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Effects of urban expansion on suburban farmers' livelihood in Vietnam: A comparative analysis of Ho Chi Minh City and Hanoi

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1. Introduction

Suburbanization is the process of decentralization whereby urban dwellers no longer only prefer to settle in the urban centre but also to its surrounding suburban districts. With the stable and high growth of population in Vietnam's two largest cities, urban area has been constantly expanding with more rural districts being incorporated and reclassified into urban zone. As the suburb districts in Ho Chi Minh City and Hanoi were largely rural prior to the 'urban' reclassification, effort on land acquisition and conversion to non-farm use is therefore believed to have been most aggressive in these areas. It should be noted that the suburban areas in our studies cover the most recently formed 'urban' districts in the city based on its official establishment, rather than the 'rural' areas (or so-called *periurban*), which were referred inter-changeably in numerous studies on urban expansion and development in Vietnam. Given the relative proximity of the suburban households to both the city centre as well as the surrounding rural hinterland, their livelihood choices and transition outcomes are foremost complex and interesting. The research is carried out from a neutral standpoint, assuming that these land-lost suburban agricultural households can either (1) benefit from these land acquisition as they can receive a compensation from their farm land, are no longer tied down to farm work, and can enter higher paid non-farm job; or (2) experience difficulties as they fail to adapt to the urban lifestyle, facing challenges in employment and income in the long run (Kawashima & Vu, 2015).

After the acquisition of farmland, agricultural households often have to give up farming partly or entirely depending on how much land they have left. It was estimated that a loss of 1 ha farmland corresponds to an average job loss of 13 people in the case of Vietnam, and of 20 in the case of Hanoi (Nghi, 2009) Previous researches in Ho Chi Minh City's urban development covered a wide range of topics, from land price differential between government land price framework and market land sale price by developers (Thu & Perera, 2011; Nguyen, 2012) to trends of development in the suburban districts and issues associated with city planning (Du, 2012; Vo, 2012). Vo (2006) examined the aspect of livelihood of affected agricultural households after land acquisition. The study found, on one hand, a growing number of young people leaving farm employment to find work in the non-farm sectors, notably in the nearby industries and commercial services. On the other hand, those who stay in farming, with a reduced amount of land, had switched their agricultural types to more suitable, less land dependent, urban agricultural practice. Another study from a government research project by the Ho Chi Minh City Institute for Development Studies (HIDS) gave further implications to the transition difficulties of households where only a minority of households have experienced an increase in income after land acquisition (Phap Luat TPHCM, 2015).

In Hanoi, researches on the socio-economic impacts after land acquisition in Hanoi were covered by Tran and Lim (2011), for instance, where they found that farmers after land acquisition are more likely to enter informal and low skill work. While aged population were more likely to open their own shops from home, younger members tend to migrate closer to urban area looking for work. Tran (2014) further conducted research based on the same survey sample to find no implication of relation between farmland endowment and households' income group, but rather it is

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whether households participated in non-farm jobs that matter. Other studies also confirmed the growth of population engaging in the informal sector, such as unlicensed shop, or street vendors (Nguyen, 2011; Nguyen et al., 2016). The negative impacts of compensation were also assessed as it generates incentives for households to spend and even went into debt, mostly to upgrade households' living standard and housing condition (Nguyen, 2011). Case studies of land acquisitions in the periurban Hanoi also found similar problems of integration and sustainability for land-lost households, as well as issues resulting in segregation and corruption within the community fuelled by the large disparities of benefit between land owners (Labbé, 2015; Labbé & Boudreau, 2015). Han and Vu (2008), based also on case studies of new urban development projects, saw problems in the implementation of the promised compensation and assistance packages. Demonstrations and riots occurred as a result from their frustration by the low compensation and delayed payment by developers and government agencies.

In this paper, our objectives are three-fold. Firstly, we explore the urban and subsequent suburban development in Ho Chi Minh City and Hanoi. In the second part, a comprehensive comparative analysis, based on surveys in both cities, is presented. The survey focused on suburban farm households who have lost their land due to land acquisition and their livelihood afterward. Lastly, a number of factors, including education, land endowment and agricultural dependency and are analysed as to their possible effects upon households' transitional outcome.

2. Vietnam's urbanization and suburbanization in retrospect - the "tales of two cities"

Since 2009, both Hanoi and Ho Chi Minh City have become 'Special' class city according to the Vietnam's urban classification system (World Bank, 2011). Currently the two cities are officially home to over 15 million people, accounting for 16.75% of total Vietnam's population, up from its 15.9% share in 2009. With the rapid development in the new and still partly rural suburban districts, strong and stable trend of population growth is expected to continue in both cities (Fig. 1).

2.1. Ho Chi Minh City

Ho Chi Minh City today is a populous urban area with high urbanization rate. As with many large metropolises, its traditional urban centre had become too congested. Since the early 1990s, population density in several traditional central districts had surpassed 50,000 people per square kilometre (Kawashima & Vu, 2015). Population decentralization thus occurred as a result. Previous attempt to understand this pattern claimed that such outward movement had occurred as early as 1989 (Luong, 2009), while study on intra-movement of population in Ho Chi Minh City saw such trend taken place since the mid-1990s (Gubry, Castiglioni, Cusset, Thieng, & Huong, 2010). The pattern of urbanization in Ho Chi Minh City could also be divided into phases of (I) concentration in the 'core urban centre' districts until mid-1990s, (II) dispersion to the new central districts until mid-2000s, and (III) decentralization to the suburban districts from then on (Kawashima & Vu, 2015).

