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# Food securitization and urban agriculture in Hanoi (Vietnam)

## Introduction

- 1 Based on a qualitative study of Hanoi underprivileged households' livelihoods, this article addresses the role of urban and periurban agriculture in the food securitization process.

## From food security to food securitization

- 2 Food security has been defined in various ways over recent decades. Nevertheless, all definitions include several key characteristics: food security is defined by a secure access to sufficient food for everyone and at all times (Maxwell and Smith 1992). The access to food refers both to physical access (availability of food) and economic access (ability to buy food). The concept of sufficient food has been widely discussed (Maxwell and Smith 1992, Carletto et al. 2013), especially to determine the thresholds of adequate energy intake. Food sufficiency involves two aspects: quantitatively, food sufficiency is the total amount of food necessary to meet energy needs while qualitatively, it refers to the diversity in terms of micronutrients sufficient to live a healthy life. In addition, another qualitative dimension involves the biological and toxicological quality of foodstuffs, which together compose the domain of food safety. Since the 1970s, the spectrum of food security has expanded dramatically: from a synonym of national quantitative self-sufficiency to the individual level (Maxwell DG 1996, Maxwell S 1996); from the supply side to the ability of everyone to access food (Sen 1981); and from quantitative sufficiency to qualitative adequacy.
- 3 Food security, or insecurity when all criteria are not met, describes a particular situation at a specific moment, although the criterion detailing "at all times" gives the concept a temporal dimension. Recent research (Dilley and Boudreau 2001, Fraser et al. 2005, Janin 2007) identifies how, beyond this statement, there is a need to understand the construction of those situations. The aim is to understand the shift from security to insecurity in a specific socio-economic context to find out why people are likely to fall into food insecurity and whether they are able to overcome this situation. The concept of vulnerability, derived from the field of natural disaster and risk analysis, is relevant to describe the dynamics of food insecurity. A system (either an ecosystem, a region, a city, or an individual) is vulnerable to a specific hazard if it is exposed to this hazard, is susceptible to being harmed by this hazard, and is unable to cope with the consequences (Brooks 2003, Cardona 2003, Adger 2006). Applying this concept in the field of food provides a better understanding of people's reaction to various shocks. Applied at the individual or household scale, the concept of food vulnerability is defined as the differentiated ability to endure and overcome various stresses and to react to the adverse effects by mobilizing new resources (Janin 2007, Christiaensen and Boisvert 2000, Dilley and Boudreau 2001). Food vulnerability may be either transitory, as a consequence of a particular situation that will not last for long, or more structural, when people have few resources to face hazards that result in food damages. This approach targets the dynamics of food insecurity.
- 4 This article aims to go one step further: it addresses the process of construction of food vulnerability. By considering people's practices and strategies, it sheds light on their choices, motivations, and arbitrations between several obligations and possibilities. Food securitization is here defined as a range of practices and strategies that people adopt to securitize or enhance one's food situation, considering one's capabilities and resources (Sen 1981). This idea has been slightly discussed in food studies. A recent publication dealing with African food security (Janin and Dury 2012, Touzard and Temple 2012) discusses the concept in-depth, although this issue focuses on the national or regional scale. The present article gives a more general definition, and the term "people" used in the definition may refer to any actor: an individual, a household, a community, or policy stakeholders.

- 5 The concept of food securitization encompasses strategies that result in reducing food vulnerability. Hence, its scope is wider than coping strategies: not only does it embrace those “strategies” that are adopted after a shock to reduce the harm induced, and which would not have been adopted if the shock had not occurred, but it also includes all precautionary arrangements made to reduce one’s exposure to food insecurity and to enhance one’s ability to recover (De Waal 1989, Maxwell 1996a, Cohen and Garrett 2010). In this respect, it refers to the practices that allow improving one’s resilience.
- 6 The concept of resilience, first developed in ecology to describe the capacity of an ecosystem to persist in perturbation by resisting damage or recovering quickly (Holling 1973), has been used widely in social sciences (Adger 2006, Gallopin 2006, Manyena 2006). Here, the focus is on two dimensions of resilience: a system is resilient if it can endure a shock without losing its fundamental characteristics and if it can adjust and persist in a new environment (Aschan-Leygonie 1998, Adger 2006, Reghezza 2006).
- 7 Choices and practices are considered in a large frame: livelihoods management, in which food is only one of the objectives (De Waal 1989, Chambers 1995, Ellis 2003), and life trajectories, as some arrangements may be detrimental temporarily but enhance securitization on the long term. Thus, the concept of food securitization refers to the way actors manage their assets to reduce their risk of falling into food insecurity. This analytical framework, which reconsiders the likelihood of food insecurity from this dynamic perspective of one’s choices and arrangements (under constraints), is close to Moser’s (1998) framework, which reassesses poverty and vulnerability of the urban poor as a result of a complex asset management instead of focusing on deprivation only.

## Food securitization, food entitlements, and urban agriculture

- 8 The 2008 worldwide food crisis launched the issue of access to food in developing cities into the political agenda. In the city, people mainly rely on markets to get their food, and food inflation was particularly damaging for low-income urban dwellers (Dessus et al. 2008, Cohen and Garrett 2010, Ruel et al. 2010). Other supply sources, such as growing one’s own food and receiving gifts, are less common. Because of inflation, however, these alternative sources of food, especially agriculture, appear to be complementary means of food acquisition that further reduce food insecurity (Zezza and Tasciotti 2010, Warren et al. 2015).
- 9 Urban and periurban agriculture is one of the food entitlements on which urban dwellers can rely. Urban agriculture is defined as a food-production activity within the urban agglomeration and for which an alternative use of the land exists (Mougeot 2000, Moustier 2003). However, the notion refers to heterogeneous practices. Location is the first criterion of differentiation: at the city scale, agriculture may take place either in the inner city or, more commonly, in the surrounding areas. On a closer scale, it may take the form of a tiny surface enclosed in the urban sprawl or of a larger area in the space around the urban sprawl. The second criterion is the destination of products: personal consumption, local market, or sometimes national or international markets. In this respect, urban agriculture varies in its role as a leisure activity when it refers to a small kitchen garden in the backyard, a complementary economic activity, or an actual business involving high investment and several workers.
- 10 This research does not consider urban agriculture from an agronomic point of view. Instead, it assesses its role in the food-securitization arrangements that actors elaborate. At the city scale, those arrangements refer to urban planning and space dedicated to agriculture. How are food security and urban food supply taken into account in urban development policies? At the household scale, it refers to the specific role of farming in food entitlement and more generally in household livelihoods. However, the access to land, alternative use of land (such as for urbanization), and the various and potentially conflicting goals of stakeholders result in rising land disputes. Although urban agriculture plays a specific role in food-securitization processes at various scales, increasing urbanization puts it under pressure. Urbanization reconfigures households’ ways of making a living and their abilities to manage their food security. In particular, urbanization may be particularly damaging for the most underprivileged urban

