



中國國際扶貧中心

International Poverty Reduction Center in China

# Developing GIS of the National Poverty Reduction in China

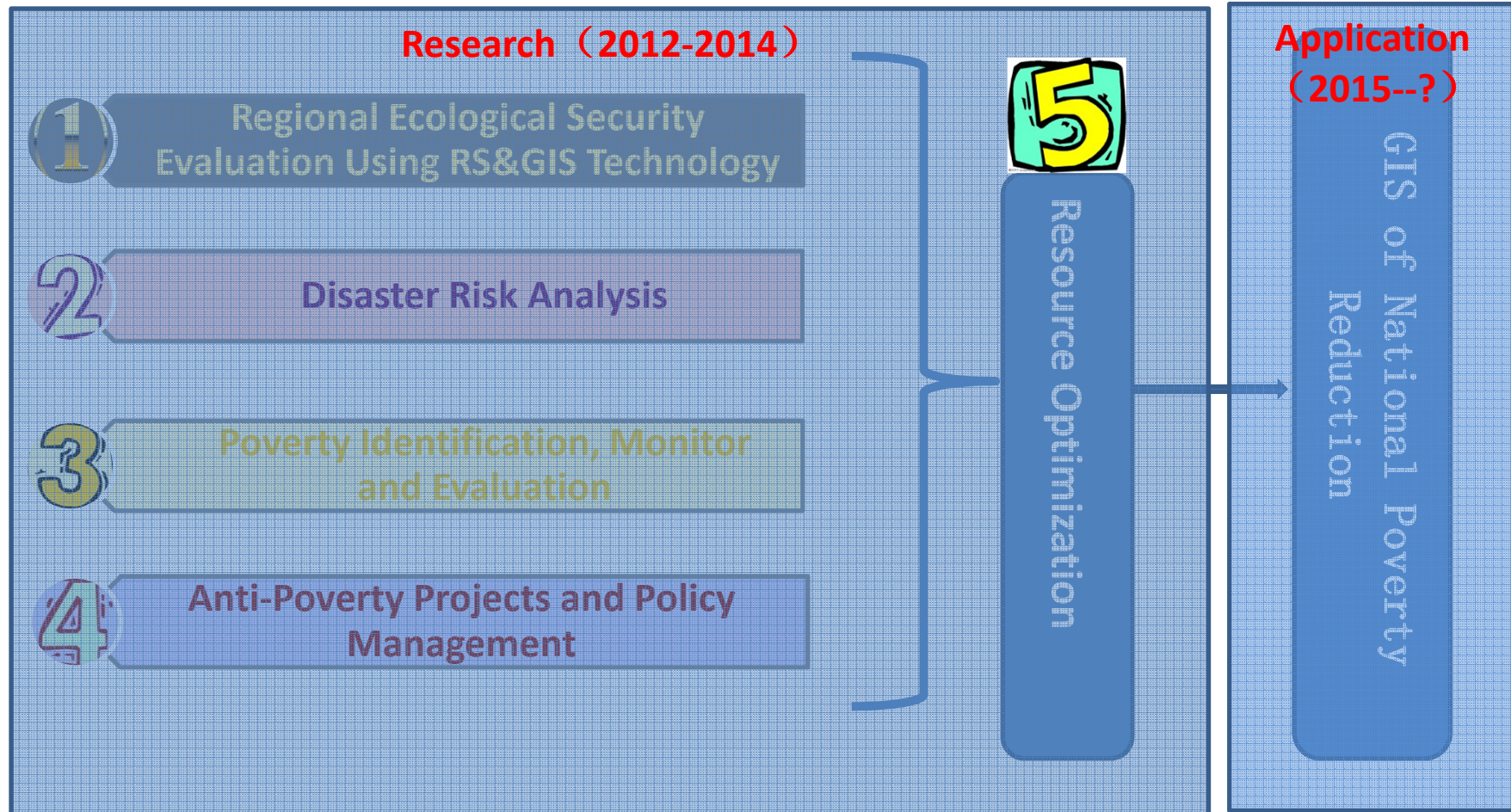
Wang Xiaolin

June 7<sup>th</sup> , 2013

# Contents

1. • Conceptual Framework
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# Conceptual Framework



# Objectives

## Identification

- Accurate identification: Target the poor HHs
- Dynamic management: spatial-temporal distribution

## Monitor

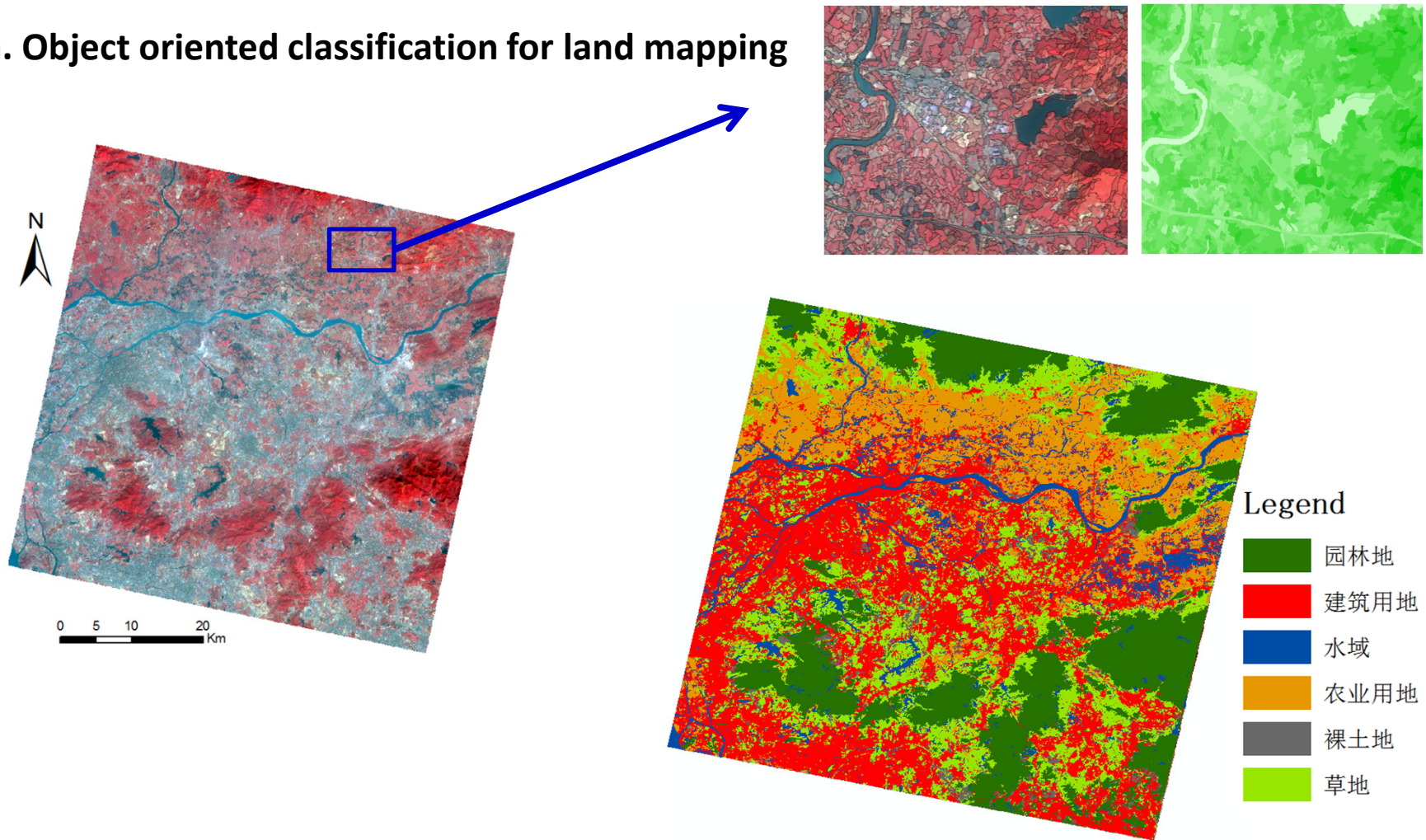
- HD, Economic and Social indicators
- Ecological & Disaster

## Optimal

- Projects
- Policies
- Impact

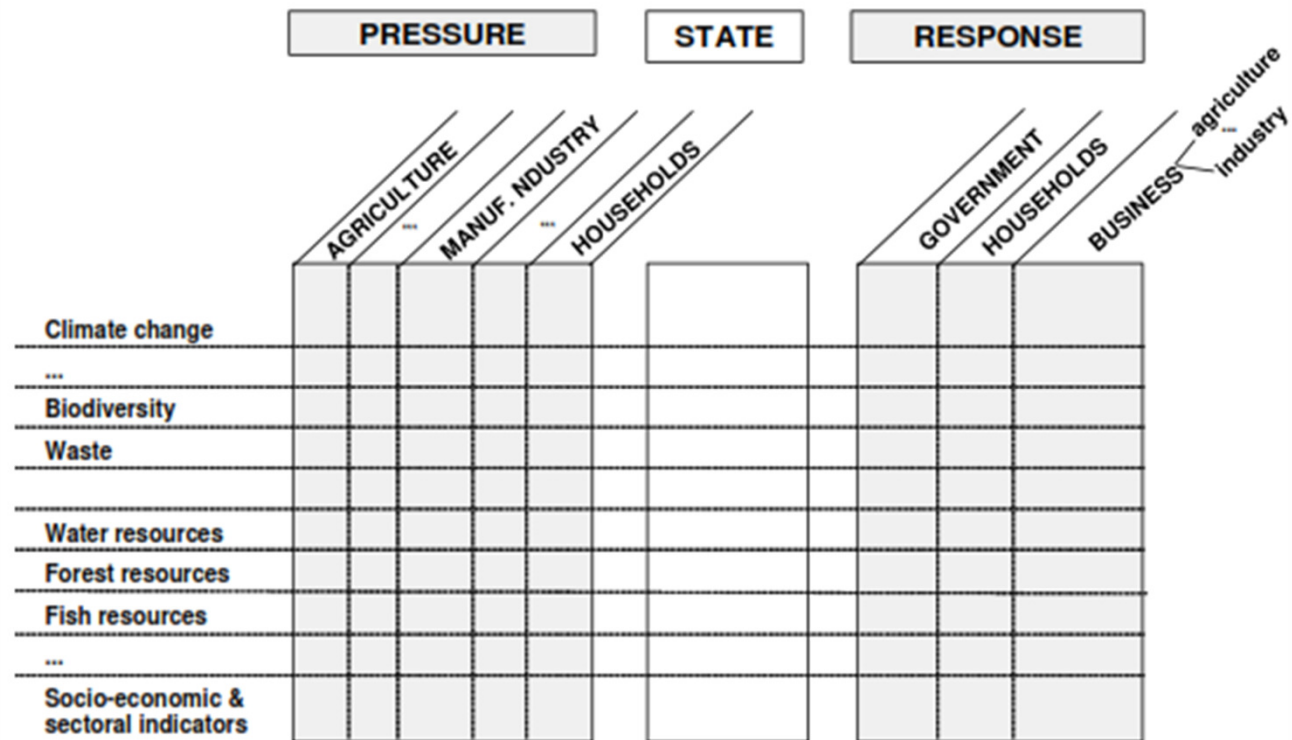
# Methods

## a. Object oriented classification for land mapping



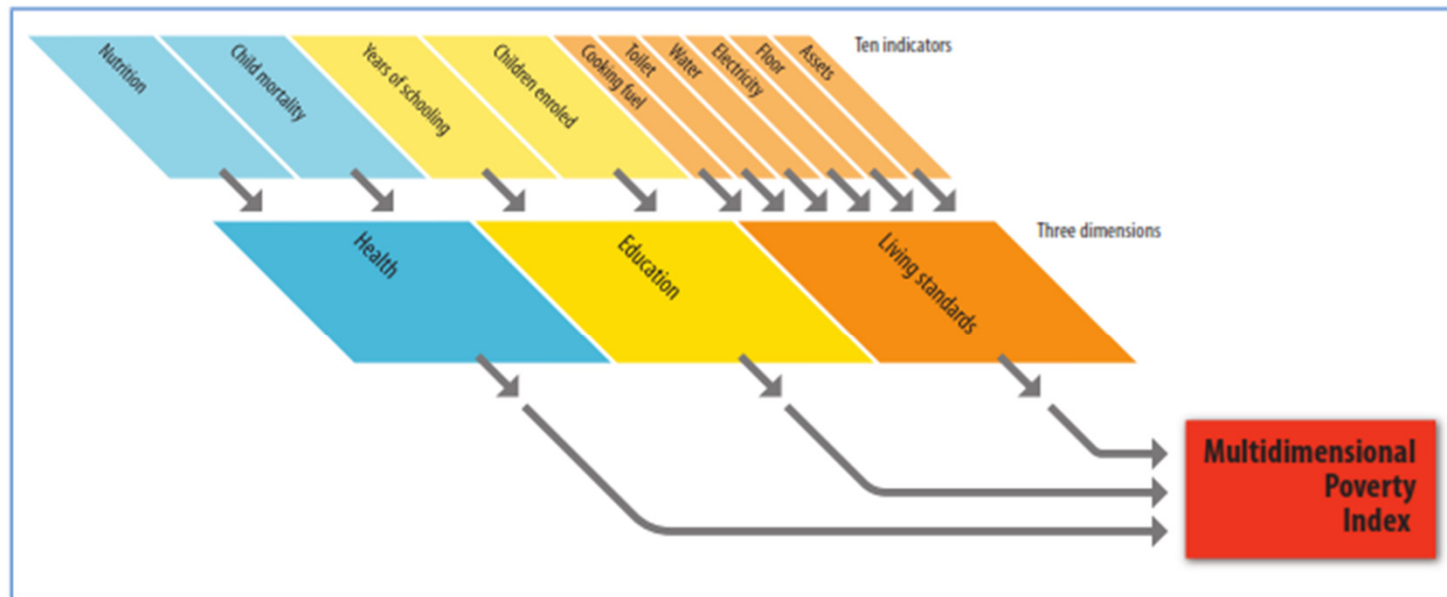
# Methods

## b. 'Pressure-State-Response' Model, by OECD



# Methods

## c. Alkire-Foster Approach, by OPHI



Note: The size of the boxes reflects the relative weights of the indicators.

Source: Alkire and Santos 2010.