The trend of urbanization, modernization, and the shift away from the rural society is evident in Ho Chi Minh City. From 2000 to 2013, more than 1000ha of agricultural land were converted annually for non-agricultural use (Kawashima & Vu, 2015). Using satellite data on urban land use change, Kontgis et al. (2014) found that built-up areas in Ho Chi Minh City had increased by 4.8 times from 1990 to 2012, with one third of such development occurred in urban area, presumably the suburban districts. Impacts on agricultural households were visible, with the number of households participating in farming in the suburban districts reduced over 6 times between 1997 and 2011, from 19,184 to 3082 households respectively (Hoang, 2011).

2.2. Hanoi

Despite being the capital of Vietnam, Hanoi's urbanization is much lower than Ho Chi Minh City. Before the land expansion in 2008, the city's urbanization rate was only 65%. Today, with the incorporation of the neighbouring provinces' rural areas and its residents, Hanoi's population has reached 7.5 million. Its urbanization rate nonetheless was lowered to only 49.1%. Population settlement to the suburban districts in Hanoi has not been as remarkable as in Ho Chi Minh City due to the capital being a younger city, in terms of development and urbanization.

From the mid-1990s to mid-2000s, urban land in Hanoi quadrupled from 47.22 km^2 in 1995 to 185.72 km^2 in 2003 (Nguyen et al., 2016). Another study by Pham, Pham, Tong, Nguyen, and Pham (2015), observing data from Landsat, concluded of agricultural land loss due to conversion in Hanoi at an annual rate of 1.4% from 1993 to 2000, and 3.0% from 2000 to 2007. Nonetheless, since 2010, the rate of conversion somehow has stagnated. The total size of land converted from agriculture to non-agriculture in Hanoi remained relatively small from beginning of 2010 to early 2014, amounting to only 1212ha across the four years period (MONRE, 2010; 2014). The reason could be related to the frozen real estate market in Vietnam during this time (Thanh Nien News, 2014). One thing should be noted however is that this data is not reflected of the amount of land acquisitioned from farmers. To convert land to non-farm use, acquisitioned land has to be converted through paying a land conversion tax, corresponding to the difference of non-farm and farm land price at the location, based on government framework. From our field research in Hanoi, the amount of land acquisitioned has been striking. For instance, in Ha Dong district about 162 ha of farm land was acquisitioned from 2010 to 2015; in Tu Liem, prior to its reclassification and division to two urban districts, about 564 ha of farm land belonging to 13,209 agricultural households had been acquisitioned from 2010 to 2013. Land acquisition could be even more extensive in rural districts where agricultural land is still abundant (Nguyen et al., 2016; Tran & Lim, 2011).

2.3. Remark

Despite both cities belonging to the 'special' class urban category according to the Vietnamese government, it is clear that Ho Chi Minh City is more urbanized and developed. Here, development in the surrounding suburban districts has taken place since the mid-2000 which resulted in a gradual but visible shift of population to these new urban areas. On the other hand, Hanoi is still relatively rural with a large portion of population still reside in the rural areas and participate in farming. Trend of urbanization therefore was recorded in the capital city, but population accumulation to its suburban areas is still relatively low. Along with stable economic growth, it is expected that more land acquisition and conversion will be needed in Hanoi to meet the ever-increasing need of urbanization.

3. Research design

3.1. Location

The survey areas cover the suburban districts of Hanoi and Ho Chi Minh City (Fig. 2). These districts represent the most recently

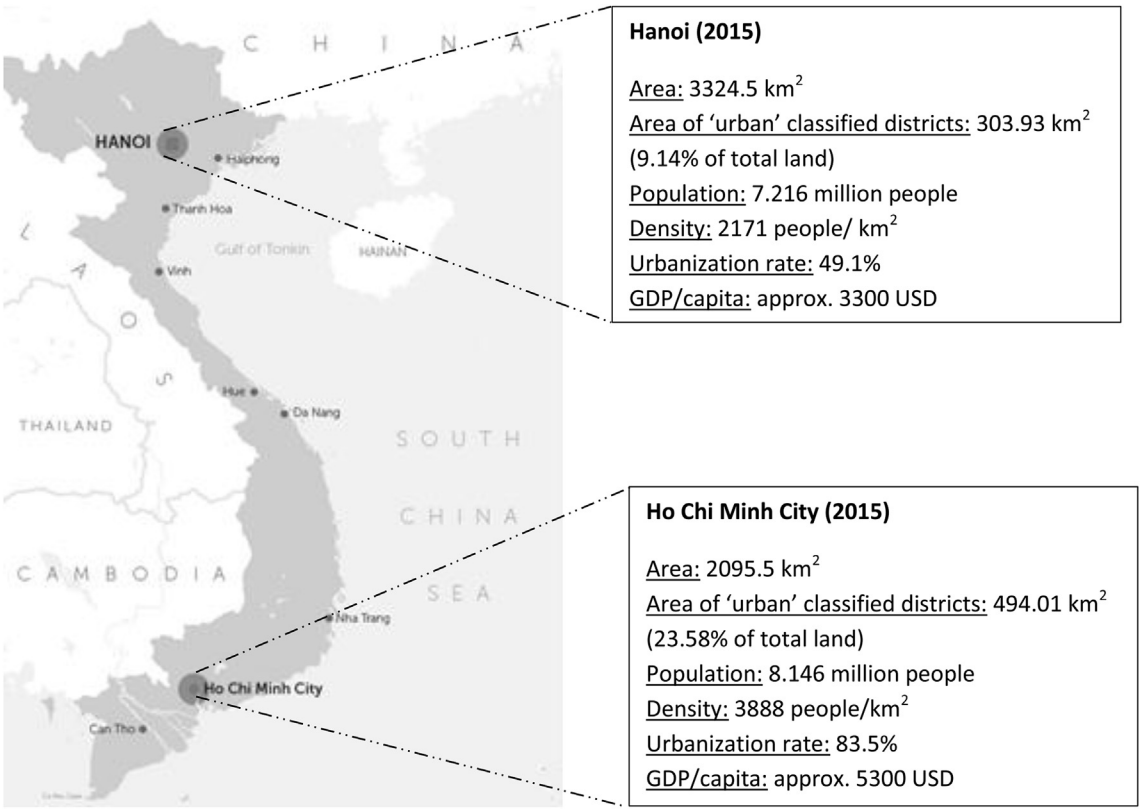

Fig. 1. Map of Vietnam and location of Hanoi and Ho Chi Minh City.
Source: Vietnam's Map (asisaqualityfocus.com); HSO, 2016; HCMCSO, 2016.

