonged to collectives was only 25% until 1980. To foster the growth of the collective farming system, the Vietnamese government offered output prices for products in excess of government quotas, and subsidies for failure of agricultural production (Akram-Lodhi, 2005a). In fact, however, this farming system did not stimulate agricultural development. Public ownership made farmers feel detached from land because collective ownership of land meant that land belonged to everyone; or rather, to no one but the state government. Therefore, farmers neglected to improve the soil and increase land use efficiency. During 1976 – 1980, subsidies for the failure of cropping devalued their work because farmers strongly believed that if there were a bad harvest, 70% of the loss would be covered by cooperatives. In addition, farmers could keep only 30% of the surplus (70% belonged to cooperatives) and the output prices for the surplus were very low and controlled by the state (Monstesi et al., 1996a, Ninh, 2003). These weaknesses resulted in a sharp decline in farm productivity and foodgrain per capita in the late 1970s, leading to peasant unrest and food riots (Akram-Lodhi, 2005a).

To heal this economic wound, the first agrarian restructuring began under the aegis of Directive 100. The directive, which was issued in January 1981, allowed farmers to keep 100% of any surplus for sale or consumption. On the one hand, farmers were allocated land and simple tools so that they could be free to invest in their own plots (Montesi et al., 1996; Akram-Lodhi, 2005a). The area of land allocated to households was based mainly on the number of adults in a family (Akram-Lodhi, 2005a). Meanwhile, as mentioned above, in the south, because only 25% of agricultural households joined collectives, this directive was applied by boldly imposing the quotas system on the land owned by farmers (Tran, 2005). On the other hand, farmers had to bear all costs for production deficits, compared to the subsidy of 70% by cooperatives in

the 1970s (Montesi et al., 1996). In addition, cooperatives provided farmers a decision-making role in three steps (cultivating, caring for and harvesting) of the eight steps of production (soil preparation, seeding, cultivation, fertilizer distribution, caring for, irrigation, crop protection, and harvesting)[11]. To further encourage the development of the household economy, Directive 35 was passed. Dated January 1984, Directive 35 allowed farmers to make use of all land resources (i.e., utilization of fallow and waste land) and reduced taxes on arable land as well as the sales of their products (Akram-Lodhi, 2005a; Tran, 2005). This new system provided farmers with greater incentives to care for the land and managerial freedom to improve production. The directives initially boosted agricultural production and increased farmers' incomes. During 1981 – 1985, the output of commodities was sharply increased: such as rice, up 23.8%; cow population, up 32.2%; pig population, up 22.1%. The area of annual industrial crops also augmented 62.1% in the same period (Tran, 2005). The annual food per capita in paddy equivalence was higher in 1985 (304kg) than in 1981 (273kg) (Bui, 2005).

However, the directives did not alter collective production relations. The principles of agriculture – farmers could own land for a long term and act on their own initiative in production – were not realized. Land was still in the hands of collectives and was assigned to laborers through agricultural contracts for only a few years (Akram-Lodhi, 2005a). The collective model was still fundamentally based on collective ownership, centrally run management, and the uniform distribution of products in accordance with days worked. Collectives remained substantially in the control of the farming systems throughout five steps of production (Akram-Lodhi, 2005a, Truong, 2007). The failure of this farming system was recognized by the government and served as a precondition to the abandonment of the collective economy (Akram-Lodhi, 2005a).

3.1.3 De-collectivization

De-collectivization was undertaken in the wake of the sixth Vietnam's Communist Party Congress in 1986. Through this Congress, the economic reform, called *Doi Moi* (Renovation) or *Mo Cua* (Open door policy) was officially implemented, advocating a shift from collective economy to market economy. The reform revitalized

[11] Directive no 100-CT/TW of Central Committee Secretary Le Thanh Nghi, dated January 13, 1981

the national economy that moved away from central planning and engaged in the world economy. De-collectivization of agricultural economy was then formally initiated when the Land Law in 1988[12] and the Resolution 10 in 1988 on agricultural management innovation were enacted (Akram-Lodhi, 2005a; Truong, 2007). These two legal documents stipulated that farming households would be allocated land for long-term use and could keep the entire output after fulfilling tax and other obligations (Montesi et al, 1996). These documents represented a turning point in Vietnam's agricultural production. For the first time, the collectivized farming system shifted to an individual household-based farming system with long-term land-use rights. Farm households were considered the basic economic unit of the agricultural economy and collectives were relegated to the role of supporting individual households. The government redistributed collective land to households through long-term contracts (15 years for annual crops and 40 years for perennial crops) based upon the number of household members. Moreover, additional land was granted to adult agricultural laborers in households. In particular, Resolution 10 enabled farmers to recover all or part of the land they had farmed before the collectivization, provided that they had been classified as landlords. De-collectivization ended cooperative control over land, equipment and machinery, and working capital. Collective work obligations were replaced by cash payments. Responsibility for input, production, and output planning was passed from cooperatives to communes (Akram-Lodhi, 2005a).

De-collectivization first resulted in more efficient use of land. Annual cropland in overall land use intensity increased from 140% (1985) to 158% (1993). Nationally, the proportion of annual cropland declined slightly from 17.0% (1985) to 16.6% (1992) while perennial cropland increased sharply from 2.4% to 3.6%, and water surface used for aquaculture rose from 0.5% to 0.9%. In addition, the area of wasteland declined marginally from 44.8% to 42.9% in the same years. Secondly, de-collectivization changed cropping patterns towards agricultural diversification in favor of certain tradeables and large export potentials such as rice, rubber, and coffee. The paddy area increased from 5.7 million ha in the early 1980s to 6.4 million ha in 1992. The next

[12] It was promulgated by the President Vo Chi Cong on 8th January 1988.

increase of agricultural land use was for industrial crops (rubber, coffee, tea, coconut, mulberry, fruits, and vegetables). Meanwhile the area used for root crops such as cassava and sweet potato declined (FAO, 1004). Furthermore, the emergence of the liberalization of productive forces and commodities resulted in an impressive growth of agricultural output, transforming Vietnam from a food-deficit country into a food-surplus country. Rice production increased from 12 million tons in 1981 to 22 million tons in 1992. Vietnam became one of the leading exporting countries of rice and other commodities (Montesi et al, 1996).

In spite of these achievements, constraints needed to be addressed. The amount of allocated land among households varied across the country. Land remained under the control of the government, and was neither transferable nor inheritable. The absence of LURCs meant that land could not be used as collateral. This absence of LURCs also made farmers feel insecure to fully invest in production. In addition, cooperatives continued to believe that they had control over land and other production materials (Montesi et al., 1996). Economically, farmers were still obligated to produce specific quotas of crops (60% of average output) (Akram-Lodhi, 2005a). In many regions (especially North Mountain, North Central Coast, Central Highland, and South East), rice yield was still very low – less than 3 tons/ha in 1992 (compared to 3.6 tons/ha of national average yield). Moreover, the growth rate of irrigated areas declined sharply from 1.4% to 0.4% during 1981 – 1992 and total irrigated area increased marginally from 25.1% to 29.0%. There was also a decrease in animal husbandry. Between the period of 1981 – 1985 and 1988 – 1992, the annual growth rate of pork and poultry meat output fell from 9% and 2.3% to 2.4% and 1.0%, respectively. Regarding the policy environment, despite the encouragement of private business, farmers had no choice but to depend largely on state enterprises and cooperatives for inputs and services at a low quality and high cost. A shortage of credit was also an obstacle for most farmers (Montesi et al., 1996).

In order to overcome the above handicaps, a new land law, built upon the 1988 Land Law and Resolution 10, was adopted in 1993. For the first time in land management history, the government issued land use right certificates (known as Red Books) and permitted five land use rights: exchange, transfer, lease, inheritance, and mortgage (Montesi et al., 1996, CBPM, 2000; Akram-Lodhi, 2005a). Households whose land was

assigned for cultivation, forestry, aquaculture, and salt production were exempted from land taxes. In addition, land users would be compensated when the government expropriated land for economic development (CBPM, 2000). Decree 64, issued in September 1993,[13] regulated the allocation of agrarian land, under which the period of land allocation was extended to 20 years for annual crops, and 50 years for other perennial crops and forestry; on which tenure could be renewed upon expiry. The decree also specified ceilings for holdings, of which annual cropland was 2 – 3 ha and perennial was 10 – 30 ha. In rural Vietnam, the higher level of issuance LURCs, indicating more secure land use rights, were found to be associated with the increase of the percentage of perennial lands and of the investment in agricultural infrastructure, at the community level (Klauss et al., 2003). Finally, by issuing Red Books and legalizing land transactions, the 1993 Land Law marked the emergence of land markets. To impede land transfers and to off-set the removal of the agricultural land tax, the government increased the land transfer tax. However, this decision was counter-productive and encouraged informal land transfer to avoid taxation (Akram-Lodhi, 2005a). Illegal transactions also increased because transferees were required to pay twice for land purchases: once for land use fees, and the other for compensation to occupiers for the difference between the market value and the state price. The state price, devised by the Ministry of Finance, was used to determine the fees charged for land allotments, leases, transfers, and the compensation paid for compulsory acquisition and taxation[14]. Furthermore, pricing differentials also hindered the expropriation of farmland for city expansion projects, as farmers were reluctant to accept rural prices for rezoned urban land (AusAID, 2000).

In 1998, the Land Law Amendment approved the accumulation of agricultural land as “large-scale farms” (greater than 5 hectares) and this strategy quickly became a national policy to promote large- and medium-scale farms while compromising small-scale ones imperceptibly. It also extended and clarified transaction rights. Accordingly, this revision of land laws cleared the way for the operation of a land market (Akram-Lodhi, 2005a).

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[13] Decree no 64-CP of Prime Minister Vo Van Kiet

[14] Decree no 87-CP of Prime Minister Vo Van Kiet, dated August 17th, 1994

Aiming to resolve the problems of illegal land use transactions and farmers' reluctance to expropriation, and to perfect a land management mechanism for economic development, Vietnam passed the 2003 Land Law, which was based on and supplements the 1993 Land Law. It promulgates the rights to re-assign land use rights, to grant land use rights, to use land use rights as collateral, and to use land use rights to generate capital (Akram-Lodhi, 2005a; Nguyen, 2005). The 2003 law allows land use certificate owners to change land from one type of use to another in conformity with land use planning of local governments (Akram-Lodhi, 2005a). In terms of expropriation, the new land law significantly overcomes the shortcomings of the 1993 and 1998 Land Law. In particular, compensation is not only for the loss of land but also of properties on land such as buildings, graves, crop plants, domestic animals and other assets. In accordance with compensation, if a farming household has 30% of land expropriated, support is provided. That can include support for moving to new accommodation, stabilizing life and production (food subsidy), and changing jobs. By law, compensation for land expropriation can be either in land or in cash and the support for job changing could be either though training or in cash (Nguyen, 2005). In fact, because land is scarce in Vietnam, countless expropriation cases were based on cash payments with both positive and negative effects on landowners. On one hand, cash payments can provide greater job opportunities, improved infrastructure, and chances to realize the cash value from land holdings. On the other hand, cash payments can cause economic disruption for farming households (CIEM, 2006; UMC – HAU, 2006).

All policies reviewed so far have been implemented in the countryside only; no clear policies have been designated for peri-urban agricultural land.

3.2 Extent of the issuing LURCs and land transactions

Since the initiation of decree 64 in 1993, the number of agricultural households with LURCs has increased. By 1998, about 60% of agricultural households had obtained LURCs nationwide (approximately 65% of agricultural land). One year later, this number was 73% (71.5% of agricultural land area). By 2007, 43 out of 64 provinces completed the issuing of agricultural LURCs (Tuoi Tre Newspaper, 2007). For agricultural land in

cities and towns, the instruction 18/1999-CT-TTg [15] prescribed that while waiting for the execution of land use planning (i.e., expanding urban area, constructing industrial parks), these localities must issue LURCs so that farmers focus on their work. Ever since, most farm households in large cities have received agricultural LURCs: Hanoi: 50% (in 1999) (CIREN, 1999), HCMC: 97% (in 2004) (CIREN, 2004), Hue: 50% (2006), and Da Nang: 100% (in 2005) (MONRE, 2005). Providing that the instruction 18/199-CT-TTg is a regulation on issuance of LURCs in rural areas, agricultural land in peri-urban areas is considered rural land.

Research about the land market in Vietnam indicates that while land sales are preferred in the south (Mekong Delta and the South East region), land rental is preferred in the north (Central Coast and Red River Delta) (Klaus et al., 2003; Ravallion et al., 2006). From 2002 to 2004, more than 5% of agricultural land was sold annually in the south while very few transactions occurred in the north (Smith, 2004). The differences were an outcome of land management history in Vietnam. The many years of private ownership in the south contributed to its increased land market activity in the area. In contrast, long-term collectivized agriculture entrenched farmers in the north, and alienated them from the market (Klauss et al., 2003; Ravallion et al., 2006). In addition, the impacts of liberalization of land markets are still debatable in transition countries in terms of efficiency and equity. Experience from Latin America, where the neo-liberal model was largely adopted during the 1980s, suggests that liberalizing land markets, in general, have not been able to eliminate rural poverty but has instead resulted in land concentration and landlessness due to distressed land sales (Zoomers et al, 2000; Cater and Salgado, 2001; Borras Jr, 2003). Similar to studies in Latin America, studies in rural Vietnam have cautioned about the outright consequences of this liberalization. Klaus et al. (2003) and Hanoi-based Center for Rural Progress (2005), in their studies about Vietnam's rural land markets, especially in Mekong Delta, argued that enabling farmers to freely engage in land transactions may not contribute to greater productivity but instead lead to the re-concentration of land. This negative impact was echoed by Akram-

[15] Instruction 18/1999-CT-TTg of Prime Minister on "Methods on promoting and completing land allocation; agricultural, forestry and rural LURCs issuing in 2000", issued in July 1999

Lodhi (2004, 2005b) who suggests that land markets have created rural disparity, and that the rural landless, who are separated from means of production, have to survive by intermittently their selling labor and are the poorest among society. This counter-effect of the land reform strategy was generalized by Ravallion et al. (2006) as "the poverty-increasing landlessness effect." However, Zoomers (2000) argues that little empirical research has been done on the underlying issues of distress sale:

> What are the characteristics of the sellers of land (are they mainly the small farmers?), and which factors influence the sale of land? To what extent should land sales by small farmers really be regarded as distress sales, or it is really a more voluntary choice because the capital is needed to implement a deliberate plan aimed at socioeconomic progress? To what extent are land sales really irreversible, or does the seller subsequently go looking for new parcels? Where decisions are made to sell land, the extent of land transfer from small to large enterprises or vice versa merits analysis? (Zoomers, 2000, p67)

Scudder (1991) and Zoomers (2000) further indicate that in terms of the relationship between the loss of land and livelihood strategies, decisions on land transfers must be related to households' other objectives and activities, for example to using family laborers for non-farm activities, which usually provide higher incomes. In this sense, Ravallion et al. (2006) affirms that elsewhere in Vietnam, there is no evidence of peasant class differentiation due to land market liberalization, as it is found in Mekong Delta. "On the whole, rising rural landlessness appears to be a positive factor in the process of poverty reduction, as farm households take up new opportunities, notably in the labor market" (Ravallion et al., 2006, p.35). Having said that, these authors take the precaution that the implication is not for encouraging landlessness, but for giving farmers the opportunity to sell their land. The key is that policies should focus on "making land markets work better for poor people and on complementary efforts in other factor markets to enhance non-farm opportunities, including redressing the evident biases against the landless poor" (p.35).

3.3 Final remarks on land tenure and agriculture in Vietnam

Throughout the history of Vietnam's land management, land has always been a vital issue to farmers. Nevertheless, they have never possessed it. In principle, land belongs to all people, under the state's management (as in the 1998 Land Law and the

earlier laws) and the state government is the representative of ownership (as supplemented in the 2003 Land Law). Ultimately, Vietnam, like other Asian countries applying the Customary Land Law system (see Chapter 2), implicitly sets the state as the freeholder though which the government determines the fate of land and its utility in terms of allocation, issuing of LURCs, planning, expropriation, and other types of management. Individuals (farmers) are merely leaseholders with a bundle of land use rights in a period of 20 – 50 years.

From political perspectives, AusAID (2000) outlines that since the reunification, inspired by Marxist-Leninist ideals and driven by market economy with a socialist orientation, Vietnam land administration has reflected different schools of thoughts.

During collectivization, the socialist school of thought, which emphasized public ownership and equitable distribution of land among farmers, was applied absolutely. Chief ideas were the restriction of the land market; the state having a decisive role in ruling how land should be used and by whom; and the celebration of collective production by pooling farmers' land, labor, capital, and other resources. Side by side with the communist ideas was the community school of thought, underpinning local ownership and control over land use (Kerkvliet, 2006).

The emergence of de-collectivization opened up two new schools of thought: the individual school and the free market school. The former essentially advocates that land should be held and farmed by individual households, and that the state should protect and facilitate private farming. The latter stresses the right of individuals to buy and sell land freely, which is accommodated through legal systems such as the land market, tenure, investment, and other economic transactions (Kerkvliet, 2006; Ravallion et al., 2006). In addition, the communist and community schools co-exist with the individual and free market schools of thought. The influence of the communist school is reflected by the fact that land belongs to the entire people and is managed by the state rather than privately owned. Agricultural land is allocated more or less equally to farmers within a limited amount of land and time. Another socialist influence is that allocated agrarian land can be expropriated for the national interests of development. The community school of thought is retained through the practices of communal land. Land Law 1993 and its amendments recognize an entire community as a landholder, allowing local authorities to reserve up to

5% of agricultural land to "benefit the public interest of the locality," for instance, to generate income to support public facilities and welfare for the poorest of the community (Kerkvliet, 2006).

Along with economic development and industrialization across the country, government intervention in land has had certain effects on leaseholders, especially in cities that have experienced extreme changes. In this light, the following part of this chapter discusses agricultural land use conversion and livelihood changes under urbanization in Vietnam through research oriented to large cities and rural areas. Within this setting, this thesis explores comparatively local land management and intervention in land and their impact on farmers' living conditions in peri-urban mid-sized cities.

3.4 Urbanization and peri-urban agriculture in Vietnam

3.4.1 Urbanization – a threat to Vietnam's peri-urban agriculture

Urbanization in Vietnam has been accelerated by the *Doi Moi* reforms since 1986. The proportion of urban population has increased rapidly (Table 2). Firstly, Vietnam took only ten years to increase its urban population from 20% to 24%. The increase was surprising given that Vietnam's urban population jump up to 27% within the following five years. Heading the list of cities with the densest urban populations are HCMC and Hanoi: the metropolises of the country. The total population of HCMC increased by approximately 1 million in 10 years (1990 – 1999), and another million people flocked into this city within the five years that followed (Table 3). The growth in both of the periods contributed substantially to HCMC's population, resulting in the proportion of the urban population continuously dominating (from 73% in 1999 to 85% in 2004). Hanoi's population also experienced growth, but to a lesser degree. From 4.1 million inhabitants in 1990, Hanoi accommodated about 0.9 million new citizens by 1999, and 1.1 million by 2004, pushing the ratio of the urban population up from 52% to 56% and 65% of Hanoi's total population. Alongside dramatic population growth, urbanization has demanded a lot of land for housing, transport infrastructures, and companies (Moustier et al., 2003).

Years	Total population (million people)	Urban population (*)		Rural population (*)	
		Million people	%	Million people	%
1990	66	13	20	53	80
1999	77	18	24	59	76
2004	82	22	27	60	73

(*): *Urban population* refers to the population of urban areas (GSO, 2004). According to decree 70 (of the Prime minister, in 2001), urban areas include inner cities (*noi thanh*), inner towns (*noi thi*), and towns under districts (*thi tran*); being equivalent to the grassroots administrative units called *phuong* or *thi tran.* The rest population is *rural population*. Consequently, peri-urban population is assigned as rural population.

Table 2. Vietnam population from 1990 to 2004

(Source: GSO website)

Years	Total population (million people)	Urban population		Rural population	
		Million people	%	Million people	%
HCMC					
1990	4.1	3	73.2	1.1	26.8
1999	5.0	4.2	84	0.8	16
2004	6.1	5.2	85.2	0.9	14.8
Hanoi					
1990	2.1	1.1	52.4	1	47.6
1999	2.7	1.5	55.6	1.2	44.4
2004	3.1	2	64.5	1.1	35.5

Table 3. Population in major cities from 1990 to 2004

(Sources: HCMCSO website; HSO, 1997, 1998 and 2000)

Despite the significant contribution of peri-urban agriculture, as discussed in Chapter 2, peri-urban agriculture in Vietnam has been threatened by urbanization. In HCMC, the contribution of agriculture to the city's economy has declined from 2.2% in 2000 to 1.4% in 2005 and is anticipated to be only 0.8% in 2010 (HCMC Website). Along with this decline in GDP, the area of agrarian land has consistently decreased from 155,000 ha (equivalent to 75% of the city's total area) to 96000 ha (46%) and 57,000 ha (27%) in 1985, 2000 and 2005, respectively (HCMCSO website). In Hanoi, the share of agriculture in GDP steadily fell from 19% (in the 1980s) to 3.6% and 2.4% in 1999 and 2002, respectively (HSO, 1995, 2001 and 2003). Like HCMC, agricultural land in Hanoi also decreased significantly. In 1993, agrarian land occupied 49% (43000 ha) of total

area. During 1998 – 2003, Hanoi lost 1000 ha of agricultural land annually for urban development (Dinh and Nguyen, 2005). On average, there was a decline of 15% of agricultural land per household from 1991 – 1999 (HSO, 1995 and 2001). In 2004, agriculture land comprised only 40% (37000 ha) of the area of Hanoi (HSO, 2004).

In both cities, major products of peri-urban agriculture are rice, vegetables, livestock, fish, and shrimp. Although rice – the traditional crop – is still the most important product, its acreage has experienced the sharpest decline. On the other hand, higher-value vegetables, aquaculture, and livestock production have expanded (Mai et al, 2003; Van Den Berg et al, 2003; Pham et al, 2004; Le and Huynh, 2005). These cities have a network of public institutions supporting agricultural activities, including local, national and international actors (e.g., The World Vegetable Center – AURDC, Sustainable Development of Peri-urban Agriculture in Southeast Asia Project – SUSPER, South and East Asia Rural Urban Synergy - SEARUSYN). The private sector also actively takes part in providing agricultural input to farmers and distributing outputs to consumers, including wholesalers and retailers such as supermarkets, shops, and stores (Mai et al, 2003, Pham et al, 2004, Tran et al, 2005). Despite intensification, the situation of locally feeding the cities is worsening. While HCMC's peri-urban agriculture met 40% of local vegetable needs after the reunification in 1975, it currently provides only 30% of local needs (Pham, Ngo, and Pham, 2004). Likewise, peri-urban agriculture in Hanoi could only supply 44% of the city's demand in 2001. In particular, rice and vegetables met 40% and 60% of the demand in 1999, respectively (Hanoi DARD, 2000).

The above analyses of the declining role of the agricultural economy, the consistent loss of agricultural land, and the gap between supply and demand in both cities are not an argument for self-sufficiency in the food supply. Instead, our attention is drawn to the necessity of planning for food requirements for urban inhabitants (especially to the poor) and ensuring the livelihood for a great number of farmers in peri-urban areas – 675,000 and 250,000 people in 2002 in Hanoi and HCMC, respectively (HSO, 2002; HCMCSO website). From this sense, the thesis explores the change of the agriculture sector in Vinh in its race to become a city administered under the central government, with regards to Vinh's agricultural contribution to economy and land base.

3.4.2 Urban expansion and farmers' livelihoods in peri-urban Vietnam

Land conversion is an important source of new land for the industry and service sectors. Yet, it can have adverse effects on displaced households in terms of livelihood disruption, and social and cultural dislocation.

In Hanoi, due to urbanization, the agricultural population is no longer strongly attracted to agricultural production. In some cases, households leave the land idle in order to wait for compensation from expropriation (Tran et al., 2005). The majority of peri-urban farmers work part-time or full-time in factories and in service jobs, so producers usually have to hire agricultural laborers from remote rice-growing villages in peak seasons (Van Den Berg et al., 2003). In addition, Akram-Lodhi (2005a) highlights that farmers lease land in order to generate income from the holdings, and that the renting out of land is due to the lack of capital or labor, farm fragmentation, or economic shock within households.