citizens that reduce their food vulnerability through urban agriculture, which highlights the question of spatial justice in a developing city.

## Methods

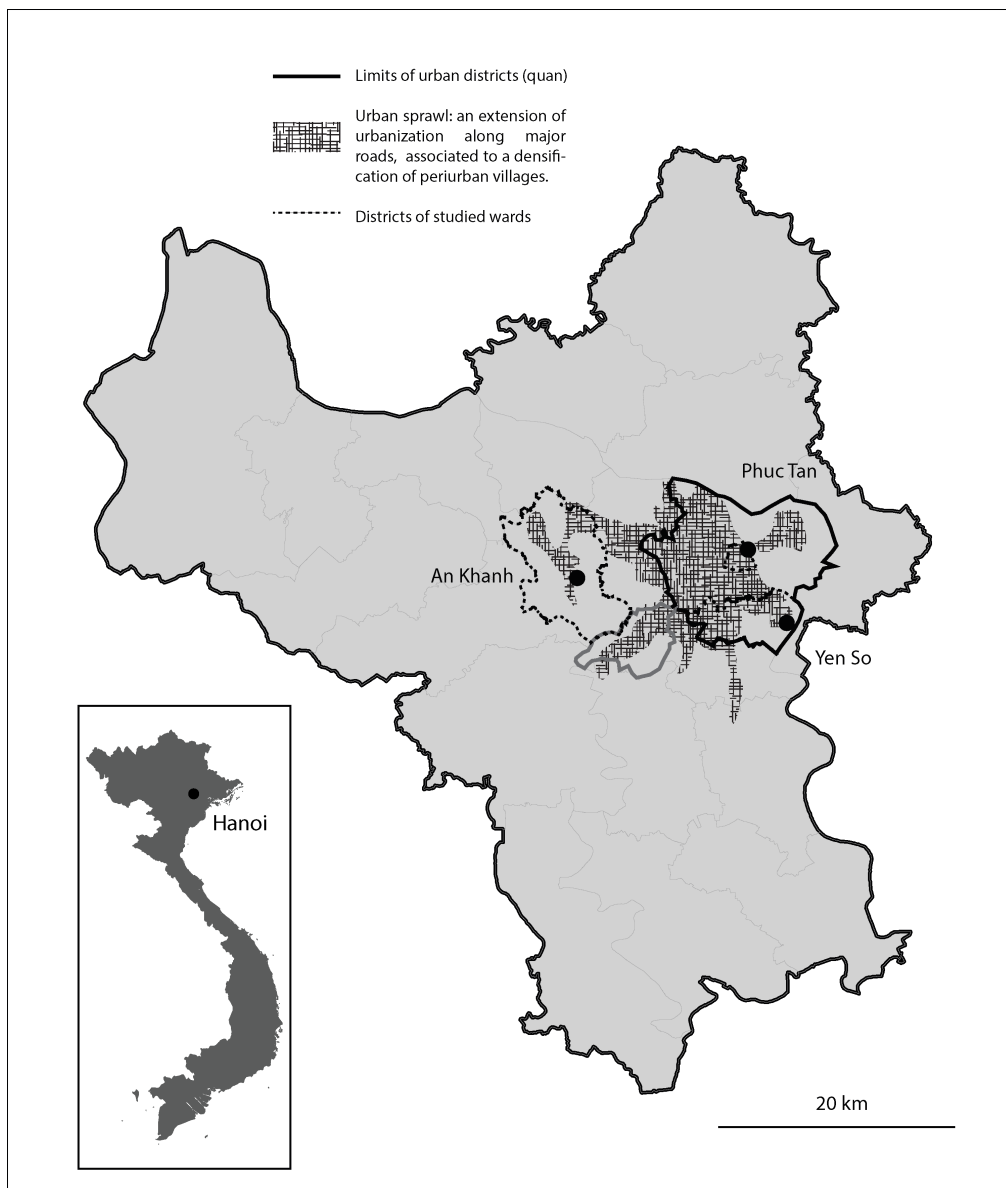
- 11 The case study of Hanoi, Vietnam illustrates food issues that emerge from the metropolization process. The high economic growth that characterizes Vietnam since a set of reforms liberalizing the national economy (*Doi Moi*) was adopted in 1986 combined with a rapidly growing population (from 60 million in 1986 to 90 million today) resulted in a tremendous urban sprawl. Consequently, there has been strong competition for the use of space (Labbé 2011, Fanchette et al. 2011).
- 12 The toponym of “Hanoi” is equivocal: it denotes both the capital city and the province in which it is located. Since 2008, the province of Hanoi has included a territory of 3,329 km<sup>2</sup>; the administrative apportionment distinguishes 18 rural districts and 9 urban districts. The central city roughly covers the latter, overflowing moderately into the surrounding rural districts, and is only approximately 200 km<sup>2</sup>. Around this central urban pole stretches a vast periurban area, which becomes rural when proximity to the city no longer structures the local dynamic. This periurban and rural area is densely populated, with an average of 2,000 inhabitants/km<sup>2</sup> (GSO 2011a), especially along the roads.
- 13 This paper is based on fieldwork undertaken in Hanoi from 2011-2012 during the author’s PhD program. The research sought to understand the construction of food vulnerability; to this end, interviews were conducted that targeted livelihoods and their management strategies. Interviewees were asked about their life, focusing particularly on current everyday practices (food practices, economic activities, migration, etc.) and the changes made while experiencing hardships. The study’s qualitative approach highlights the reasons that drive these residents’ choices (Bonnin and Turner 2012, Quisumbing 2013, Maxwell et al. 2000, Lovendal 2004).
- 14 The sample of 100 interviewees mostly targeted underprivileged urban dwellers, since common difficulties rarely result in food insecurity for wealthier households. Various criteria were used to select interviewees, such as economic profile, housing conditions, and family situation. Interviewees were chosen because of their activities (scavengers, street vendors, or other low-paying or otherwise insecure jobs), illegal housing (e.g. settled on farmland), “poor household” status, or when the official in charge of neighborhood supervision identified those persons experiencing particular situations of this nature. This selection was made to investigate various vulnerability and resilience profiles.
- 15 Among the investigated topics, agricultural practices were given special attention because they are involved in livelihood-diversification strategies and household food-supply practices. Multiple types of food production were taken into account. Even backyard gardens were considered in this study, although they are generally excluded from surveys on agriculture. Among the 100 people interviewed, 45 indicated participating in an agricultural activity. In 33 cases, this activity occurred in the urban or periurban area surrounding their area of residence; for the other 12 cases, production occurred in the countryside. In addition, some interviewees described their previous farming practices, while others evoked their intention to grow food in the future if they acquire suitable land.
- 16 In addition, 23 interviews with officials from local authorities (from the ward level to the city’s People’s Committee) were conducted, targeting land-management policy and urban-planning issues. Three sections (called “wards”) were investigated, all of which presented agricultural land. These included:
  - *Phuc Tan*: Located in the heart of the capital city and settled between the dike and the river, Phuc Tan is small but very densely populated (at least 220 people per hectare). It is also the poorest ward of Hoan Kiem, the central district of Hanoi. Since the early 2000s, some inhabitants have begun to grow food on the riverbank.
  - *Yen So*: Yen So is a former periurban village. It became an urban district following a redefinition of Hanoi’s administrative limits in 2004, which formally integrated the ward into the urban boundaries. Yen So is now at the interface of the urban pole and the periurban agricultural land as a large part of the ward’s territory still consists of