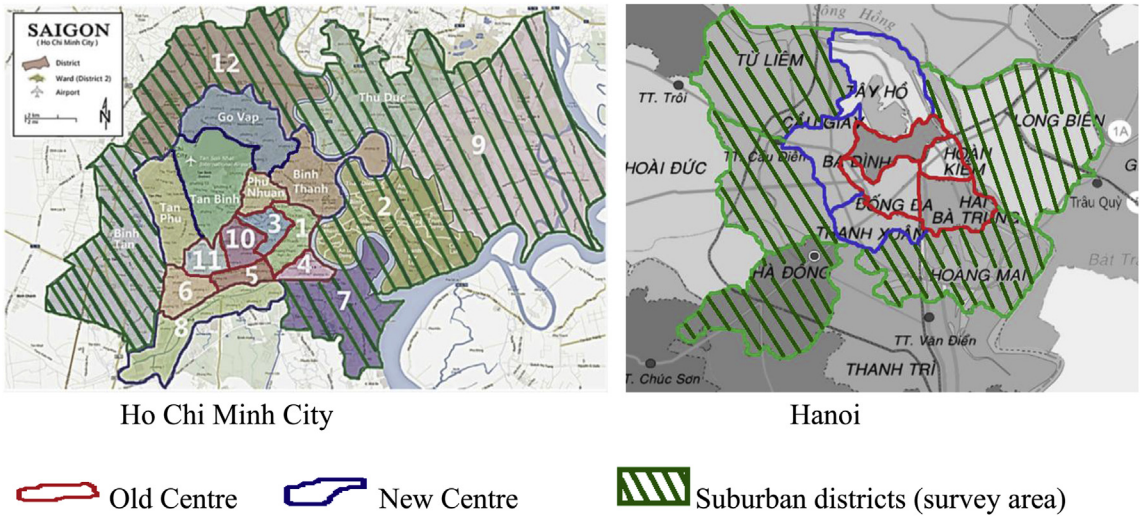

Fig. 2. Map of urban districts in Ho Chi Minh City and Hanoi.

formed 'urban' districts in the cities, having experienced large scale land acquisition and conversion, and high population growth rate. Our location choice is different from what have been selected in previous studies, which were mainly in rural districts. In the case of Ho Chi Minh City, for instance, Vo (2006) chose rural district Binh Chanh as the research area. Similarly in Hanoi, Tran and Lim (2011) conducted survey in Hoai Duc rural district; Nguyen et al. (2016) selected rural Hoai Duc and Thanh Oai; Nguyen (2011) focused on Tu Liem district in 2006 and 2007, which was then also rural. Case studies on land conflicts due to land acquisition in Hanoi covered both rural and urban districts (Han & Vu, 2008; Labbé, 2015; Labbé & Boudreau, 2015).

The reasons for our choice of 'suburban' rather than 'rural' districts are simple. First of all, it is without doubt that status is an important thing in Vietnam. By not being classified as an "urban" district, population movement to these areas is limited. Land acquisition and conversion in these areas would mostly come under schemes for factory construction, large scale residential

projects, or infrastructure development. Secondly, although development in surrounding rural areas has been high, it is not as dynamic as in the suburban districts. In most cases, large amount of farm land still existing in the rural areas while households are not closely connected to the urban lifestyle of Hanoi and Ho Chi Minh City's centre. It is therefore believed that their changes and needs for adaptation is relatively lower and less complex compared to agricultural households from within the suburban districts.

3.2. Methodology

In order to gather overall information on the livelihood transition of agricultural households after land acquisition, a survey has been established comprised of 30 questions at households' level and 13 questions for households' members. Information collected from the survey include data on: land size and amount of land acquisitioned, land compensation cost, income and employment prior to and after land acquisition, challenges during transition, spending of compensation and current income sources, as well as households' assessment on certain living aspects and their level of satisfaction compared to before.

The target for survey is the suburban agricultural households who have experienced their latest land acquisition from 2010 to 2015. Our study originally planned to have an equal amount of survey in all the suburban districts, however this has been proven unsuccessful. The first limitation is the lack of support from local government as well as the scarce and patchy amount of data on land acquisition and on affected households. The second problem was that many households have moved to new location after land acquisition, which could be in different district or even province. The snowballing sampling method was therefore used to access the target household group to overcome such challenges (Biernacki & Waldorf, 1981). The initial step of identifying households fitting to the survey was sourced from the limited list of compensated households provided by the government from 2010 to 2015. From then on, the survey expanded based on referral by either surveyed households or other non-participating local individuals.

For Ho Chi Minh City, 200 households survey was conducted between March and May 2015, of which 120 households belonged to district 9 before land acquisition. This is due to district 9 being the pioneer district of our research where we spent much of the time gathering data, carry out preliminary field survey, and getting in contact with local government. Two other districts, District 2 and Binh Tan were selected in addition for survey with 40 households per district. The remaining suburban districts of District 2, 7, 12, and Thu Duc were not included in the study.