The other cause of peri-urban households' displacement is land expropriation. Because the government is the freeholder, as is common practice in Vietnam and other countries that apply the Customary Land Law, cities' administrators can take land over for large-scale urban development. Although the land compensation in Vietnam is different from that in other countries (see Chapter 2), its principles are similar. The range of compensation includes compensation for land value, compensation for attachment to the land, support for settlement of farmers' lives after expropriation, and support for job changes. Compared to Laos, where compensations take much longer to complete, Vietnam provides a complete compensation in a reasonable time. However, the compensation of land value is not the market price (as applied in Brazil, India, and Bangladesh) but the legal price – called "state price" (as discussed in Chapter 7), resulting in very low compensation. In Hanoi, after negotiation between local authorities and displaced households, farmers were compensated only 75,000VND/sq.m (4.7 USD) including compensation for the loss of land use rights (16 – 19,000VND/sq.m), for the loss of crops at the time of expropriation, and for retraining and finding new jobs. In peri-urban HCMC, farmers received only one-twentieth of the market value of the land they had farmed (Nguoi Lao Dong newspaper, 2000). Meanwhile, once converted to industrial use, the land could be valued in the tens of million of VND. Furthermore, farmers'

livelihoods after compensation are very similar to those in China (see Chapter 2). In Vietnam, after receiving money, the farmers do not know how to use the money effectively except to spend quickly on consumables. After all, like China, Vietnamese farmers usually have little education and vocational training. Hence, retraining and finding non-agricultural jobs are not easy for them (Van Den Berg et al., 2003, Nguyen et al, 2005; Ngo, 2007), especially for the middle-aged or older (CIEM, 2006). In sum, the loss of land is equivalent to the loss of livelihood.

Due to decentralization, corruption through land expropriation has become a critical issue in Vietnam, as it has in China. The evidence of the corruption of local authorities is discussed in studies in rural areas as well as in large cities. The vagueness of compensation procedure (e.g. the state government authorizing local governments to adjust compensation in specific conditions) yields biases among some local authorities by way of favoring land occupants to whom local authorities have kinship relations (AusAID, 2000). Corruption also occurs through the mismeasurement of area of land expropriated, and "misexpropriation" of vast areas of land, causing disputes between local officials and farmers, and "sit-ins" protests (Tran 2006). Furthermore, discretionary power over planning, leasing, and the allocation of expropriated land to enterprises also creates fertile ground for corruption. Exercising these powers, local authorities prolong approval procedures to create rent-seeking opportunities and to realize land 'search costs' from enterprises (AusAID, 2000; CIEM, 2006; Tran, 2006; (Ngo, 2007). Because land corruption has become widespread in Vietnam, it is possible that it also occurs in Vinh, where land expropriation has been extensive for urbanization.

The above constraints draw a pessimistic scenario of peri-urban agriculture and farmers' livelihoods in the countryside and large cities of Vietnam, due to government intervention over issues of land use conversion, expropriation, and land tenure. However, Vietnam has many smaller cities that are in different phases of development than Hanoi and HCMC. It is hoped that these cities can learn from the experiences of larger cities and rural areas, in order to ensure sustainable livelihoods to farmers – the people of the land. This thesis explores changes in land use, agriculture, and farmers' livelihoods in peri-urban Vinh as a concrete example of mid-sized cities' situations.

Chapter 4
RESEARCH DESIGN AND METHODS

4.1 Research design

Yin (2003) defines research design as "the logical sequence that connects the empirical data to a study's initial research questions and, ultimately, to its conclusions" (p20). According to him, research design deals with a study's questions, data relevance and collection, and data analysis and interpretation of findings. The multifaceted nature of this research requires a holistic framework for collecting and analyzing information. As stated in previous chapters, mid-sized cities are excluded from the existing literature on peri-urban agriculture, and land tenure and government intervention in land are absent from research on Vietnamese peri-urban agriculture. Therefore, this thesis is involved as primarily exploratory research. Reviewing the literature on various fields of peri-urban areas globally and nationally helps to define the research problem and questions underpinning this study.

The nature of research questions in the thesis, which describes and explores agricultural land use change in the context of urbanization in a mid-sized city, favours the case study strategy – an empirical inquiry that examines a contemporary phenomenon within the real-life context beyond researchers' control (Yin, 2003). Working with limited time and resources in the field, I chose the case study approach that concentrates on one city to yield more in-depth information. Although the case study is a distinctive form of empirical inquiry, its goals are not only to particularize but also to expand and generalize from the case (Yin, 2003). This research employs the theories and concepts of peri-urban agriculture and land use change to investigate the local setting of Vinh. Hence, the results could be useful on their own to the case study city as well as to other mid-sized ones throughout the country. Findings from this thesis could also be compared with other case studies to contribute to a more generalized view of land use change in peri-urban agriculture of mid-sized cities. Furthermore, the case study design involves a variety of methods to acquire a mix of quantitative and qualitative evidence to answer the research questions.

As a foundation for inquiry into this thesis, both quantitative and qualitative research methods were employed for data collection. The descriptive, exploratory, and integrative nature of this research requires qualitative methods, e.g., documentation and interviews, while questions about prevalence of the thesis (who, how much, how many) are suitable for quantitative methods such as archival records, government statistics, and survey. Multiple sources allow a broader range of issues to be addressed in the case such as production, land use and livelihood changes, and the roles of local government in such changes. Multiple sources also augment the study's findings on peri-urban situations in a mid-sized city by triangulating and corroborating the data to be gathered.

4.2 Research methods

4.2.1 Case study framework

The case study is based on three empirical modules: preliminary research, data collection, synthesis and generalization of research. As common practice, the first module includes reviewing the literature and national documents relating to peri-urban agriculture and land use change in order to identify key drivers and provide background information for this research. Preliminary research explores the concept of peri-urban agriculture and its roles, and defines issues pertaining to agricultural land under urbanization (i.e., availability, tenure security, and management). This module also provides information on contemporary national peri-urban agriculture.

The data collection modules, and the synthesis and generalization modules underpinning this thesis are based largely on methods used in three recent projects. The first, conducted by Mai et al. (2004) was part of the World Vegetable Center research on peri-urban agriculture in developing countries. Through official documents and statistics, Mai et al. analyze resources and opportunities for urban and peri-urban food production in Hanoi. The authors also assess the effects of urban and peri-urban agriculture on food supply, income generation, job creation, and environmental pollution by surveying local farm households. The main themes include agricultural demographic and economic conditions, available resources, agricultural production and marketing systems, and food consumption. The two other projects (CIEM, 2006; UMC - HAU, 2006) are part of the project Making Markets Work Better for the Poor (MMWB4P). They comprised case

studies on agricultural conversion for industrial and commercial use in rural Vietnam. These two case studies investigate the impacts of the industrial and commercial land market on enterprises and farmers regarding land use planning, land expropriation, land conversion, and land transfer. Farmers' displacement in the case studies is drawn from documentation analysis, household surveys, and interviews with officials. While not a part of a larger international project such as these, my case study is comparable in its aims and objectives. Therefore, the methodologies described in these projects are modified to fit the specific setting and parameters of this thesis.

4.2.2 Stages of the research process

The research process lasted from December 2005 to July 2007, and had three main stages: literature review, fieldwork, and data analysis and writing up. The literature review of relevant topics and methods took place from December 2005 to April 2006. Reviewing peri-urban agriculture and methods for situation analysis in peri-urban agriculture were major tasks of this phase. Gathering background information on land tenure and its effects on agriculture and farmers' livelihoods in Vietnam also contributed to the design of the case study of Vinh city.

The fieldwork phase can be divided into two parts: field work preparation and fieldwork in Vietnam. The former occurred from April to May 2006 in Canada, obtaining ethics approval from the University of Waterloo, arranging logistics, and making initial contacts with Vietnamese partners who would facilitate my stay and research in Vietnam.

The fieldwork in Vietnam lasted from May to August 2006. Data collection through interviews, analysis of secondary sources, a survey at household level and preliminary analysis were its key components. I first arrived in HCMC to process necessary papers for fieldwork in Vinh city. Since I am a Vietnamese citizen and a lecturer at the University of Social Sciences and Humanities (USSH), HCMC – National University, I needed to obtain an official authorization (*cong van*) from the USSH and submit it to the rector of Vinh University in order to ensure my stay on the Vinh University campus. I was also required to obtain letters of introduction from my university so that I could contact local authorities and relevant persons in Vinh. Both of these documents needed to be signed and sealed by the USSH's rector. During this three-

month period of fieldwork, I mainly lived in a guesthouse on the campus of Vinh University. Since there are differences in accent and customs between regions of Vietnam, it was better for me (a native of the South) to be introduced by locals (North Central Coast) to local government organizations and residents. Hence, I was accompanied by lecturers of Vinh university during my time in Vinh city for data collection, especially for the initial contacts with the officials and farmers for secondary data collection, interviews, and the survey. Through in-depth interviews with officials in urban communes and the survey in Hung Dong (a peri-urban commune) over the months, I had the opportunity to compare the urban and peri-urban areas. The survey also allowed me to talk at length with local farmers, providing insight into the peri-urban areas within small cities undergoing urbanization. Questionnaires were conducted during farmers' free time (sometimes at night) so that they could talk openly and frankly to the interviewers. I had eleven research assistants, of whom, six were lecturers and four were fourth-year students from the Department of Agriculture - Fishery and Forestry of Vinh University. The last research assistant worked for Cadastre and Engineering Survey Company – Ministry of Natural Resources and Environment. Lastly, I returned to HCMC in late July 2006 to perform a preliminary analysis of the data, using the data processing facilities in my office in the USSH, which I did not have during my time in Vinh city.

The final phase of analysis and writing lasted from December 2006 to July 2007 back at the University of Waterloo, Canada.

4.2.3 Methods of data collection

Data collection was an interactive activity, with the input of participants and my own learning revealing further opportunities and strategies for gathering information. Creswell (2003) describes this stage as cycling from collection to initial analysis to problem formation and back to collection. This process modified ongoing data collection by identifying existing questions that were inappropriate, or any missing questions that were important. For example, questions based on Northern literature examining the relationship between universities and local industry were found to be largely irrelevant in a region of a post-socialist country where private industry was not yet a major player in local agricultural production. Meanwhile, less attention had been given to the issue of

regional development during the preparation phase, but through my research I learned that Vinh City was growing rapidly and hoped to become an independent municipality within the next few years. Thus, the city's role as a regional center was not only a popular topic for discussion, but also pertinent to this research.

4.2.3.1 Secondary sources

Secondary sources are extremely valuable for large-scale data collection, which may be prohibitive for most research due to cost and time required (Neuman, 1997). The most common documents are official government documents, annual reports, statistics, maps and books. These types of data were collected for my thesis.

The fieldwork gave me access to documents I could not have obtained in Canada. In HCMC, I obtained Vietnamese publications ranging from the national to the local scales. These documents supplemented my literature review with a national and local context on agriculture, specifically on land use and the policy context. Collecting official documents and statistics in Vinh consumed a lot of time. With a letter of recommendation from the rector of USSH and introductions from Vinh university lecturers, I collected data from various organizations over a period of two months. These government bodies were both at the city level (Land Administration Office, Statistics Office, Economics Offices, and Agricultural Extension Offices) and the commune level (i.e., Hung Dong Land Administration Office, and Hung Dong Socio- Economics Office). These data included local official government reports as well as policies and guidelines on land use planning and agricultural production. They also included socio-economic statistics and a land use inventory. Particularly, access to maps that covered land use in the area of interest over time provided conclusive proof of land use change and expropriation. In addition, data from local government organizations offered great sources of information on the case study site. In particular, document and archival data at the city level, in combination with interviews, served as guidelines for selecting the survey site – Hung Dong commune.

4.2.3.2 Interviews

According to Krishna Kumar (1989, p 1), "[A] key informant interview involves interviewing a select group of individuals who are likely to provide needed information,

ideas, and insights on a particular subject." Key informant interviews are a qualitative method, which does not provide statistics or numbers but documents the knowledge, and experience of informants. Key informant interviews provide information directly from knowledgeable people with a high response rate (80 – 90%), allow rich data to be gathered more inexpensively and flexibly in terms of scheduling the interview, compared to focus groups.

A semi-structured format was used for greater flexibility in addressing a complex research topic involving many sub-themes. Interviews were tape-recorded and/or notes taken for later analysis. A list of key interview questions, which is presented in Appendix A, was used as a guide rather than a fixed set to adhere to. This flexibility allowed me to explore new ideas and issues not anticipated during planning, helping me to elaborate on the aspects in which each interviewee was most knowledgeable. Questions were adapted to the position, knowledge, and experience of each interviewee and revised throughout the process of data collection. However, major questions were repeated to interviewers so that I could gather deeper understandings on key topics from a variety of perspectives.

Unlike surveys, key informant interviews generally need only a small number of respondents, depending on the nature and scope of the research (Krishna Kumar, 1989). Face-to-face interviews were conducted by myself with government officials in charge of or related to local agriculture and land use management. The first interviews allowed me to establish rapport with the respondents. I later returned for them to clarify unclear issues or to answer new questions inspired from previous interviews. A list of interviews is provided in Appendix B. As a Vietnamese, I knew that obtaining written consent from participants can be perceived negatively when conducting research in the country. Written consent could lead to counter-productive effects in that participants may refuse to be interviewed. Instead, verbal consent was accepted. While personal identities have been kept confidential in accordance with ethical regulations, the interviewees consented to be cited in their professional capacity as participants' (i.e., by reporting by their position in the organization). All interviews took place at the offices or homes of interviewees, in Vietnamese. Each interview lasted for approximately one hour. Most were tape-recorded, except for the interview with the Economic Office – when notes were taken. Tapes and notes were then transcribed onto my computer after each interview.

The interviews helped to characterize the change of peri-urban agriculture, land policies, and livelihoods. The preliminary findings from interviews were used as a basis for the survey at the household level.

4.2.3.3 The survey

One of the most frequently used methods in exploratory research within a real-world setting is the survey, which is aimed at describing a set of characteristics or correlation between variables (Bordens and Abbott, 1991). The survey in Hung Dong was used to describe in detail the characteristics of peri-urban Vinh, in terms of agriculture, land dynamics, and livelihood diversification. The questionnaire concerned a period of 15 years (1990 – 2005) in order to capture the changes in peri-urban Vinh since the Doi moi reform.

As discussed in the framework for this case study, the questionnaire is based upon the ones in the research of Mai et al., the CIEM and the UMC – HAU. Mainly, the questions describing agricultural production, livelihoods' transformation and farmers' characteristics (demographic information), and family land base are adapted from Mai et al. (which focused on horticulture). On the other hand, items on land expropriation and its impact on farmers' livelihoods stem from the two other studies. Separately, questions about land transactions were developed on my own. According to Bordens et al. (1991), although demographic information is easy to request, asking for it can lead to boredom for respondents. Therefore, I did not present it first on the questionnaire. Instead, it was the final part of the questionnaire. Questions used on the survey are both closed- and open-ended. With the close-ended items, I covered as wide a range of response categories as possible. Furthermore, most of them included the "other" category with a space to specify what "other" means. This flexibility ensured that I did not miss other categories. A copy of the questionnaire is provided in Appendix C.

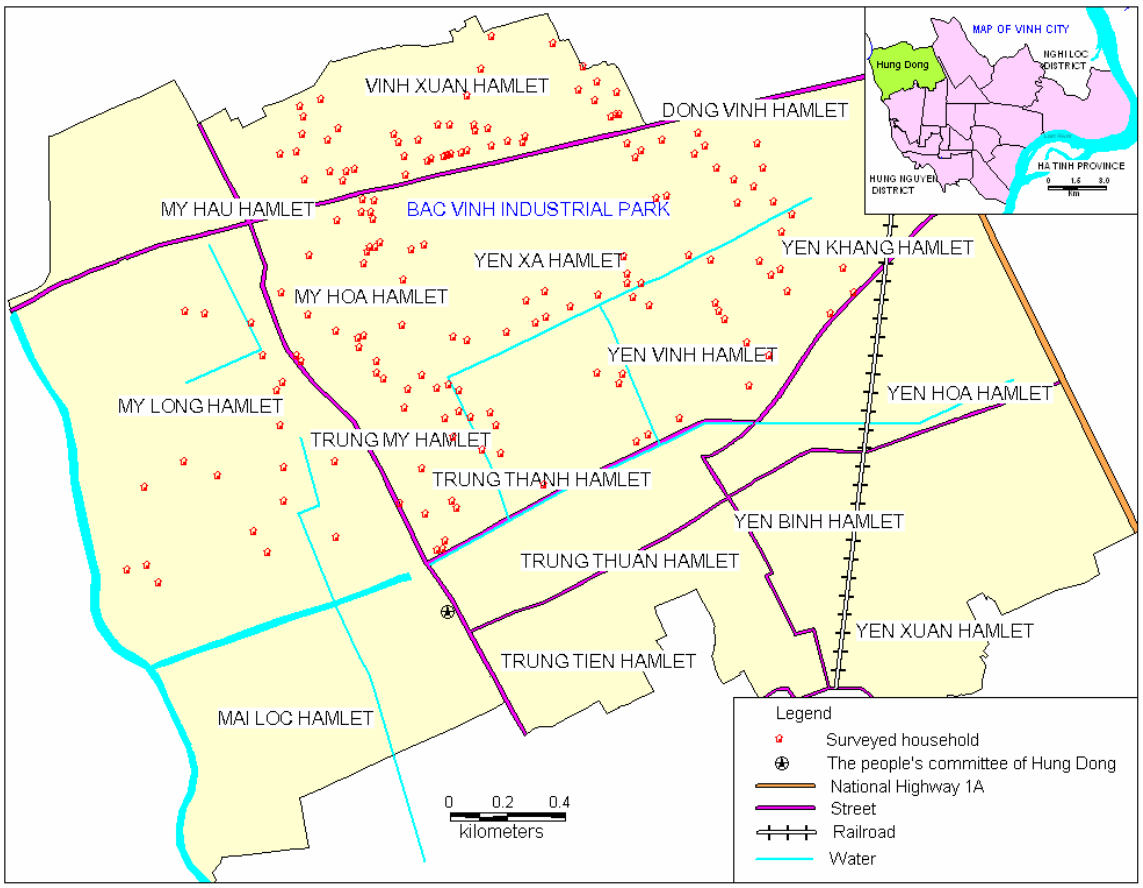
The survey was administered to farmer households through face-to-face interviews. I organized a training session for the local research assistants. The assistants, as indicated above, included lecturers and students in related fields of study, who have some experience in survey research. Pre-test interviews were run before the actual survey, helping to revise the wording on the questionnaire (e.g., using dialect words and words used by farmers) as well as to correct research assistants' misunderstanding with

regards to some questions (e.g., land allocated to farmers but managed by cooperatives is considered land owned without a red book).

Because of resource constraints, a multi-stage sample had to be taken. Based on the analysis of secondary sources of Vinh city and interviews with Vinh city's officials, Hung Dong and Nghi Phu communes were considered as survey sites. Both communes had an average urbanization growth rate and the diversified agricultural production and emergence of non-agricultural employment due to land expropriation and land use change. Taking into account the previous key informants, Hung Dong commune was finally chosen because of its higher level of agricultural diversification and the willingness of officials to cooperate in the study. Then, in consultation with the Farmers' Association officer of Hung Dong, nine out of sixteen hamlets in the commune were sampled (Map 1) based on two key issues: 1) hamlets that have seen changes in agricultural production (from or to safe vegetables, orchards, rice, cattle, poultry raising, etc.) and secondary jobs; 2) hamlets that have seen changes from agricultural to non-agricultural activities due to land tenure changes and urbanization. Safe vegetables include vegetables that retain its original nature, have the content of residual contaminants (including pesticides, nitrate, and heavy metals) within authorized limits. The production of safe vegetables applies integrated pest management, shade houses, composted manure, and approved pesticides (PCV, 1997).

For the above criteria for sampling, most of the selected hamlets were located nearby Bac Vinh industrial park. The Hung Dong Police Station provided lists of all households in the selected hamlets, which were used as a sampling frame. With the assistance of the Hung Dong Farmers' Association officer, I eliminated from the sample households that had never worked in agricultural activities. Initially, based on the number of households in each hamlet, potential survey households were systematically sampled. Every third or fifth household after a random start from each list was selected as a potential respondent. However, this procedure led to difficulties on the first day of fieldwork since the list was not updated: some people had died, and others had moved in or out of the commune. Moreover, sometimes, there was no one home at the time one of the research assistants visited. In the end, the list was used only for an initial orientation for visiting each hamlet, after which point we went randomly to other households that

farmed or had previously farmed or raised livestock in the hamlet. An attempt was made to solicit participants with diverse backgrounds in terms of gender and job experience, but within a limited age range: ideal respondents were adults who were able to discuss their family's economic and land tenure history and current situation. Finally, sampling was done without replacement. Only one member from each selected household was interviewed. Completed questionnaires were checked daily, and because of this survey rule, several interviews had to be rejected since two or more members in a household were asked to complete the questionnaire by different research assistants. This phenomenon happened because we run the survey at both farmers' houses and their fields.



Map 1. Location of surveyed households

My ongoing contact with the Hung Dong Farmers' Association officer facilitated me obtaining permission from cooperative leaders in the nine hamlets who introduced me to the households. One hundred and sixty questionnaires were completed at respondents'

houses or on their farms at a suitable time for respondents, i.e., during the day (given the 40^{o}C temperature) and sometimes at night.

4.2.4 Data collection limitations

According to Katz (1994), while conducting academic fieldwork is full of potential in terms of research findings and personal growth, it is also generally fraught with challenges. These challenges are pronounced not only in the context of conducting research in a foreign country (for example Myer, 2001), but also, in my particular case, of doing fieldwork in my home country. In the endeavours of conducting the research, I was confronted with a variety of issues that limited my ability to conduct my research. These issues included times constraint due to the requirement of official institutional relationship, and the reality of life in a developing nation like Vietnam. Moreover, the research was limited by the nature of a female researcher in the male-led working culture.

In a country of highly authoritarian governments like Vietnam, getting permission through a proper channel from the top down is critical for researchers who hope to carry out research smoothly. As a native of Vietnam, I followed this procedure strictly. Upon arrival in Vietnam, I promptly contacted to my employer in the USSH to get permission from Vinh University as a host, after which I gained a series of hierarchical permissions. Within this hierarchy, I had to be approved by first the Chief of the People Committee Secretariat of Vinh city, and then heads of offices in the People's committees before I could contact the interviewers. At the commune level, before approaching the farmers for the survey, I had to gain the permission of the Chairman of Hung Dong People's Committee, heads of offices in Hung Dong People's Committee, the heads of the nine hamlets and/or cooperatives[16]. Obtaining proper permissions like these took me weeks to finish.

In a culture where paperwork is usually conducted through parties or unofficial conversations, I definitely had my own limits as a female research in my own country. It is more obvious when the local government was male-led. In addition, my research interests are sensitive, especially, in terms of concerning issues of land use, which are

[16] Once, I was criticized by a head of a hamlet when I interviewed farmers without his permission (I had only been introduced by the head of a collective in this hamlet)

hard to get thorough information through official conversation. As such, the level of critical evaluations on agrarian transition in peri-urban Vinh may be lower than what might have been expected.

Lastly, my ability to conduct this research was challenged by the reality of life in Vinh city. As discussed earlier in this chapter, access to technology (including telephones, computers, office equipments and the internet) and public transport in this city are limited. Consequently, many things do not run as efficiently as might be expected in, for example, Canada or even in HCMC – where I used to work.

The above issues, while affecting my research, did not dramatically impede it.

4.2.5 Procedures for data analysis

Analyzing data is one of the most difficult aspects of case study research because strategies and techniques have not been well defined (Yin, 2003). Based on the study's research questions as well as the research design, the time-series analytic technique was employed. According to Yin (2003), the ability of tracing changes over time is a key strength of case studies because, most often, the case study objective is to look for "how" questions about the relationship of events over time. In this thesis, this strategy was applied to the analyses of interviews, GIS, and the survey for tracing the changes in land use, land ownership, as well as agricultural production in the period of 1990 - 2005.

4.2.5.1 Interview analysis

Content analysis has been used as a reflection of open-ended data interpretation. Although semi-structured interview responses maintain the integrity of people's concerns and ideas, they require extensive synthesis and interpretation in order to recognize or develop broad patterns that reflect the purposes of the research (Brenner, Brown, and Canter, 1985). In the thesis, interview data, along with information gathered from secondary sources, were analyzed through an iterative process of categorizing and coding. Potential themes for interpretation were drawn from the literature and based on research questions and objectives. Coded data were reviewed and organized accordingly by analytical themes. Revisions were also made to address overlapping, irrelevant, or emerging themes.

Two sets of coding were used for this analysis. The first set addressed the research objective of documenting agricultural activities and land management over time. This theme identifies and clarifies changes and trends occurring in agricultural production and land use in Vinh. To this end, all information relating directly to land use legislation and management was classified as land use planning, transaction, ownership management, and expropriation. This broad theme of local administration yielded insights for the discussion of issues related to changes in farmers' livelihoods. Farmers' livelihoods were sorted into relatively simple categories, i.e., social differentiation, and changes in job and income generation activities.