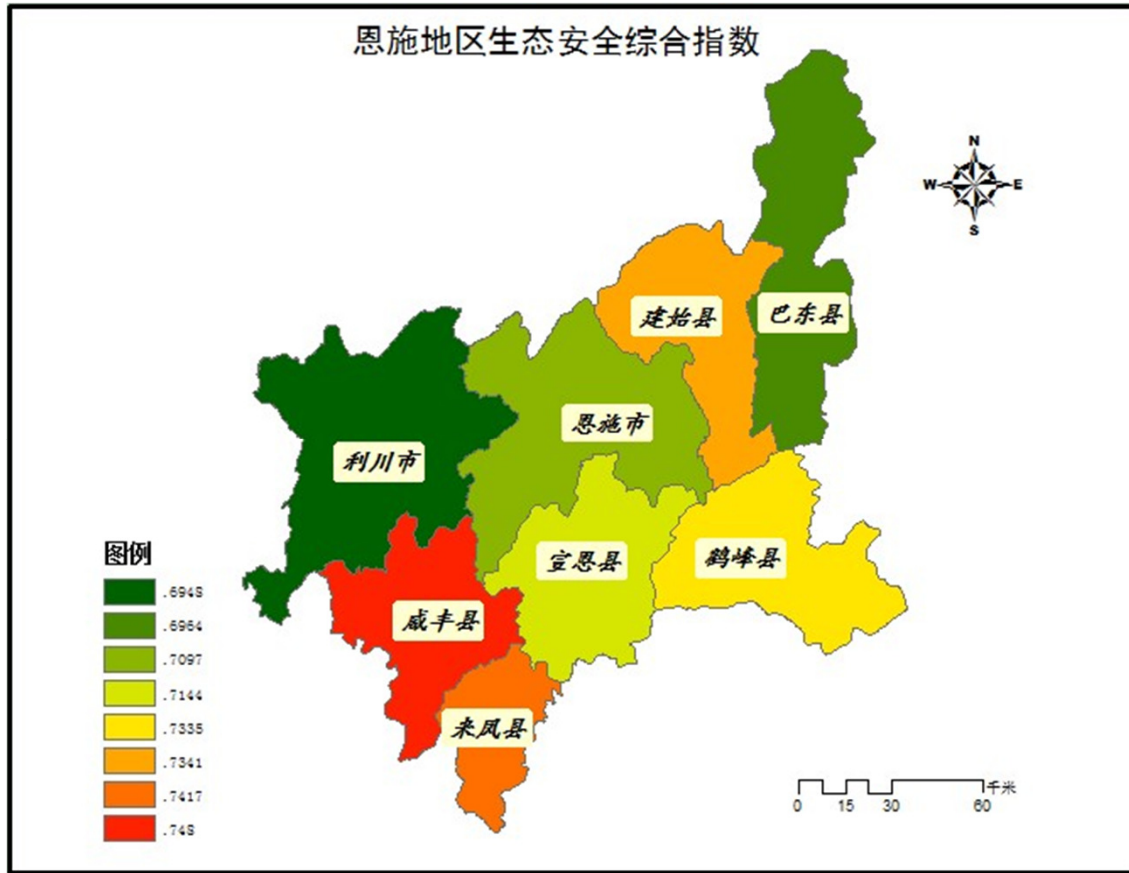
# Key Progresses



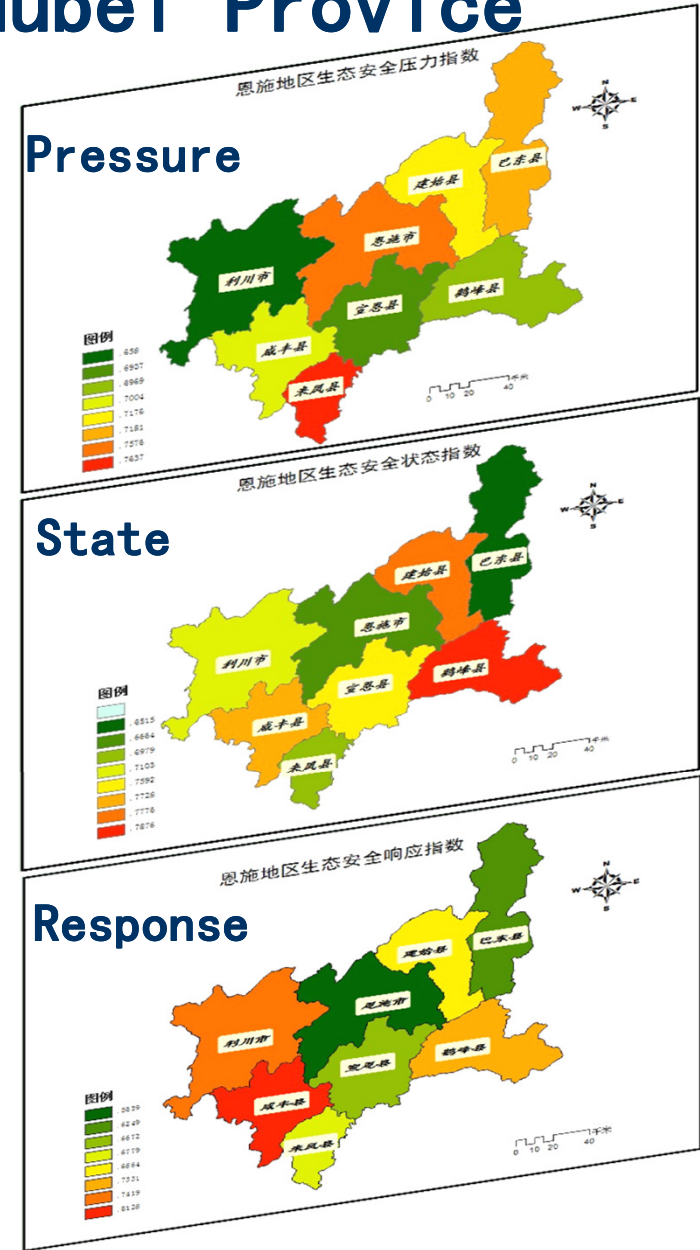
Dimensions	Indicators	benchmark	
Pressure( $B_1$ )	Population density(person/km <sup>2</sup> ) $X_1$	200	类比参考
	Water resource per capita m <sup>3</sup> /人 $X_3$	2052	本底参考
	Land per capita (hm <sup>2</sup> /人) $X_4$	0.08	国际公认
	GDP per capita (10 000 yuan/人) $X_5$	2.5	国家标准
	.....	.....	.....
State( $B_2$ )	Per capita grain output (kg/person) $X_{12}$	400	小康型生活标准
	Effective irrigated area rate (%) $X_{13}$	65.8	本底参考
	Chemical fertilizer(kg/hm <sup>2</sup> ) $X_{14}$	250	国家标准
	.....	.....	.....
Response( $B_3$ )	Rate of waste water treatment (%) $X_{18}$	100	国际公认
	.....	.....	.....



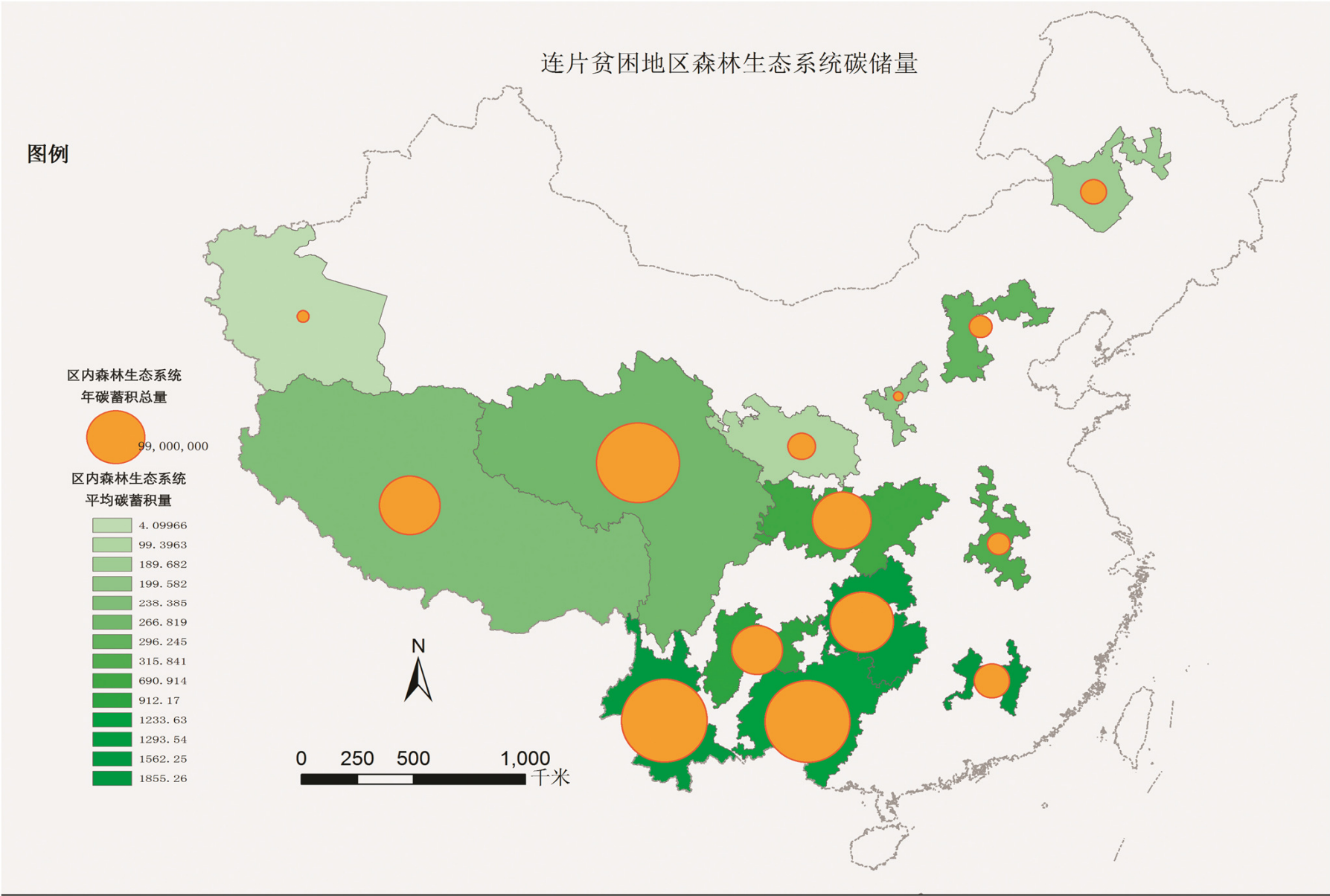
# ESI, Enshi prefecture Hubei Province



Rank of Ecological Security Index

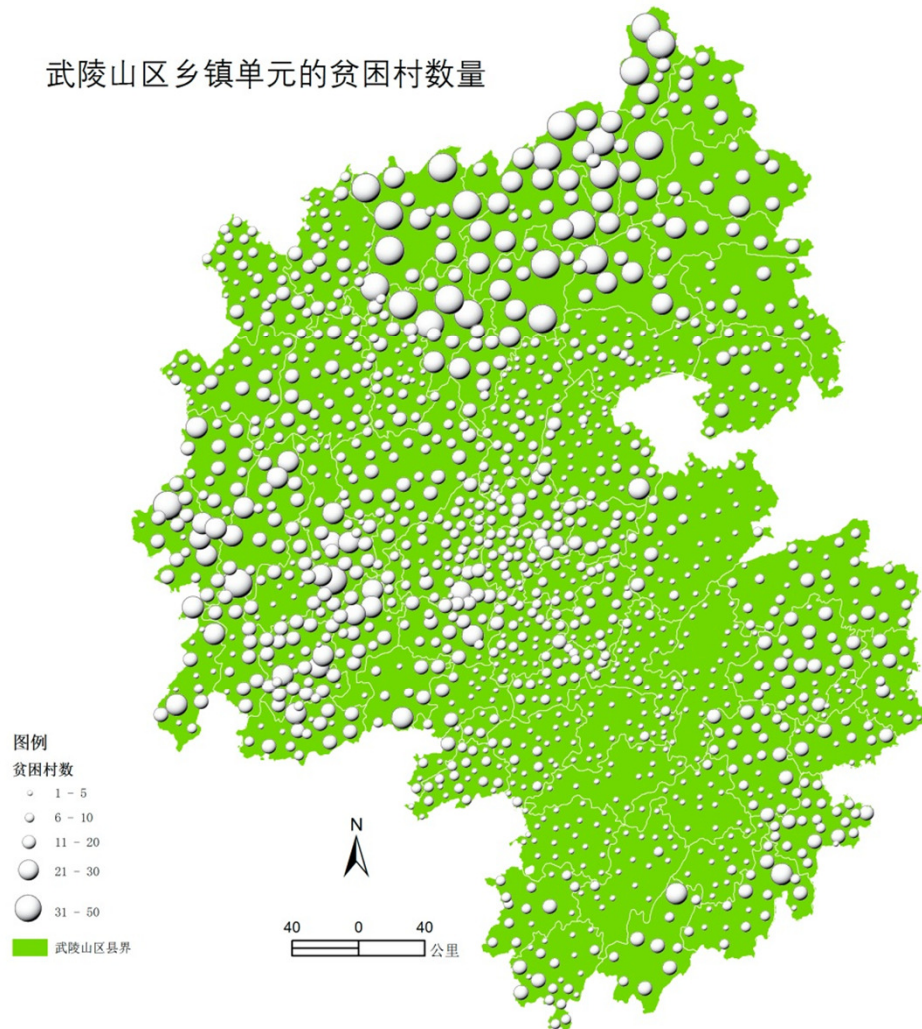


# Carbon Reserve, 14 Concentrated Special Poverty Region



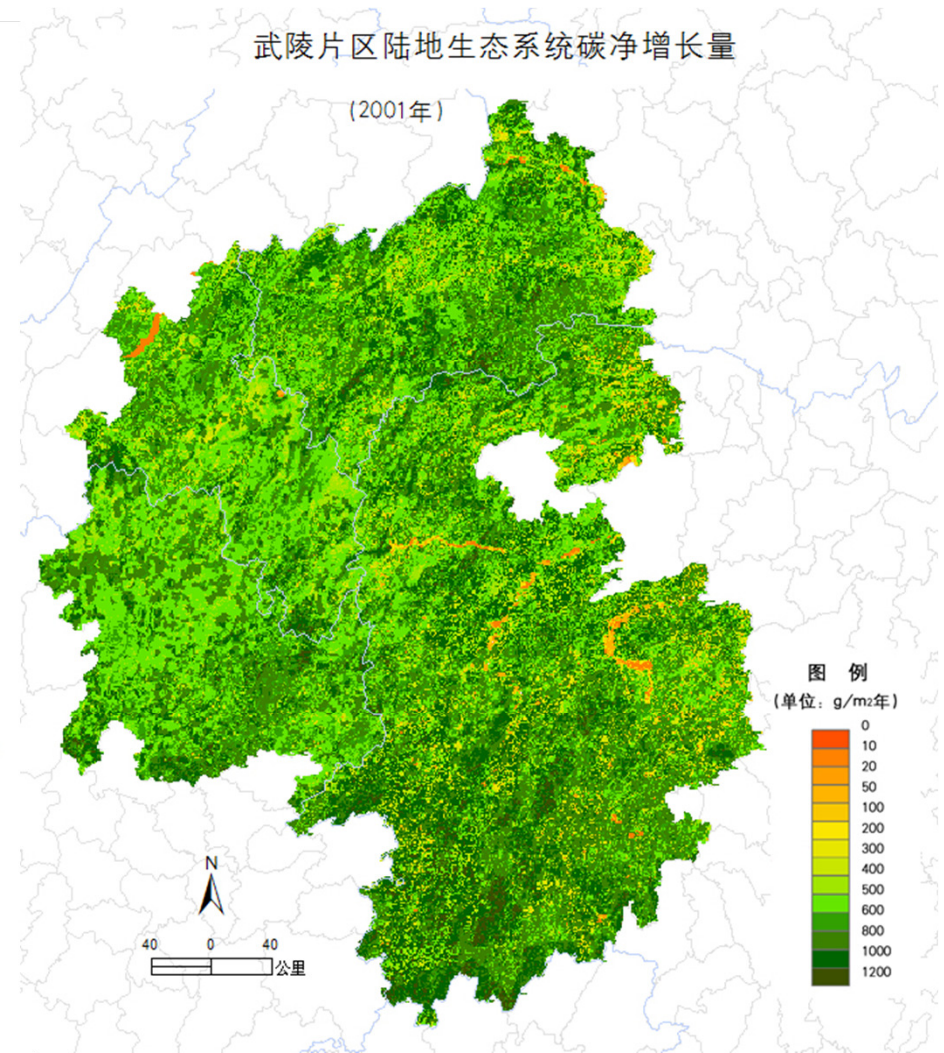
# Carbon net growth in the Wuling Mountain Region