Survey in Hanoi, based on lessons and challenges of survey conduct in Ho Chi Minh City, has been done in a more orderly manner whereby necessary steps had been taken place prior to the field study. For instance, an official letter of authorisation for study from the Hanoi's government was acquired to encourage local government to provide information on land acquisition. Four out of five suburban districts have been cooperative and provided information in a timely manner. District Hoang Mai was late in the provision of data thus were eliminated from the study. With the sample size set at roughly 300 households, a target of 110 surveys have been carried out in each district of Ha Dong, Long Bien, North Tu Liem, and South Tu Liem. This means 110 households is the maximum number for survey per district, while the actual number depends on how easy or difficult it is to actually locate households and carry out survey. The field study lasted 3 months from June until middle of August 2016. The survey distribution is: South Tu Liem (78 households), North Tu Liem (92), Long Bien (49), and Ha Dong (106).

4. Comparative results in Hanoi and Ho Chi Minh City

4.1. Land size, land acquisition, and compensation

The authors use land size distribution as the base line to examine the difference aspects of livelihood between Ho Chi Minh and Hanoi suburban farmers. Clear differences have been recognised between Ho Chi Minh City and Hanoi based on the survey. Land size per households, for instance, was about 2.5 times larger in Ho Chi Minh City. Whereas land distribution in Hanoi clustered within the range from 500 to 2000 m^2, agricultural households in Ho Chi Minh City either owned large piece of land, over 6000 m^2, or only owned relatively small land plot and have shifted their main income source to the non-farm sector (Fig. 3).

Average per square meter compensation, as well, was three times lower in Hanoi (340,000VND) as compared to Ho Chi Minh City (1.1 million VND) (Fig. 4). Compensation per square meter has the tendency to decrease as the land size increases in Ho Chi Minh City. This trend could be explained and attributed to the fact that households with larger land plot often reside closer to the rural periphery, where land price is lower. They have lesser interaction with the urban non-farm economy, thus encouraging households' members to continue working in the agricultural sector. In Hanoi, compensation per square meter, however, did not fluctuate as strongly across the land size distribution range (Fig. 5).

In Vietnam, compensation price is estimated based on the government set price and multiplied by a *K* coefficient to narrow the gap between set price and market price; *K* depends on the location and type of land use after conversion. Based on the government pricing framework, before adjusting for *K* coefficient, compensation in Hanoi reflects relatively close to the set price. In contrast, despite the lower set price in Ho Chi Minh City, actual compensation paid was significantly higher (Table 1).

4.2. Households' livelihood before and after land acquisition

Despite the similar average households' size, Ho Chi Minh City (4.7 members) and Hanoi (4.9), the mean households' income in the former was six times larger before, and three times larger after land acquisition (Table 2). The difference in income, aside from the obvious economic development gap between the two cities, is due to the fact that suburban agricultural households in the Southern city had already shifted and attempted to integrate in the urban economy. It was pointed out through the survey that households in Hanoi depended largely on agriculture prior to land acquisition, and still today about 60% of them still would rather continue to work in agriculture. The trend is opposite in the case of Ho Chi Minh City with lower agriculture share of income prior and lesser percentage of households still want to work in agriculture (Table 2).

Both cities were involved majorly in rice farming prior to land acquisition, though much more so in Hanoi. Whereas Ho Chi Minh households were more diversified and have started diverting to more suitable types of urban agricultures such as vegetable and flower cultivation, Hanoi's farming practice was more monoculture, focusing primarily on rice production.

The high dependency on agriculture prior to land acquisition fundamentally restricted the possibility of higher income earning for Hanoi's suburban farmers. Land acquisition, by pushing farmers out of agricultural practice, allowed households to perceive visible increased earning. Consequently, the present level of income in the capital, despite still much lower than in Ho Chi Minh City, has doubled compared to before (Fig. 6). In the case of Ho Chi Minh City, although the average income generally increased within the cohort, the gains were not so obvious with many households also experienced decrease in income.

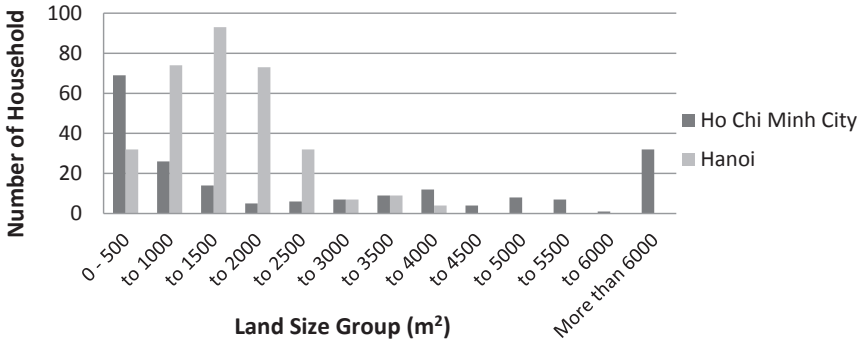

Fig. 3. Land size distribution by household (m2).

