Evolving Danwei Housing
An alternative way to develop former public housing in Shenzhen, China

P5 Presentation
What kind of urban renewal strategies can balance the local and public interest and resolve the urban housing problem in former public housing neighbourhood of Shenzhen?

Land-based development model focuses on public interest, which is economic prosperity, but lacks enough consideration on local interest, which is affordability.

Institutional aspect
- Historic review
- Current situation
- Case study

Socio-spatial condition
- Typology of neighbourhood
- Layout
- Case study

Institutional conditions
- Historic review
- Current situation
- Case study

Strategy
- Rezoning community
- Connecting home and work
- Defining public space
- Diversifying building typology and housing typology
- Strengthening public intervention and communal organization

Renewal scheme for selected sites
Luohu as the research site
- A district of Shenzhen
- High density and highly developed
Danwei housing in Luohu (Source of base map: Google map)

Typical Danwei housing (Source: superjie)
'Danwei' housing and decreasing affordability

- Relatively low rent/price and good location
- 'Danwei' housing neighbourhoods provide opportunities for migrants to settle in the city
- Socio-spatial condition in the neighbourhood is degrading
- To improve competitiveness of the city, on-going urban renewal and infrastructure construction is upgrading inner city.
- Land-based development leads to high housing price and threatens housing affordability
**Problem statement**
Land-based development model focuses on economic prosperity but lacks enough consideration on affordability.

This project aims at a more balance way of urban renewal for danwei housing neighbourhood that not only contributes to economic prosperity but also:

- Enhance housing affordability for disadvantaged groups;
- And improve socio-spatial conditions.

**Research question**
What kind of urban renewal strategies can enhance housing affordability for disadvantaged groups and improve socio-spatial conditions of danwei housing neighbourhoods in Shenzhen as well as contribute to economic prosperity?
PROBLEM FIELD
THEORETICAL FRAMEWORK
SOCIO-SPATIAL CONDITION
INSTITUTIONAL CONDITION
STRATEGY
RENEWAL SCHEME
Living environment

- A decent living condition is the central issue.
- Convenient public service, infrastructure and spatial planning contribute to affordability.
- Prevent homogeneity in neighbourhood.
- High quality of living environment may increase price. Improvement should be based on their need.

Institutional aspect

- The provision of affordable housing can be operated by multiple actors.
- Necessary to have an organization for participation and management of the community.

Prevent homogeneity
Need of each income group

District scale
- Connection between work and housing; public transport; accessibility; walking environment.

Neighbourhood scale
- Public space concerning safety; walking environment; functions and facilities.

Housing scale
- Housing typology; single room for low-skilled workers and young professions; apartment for family.

Incentives for private sectors
- Funding
- Design flexibility
- Simplification of regulatory procedure

Social commitment
- Transparency in the partnerships
- Encouraging social participation
- Financial aid for certain social groups
Housing affordability and living environment

- A decent living condition is one of the central issues for affordable housing.
- However, high quality of living environment may increase price. Improvement of living environment should be based on their current and future need.
- Affordable housing concerns different income groups. Homogeneity can harm disadvantaged group’s opportunity of self-enhancement. In China, low and middle income groups suffer from high housing price. Affordable housing should be kept 'affordable' at the current stage.
- Convenient public service, infrastructure contribute to affordability.

Prevent homogeneity
Need of each income group

- Low-skilled workers, young profession, young couples
  - Transport
  - Low rent/price
  - Affordable public service and facilities

- Middle income and mid-low income group
  - Higher expectation on good life quality
  - Public space for children and the elderly

- Connection between work and housing; public transport; accessibility; walking environment.
  - District scale

- Public space concerning safety; walking environment; functions and facilities.
  - Neighbourhood scale

- Housing typology; single room for low-skilled workers and young professions; apartment for family.
  - Housing scale
Facilitating disadvantaged group’s accessibility to decent housing

- The provision of affordable housing can be operated by multiple actors.
- Incentives attract the participation of private sector.
- Government should not lose social commitment.