farmland. These fields are being turned into building zones, however, particularly as a result of the urban project named Gamuda City.

- *An Khanh*: Located nearly 8 km away from the urban spread, An Khanh remains a periurban village but has been encountering a rapid urbanization process. A “new urban area” is under construction, prompting a massive agricultural land seizure.

17 Considering food production as part of other livelihoods and in the larger frame of urban planning underlines the strategic dimension of this practice. As a result, the qualitative approach reveals the underlying securitization process that comes along with agricultural practices.

**Figure 1: Localization of the three studied wards in Hanoi province**



Source: author

## Urbanization and land use in an emerging metropolis

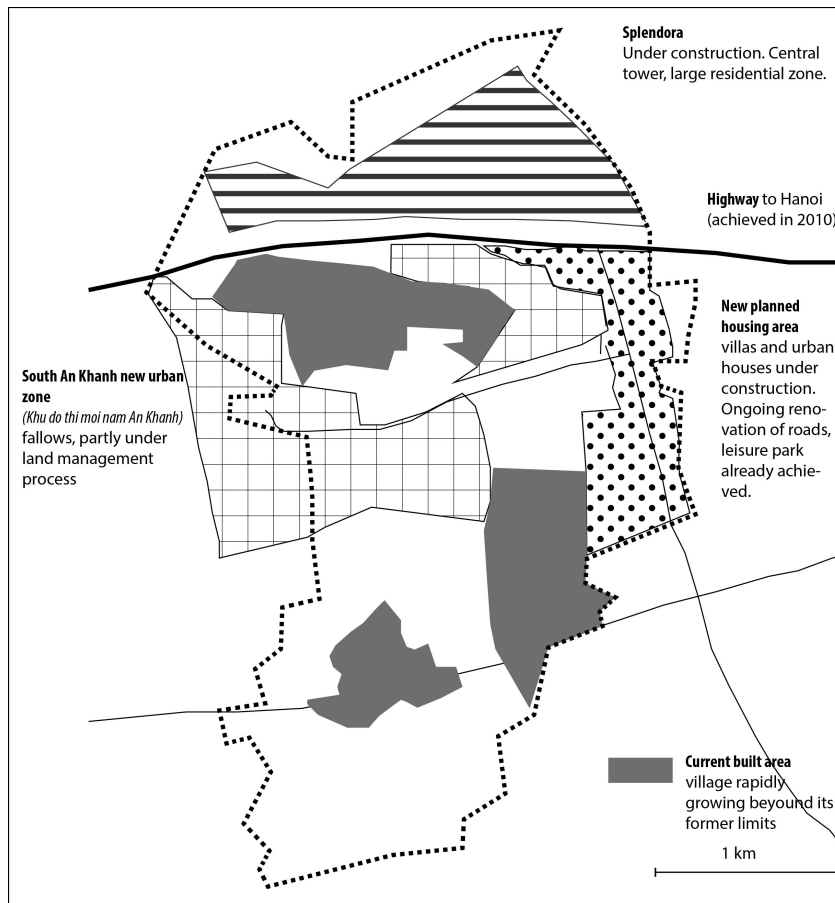
### A classic shift in agriculture

18 Since 2008, the province of Hanoi has included large periurban and rural areas. Farmland occupies most of the province space—57% in 2008, according to Sautier et al. (2012). At the same time, spatial dynamics, in particular urban sprawl, lead to tensions regarding the use of land (Labbé 2011, Nguyen et al. 2012, Tran et al. 2014), resulting in changes in agricultural layouts and in the reconfiguration of the urban food system (Pulliat 2012).

