

The impact of urbanization on rural resettlement social stratification

——A case of village in
Danjiangkou reservoir

Gu, Anqi

anqigu@163.com

I Find problems

1. Resettlements are different in many aspects

Since 2009 I have done some ADB loan programs and reservoir resettlement programs in China. Both in ADB safeguard and Chinese government policy, Through comparison of average incomes of the sample before and after resettlement, estimate whether resettlement life restore to the original level. If the later average income reaches or exceeds the former, it can be explained that the resettlement is successful.

ADB projects	External Resettlement Monitoring and Evaluation for The Environment Protection Project in Qinhuai River
	External Resettlement Monitoring and Evaluation for EMDP and Xinjiang Regional Road Improvement Project
	PPMS (project performance management system) for Xinjiang Regional Road Improvement Project
	Provide Advice for A Rural Transport pilot project in Kuche
	Waste-to-energy project in Jiangsu province
Chinese government projects	Three Gorges resettlement plan
	Resettlement Monitoring and Evaluation for the middle and east rout of the South-to-North Water Diversion project.

- Question 1:
 - Is the average data meaningful?
 - Obviously it obscures the internal differences.
- Question 2:
 - Does income represent the whole of resettlement?
 - The restoration and relocation of resettlement contains many aspects, although income is still an important indicator.
- Question 3:
 - What are the meaningful indicators?
- Question 4:
 - How to divide stratification according to indicators?

2. Danjiangkou Reservoir resettlement urbanization

- The resettlement of Danjiangkou Reservoir is an engineering affecting national stability and development of systems.
- The key to successful resettlement lies in the selection of the resettlement pattern. Before 1980s, the government paid priority attention to engineering and slight resettlement. Since early 1990s resettlement environmental capacity get be attention. Traditional resettlement being removed to area over the submerge and move line bring about poverty.
- The government adopt new urbanization resettlement the migration of rural labor to cities has become a trend since China' s economic reforms. The reservoir resettlement urbanization is different than the city-centered urbanization and voluntary rural-urban migration, in situ urbanization occurs in rural areas where an "urban village" or "suburban village" develops in place after urban expansion and urbanization by merging villages to build new towns.

- The South-to-North Water Diversion Project Office proposes the urbanization with land resettlement plan to take advantage of urbanization and to integrate the development of resettlements with towns. the government relocates an entire village to vast distance area around an existing small city or town in same province while providing nearby arable land as basic economic security.
- The rural household registration system is maintained and the resettled people hunt for new positions and opportunities during the town' s development process.
- This plan generally applies to small cities or towns. With their low costs of living, small cities or towns link villages and cities and they have rural and urban characteristics, which makes adaptation to resettlement relatively easy for immigrants. On the other hand, China is now entering a period of rapid urbanization. Every county and district has identified those towns with better development conditions as towns to be targeted for construction.

