

Evaluate Landless Farmers' Life Satisfaction under  
the Compensation System for Land Acquisition:  
a case study of suburban Nanjing, China

by

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## **AUTHOR'S DECLARATION**

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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## Abstract

The aim of the research is to add some understanding to the levels, features, and determinants of landless farmers' life satisfaction after compensation and resettlement for land acquisition. First, it examines what are the influencing factors on landless farmers' life satisfaction under a series of compensation policies. Next, it investigates the life satisfaction level of resettled farmers in two urbanized towns of Nanjing, Jiangsu Province in China. Finally, it figures out the cogent statistical relationships between a set of influencing factors and the surveyed satisfaction level.

Survey questionnaire and statistical analysis are employed in this research. The study relates the overall life satisfaction of landless farmers to their subjective satisfaction with three dimensions of life quality, which are 1) material living conditions, 2) social security and employment support, and, 3) attitudinal perceptions, social relationships and participation. Survey data of 98 households from two urbanized towns of Nanjing were collected in March and May of 2016. Data were analyzed using descriptive statistical and logistic regression analysis with EXCEL and SPSS.

The results indicate that landless farmers still encounter various challenges in their urban lives, especially in the absence of institutionalized employment support and sufficiently established social security. Despite several policy reforms of the compensation system, resettled farmers can enjoy better material living conditions; however, they still suffer interior forms of dissatisfaction from social and attitudinal perspectives.

Further, the research stretches its discussion on the practicability and sustainability of the land compensation reforms according to the evaluation of landless farmers' satisfaction level. The key implications to promoting landless farmers' life satisfaction in the process of urbanization are to establish integrated compensation policies and regulations, which can protect landless farmers' ability of maintaining favorable material living conditions, improve their access to social security and non-agricultural employment opportunity, as well as concern about their psychological process of adaptation, perceptions of community, and channel of participation.

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# Chapter 1 Introduction

## Research background: urbanization, rural land acquisition and landless farmers

Contemporary urban China has been remarked by its rushing expansion of urban areas. Under the era of economic transition in the past three decades, rapid industrialization and urbanization in China has required an enormous demand for urban construction land, and has presented a great challenge of the balance between increased urban built-up land and decreased rural arable and housing land, whereby rural land areas are facing a paradox of allocation in non-agricultural uses and agricultural uses (Shui, 2014; Xu, Qu, & Guo, 2007). On a national scale, the urbanization rate was 17.9% in 1978 (Liang & Zhu, 2015); was 36% in 2000, increased to 46.6% in 2009 (Zhang, 2010); and was up to 54% by the end of 2013 (Chinese Academy of Social Sciences, 2014). On the one hand, the total rural population decreased at an average annual rate of 4.35 million (Chinese National Bureau of Statistics, 2013). On the other hand, excessive rural arable and housing land have been incessantly converted into urban development uses through intensive land acquisition, bringing about a huge population of landless farmers.

China's rapid urban expansion is a comprehensive outcome of extensive economic activities and growing population to urban periphery, government planning for new development projects in urban fringe areas, and a joint force of profit seeking by multiple actors in the development process (Han, 2010). It is highlighted that local government plays a leading role in the coalition of China's economic growth and urban expansion (Deng & Huang, 2004; Qian, 2007). From a top-down government planning perspective, the urban-rural connecting model has been adopted to facilitate urban-rural comprehensive development (Shui, 2014), by expropriating rural arable and housing land to guarantee urban development uses, while reclaiming equivalent brownfield or greenfield to still maintain a very certain amount of arable land areas without severely lowering the fertile quality and agricultural productivity. Hence, limited land resources can be disposed and utilized in a more balancing, effective and sustainable way.



From a sociology and humanity planning perspective, however, rapid urbanization has given rise to a large population of landless farmers who are forced to relinquish their land rights and to be resettled to urbanized communities. Landless farmers refer to rural peasants<sup>1</sup> who passively (in most cases) lose all or part of their land as well as land related rights (land use right and collective land ownership) because of rapid urbanization across the country (Han, Bao, & Peng, 2017). Such a population was reported of 50 million by 2008, and was predicted to reach a number of 100 million by the end of 2020 (Bao, 2008). Surprisingly, the group has been drastically rising beyond the census prediction. Ma and Hu (2014) announced that China had around 127 million of landless farmers by 2014, at an increasing rate of 2 million per year. Unfortunately, landless farmers, who made the greatest sacrifice and devotion to facilitating urbanization, are not necessary to be the major beneficiaries from rural land acquisition. Moreover, the group has been reported to be seriously under-compensated after land acquisition and be discriminated against by urban institutions (Tang et al., 2016).

Rural land acquisition, mainly including expropriation of agricultural land and housing land, has been seen to be an enormous threat to the land rights owned by rural peasants and their life quality under the nationwide urbanized land development. A case study revealed that the county and town government used to grab a rather large, if not the largest proportion of revenue from land transaction (Guo, 2001), although the statement could be modified in today's circumstance after several policy reforms of land acquisition system. Nonetheless, according to statistics from *China Social Situation Analysis and Prediction 2011*<sup>2</sup>, massive disputes and conflicts involving farmers and relating to compensation and resettlement have been still primarily caused by the current land acquisition system over the past ten years (Hu et al., 2014).

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<sup>1</sup> Farmer and peasant are interchangeable terms in many Chinese studies, though some international papers distinguished the two terms by the difference in terms of land ownership.

<sup>2</sup> Chinese Academy of Social Sciences (2012): It was announced that 73% of disputes involving farmers was related to land, with disputes relating to land acquisition accounted for 40%, of which 87% involved compensation for land acquisition.

The immature land compensation policies in the early 2000s were often criticized for the low compensation standard, single compensation approach, and awful implementation performance. Under such a compensation system, farmers' land rights and interests were often insufficiently protected, and their life quality after compensation and resettlement were hardly enhanced or even maintained, which lead to a sense of disfranchisement among the group (Qian, 2015), and thereby, disputes and conflicts between landless farmers and local government. Many resettled farmers have to face numerous difficulties in their urban lives and find themselves at a disadvantaged position in the urban society; and consequently, rural peasants could resist land acquisition and the conversion to urban residence (Tang et al., 2016). Thus, evolving land compensation policies has been a matter of emergency for the national government in recent years. To facilitate the races of urbanization, and in the meantime, to assuage social contradictions, the state began to put increasingly close attention on improving the compensation approach and standard for landless farmers, which should be determined based on two principles and guidelines (Zhou et al., 2014), namely the first, to maintain landless farmers' previous life quality, and the second, to ensure their long-term life sustainability.

Land acquisition is central to China's rapid urbanization, and the following compensation and resettlement for affected farmers should be the predominant concern to the operation of land acquisition system. Land is a most fundamental and reliable means of livelihood that can provide a basic source of income and realize necessary food self-supply for rural peasants. Farmers' daily activities, knowledge of the profession, and anticipated living security are all tightly connected to their land parcels and the protected land rights. Once being deprived of the security adhered to their land use rights and collective ownership, landless farmers encounter not only financial difficulties in daily living activities, but also disadvantages, and even marginalization in respect of non-agricultural employment market as well as urban social security system.

Research (Hui, Bao, & Zhang, 2013; Wang, 2008; Zhu, 2014) claimed that farmers could hardly seek for suitable and decent jobs as well as adapt to the urban lifestyle and living

environment. Moreover, they without farmland are barely able to maintain a basic living standard. Due to incompleteness of the social security system, farmers without land may lose security of life to a great extent, and incur a quantity of social risks in respect of pension, health-care, low-income and unemployment (Ma & Hu, 2014). Though many of them have received urban ‘*hukou*’ and been resettled in urbanized communities, landless farmers are not assured of the same social rights and welfare benefits as urban citizens enjoy (Hui et al., 2013). They have been considered as a vulnerable group that fails to be entitled to the same rights like urban residents, with the dilemma of living in cities but being marginalized by the identity of rural peasants (Liang & Zhu, 2015).

Given the contradiction between limited land resources and huge, greedy demand for urban development land, rural land acquisition is an inevitable process to speed up nationwide urbanization. As a matter of fact, the population of landless farmers has been and will be continuously growing; and more importantly, the land compensation system has to keep evolving, for its significant role to reconstruct and enhance landless farmers’ life quality after relinquishing the land rights that they rely heavily on. Additionally, in the decision-making process of land acquisition, which is entangled with multiple driving forces (Ding, 2007; Han, 2010; Lin & Ho, 2005; Qian, 2015), landless farmers are usually treated as a weak group consisting of passive participants, most of whom have no choice but obey to local authorities and accept final decisions. As the compensation system evolved over the past few years, the group has been gradually open to various choices of compensation approach. Considering the recent improvement in monetary compensation standard and social insurance system, the disadvantaged situation of new landless farmers could be resolved to a certain extent (Tang et al., 2016).

## Societal and academic significance of landless farmers' life satisfaction

Plenty of publications (He et al., 2009; Koroso et al., 2013; Ma & Hu, 2014) contend that insufficient and inappropriate land compensation package would lead to risks of poverty, unemployment, inequality, insecurity, and instability towards the group of landless farmers. Moreover, landless peasants, who have been passively resettled in urbanized communities, are usually deemed as outsiders to the mainstream urban society, whereby outsiders are likely to be prejudged and rejected by original members (Zheng, 2000). Due to historical reasons and the rural-urban dualistic structure<sup>3</sup>, the term 'urban' is regarded superior, often with more welfare privileges, in contrast with whatever relates to the term 'rural' (Hui, Bao, & Zhang, 2013). Some urban citizens may voluntarily quarantine themselves from rural peasants, and thereby exclude the outsiders from a certain number of socioeconomic activities in an either conscious or unconscious way. The repulsion of local urban citizens and the sense of inferiority can further undermine the sense of belonging, self-recognition, and life happiness among landless farmers (Hui et al., 2013). Moreover, the phenomenon can also threaten their performances and motivations in labour market, weaken their participation in social activities (may also reduce other life chances), augment their discontent to relevant compensation policies, and thereby severely lower their life satisfaction<sup>4</sup> in the urban society.

Promoting landless farmers' life quality and well-being as well as maintaining social stability and cohesion are some of the leading goals to the compensation system. Given the compensation system plays such a vital role to support landless farmers' life well-being, their satisfaction level with compensation policies and with their quality of life after land acquisition can strongly reflect each other. Responsively, the state has introduced a series of beneficial policies that intend to protect landless farmers' valid rights and interests.

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<sup>3</sup> Deng & Huang, 2004: A dualistic structure is used to divide the urban and rural welfare system (such as housing, education, hospital, employment and insurance benefits) according to the '*hukou*' system which classifies one's born registration status and defines individual's socioeconomic status.

<sup>4</sup> Bohnke, 2005: Life satisfaction refers to the satisfaction level with various life quality dimensions.

However, from a perspective of policy implementation, the intention to promote resettled farmers' life well-being has not been explicitly demonstrated (Hu et al., 2014). Whether landless farmers consider the policy reforms effective, and how they evaluate their life quality and well-being after land acquisition, remain to be seen and investigated, which leave some space for the further research.

Studying the evaluation of landless farmers' satisfaction level is of substantial importance. They as targeted beneficiaries of compensation policies can provide intuitional, personal experiences for decision-makers who seldom get involved in the land compensation system. From a perspective of social justice, they as a vulnerable group are supposed to have the rights and channels to report their satisfaction level, in terms of utility<sup>5</sup>, applicability, and implementation performance of a policy. From a perspective of economic viability, to what extent they feel satisfied with a certain compensation policy should be taken into account when determining whether such a policy is effective and sustainable to come into force, for reconciling potential conflicts between farmers and local government, as well as insuring urban development. Hence, research on resettled farmers' life satisfaction can present solid evidence and guidance that contribute to policy implications.

Insufficient and amorphous studies on the levels, features, and determinants of landless farmers' life satisfaction in the urban society can be one of the reasons that hinder the societal and academic development of land compensation system. Research in the above aspects can build a convincing, trustworthy, and professional platform that allows local government to reach those "hard to reach". Firstly, it promotes understanding and consideration from the top-down planning perspective. Secondly, it offers a narrow but accessible channel of expression for the landless farmers who believe they have been unfairly treated as a disadvantaged group. Thirdly, it helps local government to facilitate the national strategy of urbanization with doing less harm to farmers' valid rights and interests. Therefore, planning professionals should take the responsibility to convey public voices to local government and academic institutions.

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<sup>5</sup> In economics, utility is the satisfaction or benefit derived by consuming a product (good or service).

In conclusion, the research on life satisfaction of landless farmers under the evolving compensation system represents both societal and academic significance. It can provide local government with better understanding in the real demands and opinions of landless farmers, rebuild their trust and confidence to the government behaviour of land acquisition, improve the applicability and sustainability of compensation policies, and facilitate the urban-rural interconnecting development.

## Theoretical framework: Subjective well-being theory and satisfaction with life quality

Subjective well-being theory is at the center of life quality research, as a conceptual framework that combines as many different aspects of life well-being as possible (Bohnke, 2005). With modern social progress moving on, life well-being is no longer a concept interpreted and measured only in respect to quantitative growth of either collective or individual material living conditions, instead, qualitative aspects being added into the analysis of overall well-being (Bohnke, 2005). According to the subjective well-being theory, quality of life is defined in the course of several value-based societal pursuits prevalent in most western countries, for example, the equal distribution of life chances, the guarantee of a minimum standard of living, open access to employment, and protection from the social security system (Bohnke, 2005).

Life quality by definition refers to the overall well-being of individuals in a multi-dimensional sense (Bellani & Ambrosio, 2011), in respect to not only material conditions, but also social relationships and participation, subjective satisfaction assessment, and psychological phenomena (Bohnke, 2005; Diener, 2000). As was proposed by Allardt (1993), the quality of life is all understood about “Having, Loving and Being”, which is related to material living conditions regarding any aspect of a basic living standard and environmental settings (Having), social relationship networks for interactions and emotional support (Loving), a sense of belonging and recognition as well as chances of participation in integrating into the society (Being).

Life quality research builds an all-encompassing conceptual framework based on subjective well-being theory, of which at the center is the linkage between objective living conditions and subjective evaluations from the respondents themselves, usually measured by survey questions with a satisfaction scale (Bohnke, 2005; Bellani & Ambrosio, 2011). The model of conceptualization has been developed from two merged research perspectives: the standard of living approach and the social psychology tradition upon subjective indicators (Bohnke, 2005; Eriksen, 1993; Veenhoven, 2002). Abundant studies

within and across countries have been focused on the relationships between individual well-being and life satisfaction during the past decades (Bellani & Ambrosio, 2011). Moreover, insights of satisfaction level with life quality and the corresponding influencing factors have caused constantly discussions under subjective well-being theory (Bellani & Ambrosio, 2011). Beyond previous research that has been mostly focused on the material dimension of life quality, subjective well-being theory confirms that other influencing factors with reference to social interactions and individual psychological traits (such as attitudes, perceptions) are intrinsically major contributors to one's satisfaction level with life quality (Bohnke, 2005; Bellani & Ambrosio, 2011; Diener, 2000).

The multi-dimensional conceptual framework of life quality should conceive a multi-dimensional approach to the analysis of life satisfaction. Key dimensions of life satisfaction measurement do not matter only satisfaction with material living conditions, but also with social attributes. To be specific, material living conditions generally refer to average income level, basic consuming ability of goods and services, housing conditions, and living environment; while social attributes include access to education, access to employment, work status, access to health-care, attitudes and perceptions of life, social relationships, and participation in social interactions (Allardt, 1993; Bohnke, 2005; Bellani & Ambrosio, 2011; Dolan, Peasgood, & White, 2008).

In this research, survey questions need to be designed corresponding to the real situation of China's landless farmers, as well as be phrased clearly with reference to their common interests. In the context of urbanized rural China, landless farmers would be likely to reach a high level of life satisfaction if they were assured with stable employment, affordable housing, sufficient social insurance, and free participation in social interactions (Hui, Bao, & Zhang, 2013). The foregoing criteria contain applicable indicators to evaluate quality of life among landless farmers. Therefore, combining subjective well-being theory with landless farmers' situation in reality, I conceive three dimensions of the analytical framework to life satisfaction measurement, which are: 1) material living conditions, 2) social security and employment support, and, 3) attitudinal perceptions, social relationships



and participation. The analytical framework defines a variety of influencing factors corresponding to the three life dimensions. Then, based on the theoretical model (Figure 1), I design a set of model variables that can represent and quantify these influencing factors, and employ them in the logistic regression analysis.

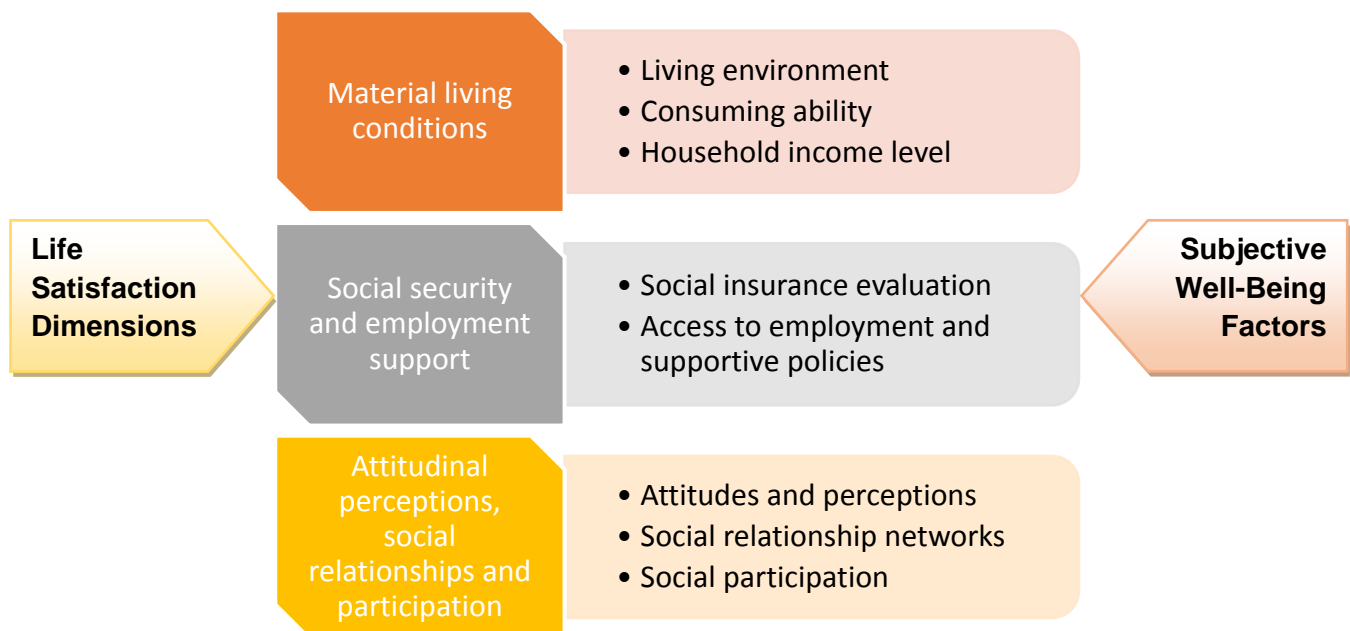


Figure 1: Three dimensions of life satisfaction and influencing factors of subjective well-being.

## Research gaps

A number of scholars (Liu, He, & Wu, 2008; Tang et al., 2016; Wu & Wu, 2009) asserted that landless farmers' social welfare and life quality could be compromised and even deteriorated under the current compensation system, which caused a high level of dissatisfaction among the enormous and still growing population. The previous research that evaluate farmers' satisfaction level was mostly focused on rural peasants' losses and gains in terms of economic well-being associated with land compensation policies.

However, in what non-material aspects their lives have been damaged, to what extent do they feel dissatisfied, and how the compensation system can promote their life well-being in urban society, remain to be initially investigated.