武陵山区乡镇单元的贫困村数量

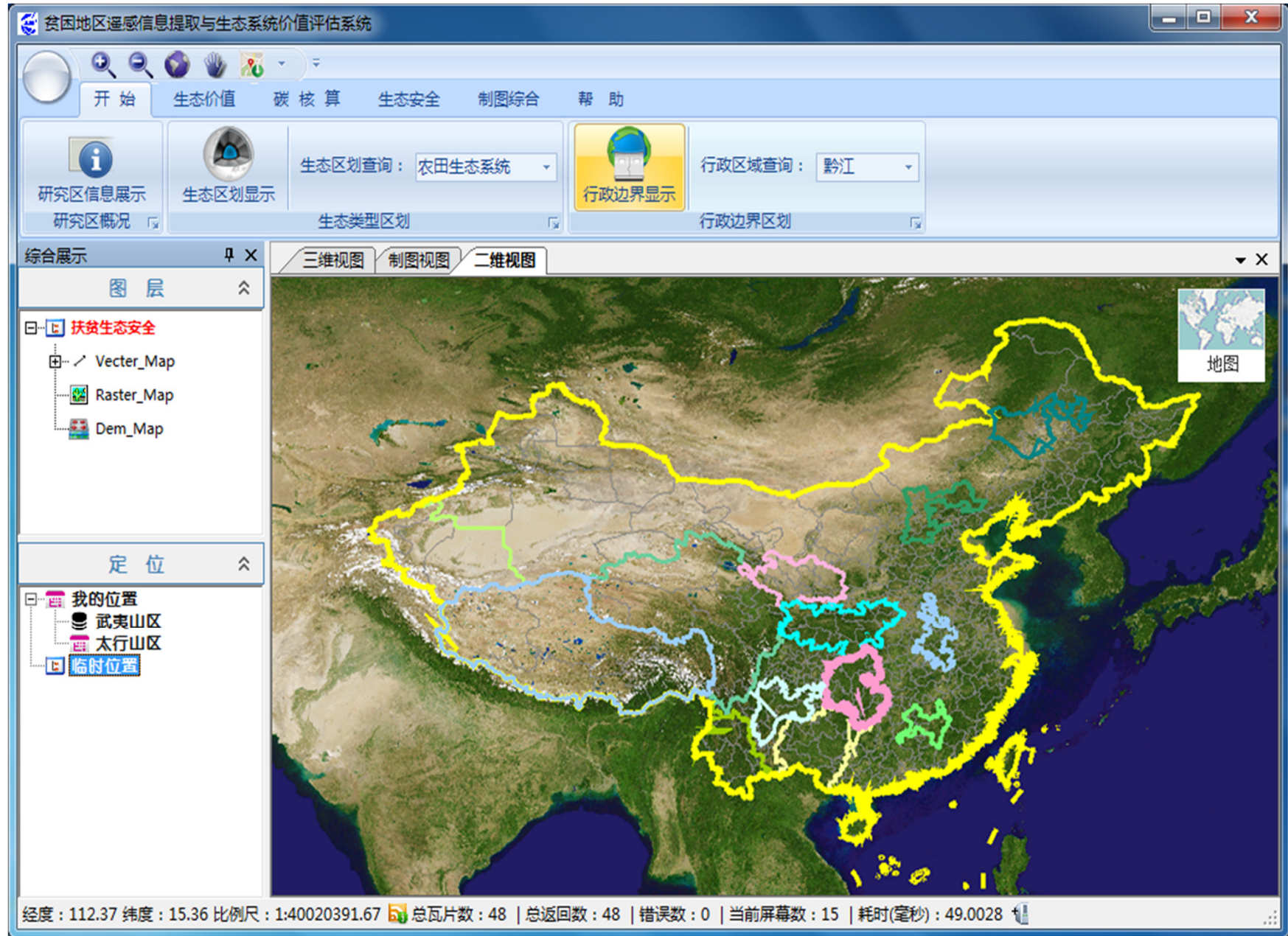


武陵片区陆地生态系统碳净增长量

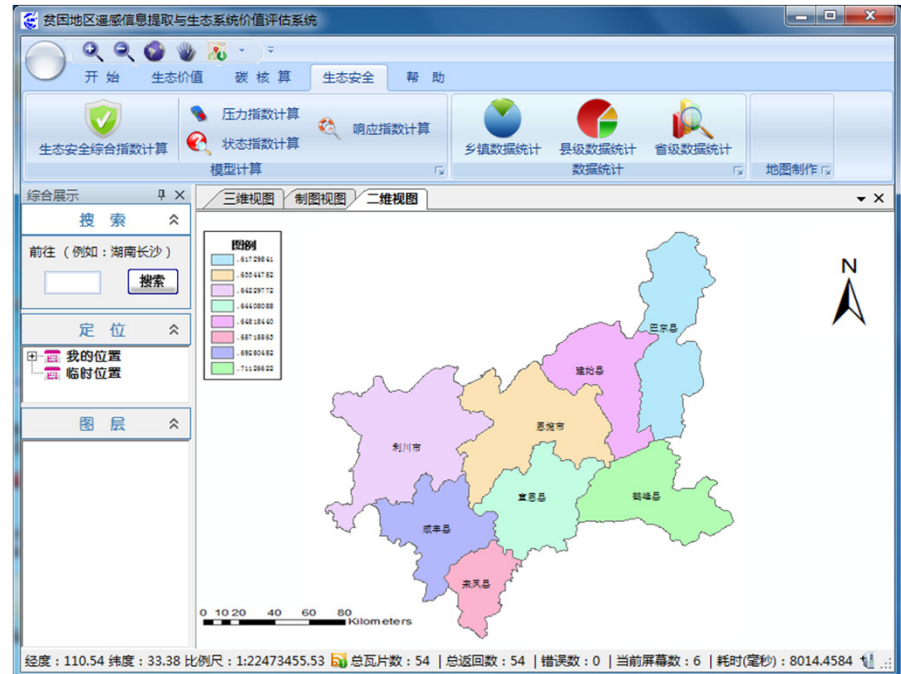
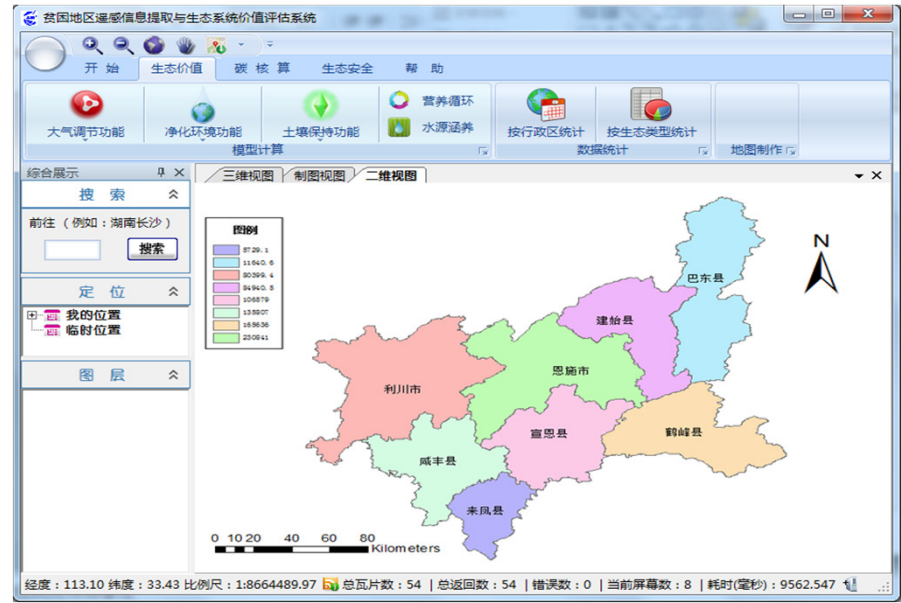
(2001年)



