Low Income Graduates
Friendly City
Social and spatial integration for low income graduates in periphery area of Beijing

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Social phenomenon

Low-income Graduate (LIG) (China’s Ant Tribe)

Young: 22-29 (born after 80’s)
High education: (University/college graduates)
Low-income: 217 euro per month (2009) (Beijing working people income average: 448 euro)
- Located at periphery area of big cities in China.
- Population: 1.5 million in China (over 100,000 in Beijing)
- Part of floating population
- Working as salesman, IT industry, service, etc.
- Inhabited in villages at periphery urban area
Introduction

Social issue situation:

- Floating population: 211 million
- LIG population: 1.5 million

1982 - 2009
- 1 b.
- 1.4 b.

- Rural area
- Small/medium cities
- Large cities
- Agriculture
- Service industry

Beijing, Tianjin, Shanghai, Chongqing, Guangdong
Introduction

1. Higher education reform since 1999

**Synthetically affected by different aspects from the society**

Increasing amount of Chinese graduates in 2003-2009

Data source: [http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s4958/list.html](http://www.moe.edu.cn/publicfiles/business/htmlfiles/moe/s4958/list.html)
Introduction

2 Hukou system and Chinese social housing system constrain

* Hukou system: the Chinese government officially promulgated the family register system to control the movement of people between urban and rural areas. Individuals were broadly categorized as a "rural" or "urban" worker. People who worked outside their authorized domain or geographical area would not qualify for employer-provided education, social housing or health care.

Chinese social housing system

A: Affordable housing
- Hukou of the city for at least 5 years
- Income below a specific amount
- Single needs over 30 years old
- Housing area needs below 10-15 m²/person

B: Price-limited housing

C: Low price rental housing

D: Public rental housing
- Waiting list of A, B, C kinds candidates
- Other regulation will be formulated

Beijing social housing amount in 2009

- Most LIG are belonging floating population and they come to big cities without local Hukou.
- The social housing system in China is not complete. And the amount of public rental housing is far away to reach the needs of LIG.
3 Rapid marketization, urbanization, internationalization

-The big cities are attractions for LIG in the country
-Rapid expansion cannot immediately integrated so many floating population caused chaos development

Source: http://duckwater.bu.edu/urban/local_part1.html
Problem statement_urban issue_LIG villages

Social issue reflect on the urban issue-----LIG villages

Introduction | Research & Analysis | Strategy | Design | Phasing | Conclusion
Introduction

| Research & Analysis | Strategy | Design | Phasing | Conclusion |

Source: http://difang.gmw.cn/Item/43609.aspx
Introduction

Research & Analysis

Problem statement_LIG villages_Urban village transform

- Remove village reserved
- Transform village into urban area

Source: Village System Planning in the Rural Areas of Beijing under the Background of Urbanization (Zhao Zhifeng, 2009)

Urban planning in Beijing in 2020

Goals:
- Efficient and sustainable land use in periphery area
- Promote the urban-rural integration development

Introduction

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Conclusion
the Tangjialing LIG villages

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Poor living condition in Tangjialing

Source: google earth map
Problem statement_LIG villages_Government planning

Tangjialing area Planning  2010

Tangjialing planning:
- Changed the villager housing based land to apartment building in new place
- The old village land changed into greening space

Source: http://www.bjghw.gov.cn/web/static/articles/catalog_102100/article_ff80808127d2ae90127e1adc8a90030/ff80808127d2ae90127e1adc8a90030.html

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- Poor living condition in Tangjialing
Problem statement_LIG villages_management problem

Periphery village transform
Chinese land policy

- state owned land
- developer get the land use right
- commercial use
- renting 40 years
  - residential use
  - renting 70 years
  - office use
  - renting 50 years
  - mix use
  - renting 50 years

- collective owned land
- farm land
- housing based land
- reserved land
- land for collective development

Process of LIG village formed

Introduction | Research & Analysis | Strategy | Design | Phasing | Conclusion
Problem statement_LIG villages_management problem

- The original village will replaced by apartment building for compensate of land
- The LIG group will be push away from the village

Source: self-drawing
Problem statement

- The low-income graduates as the reserve knowledge cluster of future who have much potentiality are facing vulnerable position in the society, and are not having adequate social and spatial living environment.

- Because the constraint of the land develop model and social housing system the LIG are facing the danger be pushed away. Even the government willing to considered the LIG people but it is hard to change the basic system in a short time.

- The process of urban village transform is made the LIG living situation more severe. With more and more villages transform into urban area, amount of LIG can not find place to live.
Aims of the final project

**Government plan aim**

To promote urban-rural integrated development
Effectively guide public investment to the construction and development of rural areas.

**Added value**

To achieve the goals of government plan of Beijing rural urban transform process.
Based on that also has my own added value of finding a way to keep the LIG group also integration them in the urban area.

