

Research Article

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Conversion of land use and household livelihoods in Vietnam: A study in Nghe An

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Abstract: This article describes the relationship between the land use purpose conversion and households' livelihoods in suburban Vinh City, Nghe An province. In the survey with 170 households losing their land to build the VSIP Nghe An industrial park project, this article shows the double impact of this issue. (1) On the positive side, households' quality of life in the current period shows a significant improvement. They are living in better conditions with more spacious houses and modern facilities than before. The average income of households increased by 900 USD than before. (2) On the negative side, the unemployment rate increases with women older than 35 years and men older than 40 years. Along with the improper use of compensation received, income sustainability is a doubt for these households' future.

Keywords: land reform, land recovery, unemployment, compensation, Vietnam

1 Introduction

Livelihoods are considered a very complex concept. It is related to ecological and economic aspects and life's production factors (Daskon 2010). Livelihood refers to the human activity of making a living through resources (human, natural, material, financial, and social) in a vulnerable environment, which manages organizations, institutions, and policies (Ireland et al. 2004). The notion of a household's or community's livelihood is a set of human resources and abilities combined with the decisions and activities they will take to make a living and spend more diversified. Sustainable livelihoods are also a controversial concept for scholars. Livelihood is considered sustainable

when it can help people resist and recover from shocks. These shocks can be social upheavals, or more simply, natural disasters or epidemics. It also needs to improve households/communities and future generations' well-being without changing the natural environment's quality (Khosla 1999). Nevertheless, sustainable livelihoods of people are attached to the land. In other words, the land is recognized as an essential asset for people, especially in rural areas (Clover and Eriksen 2009; German et al. 2011).

Reform is a method taken by the government to deal with an economic and social crisis. The land is seen as a crucial property of developing countries (Deininger and Feder 1998; Schutter 2009). The land is often a commodity chosen by the government for innovation. Depending on the scope of functions that the land itself performs, the concept of land reform is also different. This reform usually refers to transferring land ownership from the privileged holder to the individuals working directly on the land (Sharma and Praveen 2016). However, this transfer can be without compensation (Adams and Howell 2001). If compensation is available, the amount of compensation depends on the land's value (Steinsholt 2010). Land reform has provided income for more than half a billion families in developing countries (Sharma and Praveen 2016). Access to the agricultural land has enabled farmers to escape poverty. It is also the foundation for sustainable economic growth, minimizing social risks, and limiting rural-to-urban migration. This result is not only demonstrated by East Asian countries such as Korea, Japan, and Taiwan. It is also true of the early stages of socialist land reform in China, Vietnam, Ethiopia, and Cuba (Lipton 2010).

In Vietnam, land reforms in place since the late 1980s have helped the country become one of the fastest-growing economies globally (The World Bank 2009). In the past 50 years, Vietnam has been 1 of 18 economies with a "more efficient" development as assessed by the McKinsey Global Institute (WEF 2018). From a country that must receive the World's food support, Vietnam has become the second-largest rice exporter in the world after Thailand, which is an excellent effort in the land reform of the Government (Goletti et al. 1997). Furthermore, Vietnam

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has made significant progress in changing its economic structure, in which the share of GDP in the agricultural sector has shown a sharp decline from 32% in 1990 to 14% in 2019. Meanwhile, in 2019, the share of industries and services' contributions reached 34.3 and 41.7% (Vietnamese Ministry of Finance 2020). These economic sector restructuring has demonstrated land conversion from agriculture to nonagriculture in Vietnam through land acquisition and land use conversion.

In terms of land resources, Vietnam is one of the countries with the lowest average land per capita globally. The area of the agricultural land per capita in Vietnam is 0.25 ha. This figure in the world is 0.52 ha, while that in Southeast Asia is 0.36 ha (Huong 2019). However, the land still plays a crucial role in socio-economic development. The land is the primary source of livelihood for 70% of the population and 60% of Vietnam's workforce (Vo 2013). By the end of 2018, Vietnam has 326 economic zones (including industrial zones and special economic zones) for industrial production. These industrial zones account for 2.8 million hectares of agricultural and forestry land (Vietnamese Ministry of Construction 2020). The structural shifts in response to the industrialization trend depend on the widespread use of natural resources, including land. The area of unused land has decreased by two-third to 5.6 million ha. During a decade from 2001 to 2010, Vietnam also converted 1 million hectares of agricultural land into off-farm activities (The World Bank 2011).