# GIS of Ecological Security Assessment



# User Interface



# Key Progresses

Identification: hierarchy & multiple

## County

- Economic:
- Multidimensional

## Village

Integrated village development project

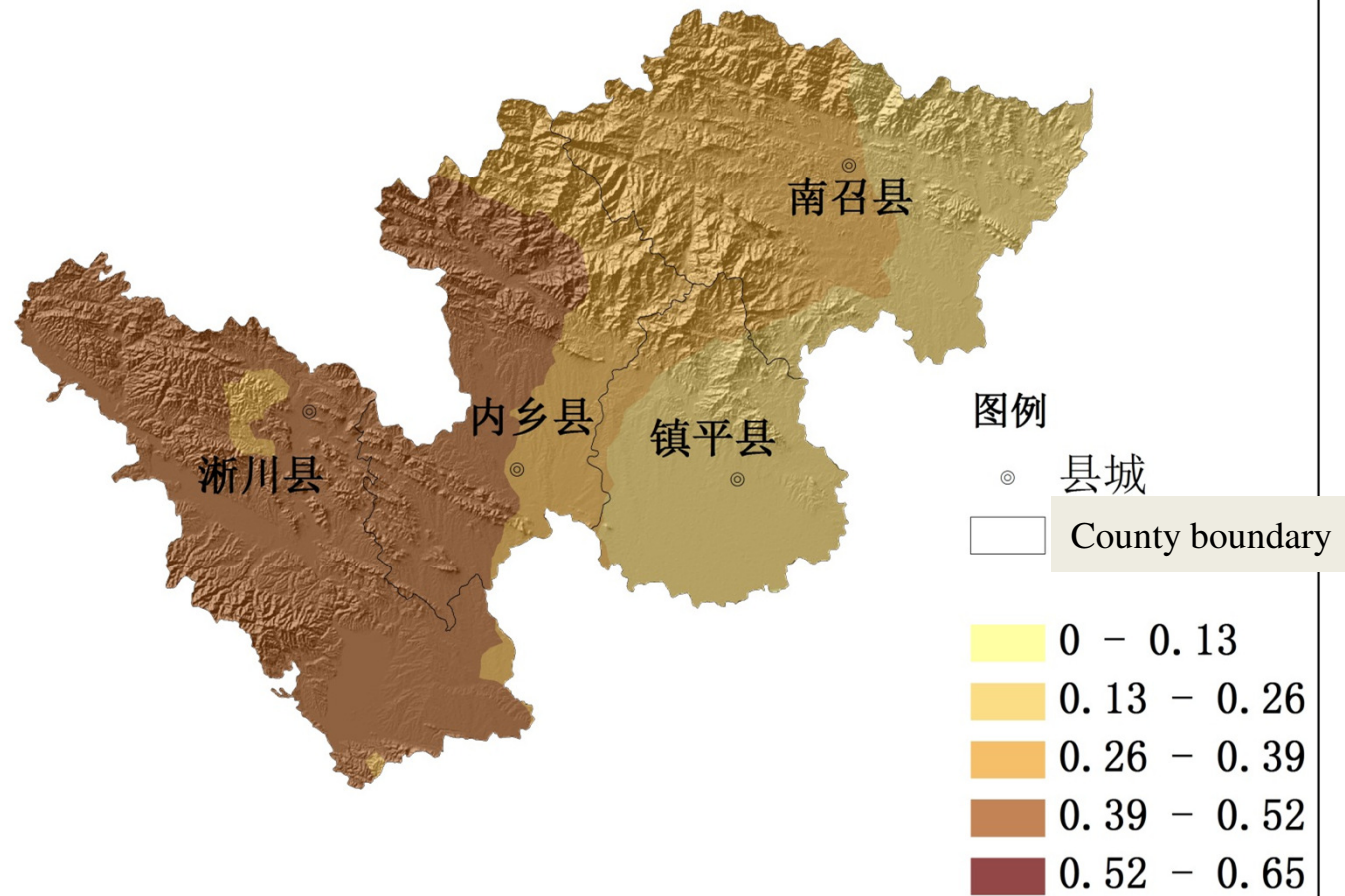
- Economic
- Multidimensional

## Household

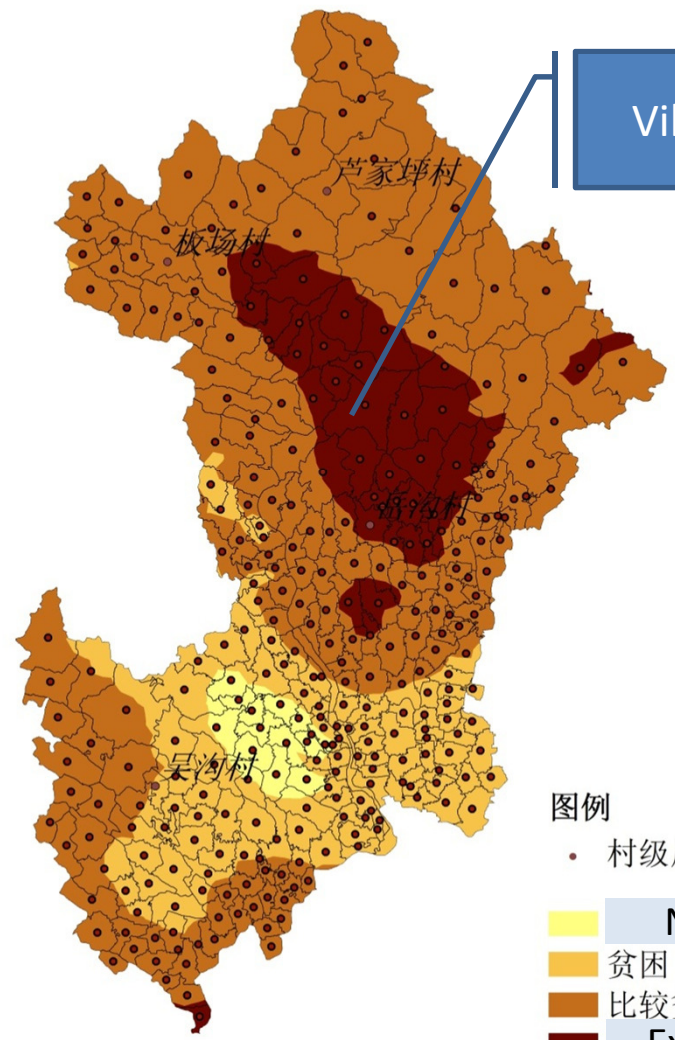
Household level anti-poverty project

- Income and expenditure
- Multidimensional poverty

# MPI, Nanyang Prefecture, Henan Province



# Neixiang County MPI Distribution



Village

图例

• 村级居民点

Not Poor

贫困

比较贫困

Extreme Poor



图3 内乡县住房贫困分布图

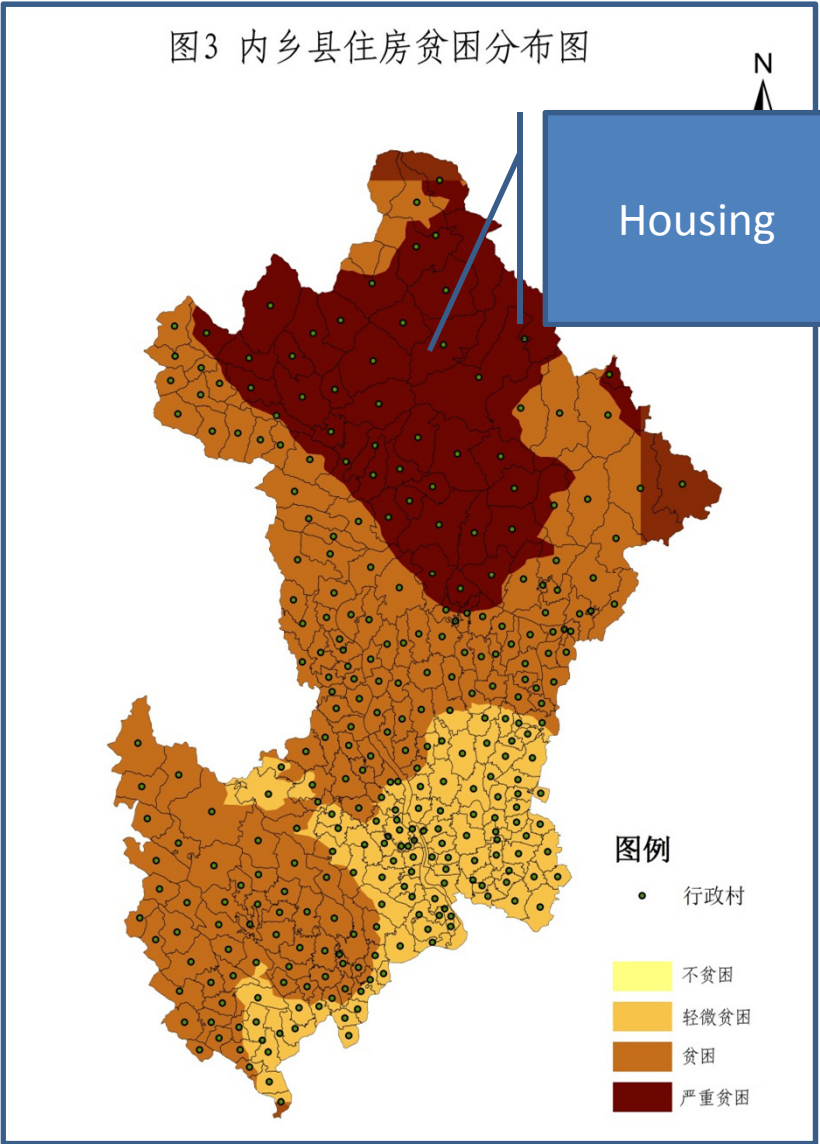
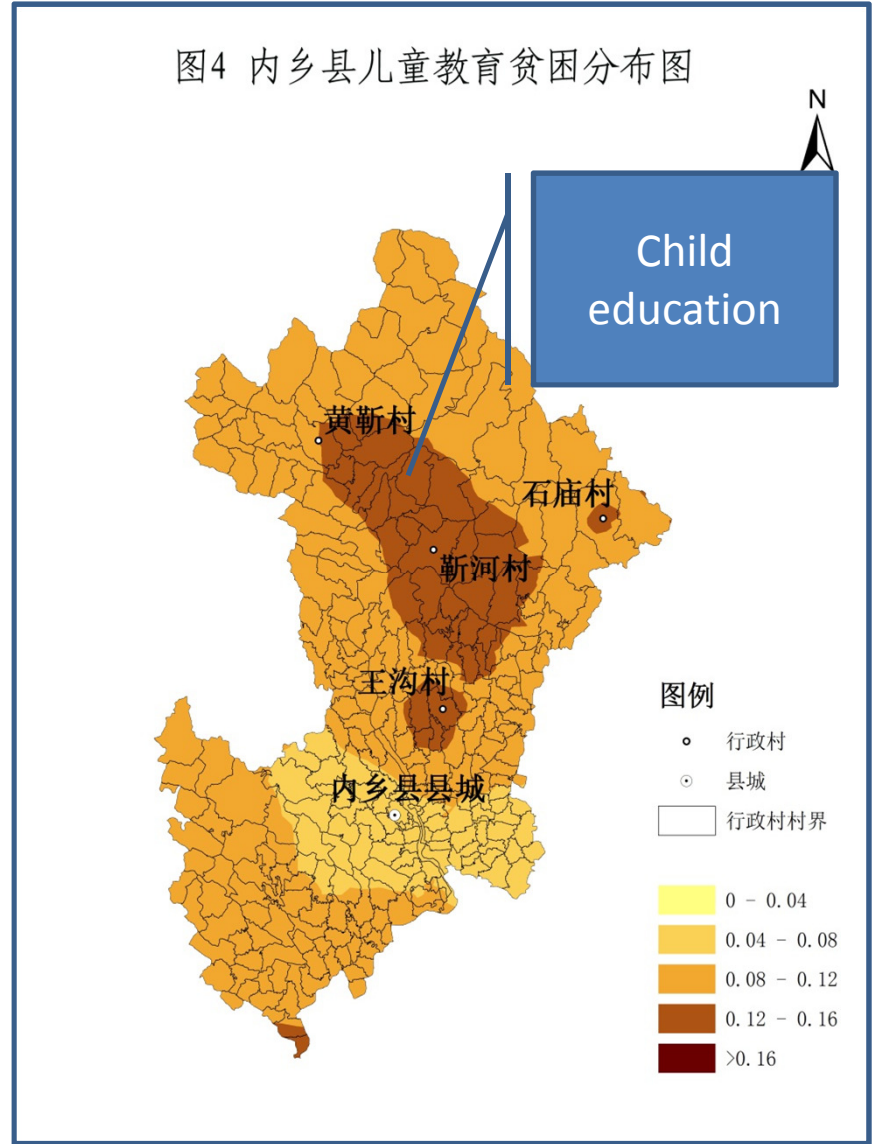
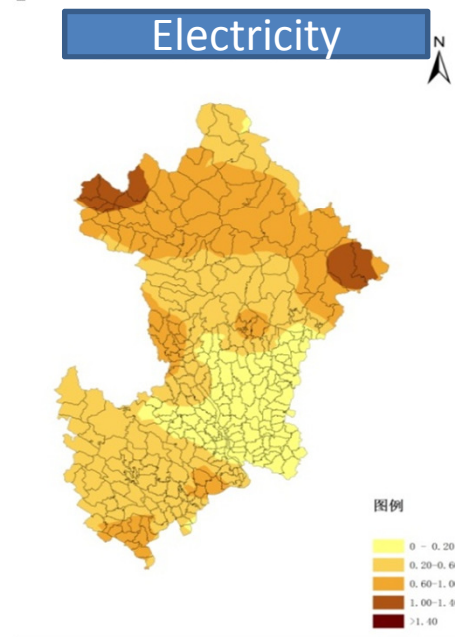
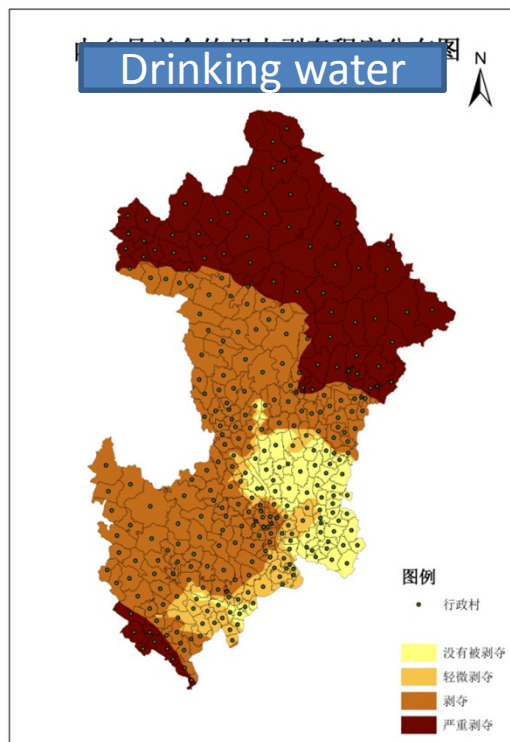
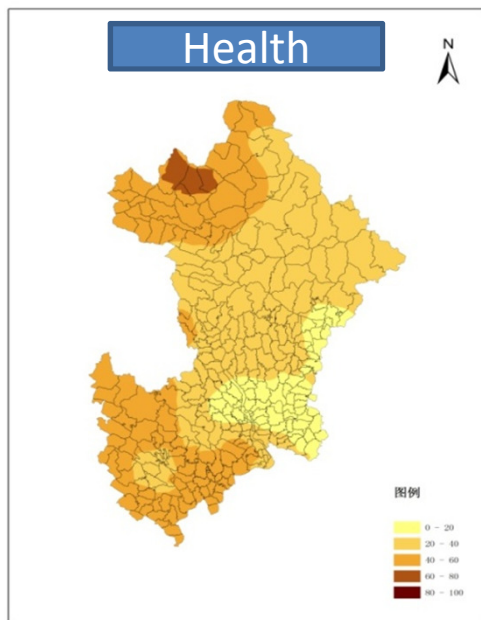
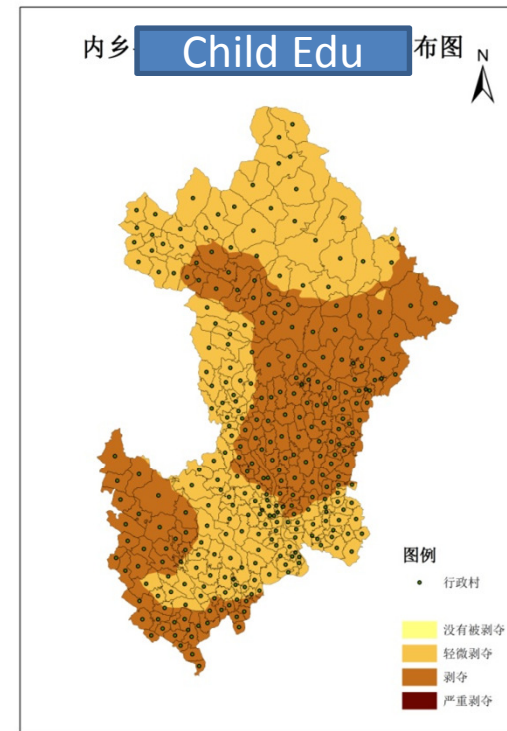
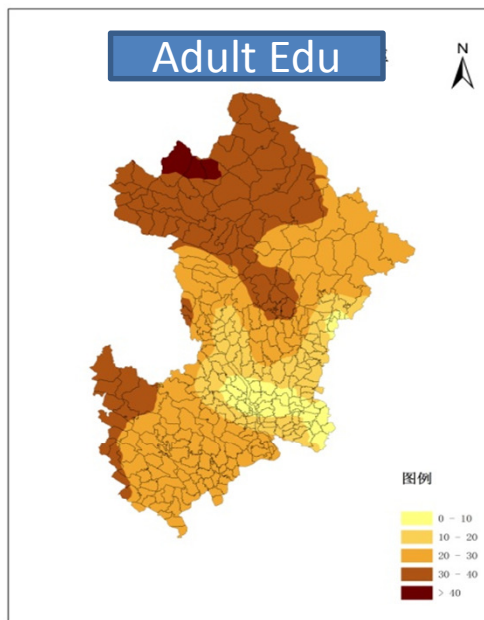
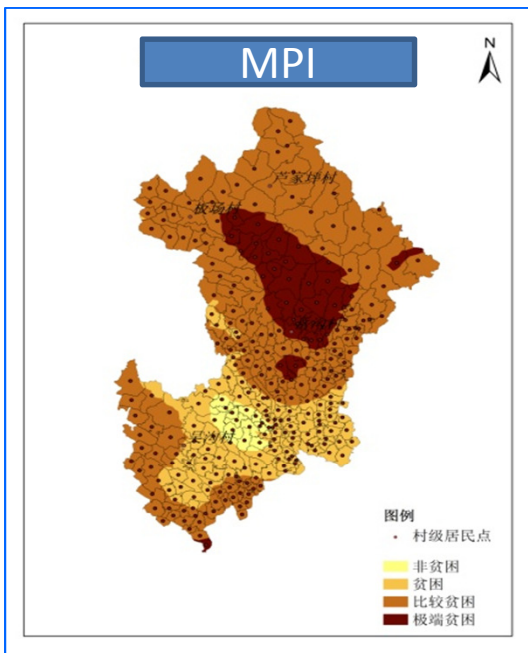


