The Different Transitions of Agricultural Households after Land Acquisition in Suburban Ho Chi Minh City

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Abstracts: Suburbanization is accompanied by great changes in the urban peripheries. A significant number of local residents have been resettled from the area as the result of rural land being acquisitioned and converted from agricultural to other purposes such as industrial, business, or residential use. What then are becoming of the traditional farmers in these suburban districts? From our survey of 200 agricultural households after land acquisition in the 3 suburban districts of Ho Chi Minh City, it was found that more than half of the surveyed households are experiencing more difficult livelihood and earning condition compared to before. Such research findings unfortunately are fairly common as land acquisitions are generally not welcome, especially if land was expropriated under the government's compulsory land acquisition act. It should be taken into account that not all families were in similar backgrounds, or have experienced similar transition process. The paper henceforth aims to further elaborate the reasons behind why and how some households have managed to maintain or improve their livelihood through transition while others have not.

Keywords: Suburbanization; Land Acquisition; Livelihood Transition; Household's Satisfaction.

1. Introduction

The trend of suburbanization in Ho Chi Minh City has been shown clearly in our previous paper though the demonstration (1) of population settlement shift towards the newly urban districts, (2) of urban land use conversion from agriculture to residential and industrial, (3) and of economic and employment structural change favoring the urban sector (Kawashima & Vu, 2015). To understand the livelihood transition of agricultural households in the suburban area under aggressive urban expansion, a survey of 200 agricultural households affected by land acquisition in the suburban Ho Chi Minh City (focusing in districts 2, 9 and Binh Tan) was conducted in 2015. The survey's result showed that 107 out of 200 households (53.5%) answered that their livelihoods and earning conditions are 'more difficult' than before, compared to only 41 households answered 'no change' (20.5%), and 52 perceived 'improved livelihood' (26%). When further analyzing the survey, a certain level of consistency was demonstrated between households that answered 'improved livelihood' and whether they have received a large compensation amount, or that their income have increase overtime; and vice versa.

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One interest point which was discussed then and led us to the writing of this follow-up paper is that there remain exceptional cases which did not fit into any category amongst surveyed households. For instance, households that seemed to have benefitted from land acquisition were reporting a ‘more difficult’ livelihood.

Households with ‘more difficult’ livelihood are the group that is most mentioned in academic journals and newspaper reports. They are often referred as the vulnerable, and used as critics to current land acquisition policies. It is true that this group, supposedly, represents the worse-offs within the affected households. Nonetheless to build a case arguing for the improvement of the land acquisition system in Vietnam, one needs to elaborate further. Researches using surveys, to a certain extent, are subjected to misreport. For instance, households could answer that they are having a ‘more difficult’ livelihood simply because they feel that they might receive more attention and more benefits, or because their perspectives of a difficult life and earning condition have changed overtime. In that case, the final research conclusion can be distorted.

The objective of this paper henceforth is to analyze the categorized groups based on compensation and earning, and to understand the different backgrounds which might have factored in on the easiness or difficulty that households faced during transition.