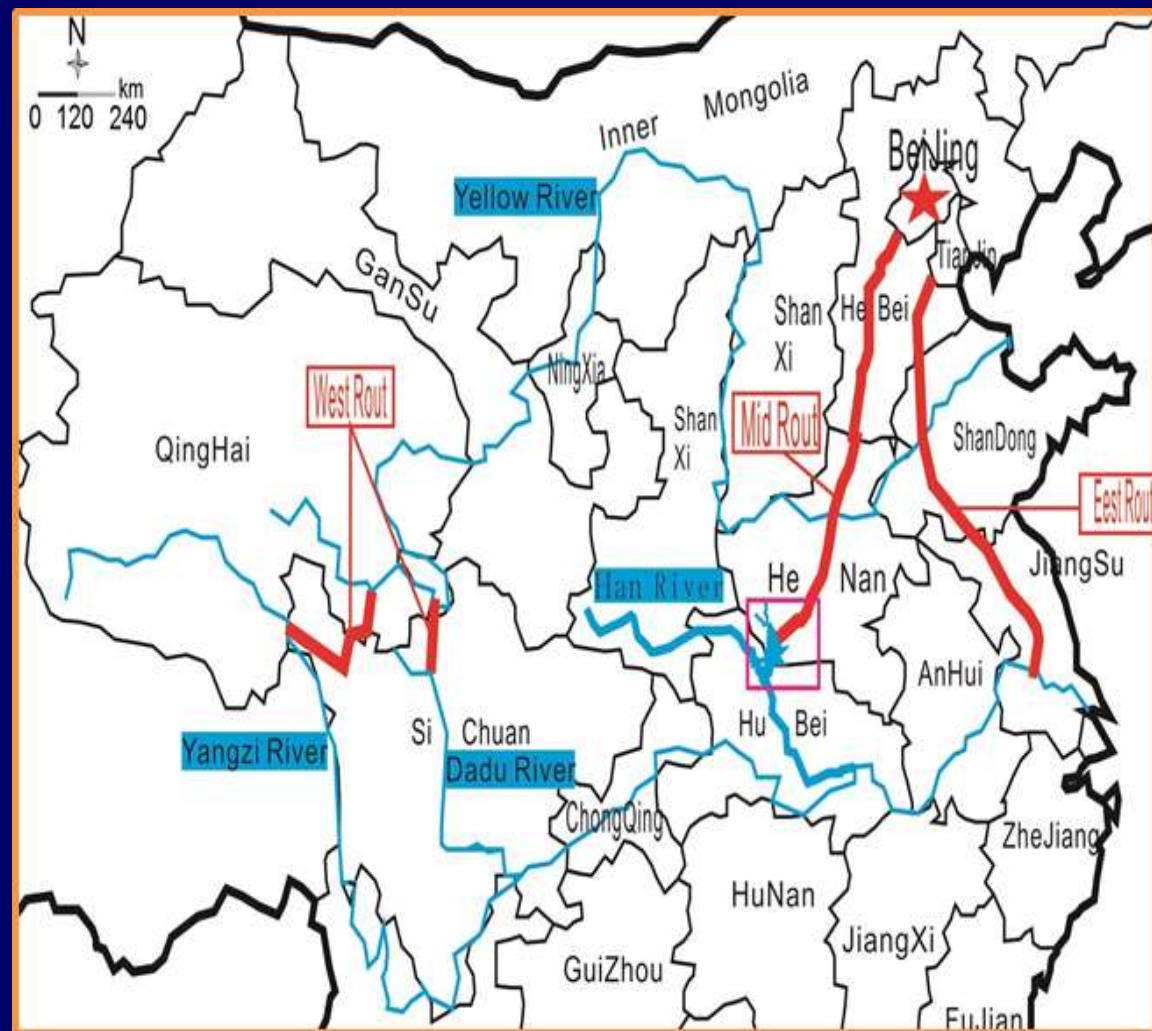
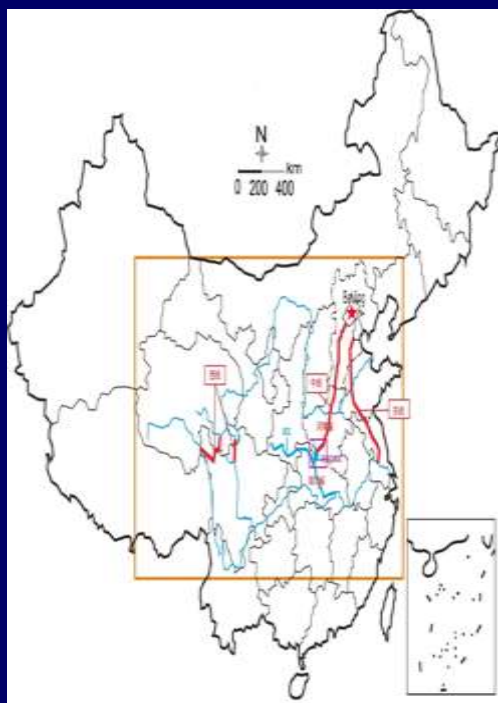
- Question 4:
- what are changes of stratification under this kind of resettlement?
- Question 5:
- In the context of resettlement urbanization, how forced migration get the upper stratification?
- Question 6:
- what are the risks of resettlement urbanization ?
- Question 7:
- How government should manage the risks?

II Study site

1. Danjiangkou Reservoir

To resolve the water shortage problem in the north section of the country, the Chinese government carried out a massive trans-basin diversion project: the South-to-North Water Diversion Project. The water diversion project plans to divert water separately from the upper, middle, and lower reaches of the Yangtze River, creating western, middle, and eastern water routes.

The middle Route Project began drawing water from Danjiangkou Reservoir to Beijing and Tianjin at the beginning of the 21st century (constructed from 2002 to 2014). Danjiangkou Reservoir is located on the border of Henan and Hubei provinces where the north meets the south ($32^{\circ} 14' - 33^{\circ} 48' \text{N}$, $109^{\circ} 25' - 111^{\circ} 52' \text{E}$). It contains three small reservoirs: Han reservoir, Dan reservoir, and Xi reservoir. The climate in this area is subtropical monsoon. To the north and west are mountains higher 1000 meters. The terrain in the south is a flat plain and the eastern section consists of low hills. Secondary forests cover the mountain areas but the low hills either are bare or uncultivated shrub land. Agriculture is present throughout the Reservoir area, mostly consisting of crops such as rice, wheat.



2. Resettlement characteristics

	Dam project	Heightened dam project
Project time	1958-1973	2005-2010
Normal water level	157m	170m
Crest elevation	162m	176.6m
Inundated area	Henan province: Xichuan county; Hubei province: Danjiangkou city, Wudang county, Xun county, Zhangwan area of Shiyan city, Xunxi county	
resettlements	Total 380.2 thousand, Xichuan county 200.2 thousand	Total 340.6 thousand, Xichuan county 160.4 thousand

To increase the volume of available water, the dams were heightened during the first stage of construction (2005–2010). The water level was raised from 157m to 170m on average and the corresponding capacity of the Reservoir was 29.05 billion m³. During the secondary resettlement stage, 345,000 forced immigrants from 78 towns and 1527 villages of Xichuan County (Henan province), Danjiangkou City, Wudang Mountain County, Xunxian County, Zhangwan Area of Shiyan, and Xunxi County (Hubei Province) were inundated.