Along with that, the rice land has also decreased significantly from 6.7 million hectares in 1995 to 4.1 million hectares in 2018 (MoNRE 2019). According to the Ministry of Agriculture and Rural Development statistics, the recovery in 5 years (2003–2008) affected the livelihoods of 627495 households with about 950000 workers and 2.5 million people. So the unemployment rate also increased. For every 1 ha of the acquired land, ten laborers will lose their jobs (Hang 2012). Besides, only 19% of workers accepted vocational training, of which about 45% found a job and the rest remained unemployed (Tap chi giao duc 2019).

In terms of the research site, Nghe An is the most extensive land in Vietnam, with 16,490 km². Due to the excellent geographical location and natural resources, the province has paid much more attention in the past years in attracting investment projects. In the 2016–2020 period, the province has 573 projects registered for investment with a total capital of nearly 6.1 billion USD. The Provincial Competitiveness Index (PCI) of Nghe An

ranked 18th out of 63 provinces and cities in Vietnam (Chau 2020). To meet the land needs for these projects, Nghe An recovered 15801.2 ha from 2015 to 2019. In particular, Vinh City has recovered 1748.85 ha (Synthesis from the Resolutions of Nghe An People's Assembly). From that, it can be said that the amount of acquired land is not small in this locality. To some extent, this significantly affects the livelihoods of those whose lands have been recovered. Therefore, this article examines the positive and negative impacts of land acquisition on the livelihoods of affected households in Vinh City, Nghe An.

2 Methodology

2.1 Research area

Vinh City, which has nearly 105 km², is the urban-type I and has been planned by the Government to become an economic and cultural center of Vietnam's North Central region since 2005. With its geographical location and favorable conditions, this city has many economic development advantages. The average economic growth rate reached 8.63%. Moreover, the city's economic structure has shifted, in which agriculture decreased from 1.68 to 1.37% from 2016 to 2018 (Chau 2020). However, agriculture is still the primary production in the peri-urban of Vinh City. As shown in Figure 1, most of the soil around the inner city area of Vinh City is the paddy land. The area of the built-up land tends to expand to the East and North of the city from 1995 to 2005. Meanwhile, from 2010 onward, movements have started to be carried out to neighboring districts to meet planning needs.

VSIP Nghe An Industrial Park is the leading new and modern industrial park in Nghe An province. After nearly 5 years of implementation, the VSIP Nghe An project has had 23 domestic and foreign enterprises investing with nearly 200 million USD (Tan 2020). With a total area of 750 ha, of which the industrial parkland is 368 ha, officially started in September 2015, VSIP is a pioneer in investing in the most massive industrial park infrastructure in Nghe An. In Figure 3, we can see that the VSIP industrial park project is located in the South of Nghe An province and on the outskirts of Vinh City and Hung Nguyen district. Most of the land used for project construction is agricultural land (mainly rice and cropland).