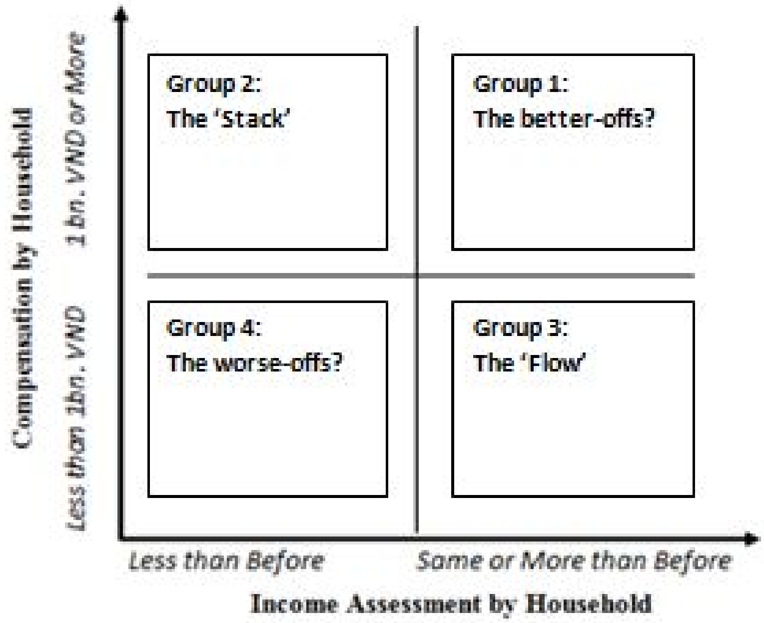

Figure 1: Households according to Compensation and Income

2. Methodology

2.1. Research methods

To understand how different families have transformed to cope with the changes in livelihood is the most important aspect within household studies. According to De Haan and Zoomers (2005), studies focusing on households and livelihoods have evolved dramatically in the past few decades. The central points of such study are no longer to portrayed households as victims or socially excluded groups, but rather to shine an optimistic view on the strategy that households have adopted to counter change. This would mean understanding their difficulties, dissatisfactions, as well as their means of livelihood adjustment through the transition period.

Our research follows such manners, first by dividing households into their respective categories and second to cross compare them. There are 2 main groups in our survey: the 'more difficult' households; and the 'same or improved livelihood' households. Based on our previous paper and the assumed correlation with the households' response on livelihood change, two variables of: (1) the compensation obtained by household, and (2) the general assessment on earning after land acquisition are used to further divide each group into 4 sub-groups (Figure 1).

Compensation represents the 'Stack' of capital given to the households right after land acquisition to allow them for recovery and to facilitate transition; while Income is the constant 'Flow' of capital that the households earn monthly to sustain their living. The choice of these two variables thus allow for a meaningful comparison on the relative importance of 'Stack' versus 'Flow' of capital during the transition period. For one thing, the compensation money is calculated under government scheme and adjusted through negotiation with local farmers before acquisition, with aim to compensate households for any loss in assets and the short-term expected future income from land. The compensation amount of 1 billion Vietnam Dong (VND), or roughly 45 thousand US Dollars, was chosen as the breaking point to differentiate between the higher and lower compensated households. For analyzing the capital flow, the current assessment of income by household would show, in the simplest way, if they are earning better or worse than before. The study to assess the income difference was conducted previously based on reported income before and at present. However such method was deemed not accurate as it could not take into account the change in livelihood expenditure, change in households' members and age cohort, as well as the inflation over the period.

2.2. The sub-categories classification

The 200 households surveyed are divided into two groups. The 'A' group represents households experiencing 'more difficult' livelihood compared to before; the 'B' group, on the other hand, include households responded 'same' or 'improved' livelihood. In both group 'A' and 'B', further classification was done based on income assessment by households and the compensation amount received, as shown in Figure 1.

All 200 households are therefore classified into 8 sub-groups, according to Table 1. The outliers' households could be observed here. For instances, 1A (12 households) which had benefitted from high compensation and increased earning overtime are reporting that their livelihood are 'more difficult than before, while 4B which had not benefitted from anything are saying that their livelihoods are the same or improved.

Table 1: *8 Sub-categorized Household Groups*

	Households with more difficult livelihood (A)		**Households with same or improved livelihood (B)**	
	Earn less than before	Earn same or more than before	Earn less than before	Earn same or more than before
Compensation of 1 bn. VND or more	2A – 26 households	1A – 12 households	2B – 12 households	1B – 35 households
Compensation less than 1bn. VND	4A – 42 households	3A – 27 households	4B – 10 households	3B – 36 households
Total	107 households		93 households	

3. Agricultural Dependency and Transition

The background information of households is important to the understanding of their transition afterward. Since our study is based on agricultural households with land taken away, it is assumed that there is a correlation between households' dependency on agriculture and their transition outcome. Such dependence is explained through how much of the total income were earned from agriculture before land acquisition, how many households still work in agriculture, and how many would like to return to agriculture if given a chance. The understandings of how much reliance are households on agriculture can also explain their livelihood's strategies today.

The analysis here is discussed in 2 parts: (1) between the 'Stack' and 'Flow'; and (2) between the Better-offs and Worse-offs.

3.1. The 'Stack' versus the 'Flow' (2A and 2B versus 3A and 3B)

Agricultural land size before land acquisition is a major factor in explaining the dependence of households on agriculture. Since our households were compensated based on government scheme, this translates to roughly equal compensation pricing per square meter across households, despite a few outliers that benefitted from high compensation rates due to reasons such as time lag, land position and type, and types of project, etc. According to this logic, large farm holders are highly compensated thus represent the 'Stack' while small farm holders represents the 'Flow' (Table 2).