4.2.5.2 Time-series analysis of GIS

The time-series analyses of land use change and expropriation were performed in ArcGIS 9.1. To analyze the changes, the following steps were developed (Figure 2):

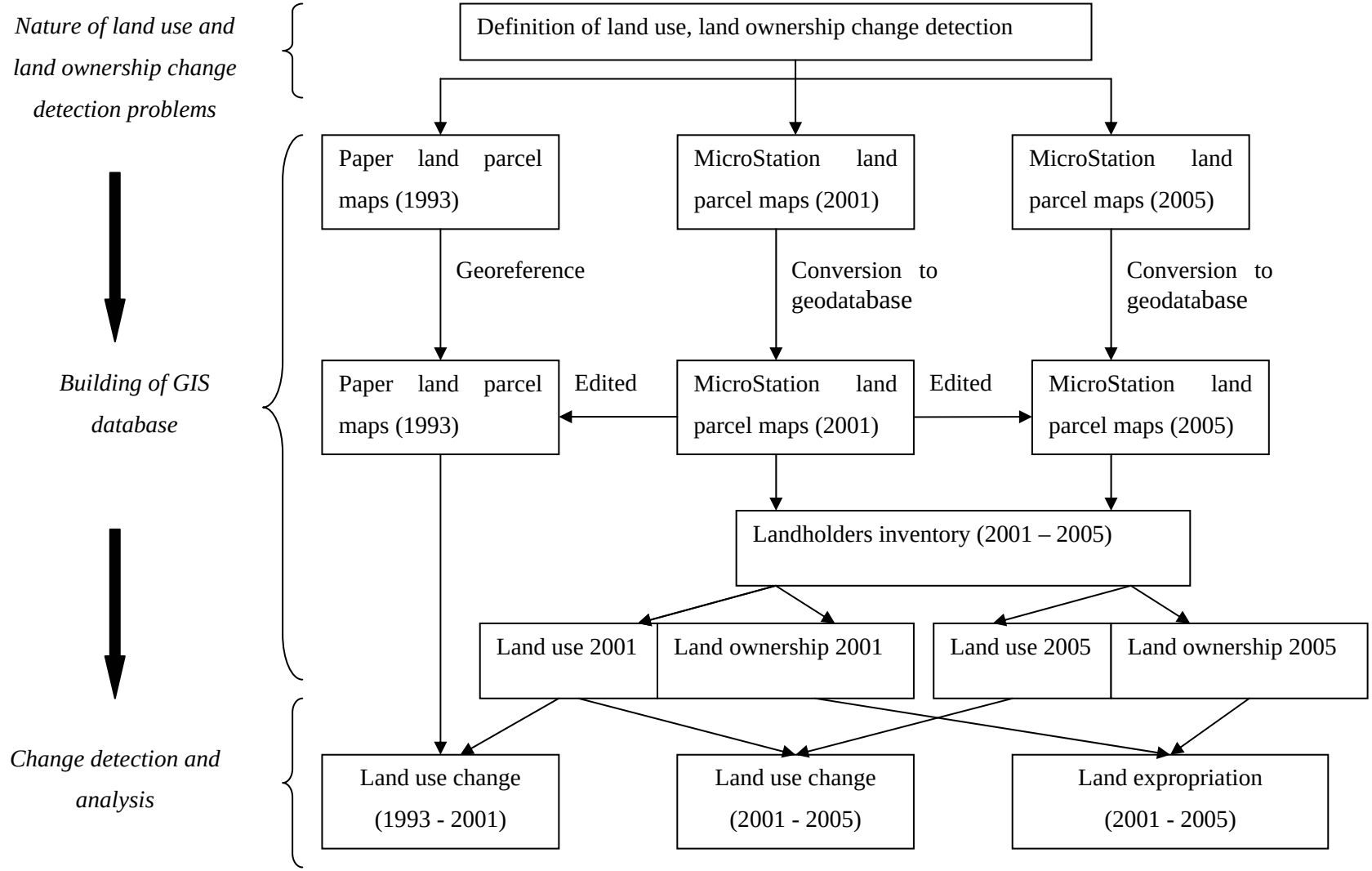


Figure 2. Procedure of GIS data analysis for land use change in Hung Dong

A. The nature of land use and land ownership change detection problems

It is wise to use a standardized land use classification system for change detection. The land use schemes used for classification of Hung Dong are based on the Land Law in 2003. According to the law, there are three categories: agricultural, non-agricultural (including residential and special used land), and unused land, each of which has sub-categories (MONRE, 2004). The nature of this thesis, which emphasizes agricultural land use change under urbanization and the available land use types in the surveyed commune led to the re-grouping of these land use types as follows:

a. Agricultural land:

- Paddy
- Vegetables
- Other annual crops
- Perennial crops
- Aquaculture

b. Residential land

c. Special use land

- Non-agricultural production and trading: land for industrial parks, trading and services, mineral exploitation, brick and tile production
- Infrastructure: land for transportation, irrigation, power, medical and health services, education, sports, and garbage dumps
- Government administration and defense
- Religions and belief
- Open water and special use water

d. Unused land

Regarding land ownership, the law assigns that landowners include households, individuals, organizations, and local government (MORNE, 2004). For the purpose of determining land expropriation, the three first categories are regrouped as private ownership. Changes from private holders to local government are considered expropriation.

B. Building the GIS database

The GIS database of Hung Dong was sourced from paper maps (1993), digital map sheets in MicroStation format (2001 and 2005), and the commune's land ownership inventory in Microsoft Excel (2001 – 2005). The 2001 sheets were chosen as the base spatial data. At first, MicroStation data of 2001 (.DGN) were converted to shape files, projected to the UTM - WGS84, and edited to get land parcels and land use types. Because I had not been able to get metadata of the Microstation map data but a whole bulk of graphics for thirty-seven map sheets, it took considerable time to figure out the information that each of forty-seven original layers per map sheet represented. After filtering necessary spatial information (plots of land), the coding was also tedious and time consuming. Once converted to Arcmap, the codes of the plots were separated from the plots and were stored in a different layer (with both graphics and attributes). Through Arcmap, the plots and their codes were "joined" together thanks to the proximity mechanism from which if a (graphic) code fell inside or was nearest to a plot, it attribute would be updated into that plot. However, not all the plots were large enough to store their (graphic) codes while other plots stored two or more (graphic) codes. This phenomenon created errors when the joins were run, and thus it took significant time to correct. Next, the entities and attributes of land parcels in 2001 were revised based on the MicroStation files of 2005, resulting in the land use maps of 2005. Thirdly, each of twenty-eight paper map sheets was scanned, transformed, and georeferenced. These map sheets were then used as references to modify 1993 maps based on 2001 data. The paper maps had a different projection compared to the 2001 maps, two different scales, and were in pooor conditions (distorted, torn, and with unclear graphics). This hindered me from the process of georeferencing with the 2001 maps: I was not able to rectify the whole sheet but only a small area within the sheet. The separate sheets of 1993, 2001 and 2005 were then appended into one map for each year. However, due to some missing paper map sheets, the 1993 land use map did not cover the entire commune. Then land use types of 1993 maps were manually inputted by visual observation from the scanned maps. Finally, the owners' names and land use types of land parcels in 2001 and 2005 were inputted into the geodatabase from the ownership inventory data. The inventory data were not in a standardized mode. Several errors such as irregular capitalization of proper names, unnecessary spacing between words, and typos had to be corrected. Therefore, instead of inputting the whole data of inventory land that contents land ownership and land use types of

each plot, this had to be done with small parts of the data to control such errors. Consequently, the GIS database consists of the land use in 1993, 2001 and 2005; and landownership in 2001 and 2005.

C. Change detection and analyses

Two kinds of change detection were executed: land use changes and expropriation. Both changes were detected by overlaying ("union" command) data from the three years. The overlay is a process of mixing different layers (data from two years) to form a new layer that contains the attributes from the original layers. The overlaying was performed using two periods: 1993 – 2001 and 2001 – 2005. However, the area of data missing in 1993 was left out of analyses when the changes in 1993 – 2001 were detected.

4.2.5.3 The analysis of the survey

The main analysis of the survey was with descriptive statistics. Prior to analysis, completed questionnaires were coded, inputted, and organized. A coding system for variables was prepared at the time of the questionnaire design. With quantitative variables, administered scores were simply recorded on the coding sheet (e.g., amount of crops produced, value of products sold). With qualitative data, scores were dummy-coded by using numbers. Of the dummy-coded technique, closed-ended questions were coded during questionnaire design (types of land change, education levels, types of income) and opened-ended ones were done after all answers were completed (e.g., reasons for stopping producing products, aspects of life wanted to improve after land expropriation). After the completion of coding, all valid questionnaires were inputted in a coherent format of SPSS database. The data were then organized and summarized. Organizing and summarizing began by grouping the data for all quantitative variables, which helped characterize the entire distribution of variables as well as to cite the average performance. Depending on the distribution and shape of the data scores when they were graphed, natural divisions or mathematical intervals were used as grouping techniques. Finally, survey data were interpreted by using descriptive statistics, such as frequency distribution, central tendency (mean/median/min/max), and cross-tabulation.

4.2.5.4 Integration

The analyses from both coded sets of the interviews, from the GIS database and from the survey are integrated to draw conclusions on peri-urban agrarian transition, local management and intervention in land, and their effects on farmers' livelihoods in peri-urban Vinh city. In turn, these findings were then compared to experiences elsewhere (based on literature review).

Chapter 5
CHARACTERIZING VINH CITY

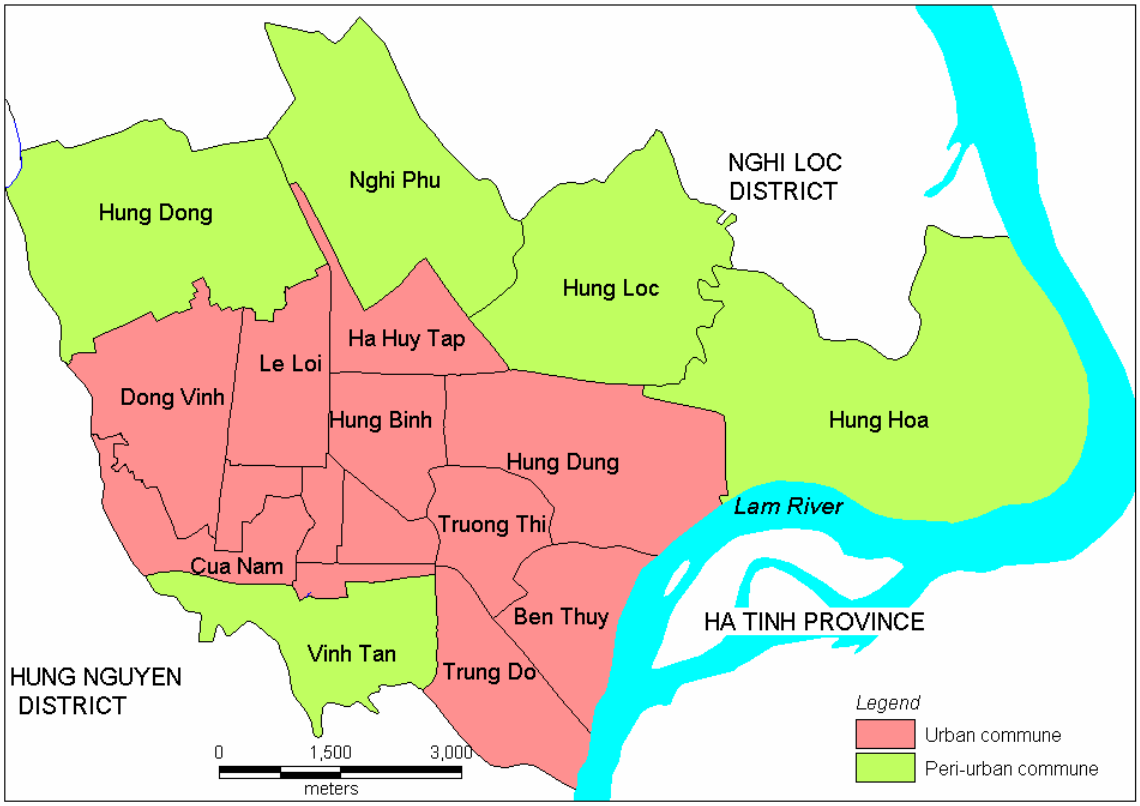
5.1 Geographic characteristics

Vinh is located in Nghe An province of the North Central Coast region, one of the country's poorest regions (Map 2). Covering an area of 16,487 km^2, Nghe An is Vietnam's largest province, and is divided between the coast, lowlands, and upland areas. The uplands, near the border with Laos, are more sparsely populated by various ethnic minorities whose livelihoods are weakly integrated into provincial markets. Close to 80% of the provincial population resides in rural areas of the lowlands where its capital – Vinh – is located. The city is at 18^0 43'50'' to 18^0 43'38''N and 105^0 56'30" to 105^0 49'50"E, Vinh is 295 km from Hanoi (to the north) and 1,447 km from HCMC (to the south). It is enclosed by Hong Linh Mountain and Lam River in the south, and Dao River in the west. The city is a 67-km^2-coastal plain, of which the cultivated area is not very fertile. For 24 km^2 along the Lam River, the soil is heavy and sandy, and requires heavy irrigation. There are 15 km^2 of exhausted sandy soil in the north. Only 11 km^2 with good irrigation are located in the west and southwest (PCV, 1997). As a tropical monsoon area, Vinh has an average temperature of 24^oC with two distinctive seasons. The hot and dry season lasts from May to September, being dominated by the south-west wind. The cold humid weather is controlled by the north-east wind blowing from October to April. Although drought usually occurs in June and July, accompanied by the hot western wind, flooding follows in the wake of typhoons in September and October (PCV, 1997). In short, the unfavorable natural conditions make agricultural production difficult, in turn making food self-sufficiency of the city more challenging and the peri-urban agriculture less practical.

Map 2. Map of Nghe An province showing Vinh city

As the intersection of north-south and east-west traffic routes, Vinh has the highways that link other national territories as well as Vietnam with the two neighbors: Laos and Thailand. Especially, the dominant highway 1, its parallel railroad, the airport, and river ports are important to the success of the city. The strategic geographic location has contributed to the development of the city. This provincial capital is home to about 237,000 of the province's 3,000,000 inhabitants (GSO, 2005). It is a bustling and fast-growing service center in the region, with a population density of 3,465 person/km^2, compared to 183 person/km^2 for the province (GSO, 2005), or to 3415 person/km^2 for Hanoi (GSO, 2006), or 2,812 person/ km^2 for HCMC (HCMCSO, 2006). Although the population density of Vinh is higher than that of Hanoi and HCMC, its urban population density is much lower. For instance, while urban population density of HCMC was 10,608 person/km^2 (HCMCSO, 2006), that of Vinh was only 6,060 person/km^2 in the same year (VSO, 2006). In contrast, the peri-urban population of HCMC was only 624 person/km^2 (HCMCSO, 2006), compared to 1354 person/km^2 of Vinh (VSO, 2006). Founded as a small town in 1802, Vinh was

destroyed in the French war and then heavily bombed during the American war. From 'the ashes", Vinh was rebuilt with the assistance of the Soviet Union and Democratic Republic of Germany. In 1982, the town of Vinh was expended with the inclusion of Ben Thuy and Truong Thi. Since 1993, Vinh has been administered by the province (UNCHS - Habitat, unknown date). This city is made up of 18 communes, of which 13 are urban communes (wards or *phuong*) and the rest are peri-urban communes (*xa*) (Map 3). The events in the past wars would badly affect the progress of urban and agricultural development in Vinh. However, no documents on this issue were found during this research.



Map 3. Administrative map of Vinh city – Nghe An province

5.2 Increasing economic development

Sharing only 7.7 percent of the provincial population, Vinh contributes 20.2 percent of the province's GDP. Over fifteen years of economic renewal, the annual GDP growth increased from 9.6% (1990 – 2000) to 13.6% (2004 – 2005) (VSO, 2001 and 2005), within which the city's economy has focused on industry and construction. The share of industrial and construction sectors in the city's GDP increased from 12.5% annually (1991 – 2002) to

15.7% annually (2000 – 2004). Likewise, the service sector grew from 11.4% annually to 14.1% annually for the same periods (VSO, 2001 and 2005). Industrial zones have been concentrated in Dong Vinh, Hung Loc, Nghi Phu, and Hung Dong (VSO, 2005).

According to VSO (2005), as an economic hub of the North Central Coast, Vinh has attracted a sizable amount of capital from foreign investment including official development assistance (ODA), funding from non-government organizations (NGOs), and foreign direct investment (FDI). Of this total investment of 53 million USD, 40%, 32%, and 28% are for improving water supply, electricity systems, and sewage systems and other facilities, respectively, in order to improve the environment. Future investment will also be mobilized with priorities in the following areas:

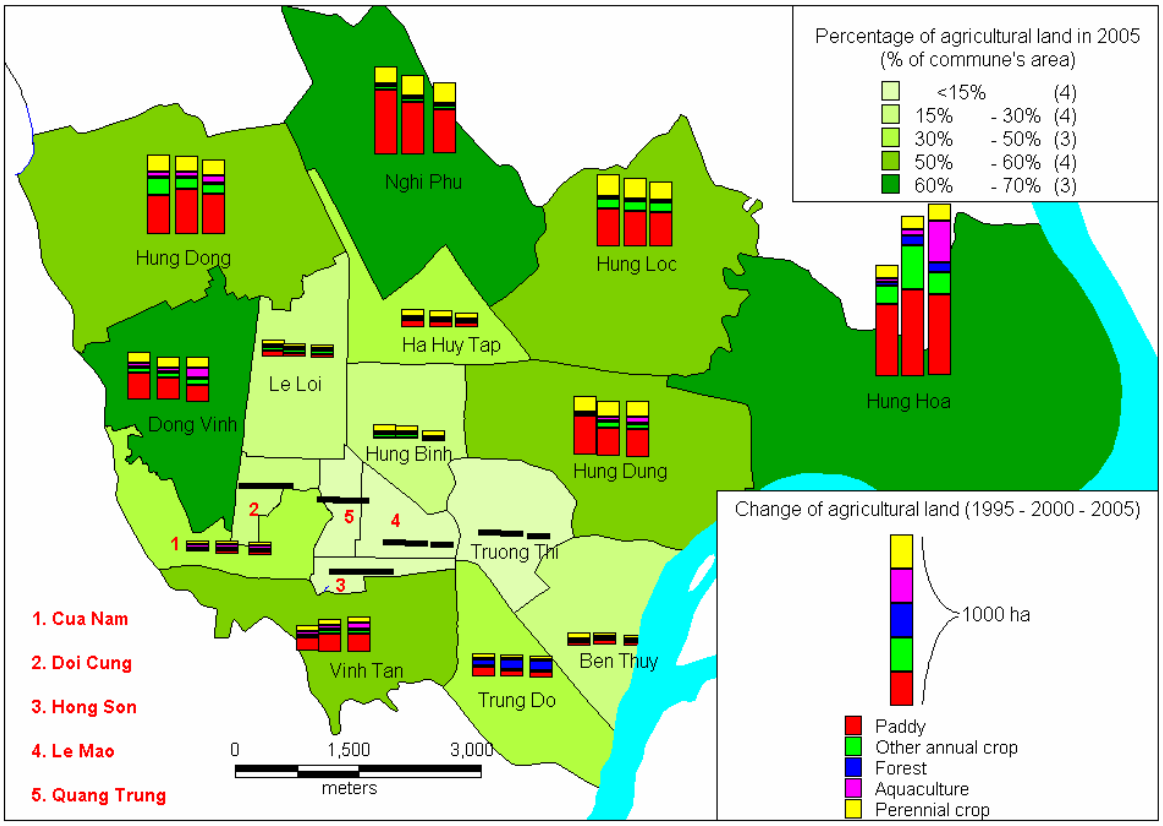
- ODA investment: transportation, water supply, sanitation, peri-urban aquaculture, human resources development, and education and training.
- NGOs investment: infrastructure, aquaculture, healthcare, education, and employment generation.
- FDI: environment improvement; exploitation and processing of agricultural, aquatic and forest products; production of building materials; and labor exports.

5.3 Agricultural production

5.3.1 The overall picture

Agricultural production (including cultivation, animal husbandry, forestry and aquaculture) is located in peri-urban communes while urban areas have almost no land for agriculture, except for Hung Dung and Dong Vinh (Map 4). After *Doi moi*, Vinh initiated commercial agriculture in efforts of satisfying the food needs of the whole city. Peri-urban agriculture has moved from a rice monoculture to polyculture. This shift also marks the transformation of commercial agriculture: applying advanced sciences and technologies (especially crop varieties); developing areas specializing in vegetables, flowers and ornamentals; and promoting aquaculture (Interview 3, 2006). However, the role of agriculture has declined in the Vinh economy while the industrial and service sectors have grown alongside robust urbanization since 1990 (NSO, 1996 and 1999, Nghe An government, 2005). Agricultural production accounts for only 2.7% of the city's economy

(VSO, 2005). Furthermore, Vinh has seen agricultural growth slow down from 6.5% in 1990 to 1.3% in 2005 (VSO, 2000 and 2005).



Map 4. Area of agricultural land in Vinh city over time

(Data: Land Administration Office, 2006)

The impetus of urbanization has resulted in the decline of agricultural land, and in the emergence of a few areas designed for horticulture and aquaculture. Intensive production of safe vegetables, fish and shrimp, livestock, and poultry has become a key activity of peri-urban agriculture. Agricultural cooperatives bridge the local government and farmers: supporting farmers in terms of irrigation, land use conversion, and other agricultural activities under the steering of the Economics Office of Vinh. The city has twenty-two cooperatives, which are mainly located in peri-urban communes and administered by their commune authorities (Interview 7, 2006). However, agricultural production in Vinh is small, fragmented, and dispersed. It does not satisfy the local needs for food, which is mainly sourced from neighbouring districts or even from Hanoi (Interview 1, 2, 8, 2006).

5.3.2 The structure of peri-urban agriculture

During the period 1990 - 1995, rice paddies dominated the peri-urban areas, and commercial cultivation made up only 37.6% of total crop production (Interview 7, 2006). Since 1996, Vinh authorities have diversified agricultural products in the city, by carrying out provincial policies that promote and support agricultural production and rural development, particularly, decision 117/QD-UB in 2002, decision 13/QD-UB in 2004 on investment and supports for cultivation, decision 31/QD-UB in 2003 on investment and supports for aquaculture, and decision 07/QD-UB in 2006 on investment and supports for cultivation. These policies, which are implemented mainly through projects, have been positively received by most farmers because they allow farmers to take advantages from local government supports, and because most of the agricultural products promoted in these policies are high value products (Interview 1, 3, 7, 2006). Even more, in speaking with farmers, I knew that farmers whose land was outside projects' geographical scope have managed to grow the products even though they have received little to no supports from the programs.

Regarding crop production, according to the local officials (Interview 1, 3, 7, 2006), rice has been replaced by vegetables, industrial crops, fruits, and ornamentals. The city's government has subsidized industrial crops (peanuts, sesames, soybeans), in terms of seeds, pesticides, fertilizers, and nylon. In particular, Vinh implemented a policy for the development of safe vegetables, fruits and flowers in 1997 (Interview 1, 2, 3, 2006). Safe vegetables have been promoted by the Vinh government, which partially subsidizes new vegetable varieties and herbicides. The local government also offers loans to farmers participating in this project. Vinh's Agricultural Extension Office, in coordination with commune agricultural associations, cooperatives, and women associations, has organized a multitude of training courses, workshops, and visiting tours of safe vegetable, fruit, and flower productions. To further encourage cultivation, Vinh city develops irrigation systems, reduces irrigation fees, and subsidizes agricultural machinery (Interview 1, 2, 6, 2006). Map 4 shows that although the area of rice cultivation has decreased, it still occupies more than 50% of agricultural land in peri-urban areas. Of the other annual crops, vegetables are well developed with approximately 600 ha in Vinh Tan, Hung Dong and Dong Vinh, of which an area of 120 ha is devoted to safe vegetables. The annual industrial crops are developed in

Hung Hoa (150 ha of seagrass), and Hung Dung, Nghi Phu and Hung Loc (600 ha of peanuts). Perennial crops and orchards are redesigned from mixed gardens, and dispersed within all peri-urban communes and some urban communes (Hung Dung, Ben Thuy, Trung Do, Dong Vinh, Ha Huy Tap) (Map 4). Finally, a small amount of flower and ornamental tree production is concentrated in urban areas.

Similar to crop cultivation, the Vinh government subsidizes the purchasing of breeding pigs and calves, and pays the interest on the loans for up to one year for farmers to purchase more animals. The Vinh government also holds some training courses. For poultry, the local government subsidizes the producers who had their poultry culled during the avian flu outbreak, and provides free vaccinations for all poultry producers. However, this subsidy is very limited; for example, farmers received the amount of 5,000 to 15,000VND (0.30 – 0.90 USD) for each bird exterminated, and 200,000 VND (12.40 USD) for replacing a flock of 500 birds (Interview 7, 2006). In general, during the period 1990 – 1995, animal husbandry was limited to poultry production (chickens and ducks) at the household level. Poultry are raised in most farmers' households. Waterfowl are reared mainly in Hung Hoa and Vinh Tan communes, given their large volume of water bodies. In 2005, 180,000 birds were raised in the city. Although commercial cattle ranches have been developed, the number of cattle has fluctuated within the period. The fluctuation resulted in the number of cattle in 1995 being almost the same with that in 2005 (Figure 3). According to the Agricultural Extension Office and the Farmers' Association, the stagnation in animal husbandry has been caused by local farming practices and food safety concerns. As with crop production, small-scale production is a key characteristic of animal husbandry. However, some large-scale farms (two hired laborers or more) produce only 50 – 70 cattle or 1,000 – 2,000 birds/year. Foot-and-mouth disease and the avian flu have created a scare among consumers in recent years. the lack of consumer confidence in the meat market is responsible for the decrease in peri-urban animal husbandry.