Public-private partnership

- Incentives for private sectors
  - Funding
  - Design flexibility
  - Simplification of regulatory procedure

- Social commitment
  - Transparency in the partnerships
  - Financial aid for disadvantaged groups
  - Encourage social participation
INTRODUCTION
THEORETICAL FRAMEWORK
SOCIO-SPATIAL CONDITION
INSTITUTIONAL CONDITION
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• Centrality and the spatial structure of neighbourhood decide the composition and the distribution of functions, which relates to job opportunities and the quality of living environment.
• Public transport and road shape the connection between home and work. Also, the accessibility on neighbourhood scale influences the quality of living environment
• Open space near housing can be an attraction for middle-income group.
• Public facilities near housing can improve low-income group’s affordability and sufficient public facility is middle-income group’s main concern.
Lack of public facilities in industrial and warehouse zones

Unbalanced distribution of metro station

Lack of small communal open space

Centres

Two types of road structure

Two types of spatial structure

Preserved green space as potential place for recreation

Centrality

Accessibility of transport

Accessibility of open space

Convenience of public facilities
THE CONCEPT OF NEIGHBOURHOOD UNIT

• Despite the difference of contexts, danwei housing has similar spatial design because of the influence of Clarence Perry’s neighbourhood unit.

A diagram of Clarence Perry’s neighbourhood unit (Source: New York Regional Survey, Volume 7)

A danwei housing neighbourhood in China influenced by neighbourhood unit (Source: dyl703.wordpress.com)
Dayuan (courtyard)

- A dayuan is the territory of danwei housing neighbourhood. Shops are usually located at the edge. These enable residents’ social control on the community.
- But in some big neighbourhoods, shopping street and passing exist because neighbourhoods are mono-functional. This increase anonymity and change the atmosphere of the neighbourhood.
Connection

- Dead-end road in the neighbourhood helps to reduce passing.
- Division of car and pedestrian increase safety.
- Disconnection between home and public transport and work place.
Morphology

- Standardized design results in homogenized and confused space.
- There is serious shortage in parking lot.
- Privatization of public space weakens deterioration to some extent.
- The main users of the public space are the elderly and children. May lack of facilities or public space.
Building and housing typology

- Buildings lack of proper maintenance.
- Standardized architectural design lacks of housing typology diversity. There is a desire for diversity of typology as the living standard rises and the composition of resident changes. Unorganized transformation may aggravate housing deterioration.

A typical floor plan: two apartments of 80-90m²

Informal transformation
INTRODUCTION
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• State retreated from housing stock gradually.
• Over-marketization of housing stock threaten the interest of those who are unable to get decent housing in free market.
• Public sector intervention in housing stock and local participation need to be strengthened to realize social just.
• Housing reform commercialized the apartment but did not clearly define the ownership of shared space.
• Ambiguity of former public housing ownership lead to difficulties in transaction and maintenance, but this also provide a possibility for public sector’s re-intervention.
A top-down governance structure: district government, sub-district, resident community

Resident community does not work well in maintaining the neighbourhood. It still remains a governmental organization, which cannot become a place for citizen participation. And it cannot effectively satisfy residents’ need and represent their interest.
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Dayuan
- Three-level spatial structure
- Context specific conclusion
- Boundary condition variation
- Passing in neighbourhood

Connection
- Dead-end road
- Lack of space for commerce
- Division of car and pedestrian
- Disconnection

Morphology
- Homogenized public space
- Shortage in Parking
- Privatization of public space
- The elderly and children as main users
- Lack of public facilities

Building typology
- Deterioration
- Lack of housing typology diversity
- Unorganized transformation
- Diversity on ground floor
- Diversity of resident

Institutional aspect
- Over-marketized housing stock
- Ineffective top-down governance
- Ambiguous ownership

Rezoning community
- Define privacy levels according to existing function and passing
- Encourage small scale concentration

Connecting home and work
- Strengthen main streets
- Restrict passing in neighbourhood units

Defining public space
- Integrate public space and functions, connections
- Create enclosed neighbourhood unit through public space design
- Clarify ownership

Diversifying building and housing typology
- Diversify housing for different income groups
- Diversify function

Strengthening public intervention and communal organization
- Establish housing association
- Encourage communal participation

Diversifying building and housing typology
• Defining the privacy of space to reduce anonymity.
• Small scale concentration of income groups reduces conflict as well as prevents homogeneity.
CONNECTING HOME AND WORK

- Connect home and shops, public service, office, schools, etc.
- Restrict passing and divide car (parking) and pedestrian.
DEFINING PUBLIC SPACE

- Integrate public space with local business and connections.
- Create enclosed neighbourhood unit through public space design.
- Clarify ownership.
- Facilities for children and the elderly.
• Diversify housing typology for different income groups.
• Diversify functions to buildings, shops, office and parking. The selection of added function depends on the location of building.
• Strengthen public intervention through the establishment of housing association. A non-profit organization which is subsidized by government. The housing association is responsible for operating renewal scheme and leasing or selling affordable housing.
• Establish community organization that involves owner, tenant, housing association and government. An organization for holding discussion on daily communal affairs and renewal.
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STRATEGY
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FROM CONTEXT AND STRATEGY TO INTERVENTION

