



***New Rural Planning Guidelines  
in the Chengdu Plain:  
The Case of Tianfu New Area***

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# Content

- Introduction
- Data & Discussion
- Conclusion



Area: 12,390 km<sup>2</sup> (630 km<sup>2</sup>/central city)

Population: 14,420,000 (6,200,000/central city)

GDP per capita: 10330 USD (6905/China, 15052/Beijing)

The Residents Income Ratio between City and Countryside:

2.31:1 (3.03:1/China, 2.20/Beijing, )

# Chengdu Plain Urban Agglomeration



Si Chuan Province



Dujiangyan City

Tianfu New Area

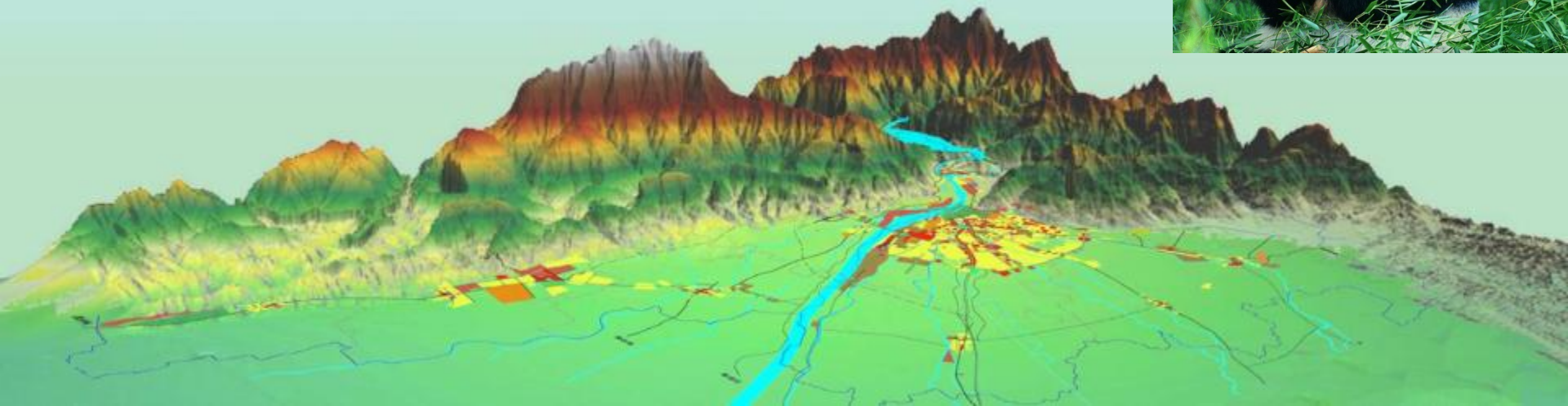
# Urban “Primacy Ratio” of the 27 Provincial Capital Cities in China(GDP,2015)

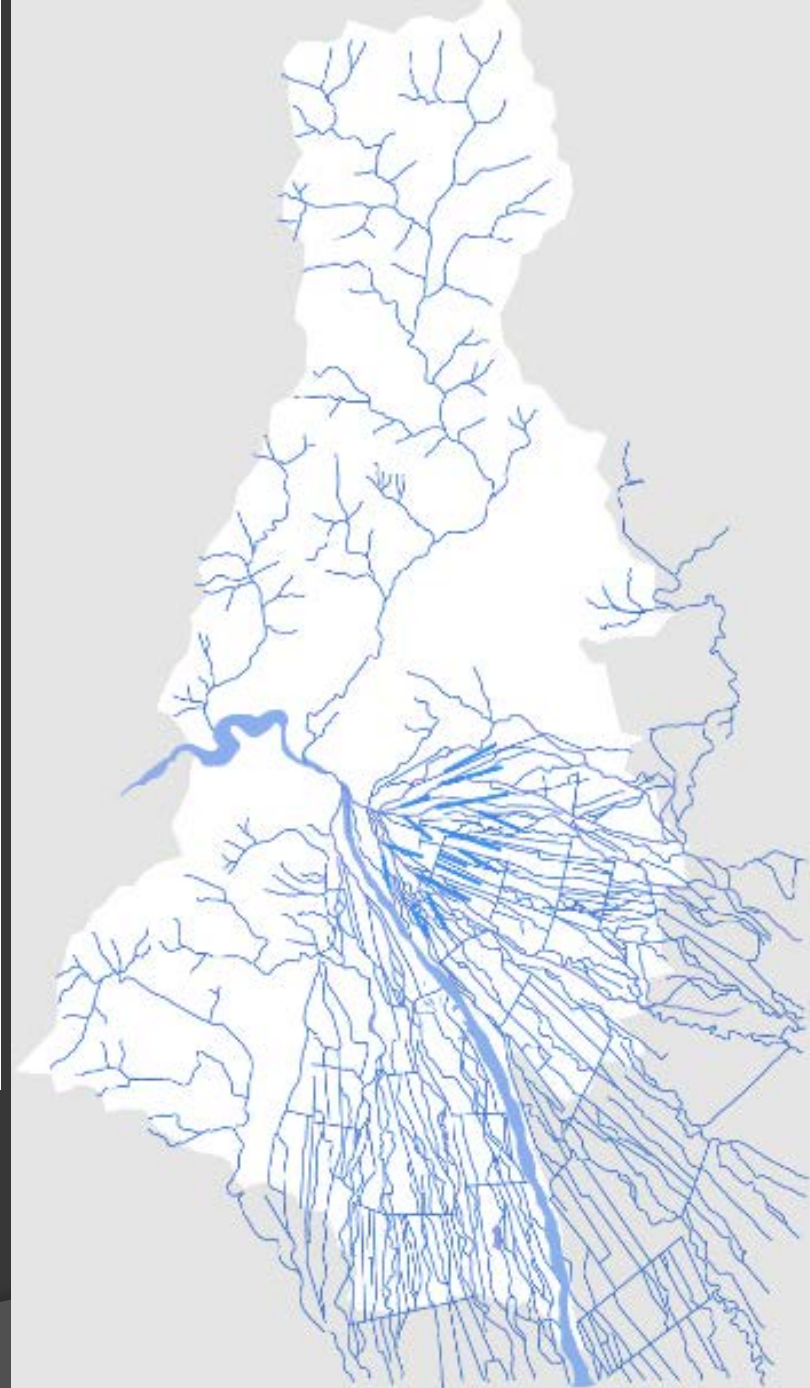
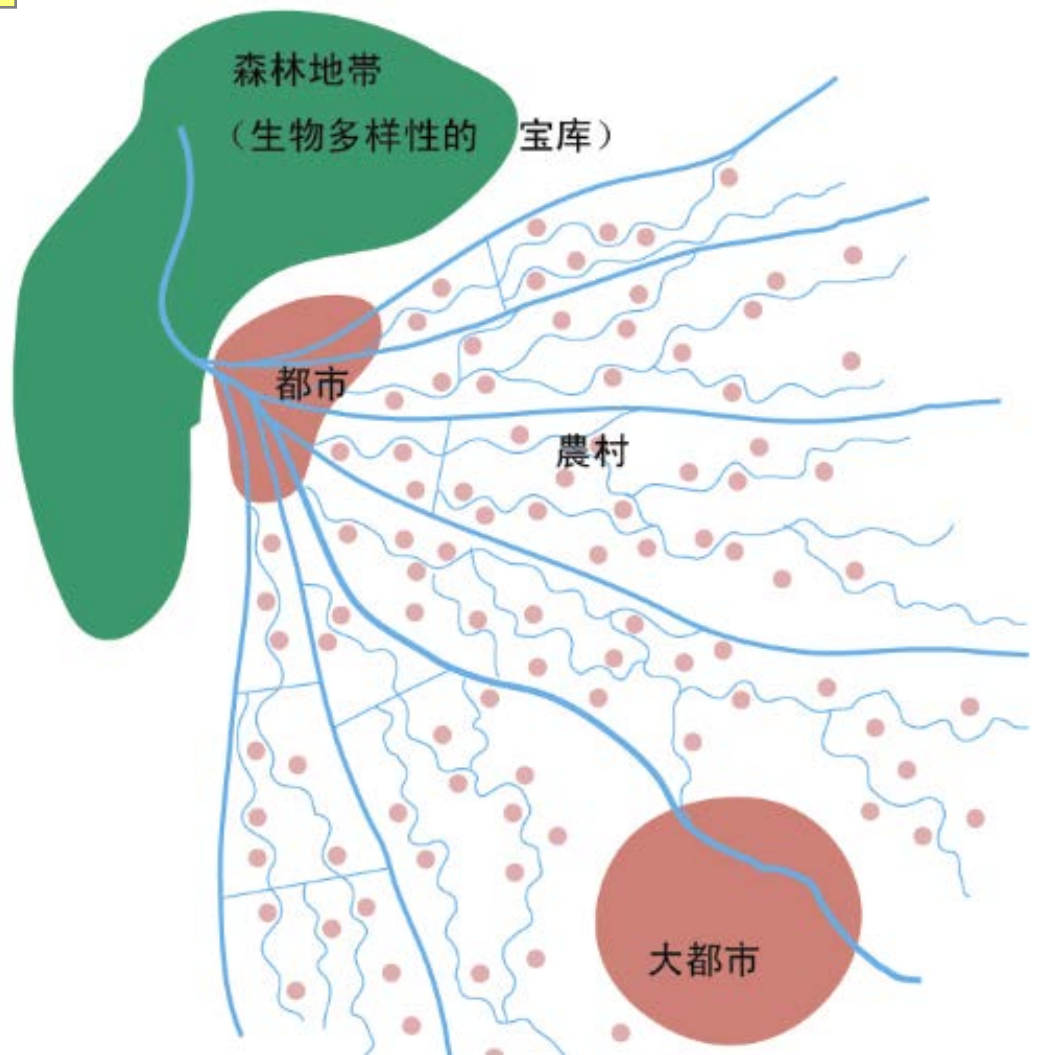
Chengdu  
Wuhan





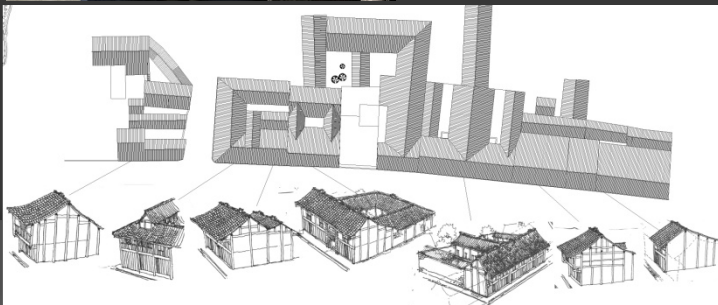
World Heritage Dujiangyan Irrigation Works  
create a rich agricultural plain





Reconstruction Concept Plan  
of Dujiangyan City (seismic area)  
Southwest Jiaotong University  
& The University of Tokyo(2008)

# Habitation Pattern in Chengdu Plain: A mysterious landscape pattern

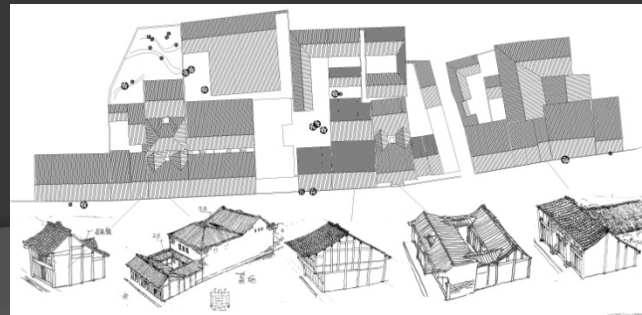


季富政教授  
( Prof. Ji Fuzheng )

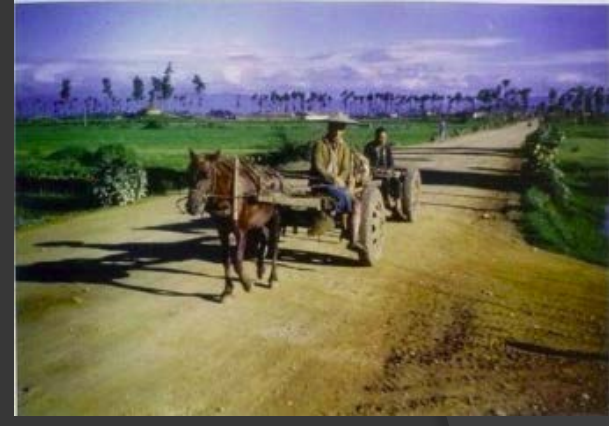


林盘  
Rural Settlements: Linpan

场镇  
Rural Settlements: market towns







Photos by Flying Tigers (1945)