Resettlement history in Xichuan county

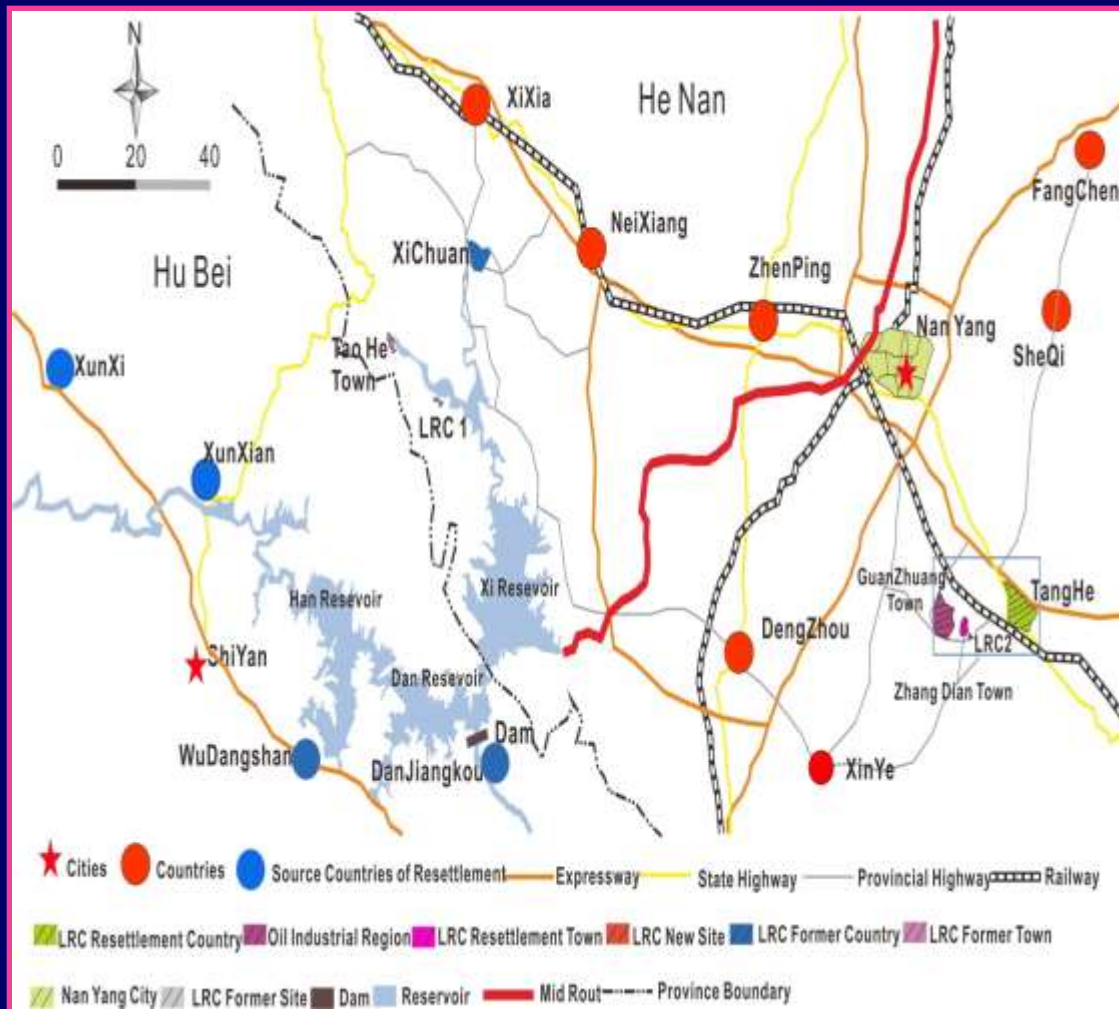
Time	Project		Resettlement	
	Item	Process	Item	History
1958	Danjiangkou Reservoir Dam project	begin	Old resettlement	
1959		Hanjiang river closure		1, 1959.3-1960.5, 22342 resettlements were moved to Qinghai province one thousand kilometers away
1960				
1961		Reservoir cofferdam		2, 26725 Resettlements lived under 124m, 4310 moved to Deng county, 22415 moved to local area up 124m.
1966				3, Total 14868 were moved to Hubei province, 10973 Jingmen county, 3895 Dachaihu area, Zhongxiang county
1967		Sluice storage		4, Total 23311, 8428 Dachaihu area, Zhongxiang county, 14883 Jingmen county, Hubei province
1968				5, 31670, Zhongxiang county, Hubei province.
1970		Dam height 162m		
1971		Old county was submerged		6, Total 32188, 10679 Deng county, 21509 Xichuan county, Henan province
1972				7, 24000 Xichuan county, Henan province
1973		completed		
1976				8, 25870, Xichuan county, Henan province
2002	Danjiangkou Reservoir Heightened dam project	Ready for implementation	New resettlement	
2003		Halt order		
2005		begin		
2009				1, 10 villages, resettlement 10627, 5 centralized resettlement point., Henan province
2010				2, 57 villages, resettlement 6490000, 82 centralized resettlement point., Henan province
2011				3, 115 villages, resettlement 8610000, 115 centralized resettlement point., Henan province
2013		completed		

- The Danjiangkou Reservoir area now has three main characteristics. (i) Agricultural production is an important feature, including fruitwoods and aquaculture in some regions. A large number of livestock, mainly used for household eating, is to be found. (ii) Danjiangkou Reservoir has an important ecological function and it is economically underdeveloped while being a poverty-stricken area of the nation. (iii) The area is a relatively isolated geographical environment with low urbanization. After the order to stop inhabitant construction was given in 2003, new housing and infrastructure construction basically stopped. In 2008, the urbanization rate of Reservoir area was only 27.0%. With respect to the resettlement location of the second resettlement, the government generally selected locations that were close to a main road, near small cities or towns and clusters of industry, and then it transported the village people as a unit out of their hometowns to the resettlement areas.