A quantity of previous studies on relevant subjects were conducted based on social mentality surveys (Duan & Chen, 2009; Luo & Fan, 2008; Zhou & Zhang, 2007). Yet an increasing number of publications (Chen et al., 2013; Hu et al., 2014; Shui et al., 2014; Zhou et al., 2013) attempted to probe into the levels and determinants of landless farmers' satisfaction with life quality through more detailed and targeted inquiries. In addition, many research projects were carried out on a regional, provincial, or municipal scale instead of a county or township scale. Nonetheless, studies on a township scale usually collect more detailed survey data that can provide more insights of individual farmers' experiences and self-reported evaluations. Hence, this study intends to settle the study area at two urbanized small towns in Nanjing, and adopt the tool of structured survey for the first-hand data collection.

Scholars suggested that farmers' satisfaction level be influenced by a plenty of factors, whereby low satisfaction is likely to result from negative features such as lagging rural economic development, a lack of employment opportunities, and poor infrastructure services (Li & Zhai, 2010; Zhou & Zhang, 2007; Shui et al., 2014). However, relatively few literatures employed subjective well-being theory to define and measure landless farmers' life satisfaction under various compensation policies. Meanwhile, logistic regression model has been widely used in spatial analysis to examine the multiple

influencing mechanisms (O'Connell, 2006), yet it is rarely used for satisfaction level assessment in terms of landless farmers' life quality (Shui et al., 2014).

This study will conduct an empirical analysis and provide evidence based on the first-hand data from survey samples at towns "Tiexinqiao" and "Longtan" of Nanjing municipality in 2016. To the best of the author's knowledge, life satisfaction of landless farmers at small towns of Nanjing municipality has been barely investigated and measured under the evaluative framework of subjective well-being theory among existing studies. Thus, this research tries to explore and fill the above gaps.

## Study purpose and research questions

Given the enormous and still growing population of landless farmers, satisfaction level assessment can help local government to better understand and concern about their real needs and opinions in both material and non-material life dimensions, strengthen farmers' trust and acceptance in implementation of compensation policies, which can improve the practicability and coordination to the urban-rural connecting development. Accordingly, this study aims to develop its methodology, analysis and discussions regarding landless farmers' satisfaction with their life quality and a sequence of influencing factors derived from the framework of subjective well-being theory, to add a complementary yet dynamic comprehension to the related field of research.

In order for the government to understand landless farmers' satisfaction level under the land compensation system, the following research questions should be proposed and addressed in a logical order. First, what are the influencing factors on landless farmer's satisfaction with life quality? The initial one will be explored by widely reviewing and summarizing existing literatures. Next, to what extent landless farmers feel satisfied or dissatisfied with the three life dimensions, which are 1) material living conditions, 2) social security and employment support, and, 3) attitudinal perceptions, social relationships and participation; as well as with various compensation policies (mainly include monetary

compensation, resettlement, and social insurance involvement). The second question can be resolved using descriptive statistical analysis with a set of survey data. Further, the research can respond to the third question: how the identified influencing factors relate to the surveyed satisfaction level of landless farmers. The third question will be demonstrated by examining and measuring the significance level and weight coefficient of each variable in the logistic regression analysis.

The above research questions aim to ensure that the land compensation system can take targeted measures with reference to the main factors of enhancing landless farmers' life satisfaction and well-being. Subsequently, it may somehow contribute to the idea of in what aspects local government should work on to amend relevant compensation policies. Accordingly, the thesis may contribute an essential expansion to the relevant field of research on land compensation and landless farmers.

## Thesis structure

This thesis is organized in five chapters. It starts with a review of recent literatures regarding the broad research topic. Then it moves to a review of theoretical framework derived from subjective well-being theory. In addition, it explains the societal as well as academic significance of the research topic. Finally, it narrows down to propose the research questions after detecting the research gaps.

In Chapter 2, I introduce the core theory of subjective well-being and its relevance in terms of scientific, political and socioeconomic development; and within this framework, establish a variety of influencing factors that determine landless farmers' subjective satisfaction with life quality. Next, I summarize prevalent critiques on the regulations of land compensation system in different time periods, and then review the main causes of landless farmers' dissatisfaction that often ignite land-related conflicts. Additionally, I present an overview of the policy reforms of land compensation system.

In Chapter 3, I develop an analytical model that employs a set of variables that can indicate and quantify the influencing factors. Then, I introduce two major recent policy reforms in Nanjing municipality, background of the study area, methods of data collection, and approach of quantitative analysis. In Chapter 4, I provide key findings generated from descriptive statistical and logistic regression analysis of the survey data samples. After presenting results come the sections of discussion and conclusion (Chapter 5), where I recap the key findings, discuss policy implications, and provide underlying constraints and suggestions for the improvement of future research.

## Chapter 2 Literature review

### Scientific, political, and socioeconomic relevance of subjective well-being

Subjective well-being is an approach to defining how good or happy people report their quality of life, and in alternative terms is labeled as “the science of happiness” (Diener, 2000). Hu et al. (2014) pointed out that subjective well-being could serve as an empirically adequate and valid evaluation for individually experienced welfare and happiness. The theory of subjective well-being closely relates to and emphasizes on people’s own evaluation that is cognitive, experiential, emotional, and attitudinal (Diener, 2000). Inglehart (1990) believed that people’s subjective well-being would become increasingly valuable after fulfilling their basic material needs. Thus, in developing societies, people are likely to grant subjective well-being with rising importance, along with the booming material richness throughout the world.

Recent measurement of subjective well-being contains multiple components, whereby life satisfaction (overall judgement) and satisfaction with important domains of life are two of the major components indicating subjective well-being (Diener, 1994; Diener, 2000; Diener et al., 2003). Self-reported satisfaction with life scale is a prevalent tool of analysis, with rather strong psychometric properties, which has adequate reliability, factor invariance, and sensitivity to measurement of subjective well-being (Diener et al., 1985; Diener, 1994; Pavot & Diener, 1993). Economic, social, and cultural factors can influence subjective well-being in several aspects. Societies that can better meet people’s basic needs, such as foods and drinks, living conditions, and health-care, show evidence of higher levels of subjective well-being; moreover, cultural features mainly affect people’s attitudes and perceptions of well-being values from psychologists’ perspective (Diener, 2000). In particular, economic situations can largely determine long-term satisfaction levels, while social and cultural variables explain most floating variances in different levels of subjective well-being (Diener et al., 2003).

Arguments against the inclusion of subjective indicators into policy decision-making system have been existing for long, which assert that subjective assessment is irrational and only specific to individual judgements where the criteria fail to be transparent, generally applicable and comparable, or to be precise and validated (Bohnke, 2005). Diener (2000) articulated that measurement of subjective well-being could be possibly contaminated by prejudices, biases, temporary moods, and other situational factors. Veenhoven (2002) pointed out that policy instruments should not take account of some situation-based preferential opinions, which could simply reflect media-driving values, current moods, or personal sensitivities. Nevertheless, Bohnke (2005) highlighted the informative and analytical value of subjective well-being theory, which means to bring the spotlight on an evaluative indicator of life quality open to individuals' genuine satisfaction level with their living conditions, preferences, anticipations and adaptations. For relevant policy makers, an overview of what is likely to improve life quality and what determines the self-reported satisfaction level of a targeted group can be provided based on the framework of subjective well-being theory. Hence, policy makers should not hesitate to use subjective well-being theory and life satisfaction measurement as a monitoring tool for public interest and welfare within the decision-making system.

Moreover, from a perspective of social stability and cohesion, insights of opinions and feelings towards the performance of policy implementation and subjective well-being of the vulnerable groups significantly help identify potential conflicts and prevent extreme harms from such conflicts (Bohnke, 2005). In this course, life satisfaction measurement can basically serve to provide some evidence of how people evaluate their life quality, what life aspects they are satisfied and dissatisfied with, what they really need and request through policy mechanisms, and what they highly value to their life well-being (Bohnke, 2005). These objectives explain why academic planners should be aware of people's life satisfaction under subjective well-being theory.

Additionally, subjective well-being can be influenced by economic activities in a long run, including objectives to facilitate employment rate or enhance social capital accumulation

(Bohnke, 2005). Subjective well-being contains interdependent preferences of individuals, which means preferences that depend on their relative situations in the society. In the income distribution literature, as a consequence of relative standings, one's subjective well-being considers income as a comparable indicator with respect to one's relative rank of income, overall average income, and sum of income gaps between the rich and the poor in the society (Bellani & Ambrosio, 2011). Hence, macroeconomic conditions make a great impact on people's satisfaction with as well as their expectations of life quality (Li & Raine, 2014). In this dimension, many of the factors to enhance satisfaction level are far beyond individual efforts, which largely depend on regional socioeconomic development manipulated by policy interventions, such as to improve a minimum standard of income and build better employment environment.

In summary, subjective well-being theory mainly concerns about people's self-reported satisfaction with multiple life dimensions, particularly stressing such terms like pleasures, attitudes, preferences, and perceptions (Bohnke, 2005; Diener, 1994; Diener et al., 2003). The theoretical framework integrates an informative picture of life quality research by the combination of objective living conditions and subjective evaluations that are usually measured with a satisfaction scale. Life satisfaction measurement, as an informative tool of analysis, should attract intensive attention from perspectives of scientific, political and socioeconomic implications. Indicators of satisfaction assessment can deliver significant and apprehensive information of end users' evaluation on specific policy products to whom make decisions. Identifying end users with low satisfaction level to a certain extent can illuminate the direction and the area to which policy makers or institutions should move on. In this research, landless farmers are deemed as end users and land compensation package they received as policy products.



## Critiques on land compensation policies

In accordance with legislation, “Land Management Law” introduced in 1986 set the fundamental rules of determining land compensation standard, which articulated that compensation fees would include farmland compensation, resettlement subsidy and compensation for young crops (attachments) on the acquired land. This document ruled the compensation system for next thirty years, with several amendments and reforms in respect of the compensation standard and approach. The early compensation standard stipulated as follows: farmland compensation should be six to ten times of the average annual output value within the preceding three years; resettlement subsidy of each labour force in a household is four to six times as much as the average annual output value within the preceding three years; and ground attachments are compensated according to any specific situation determined by local government. Then, the 2004 law amendment has raised the compensation standard subject to a maximum of thirty times of the average annual output value within the preceding three years. A noted problem about the prescribed multipliers of the compensation standard is the unknown criteria of what constitute and distinguish the gaps between multipliers, and the vague flexibility can possibly lead to corruption and grievance to affected farmers (Chan, 2006). In particular, rural land value was determined by policy price instead of market price. Land compensation standard is not set based on market value of rural land, which means landless farmers would not share the huge differential rent via market mechanisms brought by the non-agricultural development after land acquisition (Ma & Hu, 2014; Zhao, 2009).

Over the past few decades, the question of how the land compensation system should be further improved, in terms of its approach and standard, has left a vacuum of extensive debate. Different scholars have contributed to the idea of structuring a more integrated, fairer compensation model based on the current compensation ranges and guidelines according to different theories. Some researchers argued that outrageously narrow compensation ranges and irrational compensation guidelines mostly caused social and ecological problems in current land acquisition practice (Zhang & Ran, 2011). Zhu (2002)

and Song (2014) elaborated the conveyance of land property rights<sup>6</sup> incurred in the process of land acquisition and the rationale of improving compensation standard by estimating the values of different land property rights. Zhou (2007) proposed that the compensation ranges should include the values adhered to various land rights, such as the development right of agricultural land, the right of food safety and ecological security, and the right of living security from agricultural production.

In terms of contemporary economic theories, arable land to farmers can supply not only material goods through its productive function, but also public goods and services such as ecological environment, long-term social security and food safety (Hu et al., 2014; Zhang & Ran, 2011). Both direct use-value and indirect use-value should be involved in the ranges of compensation according to the multifunction of land assets (Zhu & Qu, 2003). On contrary to the international common practice that advocates compensating for both direct and indirect losses of land value, China's current regulations on compensation take only direct economic losses into account (Ma & Hu, 2014; Zhang & Ran, 2011). Thus, rural land values should be quantified in a different way from involving barely tangible economic value, whereas intangible value of being the carrier of agricultural ecosystem, life security support (such as security of employment and living stabilization), and country culture as well as lifestyle should be all taken into consideration (Zhang & Ran, 2011). In contrast with the modern theory of value composition, the compensation system put only a spotlight on the limited production value of acquired land (not market trading value), with little concern to the value of social security, and left a vacancy of compensation for the environmental ecosystem (Kong, 2015; Zhang & Ran, 2011).

Land assets can sustain several social functions to assure farmers' life security. Scholars (Ma & Hu, 2014; Liang & Zhu, 2015) contended that the establishment of a complete social security system for landless farmers could resolve their anxieties from the root and reduce their discontents over land acquisition. During the transition from rural to urban

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<sup>6</sup> Zhu, 2002: Property rights consist of the right to possess, use, obtain benefit from and dispose of an asset, and the right to transfer the rights to others at a mutually agreed price.

society, landless farmers need to regain life security from relevant compensation policies. Unlike direct monetary compensation, social security is not the one-paid compensation approach. Though social insurance fund is partly provided by the compensation<sup>7</sup> package, landless farmers still have to pay a certain amount of fees for full admission into the social security system. However, after subtracting the payment for purchasing urban social insurance, the remaining compensation fees by no means allow them to sustain their long-term livelihood (Hui, Bao, & Zhang, 2013).

Additionally, most of them were only able to purchase the lowest standard of (endowment) insurance, which was far from enough to maintain or improve the economic conditions of these landless peasants (Hui, Bao, & Zhang, 2013; Zhou et al., 2014). Once they become unemployed, without a sustainable source of income, landless farmers have to rely totally on the government-led welfare system. Nevertheless, they are often excluded from full access to urban welfare benefits because of the low insurance standard as well as the unfamiliarity with rules and regulations of urban resources (Hui et al., 2013). Moreover, the group could be stigmatized by welfare organizations and other mainstream groups in the urban society, which aggravate their sense of inferiority and disfranchisement, and consequently, abase their satisfaction level with life well-being. Accordingly, Ma and Hu (2014) proposed that a more integrated social security system could enhance landless farmers' ability of social risk management, and thereby increase their satisfaction with such compensation policies.

Since the state only established macro-scope principles and guidelines for compensation policy decision-making, researchers are devoted to embody the concept of quantifying compensation policies under a regional context. For instance, one divergence is whether landless farmers should receive land bonus from the additional value of non-agricultural land development (Ding, 2007). Besides, the argument is questioned that different

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<sup>7</sup> Hui, Bao, & Zhang (2013): Local government contributes 30% of the social security fund (extracted from the revenue generated from land transaction); the collective contributes 40% (extracted from the compensation obtained from land acquisition); and the remaining is contributed by landless peasants (extracted from their resettlement fees).

intentions of land acquisition according to public or non-public development should result in different compensation standard and approach for affected farmers (Chen et al., 2009). Yet Hu et al. (2014) argued that existing literatures on the measurement of compensation did lack a theoretical ground and a quantitative approach. However, many scholars have reached the consensus that landless farmers whose land rights are forcedly modified and deprived should receive fairer compensation package that could make up as much as possible for the value of their losses due to land acquisition, not only the direct economic interests merely based on the land productive function, but also to protect farmers' full land related rights and benefits involved in multiple non-productive functions, including food safety, social security, ecological utility, and long-term security of employment (Hu et al., 2014; Huo & Cai, 2004; Zhang & Ran, 2011).

Scholars criticized the premature compensation system not only for the relatively low compensation standard, but also for the ambiguous means of benefit distribution (Ma & Hu, 2014). From a business scope, two major behavioural entities, farmers and the government are entangled in the trade of land acquisition, whereas land acquisition is actually a compulsory behaviour manipulated by the government (Guo, 2001; Zhang & Ran, 2011). To be specific, under the era of land finance<sup>8</sup>, the government is both a trade entity and a referee of the trade. Thereby, potential conflicts could be rooted in the administrative power hierarchy between local government, rural collective and landless farmers (Cartier, 2001); and in the intention of government using compensation as a tool to control its cost of land trade (Lin & Ho, 2005; Tian & Ma, 2009; Zhang & Ran, 2011). In addition, the ambiguously-defined property rights over rural land could invade landless farmers' valid rights and interests from a perspective of legitimate basis in the land market (Song, 2014), by making it legally cheaper and more accessible to acquire rural land around urban outskirts than inner urban land.

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<sup>8</sup> Zhao & Webster, 2011: Land finance is regarded as a tool that local government used for collecting financial revenue by conveying land property rights in a legal and manipulative manner.

During the first decade of 21st century, one-paid monetary compensation was the main approach of land compensation. In recent years, to adapt to the increasingly complicated situations during land acquisition process, a series of new compensation approach have been introduced and put into trial use in certain advanced cities such as Nanjing and Hangzhou municipality, whereby a mixed compensation mechanism comes into being. However, assorted compensation means could make farmers confused when they realized what they received after land acquisition might be very different from what they had been guaranteed before land acquisition; or could be very different according to the year of land acquisition (because of policy modifications); and even could be very different among their neighbourhoods and relatives. Such cognitive ambiguities would inevitably lead to a decline in their confidence and trust towards local government (Ho, 2001; Tan et al., 2009; Tao et al., 2016), as the process of decision-making and implementation was usually non-transparent and confusing to most landless farmers.

The land compensation system in urbanized rural China has been still far from maturity, with many unresolved problems rooted in somewhat controversial compensation policies, albeit the boosted compensation standard (Liang & Zhu, 2015; He et al., 2009). Massive landless farmers have been inevitably trapped into poverty and insecurity in their urban lives after being deprived of a stable and secure livelihood (He et al., 2009). Beyond material living conditions, landless farmers have been struggling to address different needs as they attempt to integrate into the urban society (Chen et al, 2013; Zhou et al., 2013). Therefore, an increasing number of scholars start casting an exploratory focus on the practicability and sustainability of various land compensation policies in light of how landless farmers' life quality and well-being could be enhanced as well as how their life satisfaction level should be evaluated.

## Causes of farmers' dissatisfaction

Land-related conflicts in rural China are mostly caused and stimulated by rural peasants' dissatisfaction in respect of interest and benefit redistribution, and discrimination observed in that progress through the land compensation system (Guo, 2001; Liu, He & Wu, 2008; Zhang & Wang, 2010; Zhao, 2009). Landless farmers' life quality after land acquisition can experience tremendous changes, in terms of material living conditions, social security engagement, reemployment, social networks and lifestyle transition. If the compensation system fails to aid them in adapting to these changes while maintaining or enhancing their life quality, the group will naturally question its fairness as well as effectiveness, and breed dissatisfaction with their well-being from a subjective view. In other words, the rooted cause of their dissatisfaction should be credited to the fact that the low compensation standard cannot comfort and cover the huge losses experienced by landless farmers, and result in lowering their self-reported life quality (Liu, 2006).

The relatively low compensation standard can be generally ascribed to the vague statement of rural land property rights and the ambiguous transition of land rights during the process of acquisition (He et al., 2009; Kong, 2015; Zhao & Webster, 2011; Zhu, 2002). It is easy to understand landless farmers' dissatisfaction with a scrutiny of how their land property rights to be transferred legally or illegally from the rural collective at low cost to the local government for high-value urban land development (Lin & Ho, 2005). The ambiguous transition of rural land rights can ignore or invade farmers' rights and interests of sharing revenue from potential value of land development, and farmers are usually deprived of direct participation in the process of neither decision-making nor benefit distribution (Deng & Huang, 2004; He & Wu, 2007; Yep, 2013).

The national economic strategy ignited drastically growing demand for construction land, and land for urban development become a valuable economic asset with soaring market price, especially in coastal cities of the Eastern China. Since existing urban land was never enough for fervent land development and became more and more expensive, uncontrolled rural land conversion into non-agricultural uses came along with urban expansion. Land

development process is focused on two main components, namely the conversion of land use, and the transition of land use rights (Guo, 2001; Lin & Ho, 2005). As stakeholders of land use rights and collective ownership, farmers would receive only limited compensation for the loss of agricultural output, housing resettlement, the loss of land attachments, and/or additional labour subsidy (He et al., 2009; Hui & Bao, 2013). Local government, however, would receive enormous land revenue by acquiring rural land at rather low cost based on the legislative ground in light of public interest and a higher power hierarchy, and then releasing the acquired land to urban developers at much higher price (Guo, 2001; Ding, 2004; Song, 2014).