- 19 As a consequence of the urbanization process, the price of land increased and farming practices evolved. Since de-collectivization of farmland concluded in the early 1990s when the policy of *Doi Moi* was adopted, farmers have been allowed to choose their production more freely. With the improvement of living standards and demographic growth, the demand for diversified foodstuffs has increased. This has led to progressive and classic shifts in agriculture in the outskirts of Hanoi, which has benefitted animal breeding, fish farming, market gardening, and horticulture. For example, before the extension of its administrative limits in 2008, rice fields in the province decreased from 54,200 ha to 43,300 ha between 2000 and 2007. With two annual harvests, this decline indicates a 20% loss of the land. In contrast, the number of pigs rose by 50% between 1991 and 2001 (van den Berg et al. 2003), and again by 35% between 2001 and 2007 (Sautier et al. 2012). Additionally, aquaculture and horticulture have also been developing around Hanoi.
- 20 These shifts reflect the usual model of agricultural transformations under the effect of urbanization: higher land prices increase the value of production. Therefore, the shape of urban agriculture undergoes a metamorphosis from non-specific farming, reflecting the rural agriculture observed around the Red River delta, into an agriculture driven by particular high-value products. The latter practice strays from the subsistence function of periurban agriculture (Moustier 2003), especially when it turns into non-food production such as horticulture.
- 21 As more diversified agricultural landscape emerges, it demonstrates how the trend towards urbanization in periurban areas impacts agricultural practices. But in Hanoi, a strategic dimension also explains these shifts in land use: development projects lead to massive seizure of farmland in the city outskirts, and the land with higher value crops (such as fruit trees) receives better compensation than rice fields (Lee et al. 2010). Land conversion from agriculture to urban use raises the question of competition for land.

## Urban sprawl, expropriations and land dispute

- 22 This rapid urban sprawl originates from two processes. The first is a spontaneous urbanization of land, resulting from demographic growth: some inhabitants have built houses on agricultural lands, especially as children grew older and left the original family house. This use of the land is forbidden by official policy, but in practice local authorities often look the other way, especially in rural communes (however, interviews with local authorities in An Khanh and Yen So revealed that the use of land seems to be more controlled in urban zones). This practice leads to the urbanization of former villages.
- 23 The second process is a planned urbanization, which is characterized by an expansion of the central city beyond its former limits and by the development of secondary urban poles in peripheral areas. It is the result of increased housing needs and greater industrial development (Quertamp 2010, Fanchette and Nguyen 2009), but it is also led by the willingness of public authorities to give international investors a more modern, attractive image of the capital city to make Hanoi more competitive with regard to Ho Chi Minh City in attracting foreign investment (Labbé and Musil 2011, Fanchette 2014).
- 24 Increasing urbanization is based on state-sanctioned land seizures. Local government has especially targeted farmland, and these policies have been widespread around Hanoi in recent years. For example, in An Khanh most farmland was seized between 1999 and 2012. Although the conversion of farmland into building areas cannot be quantified because of the lack of relevant data, the process of urbanization is observable in the landscape of the outskirts of Hanoi. Projects under construction are numerous, and their spatial footprint is significant. Recent changes include highways, such as the road to the west, joining the capital city to future town Hoa Lac; new urban areas such as in An Khanh (see Figure 2); and industrial zones in Yen So, such as the area near the airport which now boasts factories of international companies like Samsung, Toshiba, and Toyota.

**Figure 2: Planned urbanization projects in An Khanh**

Source: author

- 25 The change in administrative limits that occurred in 2008, which tripled the surface area of the province, responded to the need of Hanoi People's Committee to control the entire territory into which the central city expands (Labbé and Musil 2011). According to the State decision, this expansion sought to allow the city to manage on its own land conversion. Despite the above-mentioned lack of data, this conversion appears to be quite rapid. Hanoi's increasing urbanization illustrates the city's metropolization process in which agricultural areas are considered land reserves in favor of urbanization instead of food-supply resources.
- 26 However, at the same time, the State also intends to preserve certain farmland from urbanization, even in the region of Hanoi. The Red River Delta, of which Hanoi is the bridgehead, is one of the most fertile areas of the country. It is an important supplier of rice and other fresh products, especially for the northern portion of the country. In contrast, the southern Mekong delta provides foodstuffs for domestic demand as well as exports (Dao and Fanchette 2008). In 2009 the Parliament passed a resolution (no. 63/NQ-CP) that aims to protect at least 3.8 million hectares of rice fields at the national level in order to preserve the domestic supply of rice. This resolution involves, among other areas, the fields of Hanoi province, even though no precise area has been defined.
- 27 The resolution's goal was further implemented through the Master Plan of Hanoi, and the latest issue (*Hanoi 2030*) was approved by Parliament in July 2012. The Master Plan seeks to shape 60% of the province territory into a "green corridor," two-third of which will remain free from any urban or industrial development. The plan includes cultivated areas as well as urban parks and natural sections such as forest lands. The urban agriculture that is promoted is modernized, market-oriented, and integrated to the urban system. By mitigating river flooding, farmland plays an ecological role; by creating a natural belt, it limits urban sprawl; as a result, it is speculated that the modernization of farms should improve their economic function. Rising yields and improving infrastructures (e.g. better roads, new farming cooperatives collecting and distributing production, market selections) target the development of planned short food



chains to preserve the province's self-supply of food. Consequently, this planning document depicts a periurban agriculture that is supposed to supply food to the city and support the shaping of a large, modern, integrated metropolis. Nevertheless, with a bit of cynicism, one might dismiss the plan as wishful thinking, if only because a part of what is meant to become the green belt is *already* urbanized, especially in the western side of Hanoi's outskirts such as the space along the Hoa Lac highway. Moreover, the proximity of the land to the city center results in increased land price. Therefore, it would not be surprising if these lands became the object of intense speculation and were subsequently converted for urban development.