Table 2: Land Size before Acquisition by Household Groups (m^2)

	Group 1	Group 2	Group 3	Group 4
A – More Difficult	5815.17	8098.65	926.89	1393.52
B – Same or Improved Livelihood	7097.31	2638.58	1284.03	617.70

Smaller land holders are assumed to rely lesser on agriculture for income than larger land holders. Certain levels of consistency thus exist when observing the share of agriculture income before land acquisition between the two groups (Fig. 2).

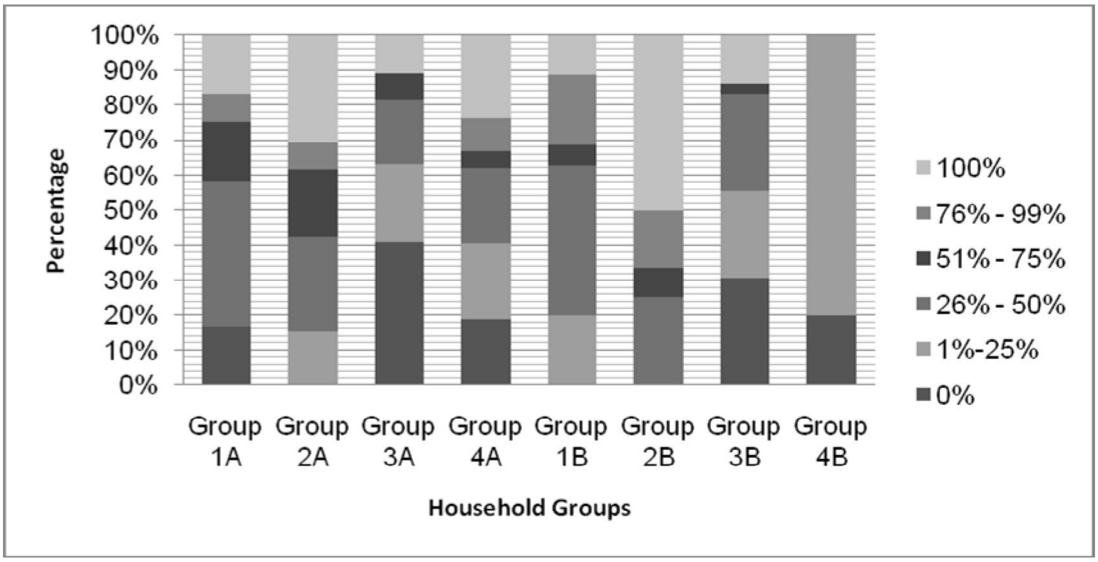

Figure 2: *Percentage of Income from Agriculture before Land Acquisition*

The 'Stack' relied heavily on agricultural for income, averaging 64.6% and 78.3% for 2A and 2B respectively. In contrast, the 'Flows' are comprised of a significant number of households not relying on agriculture for income, with averaging share of agricultural income only 25.2% for 3A, and 29.86% for 3B.

Such dependency was reconfirmed when agricultural households answered to the questions of (1) 'whether they are still working in agriculture', and (2)' if they would like to work again in agriculture'. After land acquisition, only a few households were able to retain a part of their agriculture land and continue farming. Results from the overall survey shows that 17 out of 200 households are still working in farming today, and a quarter of the 200 households (including those that are still in agriculture) expressed wish to work in agriculture [2]. Reviewing the 'Stack' and 'Flow' groups, only couple households still work in agriculture; in the case of 3A all families have exited agriculture production (Table 3).

Table 3: Still or Wish to work in Agriculture

		More Difficult Livelihood Households				Same or Improved Livelihood Households			
		1A	2A	3A	4A	1B	2B	3B	4B
Still work in agriculture	Yes	3	2		2	6	2	2	
	No	9	24	27	40	29	10	34	10
Total		12	26	27	42	35	12	36	10
Wish to work in Agriculture	Yes	3	12	2	10	16	5	1	1
	No	9	14	25	28	17	7	35	6
	Not sure				4	2			3
Total		12	26	27	42	35	12	36	10

The agricultural dependency remark is applicable for 2A and 2B since in both cases almost half (2A) or more than half (2B) of the households wished they could work in agriculture.