3. LRC village

LRC was originally located in the lower valley in the northwest section of Danjiangkou Reservoir (32° 58'32.01"N, 111° 19'50.51"E). It was about 19 km from Taohe Town and about 23 km from Xichuan County. Before the forced immigration, LRC was a typical village in which agriculture was the major source of income supplemented by part-time employment in nearby towns and cities as well as self-employment. It was similar to most of the other villages in Reservoir area. The size of the relocation population was 402 households consisting of 1680 people, which is considered a large village . The vast majority of the people worked in agriculture. About 1648 resettlements were agriculture registered permanent and 32 resettlements were non-agriculture registered permanent. In 2008, before the relocation, the average per capita land area was 0.15 acre and the village GDP was CNY 27,000,000 (USD 3,958,944) .

LRC村示意图





III Social stratification changes

Selection indicators:

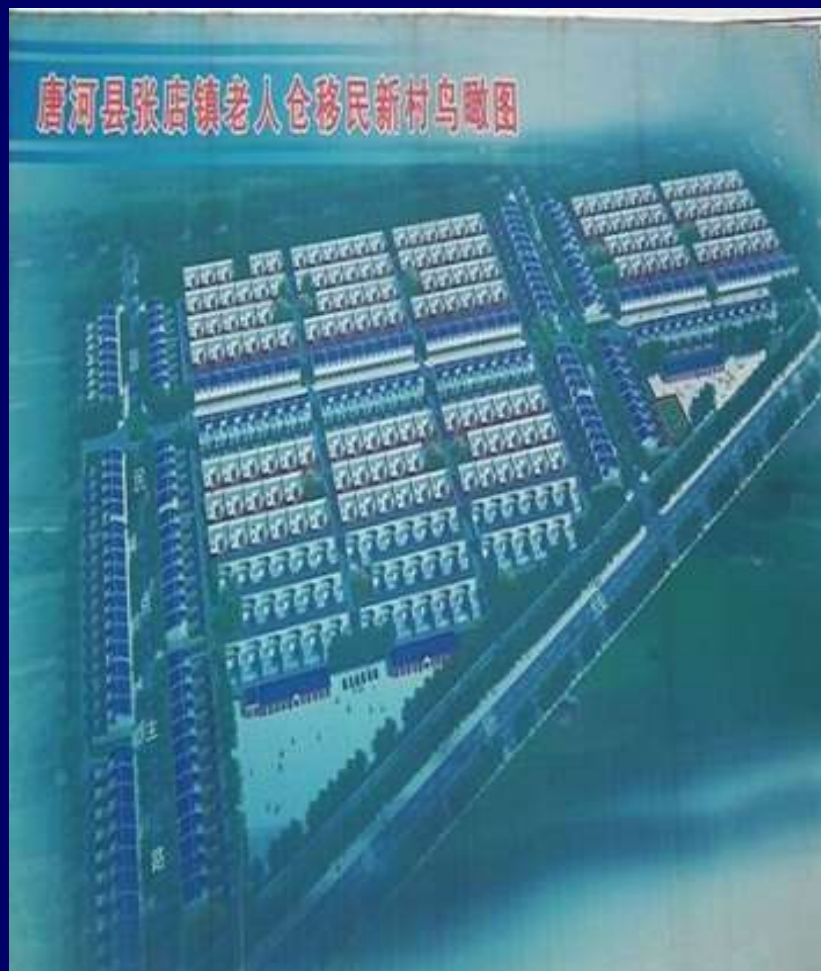
important resources resettlement considered

Data :

In 2015 chester sampling for LRC resettlements, barring the student, soldier, prisoner. Finally get 1038 valid samples.

1. landscape urbanization: housing stratification





	Average area per person(m²)					Value of housing (million CNY, %)				
	≥54	44-54	33-43	24-34	< 24	≥0.15	0.07-0.149	0.03-0.069	0.01-0.029	<0.01
Before	21.4	37.9	29.7	6.2	4.8	0	22.3	68.6	6.7	2.4
After	4.7	24.6	54.6	17.1	0	0	74.1	25.9	0	0
	Housing type (%)					Housing structure (%)				
	One-story	Two-story or higher	Shop-front			Concrete and brick	Wood and brick	Earth and wood	other	
Before	72.7	16. 1	11. 2			28.1	38.4	24.2	9.3	
After	38.9	13.4	47.3			100	0	0	0	
	Toilet (%)					The main cooking fuel (%)				
	In house	In yard	None			Gas	Electricity	Coal	Firewood	Other
Before	3.3	91.4	5.3			4.8	27.4	10.7	54.2	1.9
After	100	0	0			73. 1	26.9	0	0	0
The stratification of integrated housing levels (scores, %)										
	81-100	61-80		41-60			21-40		0-20	
Before	0.7	27.4		61.1			7.5		4.3	
After	34.1	47.3		18.6			0		0	