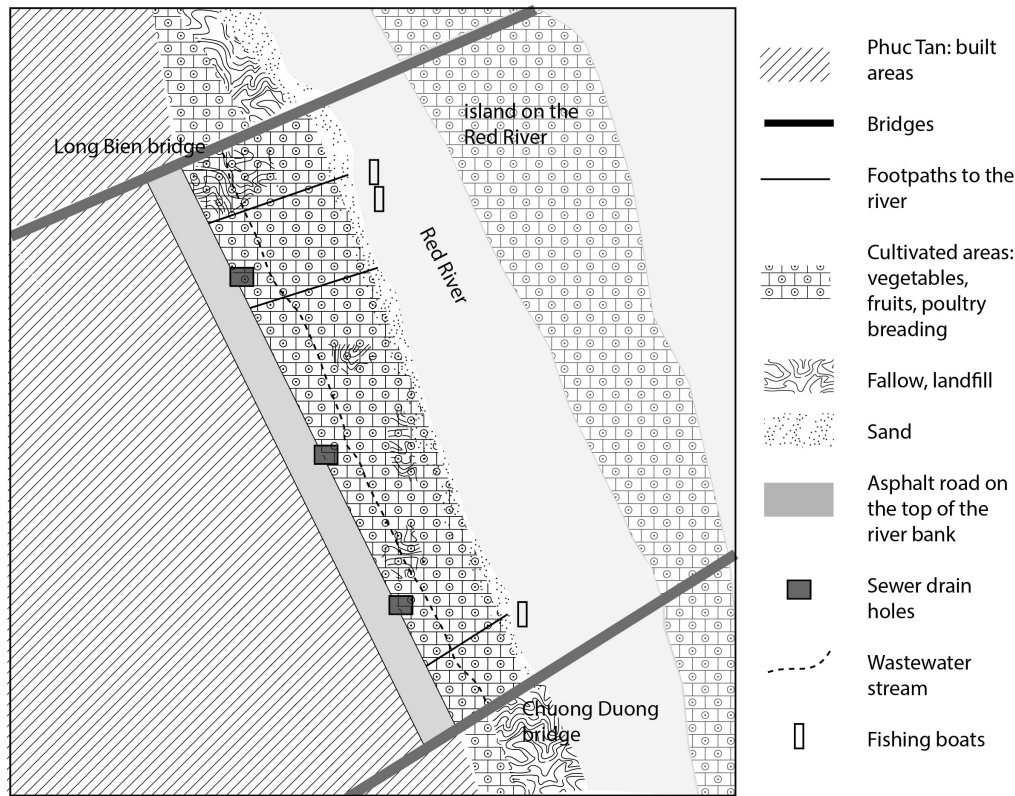
28 There is a tension between these policies: on the one hand, making Hanoi an international metropolis, and on the other hand, securing the city's food supply of rice and fresh perishable products. Contradictory public policy fuels high competition for the use of land at the metropolis scale. This pressure on periurban land results in land consumption that does not account for the role of farmland in the household food-securitization process. Indeed, the current urban planning seemingly fails to consider the existing use of land and its role in the family economy. In the name of "the people's interest," the State seizes large portions of agricultural land with no consideration of its role in the securitization of periurban household livelihood. In the fieldwork of this study, during the interviews with officials from the local People's Committee (vice-chairmen at ward and district levels), the question about the future of family farming was evaded, while the adequacy of the compensation and opportunity for vocational trainings was emphasized. The food function of land for farmers seems to be underestimated in urban planning, especially for small-scale, non-market-oriented agriculture. The pressure on land that emerges from massive expropriations jeopardizes access to land for many farmers, inducing a shift in their livelihoods and food-securitization practices.

## Urban agriculture and low-income households

### Urban agriculture as an additional food entitlement

29 The *Doi Moi* resulted in a redistribution of farmland. In 1993, all local inhabitants of rural communes received a single patch of land. In the outskirts of Hanoi, inhabitants received one *sao* per person on average: 360 m<sup>2</sup> as a rice field, vegetable field, or sometimes fishponds. These lands were to be used for household consumption and to sell foodstuffs on occasion as a source of income. Small-scale farmland was the main component of the periurban landscape. At the time of the survey (2011-2012), because of expropriation, most respondents no longer owned farmland. Only four out of 33 households involved in urban and periurban agriculture were cultivating lands of decollectivization; four other households did own their land but were unable to farm it, mostly because of the residents' advanced age. In most cases, farming occurs in the backyard (19 cases, cf. Table 1) or in a tiny plot of land near the house (14 cases). These plots are located either around pieces of water, such as the riverbank in Phuc Tan and the surroundings of ponds in Yen So and An Khanh, or are embedded in the urban network.

30 As a result, if at the metropolitan scale a reduction has occurred in agricultural areas, at a closer scale the persistence of food production in any available plot is noticeable. Since the 2008 food crisis—and more generally as a repercussion of the high food inflation over the past decade—this type of small-scale agriculture seems to develop, as in the case of Phuc Tan (see Figures 3 and 4). The economic context feeds the resurgence of this practice throughout the city and its fringe.

**Figure 3: Phuc Tan: the resurgence of farming on the bank of the Red River**

Source: author

**Figure 4: Urban agriculture in the river bank in Phuc Tan**

Source: author

31 The most common food production consists of staples: leafy vegetables such as morning glory were observed in 85% of interviewed households (see Table 2) in addition to other vegetables such as tomatoes, cucumbers, and pumpkin. Even though these foodstuffs are generally cheap, growing them allows producers to lessen their dependence on the market and to diversify their food entitlements for products consumed on a daily basis. In addition, interviewees often grow various fruits and raise chickens (24% each), as these are rather expensive foodstuffs, and producing them allows households to diversify their diet without increasing the food budget.

Evidently, this small-scale agriculture has a quantitative function as an additional food supply, but it also has a qualitative dimension as a source for more diversified foodstuffs. This second function is consistent with prior research (Zezza and Tasciotti 2010).