Photos by William Skinner (1940s)



● Total amount of towns:

169

● Average Population:

4,800

● Average area:

53.6km<sup>2</sup>

(160km<sup>2</sup>/Guangzhou)

● concentration not  
more than 1000 people:

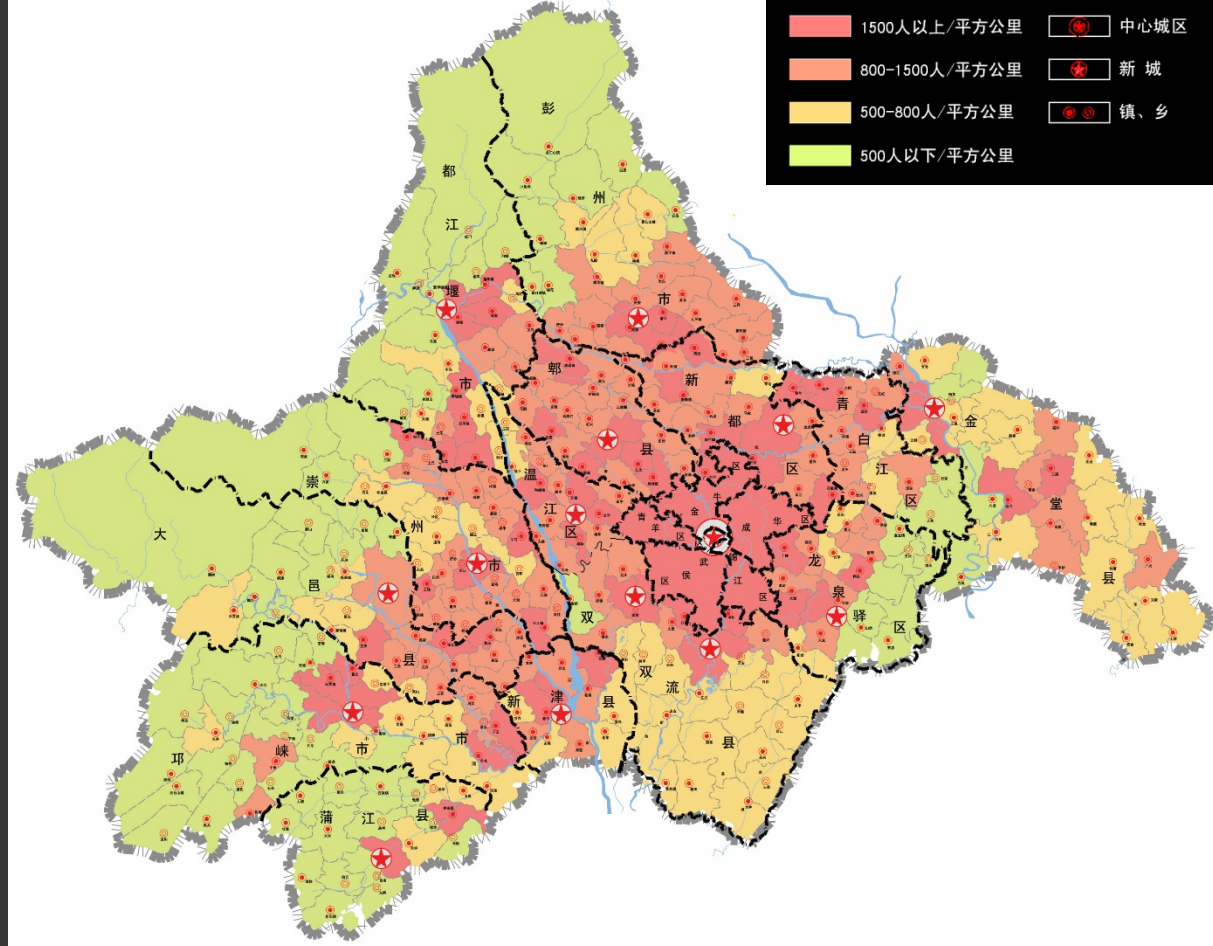
89%

● township density:

1.48/100km<sup>2</sup>,

(0.98/Peral River Delta,

1.42/Yangtzi River Delta)



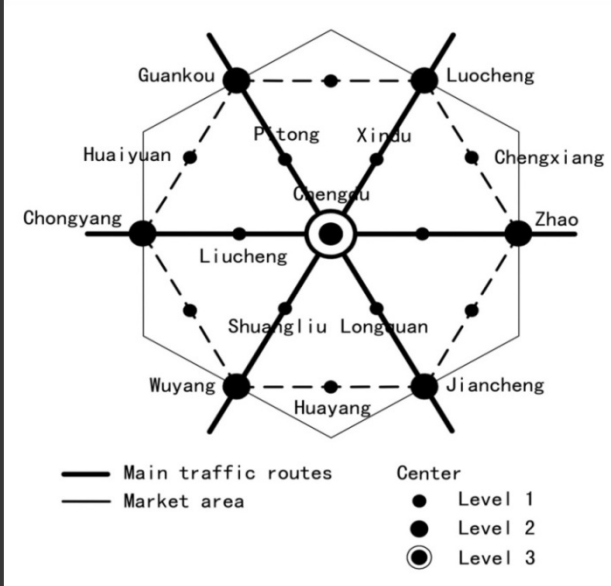
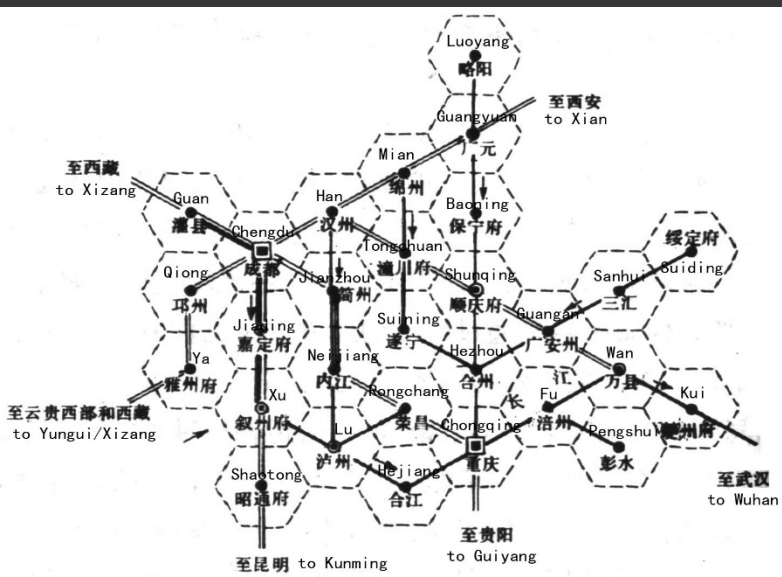
Dispersed Small Market Towns

# Market Towns Heritages(2000s)

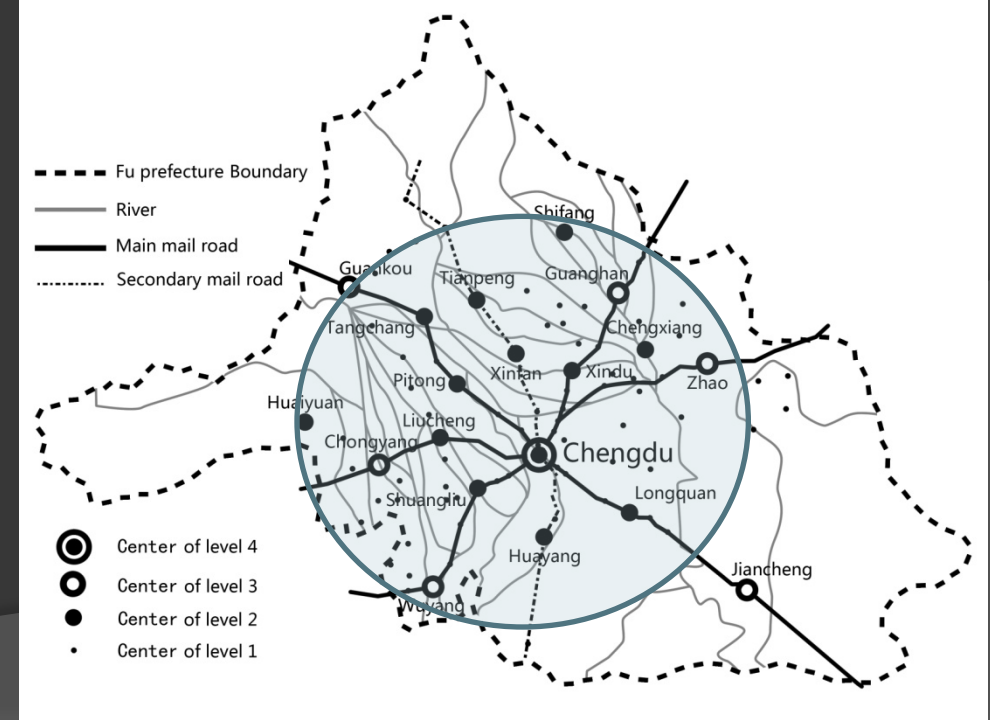
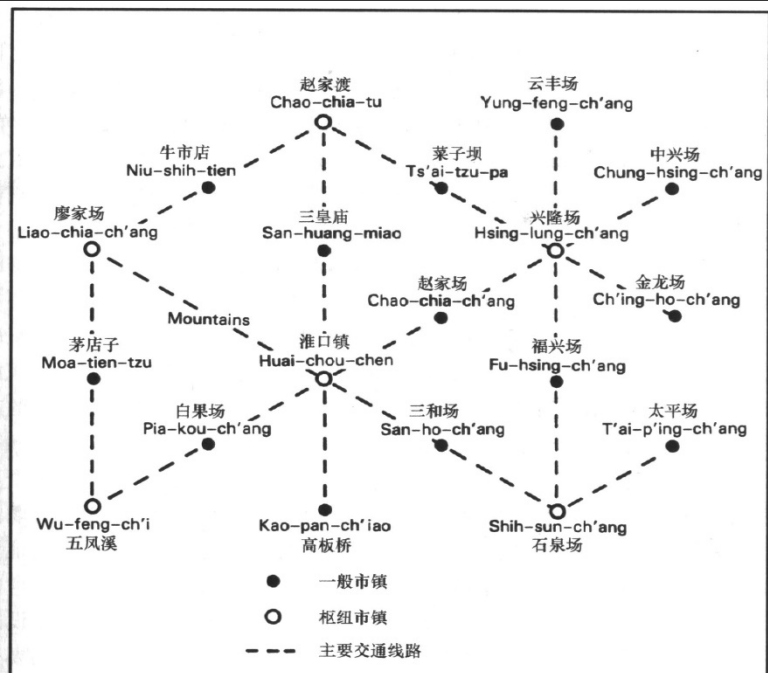
彭县	<p>天彭</p> 	<p>白鹿●</p> 	<p>熬平◎</p> 	<p>通济◎</p> 	<p>九尺◎</p> 	<p>太清◎</p> 
都江堰	<p>灌口</p> 	<p>石羊◎</p> 	<p>天马◎</p> 	<p>胥家◎</p> 	<p>蒲阳◎</p> 	<p>玉堂◎</p> 
崇州县	<p>崇庆</p> 	<p>街子●</p> 	<p>怀远●</p> 	<p>元通●</p> 	<p>三江◎</p> 	<p>道明◎</p> 
郫县	<p>郫筒</p> 	<p>何家场◎</p> 	<p>花园◎</p> 	<p>清河◎</p> 	<p>三道堰◎</p> 	<p>唐昌◎</p> 

# The Central Places System in Sichuan

(G. William Skinner, 1977)



# Chengdu—Central Places in Traffic Principle (Wei Zhao, 2011)





# Coordinated Urban-Rural Development Explorations

1: Initial stage (1978-2002)

initial exploration

2: Innovation (2003-2006)

land arrangement, three concentrations;

3: Breakthrough and Spread (2006-2008)

New Socialist Countryside Construction, Pilot Area;

4: Improving (2008-2010)