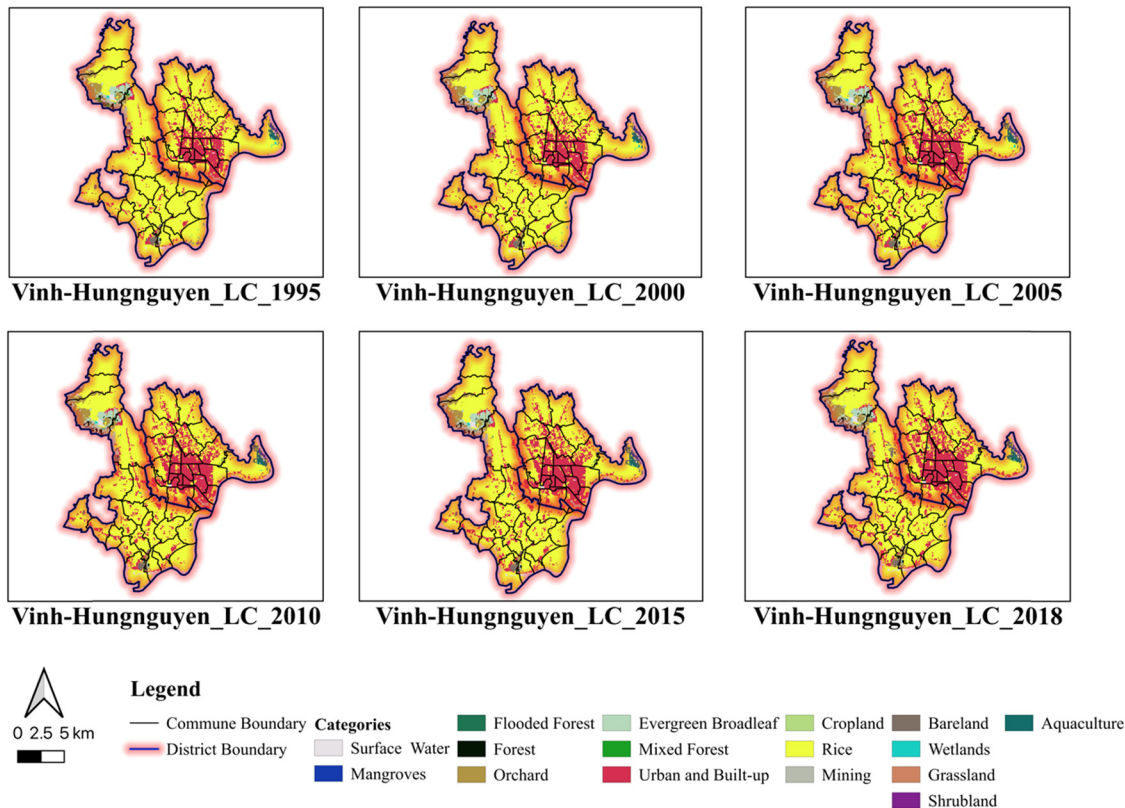


Figure 1: Land cover in Vinh City and Hung Nguyen district over the years.

2.2 Research design and data

The research process is performed through the following sequence (Figure 2). First, the author collects and learns information related to the project and its land acquisition status through available documents and field observations. Then, the author chooses the appropriate methods to conduct interviews and survey households. These methods collect qualitative and quantitative data for research. Interviews with local authorities will be conducted in advance to know where the project has acquired land to facilitate the application of the stratification method for the survey. Furthermore, land acquisition is a sensitive topic in a socialist country like Vietnam, and so to contact and survey households, the author needs to get consent from the local authorities. Five interviews were conducted with three experts and two village leaders. The interviews combined two methods of “semi-structured” and “in-depth interview.” However, the recording of these interviews is not possible because they cause dissatisfaction with the respondents.

This study was conducted after the Vinh City People’s Committee issued a notice of land acquisition to households who lost land from 2016 to 2018. The survey period

was from August 1 to 20, 2019. Therefore, the information used in this study was collected after households lost their agricultural land. The author surveyed 170 participating households. Sample selection is made through two steps. In the first step, after having obtained the complete list of households for the acquired land for the project, we divided the households by geographical location based on the “stratified random” method. According to the plan, the project’s administrative boundary is located in four communes, including Hung Dao, Hung Tay, Hung Nguyen town – Hung Nguyen district, and Hung Chinh commune – Vinh City. After using the stratified method and the purpose of the article is to study in the city’s suburbs, the author chose Hung Chinh commune as the survey location. This commune has eight villages, of which five villages have their agricultural land acquired the VSIP Nghe An project, namely, villages 1, 2, 3, 4, and 8. Village 8 is the village with the least number of households to be recovered and is separated from the other four villages in terms of geographical location. Therefore, the stratification method was again used to collect the research data. Second, through the village leaders, we select households that can participate in the survey based on the “snow-ball” method. Besides, no household kept the information