**Main framework of this project**

- Intensive villages land use
  - To promote urban-rural integrated development
  - Effectively guide public investment to the construction and development of rural areas.

- LIG low price rental housing
  - Spatial and social integration of the LIG village

Introduction | Research & Analysis | Strategy | Design | Phasing | Conclusion
Research Question

What is the alternative land development model for LIG villages that can integrate the LIG socially and spatially based on achieve the government plan goals?

SUB-Questiones

- What the possibilities could be found in the existing land development model? Can it be adapted?
- What the adequate living quality for LIG?
- If keep the informality activities means to keep the low living cost environment, what kind of urban form could be taken?
- How to consider the urban periphery in the process of urban villages transformation?
- How to manage the LIG rental housing from the development to the maintainess?
LIG group could be marked after they inhabitant in a scope. Because the buildings for rent to LIG are illegal constructions by the villagers, the informality of the rental housing is distinguished feature of LIG villages.
Analysis_LIG village and 50 urban villages

The reasons of LIG villages formed

1. Low rental prices.
2. Low living cost.
   Some villages at the periphery area are overlapped with the LIG group inhabitant places.

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The LIG villages formed:
- near the main infrastructure.
- in order to control the central urban area congestion and air pollution, Beijing public transportation is very cheap than Chinese other cities. Therefore the villages which is near the main infrastructure is the LIG group inhabitant.
Analysis_LIG village and main employment places

The LIG villages formed:
- near the main employment places

- IT industry service: 17%
- Culture/sport/education and entertainment: 15%
- Manufacturing: 14%
- Building industry: 9%
- Finance/insurance/real estate: 8%
- Commercial affairs service: 7%
- Public administration: 6%
- Medical/maintain service: 5%
- Retail: 5%
- Traffic/logistic/storage/postal service: 3%
- Tourism/hotel/catering/tickets service: 3%
- Electricity/fuel gas/sanitation service: 3%
- Agriculture/forestry/Fishing: 2%
- Mining: 1%
- Wholesale: 1%

2009 Chinese college graduates employment rate
Source:
Analysis_Beijing main developing industries

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- Daxing Yizhuang
- Fangshan
- Yanshan
- Mentougou
- Changping
- Shunyi
- Huairou
- Miyun
- Tongzhou
- Yongle

- Automobile Manufacture
- Technology Innovation
- Modern Manufacture
- Art and Culture industry
- Tourism
- Electronic information and communication
- Aviation Industry
- Financial Sector
- Pharmaceutical Industry
- IT Industry
City villages will be transformed in the process of Beijing's urbanization. In this map, gray area shows the main new and high technology industry development and most of LIG working in these areas. This kind of global level interventions brings impact on the local level:

- attraction of investers which speed up the process of urban village transform.
Yongfeng at northwest of Beijing belong in Haidian district. Contains several industrial with the core industrial Zhongguancun Yongfeng High-tech Industry Base. It is also Beijing Science and Technology Innovation Center. And it is not only one of the major planning and development project of Zhongguancun Science Park, but also the major platform of Zhongguancun high-tech achievements transformation and industrialization.
Analysis_Yongfeng as a case study

Yongfeng Industrial Base has the total land area 453 ha, of which 207 hectares of land for industrial research, 26 hectares of land for public buildings, 39 hectares of residential land, 60 hectares of green space focus, municipal road take 121 hectares, the total rate of 35% green space and the total FAR rate of 0.93.

Three different types of village in this area

1. Very high density LIG village: too much safety issue inside and the whole village is in the process of demolishing
2. New density LIG village: LIG newly moving in to this villages because demolish of Tangjialing
3. Normal village: might to be the LIG villages

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**Analysis Tangjiaing as a case study**

Tangjiaing: LIG village (33 ha)
Original villagers: 3000
LIG before it demolishing (2010.8): 40000

Over construction areas make over crowded living condition. Overload resources, crowded public transportation, poor condition of public facilities, etc. are all the obstructive force in the LIG village.
Analysis_Tangjialing as a case study

The form process from a normal village to an UIG village

Illegal rental housing built along mian street

Brought small business at the first floor

More illegal rental housing came up

The structure of old village provide a lots of space for informal economic such as small breakfast stall, small restaurant, retail business, etc.
### Analysis_conclusion

#### Management
- LIG group has been pushed away
- Villagers lose their way of earning money

#### Spatial
- Village structure are not existed, totally demolished
- Not much connection with outside village
- Lack of the basic facilities

#### Social
- LIG group still on the vulnerable position
- Social segregation with new residents and villagers

**Possible social segregation after village transform**

**Diagram of the conclusion**
Analysis_potential

**Social**
- LIG are highly educated/skilled / creative future potential middle class
- In the process of village transformation. Villagers need the opportunity of urbanization
- Government support to find more solutions for LIG groups