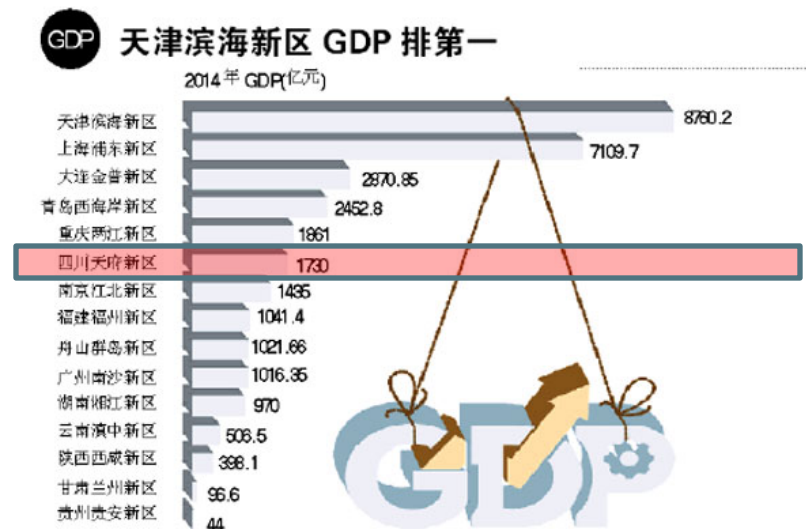
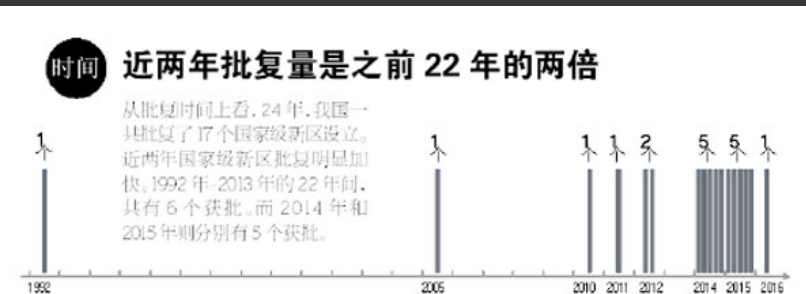
Seismic Reconstruction, Diversification;

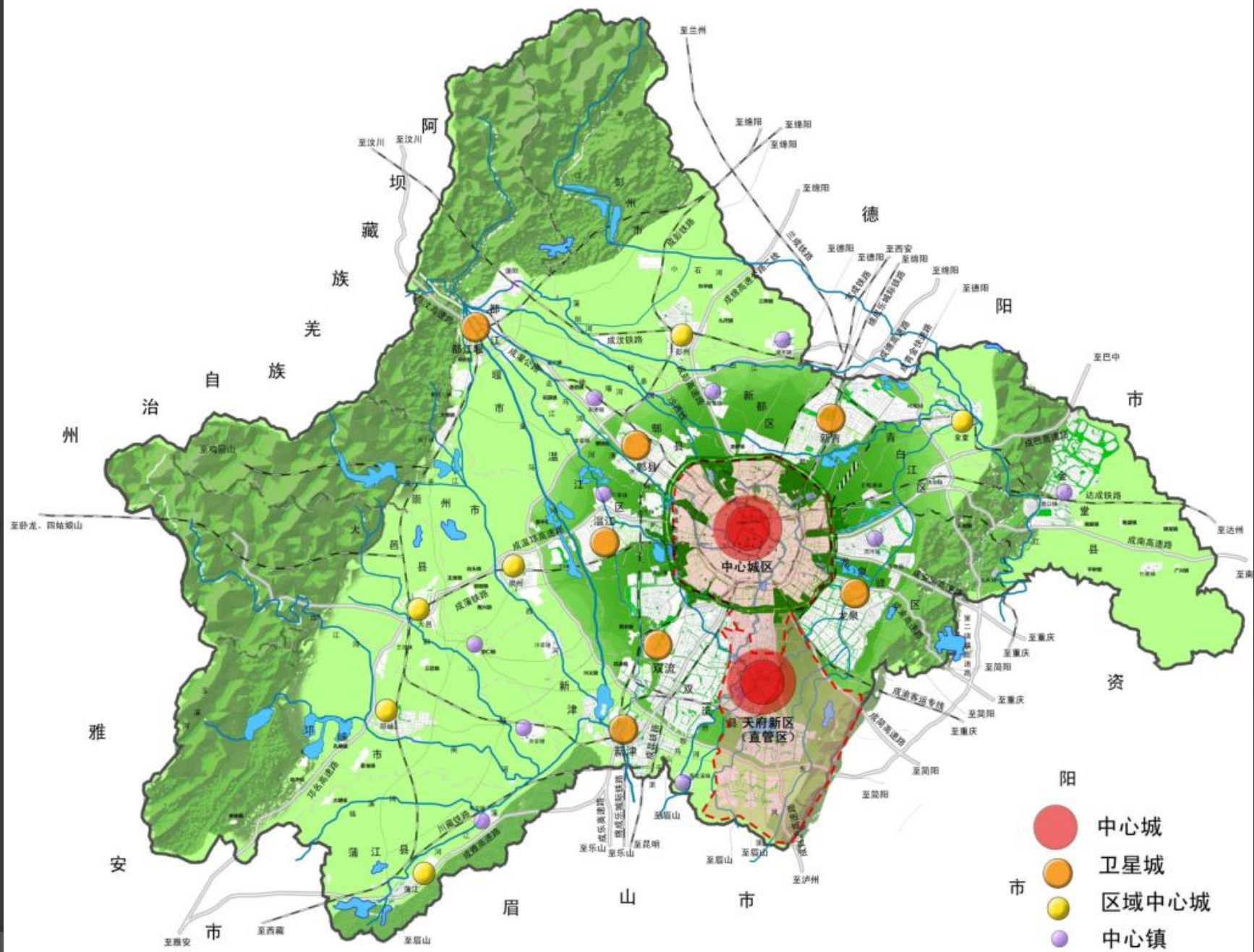
5: Transformation (2011-2014)

Ecological and Social concerns, New Urbanization

# Tianfu New Area

National New Area is a national strategy. The positioning, the overall development objectives, and the planning are approved by the State Council. The State Council directly approves the relevant preferential policies, special privileges and special preferential policies to encourage reform, innovation and exploration work in New Area.





- 中心城
- 卫星城
- 区域中心城
- 中心镇

Plan Vision:

Technological Innovation

Modern Manufacturing

High-end services

National Council Approval:

Modern Manufacturing

High-end industry

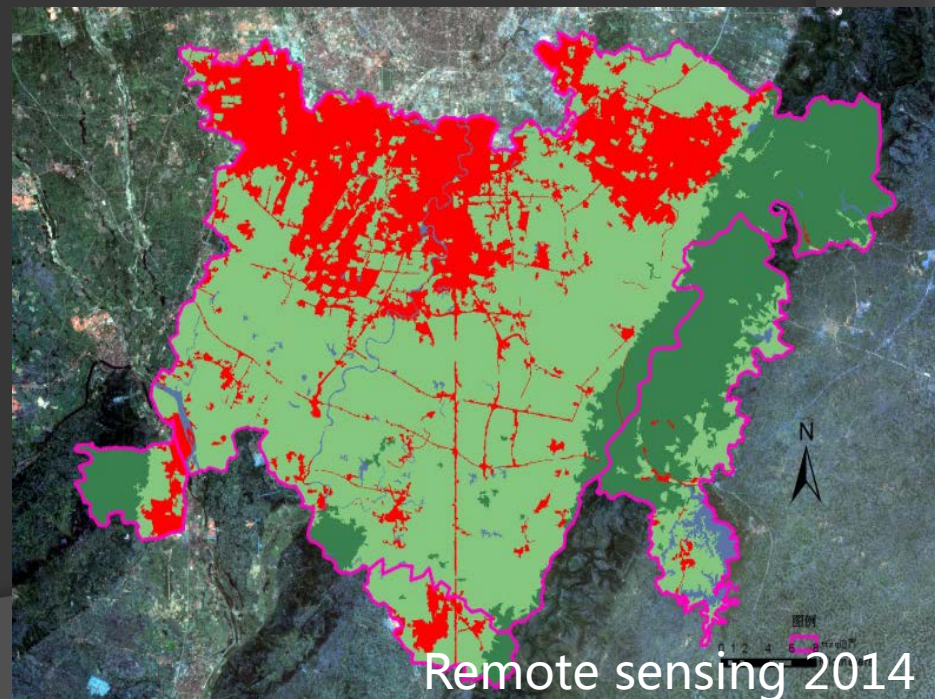
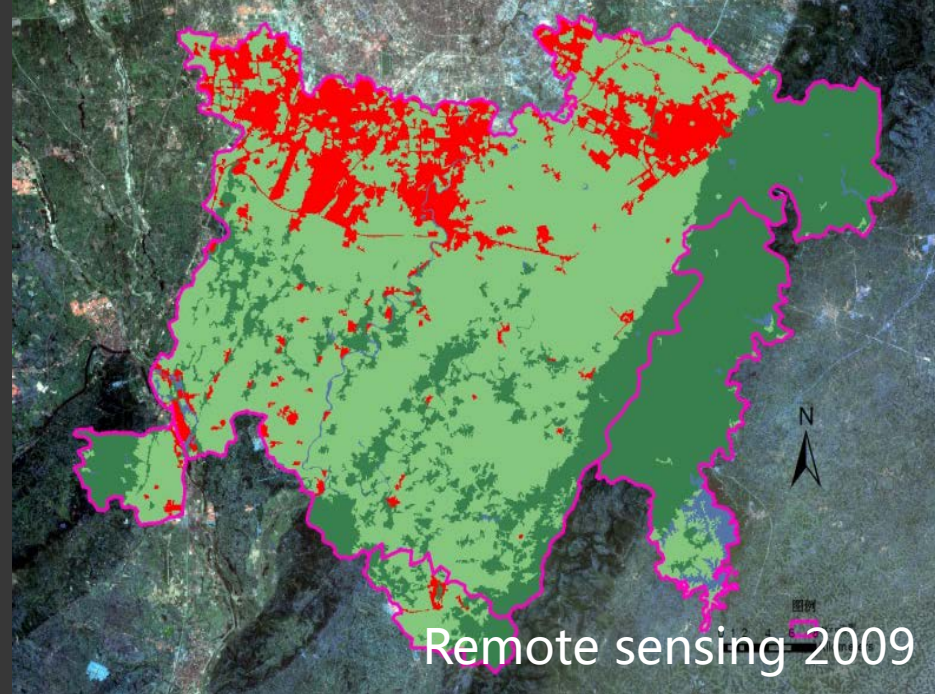




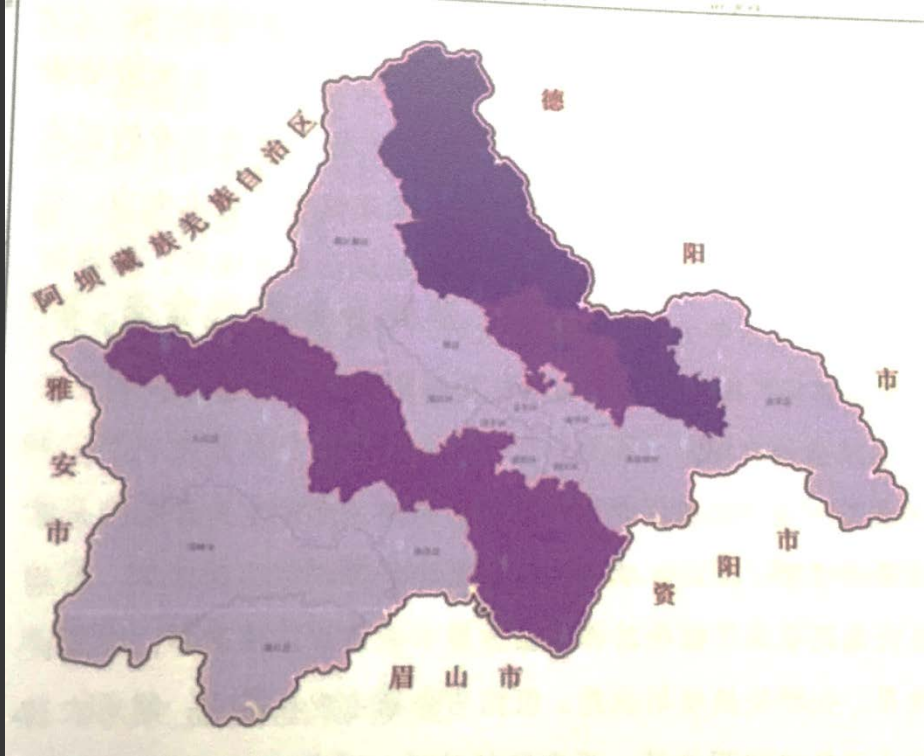
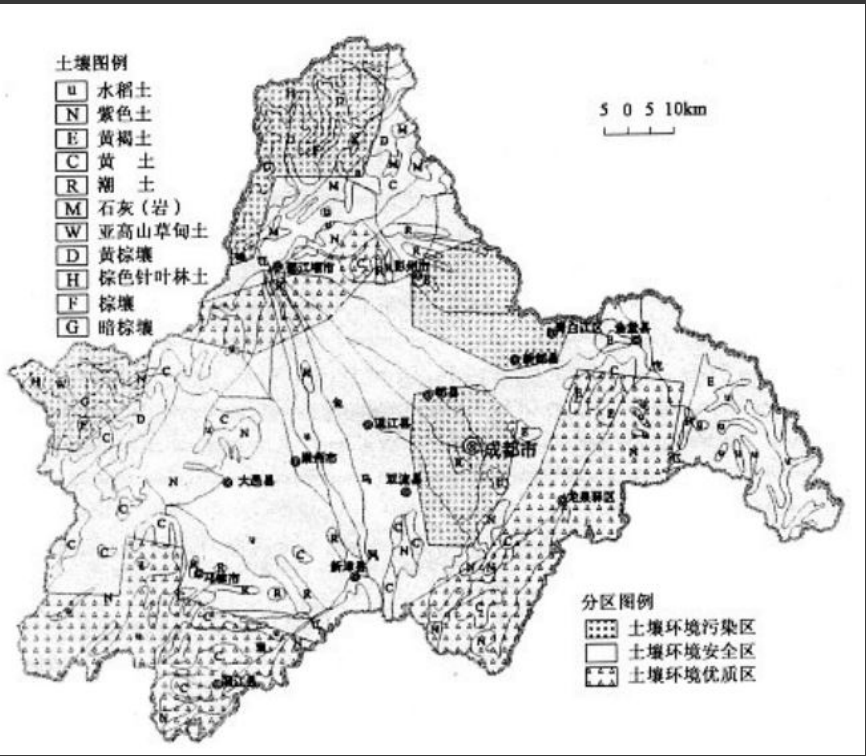
天府商务区