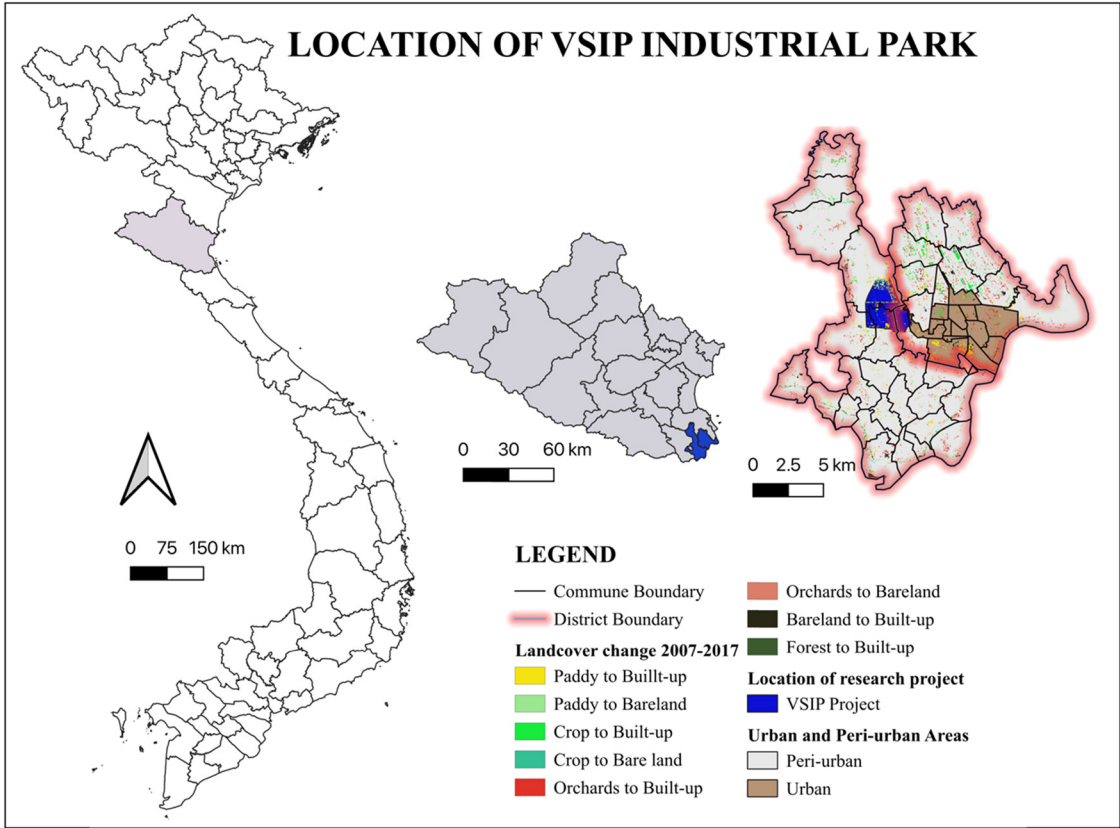


Figure 3: The location of VSIP Nghe An industrial park.

asked about their family, requiring them to recall details from their memory. Thus, economic data, such as expenditure and income, are only relative. However, data are collected by directly interviewing the head of the household before other family members. This gives high accuracy for data with relative nature like economic data.

After the data are collected, we use SPSS software to process the information. From there, the results are synthesized by tables and graphs. QGIS software is also used to help author with mapping. It helps readers to know more accurately about the geographical location of the project. The database was obtained from ALOS Research and

Application Projects and the Asian Disaster Preparedness Center (ADPC).

Ethical approval: The conducted research is not related to either human or animal use.

3 Results and discussion

A general overview of the households participating in the survey is necessary to briefly consider whether land

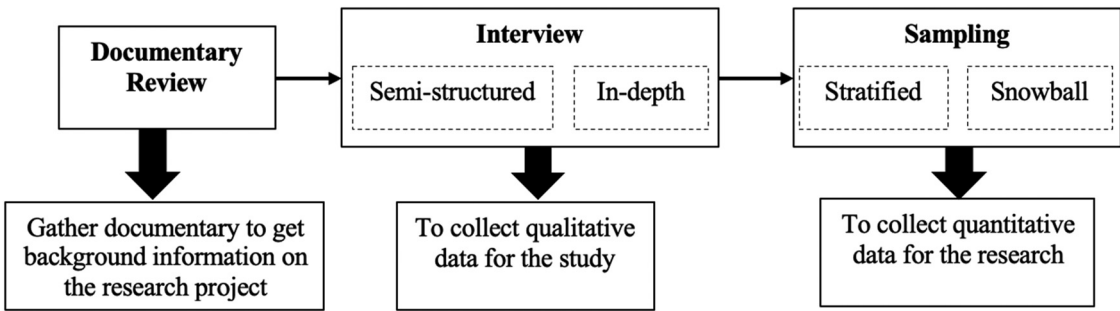


Figure 2: Sequence of study data collection.

acquisition positively or negatively impacts people's livelihoods. According to the author's direct interview with the local authorities, by December 2019, the VSIP industrial park project has mostly acquired agricultural land (86.3%). This conversion is also confirmed by the land cover change in Figure 3. Only their arable land is lost during land recovery but not their homes because they live in other places. Thus, this dramatically affects the means of livelihood and the employment of the land expropriated. Table 1 clearly shows the loss in the size of this land type. More than half (253000 m²) of the cultivated land of households is lost.