**Table 1: Areas of agricultural production**

	Phuc Tan	Yen So	An Khanh	Total
<i>People involved in farming</i>	8	14	11	33
Backyard or garden	1	9	9	19
Garden or small plot of land separated from the house (including riverbank in Phuc Tan)	6	4	4	14
Rice fields or pond from decollectivization	0	4	0	4
River (fishing)	2	0	0	2

Source: author. Note: the total may be greater than the number of respondents because several interviewees have multiple production sites (e.g. farmland from decollectivization and backyard chickens in Yen So).

**Table 2: Type of production**

	Phuc Tan	Yen So	An Khanh	Total	Total (%)
<i>People involved in urban and periurban farming</i>	8	14	11	33	
Leafy vegetable	7	13	8	28	85%
Other vegetable	6	9	6	21	64%
Rice	0	3	0	3	9%
Fruit	4	1	3	8	24%
Chicken	2	3	3	8	24%
Pork	0	0	1	1	3%
Fish	2	0	0	2	6%

Source: author.

## Urban agriculture as a livelihood-management strategy

- 32 The qualitative approach of this research extends beyond this quantitative description of production and gives a better understanding of the role of farming in household livelihoods. Urban agriculture is a livelihood-management strategy that receives special attention from the producers.
- 33 First, farmland constitutes both a source of food and, potentially, an economic resource. Farming often accounts for a part of a household's income diversification. In the Red River delta in 2005, more than 75% of the population participated in an agricultural activity, but only 17% derived their entire income from farming (Poverty Task Force 2005). The combination of agriculture and other income is extremely common in the Hanoian metropolis where farmland is minimal. The latest rural and agricultural survey (GSO 2011b) states that over two-thirds of Hanoi households involved in agriculture own less than 0.2 ha; this is the case for only 60% of the Red River Delta households and for a third of the whole country. Thus, besides farms with high yields (such as pork breeding), most farms do not have any worker other than the owner and his or her close relatives. Agriculture thereby becomes a small household activity, and primary income is achieved through other jobs. Rural-urban migration—or, more accurately, circulation between the village and the city—is a common method of livelihood combination (Li 1996, Hoang et al. 2005, Nguyen et al. 2012) chosen by the 12 interviewees who lived and worked mainly in Hanoi but were involved also in agriculture in their village.

34 In the panel of this study, half of the interviewees involved in agriculture obtained an income from their production, usually by selling a portion at the local market. This income, either principal or complementary, often had a special role in the family economy as a resource for those who do not have another economic activity outside of the house. In this capacity, agriculture allows these individuals to contribute to the family economy. For instance, Ms. Mao, an 86-year-old inhabitant of Yen So, grows morning glory and rice on her land. This benefits her son's family, with whom she lives, as well as other relatives. According to Ms. Mao:

"I often give my vegetables to my relatives. Everyday, my sister, a cousin, or a nephew working near my place comes and visits me, and then I give them some vegetables. Also, they often bring some little present for me: meat, biscuits, fruits. It is always some foodstuffs, never some money. In contrast, I sell my products to the neighbors."

35 However, Ms. Mao clarifies that she must continue to grow food, despite her advanced age, because of her son and daughter-in-law's low income. She specifies that she must take part to promote the household's livelihood. Otherwise, with two children, they cannot sustain their household, especially with an older daughter enrolled in school. As a result, selling foodstuffs not only provides an additional means of income, but it also gives an active economic role to elderly persons who otherwise would be dependent on their children. In these capacities, interviewees consider agriculture a valuable practice to diversify household income.

36 Moreover, agriculture helps to ensure an adequate food supply. This is of major interest for the most underprivileged households, who can improve their food situation and reduce their dependence on the food market. For this reason, Ms. Tham, a 40-year-old scavenger in Yen So, asked two of her neighbors to lend her two small bits of land to grow some vegetables to feed the family:

"Since I began to grow my gardens, I buy vegetables at the market only once every three or four days. Most of the time, what I grow is sufficient to meet the family needs. It is rather cheap, since I do not use any chemical product, and my neighbor offers me the seeds. I use the water of a nearby pond to water my gardens. It is very nice because it allows me to reduce the food budget, and it ensures a better diet for the family. Plus, I am sure that the products are of high quality and perfectly fresh".

37 Ms. Tham earns a rather low income (VND 50-100 000 or \$2.5-5 per day), while her disabled husband cannot make any living. Her situation involves a very high food constraint (e.g. adults do not eat breakfast, she buys meat only once or twice a week, she never buys any fruit). Rising food prices as well as increasing school fees for her children motivated her to find a new livelihood. Her plots are small (4 m<sup>2</sup> and 15 m<sup>2</sup>), but they allow her to grow three or four kinds of vegetable at a time. These particular situations illustrate how farming is perceived and mobilized as an additional resource to mitigate the adverse effects of fluctuations and imbalance in income and expenditures on food situation. Therefore, it is mentioned explicitly as a factor of food securitization in the context of economic uncertainty.

## Urban agriculture as a factor of resilience

38 In a longer timeframe, this small-scale agriculture enhances the capacity of resilience, defined as the ability for a household to absorb a shock, to recover after it, and to cope with it (Holling 1973, Manyena 2006). Family agriculture helps to restore a fragile food situation that has been aggravated by lower income, new expenditures, and/or food inflation. This form of agriculture is linked to *transitory* food insecurity as opposed to *structural* food insecurity. Depending on the average food budget, the part of expenditures dedicated to food, the ability to rely on other sources for food (beside the market), and their own perception of their food situation, interviewees were sorted in three groups: food secure, transitory food insecure, and structural food insecure (see Table 3).

39 The transitory food insecurity group aggregates those with difficulties that have impacted their food habits, compelling them to shift towards less preferred products and less diversified, if not insufficient, diet; in this group, however, the food-insecurity period has not lasted for long

(a few months at most). These households were able to manage their livelihoods to recover from the initial perturbation.