- Software Center
- Car manufacturer
- Exhibition Center
- Electronic Science and Technology Park
- Singapore - Sichuan Technology Park
- The Second Express Beltway
- The Second Airport



# Impactful Change of Soil Pollution



**Preliminary Evaluation of soil environmental quality in Chengdu, 2004**

**Chengdu Environmental Master Plan ( 2015—2030 )**

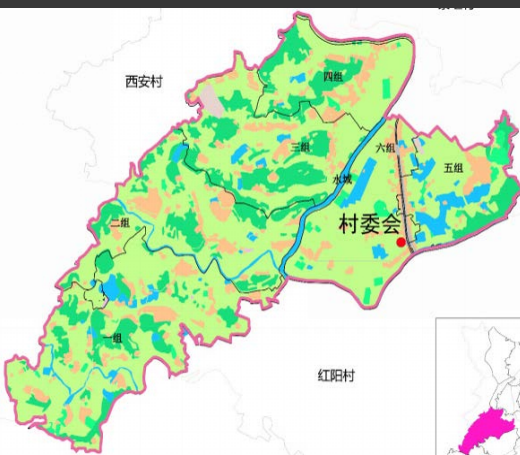
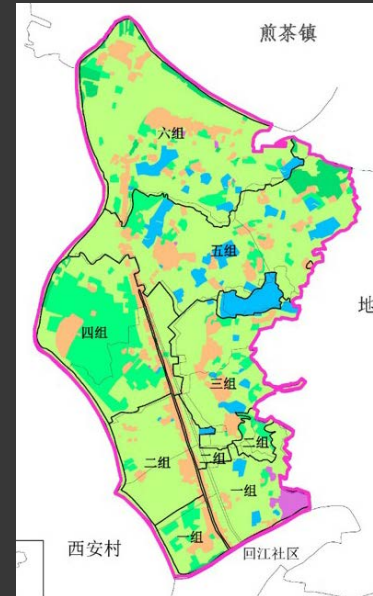
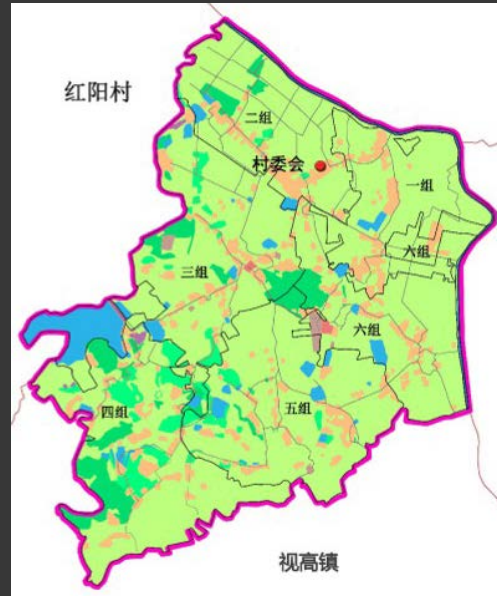
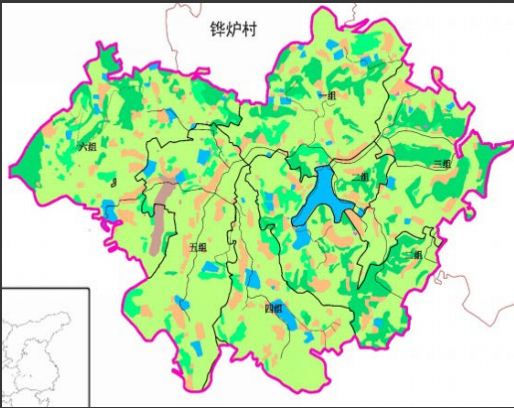
# Water Grades Situation

The downstream water quality of the inner river of Minjiang, is generally deteriorated. Part of the water quality of Minjiang River, and Jinjiang river is inferior V class.



# Ecological Problems

Bamboo Forest patches are very small and fragmented.  
Lack of ecological protection forest.



# Land Use Problems

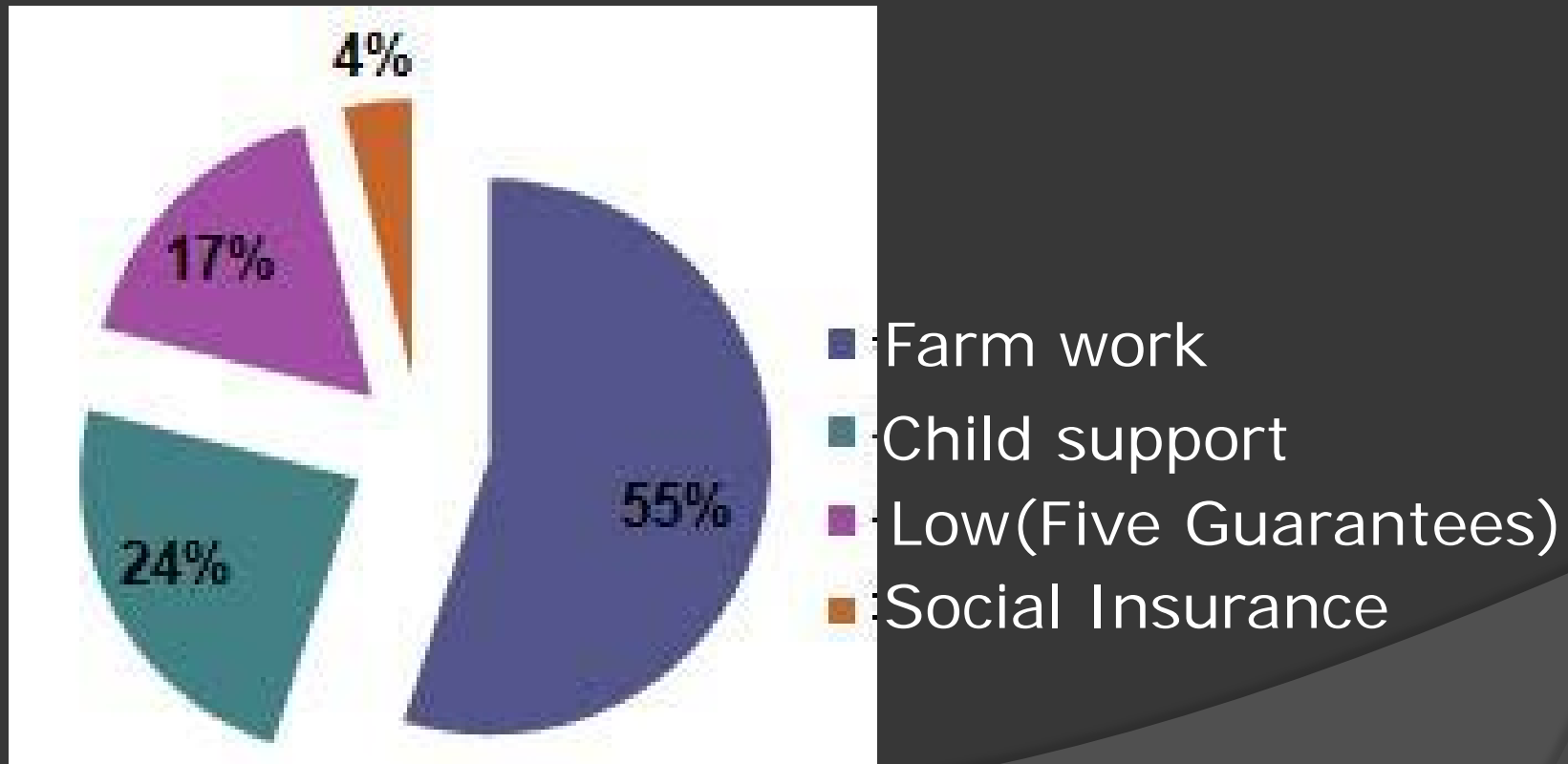
- Because of the low per capita possession of land, people and land conflicts have become increasingly prominent.
- Land resources are unevenly distributed as well as Land use remains in the extensive mode.
- Young people become migrant workers. Arable land has low output of efficiency which causes land to abandoned and other issues.
- Many people left behind wish for their houses to be demolished and have social insurance like urban residents.
- In some cases, new households unfortunately have no housing sites for construction.

# Aging Population

More than 20% people are over 60 years.

More than 18% people are over 65 years.

Most live healthy, poorly, lonely and lack medical services.



Income of elderly

Sichuan University, 2015



# Housing Problems

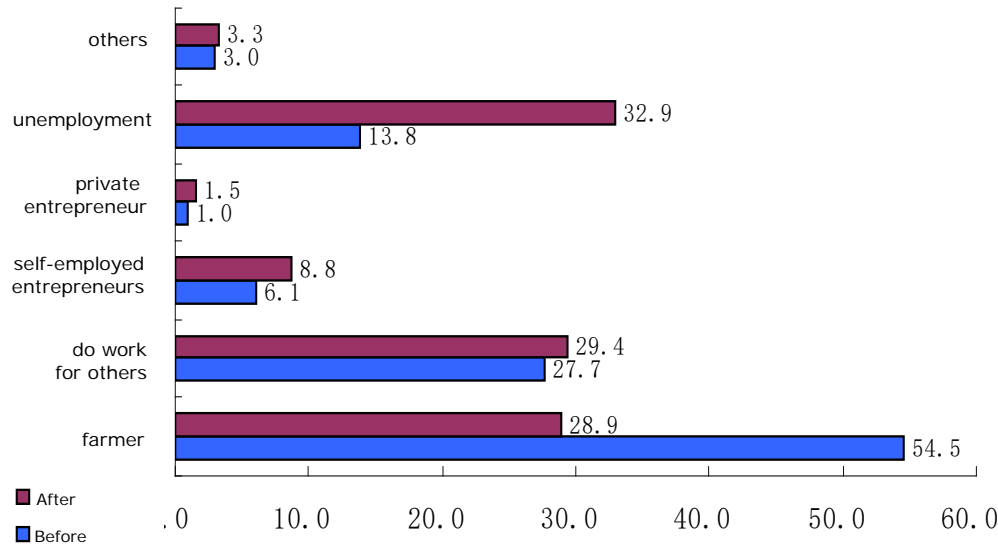
## Concentrate Resettlements(Collective Housing)