3.2. The Better-offs versus the Worse-offs (1A and 1B versus 4A and 4B)

In comparing between the better-offs (1A and 1B) and between the worse-offs (4A and 4B) the study faces the problem of uneven number of households because of the problem of 'outliers' presented before. 1A and 4B are supposedly the outliers in our analysis, thus the number of households belonging to this group is quite limited.

For 1A and 1B, the share of agricultural income is consistent, with the average income at 52.5% for 1A and 51.14% for 1B. As in the case of 4A and 4B, although the average shares of agricultural income for both are lower than 50%, 4A was closer to the upper earning threshold (47.98%), while 4B was closer to the lower limit (10%). Reflecting on the agricultural land size of households prior to acquisition, 1A and 1B own on average large plots of land, justified also by their high compensation rate, at the same time 4A and 4B only own small land plots with 4A's average land size double that of 4B's.

No change was witnessed in 1A between households that are still working and those would like to work in agriculture. 1B however perceived a significant shift with 10 households that are not working in agriculture expressing wish to work again in farming, and a further 2 households were indecisive. The shifting in livelihood choices were also noted in 4A with growing number of households wanting to work in agriculture again, as well as a small number of households uncertain about their choices. Only 1 household expressed wish to work in agriculture for 4B and 3 households were uncertain of their answers.

4. Strategies after Land Acquisition

The next step in this paper is to understand the different approaches used by the respective groups of households to adapt to their new livelihoods. Two aspects are covered here: (1) households' spending diversification of compensation money; and (2) households' income sources. It should be noted that the data obtained in this case is based on questions where families can select as many choices as possible as long as it applies to them. Therefore the round up number of answers will not equal the total number of households for each group.

4.1. Spending Diversification of Compensation Money (Table 4)

4.1.1. The spending of 'more difficult' households (category A)

In the group of households with 'more difficult' livelihoods, the large majority in 1A (83.3%), 2A (80.1%), and 4A (90.5%) had chosen to spend part of their compensation to purchase new land or house, despite many of them already owning a home. Investment in real estate was regarded as stable or even possibly high return in the current period when urbanization rate is high and a large number of property development works are in place, which would speculate for even higher price of land in the city. Interestingly, despite the attractiveness of real estate investment to the majority in the A's cohort, it is actually the improvement of housing condition that was relevant to 3A, attracting spending from 17 out of 27 households.

Table 4: Households' Spending of Compensation Money

	Compensation Spending Options	Group 1A		Group 2A		Group 3A		Group 4A	
		QTY	%	QTY	%	QTY	%	QTY	%
Profitable	Business or Production			6	23.08	2	7.41	2	4.76
	Purchase Land/ House	**10**	**83.33**	**21**	**80.77**	**13**	**48.15**	**38**	**90.48**
	Job Training and Education			3	11.54				
	Bank Deposit or Lending	6	50	1	3.85	2	7.41		
Non-profitable	Improve Housing Condition	**6**	**50**	**6**	**23.08**	**17**	**62.96**	**5**	**11.9**
	Provide for Children/ Relatives	4	33.33	8	30.77	2	7.41		
	Upgrade Living Standard	2	16.67	5	19.23	2	7.41	4	9.52
	Debt Repayment	4	33.33			4	14.81	2	4.76
	Compensation Spending Options	**Group 1B**		**Group 2B**		**Group 3B**		**Group 4B**	
		QTY	**%**	**QTY**	**%**	**QTY**	**%**	**QTY**	**%**
Profitable	Business or Production	11	31.43	2	16.67	3	8.33		
	Purchase Land/ House	**22**	**62.86**	**12**	**100.00**	**24**	**66.67**	**8**	**80.00**
	Job Training and Education	2	5.71						
	Bank Deposit or Lending	17	48.60	4	33.33	4	11.11		
Non-profitable	Improve Housing Condition	**10**	**28.57**			**16**	**44.44**	**7**	**70.00**
	Provide for Children/ Relatives	7	20.00	1	8.33	3	8.33		
	Upgrade Living Standard	3	8.57	3	25.00	2	5.56		
	Debt Repayment	6	17.14			2	5.56		

On other spending options, investment on education and training for job transition only appeals to 3 households in 2A. Those that were more interested also in spending for business and production include 3A, 4A, and especially 2A, while 1A was putting money more for savings in the future. Lastly in regards to debt, 2A supposedly did not suffer from debt before land acquisition as opposed to the rest in the A group.