Research findings (Han, 2010; Hui, Bao & Zhang, 2013; Tao & Xu, 2007) showed that local government was likely to use land acquisition as an effective, dominant tool that can respond to economic and demographic changes, meet the growing demand for built-up land driven by economic competitions, enhance the advantages of attracting investors, and seek for revenue rewards during urban expansion. Although the state introduced farmland protection policies, which set a constraint on rural land conversion, the effect in practice has been unintentionally weakened by fierce competitions in economic development, low comparative advantage from agricultural economy, and ambiguities of rural land property rights (Cartier, 2001; Lichtenberg & Ding, 2008; Xu et al., 2007). Moreover, to facilitate urban development, local government may induce or force the participation of multiple actors in implementing the economic strategy of rural land conversion, by means of offering profit seeking opportunities and incentives, or, abusing their administrative power (Guo, 2001; Han, 2010). As a matter of fact, rural land property rights are divided into three parts held by three parties. Rural collective actually serves as a bridge between local government and landless peasants (Tao & Xu, 2007), which is an economic organization consisting of individual farmers, and was involved in the reallocation of a majority of farmland compensation and resettlement fees among landless farmers. In most cases, however, rural peasants used to be forced to join in the unfair game instead of active participants who seek for profits through land acquisition.

Accordingly, the transition of rural land rights is mostly an entangled and protracted procedure of negotiation and compromise between farmers, rural collective and local government, while landless peasants are always at the lowest bargaining status (Tian & Ma, 2009; Zhu, 2002). Studies (Koroso et al., 2013; Tian & Ma, 2009; Zhu, 2002) unveil that vaguely defined land property rights result in failure, unfairness and inefficiency to guarantee individual farmers' valid rights and benefits under higher administrative power. Zhao and Webster (2011) claimed that the amount of compensation fees should reflect the value of land rights conveyance. However, the unclear statement of land rights transfer brought arguments in identifying the compensation standard. Farmers' land related rights are ambiguously recognized as well as underrated (Zhu, 2002), which lead to their general dissatisfaction with acquisition and compensation policies.

In recent years, the state government did spend much effort on protecting landless farmers' valid rights and benefits, for reducing their resistance to land acquisition and enhancing their satisfaction level with compensation policies. Facing a complex composition of rural property rights in China, Zhao and Webster (2011) suggested that local government should adopt a variety of compensation approach to handle such complexity, including not only monetary compensation for the losses of farmland output and housing land, but also a share of the rising land value led by urban non-agricultural development. With advanced market economy, landless farmers are gradually realizing diverse interests in different compensation approach, such as employment alternatives, pooling of land as shares, and buying bonds by land rental. Accordingly, a mixed mechanism of compensation approach has been responsively introduced through a couple of national and regional policy reforms. Moreover, farmers gradually get involved in the process of benefit distribution through multiple choices of compensation approach. For example, Hangzhou municipality has adopted shareholding cooperative as a choice of compensation that can provide an opportunity for landless farmers to invest their monetary compensation into the town shareholding enterprises and receive annual bonus from the long-term investment (Qian, 2015). Nevertheless, Tang et al. (2016) argue that landless farmers have been still



submitted to various forms of quandaries in the urban society, which undermine their self-reported life satisfaction under a series of land compensation policies that need to be continuously evolving in the coming years.

In addition to insufficient compensation standard, low level of life satisfaction can be an inevitable consequence of long-term unemployment of many landless farmers, since stable employment can effectively address multiple dimensions of life quality, not only economic concern, but also social relationship networks and main access to full social insurance through formal employers. Moreover, long-term unemployment can lead to excessive dependence on government welfare system as well as self-exclusion from social activities and original relationship networks, with a shrinking social, psychological, and geographic ground for the satisfied livelihood (Silver, 1994). Long-term unemployment may thereby challenge personal identity (feel frustrated, dismay or humiliated), lower life quality of the entire family, and undermine cultural values such as work ethic and social responsibility (Silver, 1994). Accordingly, land compensation policies should stress more concerns on landless farmers' dissatisfaction caused by long-term unemployment, by offering more inclusive employment support from any institutional platform.

## Reforms of the land compensation system

The reforms of land compensation system have been constantly associated with the transformations of social structure, economic strategy, and political regime over the past decades. In the pre-reform era, China adopted the central planning political system to control economic activities and manipulate the development strategy of heavy industries, through the division of urban and rural residence registration system (*'hukou'*), and the centralized allocation of labour, social welfare system as well as geospatial migration. Rural peasants were arranged to engage in collective agricultural work under command of institutions, yet were excluded from access to guaranteed job positions and excessive subsidies (including food, housing, education, health-care, etc.) enjoyed by urban residents through state-owned work unit (Liu, He & Wu, 2008). During this period, farmers were not allowed to make decisions on agricultural production based on private interests or benefits, without realization of private land rights. Land was totally a fixed resource under intense control through the state to local government to rural collective, instead of a market commodity that can be circulated by free trade. Also the demand for urban construction land was tightly restricted under the planned economy, as a result of the lagging economic vitality. Hence, the mechanisms of land acquisition and compensation attracted little attention, until the major institutional reform in 1982 when farmers began to hold land use rights by contract for a certain period (Lin & Ho, 2005).

The 1982 "Land Acquisition Measures for National Construction" initially separated land ownership from land use rights, and announced that local government could enforce land acquisition practice (Ding, 2003; Qian, 2015). This document was then amended and legitimized by the Bureau of Land Administration in 1986, namely 'Land Management Law' (Ding, 2003; Qian, 2015), which represented a great institutional transformation regarding the land acquisition and compensation system. The revised document specifies the fundamental compensation ranges and guidelines, and continues to provide detailed legislative support for land compensation policies (Qian, 2015). However, it has been demonstrated to effectively serve the state interest of economic development, but to ignore

the considerations of mediating social tensions, redistributing land revenues, and adapting to gradual transitions to market-oriented land economy during the process of land acquisition (Qian, 2015; Siciliano, 2014).

Accordingly, revisions based on the 1986 Land Management Law was promulgated in 1998 and 2004 (Chan, 2006; Qian, 2015). The 1998 revision emphasized on farmland protection with enhanced central power of land conversion approval (Ho & Lin, 2004). Such provisions responded to the concern of massive arable land losses and the intention to control the arbitrary power of local government. Meanwhile, it significantly promoted the compensation standard. Since the late 1990s, some coastal municipalities began to adopt a multitude of compensation approach including housing resettlement, employment alternatives, rural collective retained land, social insurance system, and the share-holding cooperative for landless peasants (Qian, 2015; Tang, 2011). Then, the 2004 revision further adjusted the procedures of land acquisition, enhanced the monitoring forces, as well as improved the compensation standard.

## Measure life satisfaction and the influencing factors

### A review of life satisfaction measurement

The analysis of subjective well-being began popular since the 1970s, with numerous studies on life satisfaction and the influencing factors across different social groups (Bohnke, 2005). Satisfaction with life scale is a well-known effective measurement in which empirical judgement based on personal utility of subjective well-being can be recognized and embodied (Pavot & Diener, 1993; Hu et al., 2014). Life satisfaction measurement has been widely employed in the research field related to policy assessment and application regarding a wide range of policy goods, services and impacts (Hu, et al., 2014). This approach is a straightforward and demonstrative tool for the appraisal of policy welfare in light of individually experienced satisfaction.

According to subjective well-being theory, life satisfaction measurement is an advanced tool that adds a better explanation to life quality analysis. Life satisfaction is one major component of subjective well-being that relates to the biological, psychological, and socioeconomic dimensions (Bohnke, 2005; Edwards & Klemmack, 1973). From the view of sociologists, the role of socioeconomic attributes such as income rank, education level, employment status, and social relationships are emphasized on evaluating people's overall life quality, while economists are interested in explaining life satisfaction based on individual marginal utility of subjective well-being (Bohnke, 2005). However, plentiful studies consistently highlighted the interrelationships between life satisfaction level and a series of indicators such as socioeconomic status, work status, health status, and aging status, contributing to a better understanding of the measurement (Hansen & Yoshioka, 1962; Jeffers & Nichols, 1961; Tobin & Neugarten, 1961).

In addition, Palmore and Luikart (1972) pointed out that self-evaluation on health status, social commitment, and self-confidence were strongly correlated with life satisfaction level according to their scrutiny of variables. Another research found that participation in voluntary activities had little independent correlation with the level of life satisfaction

(Cutler, 1973). Nonetheless, these studies were focused on discrete dimensions of life quality, without a theoretical ground for ascertaining all the variables in one continuous, synthetical analysis of measurement.

Adam (1969) produced an index of indicators measuring life satisfaction among residents of a small town and examined the reliability of those independent variables. Edwards and Klemmack (1973) employed and expanded the set of variables from the Life Satisfaction Index modified by Adam (1969), which were suggested to be clearly interpretative and reflective of each specific life dimension. This research (Edwards & Klemmack, 1973) filled in a gap among the abundant studies, by attempting to determine an integrated model in which the set of variables measuring life satisfaction can explain most variances in the self-reported satisfaction levels. The coefficients of adopted variables demonstrated the extent of each factor significantly contributing to life satisfaction.

The key research (Edwards & Klemmack, 1973) observed a number of significant relationships between life satisfaction and independent variables that pertain to five categories: background characteristics, socioeconomic status, health status, social participation, and interaction with social relationships. For example, socioeconomic status consists of the variables of education, income, and occupation; personal background includes characteristics of age, length of residence, and retirement status; and interaction with social relationships was indicated by the frequency of contact with relatives, friends and neighbours. These indicators embrace major dimensions of life quality, and were examined repeatedly in a quantity of following studies. However, in the survey of European Community Household Panel, one's life quality is measured by satisfaction with similar yet distinctive life aspects including financial ability, consumption of basic goods and services, housing conditions, frequency of contact with friends or relatives, and social participation in networks (Bellani & Ambrosio, 2011).

Allardt (1993) and Bohnke (2005) extended life satisfaction measurement by deciding three pillars of subjective well-being that rely on material living conditions, social support

and relationships, and participation in social interactions to be feeling belonged and recognized. Although life satisfaction is a substantial component of subjective well-being, it is hard to explain how much the variation of well-being can be explained by individual satisfaction level with material living conditions, while social attributes, psychological traits, and cultural values also play a weighty role to explain the complex variation of subjective well-being (Bohnke, 2005). In this analysis, satisfaction measurement will be primarily focused on three life dimensions, and the factors that exert positive or negative influence on these dimensions are scrutinized and determined.

### Influencing factors on resettled farmers' life satisfaction

Researchers have made preliminary progresses on the study of factors influencing landless farmers' satisfaction level. Shui et al. (2014) explored the influencing factors on resettled farmers' satisfaction under the compensation system through a case study of Xinjin County in Chengdu municipality, Sichuan province of China. This research covers several aspects of life quality such as family living conditions, social rights guarantee, public facilities, and resettlement environment. Hu et al. (2014) introduced the life satisfaction approach and adopted a set of indicators to examine the impact of various compensation policies on landless farmers' life satisfaction, basically focused on individual or family socioeconomic attributes, health status, and social relationships. Hui, Bao, & Zhang (2013) studied on farmers' evaluation on land compensation system from the perspective of social exclusion theory, which identified two essential life aspects as major factors for landless farmers' social exclusion caused by the absence of relevant compensation policies, in terms of employment and social security, as well as cultural, psychological and relationship networks. Qin et al. (2016) concluded that farmers' satisfaction level could be affected by personal socioeconomic attributes, their cognitive level and knowledge of the program, and the benefits that they can obtain from the program.

Many scholars concentrate on landless farmers' individual and family characteristics. Personal socioeconomic attributes normally include one's age, education level, work status, annual income range, etc. The income level reflects a landless farmer's ability to cope with social risks and afford a certain standard of living (Qin et al., 2016; Ma & Hu, 2014; Zhou et al., 2013). At an individual level, research showed that people with higher income or better material living conditions are more satisfied in general than people with lower income, and this correlation is even stronger and unevenly distributed in developing countries with high income inequality (Bohnke, 2005). Meanwhile, age cohort, education level as well as work status may strongly affect individual's income level, health status, and the knowledge of relevant policies.

Based on the framework of subjective well-being theory, life satisfaction will be measured upon three dimensions of life quality: 1) material living conditions, 2) social security and employment support, and additionally, 3) attitudinal perceptions, social relationships and participation. In each dimension, satisfaction level of landless farmers can be indicated and influenced by a variety of comparable factors.

#### Material living conditions

The dimension of material living conditions is a major provider of subjective well-being, as one of the three pillars of life quality (Allardt, 1993; Bohnke, 2005). It is found that subjective well-being has been most strongly influenced by poor material living conditions in all dimensions (Bohnke, 2005). Studies (Bayram et al., 2012; Bohnke, 2005; Liu, He, & Wu, 2008; Shui et al., 2014) reveal that medium to strong relationships have been observed between a variety of influencing factors relating to material living conditions and people's self-reported satisfaction level.

In terms of economic well-being, personal or household income level is an absolutely key determinant of a positive relationship with life quality (Dolan, Peasgood, & White, 2008). Securing a decent standard of living is primarily guaranteed by available average income as well as consuming ability of basic goods and services (Bohnke, 2005). Normally, the

higher income, the more affordability for people to keep and enhance family material living conditions, and the higher satisfaction with life quality. Consequently, low income, deficient access to material resource, and relative poverty can result in lowering people's life satisfaction. However, research also found that income had a small growth effect on subjective well-being, because people's desires increase as their income levels rise, and they can quickly adapt to a higher income level, with little net increase in their subjective well-being (Diener, 2000).

Despite income is one direct, key indicator, it is not entirely convincing and accessible information with adequate accuracy collected from some participants, and it is sometimes replaced with other factors such as income rank, affordability of basic goods, and housing conditions (Bohnke, 2005). Another recent research emphasized material living conditions on financial burden, basic consuming ability, and living environment indicators (Bellani & Ambrosio, 2011). Certain factors of material living conditions also interrelate to the factors of personal attributes, such as age, education level and work status. In this specific analysis of resettled farmers' life satisfaction, material living conditions refer to living environment indicators, income indicators, and consuming ability indicators.

#### Social security and employment support

Social security system is a crucial aspect for securing and improving landless farmers' life quality after land acquisition, which is much maligned in compensation implementation (Liang & Zhu, 2015). The compensation policies in terms of social insurance, including pension, health-care, and unemployment insurance, remain to be deficient and insufficient. Research unveiled that the basic allowance of pension or low income received by landless peasants actually came from their monetary compensation rather than from extra subsidy issued by local government or rural collective, which is described as "the wool obtained from the sheep" (Yang & Huang, 2004), due to a loophole of compensation praxis that local government may exploit to maximize land revenue.



In addition, the health-care subsidy for many landless farmers is particularly concerning. Since the 1990s, health-care expenditure in China has soared sharply, at an increasing rate of 16% per year (Chen et al., 2013). This problem become more severe in recent years as the group grows aging with worse health conditions. According to the 2003 National Health Services Survey, financial difficulty is cited as the main reason of rural peasants who were unable to seek for health-care even in prior need (Chen et al., 2013). Scholars (Liu et al., 2003) indicated that chronic illness and catastrophic medical expenses had been the leading causes of poverty among rural peasants.

Closely linked to social security system, employment is a major component that makes up a substantial aspect for many people's life quality. Labour market is regarded as the most important channel of social integration in advanced market economy (Liu et al., 2008). Long-term paid work in the modern society is a principal source of income for basic livelihood, and a reliable means of joining in social insurance system. Meanwhile, it is the channel of recognizing self-identity, establishing one's social networks, and obtaining the sense of belonging within a community, especially for those outsiders. The group with limited access to labour market is more vulnerable to coping with risks, exposed to deficient welfare security, with weak social support networks (Silver, 1994). Long-term unemployment means not only the loss of income and material sources, but also the loss of social status, self-identity, and social network, which can largely explain the descending satisfaction level of unemployed group (Bohnke, 2005).

The current compensation system has ignored landless farmers' need for reemployment opportunity and vocational ability. Albeit many rural youths are no longer engaged in agricultural work and may be diversified in employment, those middle-aged and older as well as low educated still rely heavily on farmland to sustain their livelihood. Most of them are short of work experiences, skills, or educational qualifications, and as a result, are only able to occupy unskilled and low-paid positions, with a high risk to be marginalized and even discriminated. Despite the hardship of work, they are easily to become unemployed again as they get old and not as competent as the youth. As a result, their life satisfaction

could be seriously debased. Therefore, research on life satisfaction measurement should put a particular emphasis on landless farmers' current work status and institutionalized employment support from compensation policies.

#### Social relationships, participation, and attitudinal perceptions

Social relationship networks can play an important role in enhancing one's satisfaction level with subjective well-being. Research has discovered that active participation in social formal or informal interactions is positively related to rising life well-being or happiness (Helliwell, 2001; Putnam, 2001). Social participation also relates to individual farmer's cognitive level of relevant compensation policies, which can be reflected by the farmer's understanding of, concern with, and access to updated land compensation policies. One who has better knowledge of compensation policies and more concern with community development will show more willingness and ability to express his or her evaluation on life satisfaction, from a theoretical point of view. Qin et al., (2016) conclude that a person's intuitive cognition is consistent with individual characteristics such as age and education level, which can affect one's life experience and preference, and also adjust one's understanding of policy reforms.

Studies claimed that most landless peasants were confronted with difficulties in self-identity recognition and adaptation to urban lifestyle and environment (Zhang & Tong, 2006), influenced by both external and internal factors, such as institutional inequities and self-depreciation from attitudinal perceptions of "rural" inferiority (Wu & Qin, 2008). It is highlighted that inequalities experienced in social participation, according to social status, education level, age, and origin, have a strong impact on the variation of life satisfaction level (Bohnke, 2005; Delhey, 2004). According to subjective well-being theory, individual satisfaction is strongly related to psychological and cultural processes of adaptations and expectations, which can largely affect people's attitudes as well as perceptions on their real living circumstances (Bohnke, 2005).

The statement of adaptation explains the perception that some landless farmers still recognize themselves as traditional rural peasants in psychological, cultural, and social aspects, despite of urban registration status, due to the great gap between their self-identification and local urban citizens (Liang & Zhu, 2015). The impact of expectation reflects an outcome of satisfaction level either to be aspirated by one's optimistic attitude towards the real situation, or to be dismayed by one's anxious attitude towards the future situation (Dolan et al., 2008). As Inglehart (1990, p. 212) concluded, "...life happiness (satisfaction or well-being) is not the result of being rich, but a temporary consequence of being richer recently (with the anticipation of long-term prosperity)".

Therefore, psychological processes of landless farmers can be interpreted with people's attitudes and perceptions on their urban life circumstances. Landless farmers may still suffer low satisfaction with life quality in cultural, psychological, and social aspects, and such phenomena have been totally ignored by the current compensation system (Hui, Bao, & Zhang, 2013; Liang & Zhu, 2015).

Table 1 lists the influencing factors that correspond to each dimension of life satisfaction measurement, according to the combination of relevant literatures on subjective well-being and the classification of compensation policies. Only variables that are suggested to be clearly interpretable and reflective in the existing studies are compiled. Albeit roughly categorizing these influencing factors into the three life dimensions, it does not mean the factors assigned to one dimension exert no influence on the other life dimensions. In fact, some factors of personal socioeconomic attributes (such as age, income) may work on overlapping life dimensions.