Village Name	Total Population	Resettlements number	Resettlements Population	Resettlements Population (%)
Erlang	4059	2	1000人	24.64
Baima	4286	2	1000	23.33
Nantiansi	3786	1	1500	39.62
Jinshi	3328	3	1500	45.07
Yunya	4220	1	500	11.85
河山村	3474	1	600	17.27
Longxing	3368	2	300	8.9%
Nanxin	4300	6	3000	69.77
Shuangyan	2636	4	2000	75.87
Dantu	3343	3	1500	44.87
Qiantang	5185	7	2000	38.57
Eastpart of Tianfu New Area	79312	32	14900	18.79

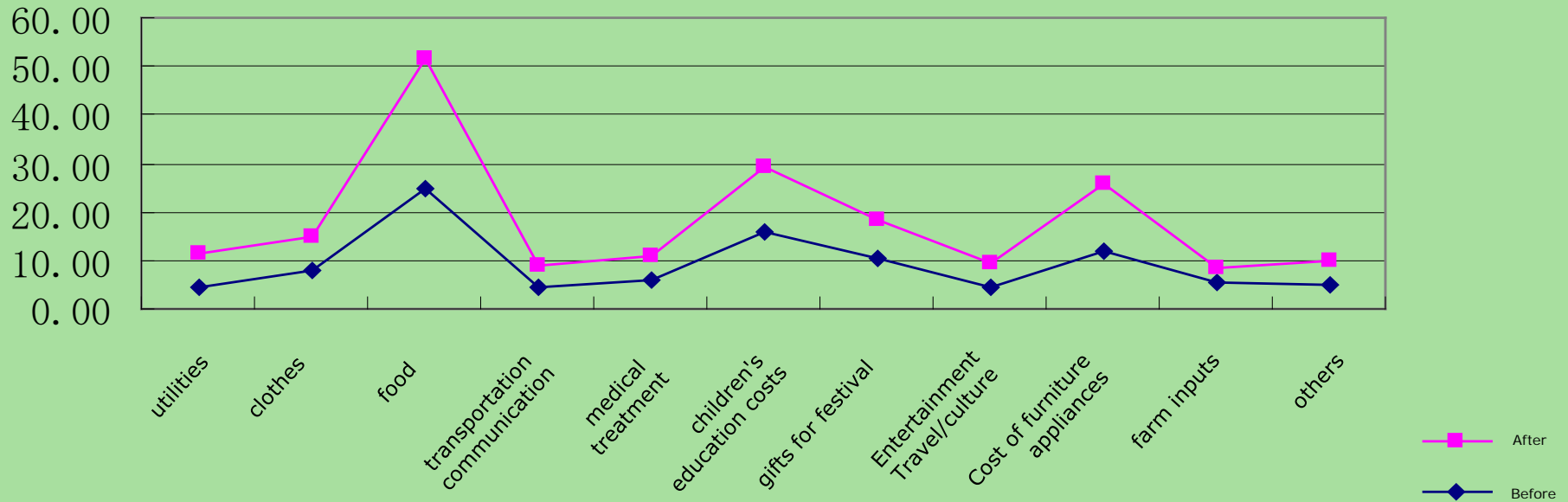


# Employment Field Survey after Three (3) concentrations (2014)

Before-and-after centralized residence of employment in the new rural communities(%)



Before-and-after centralized residence of consumption structure in the new rural communities(%)



# Dilapidated House/Adobe

## Poverty?



2015 Adobe House in East Part of Tianfu New Area

Town Name	Village Name	Adobe House Number	Percentage (%)
Taiping	Erlang	61	4.9
	Xiaoyan	242	31.5
	Baima	46	3.6
	Tongxin	10	1
	Taoyuan	293	35
	Qianjin	71	6.1
Hejiang	Nantiansi	176	15
	Lulin	202	20
	Luxi	279	26
	Tiandeng	229	25
	Sanehu	399	64
	Longjin	314	35
	Danjingshan	327	48

Town Name	Village Name	Adobe House Number	Percentage (%)
Sanxing	Heshan	127	11
	Longxing	40	3.8
	Jinshi	218	17.4
	Yunya	75	6
	Shuangyan	39	5
	Nanxin	30	2.6
	Dantu	206	20
Yongxing	Gantang	96	5
	Mingyue	278	21
	Honghua	176	12

# New Urbanization: Facing the Towns and Countryside

Limited Land Supply

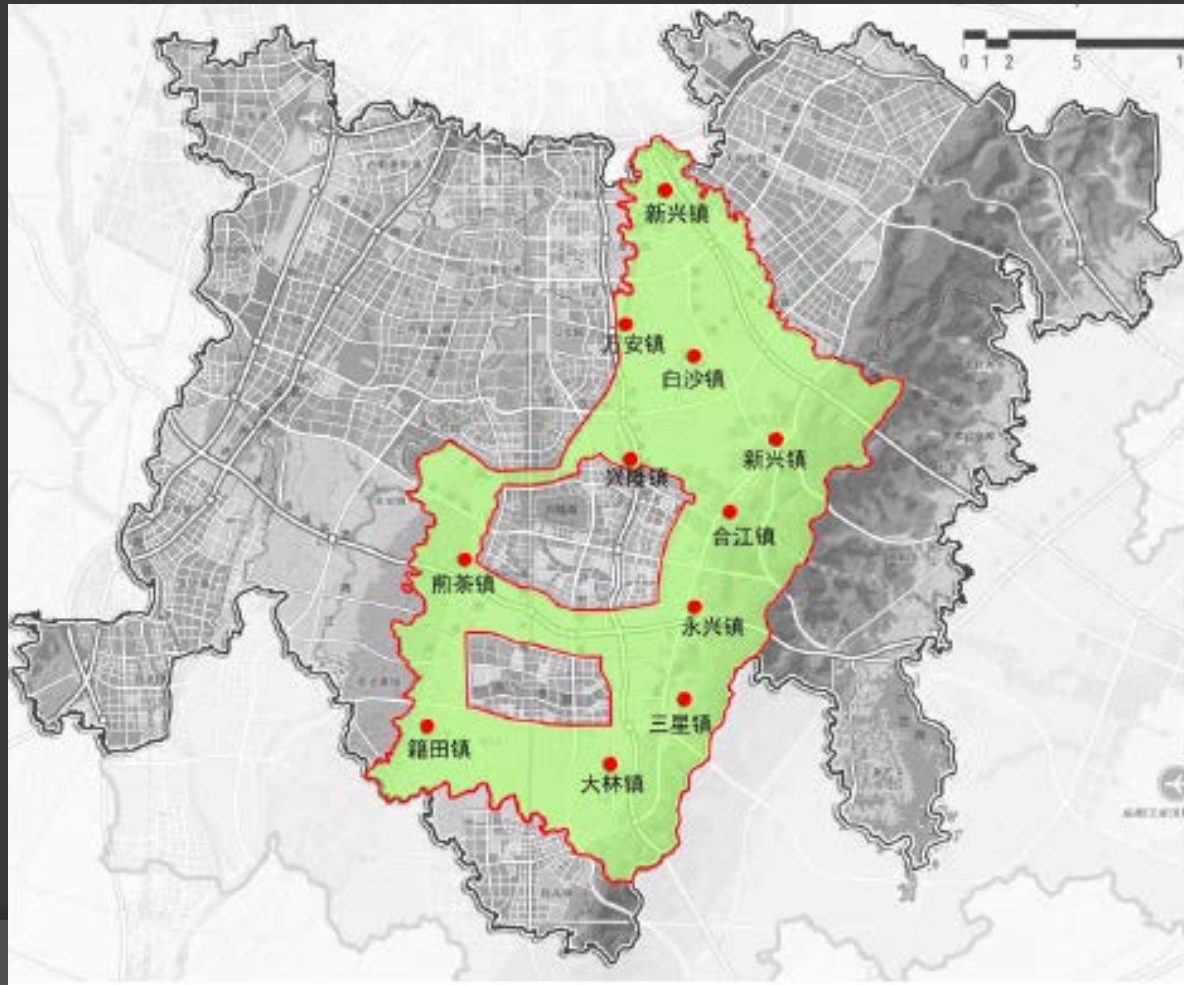


Competition for the Spaces



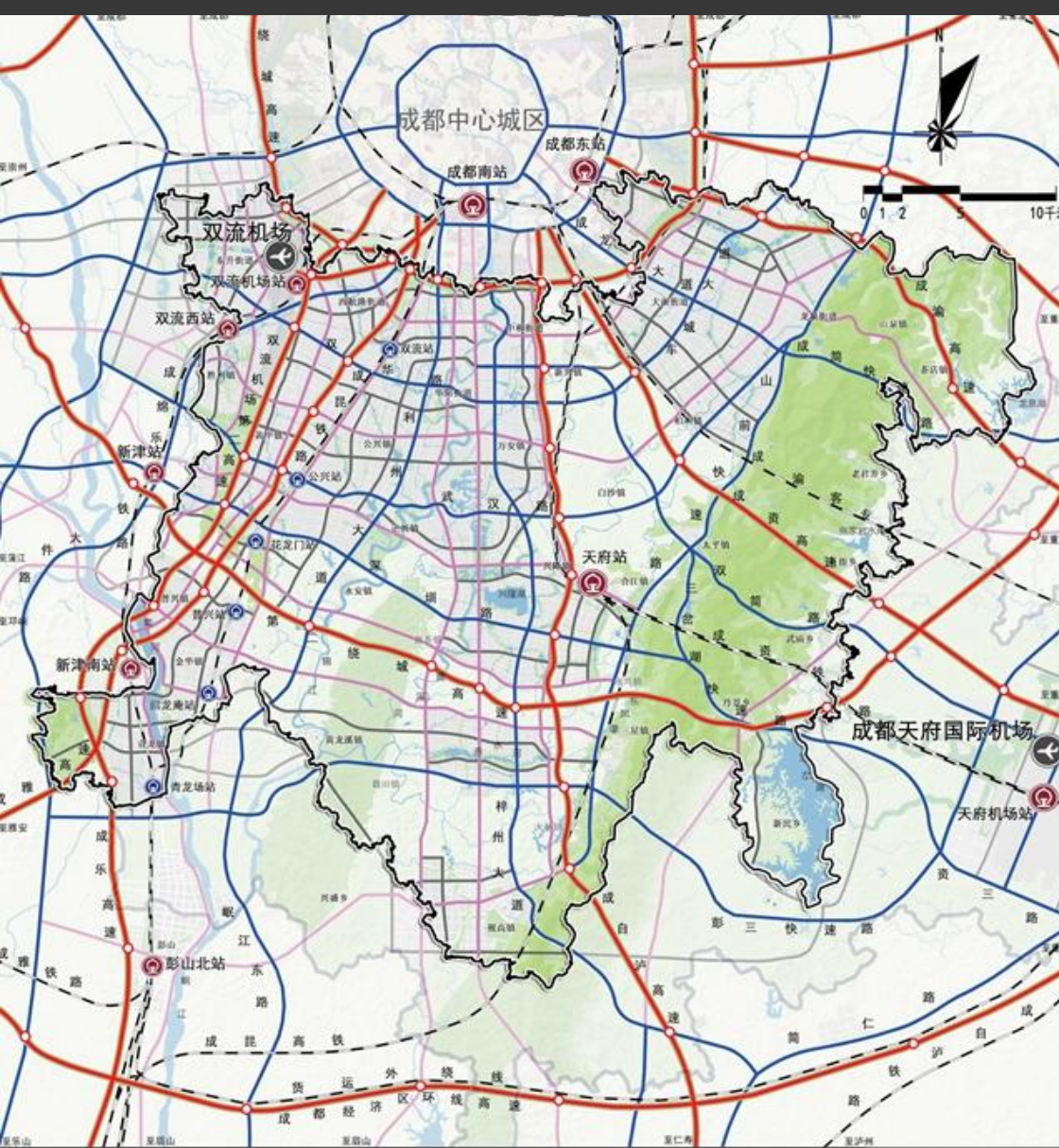
Priority for a Rural Plan?