4.1.2. The spending of households with 'same' or 'improved' livelihood (category B)

In the B category, a large number of households again were investing their compensation money on real estate. All households in 2B had share in real estate venture, and the majority in 1B, 3B, and 4B also join in the investment trend. In 1B and 4B however the choice of property purchase did not appeal, percentage wise, to as many as those in 1A and 4A respectively. In the case of 3B, as compared to 3A, the percentage of households invested in real estate, and those spent on improving housing condition reversed, from 48.2% and 62.9% respectively for 3A to 66.7% and 44.4% for 3B.

As for other expenditures, only 1B did invest on education and training for employment transition. Investments on business development, on bank deposit, on provision for children and relatives, as well as on upgrading their living standard apply for 1B, 2B, and 3B. In addition, 1B was more interested in business expansion, bank savings, and providing for family, while 2B was more into upgrading their living standard and bank deposit. Only a small percentage of households in 3B were interested in the above mentioned spending. As for 4B, the choices of spending were extremely limited, focusing only on real estate investment and improving housing condition. In regard to debt, only 1B and 3B used their money to repay their debt obligation.

4.2. Sources of Households' Earnings (Table 5)

The sources for households' spending budget are divided in Table 5 into three categories of: (1) Regressive – where families choose to withdraw money from their own savings; (2) Progressive – the money that households' members earn; and (3) Dependent – financial help provided by the government or relatives.

Table 5: Households' Income Diversification

Diversification		Group 1A		Group 2A		Group 3A		Group 4A	
		QTY	%	QTY	%	QTY	%	QTY	%
Regressive	Savings	5	41.67	12	46.15	6	22.22	11	26.19
Progressive	Land/House Rent							2	4.76
	Salary	**10**	**83.33**	**18**	**69.23**	**22**	**81.48**	**31**	**73.81**
	Agriculture	3	25	2	7.69			3	7.14
	Small Business			6	23.08	6	22.22	8	19.05
Dependent	from Government			2	7.69				
	from Relatives			4	15.38	1	3.70	3	7.14
Diversification		**Group 1B**		**Group 2B**		**Group 3B**		**Group 4B**	
		QTY	**%**	**QTY**	**%**	**QTY**	**%**	**QTY**	**%**
Regressive	Savings	26	74.29	9	75.00	5	13.89		
Progressive	Land/House Rent	4	11.43						
	Salary	**31**	**88.57**	**5**	**41.67**	**33**	**91.67**	**8**	**80.00**
	Agriculture	6	17.14	2	16.67	2	5.56		
	Business and Trade	6	17.14	5	41.67	1	2.78	2	20.00
	Handicraft	2	5.71	1	8.33				
Dependent	from Government								
	from Relatives					2	5.56	2	20.00

4.2.1.Progressive Sources

Salary is the most frequent stated source of income for households. The majority of households in almost every group do rely on official salary as a share of their households' earning. The exception is 2B with only 5 out of 12 households earn stable salary income. 2A and 4A are also not much better, with 69.2% and 73.8% of households respectively sourcing their earning from salary. The remaining groups all have more than 80% of households have members working on jobs with stable income.

Small shop running business and trade is often mentioned as a non-farm income diversification of traditional agricultural households. A transition to rely more on such business is to be expected after land acquisition. Except for 1A, the remaining groups do have households participating in the sector. Income from agriculture and handicraft still applies, though account only a small amount, for several groups. Agriculture applies to all except 4B and 3A, while only 1B and 2B still have households producing handicraft.

It is important to note here that sources of income can be complimentary as well as substitution based on the different livelihood approach of households. For the two most frequent responses of 'Salary' and 'Business and Trade', it is rather the case of substation, whereby a higher proportion of one is likely to result in a lower response rate in the other. 2A and 2B are clear examples. Despite their low number of households earning stable salary, they have the highest percentage of households in their respective A and B category involving in business and trade. Complimentary progressive income sources would apply easier to the remaining sources due to their low share and provide relatively unstable income stream in comparison.