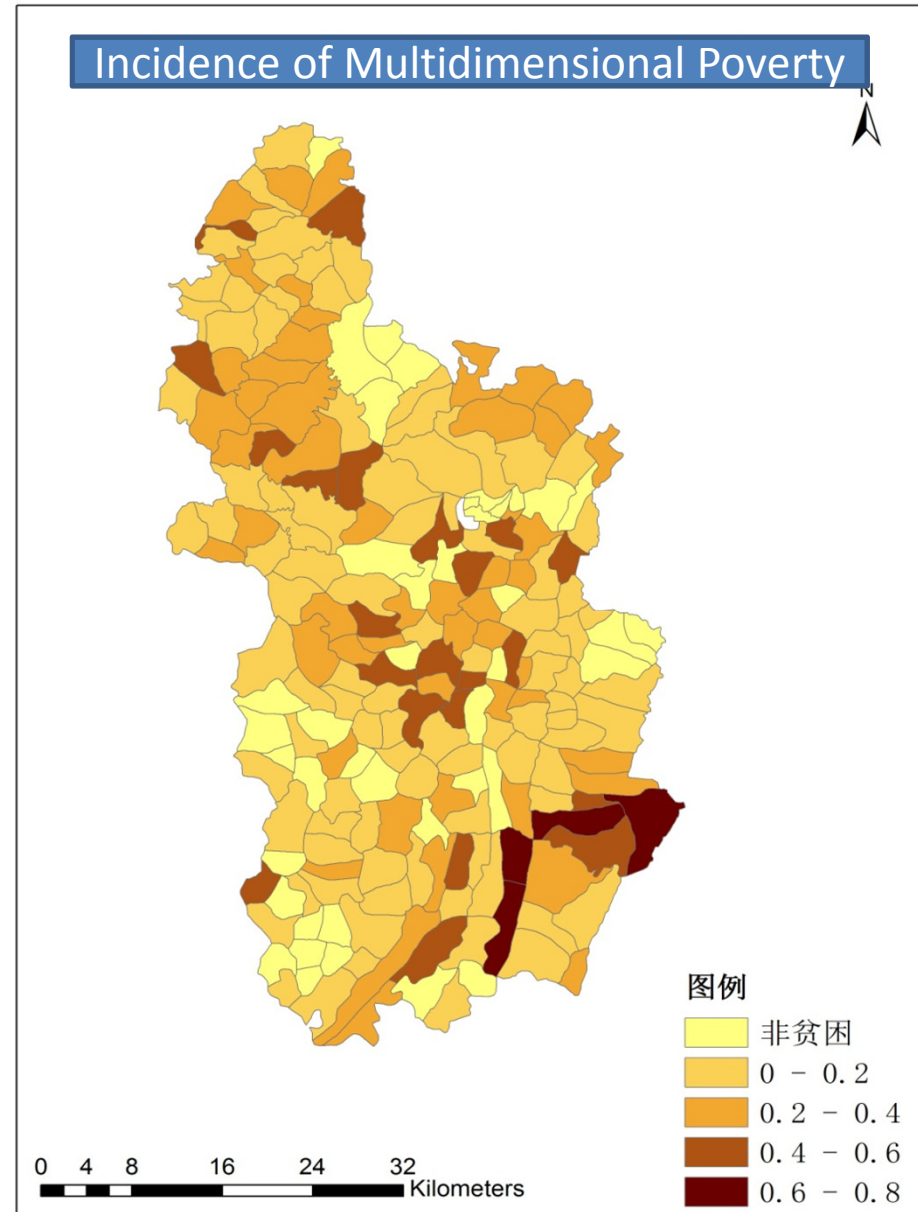
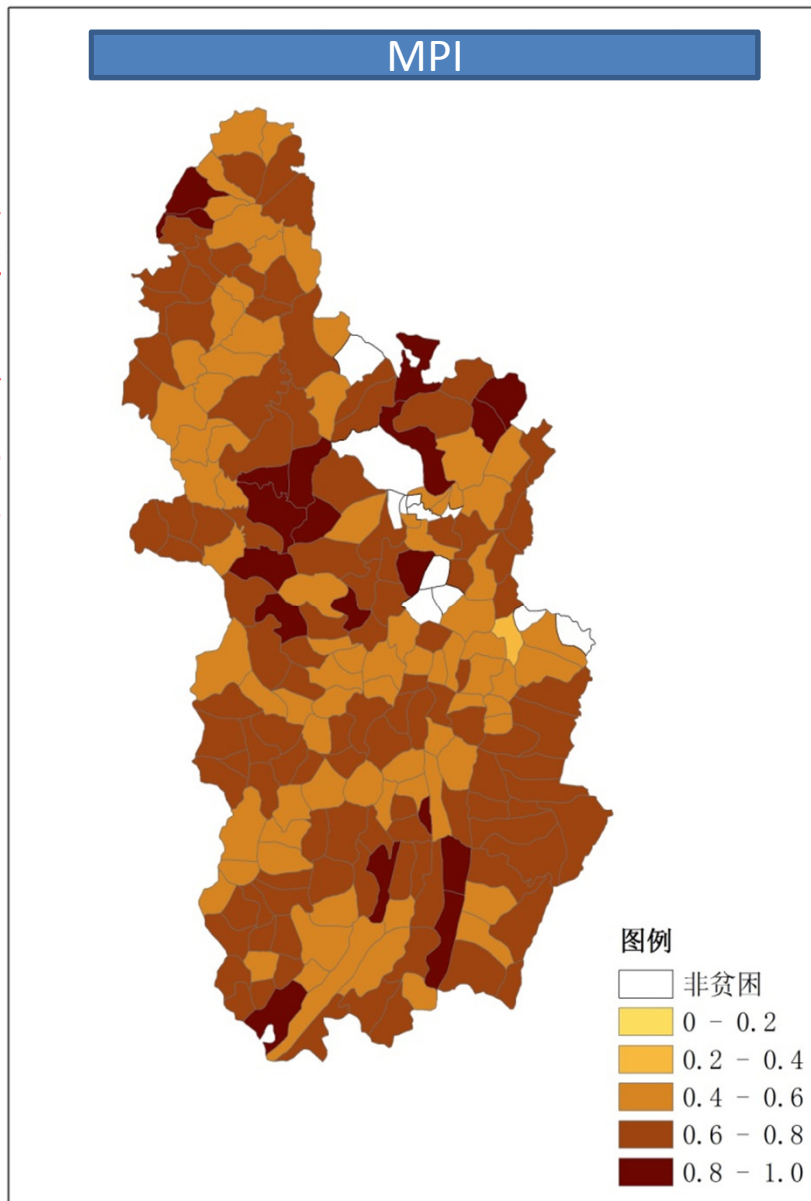
图4 内乡县儿童教育贫困分布图





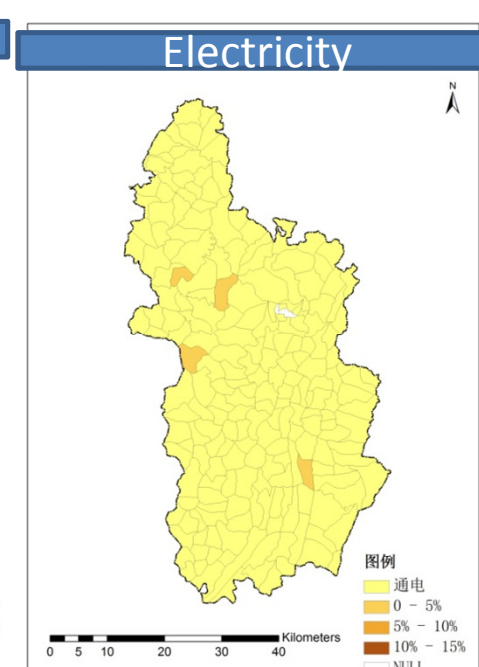
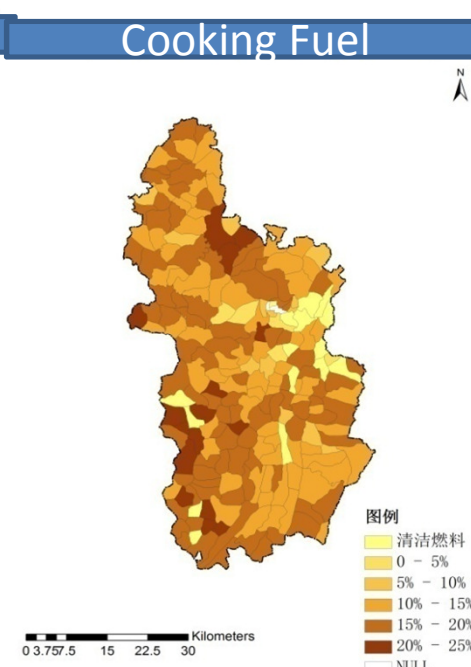
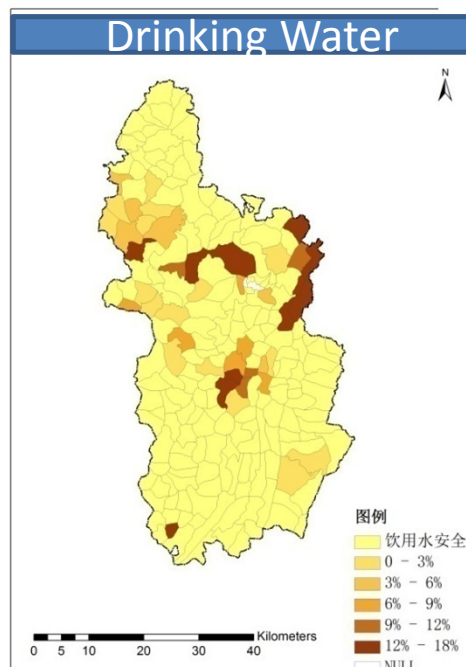
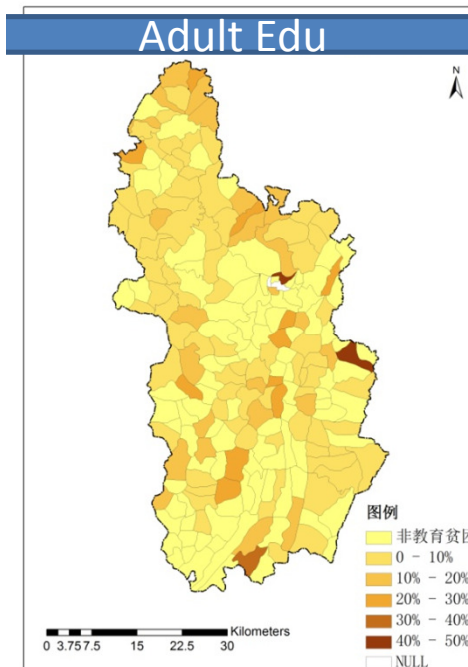
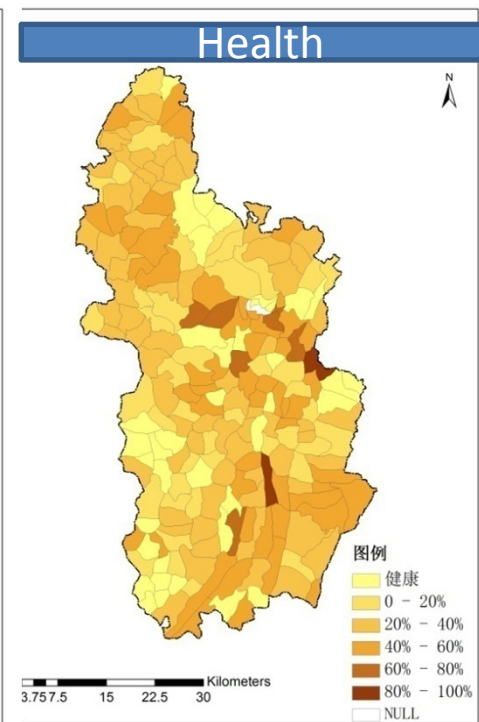
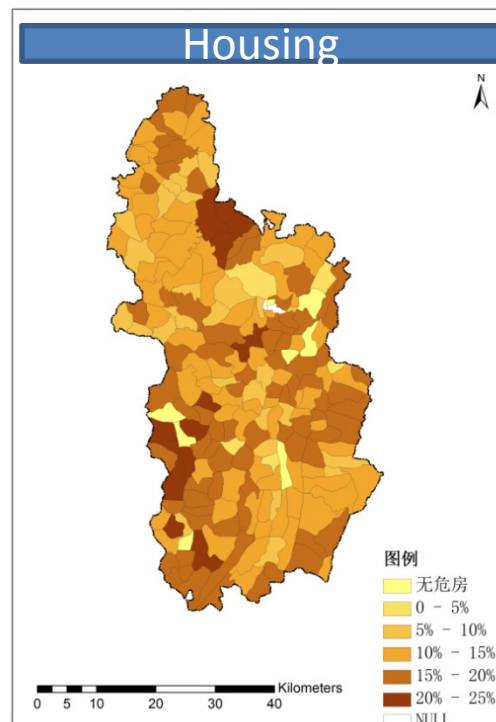
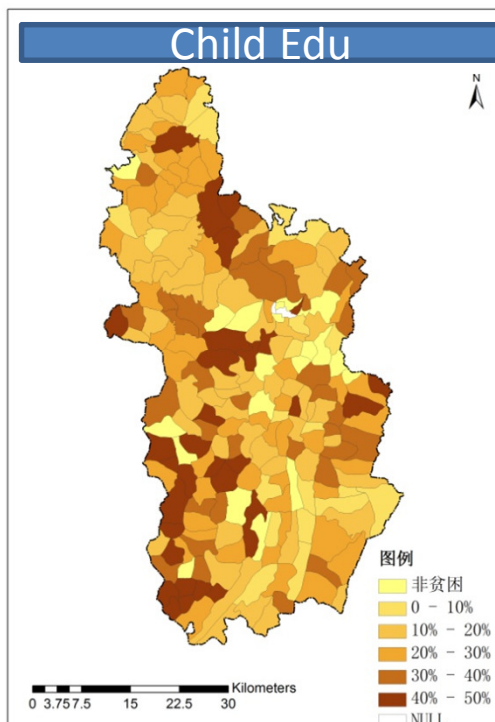
# Qianjiang Prefecture, Qongqing