- Challenges in approaches toward Rural Planning
- Vulnerabilities and Risks caused by Urbanization
- Resilience Opportunities take advantage of Urbanization



# Why we need to make rural plans?

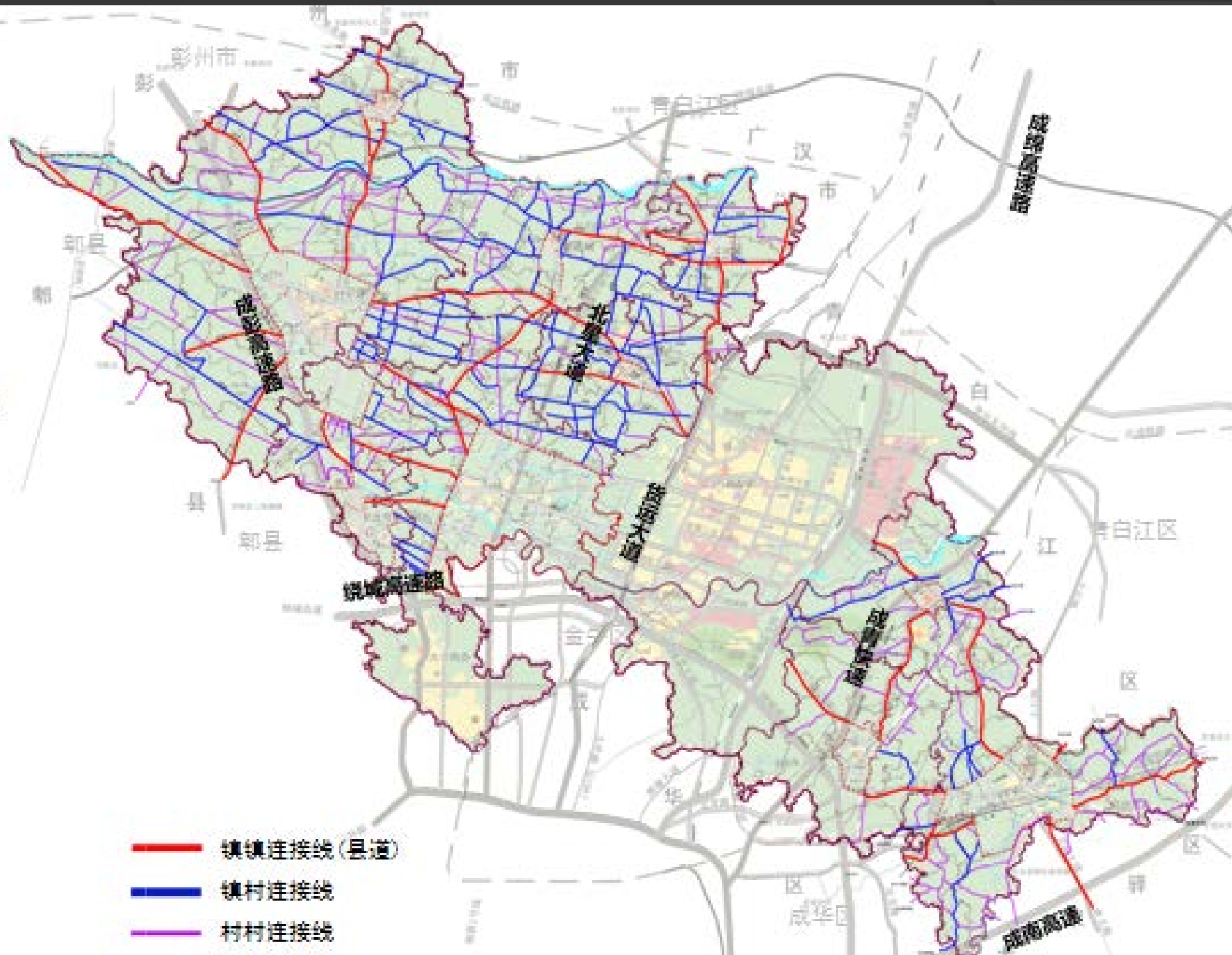
Government Intervention  
Disorderly rural construction



图例

- |  |        |  |       |  |       |
|--|--------|--|-------|--|-------|
|  | 高速公路   |  | 铁路客运站 |  | 协调区范围 |
|  | 城市快速路  |  | 铁路货站  |  | 水域    |
|  | 结构性主干路 |  | 机场    |  | 分区界限  |
|  | 其它干路   |  | 铁路    |  | 规划范围  |
|  | 高速出入口  |  |       |  |       |







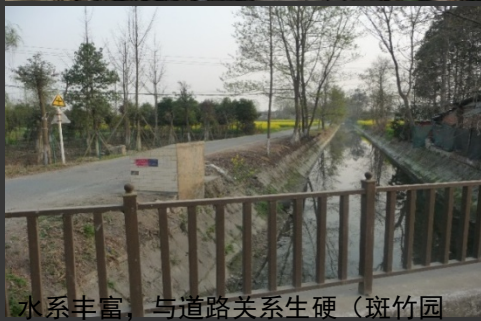
路面老化现象严重（马家



货车占道现象严重（新民



硬化道路对水体造成一定污染



水系丰富，与道路关系生硬（斑竹园



货车占道现象严重（斑竹园镇）



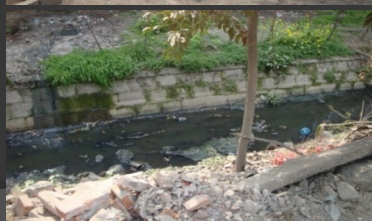
镇内主要联系道路做为绿道（马家镇）



道路与建筑的关系复



公交车、货车、三轮车混杂行驶（军屯镇）



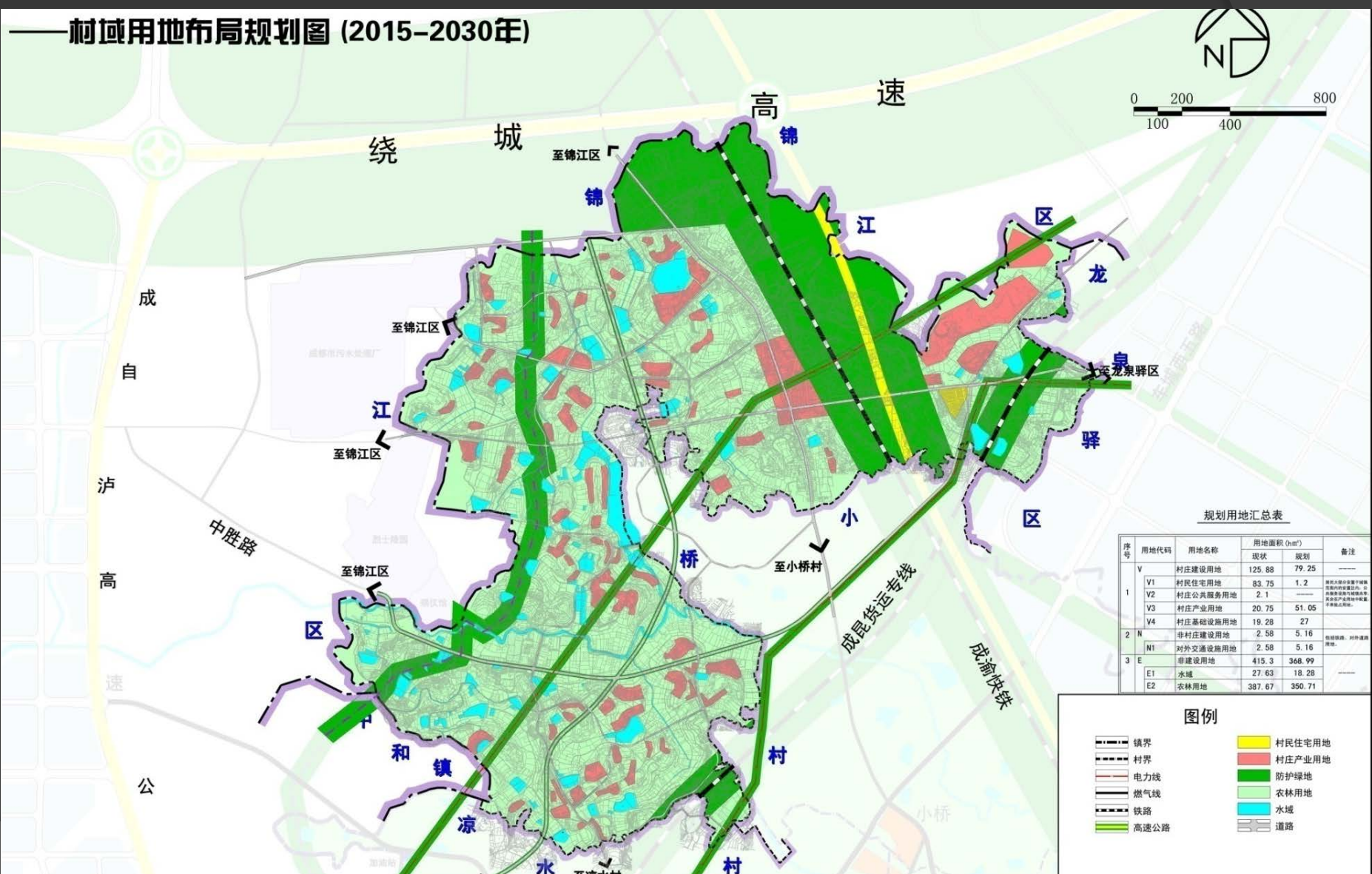
斑竹园镇鸦雀口片区卫星图



# Objective Tasks

## (Statutory, Rural Construction Planning Permit)

——村域用地布局规划图 (2015-2030年)



规划用地汇总表

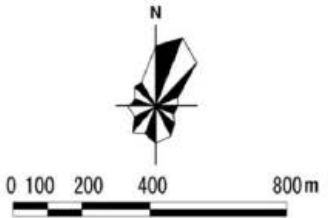
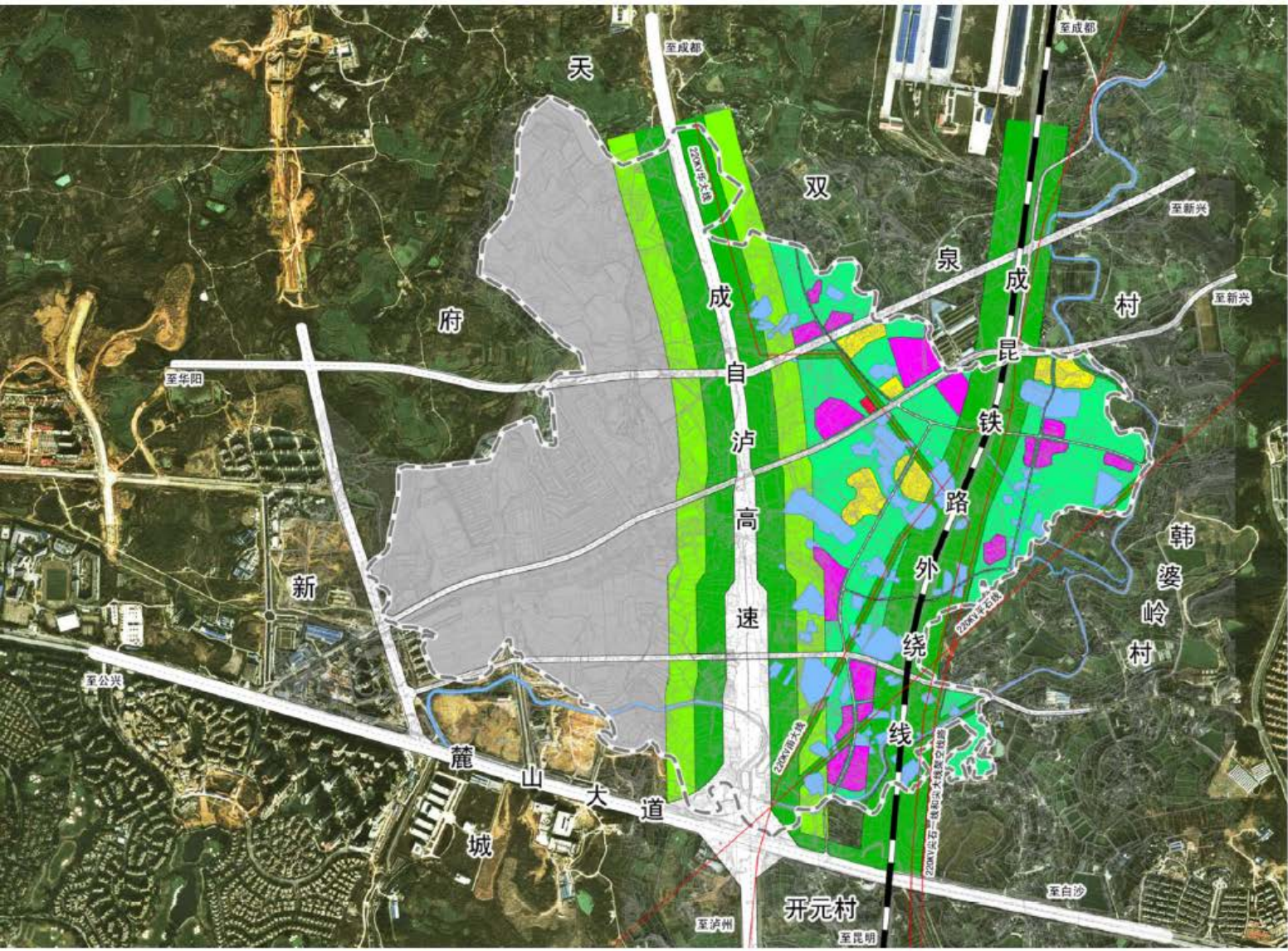
序号	用地代码	用地名称	用地面积 (m <sup>2</sup> )		备注
			现状	规划	
1	V	村庄建设用地	125.88	79.25	——
	V1	村民住宅用地	83.75	1.2	——
	V2	村庄公共服务用地	2.1	——	——
	V3	村庄产业用地	20.75	51.05	——
	V4	村庄基础设施用地	19.28	27	——
2	N	非村庄建设用地	2.58	5.16	——
	N1	对外交通设施用地	2.58	5.16	——
3	E	非建设用地	415.3	368.99	——
	E1	水域	27.63	18.28	——
	E2	农林用地	387.67	350.71	——

图例

- 镇界
- 村民住宅用地
- 村界
- 村庄产业用地
- 电力线
- 防护绿地
- 燃气线
- 农林用地
- 铁路
- 水域
- 高速公路
- 道路



# Development Needs (Frequently Change)



- 图例**
- 村民住宅建设用地
  - 村庄产业用地
  - 村庄公共服务用地
  - 城镇建设用地
  - 100m防护绿地
  - 200m防护绿地
  - 水域
  - 农林用地
  - 铁路
  - 规划道路
  - 220KV高压线
  - 用地边界线
  - 村范围

# Existing Rural Planning Framework in China

Environmental/ Public Facilities/ Infrastructure .....