4.2.2.Regressive and Dependent Sources

Dependent sources are comprised of financial assistance from relatives or the government. A small number of households receive money from relatives to compensate for their income. As for government assistance, only 2 households in 2A received money from the government. This could well indicate the inadequacy of the government system to assist households in transition given the large number of households responded of dissatisfaction or had a difficult time of transition.

Money withdrawn from households savings are viewed as regressive as it takes money away from fund which could be better invested. A significant number of households in 1B and 2B, approximately three quarter of their respective cohort, rely on savings withdrawal for income. In the A category, 1A and 2A also depend relatively strong on their savings, 41.7% and 46.2% respectively. Although it could not be explained on how such sourcing from savings could influence the households' future livelihood, a certain level of correlation could be made between households' compensation level and their habit of withdrawing money from savings. Group 1 (1A and 1B) and group 2 (2A and 2B) which received compensation over 1 billion, do have a higher tendency to withdraw money than the other groups with low overall compensation.

5. Discussion on Households' Livelihood Satisfaction

5.1. Households' Satisfaction (Table 6)

As it has been observed so far, households are different even in their respective category therefore brand-naming households into one category cannot carry valuable research and social input. In this final step, our paper aims to establish tie in all the knots in this paper, from households' agricultural dependency, to their spending of compensation money and sourcing of income, and lastly to their satisfaction level based on livelihood indicators, including: housing condition, local recreational and cultural service, access to education, health service, traffic condition, environment and hygiene, and lastly public safety. The ranking for satisfaction is from 1 to 5, whereas 1 represents 'very unsatisfied', 5 is 'very satisfied', and 3 'neutral'.

Table 6: Households' Livelihood Satisfaction Ratings

	Group 1A	Group 2A	Group 3A	Group 4A	Group 1B	Group 2B	Group 3B	Group 4B
Income	3	2.35	2.89	2.19	3.14	2.00	3.14	2.90
Employment	3	2.46	2.85	2.36	3.14	2.33	3.19	2.10
Housing Condition	3.33	3.15	3.22	3.52	3.46	3.17	3.28	3.10
Local Recreational and Cultural Service	3.5	3.12	3.41	3.57	3.49	3.42	3.44	2.90
Access to Education	3.67	3.19	3.52	3.57	3.63	3.25	3.44	3.10
Health Service	3.67	3.27	3.48	3.57	3.63	3.25	3.44	3.10
Traffic Condition	3.83	3.15	3.41	3.55	3.49	2.92	3.44	2.90
Environment/ Hygiene	3.83	3.19	3.48	3.38	3.54	2.92	3.44	3.10
Public Safety	3.83	3.27	3.37	3.57	3.71	3.00	3.42	3.10

***Satisfaction Ratings** 1 – Very Unsatisfied 2 - Unsatisfied 3 - Neutral

4 - Satisfied 5 – Very Satisfied

The two indicators of 'Income' and 'Employment' receive in general lower ratings than the rest of the indicators. For these two ratings, the trend in both category A and B share the similarity in that 1A and 1B represent in general the most satisfied group with no response under 3, on average. Satisfaction ratings for 3A and 3B follow in second place, with 3A slightly below the 'Neutral' point. Group 2 (2A and 2B) and 4 (4A and 4B) are the worse-offs with ratings closer to the 'Unsatisfied' benchmark, except for the 'Income' indicator in group 4B averaging closer to 'Neutral'.

The remaining indicators, measuring the condition of living at the new place of residence, achieved quite favorable results. This could be interpreted that the relocation aspect in regard to location, infrastructure, and public service meets the expectation of households. As for ranking on the level of satisfaction in our groups, only 2A, 2B, and 4B are ratings their levels of satisfaction for these indicators slightly lower or slightly higher than the 'Neutral' point, implying that their satisfaction is not as high as the remaining households.

5.2. Discussion

5.2.1. The Better-offs?

Group 1 (1A and 1B), comprised of households who received compensation of 1 billion VND or more and assess their income level similar as or higher than before land acquisition, are the better-off groups within our categories. Their satisfaction levels according to their respective categories of A and B are the highest. The only question remained is that why 1A's livelihood is more difficult than before, while 1B's households managed to retain or even improve their livelihood and earning condition.