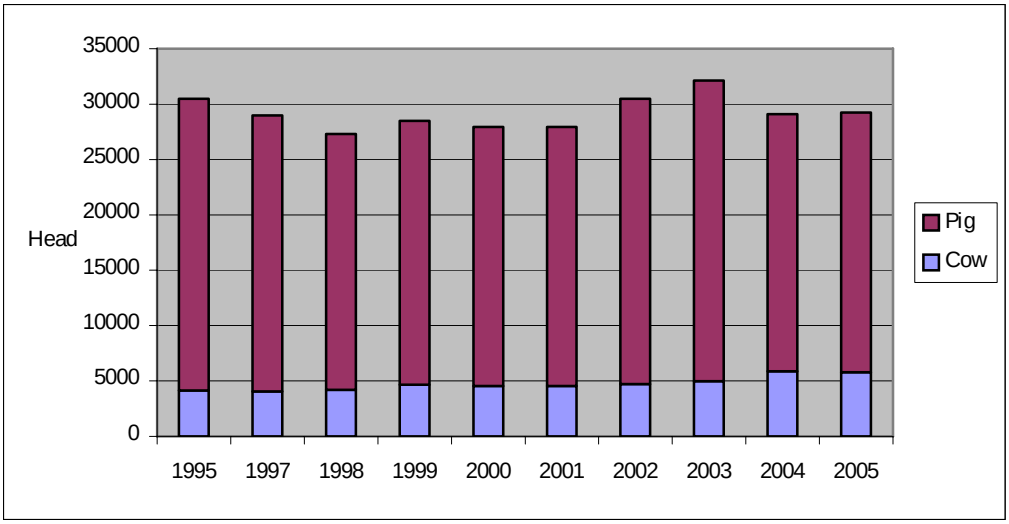


Figure 3. Cattle raising in Vinh over time

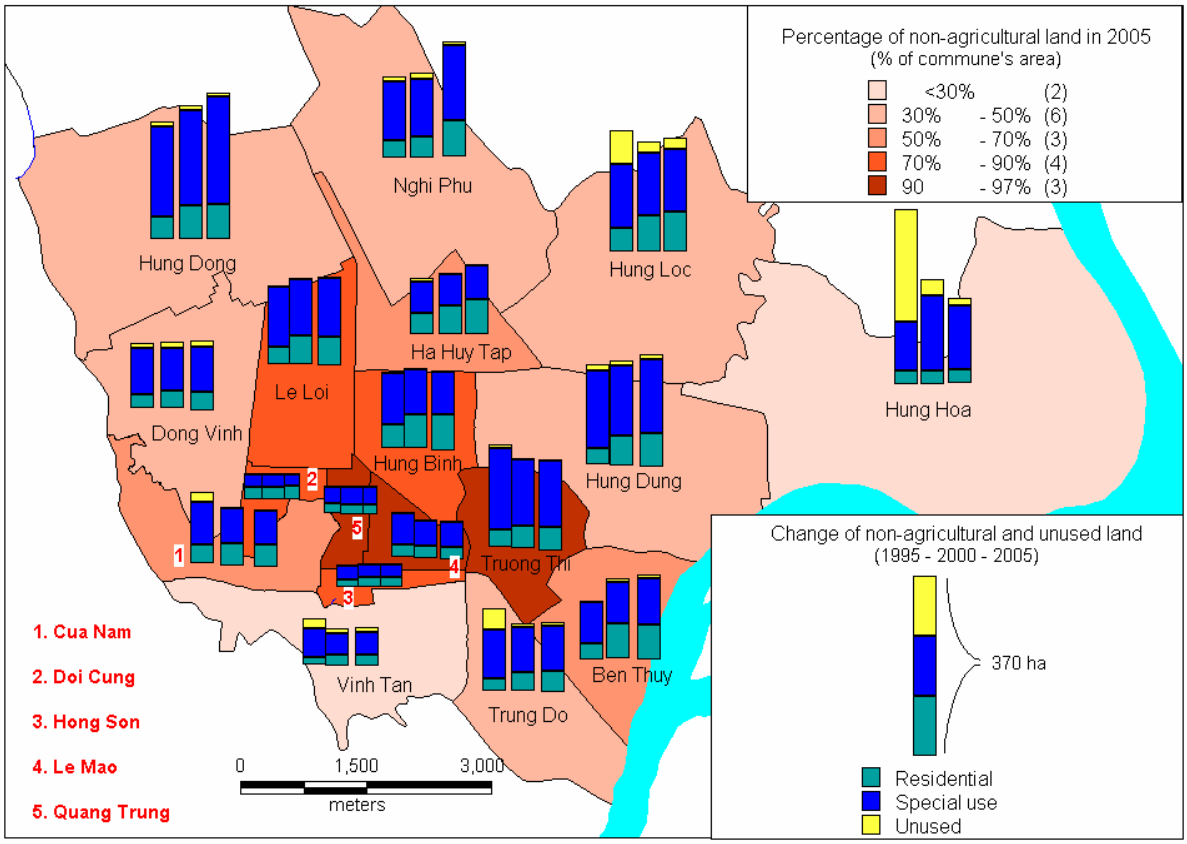
(Data: VSO, 2001, 2003, 2005 and 2006)

Regarding aquaculture, Map 4 shows that the area devoted to aquaculture was not significant until 2005, as opposed to the areas used for other agricultural activities. Map 4 also illustrates the sharp increase in the area used for aquaculture (up to 250 ha) in Hung Hoa from 2000 – 2005. The reason behind the increase is that the provincial and city governments increased their incentives for fish and shrimp production. Aquaculture has been defined as the key agricultural activity of the city since 2001 (Interview 1, 2, 2006). Based on the national and provincial policies on the promotion of aquaculture[17], local authorities approved Hung Hoa as the fish and shrimp producing area, with an export orientation. This commune has large areas of fresh and brackish water, which is suitable for aquaculture. Particularly, Vinh authorities finance farmers (partly or wholly, from the provincial and city budgets) to convert land from low-yield crop production to aquaculture, buying young fish and shrimps, constructing an infrastructure for aquaculture, and holding workshops on production techniques.

[17] Decision 224/QD/TTg of the Prime Minister on promotion of aquaculture during 1999 – 2010, dated December 08 – 1999; and Decision 58/2001/QD-UB of the People's committee of Nghe An, dated June 27 - 2001

5.4 Land use management

According to the Land Administration of Vinh (Interview 4, 2006), land use planning was approved and stabilized in urban communes where agricultural land and unused land barely exist anymore (Map 4). Non-agricultural land (including residential and special use) is stable and occupies the majority of land in urban areas, particularly in Quang Trung, Le Mao, and Truong Thi (>90%). Of the total non-agricultural land, the percentage of special use land, which includes land for non-agricultural production, infrastructure, and offices, is extremely high in all communes (Map 5). In peri-urban areas, Map 5 also shows that although the share of non-agricultural land in total area was still low in 2005, the area used for non-agricultural activities has increased constantly over 10 years, demonstrating the upward trend of urbanization.



Map 5. Non-agricultural land in Vinh city over time

(Data: Land Administration Office, 2006)

The interviews with the Land Administration Office and the Economics Office confirmed that the majority of agricultural land has been used mainly for the construction of industrial parks, new urban centers, trading centers, hospitals, and clinics. Industrial parks are situated in the northwest side of the city: Dong Vinh, Hung Dong, Nghi Phu, and Hung Loc. New urban centers are being developed in Nghi Phu and Hung Loc. Hung Hoa is the only commune in which most paddies and unused land are being converted to aquaculture to satisfy the new economic policy.

By 2005, Vinh had 76% (5120 ha, including residential and agricultural land) of its total area allocated to households, individuals, and organizations; while 24% was used by the city and commune governments. However, only 22% of allocated land (mainly residential) was issued LURCs (Land Administration Office, 2006). According to the respondent in the Land Administration Office, most agricultural land in the city was allocated to collectives, which are responsible for redistributing land to their members. As in the north (see Smith, 2004) and China (Wang 2005, Ravallion et al., 2006), this historical legacy of land distribution on an egalitarian basis may be one of the causes of land fragmentation in Vinh city. Moreover, collective agriculture may have substantial effects on the contemporary agriculture in peri-urban Vinh. However, it is difficult to confirm what those effects are, given the time limitations of this research. Because Vietnam's government works on a four-year term, none of the interviewees who are currently in charge of agriculture and land management could answer the question about collectives' impacts on Vinh's peri-urban agriculture. Nor could they refer me to anyone else who could do so. In addition, unlike Hanoi or HCMC, where abundant research has been conducted, Vinh city has not been a subject of much research. Therefore, searching for evidence about the impacts of collective agriculture on current agricultural production in Vinh city may be a time-consuming and not feasible for this thesis. Even among the extensive research in peri-urban Hanoi and HCMC, I found no discussion on impacts of collectives on current agriculture production. Nevertheless, this would be an interesting question for further research of peri-urban agriculture in Vietnam.

In terms of land expropriation, local authorities compensated 'landowners' based on prices set by the state. In addition, compensation was also determined based on the land use type of the plots and their specific location. As such, the prices varied from 15 million

VND/m^2 to less than 10,000VND/m^2 (1,000 USD to less than 0.7USD) depending respectively on whether the plots were non-agricultural land and situated in urban centers, or if they are agricultural land located in peri-urban areas (Interview 4, 2006).

In summary, in seeking to position itself as a nodal city for the North Central Coast region by 2010, much of the agricultural land in Vinh's peri-urban areas is being converted to other uses. In particular, the master plan of Vinh calls for a large part of the peri-urban area to be zoned as urban, especially in peri-urban communes such as Nghi Phu, Hung Loc, and Hung Hoa. The agricultural land that remains is increasingly devoted for commercial purposes, with enhanced vegetable and fruit production[18], and aquaculture. Agriculture has shifted from rice to vegetables and aquaculture. These shifts provoke potential conflicts over land resource management in the city due to the intensification and dislocation of agricultural land, as discussed in Chapter 7.

[18] Decision no 08/2003/QD-UB of Nghe An people's committee

Chapter 6
AGRARIAN TRANSITION IN HUNG DONG COMMUNE

6.1 Background information on Hung Dong

Located in the northwest of Vinh, Hung Dong commune is composed of sixteen hamlets and covers an area of 772 ha (see Map 3). It is home to 8500 people (approximately 2250 households), 70% of whom work in agriculture. For the most part, they are long-term residents. Some, thanks to the policy of developing vegetables as a green belt and food source for Vinh city, migrated several years ago from nearby districts that are well known for vegetable cultivation (Interview 5, 6, 2006). The average area of agricultural land per adult member in farming households is 590 m^2 (PCHD, 2006). According to interviewees (Interview 5, 6, 2006), this is one of the most dynamic communes in the city with a highly diverse agricultural production. Agriculture has been restructured from a rice monoculture to cultivation of other crops (vegetables, flowers, ornamental trees) and aquaculture. Despite making up 50% of the commune's economy, agriculture is losing its decisive position. Instead, increasing industrial and service activities are the goals of the commune's authorities (PCHD, 2006). Since 1995, the commune has seen changes in land use to satisfy the goals of urbanization. Several projects were approved in which agricultural land in Hung Dong has been converted for industrial uses. At the same time, a large amount of land has also been used for constructing infrastructure facilities in order to attract investment (Interview 5, 2005). However, the projects' beneficiaries are either the province or the city, meaning that the economic benefits from activities within these industrial parks do not flow to the commune nor its residents (Interview 6). Given such a situation, the following sections, which are analyzed using GIS and the household survey, investigate farmers' displacement due to land conversion, transaction, and expropriation, with reference to job or income diversification, and social differentiation.

6.2 Agricultural production

As revealed in the survey, the main agricultural products in Hung Dong are rice, pigs, cows, vegetables, and industrial crops, most of which were also grown before or during the

period of 1990 – 1995 (88 – 98% of farming households). Field observations show that labour-intensive agricultural practices are still dominant in peri-urban Vinh. Cropping still relies on manual labor and plots of various sizes (even front yards), as illustrated in Appendix D. For livestock raising, farmers in Vinh take advantage of any space, such as crop-land after harvest, and vacant space, as demonstrated in Appendix D. The growing of vegetables and flowers has also recently developed thanks to the restructuring of the agricultural economy, in which they are given priority. Approximately 20% and 27% of all flower producers started in the periods of 1995 – 2000 and 2000 – 2005, respectively. Vinh recently launched a safe vegetable program due to the concerns of pesticide remaining in vegetables and aquaculture intended for export. In another peri-urban commune, export-oriented aquaculture is widespread. However, although promoted by local authorities, safe vegetable production and aquaculture are questionable. Firstly, so-called "safe" vegetable fields are located around the industrial park, the city's garbage dump, and a cemetery, in violation of state regulations for safe vegetable production (see Appendix E). Most households have petitioned the government to move the garbage dump and to better manage the waste from the industrial park. However, how to resolve the problems remains a challenging question for the authorities. Secondly, after the harvest season of aquaculture, one third of water in ponds is discharged into rivers or cultivated fields without treatment. This source of water is used for washing, raising animals, and watering vegetables. Meanwhile, the wastewater from shrimp aquaculture increases nutrients, organic matter (causing eutrophication), salt concentration (causing salinization of fresh water), and chemical contaminants. Moreover, the pollution from inland shrimp aquaculture is likely to be more severe than marine aquaculture because inland aquaculture has smaller volumes of water for the dilution of contaminants and salinity loadings, compared to marine aquaculture (Lebel et al., 2002). Thus, wastewater from intensified shrimp aquaculture in Vinh city potentially affects downstream users.

The value of agricultural products and the extent of home consumption are shown in Table 4. On average, the value of each product produced by a household (including the amount for home consumption) is low: 2 – 6 million VND/year (124 – 373 USD/year). However, the highest values of products that are mainly for trade reach 20 – 45 million VND/year (1,242 – 2795 USD/year), depicting differentiation among producers in terms of production scales and commercial purposes. Even so, the number of households obtaining

those values is small. Thus, it would not be surprising to say that agriculture in peri-urban Vinh depends largely on family labor. In peak seasons, most households hire only 2 – 3 laborers, who usually come from rural areas of neighboring districts, at low fees (20,000 – 30,000VND/day, equivalent to 1.2 – 1.9 USD/day).

Value of products sold (million VND)		**Percentage of home consumption**				**Total**	**Percentage**
		0 – 25	25 – 50	50 – 75	75 – 100		
Rice	<2	0	1	0	18	19	**17**
	2 – 4	0	10	2	43	55	**48**
	4 – 6	3	3	1	19	26	**23**
	6 – 9	0	1	1	8	10	**9**
	10 – 15	2	0	1	1	4	**4**
Total		5	15	5	89	114	**101**
Percentage		**4**	**13**	**4**	**78**	**99**	
Vegetables	<=2	14	0	0	5	19	**21**
	3 – 4	18	1	0	1	20	**22**
	4.5 – 9	18	2	0	0	20	**22**
	10 – 15	21	2	0	0	23	**26**
	16 – 20	3	0	0	0	3	**3**
	20 - 34	5	0	0	0	5	**6**
Total		79	5	0	6	90	**100**
Percentage		**88**	**6**	**0**	**7**	**100**	
Industrial crops	<=1	14	7	0	7	28	**37**
	1 – 3	35	4	0	3	42	**56**
	3 – 8	5	0	0	0	5	**7**
Total		54	11	0	10	75	**100**
Percentage		**72**	**15**	**0**	**13**	**100**	
Cows	<=2	25	0	0	0	25	**27**
	2.5 – 5	39	0	0	1	40	**43**
	6 – 9	16	1	0	0	17	**18**
	10 – 15	10	1	0	0	11	**12**
Total		90	2	0	1	93	**100**
Percentage		**97**	**2**	**0**	**1**	**100**	
Pigs	<=2	23	1	0	0	24	**19**
	2 – 4	48	3	0	0	51	**40**
	4 – 6	23	2	0	0	25	**20**
	6 – 8	10	0	0	0	10	**8**
	9 – 12	10	0	0	0	10	**8**
	15 – 45	6	0	0	0	6	**4**
Total		120	6	0	0	126	**100**

Percentage		**95**	**5**	**0**	**0**	**100**	
Poultry	<1	1	1	0	9	11	**38**
	1 – 2	2	1	0	7	10	**35**
	2 – 3	2	1	0	0	3	**10**
	5 – 21	4	1	0	0	5	**17**
Total		9	4	0	16	29	**100**
Percentage		31	14	0	55	100	
Flowers	<=2	4	0	0	0	4	**27**
	3 – 5	5	1	0	0	6	**40**
	6 – 8	5	0	0	0	5	**33**
Total		14	1	0	0	15	**100**
Percentage		**93**	**7**	**0**	**0**	**100**	

Table 4. Percentage of home consumption by products' value produced by households

In Table 4, products that have 0 – 25% for home consumption are analyzed as commercial products, and those that have 75 – 100% for home consumption are considered products of subsistence farming. The majority of surveyed households have a value of rice production ranging from 2 – 6 million VND/year. Of them, 48% earn 2 – 4 million VND/year (124 – 248 USD/year); 23% earn 4 – 6 million VND/year (248 – 373 USD/year); and 17% earn <2 million VND/year (<124 USD/year). Only 4% of rice producers achieve 10 – 15 million VND/year (621 – 932 USD/year). In addition, 78% of rice is grown for home consumption; only 4% is produced purely for sale. Compared to rice, vegetables are higher value products and are produced commercially. Table 4 shows that up to 35% of vegetable producers reach the value of 10 – 34 million VND/year (621 – 2,112 USD/year), 70% of producers reach 3 – 15 million VND/year (186 – 932 USD/year), and 88% produce for market. Table 4 also reveals that the larger the value of vegetable produced, the smaller the consumption scale. In terms of industrial crops (peanut and sesame), 87% of households grow for sale. However, they are not the main products in the agricultural economy, and the majority of households produce a value of only 1 – 3 million VND/year (62 – 186 USD/year). Although flowers are not commonly produced among survey households as industrial crops, they are also commercial products: 93% of flower producers have 0 – 25% for home consumption. In addition, flowers bring a value of 3 – 8 million VND/year (186 –

500 USD/year) to a majority of households (40%). This is one of the reasons for the increase in the number of flower producers and the decrease in that of industrial crops as well as rice households.

In terms of animal husbandry, cattle appear to be a more common and commercial product than poultry. As seen from Table 4, 95 – 97% of cattle are raised for sale, and most of the value obtained from this activity is 2 – 6 million VND/year (124 – 373 USD/year). In contrast, poultry (chickens, geese, and ducks) is a home-consumed product, and 70% of the poultry producers realize value of poultry sold less than or equal to 2 million VND/year (less than or equal to 124 USD/year).

In short, Table 4, while rice and poultry are produced mainly for home consumption, other products are significantly for sales. However, for each of these commodities, majority of households realize small values from products sold, implying that the products' quantity is not much. As such, this table suggests that while peri-urban agricultural production in Vinh satisfy food needs of peri-urban population, it can not meet the needs of urban population which is much more crowded than peri-urban population. Thus, agriculture in peri-urban Vinh does not fulfill its roles of securing food for the city.

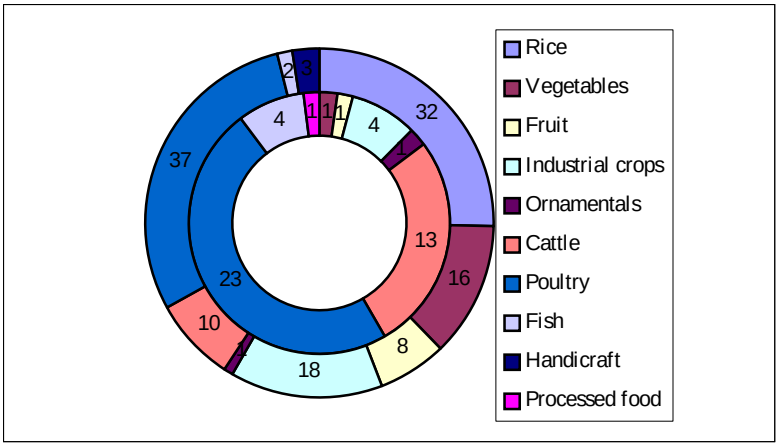
In terms of forms of products sold, the survey analysis shows that post-production activities, including processing, packaging, marketing, and delivering, have not developed yet. Most households simply sell agricultural products raw, dried, or cleaned (Table 5). Rice is usually sold after it has been sun-dried (unhusked) (80% of households), while some is sold right from the field (20% of households). Likewise, 91% of industrial crop producers sell their products after products have been sun-dried; the rest sell their products raw from the field. While vegetable producers mainly clean their products before sale, flower producers sell immediately after harvest. Livestock and poultry producers sell their products as a whole. Obviously, none of the products is packaged or processed before it is brought to market. No matter whether products are sold raw, cleaned, or dried, or sold at the farm gate, home, or market, farmers have to market themselves. There are almost no packaging activities. Safe vegetables are treated the same way. They are sold fresh after cleaning, none of them is packaged, let alone certified. The same practices are applied to shrimp production in the other commune. When products are sold from the field or home, buyers have to transport the products. On the other hand, if sold at the market, farmers have to transport by

either motorcycles or bicycles. Even with government-led programs (i.e., vegetables and shrimp aquaculture), farmers have to either sell at traditional markets every morning during harvest seasons (because they do not have stalls, they have to go early to get a space for selling their products) or look for an intermediary who buys all perishable products at once. During my visit, the sole supermarket in the city – Maximark, a Saigon-based chain – sold only a handful of frozen products that were mostly imported from elsewhere. No fresh nor local produce was found.

Product	Form of sale	Frequency	Percent	Product	Form of sale	Frequency	Percent
Rice	Raw	6	20.0	Industrial crops	Raw	6	8.8
	Dried	24	80.0		Dried	62	91.2
	Total	30	100.0		Total	68	100.0
Pigs	Raw	125	99.2	Vegetables	Raw	21	24.7
	Cleaned	1	0.8		Cleaned	64	75.3
	Total	126	100.0		Total	85	100.0
Cows	Raw	92	100.0	Poultry	Raw	13	100.0
	Total	92	100.0		Total	13	100.0
Flowers	Raw	12	80.0				
	Cleaned	3	20.0				
	Total	15	100.0				

Table 5. Forms of products sold by households

During the period 1990 – 2005, agriculture in Vinh has changed. Seventy-five percent and twenty-eight percent of the surveyed households stopped producing at least one or two products, respectively. Figure 4 demonstrates that poultry, rice, industrial crops, vegetables, and cattle are the first products most frequently abandoned by producers. The second products mostly abandoned are poultry and cattle.



Note: Outer ring: number of households that abandoned at least one product, inner ring: number of households abandoned at least two products

Figure 4. Number of surveyed households that stopped producing at least one or two products

According to the survey, the reasons for discontinuing the above products are the non-tradability of products, high input cost, fluctuation of output prices, overproduction, competition, food safety concerns, unfavorable weather, and diseases (Figure 5). As shown in Figure 5, the main reasons for the decline of poultry and cattle production are diseases and concerns of food safety. Avian flu first appeared in Vietnam in December 2003. Since then, it has spread quickly over the country (Lao Dong newspaper, 2004). Due to poultry's death from the disease and mass killing policy, Vinh farmers stopped raising poultry (53% of respondents). Similar to poultry producers, 66% and 58% of valid respondents confirmed that foot-and-mouth disease were responsible for the elimination of cow and pig production, respectively. Another impact of the avian flu and foot-and-mouth diseases is consumers' concerns of food safety, i.e., the scare of eating these kinds of meat, resulting in the decline of demand, which in turn discouraged farmers from animal husbandry. Regarding the decline of rice cultivation/cultivating households, home consumption – which entails that farmers do not realize cash from harvest, making farmers feel rice is not worth growing – is the leading reason (62% of respondents). The percentages of valid respondents that considered high input cost and the fluctuation of output price to be the reasons for the abandonment of rice cultivation are 21% and 17%, respectively. The same situation is applied to industrial crops,

of which the fluctuation of output price, high input cost, and home consumption occupied 38%, 37% and 25% of respondents' choices, respectively. According to the farmers, the market fluctuation of industrial crops is caused by export programs: the price drops dramatically when there is no purchase for export. Even vegetables – the key products of Vinh peri-urban agriculture – also have experienced a decline in the number of producers due mainly to the competition from other places (Dien Chau district, Quynh Luu district and Hanoi), overproduction, and bad weather conditions (extremely hot and dry during the summer, and frost in the winter). About 6% of producers stopped growing vegetables due to the concerns of food safety, indicating a growing challenge to producers as the city develops but signaling a promising future for safe vegetable production.