武陵  
：黔江案例

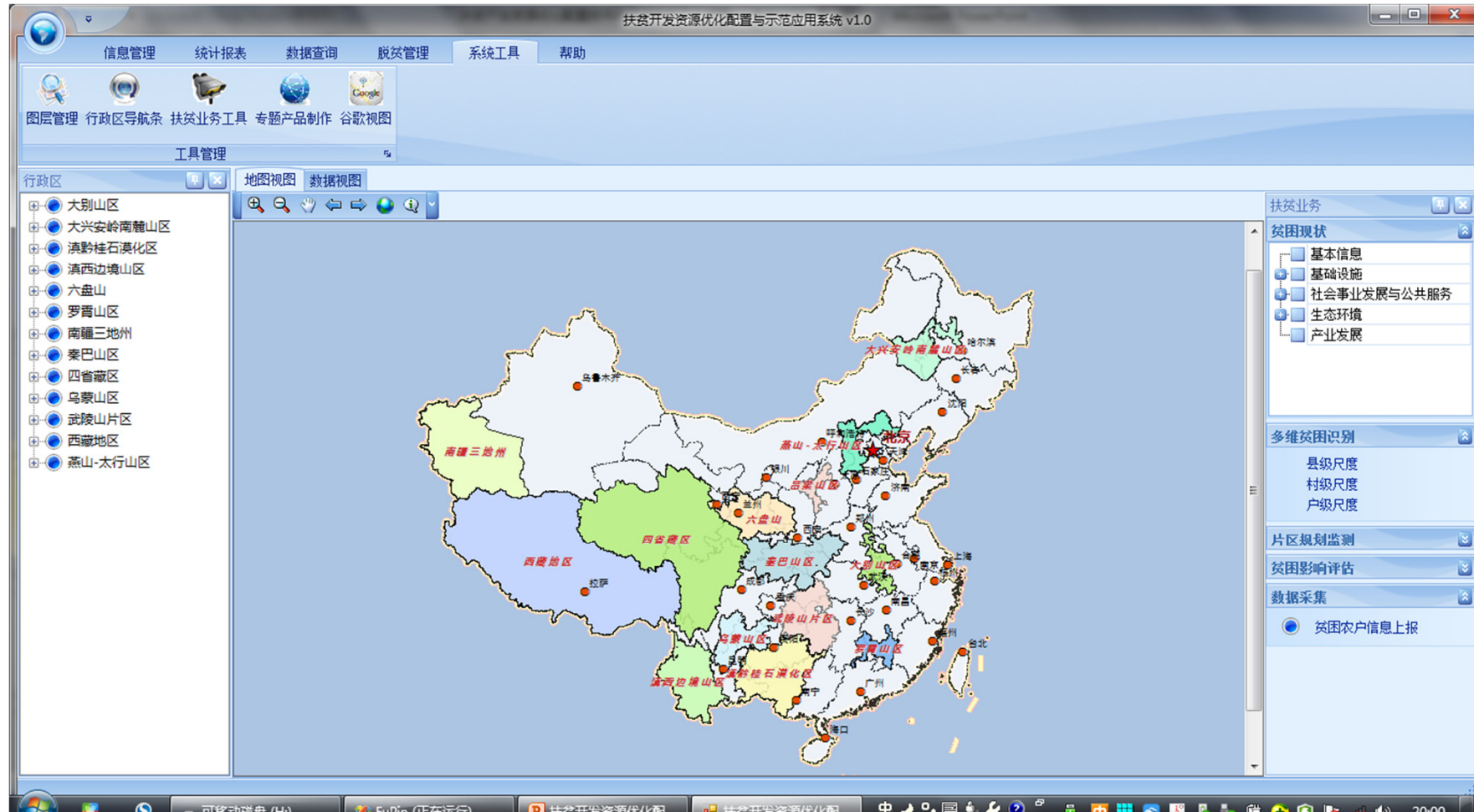


# 维度分解

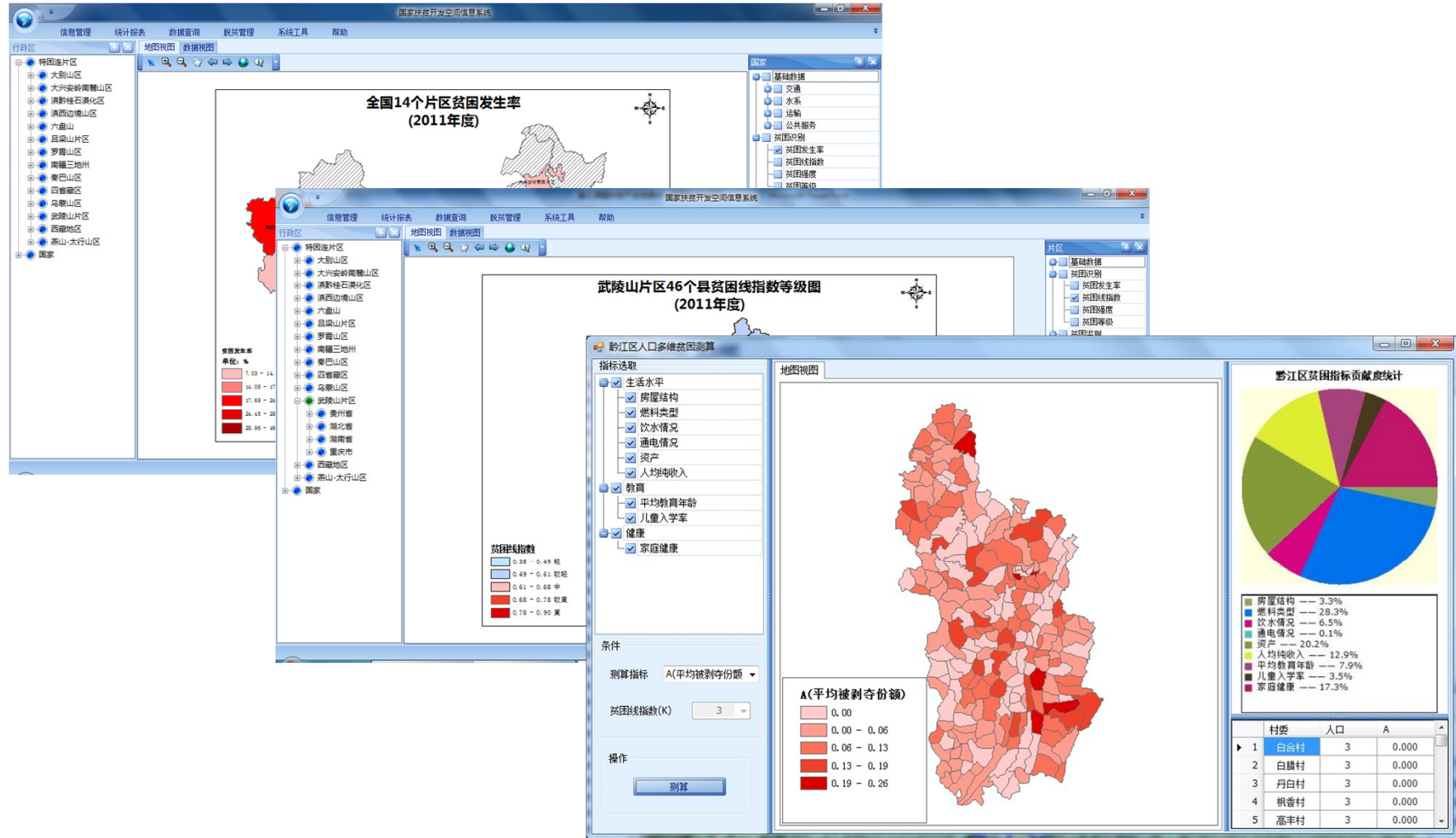
(K=30%)



# GIS Platform

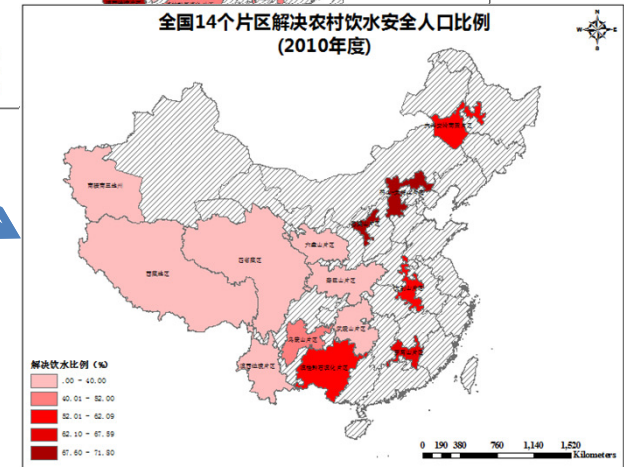
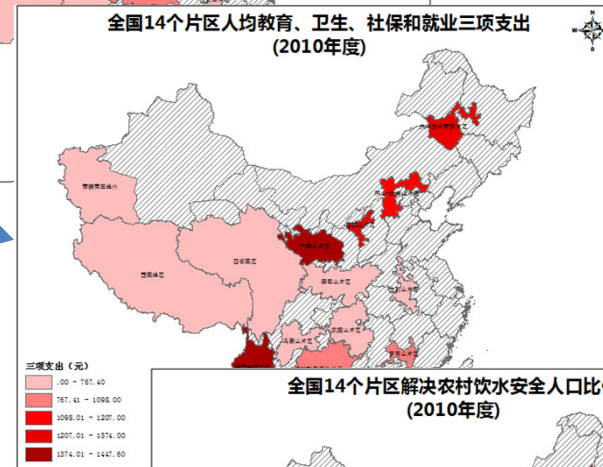
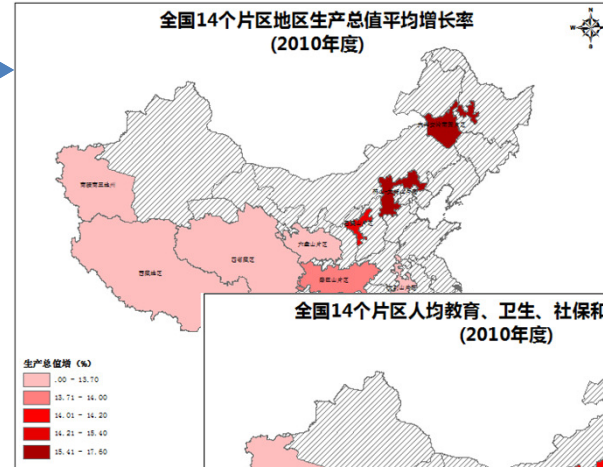


# 1、Identification



## □ 2、分层多维 监测：多维

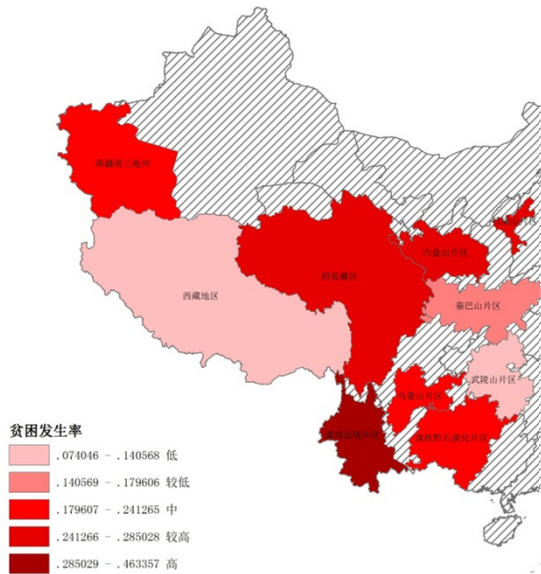
	维度	指标	
主要发展目标综合指数	经济	地区生产总值年均增长率	
		人均地方财政一般预算收入增长率	
		城镇居民人均可支配收入年均增长率	
		城镇化率	
	社会事业	农村居民人均纯收入年均增长率	
		人均教育、卫生、社保和就业三项支出	
		九年义务教育巩固率	
		高中阶段教育毛入学率	
	公共基础设施	新型农村合作医疗参合率	
		解决农村饮水安全人口比例	
		建制村通沥青（水泥）路比例	
		有卫生室行政村比例	
资源环境	万元地区生产总值能耗		
	万元工业增加值用水量		
	森林覆盖率		
主要成果综合指数	吃穿	贫困人口数量（以2300新标准计算）	
	住房	有钢筋混凝土或砖木结构住房的农户	
		完成农村困难家庭危房改造	
		学前三年毛入园率	
	教育	高中阶段教育毛入学率	
		有卫生室的行政村数量	
	卫生	有合格村医的行政村数量	
		整村推进数量	
	专项扶贫	易地扶贫搬迁户数	
		农村劳动力培训	
	基础设施		通沥青（水泥）路行政村
			解决农村饮水困难人数
		通路自然村	
		通电自然村	
		通电话自然村	
		通电视接收的自然村	



# 3、分层多维 监测- 分层

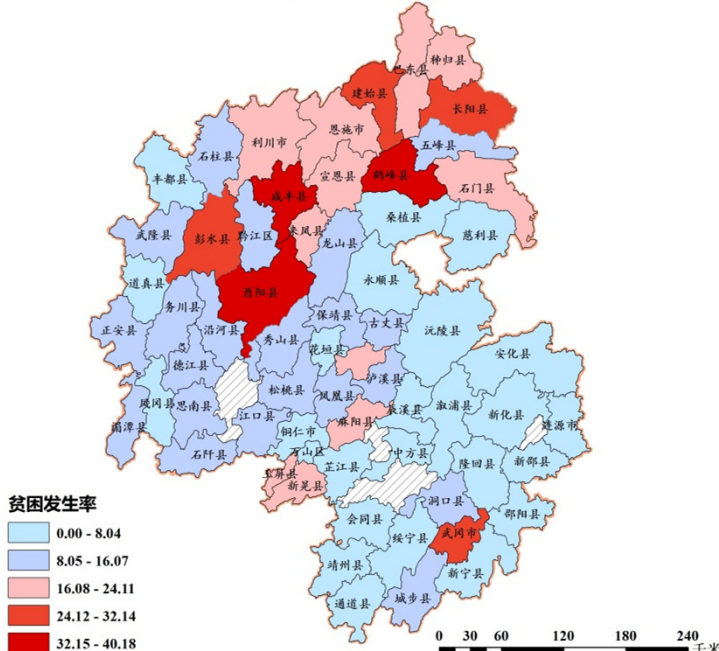
## 建立“国家-片区-省-市-县”多级数据管理体系

全国14个片区贫困发生率  
(2011年度)



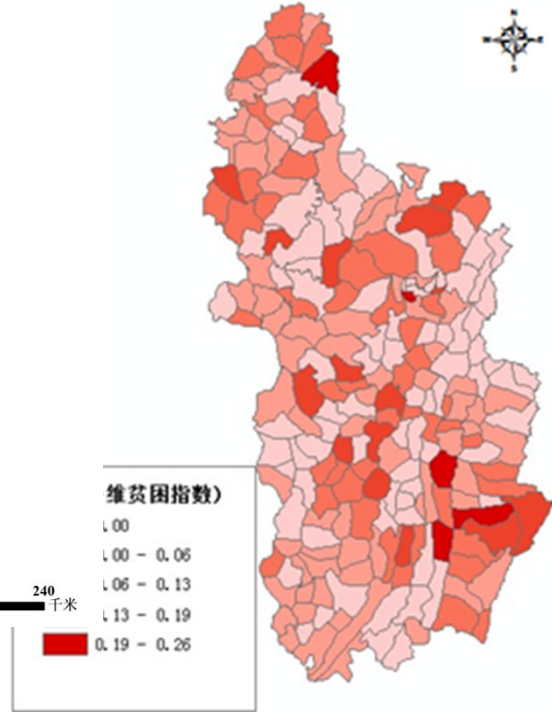
全国

武陵山片区46个县贫困发生率等级图  
(2011年度)