**Spatial**
- Urban periphery villages transform (three kinds of villages)
- New developing Centralities at periphery area

**Economy**
- Private investors interest location
Scenario vision

- Provide LIG low rent housing
- Involve the villagers as new stakeholder
- Informal commercial area
- New housing typology and adding new programs
- Green environment/Public space
Main Strategies

**District level**
- **Upgrad the local center**

**Local level**
- **Land development model**
  - New Housing typology
  - New management institutions

**Introduction** | **Research & Analysis** | **Strategy** | **Design** | **Phasing** | **Conclusion**
Main Strategy_New land development model_District level

- Upgrad the local center
- District center
- Village center

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Main Strategy_Strategic Villages

Shift the density of LIG from Tangjialing village which is under the process of demolishing to several villages around.

Intensive land use

Connectivity
Site choice_xiao niufang

- Shangzhuang technology industry park
- Life sciences park
- Very high density LIG village
- Normal village appears LIG
- Normal village
- Industrial park in planning
- Zhongguancun environmental protection demonstration park
- Zhongguancun software park
- Zhongguancun innovation park
- Zhongguancun aerospace R&D park
- Yongfeng high technology and new technology industrial base
- Shangdi technology park
- Source: self drawing
Site choice_Xiao niufang village_strategic LIG village

shops & restaurant
illegal housing
industries & office
housing
school
farmland
grass

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Xiao niufang village SWOT analysis

**Strength:**
- The mixed function
- Vitality
- Informal activities
- Location

**Weakness:**
- The housing quality is bad
- Safety issue
Xiao niufang village SWOT analysis

Opportunity:
- Under the process of urban village transformation
- A lot of LIG moved here
- Only commercial streets in the big area
- Good Quality neighborhood built next to the village

Threaten:
- The process of village transformation is going in 3 years.
- No housing management institutions before.
Main Strategy_Local level

Spatial
- legalized rent housing
- adequate rent housing with low price
- low living cost environment (keep informality activities)

Social
- new social structure
- gain opportunities for LIG and Villagers

Management
- LIG rental housing management institution

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Main Strategy_New land development model

Existing model:
- Farm land
- Villager housing based land
- City green/nature land
- Collective developing land
- State owned land

Strategy:
- Compensate for 50m² per person for housing
- 50m² per work force for collective developing land
- Lost their way of earn money
- Lost their money which invested on built illegal housing
- LIG moved away because they don't have Houkou

New model:
- Illegel LIG rent housing
- Villagers owned housing
- New LIG and Villagers mixed housing
- Formal developing market housing and commercial building

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Main Strategy_New land development model

Existing model

- City green/nature land
- Collective developing land
- State owned land
- Infrastructure

New model

- City green/nature land
- Collective developing land
- Villager housing based land
- State owned land

These are new upgrade centre in the area which is developing by formal investors.
- It could be the marking housing for coming white collar class
- Formal development could bring formal facilities and infrastructure and the village could take advantages for that.

This land was villagers housing based land because more density in the village and these lands should be state owned land. But now it could be compensate for villagers for the loss of thier profit to keep the rent price is lower than market rent price. Which should managed by the LIG rent housing institution.
Main Strategy_New land development model_local level

- Land for LIG rent housing and villagers-selves living
- Land for compensate for villagers to keep the low rent

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Main Strategy_New land development model_local level

- Land for formal invest to develop district level center
- Land for public spaces
Main Strategy_New land development model_local level

Ownership: states owned

Development: Formal market housing and commercial building
Main Strategy: New land development model_local level

Ownership: states owned but only for villagers developing

Development: LIG rent housing & Villagers owned housing & New LIG and Villagers mixed housing
Main Strategy: New land development model _local level_

Ownership: village committee

Development: compensate land for villagers use for market developing
Main Strategy_New land development model_District level

Collage for new development model

New development model will not only keep the original mixed function area but also upgrade it into district level meanwhile keep the original urban vitality.
Exsiting Housing typology

Morphology and functions of Xiao niufang village

Main typy of the housing here is the one story house for villager living and the illege rental housing for LIG
Main Strategy_New Housing typology

LIG rental housing: villager self organizing rental housing:

LIG housing (new) 10~20m² different layout
Old industry building transform
With small studios for LIG to start their own business
Main Strategy_New management institutions

LIG rental housing management institution

- Organize villagers to collective funds to build LIG rent housing
- Manage the whole plan and provide architecture design
- Manage the rules and flexibility of LIG rent housing
- Measure the qualifications of LIG groups
Main Strategy_New management institutions

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Government
- Contract
  - Built LIG housing with low rent
  - Provide LIG village plan & compensate money
- Contract
  - Provide land rent rights
  - Provide land rent as compensate money
- Qualification
- Public rent housing
- Low rent housing
  - LIG qualifications