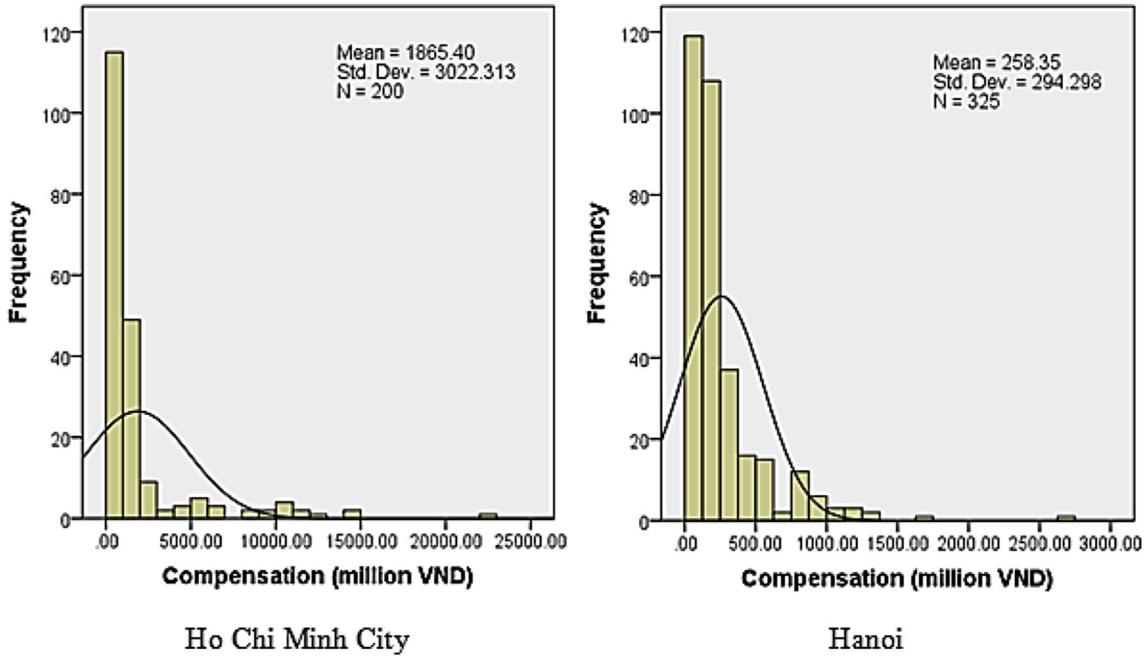

Fig. 4. Compensation per household (million VND, Vietnam Dong) *(1$ = 22,000 VND).*

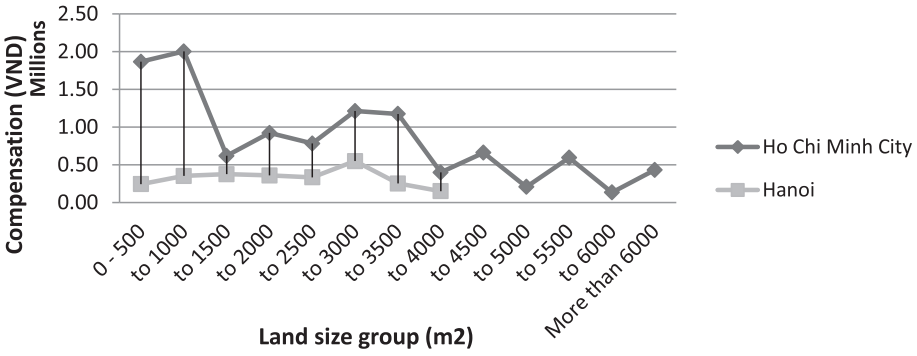

Fig. 5. Compensation per square meter.

In regard to employment, what kind of work agricultural workers have shifted to after land acquisition? In both cases of Hanoi and Ho Chi Minh City, the majority of former agricultural workers are now working in common jobs, including manual work, factory workers, shopkeeper, and service/sale staff. Only 3 individuals in Ho Chi Minh City managed to attain high employment position as company owner, and experts in their field. For those without new employment, they could register as unemployed, stay home as housewives/househusbands, or enter (early) retirement (Table 3); as we observe, these rates all increased

Table 1
Government farm land price in urban districts versus actual paid price (VND/m^2).

	Ho Chi Minh City	Hanoi
Minimum	97,000	162,000
Maximum	190,000	252,000
Actual (based on Survey)	1,119,519.6	447,720.37

Source: Ho Chi Minh City's People Committee (2014); Hanoi's People Committee (2014).

significantly after land acquisition. Although unemployment level in Ho Chi Minh City's survey is within the safety limit, under 5%, in Hanoi such rate is quite alarming and unsustainable at 10.8%. Development in the suburban area in Hanoi therefore could be deduced as lagging and unsuccessful as jobs were not created enough to accommodate the growing number of out-of-job farmers.

The surveys concluded with results showing the majority of households in both cities perceive their lives more difficult after land acquistion, 53.5% in Ho Chi Minh City and 61.8% in Hanoi. Major challenges such as in 'income and employment' and 'change in living expenditure' were applicable to both cities. However in Hanoi, due to the high dependency on agriculture, not only for income but also for food supply, 'food security' problem was noted by 121 households (out of 325), as opposed to only 9 out of 200 households in Ho Chi Minh City.

4.3. Analysis of factors impacting households' livelihood outcome

4.3.1. Education

Education level was the first factor observed, however our analysis felt short given that the level of educational attainment in the survey group was too average, meaning there were too many people graduated only primary or secondary school (Table 4). Educational attainments are classified here into 3 groups of 'Low', 'Average', and 'High' education. Several methods were tested, such as, choosing the education level of the head of household (oldest male) to represent households' education level. However because many households include 2–3 families living together, or having old people, thus this method faced too many problems. It was decided at the end that the average level of education by household should be taken as the 'mode' average of that household's members' educational level.

Table 2
Households' income and agriculture dependency.