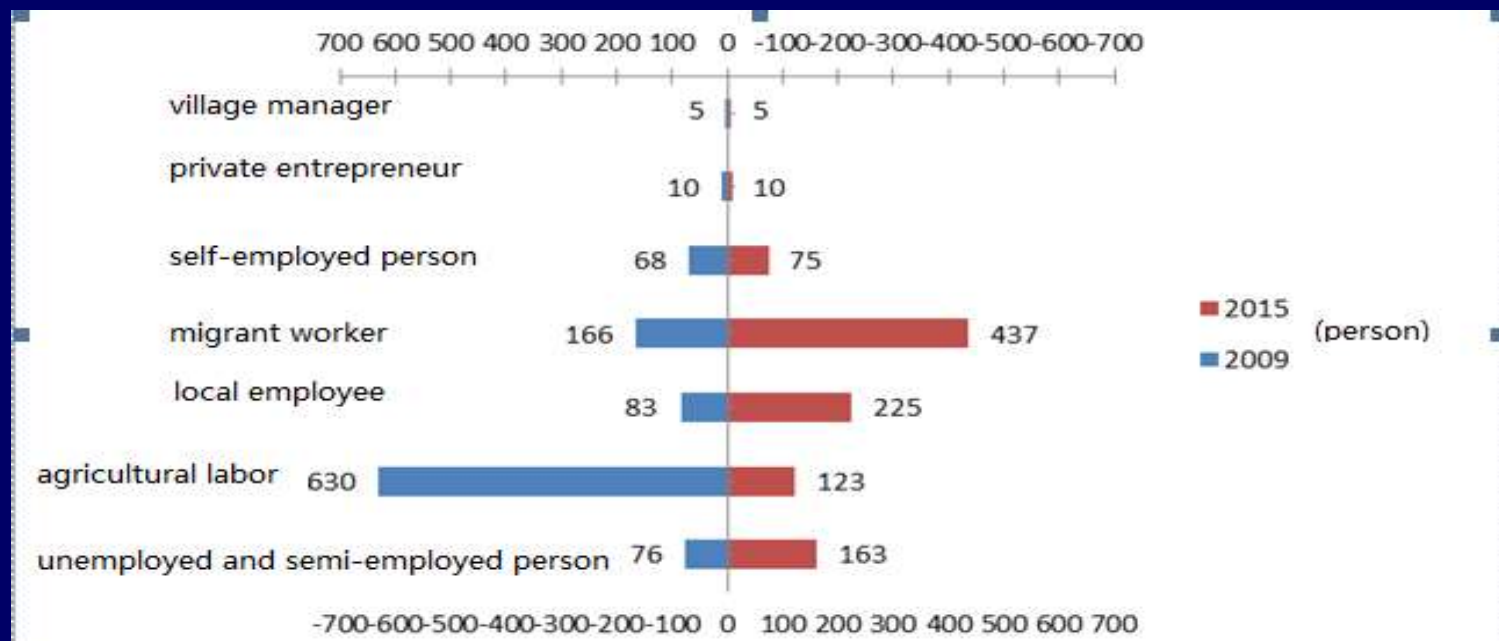
The main exemplification of landscape change is the immigrants' housing. The following three standards are applied to evaluate housing level: (i) structural size, (ii) value, and (iii) dwelling quality. The dwelling quality indices include: (a) housing types, (b) construction structures, (c) types of main fuel used for cooking, and (d) indoor toilets. We combined the responses on six indices using factor analysis standardization processes. The respondents were divided into five groups based on their housing levels (see Tab.1). The resettlement stratification differences among the respondents were considered from three aspects: (i) possessing quality housing comprehensive levels, which is the individual's or family's financial capacity and achievement symbols; (ii) whether the housing comprehensive level was improved overall after resettlement; and (iii) whether urbanization resettlement improved the housing conditions.

- A house's average area per person after resettlement (35.5m²) was less than the average area per person in the original house before relocation (41.7m²). However, it was larger than the per person nationwide average (32.7m², 2011) in towns. For immigrants whose original house area per person was less than 24 m², the government increased their house size up to 24 m² at no charge to the immigrants. The homestead is perpetually used by immigrant. Construction materials have significantly changed. All houses are now constructed of reinforced concrete and brick. Before resettlement, most houses were single-story masonry and timber structures.
- There are three types of housing. It has 191 shop-front households that are 175.9 m² in area with a negotiated unit price of CNY 550/ m²; 157 households in one-story houses that are 115 m² in area with a negotiated unit price of CNY 558/ m²; and there are 54 households in two-story houses that are 170.8 m² in area with a negotiated unit price of CNY 546/ m². All of these prices are much lower than the local commercial housing prices .
- Before resettlement, firewood was used for cooking, and houses were just for living, only a few houses were leased or used for other operations. The housing prices were pretty low. Most of them had courtyards and about 90.0% of them had outhouses in the yard. After resettlement, all of the toilets were moved inside and biogas and electricity are used for cooking. The government is building the resettlement towns in accordance with new urban standards and the infrastructure is of higher quality than that of the nearby urban areas. Many villagers in LRC village no longer use their houses solely as living places; they now consider them as important investments and income resources. Owing to the convenient transportation and the high level of urbanization in the surrounding area, immigrants are renting sections of their houses or using them as storefronts, transforming their housing from personal property into operating capital. The value of housing has been further improved.