Along with that is a slight increase in the number of people of working age. This growth creates a significant pressure on the employment of these new farmers and the workforce. Losing land means losing jobs. However, there is a contradiction shown that household income witnesses an intense proliferation. The cause of this "abnormal" growth comes from the number of compensation households have received after land acquisition. Whether this income is maintained and sustainable depends on what people use this money. If it is reinvested in manufacturing or looking for a new job, money makes money. Another way, if they use the money for nonprofit purposes, it seems that this growth is only temporary.

Vietnam is a country with a golden population with the majority of its population of working age. The division of the labor force depends on age and sex. In an interview with the head of human resources at a company located in the VSIP industrial park, employers prefer women aged 18 to 35 years and men up to 40 years. This preference is because the workforce in this age group can have long-term cooperation with the company, reducing training costs and recruiting new employees. This option also helps the production lines to operate smoothly. In Vietnam, essential daily needs have not been fully met due to previously low income and inadequate healthcare conditions. Therefore, the aging process and calcium deficiency diseases at the age of 40 are quite

common. This phenomenon is the reason for the change presented in Table 2. Before the land was acquired, the number of employed workers in the two age groups showed similarities around 50%. However, when large amounts of agricultural land were taken away by the government, the number of employed workers in the younger age group was twice as high as the remaining, 66 and 34%, respectively. Here, we can come to a preliminary conclusion that losing land has a significant impact on people's employment, especially for workers older than 35 years for women and 40 years for men.

The job choice after losing agricultural land presented in Table 3 shows that people's habits are almost unchanged. Nearly 56% of households choose to do agricultural production on the remaining land while looking for an extra job. Agricultural production still helps them not lose a budget for food, whereas they are still self-sufficient. Doing another job in the nonfarm sector assists them in earning a part to save for future life. Besides, a large part of households agreed to find a new job (36.5%). These are mostly unskilled jobs, but these jobs are seasonal, so their income is also volatile, not showing stability. When we dig more in depth about this change's reasons, we found that education was a cause of difficulty finding a new job. Nearly 80% of surveyed households said that they have just graduated from secondary school. Meanwhile, the requirement from employers in factories is high school education. It leads to a huge obstacle to this force.

The author brings this question to discuss with the local authorities and village heads. Although the government already has classes to provide skill training for households who have lost their land, this measure is only an incentive and not compulsory. It has resulted in households not paying attention to these classes. The State has also taken other measures to help people find jobs, but the methods are not yet effective. There are not many factories operating in the VSIP industrial park to meet the existing number of local workers. The local

Table 1: General information on labor and income of surveyed households

No	Categories	Unit	Before land loss	After land loss	Changes
1	Surveyed household	Household	170		
2	Area of farmland	m ²	454700	201250	–253450
3	Population	Person	841	857	+16
4	Population in working age	Person	622	654	+32
5	Household Income	USD	853073.08	1008079.12	+155006.04
6	Average income per household	USD/household	5018.1	5929.9	+911.8

Source: Households' survey (2019).

Table 2: Number of Employees with jobs before and after land recovery

No	Categories		Employee	Percent
1	Before land recovery	18–35 (female)/18–45 (male)	276 workers	49.9
		>35 (female)/>40 (male)	277 workers	50.1
		Total	553 workers	100
2	After land recovery	18–35 (female)/18–45 (male)	282 workers	66
		>35 (female)/>40 (male)	145 workers	34
		Total	427 workers	100

Source: Households' survey (2019).

government has also contacted neighboring districts to recommend jobs for land-recovered households to work in factories. However, the farmers have not changed their thoughts about the place to work. They think that going to another place to work is far from home. That is part of the reason they choose precarious jobs that can be done close to home. Alternatively, they accept the status quo without a job or retirement. This figure has reached 22.9 and 16.5%, respectively. The cash support method meets people's financial needs, but this measure does not entirely solve the problem when households do not know how to use them. Thus, the changes in jobs stem from two causes: the government and the people. People's low ability to acquire knowledge combined with the government's short-term career orientation sessions was not enough to help those with substantial job reform.

In Table 1, household income shows strong growth. The reason comes from a large amount of compensation and support they receive from the Government. The question is, What purpose did these households use this money? Will they bring about sustainable growth to households? The answer is presented in Table 4. There are three priority jobs that households use in order: division of money for their children, home repair, and debt repayment. With Vietnamese customs, the family is number one. No matter what age the children are, they always get the attention of their parents. That is almost the reason that 52% of households choose to divide compensation money

with their children. Following are the wishes of living in a bigger and more beautiful house, so repairing the house is the option of 44% of the households. They also cover debts from the past for a business loan. Households have said: *"Compensation money has helped me lessen the burden of bank debt, now I can comfortably live, not worry about the bank's debt."* However, it is a sad fact that most people do not invest or use money for profit purposes. It is only a small proportion, with 7% of households investing in small businesses such as opening grocery stores. Alternatively, more simply, they send the money received from land compensation to a bank for interest, a safe investment channel for households with 12.4%.