Table 1: influencing factors on landless farmers' satisfaction with life dimensions

Satisfaction with life quality dimension	Compensation policy	Influencing factor
Overall life satisfaction	N/A	personal socioeconomic attributes (age, education level, work status, length of resettlement)
Material living conditions	monetary compensation, resettlement policy	living environment, change of income level, change of expense level, use and deposit of monetary compensation
Social security and employment support	social insurance coverage, employment support	social insurance type, coverage rate and evaluation; job training, information and access
Social relationships, participation, and attitudinal perceptions	N/A	participation in community activities, knowledge of compensation policies; attitudes and perceptions on urban life situations; frequency of contact with social networks

# Chapter 3 Methodology

## Regional reforms in Nanjing since the 2000s

Since the 2000s, land compensation system in Nanjing municipality has experienced two major policy reforms in 2004 and 2011, which considerably enhanced the amount of monetary compensation fee and resettlement fee. The two policy reforms have contributed to improving landless farmers' short-term life quality. Further, the 2011 reform introduced an establishment of complementary insurance fund and a wide range of social insurance that provide basic security for landless farmers' long-term social welfare. However, the measures in practice has not yet proved effective (Zhou et al., 2014), and the outcomes of policy directives have been mixed (Qian, 2017).

In the first stage of reform (2004-2010), the revision of land compensation policies is premised on improving the amount of compensation fees in order to secure a minimum standard of living for landless farmers (Zhou et al., 2014). Since 2004, Nanjing municipal government gave the first attempt to revise land compensation policies in a local context, and issued two guidance documents about compensation standard and resettlement approach to maintain landless peasants' life quality. The compensation standard for one hectare of farmland was raised to RMB 270,000, much higher than the previous standard before 2004. Moreover, monetary compensation approach was no longer one-off paid, instead, paid month by month through the channel of landless farmers' personal accounts (Zhou et al, 2014).

Moreover, 70% of farmland compensation and the newly established resettlement fund would feed together and straightforward into landless farmers' personal accounts, instead of being reallocated by rural collective, whereby they would be provided with a certain monthly subsidy of RMB 200-600 according to their age cohorts (Hui, Bao, & Zhang, 2013; Zhou et al., 2014). The 2004 reform is a breakthrough of compensation policy amendment, for it offered a sustainable living guarantee that could cover landless peasants' basic needs for urban livelihood. Then in 2007, Nanjing government has issued another

guidance document that allows all eligible landless farmers since 1983 to be involved into the guarantee system of basic living standard (Zhou et al., 2014).

Although the 2004 policy reform improved compensation standard and established the basic living guarantee system, it still lacks considerations of land market price according to the type, quality and location of rural land. The compensation for land acquisition aims to maintain landless peasants' basic life quality and sustain their long-term livelihood.

However, despite of very limited monthly subsidy, the 2004 reform offered landless farmers little social security enjoyed by urban residents, because of the dualistic structure. In this sense, the policy reform still failed to break the dualistic system between the urban and rural society. Therefore, here came the 2011 policy reform.

The research (Zhou et al., 2014) particularly highlighted the 2011 reform of Nanjing, which introduced a series of creative measures such as zoning comprehensive standard of compensation, advanced social security system, and the establishment of complementary resettlement fund. The second stage of reform (after 2011) began to take the locational theory<sup>9</sup> and differential land rent into consideration. To be specific, considering multiple factors (land use type, annual output value, land location, class of agricultural land, per capita arable land area, supply-demand relationship of land, level of local economic development, and a minimum standard of living), the rural land area within Nanjing municipality has been classified into three land acquisition zones with differentiated acquisition prices. Accordingly, monetary compensation for one hectare of land has been raised to a level of at least three times the 2004 compensation standard, and somehow promote the possibility of rural land marketization. More importantly, landless peasants would enjoy basic types of social insurance as urban residents do, including endowment insurance, new health-care insurance and unemployment insurance. However, the advanced social security system for landless farmers still needs gradual amendment for it running effectively (Zhou et al., 2014).

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<sup>9</sup> In this case, locational theory means that rural land is classified according to its locational economic values, which lead to differences in compensation standard.

## Study sites and geospatial map

Jiangsu province, lying in coastal region of the Eastern China, has been one of the most developed provinces in the era of China's open economy. Land conversion is extremely intense in the coastal provinces that are relatively well developed (Ho & Lin, 2004). Since the 1980s, Jiangsu has experienced rapid economic development that extraordinarily accelerated urbanization, along with a continuous decrease in arable land areas (Xu et al., 2007). Consequently, Nanjing, as the provincial capital of Jiangsu province, had a sharp decrease in the area of farmland from 3020 km<sup>2</sup> in 2000 to 2440 km<sup>2</sup> in 2006, with farmland area per capita from 553m<sup>2</sup> to 400m<sup>2</sup>, much less than the average of Jiangsu province (650 m<sup>2</sup>) and the average of China (800 m<sup>2</sup>) (China Bureau of Statistics, 2001; China Bureau of Statistics, 2007; Xu et al., 2007). Since the 2000s, Jiangsu province introduced a diversity of compensation policies to ensure and enhance the life quality of landless peasants, and Nanjing was the initial experimental city for such institutional reforms. In Nanjing municipality, reforms of land compensation system took place in 2004 and 2011, respectively, both of which have enhanced the monetary compensation standard and stressed more considerations to landless farmers' long-term life quality. Therefore, investigating landless farmers' subjective well-being and life satisfaction in Nanjing area is deemed exemplary and practicable.

Small towns gradually play a substantial role in China's economic development, especially those within the major economic regions (Qian, 2017). Town lies in the middle of China's administrative system, between city at county level and village, as the transition from rural to urban areas (Tan, 1986). Landless farmers have been collectively resettled into small towns because of rural land acquisition. On the one hand, the group could bring versatility and vitality to local economic growth, as well as challenges to public governance and community services (Li & An, 2009). On the other hand, they face a great quantify of quandaries regarding both physical and psychological living conditions, due to many subtle forms of institutional segmentations (Qian, 2017).

The case study was conducted in two urbanized small towns of Nanjing municipality, namely “Tiexinqiao” and “Longtan” Town, which lie in the south and north area to the core city of Nanjing. Several reasons urged me to select the two sites for conducting survey. First, the towns start the urbanized process since the 2000s and contain landless farmers resettled in different reform periods (before 2004, between 2004 and 2011, after 2011). Next, there are two large designated communities located in the towns. One has been built up in the early 2000s, and the other has been settled down in the mid to late 2000s. Third, the two communities are characterized with residents consisting mostly of landless farmers who have been intensively resettled in different years. The difference in time stages is worthy of being noted, as compensation policies have been continuously improved over the past two decades. In addition, there are considerations of transportation convenience and feasibility for conducting survey.

The sketch map from Google online map shows the geographic boundaries of Nanjing municipality, and marks the relative locations of the study area. The two small towns are diverse in location: one is close to the urban hub, and the other lies around the urban fringe. However, the compensation policies are uniform in these places within the same provision of zoning. Thus, the satisfaction levels of respondents at the two resettlement communities will not mainly differentiate due to compensation divergence.

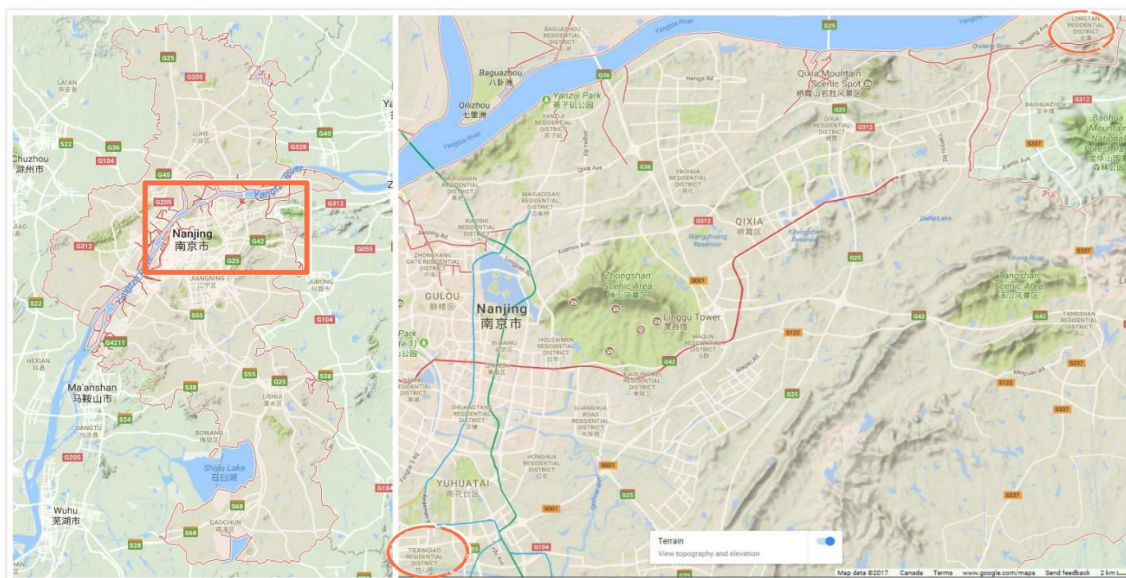


Figure 2: Sketch map of Nanjing municipality and the surveyed small towns.



## Data collection

Structured survey took place during March and May 2016, which includes a majority of closed-ended questions with rigorous answers. Data from survey responses were recorded in a personal laptop. Data collection took place at two urbanized small towns within the same zoning regulation of Nanjing municipality, which were carried out on a one-to-one basis. The time spin of each questionnaire (survey and questionnaire are interchangeable terms here) ranged from 20 to 40 minutes. Through screening of validity, 98 sets of survey have been adopted (103 questionnaires were handed out and 98 were returned in a completed form, whereby the response rate is 95%). Among the 98 effective questionnaires, 55 were collected from Tiexinqiao Town (Chunjiang New Community), and 43 from Longtan Town (Longtan Community), both of which contain one of the largest group of resettled landless farmers during the past two decades.

Before each survey, participants were requested to look through an information letter, and give verbal consent for the face-to-face inquiries. Each participant was given the notification that the collected data would be kept confidential and anonymous, and be destroyed after completion of the study. The study was approved by the Office of Research Ethics, at the University of Waterloo, Ontario, Canada.

The overall satisfaction level can be measured based on landless farmers' straightforward responses to survey questions (Chen et al., 2013). Some classical survey questions that have been used in such analysis include, for example, how do they feel satisfied with the living conditions in general and in each specific aspect, how do they assess their ability and willingness to participate in social activities, and etcetera (Bohnke, 2005). In addition to the overall satisfaction level, respondents' satisfaction with a specific dimension of life quality can also be indicated by survey questions.

The sampling participants were randomly selected at the two resettlement communities while the student was walking around the neighbourhoods as well as knocking their doors. For the illiterate respondents, the student has read each question for them and manually

recorded their answers. Considering the representativeness of survey samples, farmers in a household were treated as one unit and household survey was carried out. In the course of filling questionnaire, participants were welcomed to speak up their opinions in a free manner, and their conversation information was recorded as supplementary evidence. The survey responses were analyzed in a quantitative manner. Then, the research findings are displayed in a descriptive presentation with analytical figures.

Survey is a common and effective way to collect first-hand data. The questionnaire contains various subjects (Appendix I), where questions are divided into six parts, mainly to investigate: how landless farmers evaluate on their material living conditions by making use of compensation fees; how they feel secure of their current and future life quality through the social security system; how they deem and expect employment opportunities and supportive policies from official channels; and how they adapt to and perceive their urban lives in terms of psychological and cultural attitudes. These subjects generally correspond to the theoretical framework of research analysis.

## Data analysis methods

The focus of this analysis has been put on the statistical relationships between farmers' subjective evaluation and objective characteristics of various life quality dimensions. By the definition under subjective well-being theory, life quality refers not only to material living conditions, but also to employment chances, life security, social relationships, and social participation. In this context, people's self-reported satisfaction level with these life quality dimensions is, on the one hand, a significant indicator to evaluate life quality; and on the other hand, a subjective dimension of life quality.

Satisfaction with life scale was developed to evaluate life satisfaction of individuals. The assessment criteria of satisfaction with life scale is focused on individual's conscious, subjective judgement of different dimensions regarding life quality, which has sufficient sensitivity in testing the changes in life satisfaction during long-term transformations

(Pavot & Diener, 1993). This measurement has proved to contain valid and reliable factors to perform satisfaction analysis (Diener et al., 1985; Xiong & Xu, 2009).

Survey questions to examine life satisfaction include five categories: economic and living environment indicators that belong to the dimension of material living conditions; social security engagement, and employment indicators that belong to the second life dimension; and the dimension of social relationships, participation and attitudinal perceptions. Answer to such questions is following a five-point scale: 1= very unsatisfied, 2= partly unsatisfied, 3= neutral, 4= mostly satisfied, 5= very satisfied; or to be coded as, 1= totally agree, 2= partly agree, 3= neither agree nor disagree, 4= partly disagree, 5= totally disagree. Then, the respondents will use the Likert scale to indicate their subjective evaluation on the different aspects of their life quality.

Next, variables were derived from survey questions based on the combination of life satisfaction approach and the empirical analysis constructed in rural China. Each variable was computed to show the direction of its relationship with and the significance to the satisfaction level. Then multivariate regression analysis is used to gain deep insights of the relationships between influencing factors and multiple life satisfaction levels. Here I use the conditions in logistic regression modeling with SPSS.

The dependent variable analysis in this model is to what extent landless farmers report the level of satisfaction with life quality under compensation policies. The analysis of an orderly qualitative and categorical variable is often performed in the model of ordinal logistic regression, which demonstrate a logistic growth curve of the variable. The logit model requires few stringent assumptions and thereby is ideal for predicting subjective evaluation variables. Given all, the study adopted the ordinal logistic model for the measurement of life satisfaction level. Consequently, the level of life satisfaction (Y) can be expressed in a form of equation:

$$Y = \log P / (1-P) = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n \quad \text{Equation 1}$$

$$f(Y_1=1) = \log (\theta_1) = \alpha_1 - \beta_1 x_1, \text{ where } \theta_1 = \text{prob}(\text{score} \leq 1) / (1 - \text{prob}(\text{score} \leq 1)) \quad \text{Equation 2}$$

P in the formula represents the probability of farmers' satisfaction with life scale, the qualitative variable, or a variable with a binary feature after linearization. Landless farmer households' satisfaction level with life quality was classified into five levels, which are unsatisfied, partly unsatisfied, neutral, partly satisfied, and satisfied. Given P as the probability that the farmer household is satisfied and the probability of unsatisfied is "1 - P",  $0 < P < 1$ . Let  $\alpha$  be the constant value,  $x_n$  are the independent variables that denote various influencing factors on farmers' satisfaction level, and  $\beta_n$  is the partial regression coefficient in the logistic regression. Combined with the definitions of variables in below tables, quantitative analysis is performed in the logistic regression model, and reflections as well as interpretations of variables are stated in Chapter 4.

## Analytical model design: Define variables

The research employs the quantitative interpretation of survey data to address the second and third research question. Analysis of life satisfaction is a combination of assessment on various influencing factors that relate to respective life dimensions. Descriptive analysis with EXCEL can demonstrate an overall picture of landless farmers' satisfaction level with these life dimensions, and elaborate on the surveyed situation of each influencing factor. Then the logistic relationships between diverse variables and the satisfaction level can be embodied in a function of logit regression with SPSS.

The overall satisfaction level of landless farmers with the respective life dimensions under different compensation policies will be demonstrated according to their direct responses to implicitly or explicitly designed survey questions. Answers are coded for measurement on a Likert scale, such as a traditional one-to-five rating interval of their satisfaction level. In this circumstance, 1 equals to very dissatisfied and 5 equals to very satisfied, albeit in some questions the satisfaction level is reflected by answers to how participants show the level of agreement with certain statements. All dependent and explanatory variables are coded to imply higher scores with higher Likert scale.

Table 2: Define latent and explanatory variables

Variable	Define variable	Assigned value of variable	Mean
Y1	Satisfaction level with overall life quality	1= very unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= very satisfied	2.52
Y2	Satisfaction level with compensation standard and approach	1= very unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= very satisfied	2.38
Y3	Satisfaction level with material living conditions	1= very unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= very satisfied	2.33
Y4	Satisfaction level with social life security	1= very unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= very satisfied	2.43
Y5	Satisfaction level with employment support	1= very unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= very satisfied	2.00

X1	age	1= 18-30, 2= 31-45, 3= 46-60, 4= 61-70, 5= >70	
X2	education level	1= elementary school and below, 2= middle school, 3= equal to high school, 4= college and above	
X3	work status before and after acquisition	1= agricultural sector, 2= private industry, 3= migrant worker, 4= self-employed, 5= GOV/GOV-owned enterprise, 6= student, 7= unemployed, 8= retirement	
X4	length (year) of resettlement	before 2004 =1, 2004-2011 =2, after 2011 =3	
X5	change in monthly income	1= largely decrease, 2= decrease, 3= similar, 4= increase, 5= largely increase	3.63
X6	change in monthly expense	1= largely decrease, 2= decrease, 3= similar, 4= increase, 5= largely increase	4.41
X7a	overall living environment	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	1.99

X7b	housing area	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	1.52
X7c	housing quality	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	1.86
X7d	utility facilities	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	1.99
X7e	transportation services	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	2.48
X7f	safeguard of community	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	2.18
X7g	telecommunication services	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	2.33
X7h	convenience and richness of daily activities	1= worse than before, 2= generally similar, 3= better than before, 0= not sure	2.47

X8	satisfaction level with endowment social insurance	1= unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= satisfied	2.24
X9	satisfaction level with urban health-care social insurance	1= unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= satisfied	2.26
X10	satisfaction level with new rural cooperative health-care social insurance	1= unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= satisfied	2.97
X11	satisfaction level with unemployment social insurance	1= unsatisfied, 2= partly unsatisfied, 3= neutral, 4= partly satisfied, 5= satisfied	1.00
X12	whether vocational training was offered or funded by town government or rural collective	1= Yes, 0= No	0.15
X13	whether it was helpful or necessary	1= Yes, 0= No	0.19
X14	do you have organizational access to job market information	1= Yes, 0= No	0.18
X15	do you receive government assistance for employment	1= Yes, 0= No	0.42

X16	feel hard to adapt to urban lifestyle and environment	1= totally agree, 2= partly agree, 3= neutral, 4= partly disagree, 5= totally disagree	2.38
X17	prefer rural housing area and living environment	1= totally agree, 2= partly agree, 3= neutral, 4= partly disagree, 5= totally disagree	2.02
X18	prefer farming lifestyle and feel psychologically close to land	1= totally agree, 2= partly agree, 3= neutral, 4= partly disagree, 5= totally disagree	2.35
X19	expect better living quality and security with rural land	1= totally agree, 2= partly agree, 3= neutral, 4= partly disagree, 5= totally disagree	1.54
X20	prefer to keep rural registration status and land rather than receive any compensation	1= totally agree, 2= partly agree, 3= neutral, 4= partly disagree, 5= totally disagree	2.48
X21	reduce frequency to contact with old friends and relatives	1= totally agree, 2= partly agree, 3= neutral, 4= partly disagree, 5= totally disagree	2.38
X22	add frequency to meet with new friends and neighbours	1= totally disagree, 2= partly disagree, 3= neutral, 4= partly agree, 5= totally agree	3.17
X23	participation in community activities and development	1= totally disagree, 2= partly disagree, 3= neutral, 4= partly agree, 5= totally agree	2.58
X24	cognition of public notice about relevant compensation policies	1= barely concern, 2= know a little bit, 3= somewhat familiar, 4= fully knowledgeable, 0= no policy notice	1.68

## Chapter 4 Research findings

### Personal socioeconomic attributes of respondents

In the case study, the 98 effective respondents consist of 60 (61.2%) males and 38 (38.8%) females, with the age range from 18 to above 70 years old, mainly concentrating on the middle-aged and the senior age group (45 and above). The mean age value was 51 years old, S.D. =1.05 (standardized deviation), with the right skewed (positive) direction. Figure 3 shows the percentages of each gender among age cohorts. In fact, the age cohort of 46-60 contains three times number of male than female participants, and other age cohorts also consist of more male respondents than female, except for the group of 18-30. In addition, 84.5% of the respondents are enrolled in urban household registration system (*'hukou'*) after land acquisition, which indicates those landless farmers become urban residents and are eligible to enroll in the social security system for urban citizens.