2. Production urbanization: occupational stratification



- Fishing and planting is main work
- Middle-aged man or woman
- Preparation of rattan chair



According to social prestige evaluation resettlement occupations are divided into seven categories from high to low:

(i) village managers who are collective enterprise administrators and village grassroots officials ; (ii) private entrepreneurs who legally possess the means of production and operate private enterprises; (iii) individual operators are self-employed laborers who have small businesses or services, and rural intellectual workers, such as the professionals of certain cultures and techniques (e.g. rural teachers, doctors, and cultural propagandists); (iv) migrant workers who leave the county to engage in secondary and tertiary industries, but their household registers are still in this county; (v) employees who locally work for personal enterprises, large scale contract farmers, or for individual businesses in the short term; (vi) agricultural laborers who work as contract labor on collective lands, work on small farms, or work in animal husbandry; (vii) unemployed and semi-employed people who, although legally of age for employment (male,16-60; female,16-55), cannot work due to disability.

- It is important evidence of the extent of urbanization. Because the resettlement area is close to town, the oil industry, and Tanghe County, a large number of resettlement immigrants can take advantage of new opportunities to transform what they do for work. The LRC resettlement occupational stratification is closely related to the urbanization resettlement plan. An immigrant's occupation that generates the majority of her or his income is the immigrant's main occupation.
- There are obvious changes to aspects of occupation after the resettlement. First, there is a dramatic increase in individual operators, employees, and migrant workers and new-type landlords have emerged. The number of traditional agriculture decline. The occupational distribution suggests that the majority of resettlement work is in secondary and tertiary industries, such as construction, food processing, business, food services, and industrial agriculture. The percentage of people who engaged in pure agriculture declined from about 68.5% to 18.9%, suggesting that about 70.0% of the farmers became non-agricultural laborers after relocation (see Tab.4). The number of people who work in the county increased, the surplus laborers who were 40, 50, or 60 years old reported that they were working in Zhangdian Town, in the oil industry area, or in Tanghe County.

- There also is diversification of resettlement part-time jobs. Most of the immigrants engaged in employment in their part time, non-farm work time greatly increased. The percentage of non-agricultural laborers in all occupational categories increased from 3.0% to 74.0%, meanwhile, as the large scale land circulation, the people who engage in agriculture directly decreased, both those whose only employment was farming and part-time farmers.
- In addition, household population also is related to occupation. Households with more than four laborers who engage in the same occupation account for about 2.3% of all the households and households with more than three laborers who engage in same occupation account for 2.6% of all the households. However, households with two laborers who engage in the same occupation are more prevalent, accounting for 27.0% of all the households and they mainly are working in individual businesses or farming large farms.

3. Production urbanization: land stratification



- Before being moved to the new site, land area per capita was almost the same.
- After resettlement land redistribution, everyone owns 1.4 mu land. But most land transfer. new landlords, agricultural landlords of large farms and breeding farmers who contract with collective land accounts for more than one-tenth of the cultivated lands in the village, work on farms and in breeding, or operate family farms. They are from 0 to 14 households.

4. Economic urbanization: income stratification

Strata	2009		2015	
	%	Number	%	Number
Wealthy	0.3	3	0.6	6
Well-off	2.1	22	9.4	98
Middle	12.6	131	39.2	407
adequate clothing and food	51.2	531	38.3	398
poor	33.8	351	12.4	129