		Ho Chi Minh City	Hanoi
Average Annual Total Income (thousand VND)	Before	13,286.50	2320.70
	Present	14,657.00	4997.10
Average Share of Income from Agriculture (%)	Before	44.6	80.8
	Present	3.8	12.7
N of households still work in agriculture or want to continue work in agriculture	Still	17 (8.5%)	135 (41.5%)
	Want to	50 (25%)	196 (60.3%)

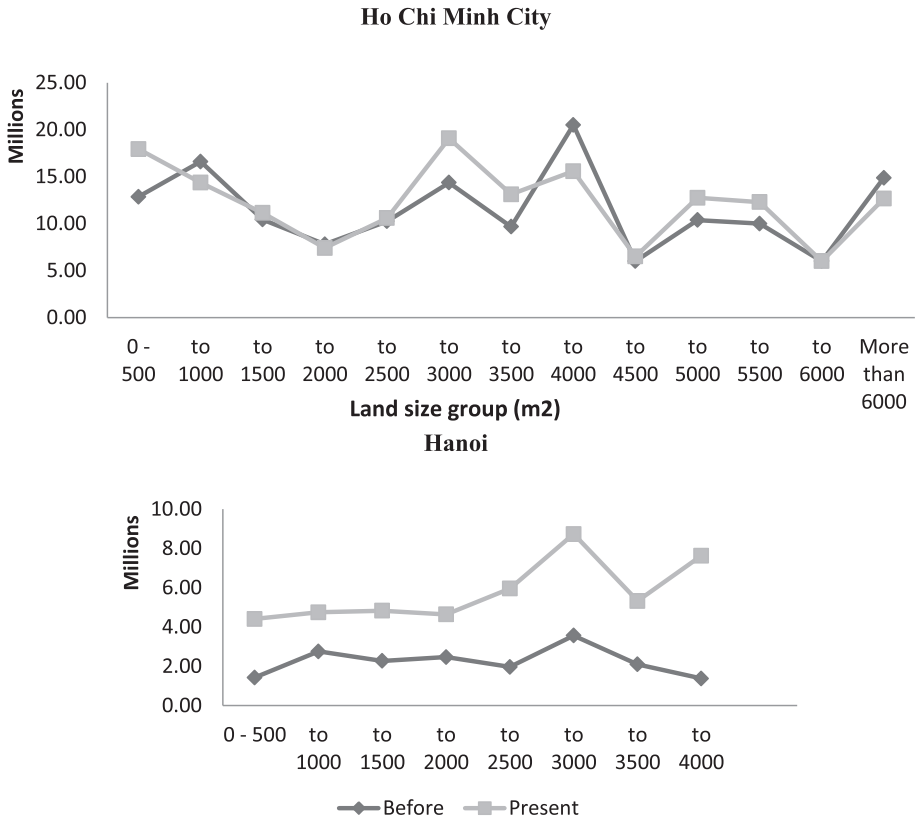

Fig. 6. Household annual total income 'before' land acquisition and at 'present' (VND).

Table 3
Change in agricultural workers and the possible redundant labour force.

	Hanoi		Ho Chi Minh City	
	Before	After	Before	After
Agriculture	716(45.1%)	188(11.8%)	262(27.9%)	25(2.7%)
Non-farm Employment	272(17.1%)	676(42.6%)	353(37.6%)	503(53.6%)
In Education/Underage	537(33.8%)	359(22.6%)	248(26.4%)	190(20.3%)
Unemployment	24(1.5%)	172(10.8%)	17(1.8%)	46(4.9%)
Retirement	34(2.1%)	144(9.1%)	30(3.2%)	128(13.6%)
Housewife/husband	5(0.3%)	49(3.1%)	28(3%)	46(4.9%)
Total	1588	1588	938	938

Low Education: Illiterate, Kindergarten, Primary School
Average Education: Middle School, High School, Vocational School
High Education: Vocational College, University, Graduate School.

The level of education by households' individual was reassessed for the group of agricultural workers before land acquisition and the current unemployment workers. In Ho Chi Minh City, high educated individual generally did not work in agriculture, only 5 out of 262 farmers attended vocational college or university. The logic also applied for the city's unemployment group, only 2 out of 46 had high education but are currently jobless. On the other hand, in Hanoi, despite the small share of high educated individual to these two groups, the percentage is still relatively high; 27 members (3.7% of farmers before land acquisition) and 18 members (10.5% of the unemployed) are highly educated.

4.3.2. Agricultural dependency

Dependency on agriculture had been shown to be an important factor affecting the livelihood outcome of suburban agricultural households in Ho Chi Minh City after land acquisition (Vu & Kawashima, 2016). The result was based on the survey in Ho Chi Minh City and a cross-table framework to assess the relative importance between the total amount of compensation per household versus the ability of households to sustain or increase income after land acquisition in determining their satisfaction. High agricultural dependent households were found to have received large overall compensation package, however their income tends to decline. Their livelihood satisfaction indicators were low, indicating their unhappiness toward the current lifestyle after land acquisition. The results reversed for households with low agricultural dependent, low compensation, but managed to maintain or increase their income overtime.

It is assumed that households that received high total compensation were more likely to own large amount of land as well as were more involved in agricultural practice prior to land acquisition. They became rich overnight after land acquisition as compensation was paid. Such large amount of cash, although does not guarantee sustainable income in the future, could induce unplanned spending on households. This type of overspending incident was recorded in previous study on land acquisition and compensation in Vietnam (Nguyen, 2011). In contrast, those with smaller land size and less dependent on agriculture generally received less compensation but were more likely to have diverted their income sources to non-farm employment, thus minimizing the impact of change when their lands were taken away. Because of the small compensation package, households' spending options were limited. Wasteful use of compensation often therefore does not apply in this case.

Comparing the agricultural dependency of the two selected cities, it is clear that Hanoi's suburban agricultural households were and are still much dependent on farming for income (Table 2, Fig. 7). Basing such dependency on land holding, a tendency was shown in Hanoi whereby households with larger land tend to source more of their income from agriculture. In the case of Ho Chi Minh City, the trend was only consistent upward to the range of 2500m^2, then decline until the 4000m^2 range, and became volatile from then on (Fig. 8).