As the land compensation system in Nanjing had two major reforms in 2004 and 2011, the year of land compensation was related largely to the compensation standard and approach received by landless farmers, which primarily determined their subsequent life quality as well as self-reported satisfaction level. Figure 4 shows the time lengths of compensation and resettlement that imply each policy period in which farmers were compensated and resettled. In practice of land compensation policies, the time point of resettlement was usually two years later than the time point of monetary compensation, causing the slight divergence in statistical histograms. More than half of the survey samples belong to the policy period before 2004, while only 10.7% enjoy the new compensation policies after the 2011 reform. Additionally, a notable proportion of the respondents is clustered between the year of 2004 and 2011.



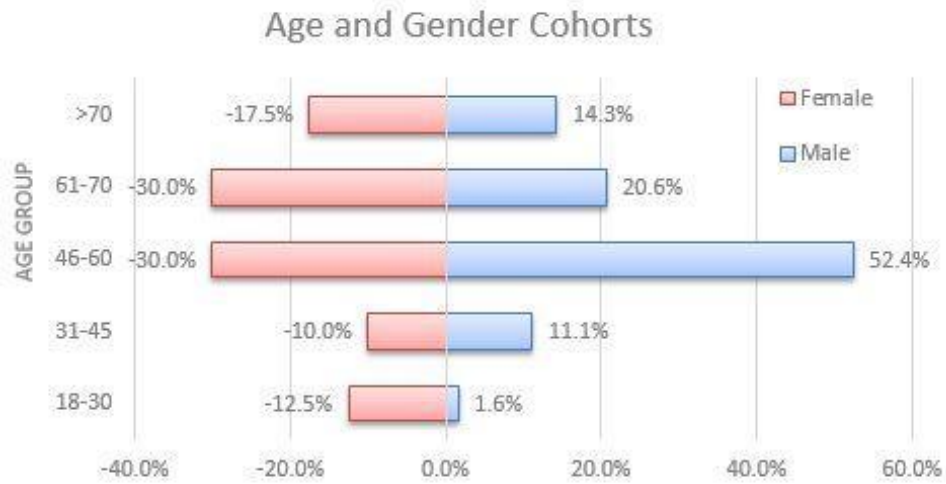


Figure 3: Respondents' age and gender cohorts distribution.

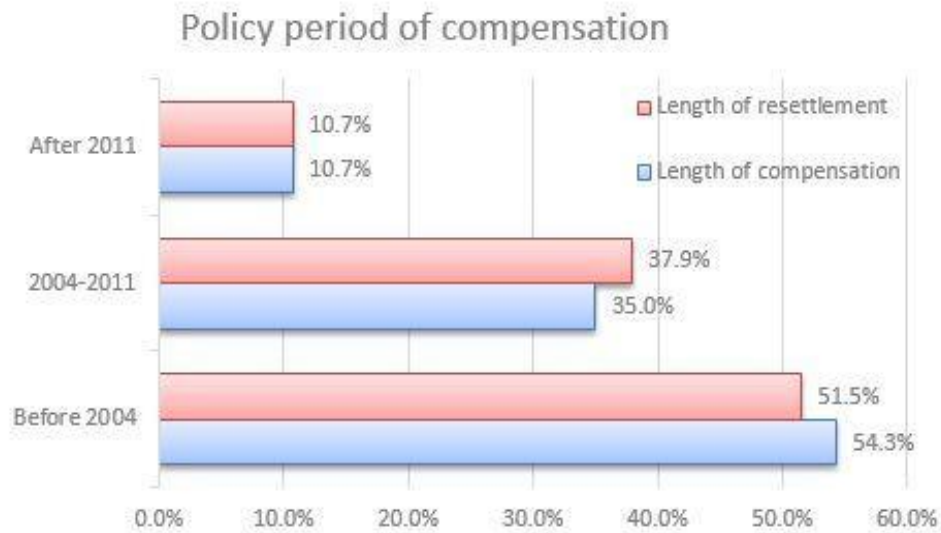


Figure 4: Reform periods of compensation policies since the 2000s.

Figure 5 illustrates the discrepancy of education level among landless farmers. Education level is a notable influencing factor on resettled farmers' satisfaction level, and according to the research (Shui et al., 2014), the higher education level is linked to the higher life satisfaction level. Here the education variable was classified into four degrees: 1= elementary school and below, 2= equal to middle school, 3= equal to high school and secondary school, and 4= equal to college and above. Figure 5 shows that the distribution of the education variable is descending, that is, the higher degree accounted for less percentage. The elementary school and illiterate group comprised the largest proportion

(46.6%), whereas the group equal to college and above occupied the smallest proportion (4.85%). Additionally, there were 31.1% with middle school and 17.5% with high school diploma. The distribution of their education level appears to correspond generally to the distribution of their work status before land acquisition. Figure 6 illustrates that 73.8% of landless farmers were engaged in agricultural sector (almost equivalent to the total percentage of the elementary school and middle school group), 9.7% employed in private industries, 6.8% temporary migrant workers, and 7.8% self-employed in small business, and only 1.9% enrolled in government or town and village enterprises (TVEs), who had access to more social security and welfare than ordinary farmers.

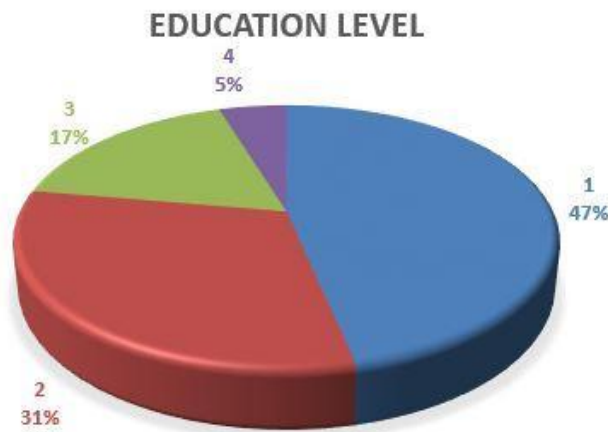


Figure 5: Respondents' education levels distribution.

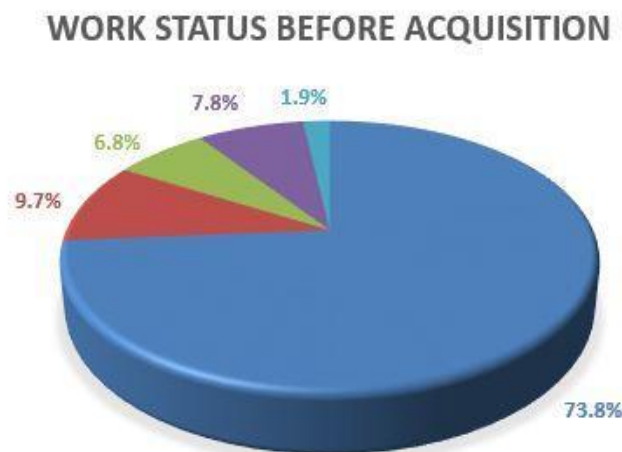


Figure 6: Respondent's work status before land acquisition.

## Descriptive statistical analysis

### Satisfaction level of landless farmers with life dimensions

As is shown in Figure 7, on the one hand, 53.6% of the landless farmers expressed more or less dissatisfaction with their overall life quality after land acquisition; on the other hand, another 37.1% of them appeared to be basically satisfied with their urban lives. Through vertical comparison, a dominant proportion of total respondents presented an absolutely negative level of satisfaction throughout all the life dimensions, even though a certain percentage of them showed a neutral or positive attitude. Through horizontal comparison, the distribution patterns of responses among three dimensions of life quality mostly can correspond to each other, despite the subtle differences. To be specific, more than 60% of total participants were clearly unsatisfied with their material living conditions and life security; and surprisingly, beyond 70% expressed strong dissatisfaction with their employment conditions, while only 11.4% held a positive attitude.

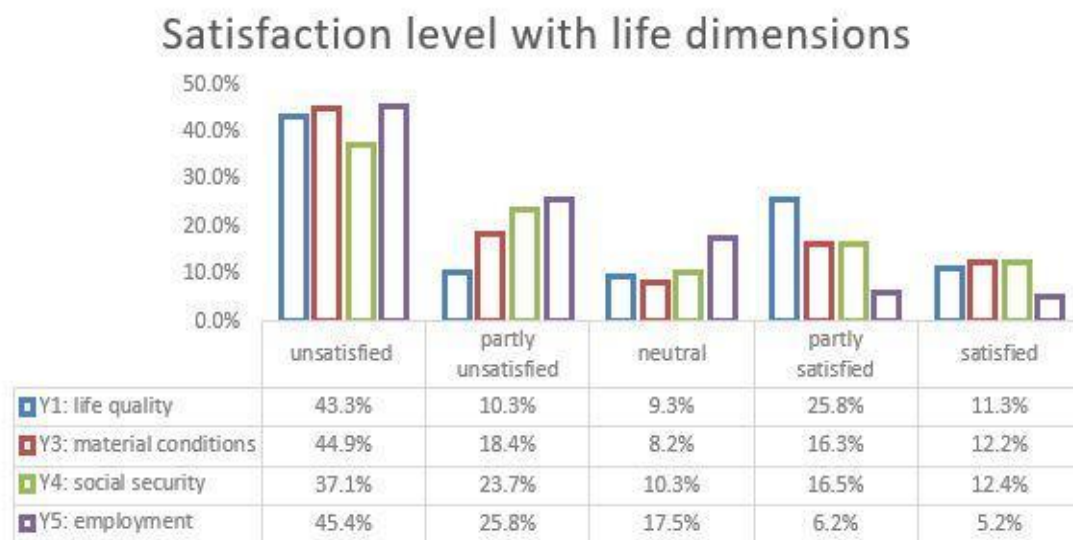


Figure 7: Respondents' satisfaction level with main life dimensions.

To validate the observed conclusion, by statistical analysis with EXCEL functions, the calculating results show that 90.4% of the respondents who revealed dissatisfaction with their overall life quality also expressed similar feeling with material living conditions, 88.5% with social security system, and 73.1% with employment support. Meanwhile, among the

respondents who were basically satisfied with their life quality, 63.9% also presented a positive attitude towards material living conditions and 66.7% were satisfied with social security system. However, only 11.1% of them appeared to feel partly or fully satisfied with employment support. Accordingly, it can be hypothetically concluded that the overall life satisfaction of landless farmers should positively, obviously relate to their respective satisfaction level with all the three dimensions of life quality (perhaps weaker relation to the dimension of employment) in light of statistical evidence.

### Satisfaction level of landless farmers with compensation policies

Policies of monetary compensation, resettlement, and social insurance are three pillars that construct the land compensation system. The satisfaction level of landless farmers with these policies can mostly reflect their satisfaction level with affected life dimensions. As is shown in Figure 8, the responses of satisfaction level with monetary compensation, social insurance as well as resettlement are mainly focused on two poles. Approximate half of the samples are settled in the unsatisfied group, and the second largest proportion lies in the partly satisfied group. Few respondents held a neutral attitude; instead, most presented a strong inclination to the positive or negative evaluation.

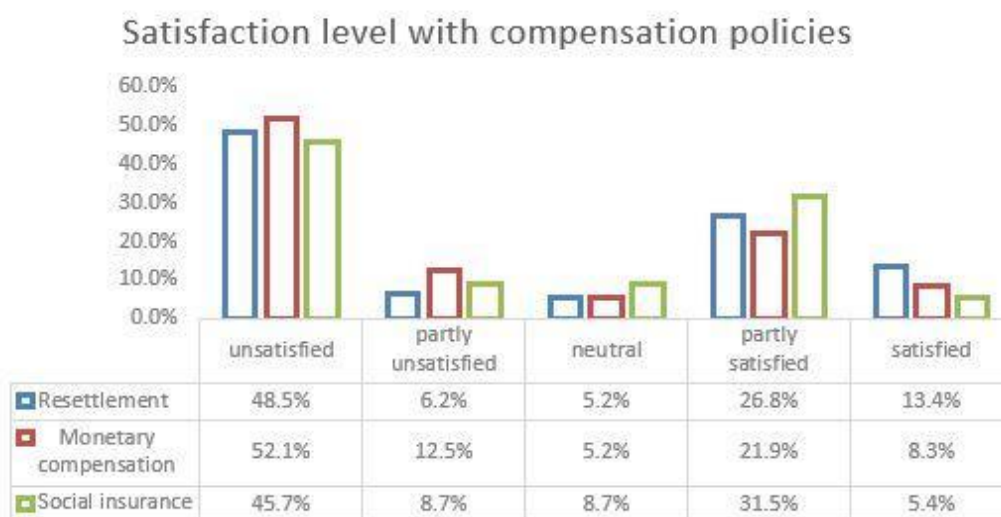


Figure 8: Respondents' satisfaction level with various compensation policies.

The landless farmers after 2011 were likely to receive much better compensation package than those before 2004. For example, according to the calculated statistics, the average area of arranged housing is 103 m<sup>2</sup> before 2004, 114 m<sup>2</sup> between 2004 and 2011, and 246 m<sup>2</sup> (total area of multiple apartments) after 2011. Additionally, 74.0% of total respondents were compensated with only one set of arranged housing, 98.6% of whom received the compensation package before the 2011 reform. Moreover, only 12.5% of the landless farmers during the period before 2004 were compensated with more than one set of arranged housing. Indeed, all of whom received more than three sets of arranged housing were compensated after the 2011 reform.

The divergence in policy period did result in differentiated satisfaction level with relevant compensation policies among the surveyed landless farmers. Looking through Figure 9a to 9c in a horizontal manner, the satisfaction level of landless farmers during the period before 2004 mostly concentrates on the unsatisfied group, strongly implying their dissatisfaction with a series of compensation policies. Then, the satisfaction level of landless farmers during the period between 2004 and 2011 appears to be much higher, with a large proportion clustered in the partly satisfied or satisfied group. Eventually during the period after 2011, the landless farmers' satisfaction level with resettlement and social insurance is further enhanced. However, in terms of monetary compensation, a prominent ratio of the participants suggested partly unsatisfied.

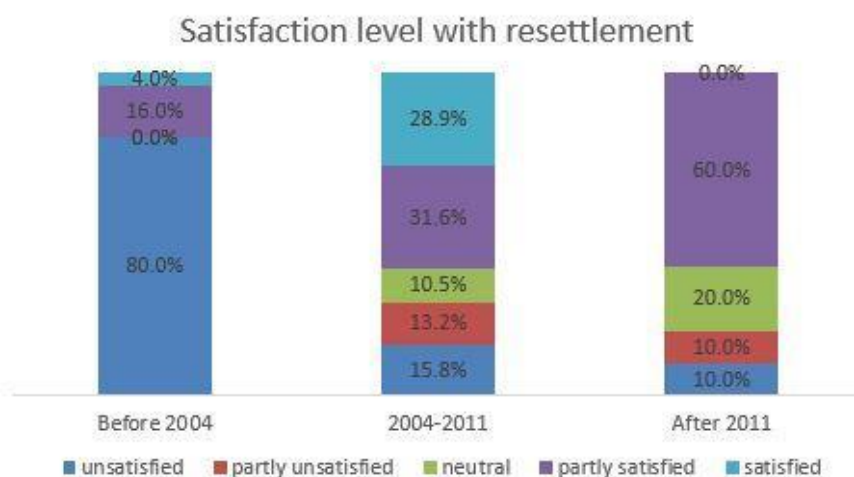


Figure 9a: Respondents' satisfaction level with resettlement policy.

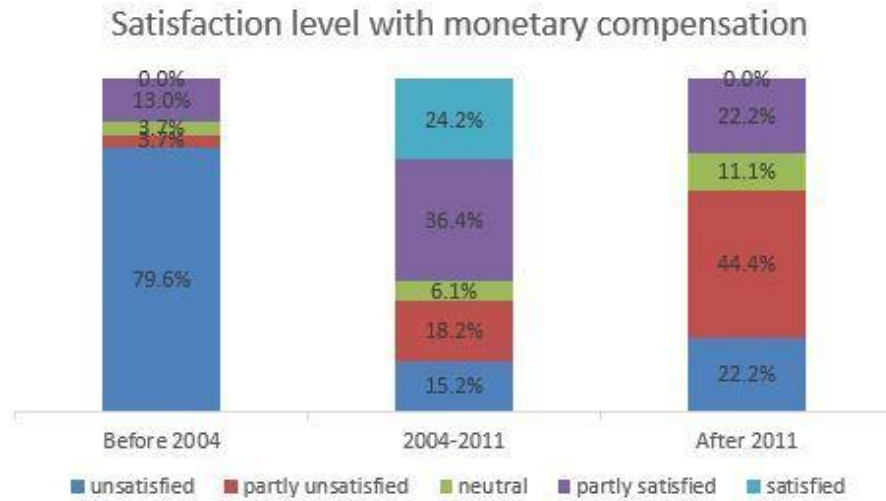


Figure 9b: Respondents' satisfaction level with monetary compensation standard.

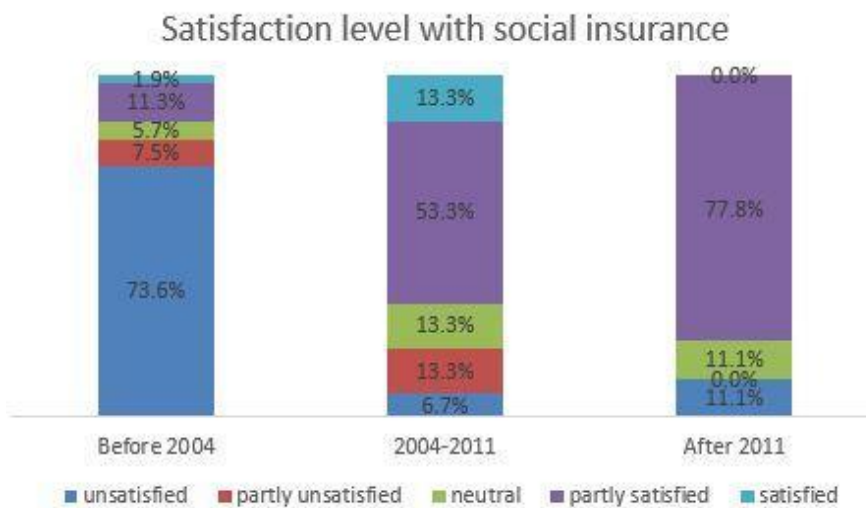


Figure 9c: Respondents' satisfaction level with social security policy.

Through vertical comparison, the satisfaction level of landless farmers with resettlement policy displays an ascending tendency (Figure 9a), with a significantly declined ratio of the unsatisfied group as well as an increased population of the positive evaluation. Up to 80% of the respondents were strongly unsatisfied with resettlement policy during the period before 2004. Then, around 60% of the respondents during the period between 2004 and 2011 suggested either satisfied or partly satisfied. Moreover, after the 2011 reform, up to 60% of the responses are clustered in the partly satisfied group, yet none answer is totally satisfied; and more respondents held a neutral attitude than those of the foregoing periods, with a much lower ratio of the negative evaluation.

In terms of monetary compensation (Figure 9b), again the respondents during the period before 2004 mostly aggregates in the unsatisfied group. However, the bar graph displays a much higher satisfaction level among landless farmers during the period between 2004 and 2011 than that of participants after the 2011 reform. This observation somehow deviates from the anticipation of analysis, which might be caused by the declined marginal utility of policy reforms for landless farmers (both the 2004 and 2011 reform have largely promoted the monetary compensation standard).

As is shown in Figure 9c, landless farmers' satisfaction level with social insurance policy demonstrates a highlighted improvement. Above 70% of the respondents before 2004 expressed strong dissatisfaction in terms of social security. Indeed, few of them received urban social security as part of the compensation package during that period. After the 2004 reform, the satisfaction level among landless farmers became much higher, up to 66.6% (include the partly satisfied and satisfied group). Eventually after the 2011 reform, almost 80% of the respondents were at least partly satisfied with social insurance policy. The ascending tendency of respondents' satisfaction level can largely demonstrate the applicability and efficacy of policy reforms in respect of the social security system for those recent landless farmers later than 2011.