The number of assets that households owned before and after land acquisition is presented in Table 5. Production tools witnessed a significant decrease cattle like buffaloes and cows. A buffalo's image attached to a farmer in the field is a prominent feature in the Vietnamese countryside landscape. However, with a large amount of agricultural land lost, households almost sold out their cattle. Instead, every day, items for the family were purchased. Nghe An is located in a geographical location with a harsh climate, especially in the summer. The temperature here sometimes reaches 43°C; most households have spent money to buy air conditioners, followed by the purchase of motorbikes, the most popular means of transport in Vietnam. From Tables 4 and 5, we can say that households use compensation money to improve the

Table 3: Choosing jobs for households after losing land

No	Categories	Frequency	Households	Percent
1	Continue agricultural production	41	170	24.1
2	Continue agricultural production and work another sector	95	170	55.9
3	Changing job	62	170	36.5
4	Unemployment	39	170	22.9
5	Retire	28	170	16.5

Source: Households' survey (2019).

Table 4: How to use compensation money of households

No	Categories	Frequency	Households	Percent
1	Repairing house	75	170	44.1
2	Buying motorbike	14	170	8.2
3	Doing small business	12	170	7.1
4	Investing agri-machines	0	170	0
5	Building apartment for rent	1	170	0.6
6	Depositing all money for interest	21	170	12.4
7	Remaining money deposited in the bank	24	170	14.1
8	Paying debts	52	170	30.6
9	Other – (for their children)	88	170	51.8

Source: Households' survey (2019).

quality of life now rather than think about the future. This problem requires local authorities to have effective solutions to support and guide people to use the money for the right purposes to avoid future harm.

According to the CDC (Centers for Disease Control and Prevention) (2018), quality of life (QOL) is a concept that includes subjective assessments of the positives and negatives of life. That is the reason why QOL measurement has problems. However, researchers have also attempted to find QOL associations in culture, health, spirituality, and the environment (Owczarek 2010; McCaffrey et al. 2016). QOL is a combination of many factors in human material and spiritual life. This concept can be divided into three main groups. Group 1 is the material standard of living. It

includes eating, staying, wearing, traveling, conditions, and intensity of labor. Group 2 is the natural ecological environment. Alternatively, to put it more simply, it is the quality of the environment. The final group is the spiritual standard of living, where social, cultural, and educational equity is considered.

Based on the aforementioned analysis of the job and household income, Figure 4 compares the quality of life based on the first criterion. The information shown in Figure 4 is the assessment of the households themselves before the land loss and present. It can be seen that before the land acquisition, the life of most households is not so strenuous. They still have enough food and clothing. Agricultural production is also enough to help

Table 5: Property of households

	Categories	Before land loss	After land loss	Change
I. Means of production (unit: item)	1. Tractor	14	1	–13
	2. Thresher	20	1	–19
	3. Cattle	188	14	–174
	4. Sprayer	0	0	0
	5. Hoes and shovels	387	365	–22
	Total	609	381	–228
II. Family assets (unit: item)	6. Telephone	1	1	0
	7. Mobile phone	531	535	+4
	8. Motorbike	318	342	+24
	9. (Electric) bike	32	37	+5
	10. TV	183	196	+13
	11. Computer/laptop	51	57	+6
	12. Karaoke	9	12	+3
	13. Washing machine	104	113	+9
	14. Fridge	153	163	+10
	15. Gas stove	175	174	–1
	16. Hot shower	117	131	+14
	17. Air condition	4	86	+82
	Total	1,678	1,847	+169

Source: Households' survey (2019).