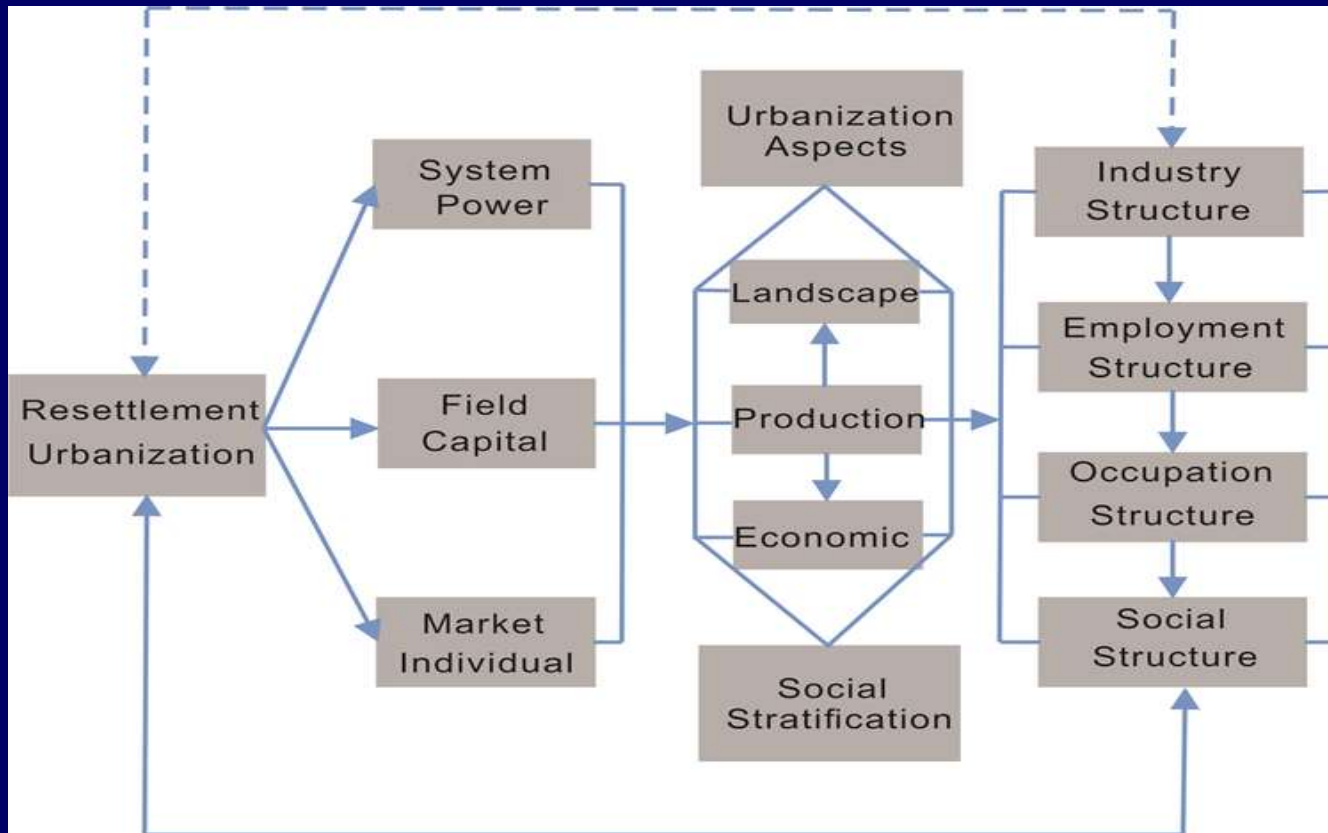
Income categories were formed as follows: CNY 1 to 2999 is lower status, CNY 3000 to 6999 is lower middle status, CNY 7000 to 10,999 is middle status, CNY 11,000 to 14,999 is upper middle status, and CNY 15,000 or more is upper status.

After resettlement, the income distribution changed. The people of wealthy and well-off status experienced a slight increase from 2.4% to 10.0%. Middle-income immigrants increased the most from 12.6% to 39.2%. The percentage of people simply having adequate food and clothing declined, from 51.2% to 38.3%, which was the largest decline. Overall, the changes suggest that the poor people were moving into the middle stratus.

Income sources	2009		2015	
	CNY/Year	%	CNY/Year	%
1Labor remuneration	1029	22.1	3605	41.6
1.1local area work	263	5.7	1451	16.7
1.2outside work	587	12.6	1868	21.5
1.3Non-business organizations	179	3.9	286	3.3
2Operational businesses	3437	74.0	3737	43.1
2.1Primary industry	1679	36.1	663	7.6
2.2Secondary, tertiary industry	1758	37.8	3074	35.4
3Property	7	0.2	441	5.1
4Transfer	173	3.7	892	10.3
Total	4646	100.0	8675	100.0

- In the four categories of income, income from labor remuneration increased, which is likely the most direct reason that the immigrants experienced the change from poverty to the middle stratus. The per capita income from labor remuneration was CNY 3605, accounting for 41.6% of annual income. Income from operational businesses increased, mostly likely because it was the main reason for immigrants' income growth. The per capita operational business income was CNY 3737, increasing by about 9.0%. The net income from primary industries declined by 61.0% and incomes shifted to secondary and tertiary industries, which increased by 75.0%. Property income grew substantially as an important source of immigrants' increased income, which was CNY 441, increasing by CNY 434. Transfer income continued to be a major potential reason for the growth of immigrants' income. Benefiting from the support of the immigrants' late subsidies, the transfer income was CNY 892, an increase of CNY 719.

V Social Stratification Mechanisms



1. Institution–Policy

China is a society that is dominated by its government, the state in society and its policies can alter the social stratification and social structure. The process of resettlement is an urbanization process by government intervention that has a transformational effect. Institution (government) policies have significant effects on the strata. The resettlement policy institution includes resettlement plans with compensation standards, follow-up support policies, and implementation methods.

Different resettlement patterns result in wide variation in the experiences, living conditions, and social locations of the immigrants. Danjiangkou Reservoir resettlement economic loss compensation was CNY 30,000 per person on average and CNY 600 per year for each person for 20 years after relocation along with 0.23 acre of arable land per person. Resettlement areas are now planned to comply with new town building standards that coordinate housing construction with water, electricity, road, hospital, and school construction. Also, the infrastructure has been improved in stark contrast to the approach of the first Danjiangkou resettlement. The government dispatches the First Secretary to the resettlement village, the village management committee and the village party committee jointly takes charge of the resettlement affairs, manage the village's collective resources, and allocate funds, all of which impact the direction of the immigrants' future development. Institution and power become the foundation of social stratification.