### Material living conditions for landless farmers

In most cases, landless farmers' material living conditions after land acquisition can be largely determined and differentiated by varying compensation standard and approach. In terms of compensation fees, 40.8% of total participants reported to only receive an amount of compensation fees less than 100,000 RMB, and then 85.7% received compensation fees less than 300,000 RMB. However, the distribution of responses may lack validity, as some respondents did not count the resettlement fee, while others did. In terms of compensation approach, monetary compensation is one of the major means throughout the two decades. In addition, 41.6% of them also received direct housing arrangement (usually offset a part

of resettlement fee), and 31.7% reported to receive social insurance (mostly endowment and health-care insurance, but rather few unemployment insurance or low-income subsidy). Only 2.0% of total respondents admitted to have acquired work arrangement or vocational training as one of the compensation means.

Moreover, 45.5% of landless farmers used most of the compensation fees to purchase arranged housing (much cheaper than market price but still an economic burden to farmers), and 30.7% used up the remaining for staple furniture and interior decoration. Besides, 24.8% of them chose to purchase urban social insurance (sometimes compulsory). Only 11.9% were able to reserve surplus compensation fees as deposit or financial investment. However, according to conversation with several landless farmers before the 2004 reform, most of their monetary compensation was actually used up to pay for the current housing apartment, rather than being issued directly to them. The rest of their compensation fees were used to purchase health-care insurance, and none was left into deposit. One complained that if he did not have pension insurance from the occupation in rural collective before acquisition, he would not be able to sustain his living. Another one claimed that she had to employ her own deposit plus the compensation fees when purchasing the resettled housing place.

As to the income level, before land acquisition 83.5% of the respondents reported their monthly income below 1770 RMB (the minimum standard of monthly income in Nanjing municipality), and only 5.8% of them earned more than 4000 RMB per month. Then after land acquisition, 41.4% of the respondents received monthly income less than 1770 RMB, and surprisingly, up to 22.7% of them earned above 4000 RMB per month. Meanwhile, 23.2% of the participants clearly indicated their monthly income decreased or largely decreased after land acquisition, whereas 55.6% have received a higher level of monthly income. In terms of the expense level, however, almost 100% of the landless farmers claimed that their monthly expenditures increased or largely increased after land acquisition, including extra consumption of foods and drinks that were much cheaper before and could be partly self-supplied by farmland in rural environment, as well as the



additional expenditures for utility fees, property administration fees, and transportation costs. It is also worth noting of an excessive increase in the expenses of health-care, medical treatment, and education for some households. In conversation, some participants especially mentioned about the increasing utility and property management fees are not affordable to them, and they had to cut daily living expenses.

In addition, the consuming ability of basic goods and services is indicated by comparing landless farmers' monthly income with their monthly expense level. 76.7% of them were able to keep a certain surplus after consuming daily living needs, albeit 23.3% could hardly sustain their uses of basic goods and services, who usually accepted extra financial support from their adult children. Despite adequate consuming ability of basic needs, the long-term expenses of medical treatment for those with chronic illness have also become a huge burden, especially for the aging group who had experienced land acquisition at an early time stage. Therefore, more than 70% of the responses suggest that land compensation policies fail to provide these landless farmers with a sufficient alternative of income, and fail to improve their family economic conditions.

Based on the evidence from conversation information, many suggested they feel a bit hard to keep a certain living standard after land acquisition, because of low income and high expense level. Some even claimed their life quality drastically declined, in respect of narrowed housing area and loss of rental income, and they were no longer able to go travel or recreation with limited income. One stated that although the overall life quality was improved, it is not because of land compensation policies, but the macro socioeconomic development. Another one believed that the life quality of his family was enhanced thanks to his own effort, rather than land compensation policies.

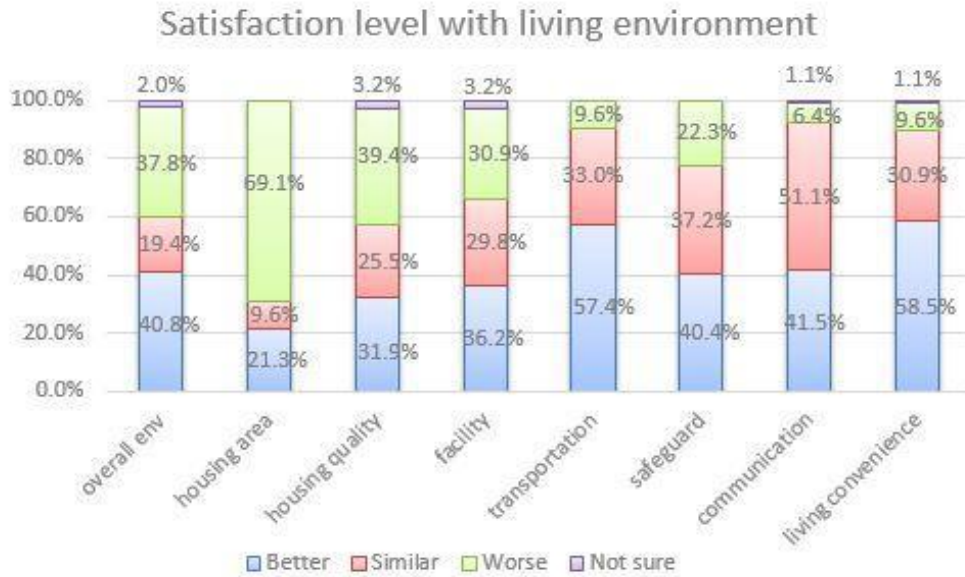


Figure 10: Respondents' satisfaction level with living environment indicators.

Finally, yet importantly, living environment is a dominant indicator to the material living conditions for landless farmers. As is shown in Figure 10, the evaluation on overall environment aggregates at two poles, whereby 40.8% of respondents indicated a higher satisfaction level, who were mostly resettled in Longtan Town, and 37.8% indicated a lower level of satisfaction, mostly living in Tiexinqiao Town. However, some positive responses also indicated that the overall environment was great, but not as comfortable as living in rural place. A prominent proportion of the participants showed an attitude of obvious dissatisfaction with arranged housing area, and 80% of these people were resettled in Tiexinqiao Town. However, some respondents in Longtan Town complained that after the 2011 reform they received several (more than three) sets of arranged housing, of which the whole area is large but each condo is narrow, and these condos are not suitable for accommodating the entire family usually with five or six members. Thus, they prefer to receive less number of but larger housing place.

Additionally, a remarkable ratio of responses from Tiexinqiao Town displayed a lower satisfaction level with housing quality as well as public facilities, while an equivalent percentage of respondents who lived in Longtan Town generally showed a higher satisfaction level with the two indicators (housing quality and public facilities). The case

can be explained by the difference in resettlement lengths, as the community of Tiexinqiao Town was built much earlier than the one of Longtan Town, and the latter one might have a better standard of housing quality and infrastructure services. Indeed, even within the same community, the landless farmers who were resettled after the 2011 reform usually showed a higher level of satisfaction with housing quality.

In aspects of transportation services, communication services and convenience of living activities, more than 90% of the landless farmers expressed a sort of positive attitude (better or similar). However, regarding the surrounding safeguard, a notable proportion of survey samples displayed an unsatisfied evaluation on this indicator, which are evenly distributed at two resettlement communities. In particular, many respondents in Tiexinqiao town mentioned about the painful issues of theft affairs (“as is often the case”, said the resident), a lack of fire route, loose security guards, and chaotic vehicle management (“cars often block the walking lanes”).

### Social security and employment support for landless farmers

The social security system mainly includes endowment, health-care (for urban or rural residents), and unemployment insurance. 80.6% of the participants reported to get involved in endowment social insurance. The coverage rate of urban health-care or rural cooperative health-care insurance was 87.8% and 60.2%, respectively. However, the unemployment insurance only covered 23.5% of the participants.

Figure 11 illustrates the satisfaction level of landless farmers with the four types of social insurance in terms of its standard and implementation performance. According to statistical evidence, more than 50% of the landless farmers with endowment insurance were at least partly unsatisfied with that type of insurance because of its low standard. Up to 46.5% showed obvious dissatisfaction with urban health-care insurance due to its poor operation performance, while 30.5% were also somewhat unsatisfied with the new rural cooperative health-care insurance. Only a few of landless farmers received unemployment insurance

after land acquisition, even though such a small number of people expressed strong dissatisfaction with that type of insurance, at the lowest rate of satisfaction approaching 0%. Moreover, 72.3% of the respondents expressed sort of anxiety as well as uncertainty towards their future life security in the urban society. In conversation, many respondents called for more health-care subsidy and covering range of medical services, especially for those aging people usually with chronic diseases.

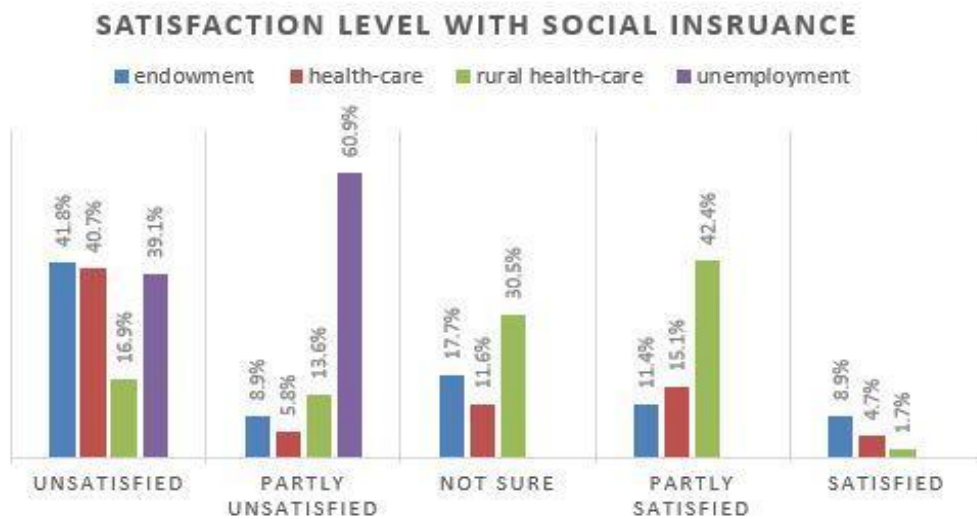


Figure 11: Respondents' satisfaction level with different types of social insurance.

In terms of employment support, only 14.6% of total participants received vocational training after land acquisition, and even less people (11.7%) admitted the vocational training was organized or funded by local town government, while the rest took part in vocational school by themselves. Though 17.5% of them were provided with official vocational training, many landless farmers did not choose to join in any training workshop due to a variety of reasons, such as “too old”, “time and money consuming”, “dislike the course content”, or “none use” (derived from conversation information). On the one hand, among those who received government-led vocational training, most found it useless in terms of reemployment (respondents revealed that they only learned cooking skills). On the other hand, those who decided to join in technical-related school by themselves appeared to have a more competent performance in labour market. Meanwhile, 44.4% of responses showed a supportive attitude to the statement that a variety of vocational training

workshop offered by town government would be necessary and considerably helpful to job hunting. However, some respondents suggested active social networks actually play a deciding role in labour market rather than professional ability. One respondent recalled his own experiences about reemployment. It was really hard for him to get employed at the age of 50 when he had the land acquired, especially without any support from the town government. In fact, he was lucky to have some social networks that can assist him in job hunting, while he knew many peer landless farmers could not find a full-time job and had little social insurance, who experienced much tougher lives.

Besides, only 17.9% of the participants considered their main access to job information from local town government and rural collective, while the others relied heavily on social networks of relatives and friends (30.6%), the internet and social media (39.8%), and job intermediary agency (16.3%). Up to 58.5% of the participants believed that they had received none of government assistance in the course of searching for employment, albeit some others stated that at least they had been offered either vocational training or job information access or beneficial employment nomination from town authority (sub-district office) or rural collective. In addition, almost 90% of the respondents reached a varying level of consensus that landless farmers could obtain fewer job opportunities and lower income level in the urban society, compared with urban residents of similar education qualifications and professional skills. The situation may reflect their deep feeling of being discriminated against by the urban labour market. Given all, the respondents displayed a low level of satisfaction with institutionalized employment support.

### Employment, income level and education level of landless farmers

The divergence of landless farmers' income level before and after compensation appears to be somehow related to the distribution of their work status before and after acquisition. It is calculated that 80.6% of landless farmers used to engage in only agricultural-related sector or take part in temporary work before land acquisition, most of whom were only able to

sustain their basic living needs before acquisition. Consequently, 83.5% of the respondents reported their monthly income below 1770 RMB before land acquisition.

Then after land acquisition, 41.4% of the respondents still received monthly income less than 1770 RMB, and surprisingly, up to 22.7% of them earned above 4000 RMB per month. On the one hand, 43.6% of the landless farmers became retired and received low-standard pension every month, and 6.9% were staying unemployed with very limited low-income subsidy. On the other hand, the percentage of landless farmers who became involved in non-agricultural sectors after land acquisition was sharply increased by 24.2%. As a result, a similar percentage of them reported a fair level of income.

As is mentioned before, the distribution of landless farmers' education level presents a clear tendency that matches the distribution of their employment status before and after land acquisition. Before land acquisition, 73.8% of total respondents were only engaged in agriculture-related work, and the rest were employees of either local private industries (9.7%), or part-time migrant workers (6.8%), or small business owners (7.8%). Actually, even those who had a major source of income from non-agricultural sectors used to take part in family-based agricultural work and considered farming lifestyle as an important guarantee of food self-supply (according to conversation with respondents). Then after land acquisition, 43.6% of the participants have become retired, 22.8% are currently employed in local private industries, 10.9% are self-employed business owners, and 9.9% are employed in town government or TVEs (town and village enterprises). However, the rest (12.9%) remain unemployed or are only able to compete for part-time temporary positions with less stability and limited wage as well as social security. Surprisingly, a notable proportion of resettled farmers has successfully turned from agricultural sector to non-agricultural sectors, among whom 73.3% have at least the middle school diploma.

Looking through Figure 12a and 12b, the influence of education level on landless farmers' work status before and after land acquisition is further detailed. In the group with education level equal to primary school, almost 100% were engaged in agricultural work

before land acquisition. Then after land acquisition, 62.5% of the group became retired, 10.4% unemployed, and the rest were mostly employed in low-income positions such as dustman, part-time market seller, or community gatekeeper (according to conversation information from survey respondents). In the group with education level equal to middle school, 62.5% of them merely engaged in agricultural sector before land acquisition; and then 34.4% were retired, while up to 50.0% became involved in private industries and town enterprises after land acquisition.

For people with education level equal to secondary school, few respondents used to be merely farmers, and some started their own small business after land acquisition, while the rest of them except for the retired were employed in town enterprises. None of the group with education level equal to post-secondary school used to engage in agricultural work before land acquisition, and they still kept their non-agricultural job positions after land acquisition, who are mostly the youth and the middle-aged with more competence and ambitious performance in labour market. Accordingly, the employment supportive policy as an important component of compensation package should put more focuses on the inclusion of those aging and lower educated.

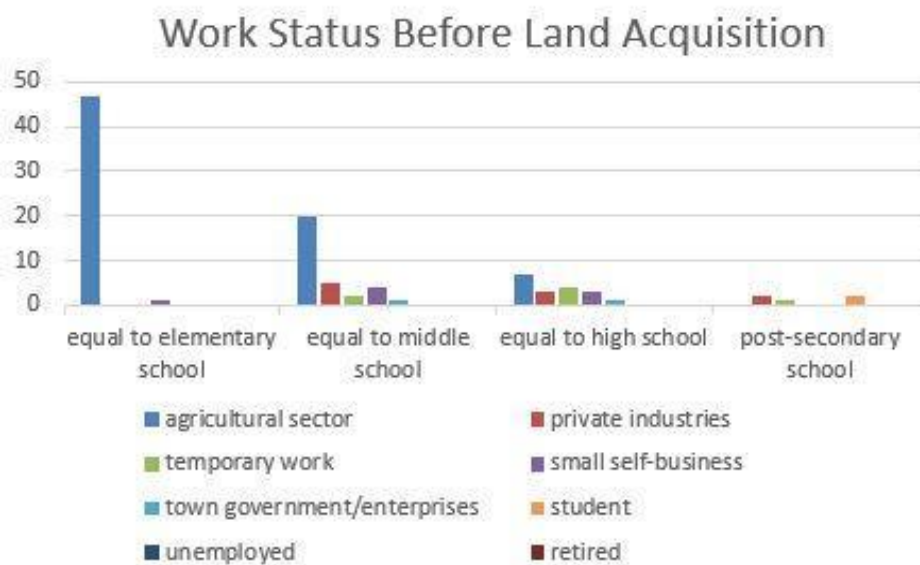


Figure 12a: Relationships between education level and work status before land acquisition.

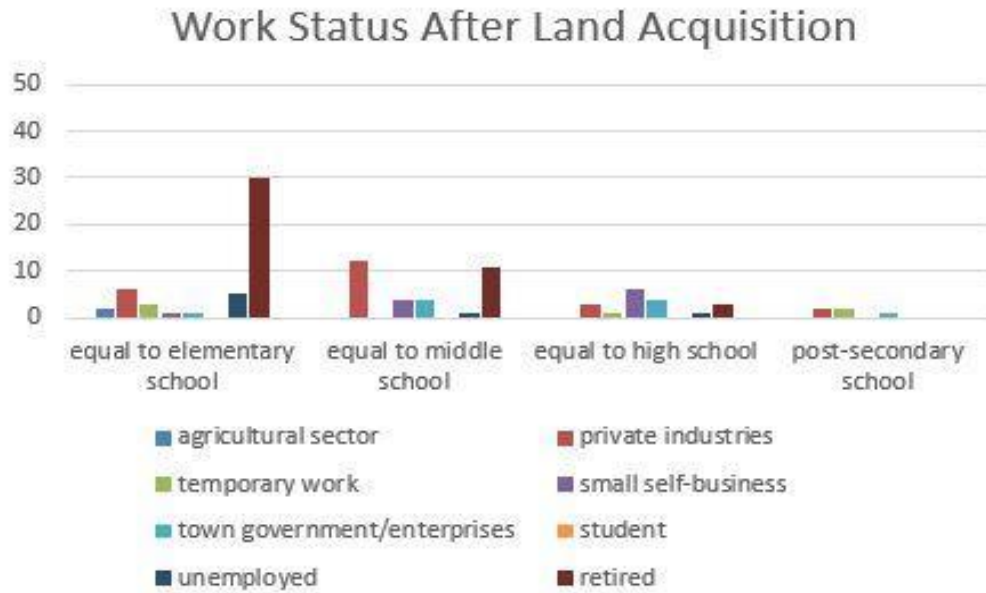


Figure 12b: Relationships between education level and work status after land acquisition.

## Social relationships, participation and attitudinal perceptions of landless farmers

It is infeasible to evaluate directly on landless farmers' satisfaction level with this dimension of life, because people usually have only vague impression instead of precise knowledge on their psychological in-depth attitudes and perceptions. Thus, a part of survey questions was implicitly designed to indicate the conditions of social relationships, participation, and attitudinal perceptions for landless farmers.

The condition of social participation for landless farmers is reflected by their intention of involving in community activities and concerning to community development. In addition, their knowledge of compensation policies and other relevant notices can imply the level of social participation. Only 23.1% of the respondents showed their more or less willingness and concerns, while up to 55.4% did pay little attention to the community where they live. Moreover, 55.1% of landless farmers barely had knowledge of any policy notice and considered that not useful. Meanwhile, it is interesting to note that on the one hand 17.3%



of the respondents appeared to be far knowledgeable of assorted compensation policies, despite mostly from hearsay evidence; on the other hand, 9.2% believed that none relevant policy notice had been published to the residents.

In terms of social relationships, two questions convey specific details in their formal and informal social networks with neighbours, relatives, and friends. Almost 60.0% of the participants admitted that they had reduced contact with rural relatives, neighbours, and friends after land acquisition, while 29.6% disagreed because many of their neighbours and friends were resettled together in a same community. Meanwhile, 52.0% of them agreed that they were also acquainted with some new neighbours, and friends after resettlement, whereas more than 30% disagreed with that statement.