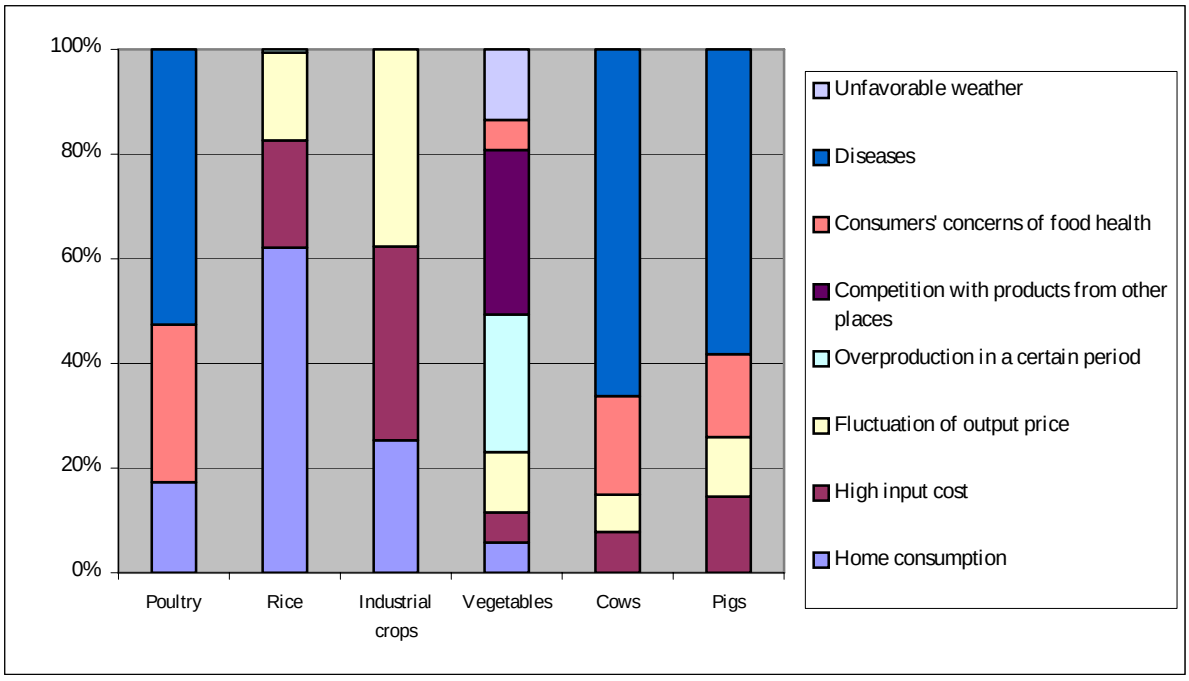


Figure 5. Reasons for discontinuing production of an agricultural product

According to the interviews, peri-urban agriculture is considered a buffer activity of urbanization rather than a development priority. The city's agrarian land is minimized and agricultural production (aquaculture) is export-oriented. Meanwhile, as is common practice within larger cities, the local food system satisfies only a small part of the city's needs. Most local food is sourced from other districts or even from peri-urban Hanoi. Local government

officials also assert that the city encourages immigration in order to meet the population criterion of becoming an independent municipality – called a first-class urban center (*do thi loai 1*) as HCMC and Hanoi – by 2010. According to decree 72/ND-CP of the Prime Minister in 2001, to become an independent municipality, a city must have a population of 500,000 persons or more. Vinh's population was less than 300,000 persons in 2005, so the city needs to double its population by 2010. Therefore, food imports are potentially significant to this city, increasing food prices because of food miles.

These above analyses from Vinh suggest that peri-urban agriculture in a mid-sized city is small, fragmented, and home consumed. Different from weather conditions and natural resources in Hanoi and HCMC, severe weather conditions and limited natural resources (especially soil) make Vinh's agriculture become more difficult for farmers. While, as discussed in Chapter 4, effective networks of public institutions (including local, national, and international donors) and private entities support agricultural production and marketing in big cities, farmers in peri-urban Vinh receive only limited support from the local government via cooperatives. For all kinds of agricultural products, farmers have to market and distribute products themselves. Post-production activities in smaller cities, including processing, packaging, marketing, and delivery, should be taken more into account in agricultural development. On the other hand, the paradigm of peri-urban development in a mid-sized city is similar to that of larger cities from which urbanization and industrialization take precedence over agriculture. Cities of all sizes in Vietnam, as those in other developing countries, do not consider peri-urban agriculture a priority; peri-urban agriculture has instead been designated for high value vegetables and animal products although some cities do a better job than others (as indicated in Chapter 2 and 3). Despite the effort in transforming from a rice monoculture to polyculture with the intensification of higher value products, feeding cities from locally grown products is impossible. Decreasing agricultural land, increasing food needs, and escalating food prices provide few prospects for the peri-urban poor and farmers who make up a significant part of Vietnam's population and depend significantly, if not solely, on agriculture.

6.3 Livelihoods transformation

6.3.1 Job diversification

The survey (Figure 6) shows that there were very few purely agricultural households in Hung Dong (15 out of 160 households). The majority of the farm households combined farming with non-farm employment. Noticeably, about 4% of farm households had totally converted to non-farm jobs.

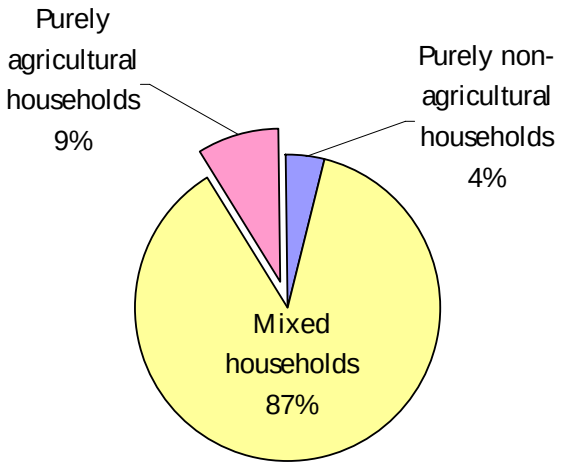
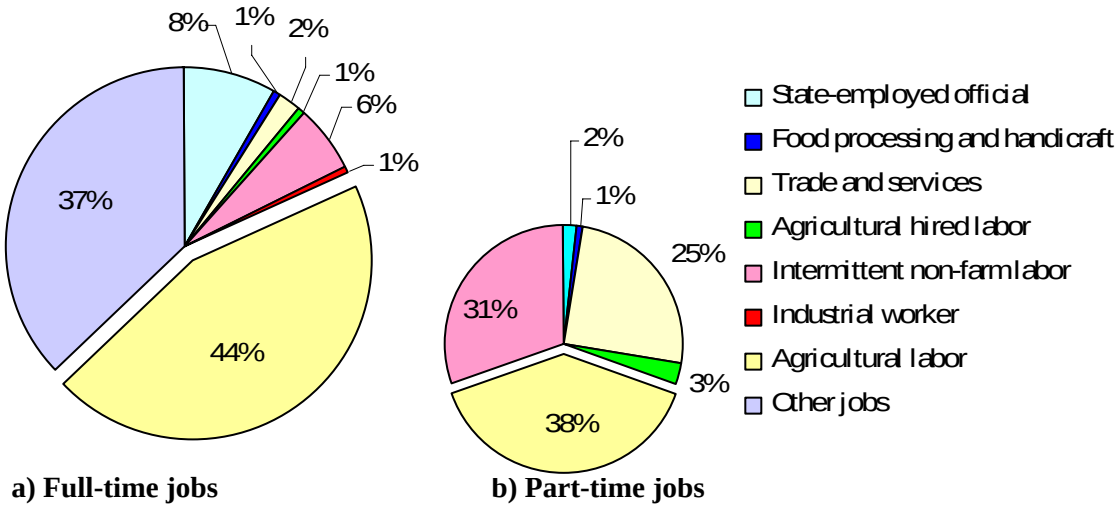


Figure 6. Agricultural households in Hung Dong in 2005

Although farming was still the primary activity of the population, as illustrated in Figure 7, employment transformation was striking in this commune. About 20% of the farming population worked in non-farm sectors as full time jobs in 2005, including state-employed officials, intermittent non-agricultural jobs, trade and services, handicraft and food processing, industrial workers, and agricultural workers. Out of 732 persons within 160 surveyed households, 108 persons had a part-time job in 2005, of which 38% were farming while working in non-agricultural sectors as a primary occupation. In contrast, 63 farmers were working in non-agricultural sectors as their part-time jobs (62% of part-time laborers). Most often, non-agricultural laborers included households that lacked land, technology, capital, and knowledge for diversification and intensification.



a) Full-time jobs **b) Part-time jobs**

Note: Full-time job: 732 persons; part-time job: 108 persons; Elderly and infants who were incapable of working were excluded; Intermittent non-agricultural jobs included motorcycle taxi drivers, construction workers (*phu ho*), self-employed electricians or carpenters; Other jobs included students, export laborers, and housewives.

Figure 7. Occupations in Hung Dong in 2005

6.3.2 Income diversification

Overall, there is a slight decrease in the share of household income from agriculture sources, and a corresponding increase in the share of income from non-farm activities (Table 6), with the exception of 4% of farm households that completely broke with agriculture. By 2005, income from agricultural sources was still a chief source among farm households, but its share of total income has decreased continuously (from 97.6% in 1990 to 86.4% in 2005). Within agricultural income sources, other crops have challenged the previously predominant rice production. Vegetable production, with the support of local government, higher value, and short capital turnover, has become a major alternative to rice production, comprising 34.8% of households' total income in 2005. Noticeably, income from poultry raising, which was newly developed from 1990 to 2000, has absolutely declined due to the avian flu. Although non-farm jobs have developed, theirs share in households' income is not significant (11.2%), as shown in Table 6. Although these sources have increased silently over time, they indicate the transformation within this city. Associated with the fragmented agriculture, agrofood processing (on the household scale) such as peanut candy and rice wine, retains its share of total household income. Trading and services increased moderately. Trading usually consists of small businesses such as coffee shops, grocery stores, or the selling of agricultural

products at market or home. Services usually include agri-services (such as operating or renting agricultural machinery, rice-hulling mills, and transporting rice/peanuts after harvests), truck driving, and motorcycle repairing. In contrast, the share of income from intermittent jobs has increased up dramatically, including motorcycle taxi drivers, construction workers (*phu ho*), self-employed electricians and carpenters. A particular phenomenon is laborer export, from which income is high, and which is available only for a few rich households who have financial resources and land for mortgage to invest in this profitable activity. According to the participants whose family members are exported laborers, financially, a household needs 120 – 200 million VND (7,450 – 12,500 USD) to have one laborer work abroad. This amount of money is spent for necessary paperwork (approximately 1,000 – 1,500USD), on collateral (1,500 – 3,000USD) to ensure that the laborer will come back to Vietnam by the maturity of the contract, and for service charges to the company. To acquire that much of money, besides their own savings which is not much, households have to mortgage LURCs from a bank which varies from 50 to 100 million VND depending on the plots, assets attached on the plot (i.e., houses), and the households' financial status. For the rest of the money, households usually borrow from other funds, relatives, and neighbors.

Furthermore, there is the trend of de-agrarianization in this city. Informal discussion with farmers during the survey also proved that, as in other developing countries, farmers themselves wanted to continue to farm (because of obstacles of age and retraining for non-agricultural jobs), but did not wish for their children to do so given the low incomes, compared to non-agricultural jobs.

		1990 – 1995	1995 – 2000	2000 – 2005
Agricultural sources (%)	Rice	74.7	55.1	40.7
	Vegetables	20.0	32.0	34.8
	Industrial crops			3.5
	Ornamentals and flowers		0.6	0.6
	Cattle	2.4	4.1	7.6
	Poultry		0.6	
	Fish	0.6	0.6	0.6
	Sub-total	*97.6*	*92.9*	*86.4*
Non-agricultural sources (%)	Trade and services		1.8	3.0
	Agricultural food processing	0.6	0.6	0.6
	Intermittent non-farm sources	1.2	4.1	8.8
	State-employed officials	0.6	0.6	1.2
	Labor export			0.6
	Sub-total	*2.4*	*7.1*	*13.6*
Total		100.0	100.0	

Table 6. Changes in structure of primary income sources in Hung Dong

Given that employment and income have diversified, one would assume that the average income of a household is high. In fact, the average income per capita in peri-urban Vinh is quite low. As shown in Table 7, more than half of farm households have an income of 200,000 to 500,000VND/person/month (12.4 – 31.1 USD/person/month). While 21% of households could be considered rich farmers whose income ranges from 500,000 to more than 1,000,000VND/person/month (31.1 – 62.1 USD/person/month), approximately 20% of farm households live under the poverty line[19]. According to interviews with local government officials (Interview 2, 5, 6, 8, 9, 2006) as well as field observation, there is a social differentiation among farmers, in that farmers who produce vegetables are best off. The living standard of flower producers and ornamental tree growers increased slowly because these products are seasonal (e.g., new year festival or holidays), and because of long-term capital turnover (ornamentals). On the other hand, rice and other annual-crop producers are the poorest, especially ones that depend solely on farming.

[19] According to GSO, households whose monthly income is 200,000 VND/person or 260,000VND/person would be called poor, as the 2005 poverty line applied to rural and urban areas respectively, as opposed to to 124,000VND/person and 163,000VND/person of the previous line. Because there is no poverty line to peri-urban areas, I choose to apply rural poverty line to peri-urban Vinh.

Income (VND/person/month)	Number of households	Percentage of households
200,000	33	19.4
200,000 - 500,000	101	59.4
500,000 - 1,000,000	30	17.6
> 1,000,000	6	3.5
Total	170	100.0

Table 7. Monthly income per capita among surveyed households in 2005

So far, one can see that peri-urban agriculture dominates within this mid-sized city: its population still depends heavily on agriculture for survival. As in large cities in Vietnam as well as in other developing countries, this mid-sized city provides a sizeable volume of home consumption; and its agricultural production tends towards highly valued products. Vegetable production appears to be the most promising for peri-urban farmers. While stable income from trading and service is mostly dependent on agriculture, the emergence of intermittent non-farm jobs is a cause for concerns. These jobs are the consequences of the loss of agricultural land and the threat to farmers' livelihoods, which are discussed in Chapter 7. As common practice elsewhere, small-scale farmers in a smaller city engage in producing, marketing and selling. However, post-production activities among farmers in mid-sized cities are still very limited, especially processing and packaging. In terms of motivation, while there exists the argument of whether peri-urban agriculture in big cities is the result of urban crises: rural folks turn to peri-urban agriculture after being disappointed from not finding a non-farm job in cities; findings in the case study confirm that peri-urban agriculture in mid-sized cities is not a result of the appeal of the cities. Immigrants working in agricultural sectors moved to the city thanks to the peri-urban agriculture policy[20], bringing plenty of their own experiences from homelands well-known for their vegetable production, in the hope of increasing their income by participating in the city's vegetable production. Although there are no official statistics on the amount of peri-urban agricultural food supplying to the local consumption, like large cities in Vietnam, Vinh hardly satisfies its local food needs

[20] In early 1990s, Vinh city advocated immigration from Quynh Luu and Dien Chau (the two famous vegetable production districts in the province) for enhancing vegetable production in Vinh city, to satisfy the vegetable needs of this city (Interview 5, 2006).

from its peri-urban agriculture. Moreover, in the scenario of further urbanization in efforts of becoming an independent municipality, the issues of landless farmers due to land expropriation, and food access for the poor have become more critical than ever.

Chapter 7
FARMERS' LIVELIHOODS AND GOVERNMENT INTERVENTION IN LAND USE IN HUNG DONG COMMUNE

7.1 Government intervention in land

Because of the characteristics of the questions to be answered in this section as well as the availability of data collected, two types of data were used for analyses. The analyses of land use change and expropriation are based on a GIS database of the whole commune. The survey data are used to analyze land transactions. In addition, data from interviews with local government officials are also integrated into both analyses.

7.1.1 Land use conversion and land expropriation

Land use conversion is analyzed from a GIS database for three years: 1993, 2001, and 2005. Agricultural land occupies the majority of land in Hung Dong commune but it has decreased consistently over time (Figure 8). Noticeably, while 9% of agricultural land (i.e., land for paddies, vegetables, other annual crops, perennial crops, and aquaculture) shifted to other uses, the same amount of special use land (i.e., land for non-agricultural production and trading, infrastructure, government administration and defense, religions and beliefs, and open water and special use water) increased. Maps of land use change during the periods of 1993 – 2003, and 2001 – 2005 are provided in Appendix F. Such changes are mainly directed by local government to satisfy the goal of becoming a nodal city. Because the amount of unused land is limited, the conversion of agricultural land was unavoidable, especially in the context of shifting the economy from agricultural-based to industrial-based. In contrast, residential land increased slightly by 1% over the whole period. Figure 8 also reveals that unused land fund was not much in Hung Dong commune. It contributed only 2% of the total area in 1993, 50% of which was converted to other uses. Of the total of unused land conversion, little acreage was devoted to agriculture, hence, could not trade-off for the loss of agricultural land. Cross-tabulations of detailed land use change in Hung Dong are presented in Appendix G. In addition, even if the remaining unused land was intended for agricultural production, it was very small, and mainly unarable and scattered among residential areas.

Thus, it could hardly be used for either special uses or cultivation (PCHD, 2005). Therefore, further conversion of agricultural land in peri-urban areas will be necessary by the time Vinh becomes an independent municipality.

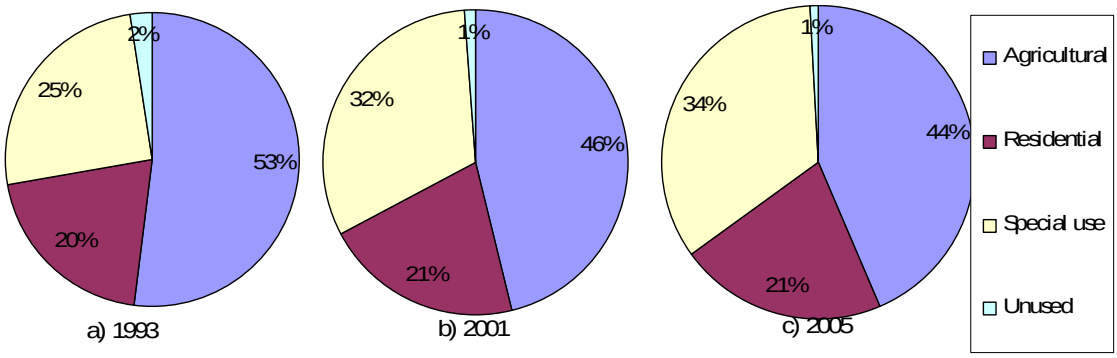


Figure 8. Percentage of land use types over time

The following is a detailed analysis of agricultural land changes through two periods: 1993 – 2001 and 2001 – 2005. As shown in Figure 9, 17% of agricultural land in 1993 had changed to other uses (616,888 m^2 out of 3,612,728 m^2). Of this total, the majority was converted for special uses: 43% (263,617 m^2) for non-agricultural production and trading, 17% (105,614 m^2) for infrastructure, and 16% (95,780 m^2) for open water. The conversion for open water is usually the clearance of houses that reside along channels, for the purposes of control environmental pollution the city' image. Leading the change is the volume of paddy land converted to non-agricultural uses. About 12% (71,578 m^2) of change was the shift among agricultural land use types because - according to the People's Committee of Hung Dong (PCHD, 2005) - these areas were low yield land, or unsuitable for certain types of crops, or low-value products.

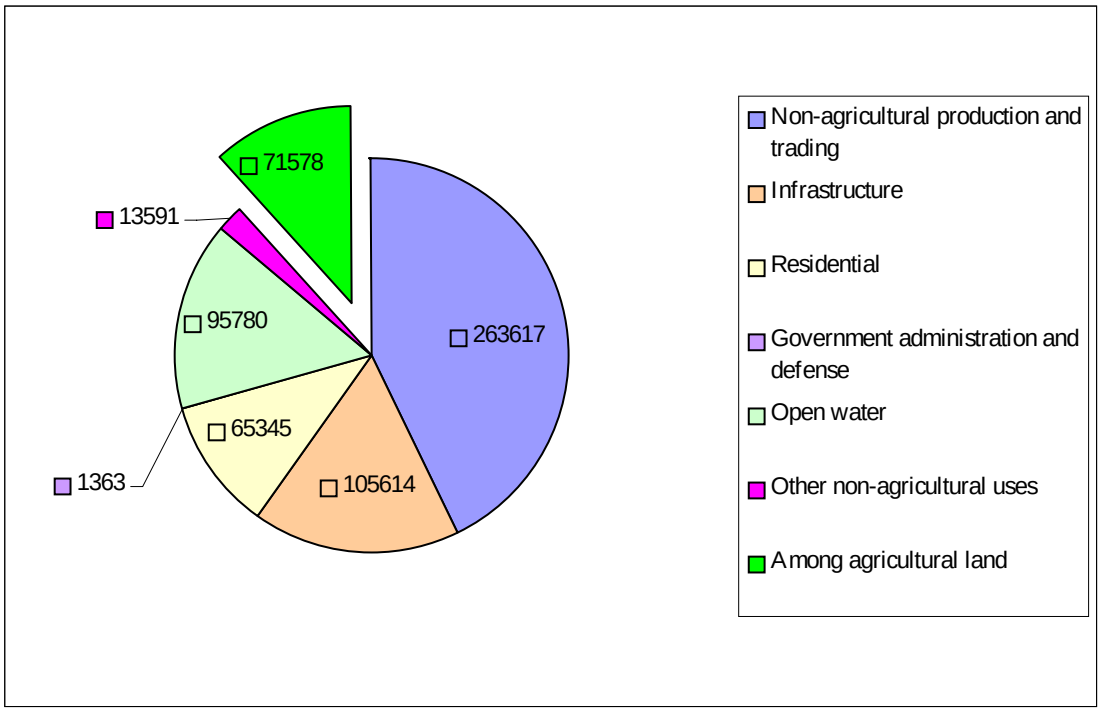


Figure 9. Area of change (m2) from agricultural land to other uses from 1993 to 2001

In the period of 2001 – 2005, land use change was less dramatic, compared to that of 1993 – 2001. Of the total agricultural land in 2001 (Figure 10), only 8% moved to other uses in 2005 (279,386 m^2 out of 3,553,442 m^2), up to 79% and 13% of which were converted to land for non-agricultural production and trading, and to land for infrastructure, respectively. The change among agricultural land and the change to residential land occupied only 2% (4,753 m^2) and 6% (16,116 m^2), respectively, of total change of agricultural land.

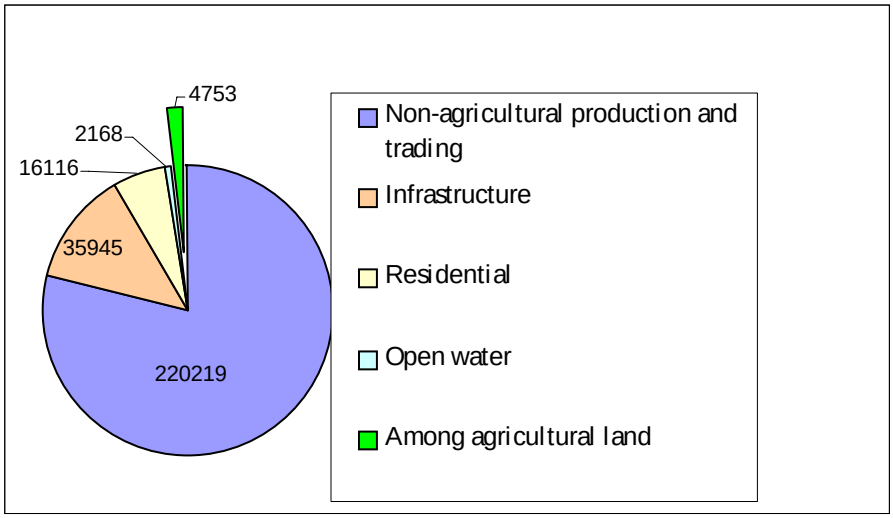


Figure 10. Area of change (m2) from agricultural land to other uses from 2001 to 2005

Officially, the conversion of agrarian land to non-farm uses can only occur through government-led land expropriation. During 2000 – 2004, there were several cases of unofficial conversion from agricultural to residential land, which were settled by way of forcefully dismantling the houses and applying a pecuniary penalty (Interview 4, 2006). During urbanization, Vinh has been divided into different urban spaces, namely industrial parks and warehouses, civil areas, downtown, and green spaces. Among these spaces, Hung Dong is one of the key urban areas where industrial parks and warehouses are concentrated (Interview 4, 2006). Because unused land was limited, the majority of land used for industrial parks and warehouses was converted from other land use types, particularly agricultural and residential land. From 1993 to 2005, private land (including residential and agricultural land) in Hung Dong commune was vastly expropriated for these urban uses (Table 8 and Table 9). As presented in Table 8, during the period of 1993 – 2001, 21% of the commune households (975 households) had their land expropriated with a total area of 58,5729m^2 (11% of private land). Of this total, 78% of cases occurred to agricultural land with an area of 478,528m^2, and 22% of cases happened to residential land with an area of 107,201m^2. According to the Land Administration Office (Interview 10, 2006), the construction of Bac Vinh Industrial Park occupied most of the expropriated land. The rest was used for constructing infrastructure utilities.