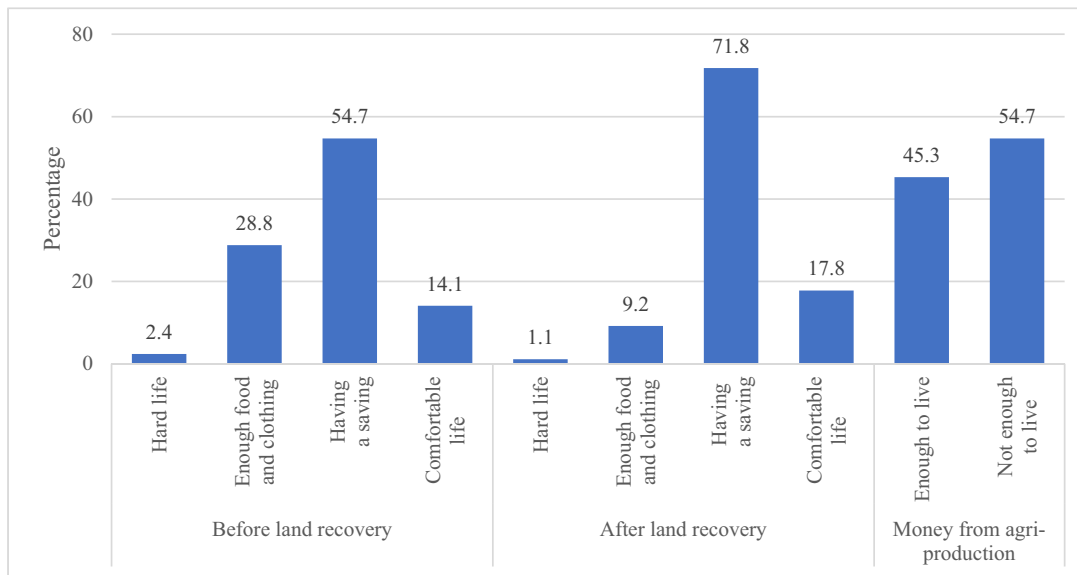


Figure 4: The situation of households' life. Source: Households' survey (2019).

45.3% of households who do not feel worried about the economy. A total of 54.7% of households said that their family still has savings to use when needed. Only 2.4% of households have difficulties. Nevertheless, this rate was halved when the State acquired land. The number of households with savings also increased to over 70%. In general, thanks to no small amount of compensation, the landless material living standards have improved positively. The proportion of households facing difficulties has almost disappeared. The amount of state compensation, according to their assessment, is not high, but it still meets the essential needs of households. Almost no household fell into poverty after losing land. The physical life has improved. However, whether this factor is sustainable or not depends much on each household's ability to adapt and recover.

One of the essential factors that contribute to the quality of life assessment is the environment. Despite strong income growth, but with a polluted living environment, it is not easy to recognize an improved quality of life. Up to now, the environmental quality is assessed to be almost no change (81.2%). Because VSIP Nghe An project only acquired agricultural land, it is not too close to its living area. Moreover, the project has been conducted for only five years, and there are not many factories involved in the production activities, so the quality of the environment is still being guaranteed. That may also be a part of why most households have a positive outlook on rural industrialization. The author received 51.7% positive reviews, and 34.7% say it has both sides of this innovation.

The quality of life goes up, along with a positive perspective on rural industrialization and urbanization, and there is a prediction that people will enjoy life after land acquisition. However, this prediction seems to contradict the opinion of households. Up to 53% of households want to return to their previous life. This figure is 10% higher than those who love the present life. Their jobs seem to influence this option quite a bit. For industrious farmers, without a job, they feel no longer happy in life. Furthermore, social factors also affect their desire. In the past, when there was still cultivated land, village friendship was tightened. Now, with modern shopping items, it seems that the interaction of families is gradually cooling off. This situation makes them feel nostalgic about old life (Figure 5).

The results of the study in Nghe An on the impact of land acquisition and compensation on people's livelihoods show similarities and differences in some other localities in Vietnam such as Hanoi, Quang Binh, Hue, and Ho Chi Minh City (Ty et al. 2013; Nguyen et al. 2019). There is an increase in household income after land acquisition. Meanwhile, the unemployment rate and the use of compensation are different among regions. The more underdeveloped the urban is, the higher the unemployment rate of households after land acquisition. It is similar to the use of compensation money for land-loss households. In Hanoi and Ho Chi Minh City, the number of affected households using the money for economic purposes is higher than in other localities (Nguyen et al. 2016; Vu and Kawashima 2017).