Eventually, to indicate landless farmers' satisfaction level with life quality from their attitudinal perceptions, the adaptation, preference, expectation, and attitude to the urban lifestyle and rural environment are examined and illustrated in Figure 13. Here adaptation is to explore how hard for landless farmers to adapt to the urban lifestyle and new living environment. More than 60% of the participants suggested it be a tough process with remarkable difficulties, albeit 28.6% adapted to their urban lives in a relatively easy manner. Two survey questions relate to landless farmers' preferences. The participants were firstly asked if they prefer to live in rural housing place, and secondly were asked if they prefer farming lifestyle and feel like to approach land. A dominant proportion of "agree" responses indicated landless farmers' strong inclination to the rural living environment and lifestyle. However, still around 30% of them chose to stay in the urban society that can provide more life chances and better infrastructures. In respect of expectation, up to 87.8% of the participants believed that keeping rural land could bring better living conditions and more social security for future life quality. Moreover, up to 60.0% of landless farmers even declared that they would rather give up urban registration status and compensation fees, as long as to keep their rural land. The other 40% held an opinion of disagreement, which is almost consistent with the percentage of disagreed group in light of their preference and adaptation level. One respondent after the 2011 reform

suggested that he feel generally satisfied with many aspects of the urban life, but still have deep affection to farmland and rural lifestyle, and if he could have choice, he would prefer to have a small piece of land, farming, planting and self-supplying.

Therefore, it can be observed that the satisfaction level of landless farmers with social and attitudinal dimension should be generally clustered into the unsatisfied group, though it is hard to quantify these indicators more precisely. However, Figure 13 demonstrates an overall picture of their attitudinal and perceptive satisfaction level.

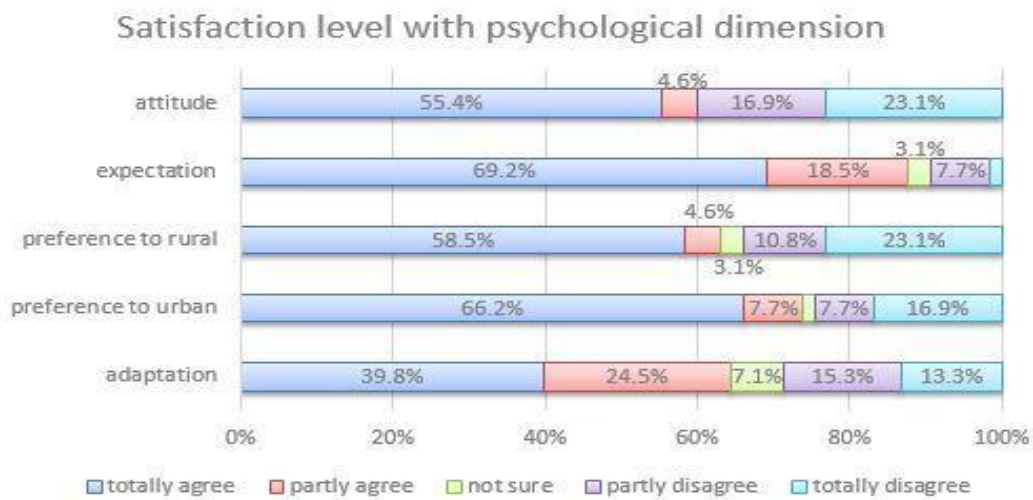


Figure 13: Respondents' life satisfaction level from attitudinal perceptions.

## Quantitative model results

### Reliability analysis of variables

For testing the stability of independent variables, Alpha reliability analysis was performed through SPSS. Cronbach's Alpha is the most common measurement on variable internal consistency or reliability. In addition, the approach is most likely to be applied to multiple survey questions that construct a Likert scale, in order to examine whether the multiple questions all reliably measure a same dependent variable. The Cronbach's Alpha of each evaluative dimension is shown in Table 3 below.

The negative Alpha value of personal socioeconomic attributes is calculated from a negative average covariance among the variables, which violates the assumptions of reliability model. This result is due to a non-consistent scale of measurement among the variables (X1-X4), and indicates these variables may not have good fitness when being put into a regression model. However, it does not mean this evaluative dimension has little importance to influence the life satisfaction level.

The Alpha value of material living conditions is 0.681; and if excluding expense change (X6), the Cronbach's alpha value would increase to 0.719. Specifically, the consistency of variables that indicate living environment shows a high reliability value (0.747). The Alpha value of social security is 0.739; and if subtracting the satisfaction with unemployment insurance (X11), the reliability value would increase to 0.831. The Alpha value of social and perceptive dimension is 0.828, and deleting any variable of this dimension would cause a slight decrease in the Alpha reliability. All the above values ( $> 0.60$ ) indicate a high level of internal consistency (reliability) for the influencing scale.

However, the influencing factors of personal socioeconomic attributes and employment support appear to be non-correlated and inconsistent. Thus, the variables of the two categories may not be of good fitness to measure landless farmers' satisfaction level in a continuous regression model.

Table 3: Alpha reliability analysis on clusters of influencing factors

Influencing factors	Cronbach's Alpha	N of variables
Personal socioeconomic attributes	Negative	X1-X4
Material living conditions	0.681	X5-X7
Living environment	0.747	X7a-X7h
Social security	0.739	X8-X11
employment support	0.392	X12-X15
Perceptive and social dimension	0.828	X16-X24

### Correlation analysis

First, I correlated the overall satisfaction level (Y1) against measures of satisfaction with two of the life dimensions (Y3, Y4 and Y5), to investigate whether or which any of the dimension has more relevance in determining landless farmers' life satisfaction than the others. Note that the dimension of social and perceptive aspects lacks a direct measurement from survey responses, so that to be excluded here.

From Table 4, it is observed that the overall life quality is strongly, positively correlated with the dimension of material living conditions as well as the aspect of social security, with a significance value lower than 0.01. However, according to the Pearson correlation parameter, it seems less relevant to the aspect of employment, and the significance level is not convincible to indicate the statistical relationship. Moreover, the dimension of material conditions is intensively correlated with the aspect of social security, and comparatively relevant to the aspect of employment. In addition, there is a significant relationship between the aspect of social security and the aspect of employment. All above assumptions of the positive relationships between different life dimensions can be accepted in light of a high significance level ( $p$ -value  $< 0.05$ ).

Then, I correlated the overall life satisfaction (Y1) and its sub-dimensions (Y3 to Y5) against measures of satisfaction with assorted compensation policies (Y2a to Y2c). The positive, relatively large parameter and high significance level in Table 5 demonstrate that

landless farmers' satisfaction level with the specific compensation policies is dominantly related to the level of their overall life satisfaction. Moreover, it is observed that the compensation package received by landless farmers has a significant influence on their satisfaction level with material living conditions, especially in relation with the standard of compensation fees. Additionally, the aspect of social security is positively correlated with a series of compensation policies, not only influenced by the social insurance policy, but also considerably relevant to the monetary and resettlement compensation. However, the aspect of employment is not necessarily taken into consideration of the current compensation policies, despite a significant yet relatively weak statistical relationship with the standard of compensation fees.

Table 4: Correlations between satisfaction with life quality and its sub-dimensions

<b>Correlations</b>					
		Y1: life quality	Y3: material conditions	Y4: social security	Y5: employment
Y1: life quality	Pearson Correlation	1	.720**	.663**	.193
	Sig. (2-tailed)		.000	.000	.058
Y3: material conditions	Pearson Correlation		1	.684**	.319**
	Sig. (2-tailed)			.000	.001
Y4: social security	Pearson Correlation			1	.347**
	Sig. (2-tailed)				.000
Y5: employment	Pearson Correlation	.193	.319**	.347**	1
	Sig. (2-tailed)	.058	.001	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 5: Correlations between satisfaction with life dimensions and compensation policies

Correlations				
		Y2a: resettlement	Y2b: compensation fees	Y2c: insurance
Y1: life quality	Pearson Correlation	.775**	.747**	.701**
	Sig. (2-tailed)	.000	.000	.000
Y3: material conditions	Pearson Correlation	.638**	.857**	.625**
	Sig. (2-tailed)	.000	.000	.000
Y4: social security	Pearson Correlation	.601**	.632**	.478**
	Sig. (2-tailed)	.000	.000	.000
Y5: employment	Pearson Correlation	.072	.244*	.098
	Sig. (2-tailed)	.481	.017	.353
**. Correlation is significant at the 0.01 (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

## Multivariate regression

As is introduced in Chapter 3, logistic regression model will be employed to respond to the research question of how the influencing factors relate to the satisfaction level of landless farmers with various life dimensions, by measuring the statistical significance value and estimated coefficient of each factor in the logit analysis.

In this section, I regressed the satisfaction level with the overall life quality and the main dimensions of life quality (Y1, Y3, Y4 and Y5 as dependent variables) against their sequent influencing factors as explanatory variables ( $x_n$ ). As the dependent variable is inherently categorical in a certain order, which means the values can be ranked but the real distance between categories is unknown, the ordinal logistic model was applied.

In order to exclude the interference of non-significant variables, stepwise regression was applied, with significance standard at the 0.05 level. I conducted a couple of regression steps and several non-significant variables are expelled when the significance value become unacceptable ( $>0.05$ ). The process ensured that the final equation of model only include explanatory variables without the issue of multicollinearity<sup>10</sup>. The estimated coefficients can tell how much the variable of interest changes based on the values of explanatory variables. First, larger coefficients associate with larger scores. Second, a positive coefficient indicates the likelihood of a higher score increases as the value of variable increases, and vice versa. In addition, the parameters are independent of the value assigned to each category of dependent variable, due to a given order of its categorical nature (Chen et al., 2013).

The *Threshold* values, called  $\alpha$  in the logit equation, often draw little attention in statistical evidence, which is equivalent to the intercept in linear regression, except that each logit function has its unique  $\alpha$  term. The *Location* values, called  $\beta_i$  terms in the equation, indicate the cumulative probabilities of independent variables for changes of dependent variable, usually interested by data analyst. Here is noted that the number of coefficient displayed is one less than the number of categories of the variable, because the missing category of variable is redundant as the referential category, with a coefficient of zero. In summary, the direction, coefficient, and significance level of each variable can be used to evaluate how the factors make influence on landless farmers' satisfaction level with a variety of life dimensions.

#### Ordinal logit model on overall life quality

Firstly, I regressed the overall life satisfaction with its dominant dimensions of satisfaction (Y3 to Y5) through ordinal logit model (Table 6). The distribution pattern of significance

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<sup>10</sup> In statistics, multicollinearity is a phenomenon in which two or more predictor variables in a multiple regression model are highly correlated, meaning that one can be linearly predicted from the others with a substantial degree of accuracy.

level on each life dimension corresponds to the result of correlation analysis (Table 4). That is, the satisfaction level with material conditions and social security has a significantly positive influence on the overall life satisfaction, yet the assumption of statistical relationship existing between employment conditions and life quality is surprisingly rejected. Meanwhile, according to the absolute value of estimated coefficient (*Location* values), material living conditions seem to make a superior contribution to the respondents' life quality than social security conditions.

In addition, the ordinal logit model shows good fitness to this case of regression, with a high significance level as well as a good R square value that explains the variation of dependent variable. Moreover, the null hypothesis in test of parallel lines is embraced by a relatively large significant value, which states that the location parameters are the same across response categories. All the mentioned above suggest that the ordinal logit model be applicable to this scenario.

Table 6: Logistic regression on life quality against life dimensions

Parameter Estimates						
		Estimate	Std. Error	Wald	df	Sig.
Threshold	[Y1 life quality = 1]	2.958	.565	27.403	1	.000
	[Y1 life quality = 2]	3.813	.629	36.714	1	.000
	[Y1 life quality = 3]	4.547	.693	43.022	1	.000
	[Y1 life quality = 4]	7.336	.975	56.568	1	.000
Location	Y3 material conditions	1.053	.213	24.376	1	.000
	Y4 social security	.679	.203	11.188	1	.001
	Y5 employment	-.242	.206	1.377	1	.241
	Cox and Snell R square	0.562				
Link function: Logit.						



Next, I regressed Y1 with the influencing factors of personal socioeconomic attributes, among which age, education level, and length of resettlement are continuous variable, and work status before or after land acquisition are discrete variables. Though the logit model is well fitted, the regression result is not convincing from a statistical perspective. Only the year of resettlement (X4) has a significantly positive relationship with the overall life satisfaction (Y1), and the estimated coefficient is 2.012.

#### Ordinal logit regression on material living conditions

Y3 indicates the satisfaction level of landless farmers with their material living conditions. Here I regressed Y3 against its aforementioned influencing factors (X5-X7). The variables were scrutinized using Wald approach, with selection standard  $\alpha = 0.05$  and excision standard  $\alpha = 0.10$  (p-value). Table 8 displays the regression results.

Before examining the *Location* coefficients, the fitness of ordinal logit model is indicated by the difference between two log-likelihood values, that is, the chi-square, which has an observed significance value of less than 0.0005. The significance value of model fitness (Table 7) is rounded to .000, which means an overall test of null hypothesis<sup>11</sup> can be rejected. Additionally, the significance level of fitting goodness is fair enough to embrace the hypothesis that the ordinal model fits.

From the estimated coefficient and significance value of each influencing factor shown in Table 8, the variables of income change, living environment and housing area present statistical significance on influencing landless farmers' satisfaction level with their material conditions, with p-value <0.05. These significant variables (X5, X7a and X7b) are all positively related to the dependent variable (Y2), which are mostly compliant with the expectation of the second theoretical hypothesis. In addition, the R square value is good enough to explain the variation of dependent variable. After eliminating the interference of

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<sup>11</sup> In inferential statistics, the term "null hypothesis" is a general statement that there is no relationship between two measured phenomena. Rejecting the null hypothesis concludes that there are grounds for believing that there is a relationship between two phenomenon groups.

dispensable variables (according to statistical significance), the R square value is a bit lower but still good enough, while the significance level of both dependent variable (at any rating level) and independent variables is highlighted.

In addition, if considering the influence of personal socioeconomic attributes, the length of resettlement (X4) also has a significantly positive relationship with this life dimension (Y3), with an estimated coefficient 1.885.

Table 7: Fitness of ordinal logit model

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	df	Sig.
Final	181.874	64.417	10	.000
Link function: Logit.				

Table 8: Logistic regression on material living conditions against its influencing factors

Parameter Estimates						
Step 1		Estimate	Std. Error	Wald	df	Sig.
Location	X5 Income Change	.440	.208	4.489	1	.034
	X6 Expense Change	-.448	.409	1.203	1	.273
	X7a living environment	1.434	.357	16.138	1	.000
	X7b housing area	.914	.389	5.516	1	.019
	X7c housing quality	-.122	.333	.134	1	.715
	X7 facility	.100	.308	.106	1	.745
	X7e transport	-.272	.415	.429	1	.512
	X7f safeguard	.140	.340	.169	1	.681
	X7g teleservice	-.025	.381	.004	1	.948
	X7h convenience	-.207	.339	.372	1	.542
Cox and Snell R square		0.515				

Step 2		Estimate	Std. Error	Wald	df	Sig.
Threshold	[Y3 material conditions = 1]	4.992	.954	27.396	1	.000
	[Y3 material conditions = 2]	6.185	1.041	35.326	1	.000
	[Y3 material conditions = 3]	6.712	1.081	38.561	1	.000
	[Y3 material conditions = 4]	8.568	1.230	48.482	1	.000
Location	X5 income change	.349	.175	3.997	1	.046
	X7a living environment	1.345	.307	19.192	1	.000
	X7b housing area	.957	.323	8.754	1	.003
	Cox and Snell R square	0.496				
Link function: Logit.						

### Ordinal logit regression on social security and employment support

Y4 indicates the satisfaction level of landless farmers with their social security conditions. Social security of landless farmers is mostly dependent on the performance of the social insurance they received after land acquisition, despite its plentiful implications under the subjective well-being theory.

The correlation analysis result shows that there exist significant, strong relationships between dependent variable (Y4) and explanatory variables (X8-X11). However, the ordinal logit regression presents relatively weak significance of these relationships. To be specific, the significance value only implies the satisfaction level of landless farmers with pension (X8) has a valid statistical relationship with their evaluation on social security (Y4), yet with a large negative coefficient. Then I removed the variable X11, because this column contains much less samples than other columns. Consequently, the model has a better fitness and a larger R-square value than before. In this round, the table of estimated

parameter displays a different result that the satisfaction level of landless farmers with urban health-care (X9) has a positive, significant relationship with the latent variable (Y4). Nevertheless, the observed results still lack a consistency with the theoretical hypotheses in previous studies. Table 9 presents the regression results of the two steps, and only two tested significant relationships are included.

*Table 9: Logistic test on social security against its influencing factors*

<b>Parameter Estimates</b>						
Step 1 & 2		Estimate	Std. Error	Wald	df	Sig.
Location	X8 satisfaction with pension insurance	-18.033	1.146	247.620	1	.000
	Cox and Snell R square	0.490				
	X9 satisfaction with urban health insurance	1.600	.554	8.335	1	.004
	Cox and Snell R square	0.497				
Link function: Logit.						

As is mentioned before, the ordinal logit model is not applicable to the influencing factors of employment support, as this category contains non-reliable variables. In fact, the logistic regression result does reinforce the conclusion, that the satisfaction level of landless farmers with employment support (Y5) has little significant relationships with the designated variables (X12-X15).

Moreover, if considering the influence of personal socioeconomic attributes, the year of resettlement (X4) and the category 5 (GOV/GOV-owned enterprises) of work status after land acquisition (X3a) are both positively related with the aspect of social security (Y4). Then, in terms of employment support, only the category 4 (small self-business) of X3a is positively related to the satisfaction level with employment support (Y5). The category 1 (agricultural sector), 3 (part-time worker) and 4 (small self-business) of work status before

land acquisition (X3b) all demonstrate negative relationships with the dependent variable (Y5), which indicate that the respondents within these categories are likely to have low satisfaction level with employment support.

Table 10: Logistic test on social security and employment support against personal attributes

<b>Parameter Estimates</b>						
Y4: social security		Estimate	Std. Error	Wald	df	Sig.
Location	X4 the year of resettlement	1.230	.359	11.762	1	.001
	X3a work after land acquisition =5	2.227	0.996	5.002	1	.025
	Cox and Snell R square	0.340				
Y5: employment support						
Location	X3a work after land acquisition =4	2.672	1.252	4.555	1	.033
	X3b work before land acquisition =1	-4.375	1.848	5.603	1	.018
	X3b work before land acquisition =3	-4.039	1.942	4.324	1	.038
	X3b work before land acquisition =4	-5.260	2.021	6.775	1	.009
	Cox and Snell R square	0.319				
Link function: Logit.						

## Ordinal logit regression on social relationships, participation, and attitudinal perceptions

Here I regressed the overall life satisfaction (Y1) with the influencing factors of social and perspective dimension (X16-X24) through ordinal logit model, because the overall life satisfaction is closely correlated with this underlying dimension.

The logistic regression model has a good fitness to this scenario (sig. = .000), with a high R-square value (0.820). Table 11 demonstrates the significant value and estimated coefficient of each influencing factor. It is observed in the first step of regression that the variable of landless farmers' adaptation ability (X16) plays the most important role in their satisfaction level in terms of social and psychologically perceptive aspects, which has the largest positive coefficient at a high significance level. Next, the variable of how often landless farmers contact with their rural relatives, friends and neighbours (X21) produces the second largest positive coefficient. Then, the variables of their preference for farming lifestyle (X18) and willingness to keep the rural land (X20) indicate that the more landless farmers prefer rural lifestyle and living environment, the lower life satisfaction level. In addition, the cognition level of landless farmers on relevant land compensation policies (X24) can significantly influence their overall life satisfaction. Meanwhile, the expectation on life security associated with rural land (X19) can influence landless farmers' life satisfaction in a negative manner, which means the less social security expected by farmers, the lower life satisfaction level.

However, the variables of landless farmers' preference for rural housing area (X17), frequency to be acquainted with new friends and neighbours (X22), and concern of participation in community activities (X23), are not statistically related with their overall life satisfaction. Thereby, the three non-significant variables are extracted in the second step of regression. As is shown in step 2 of Table 11, all the variables in this round are statistically significant, among which one (X19) has a negative coefficient and the others are positively related.