In contrast, people who have trouble with buying food for extended periods of time were grouped into the structural food insecurity category. Their low income simultaneously induces a low food budget and a high portion of income dedicated to food (over 50%): even a substantial economic effort does not result in a sufficient diet. These individuals suffer a high constraint on their food practices on a regular basis, declaring that they are struggling with dietary deprivation. In the Vietnamese capital city, this group is limited (structural food insecurity represents 18% of the sample, which already focused on underprivileged and low-income households), and none of the respondents had fewer than two meals a day. Even if chronic food insecurity is observable, it does not reach the same severity as that of certain African cities, for example (Maxwell et al. 2000, Briand 2008, de Suremain and Razy 2011).

**Table 3: Food security/insecurity groups and their food budget**

	Food security	Transitory food insecurity	Structural food insecurity
Number of households	41	41	18
Average daily food budget per capita	VND 26,000 (\$1.3)	VND 15,000 (\$0.75)	VND 10,500 (\$0.5)
Average percentage of food in total expenditure	38%	55%	60%
Households involved in food production	17 (41%)	22 (54%)	5 (28%)

Source: author

A major difference between structural and transitory food insecure groups is the ability to find new resources—either economic or food supply—to overcome food insecurity. Among these, special attention is given to the ability to engage in agriculture. Although the panel is limited (100 interviews in total) and the quantitative results should not be generalized, more than half of the transitory food insecure group is involved in agriculture in some way, whereas this is the case for only a fourth of the structural food insecure group; for them, agriculture generally occurs in small backyard gardens. Although further quantitative investigations are needed to test the thresholds and to quantify the occurrences of strategies adopted, this study suggests a clear distinction between the two groups' livelihood-management strategies, reporting differences in their available resources and endowments (Sen 1981). The comparison also suggests that urban agriculture is a factor for recovering and restoring the food situation, while reducing the long-term risk of chronic food insecurity.

As indicated by this data, the persistence of farming in urban fringes and the inner city, sometimes on very tiny plots of land, can be traced to the need for diversification of income sources and the sense of security linked to these lands. Interviewed households clearly expressed their need for securitization, such as livelihood securitization through income diversification and food securitization through an out-of-market personally produced food supply. Of the participants, 14 persons cited their desire for greater independence in their food supply and four others insisted on improving the diversity and quality of their food.

As a traditional resource that is accessible to most people, household agriculture can provide first-necessity goods and is associated with a feeling of stability and security. This is significant, since the transformation of the food system is associated with a rising distrust in foodstuffs and concern about rising food prices. In 2009, this was the first concern evoked in the United Nations Development Program survey on urban poverty (UNDP 2010).

In this context, the question of land seizure is particularly significant, especially for low-income households who derive an important part of their livelihood and/or food supply from this farmland. Among the 100 interviews, 37 interviewees had seen a part or all of their land seized. At times, these land seizures were met with protests; this was the case in An Khanh, where several households mobilized against the land grab. One of the respondents of the survey expressed her disappointment that the adaptation to a new economic pattern would be too difficult for elderly inhabitants, stating that land seizure highlighted the loss of

an important asset. Compensation was increased slightly to VND 127,000 per square meter in 2005 (whereas the first offer was under VND 100,000). When placed in the bank, this amount of money generates an income approximately equivalent to that earned by growing and selling the rice in one patch of land. Local authorities continually emphasize this economic compensation. Nevertheless, compensation was utterly incomparable to the price of the land when rezoned for urban building construction, leading some of the expropriated people to feel deceived. Interviewees expressed their feeling that the access to farmland is insecure, jeopardized by urbanization and by corruption, since land speculation has been an efficient means of personal enrichment for well-positioned individuals over the last decade (Labbé and Musil 2011).

## Discussion

### Urban agriculture in the food-securitization process

- 45 The qualitative interviews of the present study suggest that urban agriculture is an asset among livelihood-securitization strategies, but it also highlights the special role of this asset in those strategies. The specificity of household agriculture is multifaceted: (1) economically inactive members of the households are often in charge of this food supply, (2) it answers concerns rising from the high inflation of food prices, and (3) it is associated with feelings of personal security. Furthermore, it serves as a source of safe food amidst concerns about food safety (Figué et al. 2004, Wertheim-Heck et al. 2014).
- 46 However, the role of small-scale family agriculture (as opposed to large-scale modernized agriculture) in urban food-insecurity reduction should not be overestimated. This practice appears to be valuable to low-income households, but wealthier households display varied attitudes towards agricultural land. Some may choose not to cultivate their farmland or garden. Instead, some households with adequate capacity of investment prefer to build rooms for rent, even often where this is forbidden by local land planning (Ngyuen 2009). Others cultivate in order to show their land appropriation, since non-cultivated plots are supposed to become property of the People's Committee again, or as a means of "leisure", as mentioned by two retired interviewees.
- 47 These findings are consistent with Zezza and Tasciotti's (2010) review of case studies regarding urban agriculture and food security in developing countries, who found that the role of urban agriculture in income and in overall agricultural production is limited, restricting its role to poverty-related functions and food-insecurity alleviation. At the same time, the case studies reveal that poor households are engaged primarily in urban agriculture. Therefore, although at the city-scale this small-family agriculture is not a major factor in food-insecurity reduction, the process still remains an important resource for underprivileged urban dwellers, albeit not the poorest, who may lack access to land. Consequently, the pressure over urban agriculture and farmland addresses the question of social inequalities and spatial justice.