1A is the outliers in our study, and as mentioned before, such group may be subjected to problems in survey studies of incorrect reporting. Despite the small number (10 households), which may restrict our deduction, it could be inferred that 1A is the more passive group in transition. Reflecting on the strategies adopted, the spending of their compensation money was somewhat reluctant. Aside from investment in house and land, no household in 1A did invest in long term schemes such as job training and education, or business and production. Instead, their spending were spread more toward improving the housing condition, repay debt, and put into savings for the future. Change in living expenditure, accompanied by the insufficiency in income, is the likely cause for their discontent. Withdrawal from savings remains the only supplementary options for income for these households.

In contrast, 1B is more diversified and active in their investment and earning sources. The rising number of households expressing wish to work in agriculture is presumed to be for expanding their business and households' input to include agriculture rather than to revert back to depend on agriculture for income.

5.2.2. The Stack versus the Flow

The relative importance in determining livelihood condition between households that received more compensation (the 'Stack' – 2A and 2B) and households that can maintain or improved income (the 'Flow' – 3A and 3B) is extremely relevant in our study in order to create a better understanding of households' economics and formulate adequate policy in the future.

From our analysis so far, the 'Flow' groups are the clear winner with higher level of satisfaction in general. 3A and 3B on average relied much less from agriculture before land acquisition which makes their transition to urban employment and earning easier as opposed to the strong agricultural dependency of 2A and 2B. After land acquisition, again 3A and 3B also rely strongly on 'Salary' as sources of income, as opposed to the 'Stack' groups, sourcing their earning more from business and savings, and being keener on working again in agriculture.

The next question again is the differences between the groups between category A (more difficult livelihood) and B (same or improved livelihood) for the Stack and the Flow. First of all for 2A and 2B, it appears that background economic condition influences transition outcome. From our background households' information, there are likely outliers in 2B; being the richest group of households in our study with income averaging 5 million VND before land acquisition and 10 million VND after land acquisition. From the average alone, it is possible to group them into 1B. However our study based the assessment on the households' assumption (explained in methodology section) thus there are possibilities of misreport from 2B's households.

As for group 3, it is rather the livelihood perspective and expectation that matter. Substantial increase in income was noted for group 3B as opposed to group 3A. Satisfaction levels for livelihood indicators of 'Income' and 'Employment' were also higher for group 3B than 3A. It could thus be concluded that group 3A is reporting a 'more difficult' livelihood possibly due to jobs and income dissatisfaction.

5.2.3. The worse-offs?

Group 4 (4A and 4B) are deemed as the 'worse-offs' due to low compensation level as well as lower income than before. Given the conditions, there should have been no households in 4B, thus they are more likely outliers in our research. What then is the difference between 4A and 4B? According to the satisfaction levels, the results appear strange in 4A with high level of satisfaction in most indicators except income and employment. This is possibly due to a large improvement in residential condition before and after land acquisition which generates satisfaction on the living environment level but not livelihood as a whole. As for 4B, misreporting was more likely the reason, otherwise households' behavior such as their state of livelihood content regardless of change could also be an explanation.

6. Conclusion

In short, households are different from one another and it is important to understand them from as many perspectives as possible. Our study only represents one of these perspectives.

From our analysis so far, agricultural dependency is important in the understanding of the level of difficulty in livelihood transition between households. Through the comparison of the 'Stack' (2A and 2B) and the 'Flow' (3A and 3B), it is concluded that the 'Flow' of capital (income and employment) is relatively more important for livelihood satisfaction than the 'Stack' of capital that households received in compensation. It is estimated that outliers exist in group 1A, 2B, and 4B, observed through the small number of households in these groups, as well as the unfitting conditions and answers as compared in their respective cohort.

To understand the not-so-obvious different between certain groups with outliers, aside from misreport being one of the causes, the analysis was based on households' economic behavior, though this is merely an estimated assumption based on respective households' livelihood strategies.

References

[1] De Haan, L & Zoomers, A (2005), "Exploring the Frontier of Livelihoods Research", *Development and Change*, No.1(36).

[2] Kawashima Hiroyuki & Vu Minh Hoang (2015), "Pattern of Suburbanization in Ho Chi Minh City and the Livelihood Transition of Suburban Farmers", *Vietnam Social Sciences*, No.5(169).