Types of land	Households whose land expropriated			Area of land expropriated		
	No. of cases	Percent	Valid Percent	Area (m^2)	Percent	Valid Percent
Agricultural land	749	16.5	78.3	478528	9.1	81.7
Residential land	208	4.6	22.7	107201	2.0	18.3
Sub-total	957	21.1	100.0	585729	11.1	100.0
No expropriation	3579	78.9		4669277	88.9	
Total	4536	100.0		5255006	100.0	

(1): Missing data was excluded from the GIS analysis.

Table 8. Land expropriation from 1993 to 2001 in Hung Dong commune

During 2001 – 2005, expropriation continued but to a lesser degree, compared to the period of 1993 – 2001. About 10% of households, which occupied 5% of the commune private land, were affected (Table 9). Different from the previous period, the number of cases

that have agricultural land expropriation is nearly equal to that of residential land, which was 50% and 47% respectively. However, in term of area, agricultural land that was expropriated still made up 84% of the total expropriated land. In addition, during the period 2001 – 2005, there were few cases of expropriation on unused land. These unused lands were part of agricultural cooperatives, implying that it had been reserved for agricultural purposes before expropriation. According to the Land Administration Office (Interview 10, 2006), during this period, expropriation was intended to be used for first phases in projects including expanding Bac Vinh Industrial Park, building Hung Dong Small Industrial Park, constructing warehouses, etc. Unfortunately, similar to China (see Chapter 2), the projects' beneficiaries are either the province or the city, meaning that the economic benefits from activities of these industrial parks do not flow to the commune or its residents. Although there is no evidence of illegal conversion from agricultural land to industrial land in Vinh as there is in China, it could happen if land tensions are not well managed.

Types of land	Households whose land expropriated			Area of land expropriated		
	No. of cases	Percent	Valid Percent	Area (m^2)	Percent	Valid Percent
Agricultural land	520	5.5	49.9	260290	4.2	83.6
Residential land	481	5.0	46.2	37707	0.6	12.1
Special use land	31	0.3	3.0	12225	0.2	3.9
Unused land (1)	10	0.1	1.0	967	0.0	0.3
Sub-total	1042	10.9	100.0	311189	5.0	100.0
No expropriation	8498	89.1		5938976	95.0	
Total	9540	100.0		6250165	100.0	

(1): Private unused land

Table 9. Land expropriation during the period 2001 – 2005 in Hung Dong

Regarding the area expropriated per households, Table 10 shows that on average[21], each case of agricultural land expropriation was 600m^2 during the period 1993 – 2001, and 481m^2 during the period 2001 - 2005. As said in Chapter 6, the average agricultural land per farmer is 597m^2. Therefore, when a farmer household had its land expropriated, it was likely that a member in that household had no land for agriculture. In extreme cases, a household

[21] Median is preferable to mean in the analysis due to the skewed distribution of data

could be expropriated up to 8777m^2 (1993 – 2001) and 3500m^2 (2001 – 2005). Obviously, land expropriation challenges farmers' livelihood, forcing farmers to look for secondary jobs or even change their livelihoods altogether. Otherwise, farmers would be eliminated during the urbanization process. Data from all interviews also revealed that most agricultural land will be expropriated for the later phases of these projects and for new projects[22]. However, during my visit in 2006, none of the participants knew exactly where and when these newly undefined projects would be implemented, modified, or changed. This situation leads to an increased concern among farmers. They left the land idle while waiting for compensation. Hence, the immediate consequences of land expropriation are the direct damage to the farm-household economy, the stagnation of peri-urban agricultural economy, as well as the growing sense of anxiety among farmers.

	Area expropriated from 1993 to 2001 (m^2)		Area expropriated from 2001 to 2005 (m^2)			
	Agricultural	Residential	Agricultural	Residential	Special use	Unused (1)
Mean	638	513	500	78	382	88
Median	600	340	481	43	148	69
Min	10	1	5	0.5	0.40	5
Max	8777	1867	3500	1500	2192	432

(1): Unused land of agricultural cooperatives

Table 10. Summary of land expropriation per household from 1993 – 2005

The peri-urban population in Hung Dong commune has experienced little expansion of residential areas. According to the master plan of this city, new residential areas are concentrated in the 13 urban communes and in two other peri-urban communes, namely Nghi Phu and Hung Loc. There is considerable on-going construction of residential centers on

[22] By 2015, Vinh will be expanded to its neighboring districts (Nghi Loc, Nghi Duc, Quynh Luu, Vien Chau) and the town of Cua Lo (see Map 1). The city's new boundaries will be 17 km more than the current 67 km^2 area). By that time, what are now called peri-urban areas will be considered as urban areas where industrial parks, residential zones are located (Interview 10, 2006).

previously agricultural land along the main roads of the two peri-urban communes. These new residential centers tend cater to high income residents.

The literature review and the case study prove that national land reform policies favor the expropriation of agricultural land on significant scales for national industrialization, and modernization. Whether it is a large or small city, or even a rural area, much agricultural land is devoted to the construction of infrastructure and industrial parks.

7.1.2 Land transactions

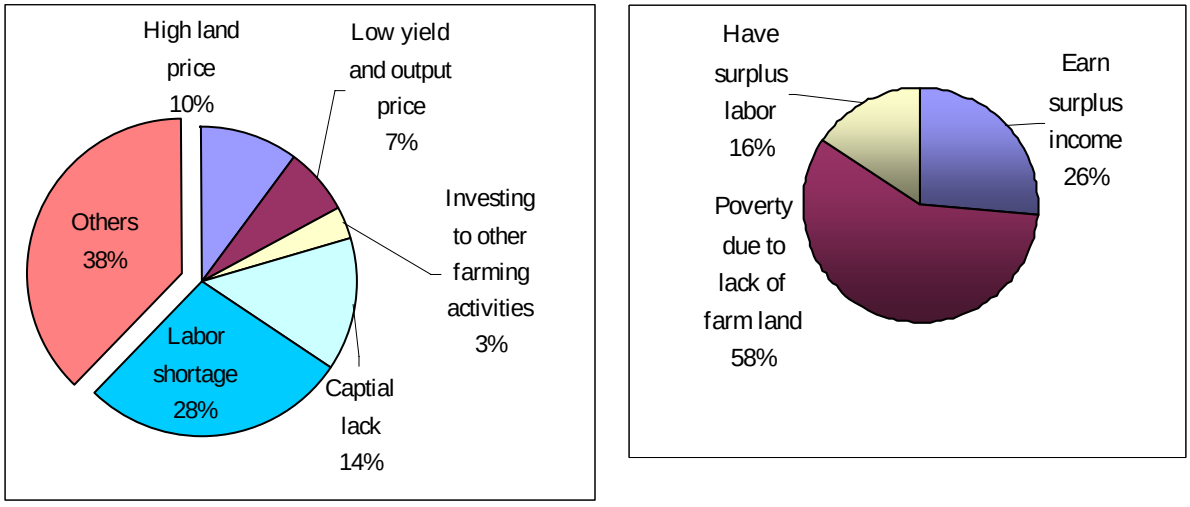
According to the survey, the number of land transactions in peri-urban areas was not much. Among 160 surveyed households, there were only 60 cases of transactions over the whole period, most of which were in the period of 2002 - 2005 (Table 11). Of these 60 cases, 12 cases were purchases of residential land among farmers' households, and 20 cases were land sales. Of the total cases of land sales, only 1 out of agricultural land, which was an informal transaction (not approved by the authorities) between a father and his son. In contrast, all land leases involved agricultural land, half of which were rented at no charge; the other half at extremely low prices: 1,500 – 10,000VND/m^2/year (0.1 – 0.6 USD/m^2/year). As such, the extent of the land market in peri-urban Vinh is similar to the situation in the North Central Coast region as a whole (see Chapter 3). However, the explanation for the management of land transactions, as discussed in the following paragraphs, may be different.

	Purchase	Sale	Lease-out	Lease-in	Total
1990 - 1995	6	2		1	9
1995 - 2000	2	1	1	4	8
2000 - 2005	4	17	8	14	43
Total	12	20	9	19	60

Table 11. Number of land transactions during 1990 – 2005

Regarding the reasons for transactions, a majority of land transfers and leases-out were related to land prices or agricultural issues, except for 38% of them were other reasons that were unrelated to livelihood changes. As presented in Figure 11a, the shortage of agricultural labor and of capital accounted, respectively, for 28% and 14% of cases; and high land price made up 10% of the cases. It is worth noting that only 4% of the cases were

investing in other farming activities. Of agricultural land leases-in, the majority was leased by poor households who did not have enough land to farm and make a living (Figure 11b). Other reasons for leasing-in land were that farmers wanted to earn more money or had excess laborers.



a) Reasons for land transfers or leasing-out **b) Reason for land leasing-in**

Note: Others include paying debt, spending for everyday needs and diseases, constructing houses, and purchasing new facility.

Figure 11. Reason for land transactions

As indicated above, the land market in peri-urban Vinh is not very active. While residential land transfers have recently increased, the agricultural land market is almost static. This freeze of agricultural land market stems from the combination of the city's economic and political circumstances. According to PCHD (2006) and the survey, until 2005, while more than 40% of households in the commune were issued residential LURCs, none of them received agricultural LURCs. Issuing residential land and being reluctant to issue agricultural LURCs were the city's strategy to take control of land. To encourage immigration, the city's officials issue LURCs to residential landowners, allowing them to sell part of their land to other people, who are usually from nearby districts or provinces. In this way, the city could meet the population criterion necessary to become an independent municipality like HCMC, Hanoi, and others, by 2010. On the other hand, to develop new urban centers and industrial parks, agricultural land expropriation is unavoidable. Meanwhile, the master plan of Vinh

city has not been completed yet, and as such the city cannot acknowledge which peri-urban areas may be expropriated. Therefore, not issuing agrarian LURCs is the best way to control agricultural land transactions and conversion to other uses. Although de-collectivization in Vietnam was initiated twenty years ago, agricultural land in peri-urban Vinh still belongs to the cooperatives who distribute it to individual farmers. This phenomenon is similar to China, at least in the province of Haikou where land is collectively owned and individually used (Wang, 2005). However, the same management tool was vested in two different political missions. While the land ownership handed over to collectives in China was aimed at preventing farmers from converting to non-agricultural uses, and thus preserving the agricultural land base (Wang, 2005), it was used in Vinh city for further expropriation of agricultural land for urban development.

Without LURCs, farmers in Vinh city cannot sell the land because no one will likely to buy land without LURCs. The only case of (informal) land transfer reported in the survey was carried out based on a kinship relationship, which suggested that both parties were not concerned about the LURC or a formal transaction. Thus, although the explanation of Klauss et al. (2003) and Ravallion et al. (2006) suggests that long-term collective land ownership entrenched farmers from land transactions might apply to many cases of land markets elsewhere in the North Central Coast region, it does not seem to explain the case in peri-urban Vinh, where farmers are prevented by local government from engaging in land transactions due to the absence of LURCs. In peri-urban Vinh, farmers just have the right to farm or at the most, to receive compensation if the land they farm is expropriated. Households who have no laborers to farm and could not sell their agricultural land have to lease out the land or hire other people to farm while awaiting compensation. However, as is common in peri-urban areas in Vietnam and other developing countries, most plots of land are often too small to be worth renting-in for large-scale production that can attract investors. Instead, agricultural land was rented by other farmers to farm at the household scale. As a consequence, agricultural land leases are usually very cheap, or free – as indicated earlier.

In sum, the land management in a mid-sized city seems to be distinct from that of the rural areas as well as other cities. They have a prerogative in land management thanks to the status of transforming to an independent municipality. While real estate is a lucrative business, like farmers in China, farmers in peri-urban Vinh, whose livelihoods are in

imminent danger due to the expropriation of agricultural land, are prevented from participating in the market. However, as opposed to elsewhere in Vietnam, farmers in peri-urban small cities have more disadvantages than those in big cities and rural areas.

Beside the economic and political argument, the reluctance to issue LURCs and the delays of the master plan might also be related to land corruption, as is common practice in elsewhere. However, the evidence to support this proposition is lacking in Vinh. This could be an issue for further research.

The case study demonstrated that although controlled by the state government, Vietnam's land administration is heterogeneous based on a "bottom-up" mechanism where everything is determined by local authorities, based on the state framework, depending on specific conditions of localities. This is reflected in the non-uniformity in the issuing of LURCs. Vinh city, a small city that is transforming to a larger one, is likely to be privileged in land administration so that it can satisfy the requirement of becoming an independent municipality by 2010. The situation is perpetuated by the absence of a complete structure of agricultural land legislations in a peri-urban context, while land regulations have particularly stressed agricultural land in rural areas – the areas believed to be the backbone of the national agricultural economy.

7.2 Corollaries

7.2.1 Compensation and support

During 1993 – 2005, households whose land was expropriated by the government received financial compensation. According to the Land Administration Office (Interview 4, 2006), local authorities based on state land prices to decide the compensation prices for each land use type on a per-square-meter basis. The land prices in Vinh were revised yearly by the People's Committee of Nghe An province. The land use types for compensation were ones that were legally approved by local authorities. The prices for compensation were made at the time when the expropriation decision was made. No compensation was based on land use of post-expropriation. Likewise, no compensation was based on the actual use of the land at the time of expropriation. In addition, the state land prices were usually much lower than market rate, especially agricultural land. Therefore, like other farmers across the country, Vinh farmers did not benefit from the increase of land value from re-zoning.

Other assets on land were also compensated, including buildings, crops, animals, etc. The compensation for these assets was based on their values of the same assets at the time that expropriation decision was made, and was classified by the degree of damage or loss to the assets. Finally, some supports were also given to displaced households to help them settle their lives after expropriation. Of the supports, vocational training and changing jobs are the most important to farmers so that they could find non-farming jobs after land expropriation. However, as are common practices, these supports are substituted by money, instead of through services.

Despite the combination of all compensation and supports, the amount of money per square meter was not high. According to the survey, total compensation for agricultural land and residential land varied between less than 10,000 and 60,000VND/m^2 (6.2 – 37.3 USD/m^2) (Table 12). In this table, 61/88 displaced households or 70% of displaced households received 10,000 – 20,000VND/m^2 (equivalent to 6.2 – 12.6 USD/m^2), and 10/88 displaced households or 11% of displaced households received 20,000 – 26,000VND/m^2, (equivalent to 12.6 – 16.1 USD/m^2) for their losses of agricultural land during 1993 – 2005. Only a few households were compensated at the price of 60,000VND/m^2 (37.3 USD/m^2) during the period 2001 – 2005.

Amount of compensation (VND)	Number of households					
	Agricultural land			Residential land		
	1993 - 2001	2001 - 2005	Total	1993 - 2001	2001 - 2005	Total
<10,000	1	1	2	0	1	1
10,000 - 20,000	40	21	61	1	0	1
20,000 - 26,000	7	3	10	2	2	4
30,000 - 36,000	4	2	6	0	0	0
40,000 - 45,000	2	3	5	1	0	1
55,000 - 60,000	0	3	4	1	4	5
Total	54	34	88	5	7	12

Table 12. Amount of compensation per square meter to displaced households

In terms of using money from compensation, the survey reveals (Table 13) that farmers were likely to spend it paying debts or diseases; purchasing everyday needs; constructing or renovating houses or buying facilities; and investing in other agricultural activities. Of these usages, first priorities were mostly house renovation or construction,

everyday expenses, and paying debt or diseases (40%, 27% and 17%, respectively). Of the second priorities, Table 13 shows that half of displaced households used the compensation for their everyday needs, almost one-fourth invested in other agricultural activities (including cultivation, husbandry, and aquaculture), and one-fifth spent it on everyday needs. Of the third priorities, house renovation, construction, and facility purchases as well as investment towards other agricultural activities were the highest choices among displaced households. Among the three proprieties, only a small portion of farmers chose other usages for their compensation, i.e., opening saving accounts to live on the interest, vocational training, and constructing rooms to rent to industrial workers. Accordingly, using compensation money for other agricultural activities and vocational training of non-agricultural jobs, which were expected to be the best livelihoods alternatives after land expropriation, were not their preferable choices. Instead, the money was significantly used for either everyday expenses or housing and buying facilities. In addition, the anecdotes with farmers during the survey suggested that vocational training was applicable to only young people. Middle-aged farmers either lacked education background or had difficulties in being retrained. Therefore, they had difficulties in being integrated into the labor market.

	First priority		Second priority		Third priority	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Paying debt or diseases	15	17.0	5	5.7	0	0
Spending for everyday needs	24	27.3	44	50.0	5	5.7
Constructing, renovating houses or purchasing home facilities	35	39.8	17	19.3	46	52.3
Investing to other agricultural activities	9	10.2	21	23.9	34	38.6
Others	5	5.7	1	1.1	3	3.4
Total	88	100.0	88	100.0	88	100.0

Table 13. The use of compensation money by households

7.2.2 Post-expropriation livelihoods

Analysis from the survey shows that land expropriation affected displaced households differently. As presented in Table 14, about 24% of the household felt that their lives were improved after expropriation. One of the reasons was that they moved to non-agricultural

jobs. Their living standard also improved because they used the compensation money to build houses, renovate old houses, and buy home comforts. Those who still farmed and supplemented with non-farm part-time jobs either retained the same living standard or were getting worse. Sixteen percent of displaced households believed that their living standard worsened because after land expropriation they lacked land for farming and skills needed for non-farm jobs. Some claimed that the decrease of output prices, and the unstability of husbandry (during the time they move to raising) also contributed to their livelihoods' deterioration. Table 14 also illustrates that over half of the households kept the same living status after land expropriation. According to the majority, the key factor in keeping their living standard was that the remaining land was large enough for them to farm and make a living. Changes to higher value crops or intensive farming as well as moving to animal husbandry were other choices to maintain their living standard. What if, as told by local government officials, their remaining land would be expropriated for further urbanization? Isn't it an end to their traditional livelihoods, and the beginning of unstable ones as it was to the above 16 percent?

Status	Reasons	Number of the households	Percent of the households
Better	Moving to non-farm activities	21	23.9
	House construction or renovation, and facility purchase	3	3.4
	Paying debt	1	1.1
	Sub-total	25	28.4
The same	Remaining agricultural land enough for making living	31	35.2
	Moving to husbandry	5	5.7
	Growing higher value products or intensive farming	10	11.4
	Leasing other farmers' land to farm	1	1.1
	Increase of output prices or decrease of input prices	2	2.3
	Sub-total	49	55.7
Worse	Lacking agricultural land and not being familiar with non-farm jobs	10	11.4
	Moving to husbandry but husbandry was not stable	2	2.3
	Decrease output prices	2	2.3
	Sub-total	14	16.0
Total		88	100.0

Table 14. Living standard of displaced households after land expropriation

The survey and the interviews prove that both the government and farmers expected displaced farmers to work in industrial parks. Ironically, as said above, they did not have sufficient vocational skills and training to be factory workers. In fact, the majority employed on newly established enterprises came from outside the commune. Only 1% of members of surveyed households worked as industrial workers (see Chapter 6, job diversification). Even if they did, they could not survive on a salary of 300,000 VND/month (less than 20 USD)[23]. Hence, most of non-farm jobs to which farmers turned are jobs that require no skills nor training, with either a low or uncertain income, or bad terms and working conditions. When asked about aspects of life that they would like to improve (Figure 12), the majority suggested that the local government should create alternative non-agricultural employment opportunities and vocational training including opportunities and job training pertinent to work in industrial parks (43%), handicraft and other non-agricultural jobs (25%), and trade and services (5%). Over one-fourth of displaced households kept farming, demanding the local government to provide either more land to continue farming or better support for husbandry during the time they shifted from cultivation.

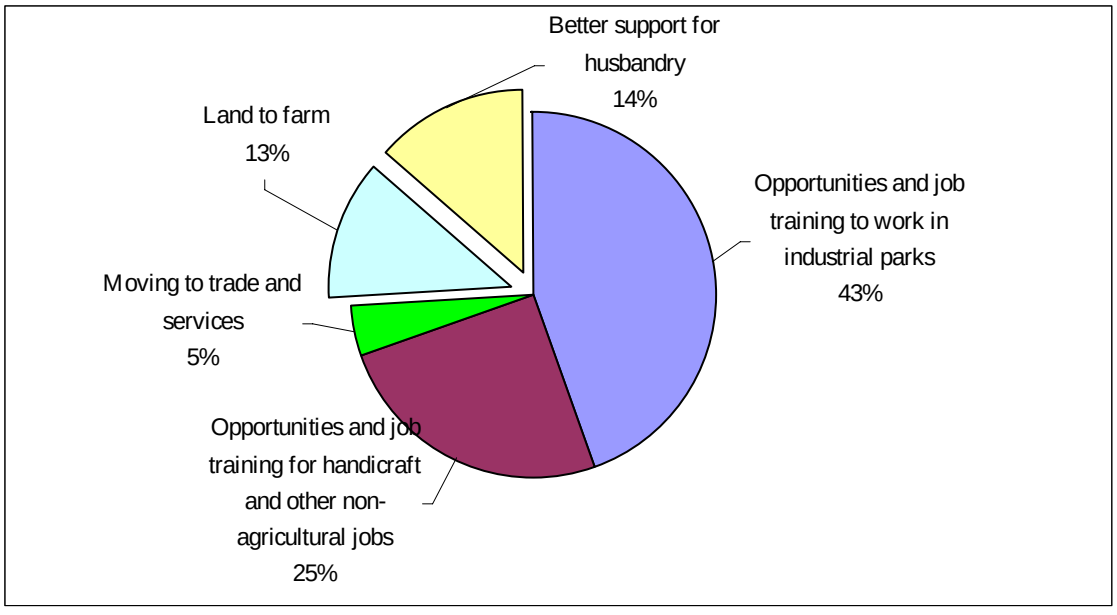


Figure 12. Aspects of life that displaced households would like to improve after land expropriation

[23] At the time of my fieldwork, some respondents had reluctantly farmed on their small plots after they could

In other words, providing that the absence of LURCs decreases the ability and willingness to take long term investment and accessibility to the land market, and that expropriation undermines farmers' traditional livelihood, the questions from this thesis are that "for whom is development or urbanization?" and "what is the balance between individual rights and public needs?" Politically, by now, the impact of land administration on farmers' livelihoods highlights the significant frictions caused by the overlapping of the schools of thought in land legal system across the country, at all levels of development: rural areas, small cities, and larger ones. The most palpable friction point is between the individual school of thought and the communist's. On the one hand, farming households own the land with their land use rights. On the other hand, the state's sovereignty, through the role of an overall manager, forces the "people of the land" to give up their land for national interests. In the case of mid-sized cities, the friction is also developed between the free market school and communist school, from which the local government is strong enough to take away farmers' rights of land transactions by the reluctance in issuing agricultural LURCs. The case study provides more evidence to re-affirm that farmers wrestling with daily problems after expropriation has become a critical issue. Ultimately, the central issue for most that occurs at any development phases (i.e., from the underdeveloped as rural areas to the newly developed as mid-sized cites as well as the highly developed as large cities) is the loss, or threatened loss of agricultural land and farmers' traditional livelihoods. Therefore, securing political stability, social justice, and economic development, which has been regarded significant to Vietnam land legislation and land policy system, is still a target to strive for.

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not afford themselves with low salary in factories of a nearby industrial park.

Chapter 8
CONCLUSIONS AND RECOMMENDATIONS

Introduction

The primary intention of this thesis was to address the need for further case study research regarding agrarian transition in peri-urban developing countries, Vietnamese government intervention in land, and its impacts on farmers' livelihoods in peri-urban areas. Vinh was used as the case study site, in part to address the notable absence of mid-sized cities from the current debate on these issues, and also because of its unique position as a city currently in transformation from a mid-sized to a large city. This study was based on the ideas that agricultural production in peripheries can strengthen local food security, particularly for the poor, and can generate stable jobs and great incomes for a huge population; and the ideas that state/local government intervention in land management in peri-urban can effect positively/negatively on the land market and farmers' livelihoods. As such, the conclusions will not only summarize the research findings but also offer some recommendations regarding what considerable progress Vinh may further develop, and how foreign institutions and national/international investors might become involved in promoting peri-urban Vinh agriculture. The thesis also calls for shaping a framework for agricultural land in peri-urban Vietnam.