Urban Plan

Blueprints

Town Plan

Blueprints

Village Plan

Blueprints

Community Plan

Blueprints

Renovation Plan

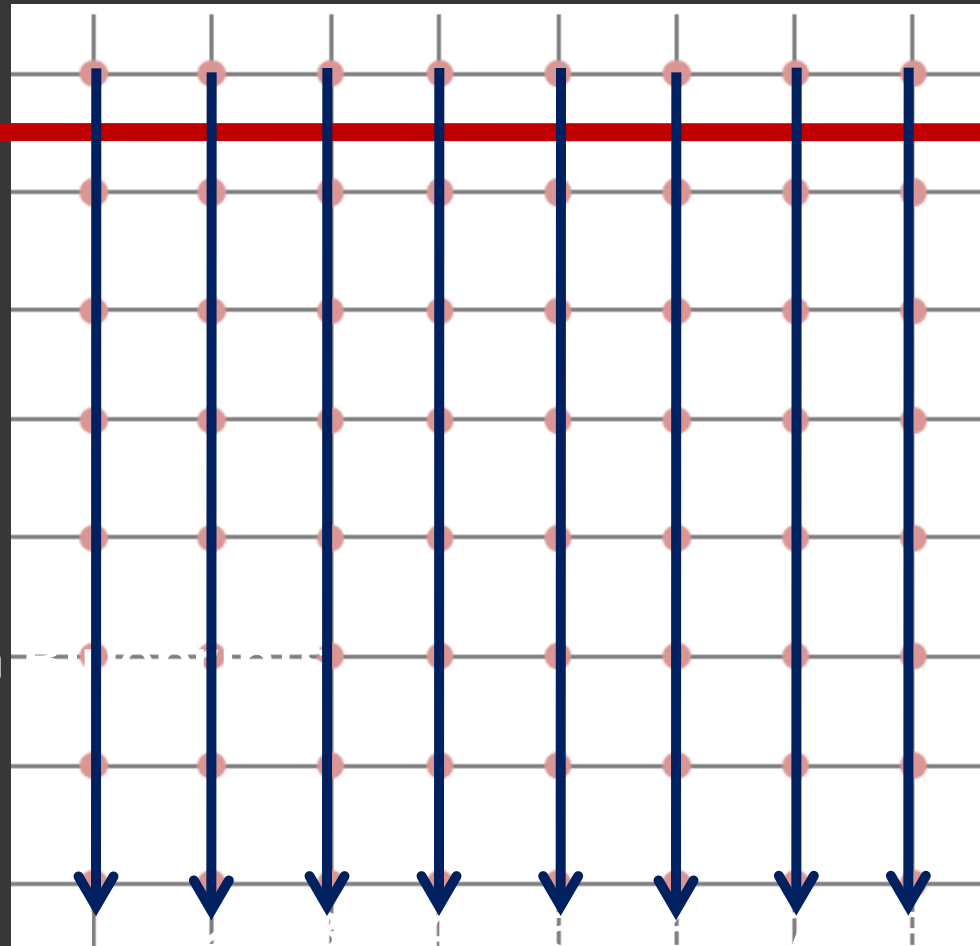
Blueprints

Conservation Plan

Blueprints

..... Plan

Blueprints



Construction  
project

1 2 3 4 5 6 7 8

# New Rural Communities (Most Important Resident Project)

## Rural Design Guideline



# Guideline Content

- Site Selection
- Overall Layout
- Architectural design
- Renovation and protection
- Landscaping
- Public Facilities
- Infrastructure
- Disaster Prevention & Mitigation
- Construction Management

## 第一章 总则

- 1.1 目的
- 1.2 原则
- 1.3 适用范围
- 1.4 分类

## 第二章 选址

- 2.1 选址原则
- 2.2 选址的一般性步骤

## 第三章 总体布局

- 3.1 布局分类
- 3.2 总体布局
- 3.3 聚落布局
- 3.4 院落布局

## 第四章 建筑设计

- 4.1 概述
- 4.2 建筑
- 4.3 建筑结构
- 4.4 建筑给排水
- 4.5 建筑电气

## 第五章 整治和保护

- 5.1 农房整治
- 5.2 农房拆除
- 5.3 乡村文物古迹保护

## 第六章 环境营造

- 6.1 总体环境美化
- 6.2 植物种植
- 6.3 庭院设置
- 6.4 道路绿化
- 6.5 地面铺装
- 6.6 沟渠整治
- 6.7 庭院出入口、围墙及绿篱

## 第七章 公共配套设施

- 7.1 公共配套设施内容
- 7.2 公共配套设施指标

## 第八章 市政基础设施

- 8.1 道路交通工程
- 8.2 给水工程
- 8.3 排水工程
- 8.4 燃料
- 8.5 环卫工程
- 8.6 电气工程
- 8.7 通信

## 第九章 防灾减灾

- 9.1 一般要求
- 9.2 道路
- 9.3 消防
- 9.4 防洪
- 9.5 防地质灾害
- 9.6 避雷
- 9.6 防风灾

## 第十章 工程管理要点

- 10.1 特点
- 10.2 建设期工程管理注意事项

## 第十一章 编制

- 11.1 编制方式
- 11.2 编制比例
- 11.3 编制内容及深度

## 第十二章 附则

- 12.1 用词说明
- 12.2 名词解释
- 12.3 附表

# Adaptive Rural Planning Framework Concept

Environmental/ Public Facilities/ Infrastructure .....

Urban Plan

Actions

Integrated Rural

Actions

Town Plan

Actions

Village Plan

Actions

Community Plan

Actions

Renovation Plan

Actions

Conservation Plan

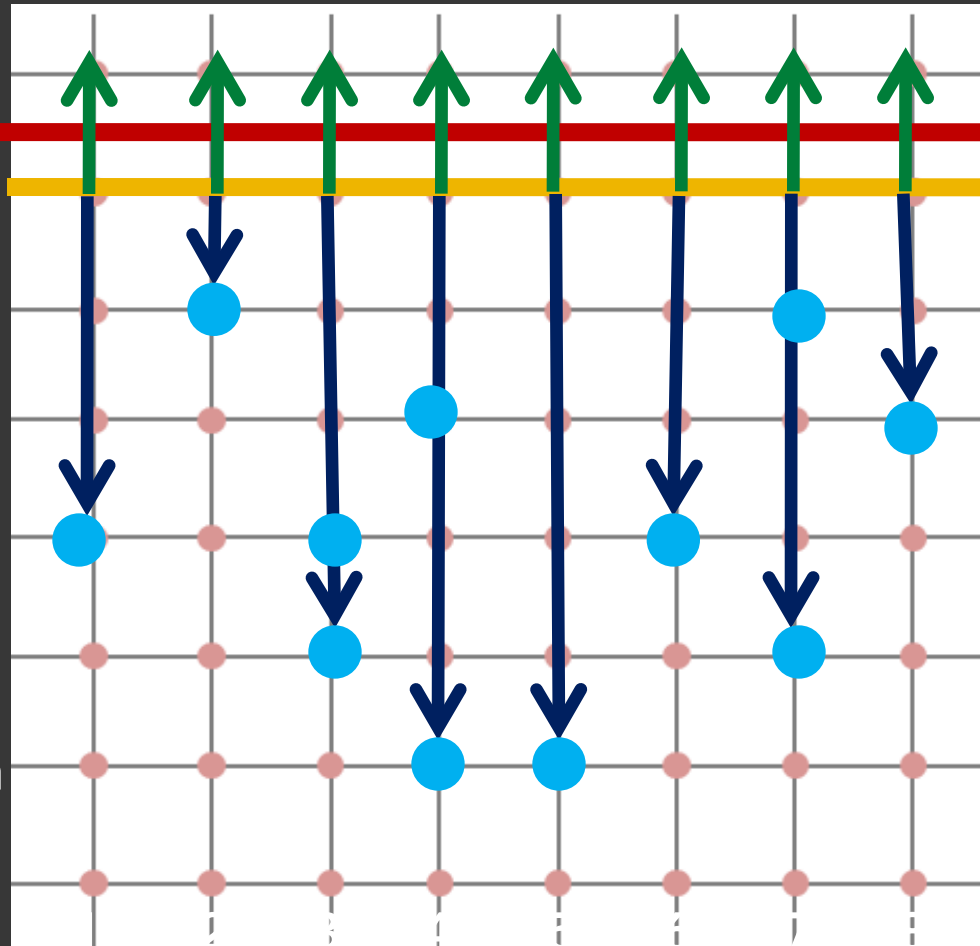
Actions

.....

Actions

Construction

project



Categories	Class	Present	Planning
economic development	Per capita disposable income (Yuan)		
livelihood and welfare	Population out of poverty		
	Working-age population average years of schooling (Year)		
	Dilapidated adobe house renovation		
Ecological and Environment Protection	Amount of cultivated land (hm <sup>2</sup> )		
	Forest cover rate (%)		
	Good air quality days ratio (%)		
	Meet or better than Water Grade III water body proportions (%)		
	Worse than Water Grade V ratio (%)		
	Added soil pollution treatment area (hm <sup>2</sup> )		
Construction	Per capita construction land (m <sup>2</sup> )		
	Cultural and sports facilities coverage (%)		
	Centralized water supply rate (%)		
	Sewer Coverage (%)		
	Public transportation network coverage (%)		
	Household garbage sorting facility coverage (%)		
	Broadband penetration rate (%)		
Institutional reform	new business entities in rural areas		