片区

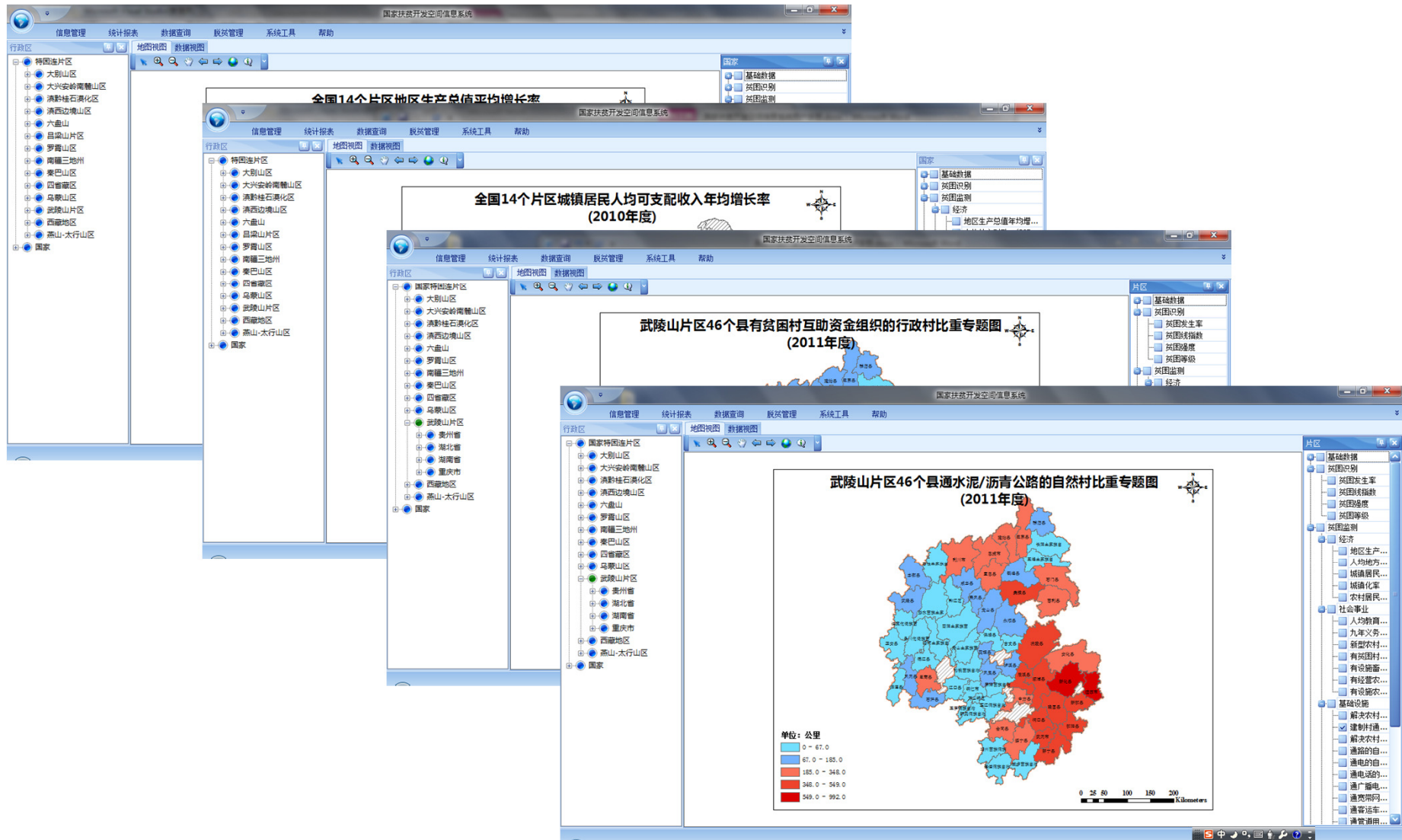
黔江区多维贫困发生率



县

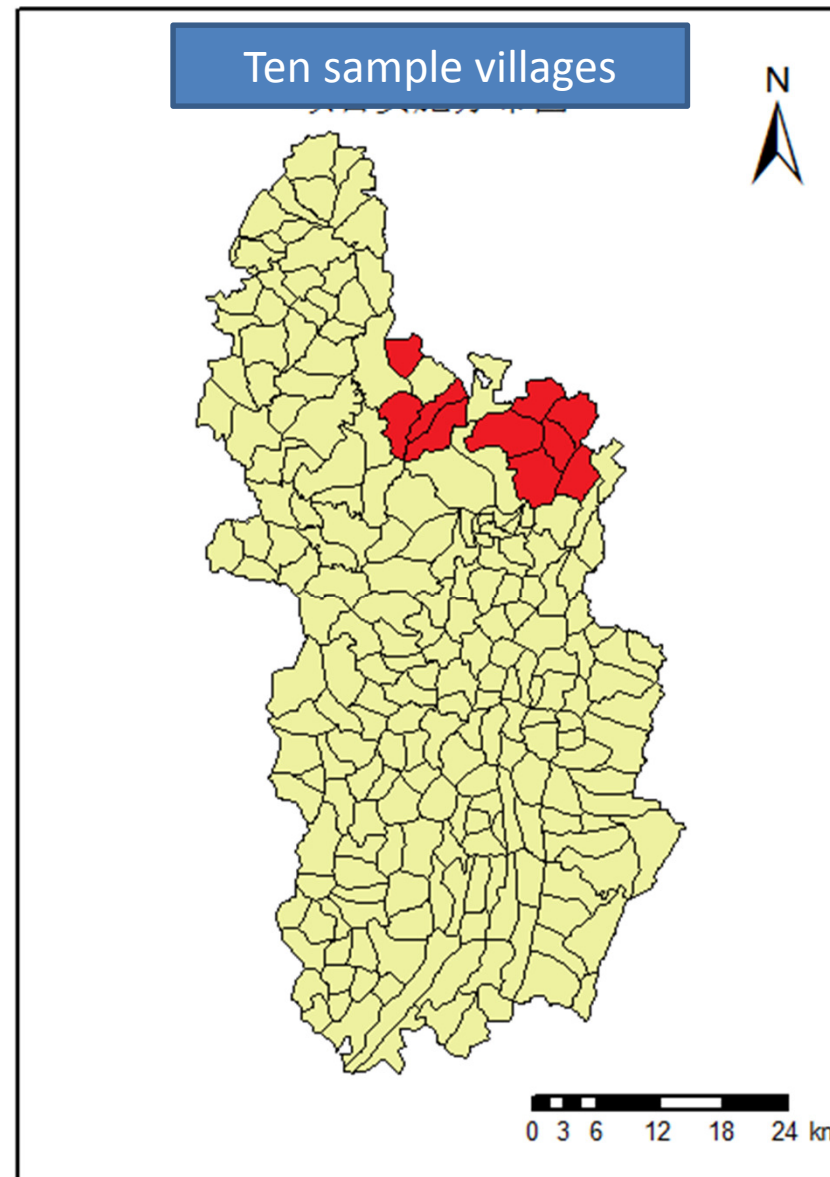
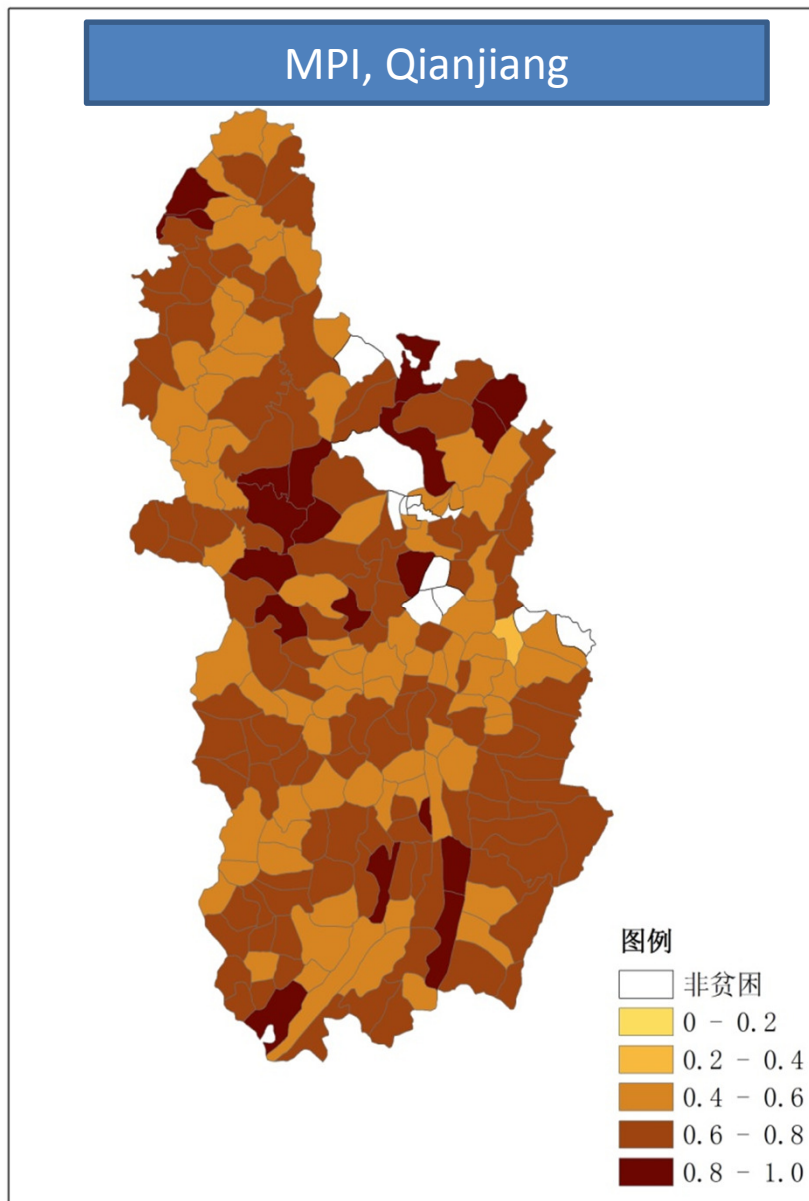


# 2、Monitor



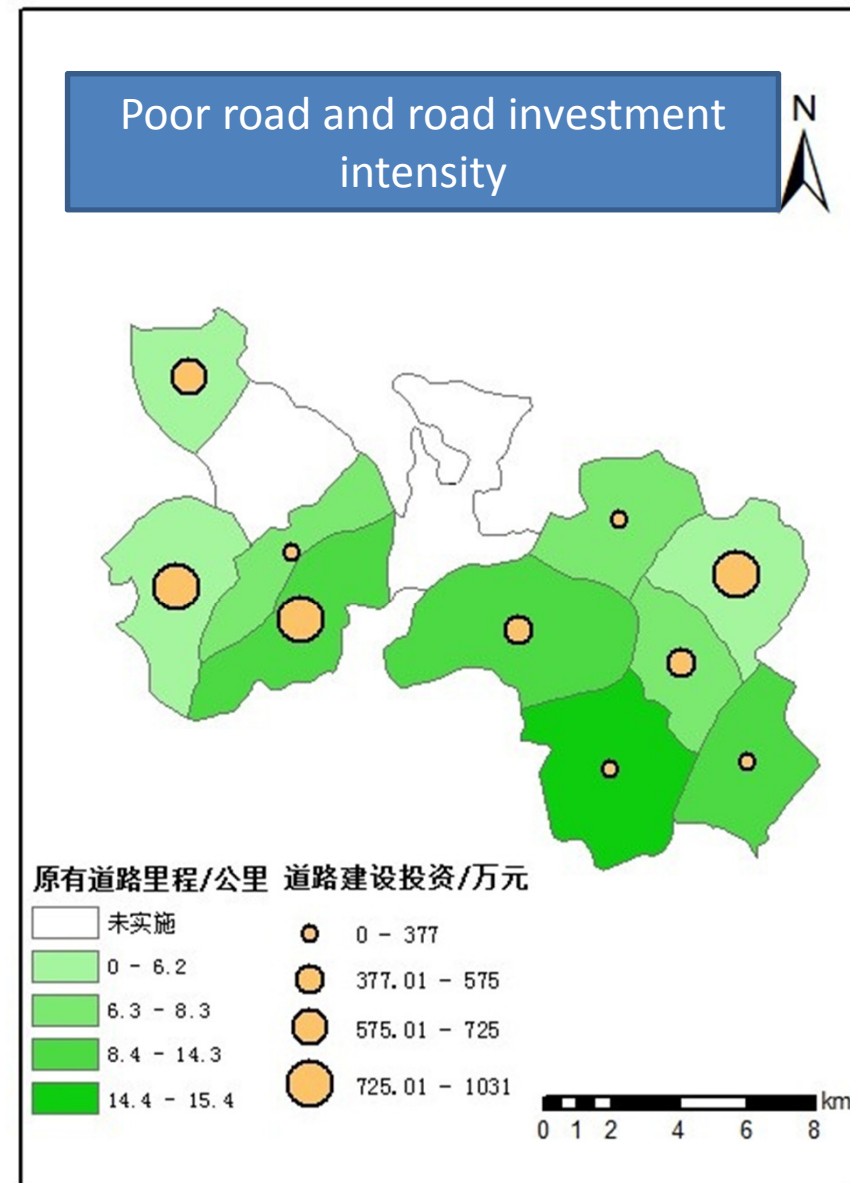
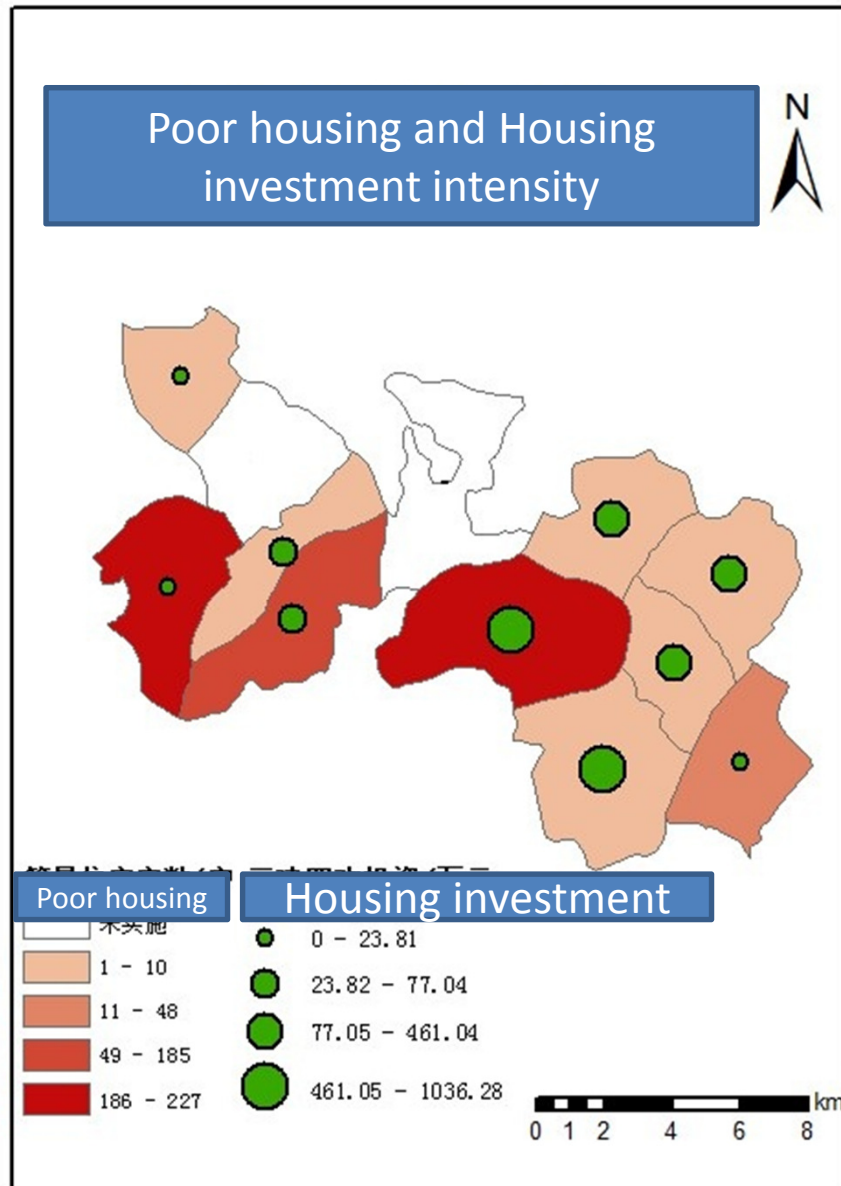
### □ 3、Optimal

Whether government has selected the right villages or not?