Table 11: Logistic regression on life quality against attitudinal and social influencing factors

Parameter Estimates						
Step 1		Estimate	Std. Error	Wald	df	Sig.
Threshold	[Y1 life quality = 1]	17.192	4.688	13.448	1	.000
	[Y1 life quality = 2]	19.908	5.084	15.331	1	.000
	[Y1 life quality = 3]	23.164	5.762	16.163	1	.000
	[Y1 life quality = 4]	25.255	6.046	17.447	1	.000
Location	X24 cognition	2.290	.791	8.377	1	.004
	X23 participation	-.681	.404	2.844	1	.092
	X22 frequency2	-1.203	.641	3.523	1	.061
	X21 frequency1	2.489	.792	9.875	1	.002
	X20 preference3	1.989	.615	10.454	1	.001
	X19 expectation	-2.363	.832	8.075	1	.004
	X18 preference2	2.186	.855	6.544	1	.011
	X17 preference1	-.478	.478	1.001	1	.317
	X16 adaptation	2.619	.825	10.078	1	.002
Step 2						
Location	X24 cognition	1.216	.413	8.651	1	.003
	X21 frequency1	1.606	.542	8.793	1	.003
	X20 preference3	1.636	.509	10.338	1	.001
	X19 expectation	-1.561	.570	7.489	1	.006
	X18 preference2	1.093	.490	4.982	1	.026
	X16 adaptation	2.214	.639	12.018	1	.001

# Chapter 5 Discussion and Conclusion

## Discussion

The initial research questions can be mostly answered through investigating and analyzing the research findings. Through a plentiful review of literatures, the first question to investigate and determine a variety of influencing factors was resolved. The second and third question were responded based on an evaluative framework of subjective well-being theory. In the thesis, life satisfaction measurement was employed to evaluate landless farmers' subjective well-being under compensation policies for land acquisition in a descriptive and quantitative manner, using the case study in suburban Nanjing with a quantity of 98 respondents' samples.

The adopted theoretical framework and comparative approach used to be underutilized in many previous studies (Hu et al., 2014). This research could expand a knowledge basis of land compensation system, extend the existing literature inventory on measuring landless farmers' satisfaction level with major dimensions of life quality, and finally encapsulate the subjective well-being theory to provide an applicable framework on evaluating the current compensation policies.

Promoting landless farmers' subjective well-being in relation to their satisfaction with quality of life is the prominent concept highlighted in the recent evolution of China's compensation policies for land acquisition. However, Land Management Law issued in the 1980s did lack a solid ground on satisfying landless farmers' basic needs to maintain or enhance their previous life quality. Despite a couple of national and regional reforms of the compensation system, the current directives of compensation standard and approach are still restricted to the losses of economic well-being associated with land productive function, while non-economic well-being, provided by land non-productive function (embodiment via non-market value), fails to be expressed in the operation mechanisms (Hu et al., 2014; Zhang & Ran, 2011). In fact, even the economic well-being is insufficiently quantified via policy price rather than market value (Zhao, 2009).



Through ordinal logistic regression modeling, the 24 defined variables were applied and the results are stated in previous sections (Chapter 4). Among the variables with constantly significant relationships, on the one hand, the positive influencing factors on landless farmers' life satisfaction include: year of compensation and resettlement (policy reform periods), change of income level, overall living environment, housing area, satisfaction level with urban health-care insurance, adaptation ability, expectation of life security with land, frequency to contact with rural relationship networks, and cognition level of compensation policies. On the other hand, the negative factors influencing their life satisfaction include: satisfaction level with pension insurance, preference to farming lifestyle and land, and attitude towards compensation.

The scales of influence from the factors are various according to the logistic estimated coefficients. From the first ordinal logit regression (Table 6), being materially deprived has been the most essential factor that results in the low satisfaction level of landless farmers. This observation is confirmed by the conclusion from Bohnke (2005). Meanwhile, the factor of the largest positive coefficient on influencing landless farmers' satisfaction with material living conditions is the living environment (Table 11). This observation is compliant with the conclusion drawn by Shui et al. (2014). Then, housing area has an obviously large coefficient that positively affects their satisfaction level. As was observed in previous studies (Dolan, Peasgood, & White, 2008; Edwards & Klemmack, 1973), personal or household income plays a definitely positive role in enhancing the respondents' material satisfaction level.

The increase in expense level has the worst impact on their satisfaction level, but lack a statistical significance ( $p$ -value  $>0.5$ ). However, through descriptive statistical analysis, this factor indeed has a direct influence on landless farmers' self-reported evaluations. There are several reasons for the considerably increased expenses. Firstly, landless farmers have to spend much more on foods and drinks in the urban society. Secondly, they have to pay for higher utilities and property management fees. Despite a lack of statistical relationship from the survey data, many respondents complained that they could hardly

afford the extra monthly expenditures. Some senior respondents particularly mentioned about a large part of economic burden on the medical expenses.

Substantial support for previous research findings can be discovered from the significant statistical relationships of the influencing factors on material living conditions. However, the analysis results fail to provide enough evidence for the influence of factors on landless farmers' satisfaction level with social security and employment support. According to literature review and the supplementary analysis of conversation information from survey respondents, landless farmers' subjective evaluations on the coverage rate and performance of different types of social insurance do have a significant influence on their satisfaction level with self-reported life security. Recent scholars (Hui, Bao & Zhang, 2013; Qian, 2015) indicate that resettled villagers are much likely to face potential marginalization and exclusion in the urban society, in terms of welfare programs and employment status. Nevertheless, the ordinal regression results did not produce good significance, though the correlation analysis and reliability analysis both imply the set of variables are internally consistent and strongly correlated with the latent variable. The probable explanation of the disparity between theoretical hypotheses and regression results could be attributed to the relatively small quantity of respondents' samples.

In the aspect of employment support, the set of variables show a rather weak correlation between each other, regressed on a non-significant relationship with the satisfaction level of landless farmers, and even are inconsistent from alpha reliability analysis. Such results suggest a better choice of variables be required, which need further research on this aspect of questions. However, through descriptive analysis, the respondents' education level can largely influence their work status before or after land acquisition, and in turn, correspond to the change of landless farmers' income level, which are somehow correlated with their life satisfaction in terms of employment.

More importantly, the regression results prove that a group of influencing factors in terms of social relationships, participation, and attitudinal perceptions can exert significant

impacts on landless farmers' overall life satisfaction. It is observed that for the resettled farmers, high adaptation ability to urban environment, less preference for farming lifestyle, and less preference for rural environment can evidently promote their satisfaction level with the urban lives. Meanwhile, the maintenance of contact with old rural friends, relatives, and neighbours can reinforce the enhancing impact, albeit expanding their social networks does not seem to concern many of the respondents. Such observations are mostly compliant with common senses and foregoing conclusions (Allardt, 1993; Bellani & Ambrosio, 2011). Moreover, landless farmers' cognition level on relevant policies can considerably strengthen their life satisfaction, which is validated in the study of Qin et al. (2016). However, based on the statistical illustration, a higher expectation on life security associated with rural land may contribute to a higher level of satisfaction with the urban life. This observation is somehow against the anticipation of hypothesis, and further investigation is needed on this issue.

Research findings prove that the current land compensation system indeed has a vacancy of non-market value compensation for the multi-functions of land resources. Although increasing landless farmers became more or less satisfied with their material living conditions, the improving monetary compensation standard can only compensate for (part of) the economic well-being quantified based on land productive function. Hu et al. (2014) found that monetary compensation should be at least RMB 750,000 per hectare, in order to ensure the maintenance of farmers' previous life quality. Only the compensation standard after 2011 reform can just meet this standard (Zhou et al., 2014). Therefore, the life quality and welfare benefits of landless farmers prior to 2012 are undoubtedly compromised and deteriorated. However, the 2011 reform also proves its advancement.

Moreover, the analysis demonstrates that landless farmers mostly expressed a certain extent of dissatisfaction with the dimensions of social security and employment support, which suggests the deficiency of relevant policies and regulations in these aspects. The desert of non-market value compensation not only does harm to rights and interests of landless farmers, but also results in the losses of total public welfare as well as social

cohesion, which can further disorder non-agricultural land circulation and invade the facilitation of land rights establishment (Zhang & Ran, 2011).

The current land compensation system may lack an efficiency in promoting sustainable rural-urban connecting land development, in enhancing affected farmers' well-being, and in protecting their land rights (Hu et al., 2014). Therefore, the direction to fully develop and integrate the compensation system should be focused on expanding the latitude and extending the longitude of compensation ranges to incorporate multiple dimensions of life quality, as being secured by multiple functions of land; meanwhile, subjective well-being theory can add a comprehensive framework for evaluation.

Hence, certain policy implications of this research are derived from the results analysis. Firstly, the compensation standard should include both economic well-being and non-economic well-being into the compensation system to incorporate the multifunction of land. Secondly, the compensation approach should introduce more alternatives about employment support for landless farmers, improve the standard of endowment and health-care insurance, and expand the coverage rate of unemployment insurance. Thirdly, the local authority should reinforce the management of resettlement communities, in terms of housing conditions, public facilities, safeguard measures, and community activities, in order to construct a better living environment for landless farmers, and to strengthen their trust in local government. Further, substantially lifting compensation standard can improve landless farmers' life well-being on the one hand; on the other hand, a rising cost of land acquisition can promote efficiency of land use and management, slow the pace of intensive land conversion (Hu et al., 2014; Shui et al., 2014), as well as mitigate the degradation of rural natural and human environment.

## Conclusion

This research emphasizes on the measurement of landless farmers' satisfaction level as is perceived by the participants. Life satisfaction measurement is central to the analysis as a comprehensive tool that tries to summarize a variety of factors that exert influence on major dimensions of life quality. Research findings provide policy decision makers with an overview of what the level of and the influencing factors on landless farmers' life satisfaction are, and how they relate to each other. Then discussions contribute to policy implications of how the compensation system should be improved to meet landless farmers' real needs and to enhance their life satisfaction level.

The thesis critically reviewed relevant land compensation policies, and evaluated the satisfaction level of landless farmers with their life quality dimensions under the impact of the policy system, based on the theoretical framework of subjective well-being. There are three dimensions regarding life satisfaction, particularly of 1) material living dimensions, 2) social security and employment support, and 3), social participation, relationships and attitudinal perceptions. The three dimensions are derived from three pillars ("Having, Loving, and Being") of subjective well-being proposed by Allardt (1993). Through this research, the current compensation system is still stressing on the "Having" aspect, with a deficiency or absence of "Loving" and "Being" aspect.

Corresponding to the results analysis, four main conclusions are drawn. First, age and education level do not show significant relationships with landless farmers' overall life satisfaction level, while the year of resettlement is positively related. In other words, landless farmers after the 2011 reform are more satisfied with their urban life quality, especially in terms of monetary compensation standard and social insurance policy.

However, education level relates to the work status of landless farmers before or after land acquisition, and in turn, can affect the change of their income level. Second, better material living conditions enhance their life quality, but higher urban living costs can decrease their satisfaction level. A higher satisfaction level can be resulted from a better living environment, a larger arranged housing area, and a major increase of income level. In

contrast, an obvious increase in expenses for utility facilities, commercial services, and resettled community's property maintenance costs are negative factors on farmers' satisfaction level with this life dimension. Third, social security and employment support do have important influences on landless farmers' satisfaction level based on descriptive analysis, whereas the designed variables lack a statistical significance. Finally, landless farmers' social and attitudinal perceptions can have a robust impact on their life satisfaction. Conscious cognition of relevant policies, familiar relationships with old rural friends, relatives and neighbours, as well as strong adaptation ability would positively contribute to their satisfaction level. In addition, the descriptive analysis and correlation analysis demonstrate that these observed relationships are all strongly influenced by the compensation system.

The research is mainly limited to a small number of survey samples. Normally, logistic regression analysis requests a quantity of hundreds of samples to produce considerably rational and comprehensive results.

Gender difference is also a concerning limitation of my research. With a small set of samples, the number of male and female participants are not in equilibrium. Male respondents could be likely to have different opinions on life quality dimensions from female ones. According to Liang and Li (2014), female landless peasants had poorer life quality than male ones in the resettlement area of the Yangtze River Delta region (including Nanjing municipality). Also during the course of conducting survey, I found males were usually more talkative and open to answering questions, while females appeared to be more cautious or reluctant when expressing their opinions. The divergence can result in different evaluations on the social and attitudinal dimension of life quality. The circumstance may just be a coincidence or could be ascribed to some intrinsic reasons that need to be continuously explored. Hence, though gender factor is excluded in this analysis, its influence on life satisfaction is still worth examining in the future research, with a sufficient quantity of and gender balanced survey samples.

Moreover, landless farmers may respond to life satisfaction scales in socially desirable ways, which undermine the validity of research. For example, it is hard to examine with whom landless farmers are compared as they evaluate their life satisfaction levels, with themselves prior to land acquisition, or with peer landless farmers, or with urban citizens. The concern is worth noting because life well-being is a subjective concept and people's evaluations could be influenced by horizontal and vertical comparison. In fact, quite a few respondents before the 2004 reform complained about the unfairness of compensation policies in comparison with those after the 2004 and 2011 reform.

Thus, this study can be further improved in at least two aspects. First, a longitudinal survey with more respondents' samples across more small towns, even for a short period, will be useful to further identification and validation of the examined statistical relationships. This will provide a more accurate assessment of the research questions. Second, the variables of social security and employment support require a more reasonable design for showing the significance. Moreover, the social and attitudinal dimension of life quality still lacks a solid quantitative (or qualitative) measurement for being included into regression analysis. Additionally, Nanjing is a relatively rich province located in the eastern coastal region, and thus very different from those in the middle and western inland regions. If the survey could be expanded to urbanized towns across more regions, it will facilitate the cross-regional comparison (Chen et al., 2013).

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# Appendix I

## Survey for landless peasants

### Part A: Basic information

1. Your age range:

1= 18 - 30	2= 31 - 45	3= 46 - 60	4= 61 - 70	5= > 70
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2. Your gender: 1= Male | 2= Female

3. Have you received urban household registration after land acquisition? 1= Yes | 2= No

4a. Your current employment;

4b. Your employment before land acquisition.

1= agricultural sector, 2= private industries, 3= part-time migrant work, 4= self-business, 5= town government/town-owned enterprise, 6= student, 7= unemployed, 8= retired

5. Your highest education level:

1= elementary school and below, 2= middle school, 3= equal to high school, 4= college and above

6. The year of compensation and resettlement ( ).

### Part B: Land compensation and resettlement

1a. The amount of compensation fees (RMB) you received:

1= <100,000; 2= 100,000-300,000; 3= 300,000-500,000; 4= 500,000-800,000; 5 = >800,000

1b. How was it paid?

1= one-off paid, 2= multi-paid, 3= by month, 4= by year

1c. What approach of compensation and resettlement have you received? (check all applied)

1= currency, 2= housing arrangement, 3= endowment insurance, 4= medical care insurance, 5= low income subsidy, 6= unemployment insurance, 7= vocational training, 8= work arrangement, 9= retained farmland, 10= land benefit share/bond, 11= others

2. How did you make use of the compensation? (check all applied)

1= purchase arranged housing, 2= decoration/furniture, 3= daily living, 4= medical care, 5= purchase social insurance, 6= education investment, 7= deposit/buy financial product, 8= recreation use, 9= self-business investment, 10= others

### Part C: Economic condition

1. Your satisfaction level on current living environment in comparison with that before land acquisition. (1= worse, 2= same, 3= better, 0= not sure)

	mark
a. Overall living environment	
b. Housing area	



c. Housing quality	
d. Air/water quality	
e. Traffic condition	
f. Surrounding safeguard	
g. Telecommunication service	
h. Convenience of daily living	

2. Before and after land acquisition, what changes to your income and main sources of income? (1= largely decrease, 2= decrease, 3= similar, 4= increase, 5= largely increase)

monthly	overall	agriculture	rent	salary	wage	pension	subsidy	self-employ	other
Before									
After									

3. Before and after land acquisition, what changes to your expense and main items of consumption? (1= largely decrease, 2= decrease, 3= similar, 4= increase, 5= largely increase)

monthly	overall	Daily living	utilities	medical	education	transport	recreation	deposit
Before								
After								

4. Do you agree the statement that the compensation and resettlement make you have more stable sources of income and improve your household economic condition?

1= totally disagree, 2= partly disagree, 3= not sure, 4= partly agree, 5= totally agree

#### Part D: Employment and social insurance condition

1. Before and after land expropriation, what kind of social insurance have you and your family members received? (1 – buy before land acquisition, 2 – receive after land acquisition, 3 – buy after land acquisition, 0 – not receive)

	a. endowment	b. medical	c. rural medical	d. unemployment
You				
Family				

2. Please evaluate your satisfaction level on different types of social insurance, respectively (a. endowment, b. medical service, c. rural medical service, d. unemployment).

1= unsatisfied, 2= partly unsatisfied, 3= not sure, 4= partly satisfied, 5= satisfied

3. Please indicate your level of confidence or anxiety towards future living quality.

1= very worried, 2= partly worried, 3= not sure, 4= partly confident, 5= very confident

4a. Have you been offered any vocational training after land acquisition? 1= Yes | 2= No

4b. Was the training organized or funded by town government? 1= Yes | 2= No

5. If you take the training, do you find it helpful to get a job?

6. Do you think a variety of vocational training is necessary to be offered by government?

7. Your main access to job information;

1= from relatives and friends, 2= from town government and rural collective, 3= from internet and social media, 4= from job agency and job fair, 5= others

8. What kind of assistance have you received from town government in terms of employment?

1= priority employment policy, 2= vocational training, 3= job information, 4= employment reference, 5= others, 6= none

9. Do you agree that compared with urban residents of similar education level and skills, you receive less job chances and incomes.

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

Part E: Cultural, psychological and social participation

1. You feel it is hard to adapt to urban lifestyle and new living environment.

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

2. You prefer to live in rural housing with more space.

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

3. You prefer farming and planting lifestyle, and feel like to get close to land?

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

4. You believe rural land can bring better living conditions and more security for future living.

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

5. You would rather give up urban registration status and compensation fees, as long as to keep your rural land.

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

6. After land acquisition, you reduce the contact with the rural relatives, neighbours and friends.

1= totally agree, 2= somewhat agree, 3= not sure, 4= partly disagree, 5= totally disagree

7. After land acquisition, you are acquainted with some new neighbours and friends.

1= totally disagree, 2= partly disagree, 3= not sure, 4= partly agree, 5= totally agree

8. You are willing to participate in community activities and concern much about community development.

1= totally disagree, 2= partly disagree, 3= not sure, 4= partly agree, 5= totally agree

9. Do you know much of public policy notice from rural collective or town government?

1= barely concern, 2= know a little bit, 3= familiar, 4= fully knowledgeable, 0= no policy notice

Part F: Overall evaluation

1. Please indicate your evaluation on several life aspects after land expropriation compared with those before land expropriation. (1= very unsatisfied, 2= partly unsatisfied, 3= not sure, 4= partly satisfied, 5= very satisfied)

a. Overall life quality, b. Economic living conditions, c. Employment support, d. Social life security

2. Please indicate your satisfaction level with overall compensation and resettlement practice.

1= very unsatisfied, 2= partly unsatisfied, 3= not sure, 4= partly satisfied, 5= very satisfied

3. Please indicate your satisfaction level with different compensation policies.

1= very unsatisfied, 2= partly unsatisfied, 3= not sure, 4= partly satisfied, 5= very satisfied

a. resettlement, b. compensation fees amount, c. insurance engagement

5. What compensation approach do you prefer?

1= One-paid currency based on land market price

2= Currency compensation as rent paid by year

3= an alternative piece of land

4= Part of currency and part of land share/bond

5= Part of currency and social insurance

6. What sort of assistance from government do you need for now?

1= Increase housing area, 2= Provide/increase medical insurance, 3= Provide/increase pension insurance, 4= Provide job training and information, 5= Provide assistance in protecting your land rights and interests, 6= others