Marketing housing
- Invest
  - Profit
- Land
  - Land rent rights
  - Compensate money

Marketing housing
- Profit
  - Land rent as compensate money

Government
- Contract built LIG housing with low rent
- LIG qualifications
- Provide LIG village plan & compensate money
- LIG rental housing
- Management institution
- Public rent housing

Low rent housing
- LIG qualifications

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**Strategies summary**

- **Upgrade Centralities**
  - New land development model
  - New LIG rental housing
  - LIG rental housing management institution

- **District level**
  - Government goals

- **Local level**
  - Added value

- **Villagers into urban citizens**
  - Integrate LIG groups:
    - low rent housing
    - low living cost environment
    - New social structure

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**Introduction**

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**Conclusion**
Design Location Choice

Follow the old structure of the village; I divide it into several plots. The village will transform step by step, consider of the connectivity and the living amount of LIG and villagers. I choose the spot which next to the main street in the village and villager households here are begin to construct the illegal LIG rental housing.
Main design strategy

- Rules of new land development model
- The LIG housing development land use
  - The state rules
- Keep the urban vitality
- Street structure
  - Connectivity
  - Adding programs
  - LIG housing typologies
- Create new identity
- The front and back sides
  - Different neighbourhoods
  - Creative public space for LIG
Rules of new land development model_Property of land-use
Rules of new land development model - the LIG housing development land

The form of new interventions which consider the entrances, adding programmes and public spaces
Rules of new land development model _the state rules

Beijing urban village transform
housing compensate

area: 200 m² + 100 m² = 300 m²
every household has 4 people, the area of compensation is 50 m²/per
every household has 2 labour, the area of village development land is 50 m²/labour
Rules of new land development model _the state rules_

**Fire resistance requirement**

- group by village households: 3~5 groups of invest households is follow the rules of the fire resistance requirement that every length of 85 meters housing should be reserve a above 6 meter wide fire passage.

**Duration of sunshine requirement**

- Due south: 1.6h
- Due East: 1.5h
- <60degree: 1.4h

In LIG rent housing land keep it in 4~6 floors which means h is between 14m ~ 16m.
Rules of new land development model - the LIG housing development land

- LIG rent housing development land
- Compensate development land

| 1000 LIG | 39 households |
| 1600 LIG | 47 households |

adding from the compensate development land
Keep the urban vitality, informality, street structure
Keep the urban vitality _connectivity
Keep the urban vitality: adding programs

Adding programs:

studio for LIG:
innovation
art & design
training center
business incubator
entertainment:
bar
cafe
public space:
sports
pleasure
Keep the urban vitality - LIG housing typologies

Different architecture could be accepted in the LIG neighbourhood with the rule before.

Could be:
- cheap construction materials
- flexibility design with multifunctional
Create new identity: the front and back sides

The front side:
- Keep informal activities

The back side:
- Meeting and quite places
  - For LIG & villagers

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Create new identity different neighbourhoods

Different identities of different LIG neighbourhoods
Create new identity: creative public space for LIG
Design proposal
Design proposal
Collages
Collages
Collages
Process of development phasing

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collective owned land for compensate development
state owned formal market development land
villager invest LIG low rent housing land
Process of development phasing

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Process of development phasing

- collective owned land for compensate development
- state owned formal market development land
- villager invest LIG low rent housing land
Process of development: phasing
Conclusions

Government plan aim

LIG low price rental housing
Spatial and social integration of the LIG village

To promote urban-rural integrated development
Effectively guide public investment to the construction and development of rural areas.

FAR: 2
New LIG

LIG & villager

Institution management role

Investor

normal citizens

Government

Consider LIG

Goal of urban village transform

Goal of urban village transform

To promote urban-rural integrated development
Effectively guide public investment to the construction and development of rural areas.

LIG low price rental housing
Spatial and social integration of the LIG village

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FAR: 2
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Investor

normal citizens

Government

Consider LIG

Goal of urban village transform

Intensive villages land use

Added value

Investor

normal citizens

Government
Conclusions

New strategic locations of LIG in Beijing periphery area

Xiao jiahe village
Xiajia Hutong village
Cao Changdi village

Liu Langzhuang village
Xiao Yuehe village
**Evaluation**

**From the social issue to the urban issue**

2006.05  
2009.06  
2010.05  
2011.03

**Strategy: the alternative land development model**

**Strategy: the LIG management institution**

**Added value**

- LIG low price rental housing
- Spatial and social integration of the LIG village
- Intensive villages land use
- To promote urban-rural integrated development
- Effectively guide public investment to the construction and development of rural areas

**Design proposal from different point of view**

Beijing urban village transform housing compensate