Planning Research for Urban Villages in Wuhan

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Definition

“Urban Villages” are communities that are situated in the areas governed by the master plan, but still with the collective ownership and under rural administration.
Forming of Urban Villages
Introduction

Wuhan municipality has 9 millions of urban population and 300 square kilometers of urban built-up areas

147 Urban villages and 15 agricultural units in Wuhan
117 Urban villages within the 2003 version of master plan
Objectives

- To investigate the urban villages in Wuhan
- To find comprehensive approaches to solve the urban village issues
Main Contents

- Causes of the problems
- Spatial distribution
- Types and classification
- Possible solutions
- Case study
Brief history

- Rural villages before 1980
- Urban-rural fringe in 1980-1990
- Urban villages after 1990
Positive roles

- Urban villages accommodate migrants from rural areas
- Urban villages provide certain degree of public services
- Soul of some villagers (rural living style)
Economic impact

- Inefficient use of the urban land
- Reduce the values of the properties around
- Cause passive use of urban space
Social impact

- Problems in public security (home of low income residents and sometimes criminals)
- Insufficient guaranty in social security that may cause instability of surrounding urban communities
Environmental impact

- Ugly scenes in urban areas
- Pollutions made by overcrowded population and insufficient utilities
Motivation of upgrading

1. Needs in promoting efficient use of urban land
2. Needs in speeding up urbanization process
3. Needs in building better urban communities
4. Demand by villagers for a better living environment
Main causes of urban villages in Wuhan

1. Rapid urbanization process and urban expansion
2. Two different administration modes
3. Increasing demand by migrants
Expansion of urban built-up areas

1. 224.37 square kilometers of urban built-up areas in 2004
2. Increased by 144.85 square kilometers from 1986 to 2004 (69.64%)
Distribution in districts
Distribution in different zones
## Distribution in different zones (Ha.)

<table>
<thead>
<tr>
<th></th>
<th>First ring</th>
<th>Btw first and second rings</th>
<th>Outside second ring</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jian’an</td>
<td>0</td>
<td>2072.5</td>
<td>595.4</td>
<td>2667.9</td>
</tr>
<tr>
<td>Jianghan</td>
<td>0</td>
<td>343.7</td>
<td>2.0</td>
<td>345.7</td>
</tr>
<tr>
<td>Qiaokou</td>
<td>0</td>
<td>1065.8</td>
<td>350.1</td>
<td>1415.9</td>
</tr>
<tr>
<td>Hanyang</td>
<td>0</td>
<td>3258.5</td>
<td>1401.0</td>
<td>4659.5</td>
</tr>
<tr>
<td>Hongshan</td>
<td>831.4</td>
<td>3786.9</td>
<td>4119.0</td>
<td>8737.3</td>
</tr>
<tr>
<td>East lake</td>
<td>0</td>
<td>2488.0</td>
<td>598.9</td>
<td>3086.9</td>
</tr>
<tr>
<td>High-tech zone</td>
<td>0</td>
<td>876.2</td>
<td>669.5</td>
<td>1545.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>831.4</strong></td>
<td><strong>13891.6</strong></td>
<td><strong>7735.9</strong></td>
<td><strong>22458.9</strong></td>
</tr>
</tbody>
</table>
Distribution in different zones

- Inside 1st ring: 62%
- Between 1st and 2nd rings: 34%
- Outside 2nd ring: 4%
Land use of urban villages
## Land use structure (Ha.)

<table>
<thead>
<tr>
<th></th>
<th>Agriculture</th>
<th>Built-up</th>
<th>State-own</th>
<th>Vacant land</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>15544.5</td>
<td>6181.7</td>
<td>581.4</td>
<td>151.3</td>
<td>22458.9</td>
</tr>
<tr>
<td>%</td>
<td>69.2%</td>
<td>27.5%</td>
<td>2.6%</td>
<td>0.7%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Relationship of 3 parties

Government
Ownership
Owners
Planning
Compensation
Developers
Tactic considerations

1. Stop new construction in the villages
2. Make plan for upgrading
3. Implement in different phases
4. Improve operational mechanism
Financial sources for upgrading

1. Collective properties
2. Private investment by villagers
3. Bank load
4. Government subsidy
5. Joint-venture with real estate developers
6. Use of stock market
7. Use of bond market
Case study in Jianghan District, Wuhan
Land use
### Land use classification

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Residential</th>
<th></th>
<th>Industrial</th>
<th></th>
<th>Public facilities</th>
<th></th>
<th>Others</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Acre</td>
<td>%</td>
<td></td>
<td>Acre</td>
<td>%</td>
<td>Acre</td>
<td>%</td>
<td>Acre</td>
<td>%</td>
</tr>
<tr>
<td>Hangce</td>
<td>498.8</td>
<td>83.9</td>
<td></td>
<td>48.2</td>
<td>9.7</td>
<td>32.3</td>
<td>6.5</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Hejiadun</td>
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<td></td>
<td>33.9</td>
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<td>18.8</td>
<td>1.2</td>
<td>160.3</td>
<td>9.9</td>
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<tr>
<td>Tangjiadun</td>
<td>1258.7</td>
<td>83.0</td>
<td></td>
<td>61.7</td>
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<td>75.9</td>
<td>6.0</td>
<td>76.4</td>
<td>6.1</td>
</tr>
<tr>
<td>Wanzihu</td>
<td>428.7</td>
<td>52.5</td>
<td></td>
<td>2.0</td>
<td>0.5</td>
<td>27.0</td>
<td>6.3</td>
<td>174.6</td>
<td>40.7</td>
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<tr>
<td>Gushaoshu</td>
<td>880.5</td>
<td>68.0</td>
<td></td>
<td>200.7</td>
<td>22.8</td>
<td>26.6</td>
<td>3.0</td>
<td>54.8</td>
<td>6.2</td>
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<tr>
<td>Total</td>
<td>4690.1</td>
<td>78.8</td>
<td></td>
<td>346.4</td>
<td>7.4</td>
<td>180.5</td>
<td>3.9</td>
<td>466.1</td>
<td>9.9</td>
</tr>
</tbody>
</table>
### Population

<table>
<thead>
<tr>
<th>Village name</th>
<th>No. of Households</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Rural</td>
</tr>
<tr>
<td>Tangjiadun</td>
<td>4419</td>
<td>1236</td>
</tr>
<tr>
<td>Wanzihu</td>
<td>606</td>
<td>553</td>
</tr>
<tr>
<td>Hejiadun</td>
<td>2456</td>
<td>1154</td>
</tr>
<tr>
<td>Gushaoshu</td>
<td>1363</td>
<td>424</td>
</tr>
<tr>
<td>Hangce</td>
<td>2080</td>
<td>687</td>
</tr>
<tr>
<td>Total</td>
<td>10924</td>
<td>4054</td>
</tr>
</tbody>
</table>
Assessment based on the following factors:

1. Building age
2. Number of storey
3. Outlook
4. Surrounding Environment
5. Public facilities
6. Accessibility
Building age
Number of storey
Outlook
Environment
Public facilities
Accessibility
Assessment result
Modes of upgrading

1. Provide houses in the original location
2. Provide houses in different locations
3. Compensation in Case
Proposed layout for renewal
Conclusions

1. Participation of different parties is necessary for a successful project.
2. Upgrading mode may be different for each village.
3. Innovation and new modes are needed in order to solve the complicated issues.
4. Data collection and use of GIS and remote sensing imagery is key to proper analysis and planning for urban villages upgrading.
Thanks