2 Economic capital and human capital

- Social stratification is a practical outcome of the interaction between the field and capital transformation. The “field” is social space. In social space, immigrants experiences changes on three dimensions. (i) Geographic space changes from rural to (around) urban and from remote mountainous to flat plain terrain with convenient transportation. (ii) The overall amount of capital undergoes changes, including financial capital, cultural capital, and social capital. Urbanization drives the resettlement economy to develop toward non-agricultural industries and the sources of immigrants’ incomes changed, the occupied economic capital is different as well. Cultural capital differences refer to changes in customs such as lifestyle and living habits that create different consumption needs with respect to diet, fuel, clothing, housing, household appliances, and etc. Social capital is the alteration of social relationships, social networks. Social capital is a potential resource. Urbanization has changed the original interaction modes and objects and the “Diversity-orderly Structure” of rural society that alienates. Expanded relationship networks can increase earnings. (iii) It is the temporal dimension change. Immigrants’ housing improved after relocation. But their social cognition did not keep up with these changes because the group’s trajectory restricts an individual’s trajectory and social mobility is not fully realized in a short period of time.

3 Market ability

- Institution-Power induces social stratification at first, and then the market plays the central role. After the resettlement village has stabilized, the government no longer acts as a protector, gradually withdrawing its influence from the village. The market in the resettlement region will then lead resource allocation. The market mechanism will replace the policy mechanism (Nee & Matthews, 1996; Nee & Cao, 1999). Contractual relationships and the culture of the market economy extend to influence the immigrants' social lives in all domains. The urban market economy will drive the development of self-employed immigrants and the private economy. More immigrants become estranged from agricultural production, and the circulation of lands in nearby suburbs becomes more active, which hastens development towards a more modern agricultural economy. New “landlords” initially emerge.
- Additionally, individual elements run through the entire resettlement process, including the ascribed factors and achieved factors (Jencks & Christopher, 1980) such as quality of health, production knowledge, capacity, and etc. After resettlement, the immigrants face uncertainties about their future development, market understanding, and individual quality. The ability to gather information and grab opportunities becomes a new individual skill (Featherman, David L., & Hauser, 1978) in resettlement stratification. On the other hand, the quality of education in town is much better than it is in the mountain areas (Mare & Robert D., 1980), immigrants can obtain technical training during the resettlement process, and their children will attend schools in the resettlement area. Thus, the individual quality of life is further improved.

VI Risks

1 Marginalization: due to a weak economy, the production and standard of living of immigrants was lower than that of local residents. In 2013, the net income per capita of farmers was CNY 8810 and the per capita disposable income of city dwellers was CNY 19,586 in Tanghe County. This income disparity will easily result in the marginalization of immigrants with respect to political power and economic participation.

In addition, LRC is unaccommodating in three aspects: the shift from extensive agriculture to intensive agriculture; before relocation, the immigrants were almost self-sufficient, but, in LRC, they need to purchase most of their necessities, which increases their consumption expenditures. The consumption habits of immigrants apparently have not adapted to the situation in the resettlement area; it is difficult for some immigrants to assimilate into the community because of the differences in their languages, customs, and beliefs. The local residents exclude outsiders because they know little about them and do not want to associate with them. Although there are some immigrants who married local residents, it may take a long time for immigrants to assimilate into the town community.

- **2. Weak Competitiveness:** When immigrants are forced to leave their familiar environments, human capital accumulation becomes significantly less efficient. Most people in the LRC have a poor quality culture, and lack of labor skills
- **3. Position loss in Social Management:** In the process of shifting from an agricultural society to an urban society, since the original effective social management system (rural) cannot adapt to this change (to urban). there will be many problems, such as excessive authority, misplaced authority, or breach of duty, which lead to poor management efficiency.
- **4. polarization:** There is less shared identity and more strained relationships among the immigrants. The wealthy immigrants take part in the elections of village officials and many rich people govern the village. Economic capital, cultural capital, and political capital are more concentrated in the immigration governors. Village controllers form an independent group that is the spokesman of the villages, which, in fact, represent some groups' interests.

VII Suggests

The study also suggests some things that can be applied in the community. With respect to communication, more mutual assistance activities could strengthen understanding and erase misunderstanding. In the economic competition field, the most urgent thing is to conduct technical training that responds to the limited jobs and pressures of the economic downturn. Regarding management, the mode of social management should be reformed. More studies are needed to confirm effective methods of social management. As for strata integration, there are many differences that are generated in economic society and there is a cultural aspect to consider. Some questions to address are: How do immigrants understand and adapt to the urbanization lifestyle and methods of production? How does the invisible shielding mechanism of social stratification function? What measures can be taken to address the growing polarization? All of these are questions that need our consideration. Finally, we should remember that these various dimensions also influence each other. In particular, it is essential to consider ways that we can form a rational social stratification structure that will improve the quality of urbanization.

THANK YOU