### Land access and spatial justice in a developing city

- 48 Urbanization and land planning in a rapidly growing city may deprive underprivileged households of an important source of income and/or food. Monetary compensations can counterbalance the initial loss in income, but they do not replace all securitization characteristics associated with urban agriculture – the most important of which are food source and livelihood diversification, reduced dependence on the market, and improved food safety. The loss of land access affects their food securitization arrangements, whereas wealthier households do not face the same issue.
- 49 Two primary issues arise from this situation. First, the urbanization process jeopardizes one of the available food entitlements by showing how food securitization is connected to land securitization. The latter is essential for households to manage their livelihood in the long run. The high uncertainty over the future of farmland in developing cities' outskirts reduces the ability of households to elaborate their livelihood-management strategies in the long-term: for example, if they anticipate land seizure, they might not invest in farming to enhance the yields of their plots (thereby forgoing the opportunity to improve their income and their



food situation). The loss of food entitlement is particularly detrimental for those low-income households who rely significantly on it and have few other resources to cope with this loss. Hence, in the food field, expropriations facilitate rising social inequalities.

At the scale above, the second issue involves the change in use of and access to resources, the first of which is land. This dilemma centers on spatial justice. Spatial justice is an analytical framework which underlines the spatial roots of (in)justice (Soja 2010, Dejean 2013). Regarding food and agriculture, the sacrifice of periurban agricultural area is made for the benefit the city; likewise, the sacrifice of local agriculture activities is made for the benefit of industrialization. Land tends to be grabbed by social groups with sufficient political power to assert their interests, often to the detriment of social groups with less political capital. The current evolution of farmland in the outskirts of Hanoi—and more generally in the developing metropolis—towards rising distinction in access to land tends to increase social inequalities. What is at stake is not as much the loss of agricultural lands, which is an inevitable process in a growing city, but the fact that this spatial shift appears to be particularly unfavorable to households who are already underprivileged. In this respect and from a Rawlsian perspective (Rawls 1971), land seizure – as it is implemented – is a cause of injustice.

Control over valuable resources is amplified in this region: the use of land is increasingly regulated, access to coveted spaces (e.g. street in central districts, major market places) is restricted – as shown by the official ban of street vending in certain areas in Hanoi, for example – and access to new profitable urban jobs may be subject to extensive regulations (e.g. a permanent city-residency card). As a result, the metropolization process and its related spatial shift breed a social differentiation process.

### Food securitization: issues in urban-planning

The shift in conditions of access to various resources transforms a household's land endowments and food entitlements, jeopardizing their food-securitization arrangements. As interviewees demonstrated, urban development and urban planning impact these arrangements at individual and household scales. Interviews conducted with local authorities in Hanoi revealed some indifference on the part of officials regarding the role of farmland in securing small farmers' livelihoods.

Beyond food security or vulnerability, the idea of food securitization illuminates the strategic dimension of food practices and livelihood-management strategies. This study proposes that the current pattern of urban development induces spatial injustice in access to urban resources and land, increasing inequalities in urban dwellers' ability to manage their food security situation. To answer this injustice, the food-securitization approach focuses on individual and metropolitan scales in examining the context (the city) and promoting a positive outcome (food security for every dwellers). This outcome is accomplishable through deliberate urban planning and consideration of the actual practices of urban space. This approach proposes to reintroduce the food question into urban-resource management in order to maintain and enhance the ability of underprivileged households to secure their food situation, instead of depriving them of the ability to secure their personal assets.

### Conclusion

This analysis of urban and periurban agriculture in Hanoi depicts the diverse uses of farmland in the outskirts of a sprawling metropolis. Various actors—landowners, ward authorities, urban planners, and investors—have differentiated goals related to land: food supply for personal use or for the market, income generation, management of urban growth, or promotion of an international-scale metropolis. Tensions arise over land management, causing increased sensitivity surrounding this issue and its management. Expropriations have prompted increasing social unrest over the last few years. One of the biggest protests took place in 2012 against land seizure for the EcoPark project in the Hung Yen region; in this protest, farmers blocked access to and occupied their lands, but these individuals were chased out violently by the police.

In this context, land management should adjust the potentially conflicting goals of increasing urbanization and personal food security. Following Sen's capabilities framework and the

spatial-justice approach, land management policy should not be detrimental to those with the lowest capabilities and should not deprive them of an asset without adequate compensation. Regarding urban and periurban agriculture in Hanoi, this qualitative study demonstrates that the current urbanization process is perceived as damaging and unfair by several low-income households, but it does not seem to increase their food insecurity or to reduce their assets objectively, even though compensations are considered low. However, this particular livelihood and source of food involves characteristics that lessen uncertainty: in an environment of fluctuating and low income sources, rising food prices, and increasing concern about food safety, personal farmland remains a significant resource, especially for the most vulnerable to these economic hazards. Because farmland remains an important component of livelihood management at the household scale, the economic capital received as compensation for land seizure does not reimburse or address all securing characteristics of farmland.

56 Ultimately, the food securitization approach illustrates the socially differentiated role of farmland in urban and periurban dwellers' livelihood and food security. This view considers urban planning in its food-security dimension, revealing the inequalities that emerge from spatial shifts in a developing metropolis.

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### ***Abstract***

Based on a qualitative study of Hanoi underprivileged households' livelihoods, this article addresses the role of urban and periurban agriculture in the food securitization process. It begins by showing that the spatial dynamics occurring in the emerging metropolis induce strong competition for the various uses of land. The urbanization process is based on a tremendous land-seizure policy, and officials seem to regard farmland as a land reserve instead of as a source of food. However, as a source of cheap, diversified, and safe food, and as a component of households' livelihoods, urban agriculture plays a specific role in food-securitization strategies, especially for low-income households by reducing their food vulnerability in both short- and long-term; hence, it is a factor of resilience. Because the urbanization process that jeopardizes access to land seems particularly damaging for those households, urban planning is reconsidered from a spatial justice perspective. The food securitization approach, focusing on actors' strategies, indicates how urban planning generates rising inequalities in the emerging metropolis. This study proposes that the current pattern of urban development induces spatial injustice in access to urban resources and land, thereby increasing inequalities in urban dwellers' ability to manage their food security situation.

### ***Index terms***

**Keywords :** food securitization, food security, urban agriculture, urban planning, spatial justice, emerging metropolis, Hanoi, Vietnam