8.1 Conclusions

8.1.1 Main changes underway in agrarian transition in peri-urban Vinh

The first research objective setting out for this research was to explore peri-urban agriculture in Vinh, in terms of production changes and livelihood transformations. For this objective, the specific focuses were:

- To picture peri-urban agriculture production in Vinh for the prospects of local food security
- To determine livelihood changes regarding jobs and income diversification of farmers in peri-urban Vinh

As indicated in Chapter 2, agrarian transition is the introduction of capitalist relations into peasant agriculture, the associated transformation of agricultural production, and the role that agriculture plays in development of a country. With a focus on new spatial domains of agrarian transition, this study highlighted the underway process of agrarian transition in peri-urban Vinh city, evident through the transforming modes in agricultural production and farmers' livelihoods. As such, the findings presented a somewhat ambivalent image of peri-urban agriculture in terms of production and policy under urbanization. Mainly, agricultural land is fragmented, and agricultural production is for home consumption. As in other cities in developing countries, agriculture in Vinh is under land pressure but higher value products (vegetables, ornamentals) have recently been developed as a new trend. However, while large cities' peri-urban agriculture receives optimal supports from a wide range of institutions to survive in the time of land scarcity, Vinh's peri-urban agriculture is supported minimally from the local government through cooperative systems. In addition, the weaknesses of post-production activities and food supply system make the situation even worse in this city. Mostly, farmers have to market and distribute their products without packaging, labeling, and certification (in the case of safe vegetable). Unlike peri-urban agriculture in other cities, which is the result of urban crises in which immigrants become peri-urban farmers after unable finding a non-farm job in the city, the findings in the case study reveal that Vinh's peri-urban agriculture is not a consequence of the appeal of the cities. Immigrants who are now working in the agriculture sector are those who moved to the city several years ago thanks to the attraction of peri-urban horticulture at that time. Within the policy of urbanization prioritized over peri-urban agriculture, Vinh, as large cities in Vietnam and other developing countries, manages to produce intensively on the shrinking land base. Although there are no official statistics on the food supply chain, feeding the city by local products has also been insufficient. In short, as a mid-sized city that is in the early phase of development (in terms of the level of urbanization and industrialization), Vinh manifests itself as a duplicate of the larger cities, escalating the threat of food accessibility for the poor nationally.

Although agricultural land has been shrinking in peri-urban Vinh, the majority of the peri-urban population still depends largely on agriculture. However, livelihood transformation is apparent –very few households are pure farming households. The majority

of farm households are engaged in non-farm jobs (either full- or part-time), while some have moved completely to non-farm activities. Essentially, moving to non-agricultural jobs occurs in households that lack land, technology, capital, and knowledge of agricultural diversification and intensification. Job diversification leads to the diversion of income generation among farm households. To a lesser extent, compared to other large cities, incomes from non-farm activities share a small part of household income. Nonetheless, stable income from stable non-farm jobs is mostly agriculturally related, including that from agrofood processing, food trading and agri-services. Meanwhile, results from the case study proved that income from intermittent non-farm jobs have emerged among farm households due to the loss of agrarian land.

However, in general, although having decreased continuously over time, incomes from agricultural production are still the main source for peri-urban farmers, with a switch from rice monoculture to polyculture of higher value products. Among agricultural incomes, vegetable production has increased the most thanks to the support from local government, and higher values and short capital turnover of these products. Flowers and ornamentals provide a small portion in households due to seasonal consumption or long-term capital turnover (because it takes several years to form the shape for ornamental trees). Animal husbandry is also an important income source but is slowly decreasing due to the outbreak of avian flu and foot-and-mouth disease. Farmers who remain in agriculture are usually better-off than those who move to non-farm intermittent jobs due to land expropriation. This finding confirms that peri-urban agriculture in a mid-sized city, as in large cities, provides its residents with jobs and vital income. Notwithstanding, the majority of farm households have low incomes, which are close to or below the poverty line. Therefore, any negative changes to agricultural land and agriculture policy can easily push households back into poverty.

8.1.2 The role of Vinh (and state) authorities in mediating urbanization through land expropriation, tenure, and transactions; and its impacts on farmers' livelihoods

The second set of objectives of the study seeks to address local land administration in Vinh and its impacts on farmers' livelihoods. Specifically, the objectives were:

- To examine land dynamics in terms of land use conversion, expropriation,

transaction, and tenure

- To identify motivations or impediments of local government on peri-urban land, regarding land market and expropriation
- To assess multi-dimensional effects of land use regulation in Vinh on farmers' livelihoods, regarding land market participation, compensation and supports, and post-expropriation livelihoods

Findings showed that alongside urbanization, a significant proportion of agricultural land in peri-urban Vinh has been converted to non-agricultural uses, by way of expropriation, serving for the constructions of the two industrial parks (Bac Vinh Industrial Park and Hung Dong Small Industrial Park), warehouses, and infrastructure. However, the economic benefits from activities of these industrial parks flow either to the province or the city, not to peri-urban residents. The scenario of further expropriation has raised concerns among farmers about the loss of livelihoods among farmers, creating their neglectful behavior in farming. This finding in this mid-sized city, together with the previous research in large cities and rural areas of Vietnam, reinforce that Vietnam's land policies which favor the expropriation of agricultural land on significant scales for national industrialization and modernization, are applied strongly across the country, regardless of cities' sizes, or rural areas.

Having said this, it should be noted that expropriation is not the only way to control land use in this city. The local government further intervenes in land transactions and the issuing of LURCs. On the one hand, local authorities issue LURCs for residential land in order to stimulate residential transactions. In this way, Vinh could more rapidly satisfy the population criterion of becoming a large city. On the other hand, the agricultural land market in Vinh is hindered by the absence of LURCs. While waiting for the new master plan of this city, the reluctance to issue LURCs allows local authorities to better control agricultural land transactions and expropriate land for urbanization. This practice of land management is somewhat contrary to national policies as well as the practice in large cities. This prerogative was given to Vinh due to its status of transforming into a large urban center. Farmers who cannot sell agricultural land end up renting it out for free or for a very cheap price, or even leaving it idle while waiting for expropriation. This finding demonstrates the striking heterogeneity of land administration in Vietnam. The 'bottom-up' mechanism and the prerogative of Vinh authorities in the city's phase of transforming to an independent

municipality have impeded peri-urban farmers from participating in the property market, creating an unequal opportunity in land markets among farmers across the country.

In terms of livelihood changes thanks to expropriation, the findings confirm that, like elsewhere in Vietnam, land expropriation necessarily undermines farmers' traditional livelihoods and replaces them with less stable ones. The compensation was calculated by local authorities, at a low price, and based on land types at the time of expropriation decision were made. The increased value after re-zoning was not calculated in compensation. Of the support for job changes, vocational training that was supposed to include organized courses to displaced households was instead substituted by money. Money from compensation was most commonly used for house renovation or construction, everyday expenses, and paying debt or diseases. Compensation was rarely used to invest to other agricultural activities and vocational training of non-agricultural jobs. Using money from compensation for vocational training was not a likely choice among displaced households, especially the middle-aged, because of their lack of educational background and difficulties in being retrained.

Findings on livelihoods' change in post-expropriation showed that disruption occurred to farmers whose land was too small for farming and who had no skills for non-agricultural jobs. Those who retained their living standard did so mainly thanks to intensive farming, changing to higher value crops on the remaining agricultural land (provided that it was large enough for agricultural production), and moving to animal husbandry. Only a minority was better off thanks to finding stable jobs in non-farm activities. Rarely do farmers, in peri-ruban Vinh or other cities, become factory workers as expected, partly because of the barrier of education and training skills and partly because of the low payment for work in industrial parks. Farmers' last option was turning to non-farm jobs that required no skill nor training with either a low or uncertain income, or with bad working conditions.

While the majority of the peri-urban population is still heavily dependent on agriculture, the absence of LURCs – which prevents farmers from participating in the property market – and the expropriations – which undermine farmers' livelihoods – depict the conflicts pertaining to land management ideals and practices in Vietnam. Technically speaking, farmers have the rights to exchange, transfer, inherit, and mortgage it. On the other hand, local government, on behalf of the State's sovereignty on land, forces farmers to leave their land for the national interests. In special cases, such as in Vinh city, discretionary power

is strong enough for the local government to take away farmers' rights of land transactions by withholding from issuing agricultural LURCs. In doing so, farmers were prevented from realizing the benefit of land transactions. Ultimately, this management mechanism leads to conflicts between individual rights and public needs of development, regarding economic interests. The "people of the land" have to yield their land to local governments and industrial investors, for national, provincial, and local urbanization. In addition, nationally, agricultural land management mechanism emphasizes more the rural context and 'forgets' peri-urban areas which are known as areas of transition with fast growth, fast changes, and serious increases in land use conflicts. Consequently, ensuring the goals of political stability, social justice, and economic development in Vietnam's land legislation and land policy system is still a far-off target.

In summary, Vinh appears unique in its rapid transition thanks to its situation of transforming to a nodal city, especially in terms of land use management. However, Vietnam has many other mid-sized cities, and in the effort of balancing national spatial development, these mid-sized cities will sooner or later become large cities to relief Hanoi and HCMC from the development pressure. This phenomenon is evident clear though recently completed transforming process of cities of CanTho (in Mekong Delta Region), HaiPhong (in Red River Delta Region) and DaNang (in South Central Coast). Therefore, the findings from the case study of Vinh are at least transferable to other mid-sized cities in Vietnam.

8.2 Recommendations

From the conclusions presented above, two concepts stand out as being essential to development and sustainability of local food provision, and peri-urban farming livelihoods. The first of these is economic incentives, which can take the form of promoting horticulture (e.g. developing post-harvest facilities, linkages with outside institutions, and the food supply chain). The economic incentives also include boosting safe vegetable production and non-land based products (poultry, cattle, and milk). The second issue involves initiating a separate agricultural land management system for peri-urban areas, as opposed to the current one which focuses only on rural areas. This recommendation may be applied not only in Vietnam

but also to other developing countries where the land legislations for peri-urban areas are also absent. This system should address farmers' profits from land transactions, price premiums in land evaluation for expropriations, and a new provision of supporting for job retraining.

8.2.1 Economic incentives

To date, although agricultural production in Vinh has largely been driven in a negative way by land crisis and urbanization imperatives, it has its own advantages. First of all, Vinh city's authorities have already clearly demonstrated their commitment to support higher value products including vegetables, fruits, flowers and ornamentals. Second of all, the agricultural workforce is still sizeable and has experience in vegetable production. Another advantage is the strengthening of the local agrofood market by the time Vinh reaches the population standard of becoming a national city. The significant barriers for agricultural production in Vinh, as discussed in Chapter 6, are the fragmentation of land, the weakness of post-harvest activities, and the lack of a network of supporting institutions and of a coordinated supply chain. Building on the positive starting points above, and overcoming the weaknesses would provide strong economic incentives for peri-urban agriculture and farmers' livelihoods in Vinh. In order for these economic incentives to have maximum effects, interventions by the local government, in terms of policies and procedures, are needed.

In practice, many farmers in Vinh have their plots of land located in different sites. Adjacent plots belong to different owners and may be growing different crops, thus hindering the application of large-scale production techniques such as mechanization of soil preparation, irrigation, harvest, and post-harvest handling and preservation of products. In 1998, the state government initiated the policy of land exchange – for adjacent land between farmers in order to enable large-scale production (*Don dien doi thua*), which has been carried out in may rural areas across the country. In fact, Vinh is also conducting a procedure of land exchange for shrimp aquaculture in Hung Hoa commune. Land exchange in Hung Hoa was advocated by the state policy, and was strongly encouraged (in terms of finance, technique and infrastructure) by the provincial and city government (Interview 9, 10, 2006). Like elsewhere in Vietnam, in Vinh, land exchange for horticulture may have been 'ignored' because horticulture is not the target of the state policy and because the provincial and local

budgets are limited (Interview 7, 8, 9, 10). In addition, human resources that support the agricultural economy in Vinh city are limited in terms of numbers and education[24]. Thus, local authorities should develop a plan so that higher governments realize the importance of higher-value crop cultivation in the city, and support land exchange for cropland so that horticulturists have a greater chance of success.

Another comment on economic incentives for the development of peri-urban agriculture and livelihoods is boosting post-production activities and the market chain of these products. Post-production helps reduce losses in quantity and quality of these perishable products before they are sold to consumers, especially in a tropical environment. Furthermore, applying post-harvest activities within farmers' technical abilities and financial resources also help farmers capture more value-added. At present, the only post-production activity in Vinh is cleaning. It should not be difficult for producers to classify washed products according to their freshness and sizes. Simple storage techniques could also be used to reduce the losses, such as their own fridges, freezers, or even coolers. At a higher level, setting up trademarks through packaging and labeling will increase the recognition of local products and enable surplus products to be sold outside the city. Doing this will kick-off farmers' investment in agricultural production. In this context, certification for locally grown safe vegetables will help farmers enter the niche of the increasing market of safe food and brand names, nationally and internationally. However, an appropriate quality system requires interventions of local authorities, in terms of policies and procedures aimed at enforcing the standards of agricultural commodities (either by produced crops or safe vegetables) as well as promoting new products.

For the long-term development of peri-urban agriculture, Vinh authorities should create policies that attract and appeal to 'facilitators' in order to boost the production of

[24] At the city level, only one official is in charge of the agricultural sector in the Economics Office, one is running in Farmers' Association, and three are in the Agricultural Extension Office. Most of them have university education. At the commune level, the Economics Office has only two officials who are responsible both sectors of the commune's economy; one official hold both positions of agricultural extension and farmer's association. Most of commune staffs fulfilled high school education. At the lower level, on average, there are four officials in each of the 22 cooperatives, most of whom have the Junior High School education (35.6%) and Senior High School education (49.4%) (The People's Committee of Vinh city, 2006).

trendy commodities. Facilitators could be institutions from outside who help develop widespread agricultural extensions including production and post-production, and investors who help develop supply chain infrastructure for agricultural commodities. Given the tenuous economic situation, Vinh is already making an exceptional effort in terms of supporting agricultural extensions to farmers through agricultural extension offices and cooperatives. Lessons from Hanoi and HCMC show that developing linkages between local institutions and foreign institutions that share a desire to promote the development of peri-urban agriculture should be taken into account. Thus, securing outside supporters will help provide Vinh with necessary resources and great benefits from their innovation on peri-urban agricultural research and education. In terms of building an infrastructure for the supply chain, Vinh city should learn from Hanoi and HCMC to call for national or international investment in wholesale and retail services for domestic consumption and export orientation. The best way to maximize the effectiveness of these policies is to minimize the high levels of regulation and bureaucracy on administrative international formalities – what are now viewed as one of the greatest obstacles in the development of research, education and investment networks between Vietnam and other nations. In the context of acceding to WTO[25], national integration policy can act as a foundation for Vinh to open up this international connection. However, WTO is a double-edged sword. On the one hand, it can enhance the competitiveness of domestic agricultural products (by way of foreign investment, science and technology support, and creation of pressure on farmers to develop) and expand Vietnam's agricultural markets. On the other hand, the reduction of subsidies for domestic agricultural production and the abolishment of tariff barriers on imported products challenge Vietnam's agriculture due to its low competitiveness. As such, the Vietnamese government, through the Ministry of Agriculture and Rural Development, has developed strategies that focus on rapidly overcoming policy and institutional weaknesses, encouraging investment, courting international support, accommodating farmers and enterprises with information on international standards and regulation, strengthening domestic agriculture and processing industry, and stabilizing prices of agricultural products (MARD, n.d.; UNDP,

[25] Vietnam became the 150th member of WTO in November 17, 2006.

n.d.). Therefore, it is necessary that Vinh authorities conform to the state policies in the era of globalization.

The final comment on economic incentives is that the Vinh government should facilitate and support farmers who shift to non-land-based agriculture in the context of reduced agricultural area. Given that peri-urban Vinh's animal husbandry had just been expanded but was almost stamped out due to the avian flu and foot-and-mouth disease, agricultural extension is the best way to help farmers out. Again, increasing the linkages with outside institutions is the key. Also, as seen in HCMC, Hanoi, and other large cities of developing countries, milk production is proving to be a significant source of employment and income for peri-uban farmers. The effective promotion of non-land-based agriculture will provide one of the best livelihood alternatives for severely displaced households whose remaining land is not enough for cropping.

8.2.2 A separate land management mechanism

The literature review and the case study have demonstrated the bias of agricultural land administration towards rural areas: land laws have been focused on agricultural land in rural area because of its role as a foundation for national agriculture. Meanwhile, in peri-urban areas, there are no clear-cut agricultural land regulations: it is not clear whether they are treated as rural or urban land. As indicated in Chapter 2, peri-urban areas are zones of transition with land fragmentation and fast growth, and where farmers' livelihoods are more sensitive to changes in land policy and practices, compared to those in rural areas. With those special characteristics, peri-urban areas should have their own agricultural land use policy. Therefore, it is critical to set up a land policy framework for peri-urban areas in an increasing number of large and mid-sized cities. This framework could provide a means for profiting from land transactions, price premiums in land evaluation for expropriations, and better support and training for job changes, as they are recommended from other studies for rural Vietnam and China (CIEM, 2006, UMC – HAU, 2006; Liu, 2007). As such, these recommendations, rather than exclusively be applied to peri-urban agricultural land, could be done to rural agricultural land (where applicable).

Given that agricultural land is allowed to be transferred elsewhere in Vietnam, Vinh authorities should allow farmers to sell their agricultural land. Admittedly, liberalizing the

land market could lead to social differentiation. However, as discussed in Chapter 3, this issue can be resolved by non-farm job alternatives. In the context of Vinh's urbanization with high rates of economic growth, and the sizeable number of off-farm jobs, liberal land markets might work. Moreover, with the expectation of further expropriation of agricultural land in peri-urban Vinh, landlessness is only a matter of time. Thus, the issuance of LURCs for agricultural land should be improved to promote this potential market so that farmers can benefit from increased land values. Although rising landlessness found in the case study appears to be an indicator of long-term poverty in Vinh city, the reasons for rising landless poverty is not because of land market liberalization, but because of land expropriation and improper non-farm job training. To prevent the negative impacts of the premature liberalization of land markets, as seen in Mekong Delta, comments by Scudder (1991), Zoomers (2000), and Ravallion et al. (2006) on non-farm job opportunities are relevant. Those comments include "making land markets work better for poor people" and "complementary efforts in other factor markets to enhance non-farm opportunities" (Ravallion et al., 2006, p.35). As such, job training and other supports for job changes for local farmers who are lacking education and professional skills to work in non-farm sectors need to be done prior to the abandonment of the restriction on land transactions.

In terms of expropriation, farm households in Vinh city, as in elsewhere across the country, have received little compensation and a lot of job disruption afterwards. Thus, increasing compensation and farmers' abilities to work in non-farm sectors are critical. The reliance of the state government on the market school of thought could be expected to help in setting fair prices for land compensation. Local (and state) authorities apply the ideas of land market onto the compensation for expropriation, offering price premiums for displaced households. Price premiums could include either voluntary bargains and sales – open negotiation between displaced households, local authorities and enterprises – or the adjustment of compensation prices. Voluntary bargain and sale are considered an ideal system for land acquisition. This system requires willing sellers, buyers, and a certain level of land market where the title to land and fairness are determinable. This system allows farmers to take advantage to realize cash from "transactions" or refuse to "sell" their land if the price is not satisfactory during negotiation. Participation of displaced households (or at least their representation) in the process of making decision for compensation would allow

for some share in the benefit from increased land value by negotiation. However, the absence of one of the above three components in Vinh city in particular, and Vietnam in general, as well as in other developing countries (see Kitay, 1985), makes this option rarely applicable. The other option that is applicable for price premium is improvement on compensation. Ultimately, local authorities are decision makers in determining compensation. Therefore, cities' officials, during the process of evaluating the land, should adjust the compensation of land per unit as close to market prices as possible. In addition, the estimated increase in value of land from re-zoning should be included.

Finally, regarding supports for job changes, it is clear that the majority of displaced households, after receiving money, do not invest it into retraining themselves. Therefore, the local government should organize job training courses to displaced households rather than offer money in hopes of self-training. However, displaced households have different education levels, working interests, and (therefore) face different needs, so should not be offered simply one uniform assistance package. Local authorities should create a mechanism through which enterprises provide employment opportunities in industrial zones and each enterprise should hold vocational training courses for members from displaced households. However, employment quotas should not be a burden to both localities and enterprises. Instead, job training for proposed industrial workers is necessarily based on individuals' education and job expectations. To those who are not interested in, or are unqualified for, industrial enterprises' requirement, local government officials should provide business consulting and small business loans.

8.3 Suggestions for future research

As discussed in the introduction to this thesis, research on peri-urban agriculture in Vinh city has tended to devote insufficient attention to the mid-sized city, underpinning main changes underway in agrarian transition and land management under urbanization. What dynamics of agricultural land are and what roles localities play in the process of transition thus have not been thoroughly explored. Examining the past is useful in terms of explaining what is happening in the present. As such, a careful study of the effects of the demolition of Vinh city during the French and the American wars would be a significant contribution to Vinh's present-day urbanization and agricultural production. In this sense, seeking the

evidence of impacts of collective agriculture to current agriculture in peri-urban Vinh would empirically affect the city's agricultural development strategy. In broader sense, looking for this evidence in other cities of Vietnam (including large cities) would help to paint a fuller picture of peri-urban agriculture in Vietnam.

While this thesis sought to explore the roles of local authorities in mediating urbanization through land expropriation, tenure, and transactions in Vinh city, significant limitation research limitations, as noted in Chapter 4, meant that this work was primarily based on both limited time and access to sensitive land use issues. Thus, as indicated in Chapter 7, further research into potential corruption of local officials in land use management in this city to contribute to underlying issues of land expropriation and compensation would be a useful endeavour.

As a closing remark, it is necessary to repeat that within the admitted limits of a case study, this thesis' findings are more empirical. The scope of generalizing the agrarian transition in peri-urban mid-sized cities is beyond the thesis' findings. As such, the multiplication of case studies pertaining to other mid-sized cities in Vietnam or other developing countries to extend the theoretical issues of peri-urban agriculture would be worthwhile.

Appendix A

Interview themes and sample questions

Theme 1: Land use change

- What have been the trends in recent years in agricultural land conversion (from agricultural to non-agricultural uses)? (Do you have any statistical data on this?)
- What is the process for deciding and approving agricultural land use conversion and expropriation (e.g., conversion of agricultural lands to non-agricultural uses)?
- To what extent is the conservation or promotion of peri-urban areas a policy priority for the local government? If so, why? If not, why not?
- Are there any differences between land use types, in terms of land legislation and policy?
- What are the impacts of city planning on agricultural land use and peri-urban agriculture?
- What foundations were used to calculate compensation for land expropriation?
- What is your assessment of farmers' livelihood after expropriation?
- Are there variations in implementing land legislation, compared to others? Why?

Theme 2: Land market dynamics

- Since agricultural lands have been allocated to households in the early 1990s, how many of them have received LURCs?
- What transactions have been the most common, regarding types of land, types of transactions (transfer, lease, mortgage, etc), and formality of transactions (e.g., formal or informal)?
- Why or why not has an active market for land sales or rental developed?
- What is the average price for land sales (for residential, garden, commercial-industrial, and agricultural land)?
- Who participates in this market: who are sellers, buyers? and what are their purposes?
- What was the social differentiation due to land market initiation?
- What motivations or impediments does the city make to the market of different kinds of land use?

Theme 3: Peri-urban agriculture in transition and farmers' livelihoods

- What have been the main changes in peri-urban agriculture, in terms of products, intensifications, post-production activities, and market orientation?
- What are the main current and future challenges or problems of peri-urban agriculture in this area?
- Is most peri-urban agricultural land farmed by the landowners themselves, or rented out, or farmed by hired laborers?
- Has there been a trend towards consolidation and concentration of farms (e.g., are there fewer farmers but larger farms now compared to the past)?
- What have been the main socio-economic trends in this area: is it getting wealthier or more differentiated socio-economically?
- What are the main shifts in livelihoods of the people here (within agricultural jobs, agricultural jobs versus non-agricultural jobs)?
- How has your office or other parties provided supports to agricultural production such as credit, seeds, fertilizers, technical training, market intervention (price adjustments, product collection, etc.)?
- Is peri-urban agriculture considered important in terms of food security (e.g., provision of low-cost food for the urban population)?
- Is peri-urban agriculture considered important in terms of employment and income generation? How significant is this in this commune?
- Is peri-urban agriculture considered important in terms of preventing or encouraging further rural-urban migration?

Appendix B

List of key informant interviews

- **Interview 1** May 17, 2006. Agricultural Extension Official of Vinh
- **Interview 2** May 18, 2006. Economics Official of Vinh
- **Interview 3** May 22, 2006. Farmers' Association Official of Vinh
- **Interview 4** May 26, 2006. Land Administration Official of Vinh
- **Interview 5** May 30, 2006. The chairman of Hung Dong People' s committee
- **Interview 6** May 31, 2006. Farmer's Association Official of Hung Dong
- **Interview 7** June 02, 2006. Economics Official of Vinh
- **Interview 8** June 08, 2006. Farmer's Association Official of Vinh
- **Interview 9** June 10, 2006. Agricultural Extension Official of Vinh
- **Interview 10** June 17, 2006. Land Administration Official of Vinh

Appendix C

A sample questionnaire of the survey

QUESTIONNAIRE FOR FARMING HOUSEHOLDS ON AGRICULTURAL LAND USE CHANGE, LAND MARKETS AND LIVELIHOOD

I would like to ask if you agree to participate in a survey. The purpose of this research is to better understand the relation between peri-urban agriculture, land markets and farmers' livelihoods in this area. The survey will involve questions about agricultural production, access to land and land market, agricultural land use changes and farmers' livelihoods from 1995 - 2005. It should take about 30 minutes to complete.