With the assumption that the more agricultural dependent the more difficult it is for household to transition after land acquisition, it is expected that Hanoi's survey households faced more difficulties than its counterparts in Ho Chi Minh City. A simple analysis on households' livelihood after land acquisition was done based on the share of household income prior to land acquisition (Fig. 9). In the case of Hanoi, certain level of consistency was established in that the stronger households relied on agriculture, the more likely that their livelihoods are more difficult today. Analysis on Ho Chi Minh City' households however did not show any clear pattern. The authors assumed this is because of the higher living standard and the already urban integrated mentality of households in the Southern city. With higher income and compensation package, and an inconsistent dependency on agriculture regardless of land size, the livelihood transition of Ho Chi Minh City's households is thus far too complicated for any simple analysis.

5. Discussion and policy implications

5.1. Land acquisition and compensation in Hanoi and Ho Chi Minh City

Our study showed a clear difference in urbanization phase and the speed of suburbanization in Hanoi and Ho Chi Minh City. Being presently at a younger stage of urban development, future land acquisition and suburban development in Hanoi could draw out lesson from Ho Chi Minh City. Compensation, for instance, has been done with negotiation, under a more market based oriented approach in Ho Chi Minh City (Folkmanis & Nguyen, 2014). This has resulted in the compensation per square metre in the Southern city being over 3 times higher compared to Hanoi, despite the former's lower government set land price framework. A good compensation package could always serve as a valuable initial support for agricultural household to successfully transition into the urban non-farm lifestyle.

Nevertheless, households should be able to sustain their income

Table 4
Households' educational attainment level.

	Individual Education		Household Education	
	Ho Chi Minh City	Hanoi	Ho Chi Minh City	Hanoi
Low Education	313 (33.4%)	356 (22.4%)	46 (23%)	21 (6.4%)
Average Education	518 (55.2%)	1013 (63.8%)	125 (62.5%)	251 (77.2%)
High Education	107 (11.4%)	219 (13.8%)	29 (14.5%)	53 (16.3%)
Total	938	1588	200	325

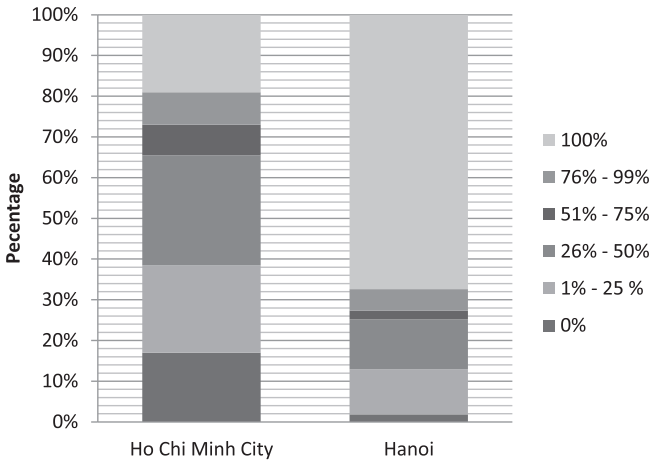

Fig. 7. Agricultural share of households' income before land acquisition.

after land acquisition. From our field research, in many occasions, it was reported that households generally started to feel that their living budget were becoming insufficient after 2–3 years, especially in the case of those receiving gross amount of compensation but unable to sustain income after land acquisition. Therefore, government should provide extra support to these households who were heavily dependent on agriculture for living prior to land acquisition. They have been working in such sector for so long and the sudden transition to the newly urban non-farm lifestyle could be a shock to households' members. To which extent, financial package is not enough as a compensation. Households will need job training, employment opportunities, and a mean of stable income to push forward their urban integration.

5.2. The untold facts

Vu and Kawashima (2016) had pointed out, based on surveys in Ho Chi Minh City, that misreporting and outlier cases may exist when using survey method. Households' livelihood is generally complex with issues which cannot be understood and reported by using sample questionnaires. The dissatisfaction or distrustful attitude toward local authorities in regard to land acquisition could also fuel tendency for misreport. In that sense, survey households may hope to portray a more difficult livelihood despite general improvement to entice the media and readers for additional public voice and support.

In the study of Hanoi, an obvious fact was recognised in regard to households' involvement in the informal sector. As in previous researches (Nguyen, 2011; Nguyen et al., 2016; Tran & Lim, 2011), increasing number of households were found working in the informal sector after land acquisition. What if these households have worked in such informal sector before but failed to report it in the survey? From the Hanoi's sample, households mainly sourced their income mostly from agriculture, averaging 80.8%. Living and earning income solely on paddy field (rice) farming on land size less than 1ha however is not sustainable. Residing at such close proximity to Hanoi's centre, it is suspected that households' members, especially the younger generations, would already be involved in the non-farm informal economy. It is understandable however due to various reasons households may be unwilling to disclose such information.

5.3. Policy experimentation

Our study suggests a number of experimental policies targeting households with low or no mean to sustain their income, most often those with high dependency on agriculture before land acquisition. These policies include: (1) annuity payment, and (2) land bonds. Such compensation could be done by dividing it in two parts, one part is a one-off lumpsum payment to farmers by the time of acquisition, the second part is to be paid as annuity, as a form of monthly pension for farmers for transitioning (Bardhan, 2011). The suggestion came from our view point to regard compensation as similar to winning a lottery, or entering pension. At all of these moments, people find themselves at a turning point where they suddenly have a relatively large amount of money but often do not know how to use appropriately. Some could put it to good use, but others could lose it all quite rapidly due to unplanned spending. The idea is the same in both policies – to provide a stable and regular source of income for households over a fixed period of time.

No policy is perfect, however employment or annuity payment of compensation was ratified under the Land Acquisition Act 2013 in India to assist land owner for resettlement and rehabilitation (Government of India, 2013). In the case of land bonds, various countries have adopted this approach in case of land acquisition; Guyana, for example, allows their farmers to receive compensation from land acquisition in various land bonds instruments, thus guarantee their income in a fixed foreseeable future (Laws of Guyana, 1959). The successful application of such policies would not only facilitate the transition of traditional farmers out of agriculture, but also hold government more accountable of their land acquisition scheme, either through assisting transition farmers (annuity payment and employment support) or making sure that acquisitioned land would provide real benefit (land bonds).