Context

- Centrality
- Accessibility
- Open space
- Public facilities

Strategy

- Rezoning community
- Connecting home and work
- Defining public space
- Diversifying building and housing typology
- Strengthening public intervention and communal organization

Institutional transformation

- Transformation model

Spatial transformation

- Spatial structure
  - Nanyuan
  - Huali
- Principle of intervention
  - Nanyuan
  - Huali
• Housing association is established to guarantee affordability as the goal of renewal.
• Clarification of ownership and responsibility can reduce conflict and keep the quality of
neighbourhood environment after completion.
• Community participation reflects residents’ demand into the plan so that the renewal can really
benefit the residents.
The selection of sites is based on their contextual difference.


**Function**

- **Commerce**
- **Residence**
- **Health care, school and sport**
- **Centre**
- **Scattered residential area**
- **Convenient public facilities**
Connection

Passing in neighbourhood

Connection

Passing inside neighbourhood (Photo by author)

Passing in neighbourhood

Road inside neighbourhood (Photo by author)
Open space

- Public space
- Gated green space near residential area
- Lack of open space for people (Photo by author)
- Gated open space (Source: Tencent map)
• Nanyuan is in a multi-functional area. It shares facilities with the surroundings and require frequent connections. The neighbourhood has been well integrated with the city.
• The renewal plan aims to keep the residential area as a quiet ‘island’ in a bustling commercial centre.
Towards a safe and affordable neighbourhood

- Rezone the neighbourhood to form smaller neighbourhood units with sense of enclosure
- Each unit targets one income group
- Phasing renewal by neighbourhood units
- New construction compensates the reduction of housing from demolition.
- Diversity of functions
- Transform some of the existing family apartment to single room.
- A community centre
Maintain the convenience of connection

- Restructuring street hierarchy keep convenient connection as an advantage and reduce unwanted passing as well.
Open space for social interaction
- Open space together with connections acts as buffer zone between commercial area and residential.
- Also, it is for social interaction and recreation.
Flexibility of the plan

- The intervention has presented a possible plan proposed by housing association. After that, discussion takes place between residents and housing association.
- The structure of the plan (road and division of neighbourhood unit) and some parts of the plan (urban park and community square) are unchangeable.
**Function**

- **Commerce**
- **Residence**
- **Health care, school and sport**
- **Centres**
- **Large scale residential area**
- **Convenient public facilities**
Connection

Shopping street in the neighbourhood (photo by author)
Open space

- Open space
- Playground occupied by children (photo by author)
- Uneven distribution of green space
- Public space of some neighbourhoods is occupied by parking (photo by author)
• Large scale residential area characterises this area. It has the quality of suburban life which implies a leisure living environment.
• Current residents consist of many middle and mid-low income household. The social and spatial conditions indicate that the neighbourhood can be an ideal home choice for middle and mid-low income group.
**INTERVENTION**

**Improve the living standard of neighbourhood**

- The design of neighbourhood unit follows the same principle of that in the previous site.
- The difference is that here the housing typology focuses more on middle and mid-low income groups.
Strengthen the sense of leisure with open space

- Middle income group pays more attention to environmental quality. Improvement of open space on multiple scales can greatly enhance quality in a high density residential area.
Connecting home and nearby functions

- The plan improves walking connections and secondary streets between home and functions.
- Commercial activities should be limited at main streets to reduce anonymity in residential area.
Flexibility of the plan

Design of community park
Design of community square
Design of public space in neighbourhood unit
House ownership and architectural design
Division of neighbourhood unit
Location of community park and square

Flexibility
Fixed structure
Road
CONCLUSION

Context
- Centrality
- Accessibility
- Open space
- Public facilities

Strategy
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- Diversifying building and housing typology
- Strengthening public intervention and communal organization

Institutional transformation
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Spatial transformation
- Spatial structure
  - Nanyuan
  - Huali
- Principle of intervention
  - Nanyuan
  - Huali
Evolving danwei housing

- Land-based development model decreases housing affordability
- Housing affordability is an inextricable term (infrastructure, public service, public space, etc.)
- Enhance affordability through spatial planning and institutional design
- Interpret socio-spatial and institutional condition of danwei housing
- A new renewal model
- Integration of scales facilitates affordability
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