The research is being directed by Van Ngoc Truc Phuong from the Department of Geography, the University of Waterloo, Canada. It is hoped that the research will contribute to better policies and programs for sustainable agriculture and local economic development. Participation is voluntary. After all of the data has been analyzed, a summary of the research results will be given to commune authorities and related associations.

Any questions about the research can be addressed to Ms Van's research assistants, ____ at Vinh University (telephone: ____) or Ms Van at telephone:_____

Date: _____ Number: ____ Interviewer: _____

Name of interviewee:_____

Sex : 1. Male 2. Female Age of interviewee: ____

Name of household head: _____

Address: _____

A. Agricultural production

1. What agricultural products do you produce (rice, vegetable, fruits, industrial crops, ornamentals, cattle, poultry, fish, shrimp, processed foods like tofu, pickled vegetables, etc)

For each product, fill in the following information:

Name of product:	
Since when have you grown/raised this product?	
Amount produced (last year?) (tons or heads)	
Value of product sold (last year) (Million VND)	
(% for home consumption)	
Is this product sold in raw or processed?	1. Raw 2. Processed: 2a. Clean 2b. Dried 2c. Freezing 2d. Canning 2e. Other: _____
Is the market for this product stable or is it becoming more difficult for you to sell this product (e.g., due to rising quality standards)?	1. Yes, because _____ _____ _____ 2. No

[repeat table as needed]

2. Are there some products that you produced 10 years ago but do not produce now? (multi-selection)

1. Rice	2. Vegetable	3. Fruits	4. Industrial crops	5. Ornamentals
6. Cattle	7. Poultry	8. Fish	9. Shrimp	10. Flowers
10. Processed foods		11. Handicrafts		88. Other:_____

3. What is the most important reason that makes you stop growing products?

1. Rice: _____
2. Vegetable:_____
3. Orchard: _____

4. Industrial crops: _____

5. Ornamental: _____

6. Cows: _____

7. Pigs: _____

8. Poultry: _____

9. Flowers: _____

10. Fish: _____

11. Shrimp: _____

12. Processed foods: _____

13. Handicrafts: _____

88. Other: _____

4. How many people in your family work on agriculture?

1. Full time:_____ person(s) 2. Part time: _____ person(s)

5. How many laborers have you hired (at peak points) to work on your agricultural land? _____person(s)

6. How often (or how long) do they work for you (in one year)?: _____ hours/ year/person

7. How much do you pay a laborer? _____VND/day

8. Do you have any comments or recommendations regarding policies and programs to improve the income of farmers, and support food production that does not degrade the environment?_____

_____

_____

_____

B. Land assets

9. How much land does your household have/use?

Type of land (ha or $m^{2)}$	Residential	Agricultural	Ponds	Other: _____
-Own				

1. With LURC 2. Without LURC				
-Borrow at no charge from 1. Relatives 2. Neighbours 88.Other: _____				
-Rent from: 1. Authorities 2. Relatives 3. Neighbors 88. Other:_____				
-Public/common land				
If rented: How much rent is paid for the land? (VND/ year or VND/ crop or % of crops) (*).				

*. If the answer is VND/ crop or % of crops, ask for average output, selling price and number of crops per year so that calculation can be make to VND/year later on)

10. (if have LUC) Whose name appears on your household's land use certificate? (*)

Residential:_____ Agricultural :_____ Ponds:_____ Other: _____

(*). 1. Husband 2. Wife 3. Husband and wife

4. Children 5. Parent(s) 88.Other:_____

11. What do you expect will happen to your agricultural land in the next 5-10 years? (e.g., will it become urbanized; you or your children will continue to farm it)_____

C. Land rental

12. (if rent out land) Which year(s) and what is the main reason (*) why you rent out the land?

Year: _____. Reason: _____

Year: _____. Reason: _____

Year: _____. Reason: _____

Year: _____. Reason: _____

(*): 1: High rental price 2: Low yield or output prices 3. Lack of capital
4. To invest to other farming activities 5. Labor shortage
6. Paying debt, diseases and everyday needs 7. Constructing houses
8. Purchasing new facilities 88. Other: _____

13. (if rent in land) Which year(s) have you rented in since 1990 and what is the main reason?

Year:_____. Reason:_____

Year:_____. Reason:_____

Year:_____. Reason:_____

Year:_____. Reason:_____

D. Land purchase

14. Have you *bought* any land since 1990?

Year(s)	Land type (1)	Area (m2)	From whom (2)	How to purchase? (3)	For what purpose? (4)

(1). 1. Residential 2. Agricultural 3. Aquaculture 88. Other_____

(2) 1. Other farmers 2. City dwellers 3. Private companies 88. Other_____

(3) 1. Formal 2. Informal

(4) 1. Housing 2. Annual crops 3. Perennial crops 4. Aquaculture
5. Speculation (not used) 88. Other (specify)_____

E. Land sale and expropriation

15. Has any of your land been expropriated by the state?

Year(s)	Land type (*)	Area (m2)	Amount of compensation/m^2 (1000 VND)

(*). 1. Residential 2. Agricultural 3. Aquaculture 88. Other_____

16. Have you *sold* all or part of your land since 1990? 1. Yes 2. No [if no, go to next section]

Year(s)	Land type (1)	Area (m^2)	To whom? (2)	How to sell? (3)	Reason to sell? (4)	Use after sold (5)

(1). 1. Residential 2. Agricultural 4. Aquaculture 88. Other_____

(2) 1. Other farmers 2. City dwellers 3. Private companies 88. Other_____

(3) 1. Formal 2. Informal

(4) 1. High land price 2. Low yield 3. Low output prices 4. Diseases
5. Lack of labor 6. Lack of capital 7. Lack of water
8. To purchase new facilities 9. Flood
10. To invest for agriculture 11. Debt 88. Other _____

(5) 1. Housing 2. Annual crops 3. Perennial crops 4. Aquaculture
5. Speculation (not used) 88. Other (specify)_____

17. After selling your land, how did you use the money? (select 3 priorities)

1. Pay the dept 2. Pay children's education 3. Renovate the house
4. Buy new facilities 5. Invest for crops 6. Invest for aquaculture
7. Invest for raising 88. Other _____

18. How would you describe your household's standard of living now compared to before you sold your land?

1. Better than before 2. The same 3. Worse than before

19. Why it is better/the same/worse?_____

_____

_____

_____

_____

20. What aspects of your life would you wish to be improved after land sale/expropriation?_____

_____

_____

_____

F. Demographic information

21. Please tell us the following information about each person who lives in your household on a regular basis

	Age	Sex (1)	Relation to household' s head (2)	Education level (3)	Main occupation (4)	Secondary occupation (4)
1						
2						
3						
4						
5						
6						
7.						
8.						

(1) 1. Male 2. Female

(2) 1. Head 2. Grand parent 3. Parent 4. Spouse 5. Child

88. Other: _____

(3): 1. None or primary school 2. Secondary school 3. High school
4. University/college 5. Other:_____

(4): 1. Farming 2. Handicraft 3. Processing 4. Trading 5. Student
6. Housewife 7. State employed officer 8. Unemployed
9. Agri. labor wage 10. Industrial worker 11. Motorcycle taxi driver
12. Masion 88. Other :_____

22. What were your household's main income sources(*) in the following periods?

(*) 1. Rice 2. Vegetable 3. Fruits 4. Industrial crops
5. Ornamentals and flowers 6. Cattle 7. Poultry
8. Fish 9. Shrimp 10. Processing 11. Handicraft
12. Land lease 13. Trading and services
14. Agri. wage labor 15. Agricultural food processing 16. State employed
16. Industrial workers 17. Motorcycle taxi driver
88. Other:_____

Before 1995: _____
1995 – 2000: _____
2000 – 2005: _____

23. Approximately how much income does your household earn per year **in total**? _____ million VND?

Thank you very much for your time today.

Appendix D

Photos of practices of cultivation and animal husbandry in Hung Dong

Photos 1 – 6 illustrate cropping techniques in peri-urban Vinh that heavily use manual labor, from soil preparation to harvests as well as from traditional to new-trend products (which is organized and supported by local government). As well, they also show that typical agricultural landscape is small-sized plots such as home fronts, and vacant spots.

Photo 1: Rice harvested by hand still dominates much of Vinh agricultural practices

Photo 2: A farmer is harvesting water spinach grown along a vacant marsh beside Bac Vinh industrial park.

Photo 3: Vegetables grown at a home front

Photo 4: A farmer is preparing soil for safe vegetable seedlings.

Photo 5: Safe vegetable farmers whose lands are adjoining work together to build a shade house.

Photo 6: A farmer is carrying water with a shoulder pole to water her safe vegetables.

In terms of livestock raising, the following photos demonstrate dominated practices in peri-urban areas; they are small-scale and take full advantage of space.

Photo 7: Ducks range freely in harvested paddy fields (left) and beside the home (right)

Photo 8: Cows belonging to two different farmers, graze right beside the wall of Bac Vinh industrial park

Photo 9: Raising pigs in backyards is a common practice in peri-urban Vinh

Appendix E

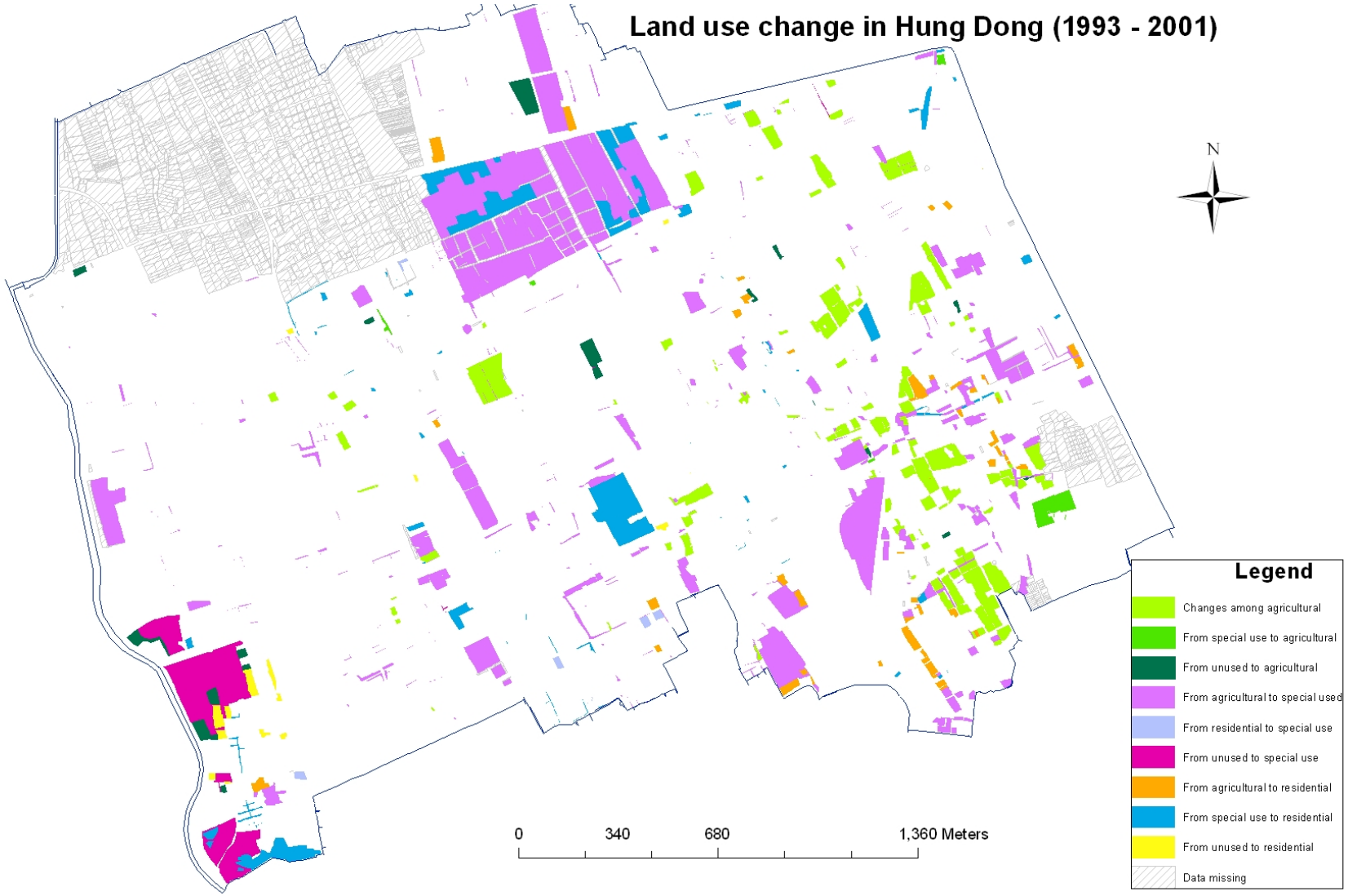
Photo of infringing regulation on safe vegetable production in Hung Dong

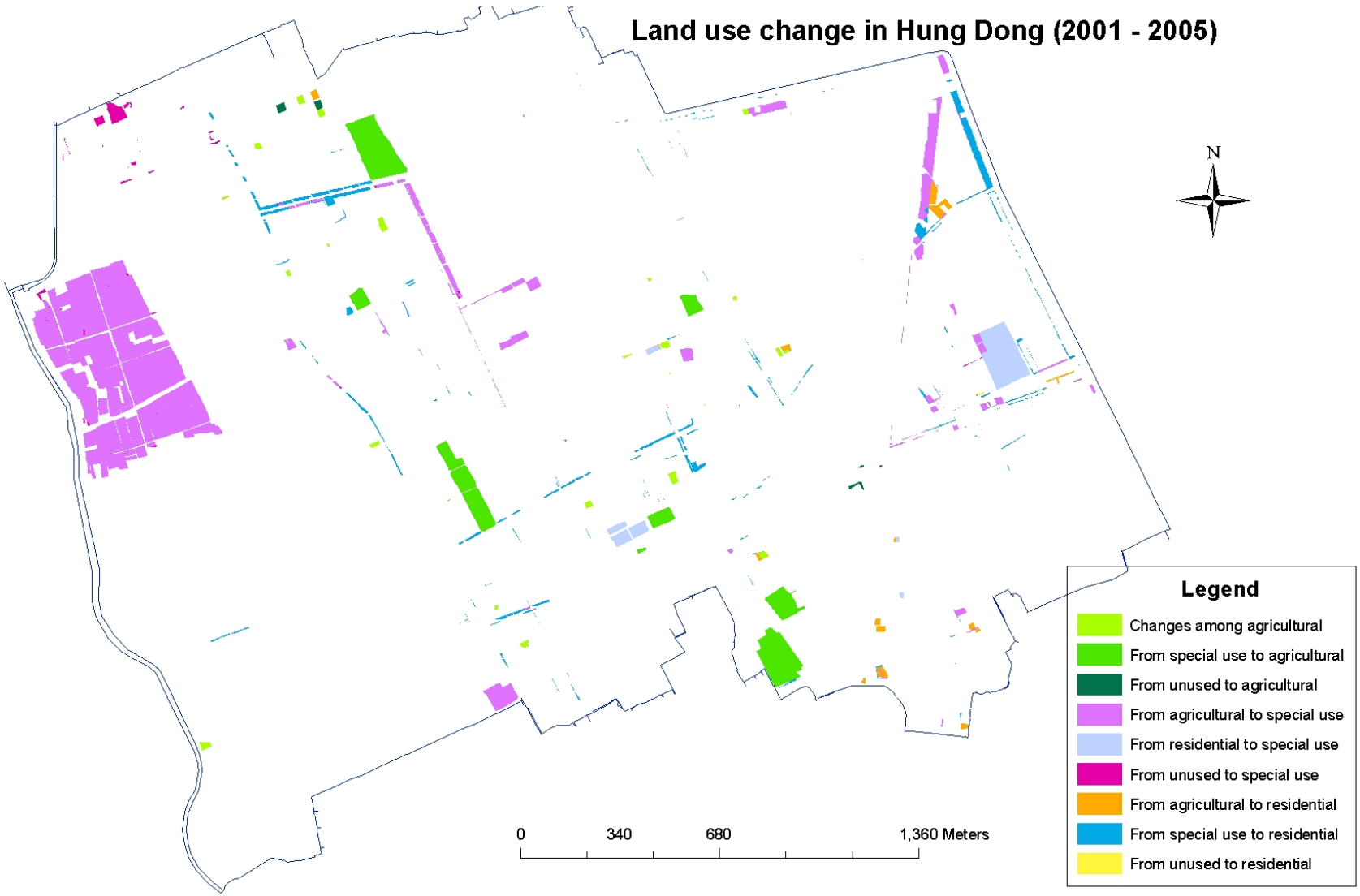
Photo 10: The east side of safe vegetable fields is the garbage dump of Vinh

Photo 11: One of my research assistants interviews a farmer in her safe vegetable field that faces a cemetery to north.

Appendix F:

Maps of land use change in Hung Dong (1993 – 2005)


Land use change in Hung Dong (1993 - 2001)
N
0
340
680
1,360 Meters
Legend
Changes among agricultural
From special use to agricultural
From unused to agricultural
From agricultural to special used
From residential to special use
From unused to special use
From agricultural to residential
From special use to residential
From unused to residential
Data missing


Land use change in Hung Dong (2001 - 2005)
N
0
340
680
1,360 Meters
Legend
Changes among agricultural
From special use to agricultural
From unused to agricultural
From agricultural to special use
From residential to special use
From unused to special use
From agricultural to residential
From special use to residential
From unused to residential

Appendix G

Detailed land use change in Hung Dong (1993 – 2005)

1. Land use change in Hung Dong (1993 – 2001)

		2001 (sq. m)												Total
1993 (sq. m)		PAD	VEG	OAC	PER	AQU	RES	NPT	INF	GAD	REL	OWA	UNU	
PAD	Area	2196500	0	65971	0	3509	43614	202085	69924	1363	6795	35734	0	2625495
	% (1993)	83.7%	.0%	2.5%	.0%	.1%	1.7%	7.7%	2.7%	.1%	.3%	1.4%	.0%	100.0%
VEG	Area	0	17676	859	0	0	0	154	15	0	0	0	0	18704
	% (1993)	.0%	94.5%	4.6%	.0%	.0%	.0%	.8%	.1%	.0%	.0%	.0%	.0%	100.0%
OAC	Area	0	0	445884	793	0	8889	48505	28982	0	6415	1432	0	540900
	% (1993)	.0%	.0%	82.4%	.1%	.0%	1.6%	9.0%	5.4%	.0%	1.2%	.3%	.0%	100.0%
PER	Area	0	0	446	4864	0	0	0	0	0	0	0	0	5310
	% (1993)	.0%	.0%	8.4%	91.6%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
AQU	Area	0	0	0	0	331678	12842	12873	6693	0	0	58614	0	422700
	% (1993)	.0%	.0%	.0%	.0%	78.5%	3.0%	3.0%	1.6%	.0%	.0%	13.9%	.0%	100.0%
RES	Area	0	0	0	0	0	1298136	55244	46356	10696	3649	0	0	1414081
	% (1993)	.0%	.0%	.0%	.0%	.0%	91.8%	3.9%	3.3%	.8%	.3%	.0%	.0%	100.0%
NPT	Area	0	0	0	0	0	0	197796	0	0	0	0	0	197796
	% (1993)	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
INF	Area	0	0	0	0	0	3946	0	1091117	0	0	0	0	1095063
	% (1993)	.0%	.0%	.0%	.0%	.0%	.4%	.0%	99.6%	.0%	.0%	.0%	.0%	100.0%
GAD	Area	0	0	0	0	0	0	0	0	172198	0	0	0	172198
	% (1993)	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
REL	Area	0	0	0	0	0	611	0	0	0	133256	0	0	133867
	% (1993)	.0%	.0%	.0%	.0%	.0%	.5%	.0%	.0%	.0%	99.5%	.0%	.0%	100.0%
OWA	Area	0	0	7139	0	10513	28	0	0	0	0	138439	0	156119
	% (1993)	.0%	.0%	4.6%	.0%	6.7%	.0%	.0%	.0%	.0%	.0%	88.7%	.0%	100.0%
UNU	Area	2105	0	5162	0	9412	11368	81128	4187	0	0	0	59613	172975
	% (1993)	1.2%	.0%	3.0%	.0%	5.4%	6.6%	46.9%	2.4%	.0%	.0%	.0%	34.5%	100.0%
Total	Area	2198605	17676	515461	5276	355112	1379434	597785	1247274	184257	150115	234219	59613	6955208
	% (1993)	31.6%	.3%	7.6%	.1%	5.1%	19.8%	8.6%	17.9%	2.6%	2.2%	3.4%	.9%	100.0%

Note: PAD: Paddies VEG: Vegetables OAC: Other annual crops PER: Perennial crops
AQU: Aquaculture RES: Residential land UNU: Unused land REL: Religions and beliefs
NPT: Non-agricultural production and trading GAD: Government administration and defense
OWA: Open and special use water

2. Land use change in Hung Dong (2001 – 2005)

2001 (sq. m)		2005 (sq. m) PAD	VEG	OAC	PER	AQU	RES	NPT	INF	GAD	REL	OWA	UNU	Total
PAD	Area	2337686	0	0	601	0	7660	210705	12810	0	1	0	0	2569463
	% (2001)	91.0%	.0%	.0%	.0%	.0%	.3%	8.2%	.5%	.0%	.0%	.0%	.0%	100.0%
VEG	Area	0	40545	502	0	0	0	750	61	0	0	0	0	41858
	% (2001)	.0%	96.9%	1.2%	.0%	.0%	.0%	1.8%	.1%	.0%	.0%	.0%	.0%	100.0%
OAC	Area	0	0	517699	2402	0	5238	8563	9225	0	401	40	0	543568
	% (2001)	.0%	.0%	95.2%	.4%	.0%	1.0%	1.6%	1.7%	.0%	.1%	.0%	.0%	100.0%
PER	Area	0	0	0	6211	0	0	0	0	0	0	0	0	6211
	% (2001)	.0%	.0%	.0%	97.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
AQU	Area	0	0	0	1248	371883	3218	201	13849	0	0	2128	0	392527
	% (2001)	.0%	.0%	.0%	.3%	94.7%	.8%	.1%	3.5%	.0%	.0%	.5%	.0%	100.0%
RES	Area	0	0	0	0	0	1607549	0	38266	0	0	0	0	1645815
	% (2001)	.0%	.0%	.0%	.0%	.0%	97.7%	.0%	2.3%	.0%	.0%	.0%	.0%	100.0%
NPT	Area	0	0	0	0	0	112	628336	1300	0	0	0	0	629748
	% (2001)	.0%	.0%	.0%	.0%	.0%	.0%	99.8%	.2%	.0%	.0%	.0%	.0%	100.0%
INF	Area	0	0	0	0	0	7488	0	1172241	0	0	0	312	1180041
	% (2001)	.0%	.0%	.0%	.0%	.0%	.6%	.0%	99.3%	.0%	.0%	.0%	.0%	100.0%
GAD	Area	0	0	0	0	0	0	0	1834	173580	1	0	0	175415
	% (2001)	.0%	.0%	.0%	.0%	.0%	.0%	.0%	1.0%	99.0%	.0%	.0%	.0%	100.0%
REL	Area	0	0	0	0	0	141	438	78	1	172510	408	31	173607
	% (2001)	.0%	.0%	.0%	.0%	.0%	.1%	.3%	.0%	.0%	99.4%	.2%	.0%	100.0%
OWA	Area	0	0	0	362	79517	23789	6677	3891	0	0	165023	0	279259
	% (2001)	.0%	.0%	.0%	.1%	28.5%	8.5%	2.4%	1.4%	.0%	.0%	59.1%	.0%	100.0%
UNU	Area	13	0	741	1511	0	145	1071	6063	0	0	0	72660	82204
	% (2001)	.0%	.0%	.9%	1.8%	.0%	.2%	1.3%	7.4%	.0%	.0%	.0%	88.4%	100.0%
Total	Area	2337699	40545	518942	12335	451400	1655525	856741	1259618	173581	172913	167599	73003	7719716
	% (2001)	30.3%	.5%	6.7%	.2%	5.8%	21.4%	11.1%	16.3%	2.2%	2.2%	2.2%	.9%	100.0%

Note: PAD: Paddies VEG: Vegetables OAC: Other annual crops PER: Perennial crops

AQU: Aquaculture RES: Residential land UNU: Unused land REL: Religions and beliefs

NPT: Non-agricultural production and trading GAD: Government administration and defense

OWA: Open and special use water

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