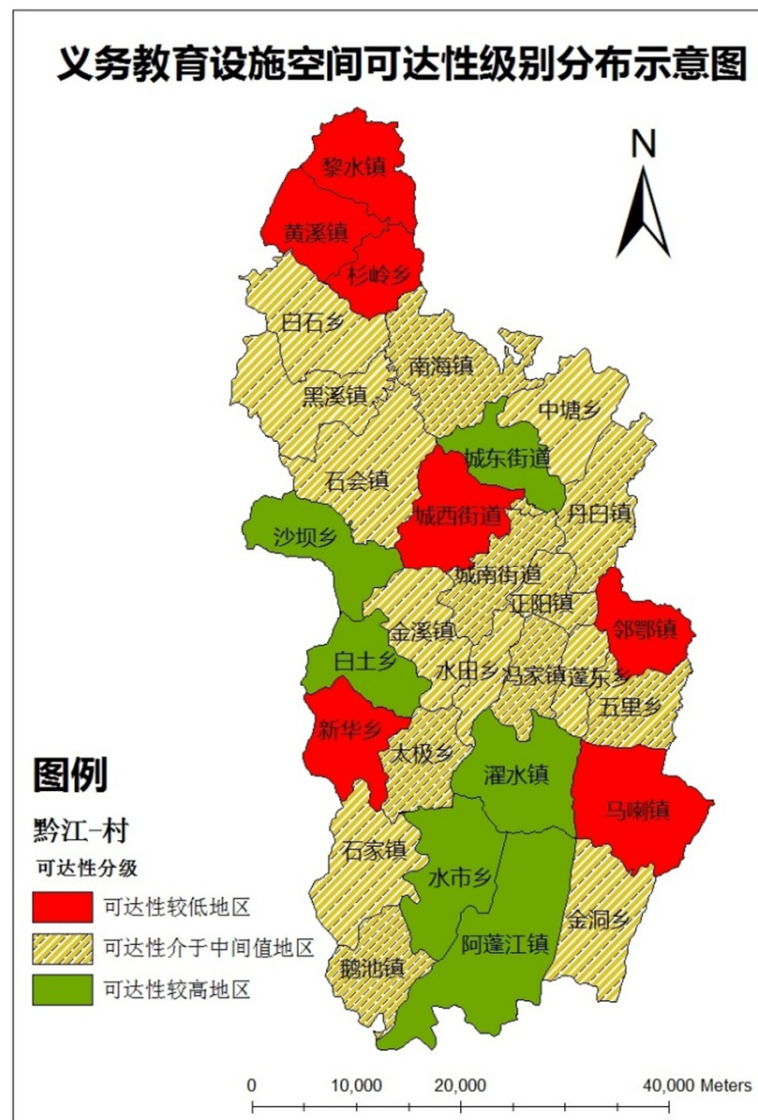
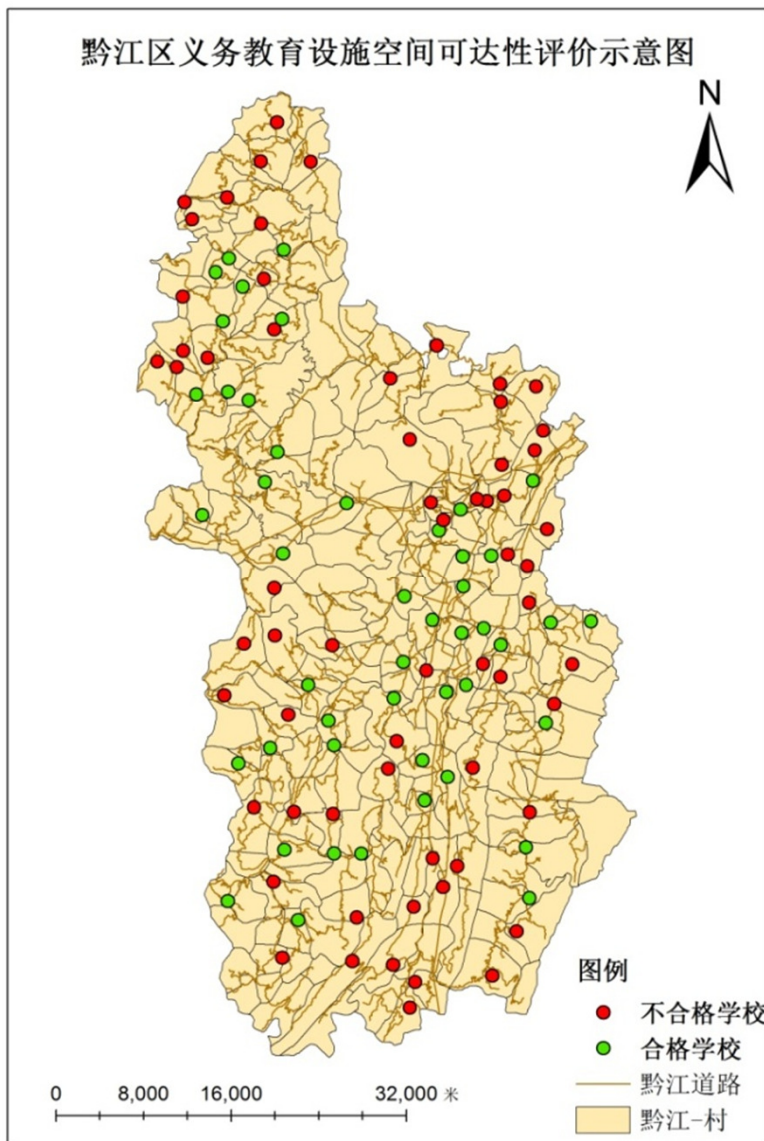


### 3、Optimal

### Investment intensity VS. Demand of village



### 3、Optimal, Education

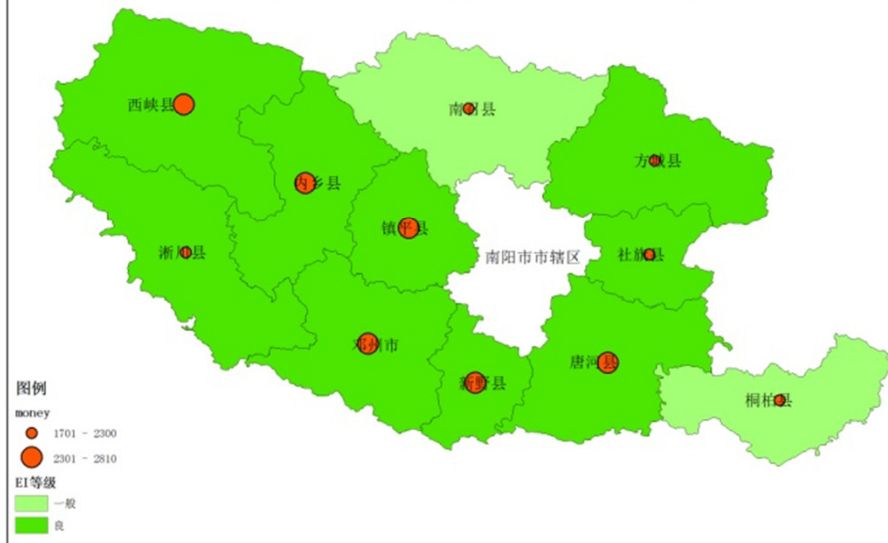


时间（步行40分钟）合格：47所

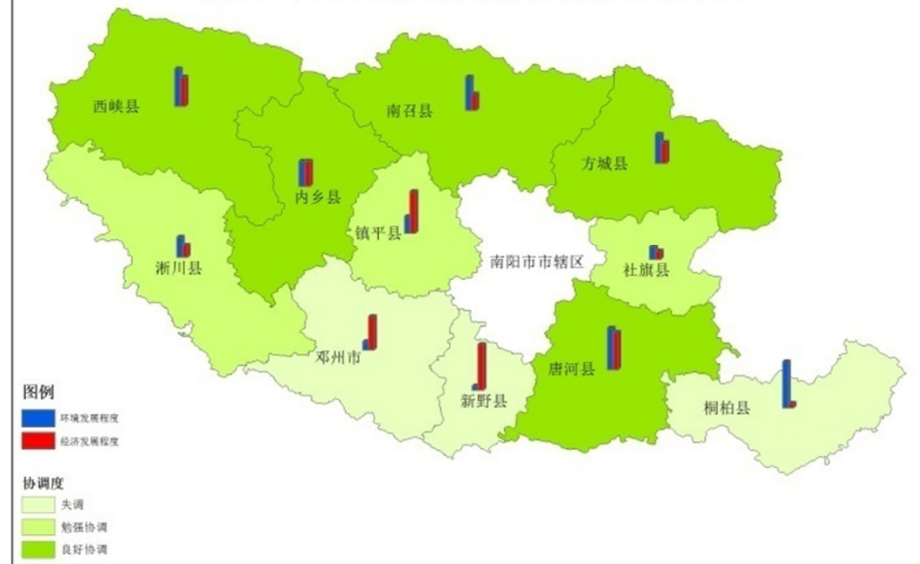
不合格：63所

# 生态环境与经济贫困的耦合关系

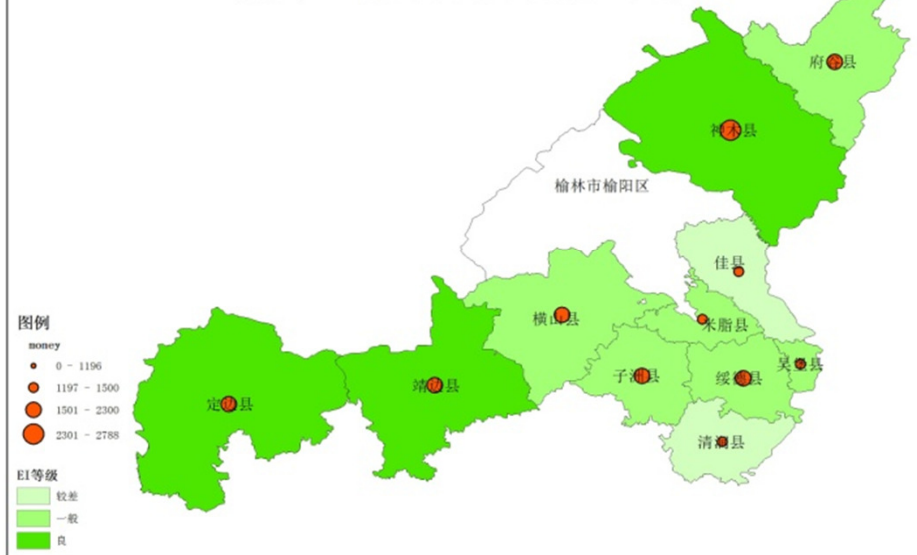
南阳市EI等级与农民人均纯收入示意图



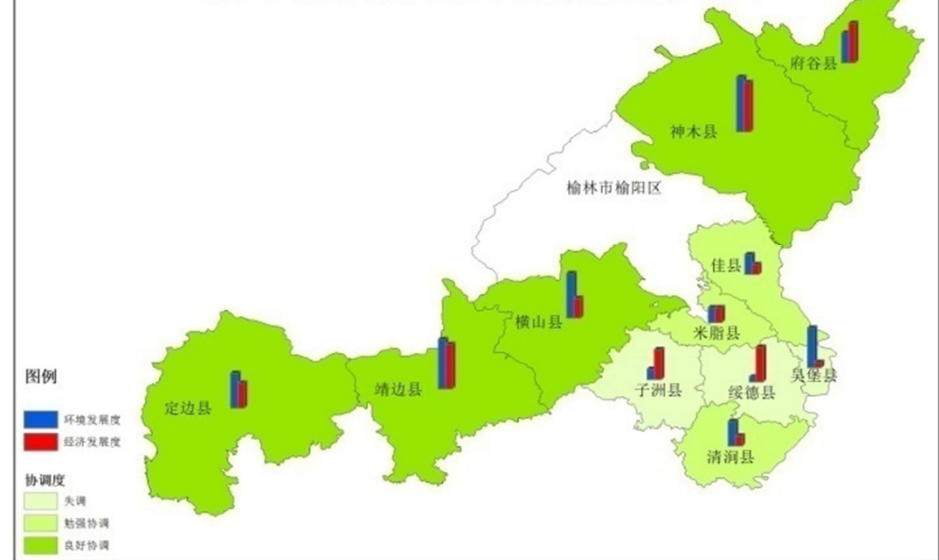
南阳市环境经济协调度与各自发展程度示意图



榆林市EI等级与农民人均纯收入示意图



榆林市环境经济协调度与各自发展程度示意图



•新纲要——坚持扶贫开发与生态建设、环境保护相结合，促进经济社会发展与人口资源环境相协调。

# Application