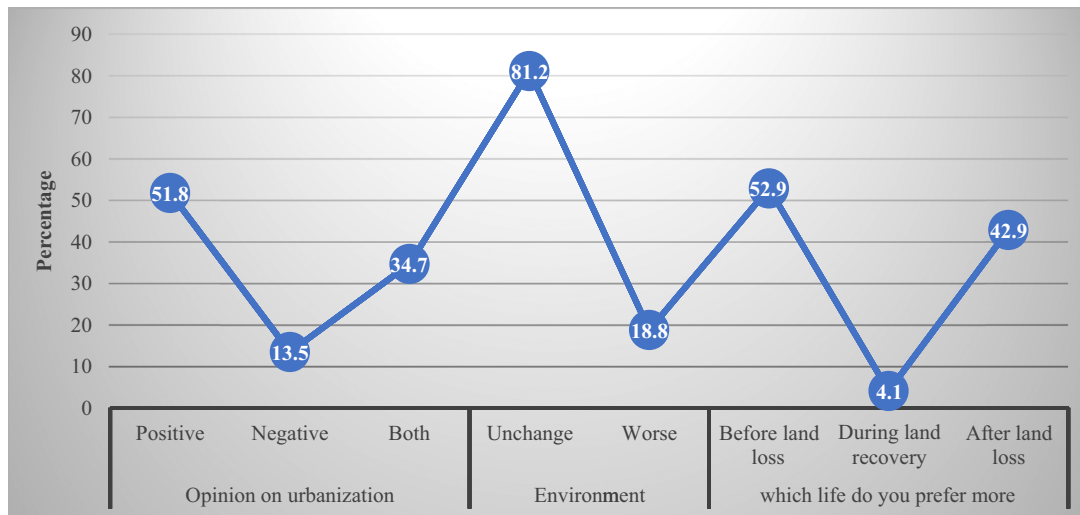


Figure 5: Perspectives, environment, and life choices. Source: Households' survey (2019).

4 Conclusion

This article examines the interconnect between land expropriation and livelihoods of people in suburban areas of Vinh City, Nghe An Province, Vietnam. Data on employment, income, assets, and living environment of the households before and after the recovery were collected from a survey of 170 households in Hung Chinh commune. The search results had shown that people's livelihoods had changed dramatically when the government took over agricultural land. In which, it has both positive and negative changes as follows:

On the positive side: The quality of life has improved markedly when nearly the households have enough rice and warm clothes. Households live in more spacious houses with more modern appliances such as air conditioners, washing machines, and other appliances. The household income also showed strong growth after receiving compensation and support from the local government. On average, each household increased by more than 900 USD than before, not a small number. On the negative side: With a large amount of the agricultural land recovered, unemployment is an inevitable phenomenon. However, the unemployment rate focuses on women older than 35 years and men older than 40 years. The choice of jobs after losing land also makes households struggle. With low education and only farming skills, these households almost have no choice but to do unskilled labor. Those are jobs with no stable income. As a result, the sustainability of households' income also does not show a guarantee. The compensation amount serves primarily for personal

needs. Instead of using that money for income-generating purposes, they spend it on noneconomic purposes such as building houses, buying motorbikes, and other household items. It is also the reason why the assets of households demonstrated a significant change. Other essential household instruments have replaced production tools.

It is not easy to think about whether households' livelihoods that lose their land will get better or worse. It depends on the resilience of each household and how the local government's policy lines are applied. However, it can be predicted that, if households' employment and expenditure status do not improve positively, households' livelihoods will face many difficulties in the long term because only jobs can create income for people to re-create their lives after a shock. Moreover, this result is also a basis for the government to review whether the cash compensation and support method are appropriate. Assisting people in finding a job off-farm in industrial zones is a positive one. However, the reality also shows that it is difficult for farmers to meet companies' requirements in the industrial parks, especially with the elderly workers. Therefore, the government needs to seek and support these farmers' capacity development, such as developing traditional craft villages.

Some shortcomings in this article can be pointed out. The project has been underway for 5 years. However, it has only been 2 years since the actual land acquisition took place until the survey process. These results in the figures are looking only from a short-term perspective. To see more clearly and in more detail the impacts and the

ability to recover households after land acquisition, it is necessary to have a survey for a longer time. Moreover, this survey was conducted before the COVID pandemic, so the study results cannot show the effects of the epidemic on land-loss farmers. Nevertheless, it can be predicted that they are among the first factors to suffer the adverse effects of the Covid-19 pandemic. With unstable jobs, most of the jobs after land acquisition are unskilled labor, so they can neither receive government subsidies nor jobs. The reason is that factories or other jobs also have to stop production temporarily. Without the extra income, spending on essentials such as clothing and food will also be problematic. As mentioned earlier, the households still have land for agricultural production, and they can be self-sufficient. It is not easy for families to have an everyday life as before in the current plague.

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Author contribution: Tran Tuan Nguyen: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

Data availability statement: The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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