Harrell:  
Sustainability is maintaining resilience in a socio-ecological system

List of Rural Development Objective Index System in Integrated Rural Plan



2011-2012  
初步构想

崇州市川西林盘保护规划  
重庆路产业策划  
十万亩农田规划



2013.05-09  
目标理念

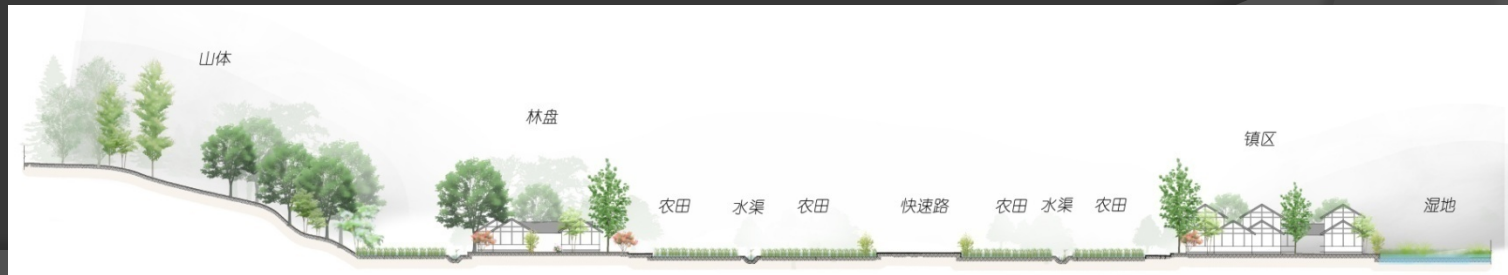
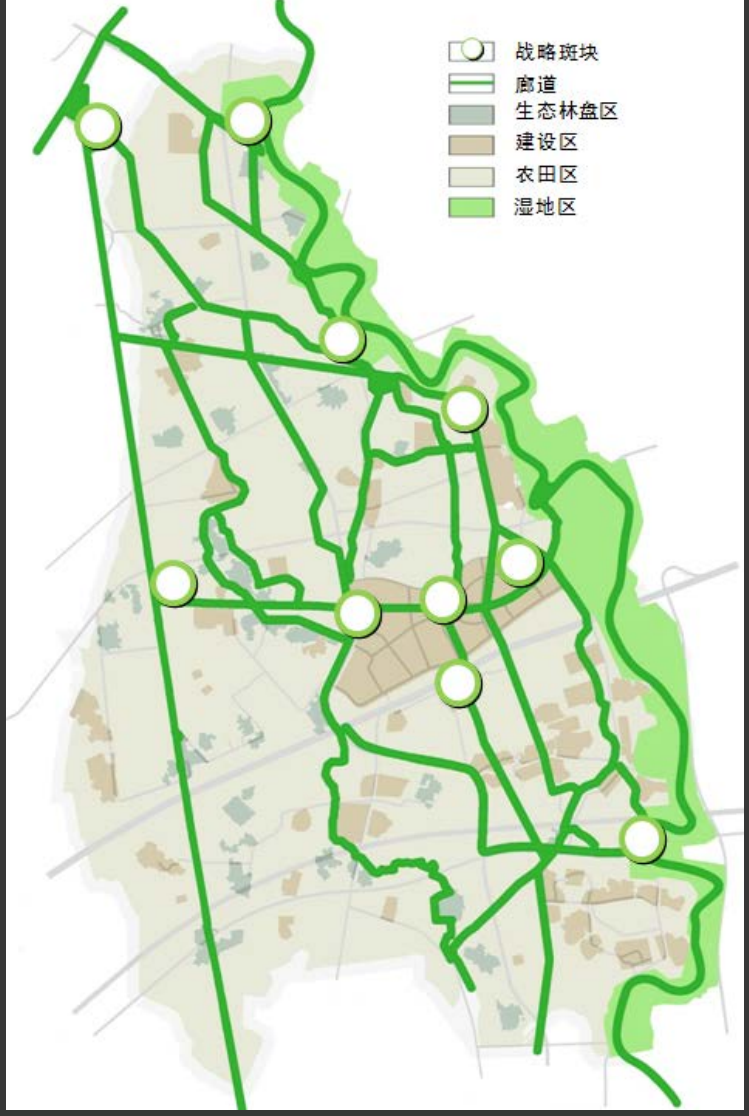
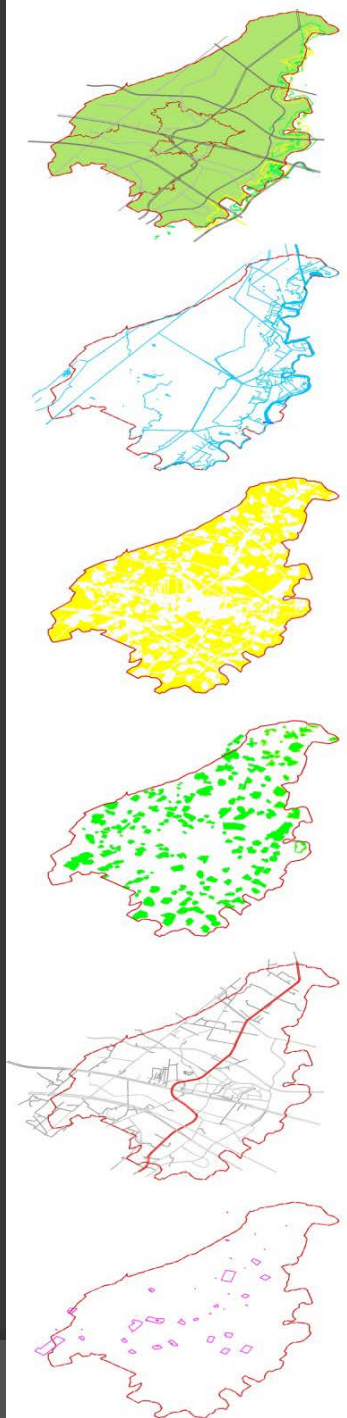
白头镇总体规划  
五星村总体规划  
桤木河湿地公园规划

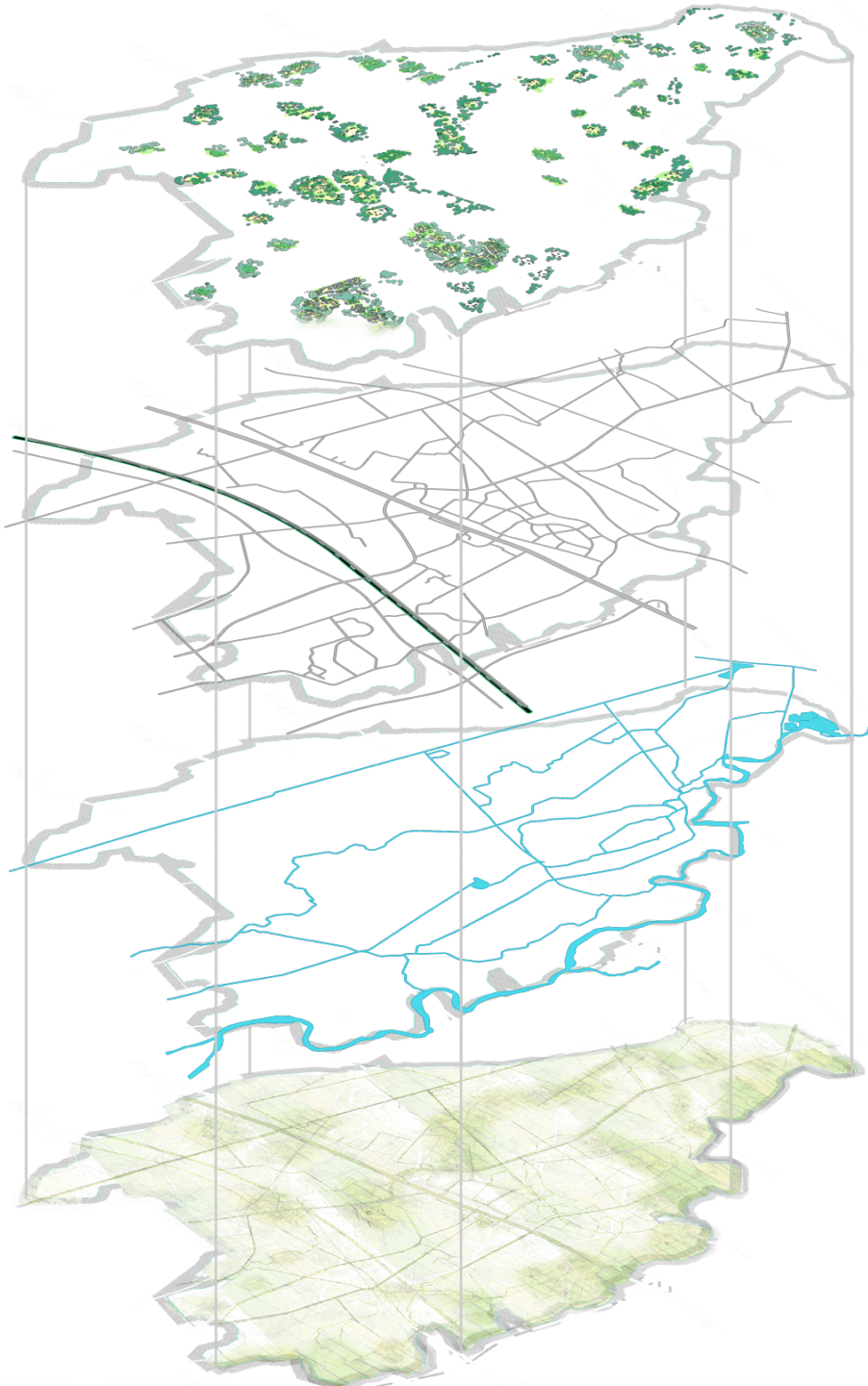









2013.09——  
开始建设

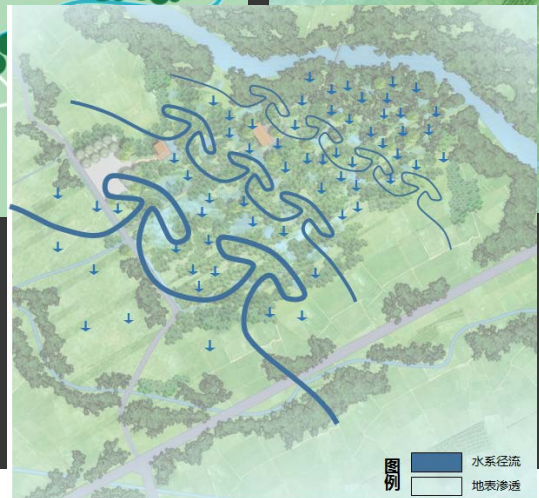
五星村聚居点建设60%完成  
桤木河湿地一期80%建设完成





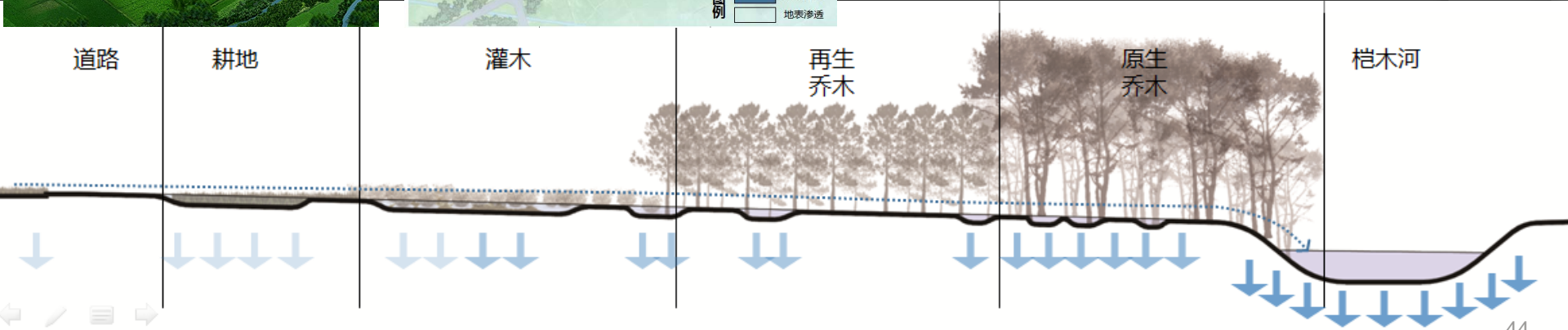


- |  |        |   |        |   |        |   |      |
|--|--------|---|--------|---|--------|---|------|
|  | 公共停车场  |  | 人行天桥   |  | 车行天桥   |  | 车行交通 |
|  | 主要车行环线 |  | 主要骑行环线 |  | 次要骑行线路 |   |      |



图例  
 水系径流  
 地表渗透

道路      耕地      灌木      再生乔木      原生乔木      桉木河









2013首届四川  
国际自驾赏花节

1<sup>st</sup> SICHUAN INTERNATIONAL FLOWER ROUTE FESTIVAL

CHENGDU · CHONGZHOU · CHONGQING ROAD

成都·崇州·重庆路

2013.03.09-04.06



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# Conclusion

- ④ The research highlights the main concerns in developing a rural planning guideline. The guideline is based on a conceptual framework adapted to future resilience for rural development in Chengdu Plain.
- ④ The conceptual framework ensured the systematic features of rural planning, extend its boundary, and helped effectively combine eco-social and construction works in rural areas.
- ④ Surveys of rural areas in Tianfu New Area shows the risks of large scale and rapid construction in the context of new urbanization in China. Rural plans should contain innovative ideas of taking full advantage of local resources and rural characters, enhancing the ecological and social resilience, and reducing the clashes between people and place in future development.

Thank You and Welcome to Chengdu !