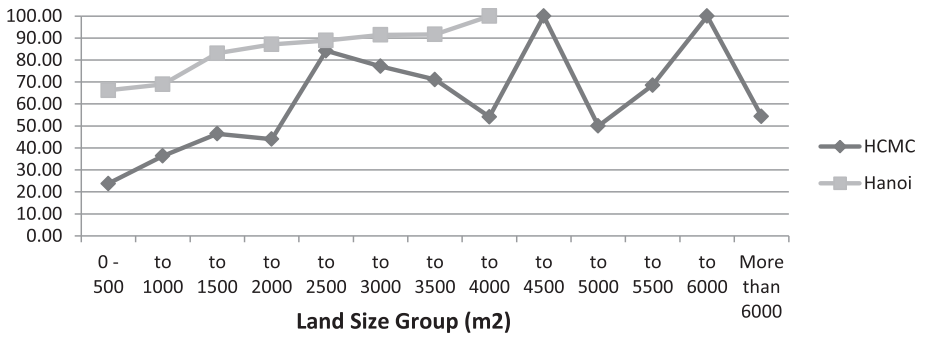

Fig. 8. Agricultural dependency based on land size holding.

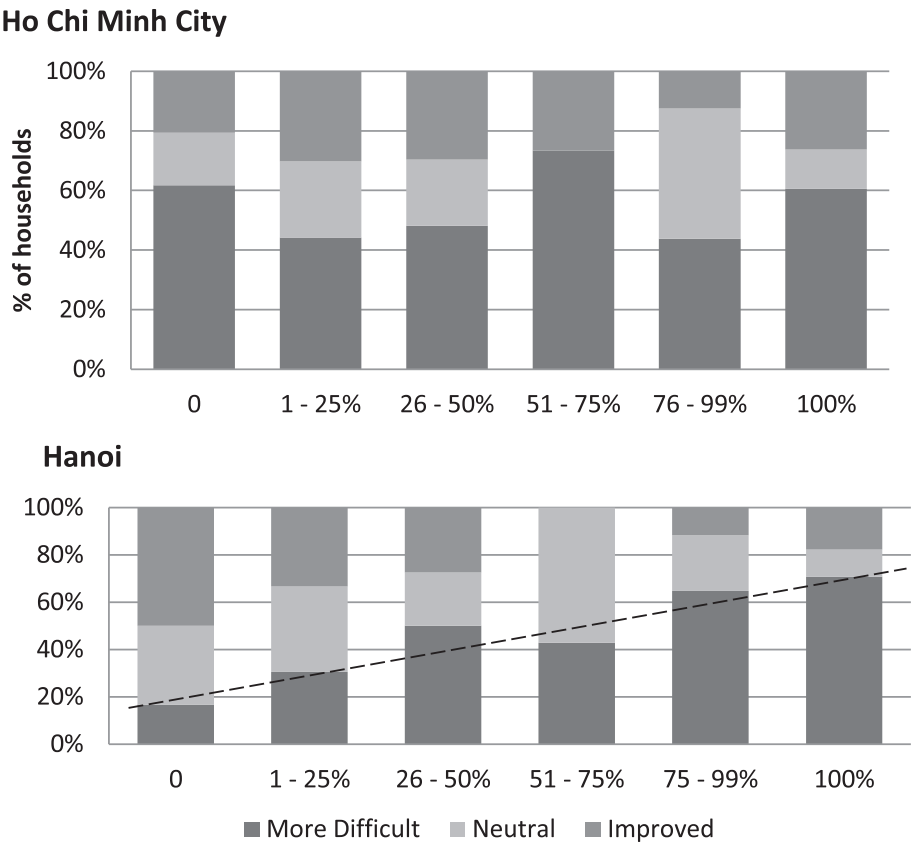

Fig. 9. Livelihood assessment based on households' dependency on agriculture.

6. Conclusion

Through household's surveys conducted in both cities, it is concluded that Ho Chi Minh City's agricultural households are generally better offs. Their lands were larger, while compensation was higher from more negotiation, and from the already developed market-based mentality in the South. In addition, most households in Ho Chi Minh City had diverted their income to non-farm work, or working in agriculture types more suitable for urban farming. Being the capital of Vietnam, it is expected that Hanoi's urbanization and suburban development will grow much stronger in the coming decades to not fall too far behind its Southern rival. With stronger land acquisition demand, the government needs to carry out necessary steps to ensure the smooth transition out of agriculture for rural households.

Livelihood transition after land acquisition in Ho Chi Minh City was found to be more complex given their higher income and high compensation package in general. Their attitudes to work and spending have to be taken into account for in-depth analysis. In Hanoi however the impacts were more visible. Due to the high agricultural dependency and low income in Hanoi's surveys, land acquisition thus forced many out of farm employment and subsequently increased general households' earning through higher paid non-farm jobs. Nonetheless, the majority in this case still perceive their livelihood as more difficult, due to challenges in income, employment, and food security. Higher dependency on agriculture was associated with more difficult livelihood after transition. These households often own larger land size, sourced their income mostly from agriculture, and then suddenly received a large sum of compensation money in the wake of the land acquisition process. Despite the importance of compensation money as a viable mean to help agricultural households during their transition, such large amount of cash could not generate a sustainable outcome as it could be spent quite rapidly while many households saw their income gradually deteriorate.

The authors suggest a number of policies (land bonds, annuity payment) that could be adopted to address the most vulnerable group of high agricultural dependent households through their transition period after land acquisition. The ability to work in new employments and to sustain income is certainly most important for households to improve their livelihood perception.

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