

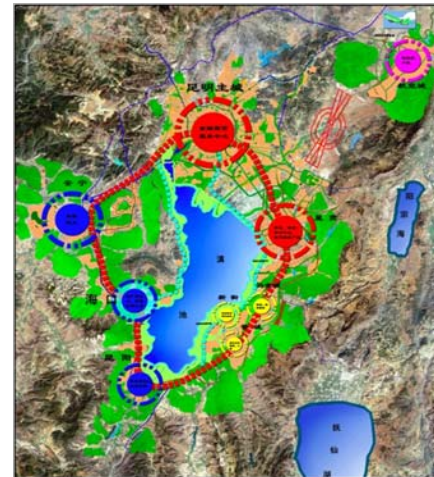
# Training and Research Program “Environment” China

Yunnan Province, PR China

Under Assignment of the Swiss Agency for  
Development and Cooperation (SDC)

TRP-E, Phase VI, 2007 – 2009

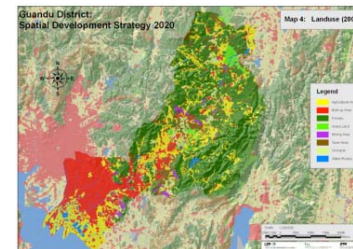
Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra



- **Introduction**
- **Kunming City (Municipality)**
- **History ZH – KMG Partnership**
- **Program Goals TRP-E**
- **Program Outputs**
- **Outlook**



- **Spin-off company** ETH Zurich, Switzerland
- **Spatial** and **environmental** planning at different levels in an international context
- Focus on **fast growing** towns and regions in China (Kunming/Yunnan Province a.o.)
- **Services** include:
  - GIS supported planning approaches
  - Capacity building and development
  - Support in plan implementation
- **Strengths:**
  - Comprehensive experience in landscape and environmental planning & management
  - State-of-the-art IT facilities and know-how
  - Intercultural management skills
  - Interdisciplinary



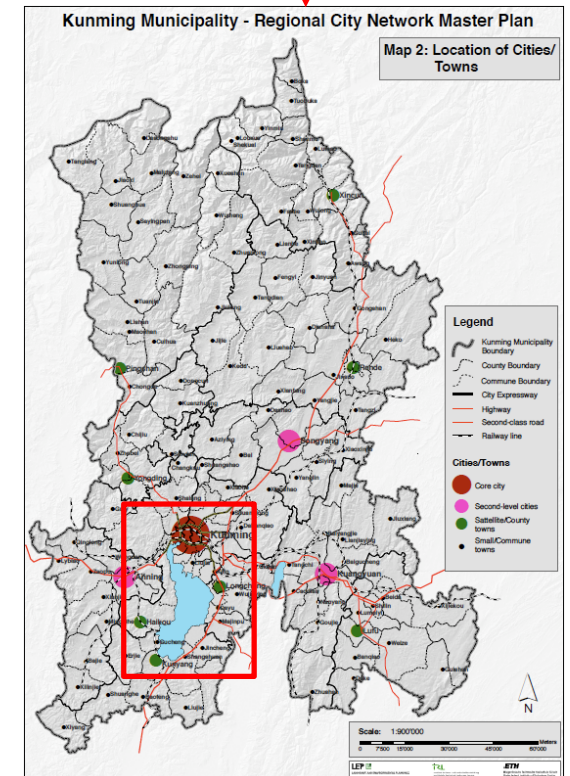
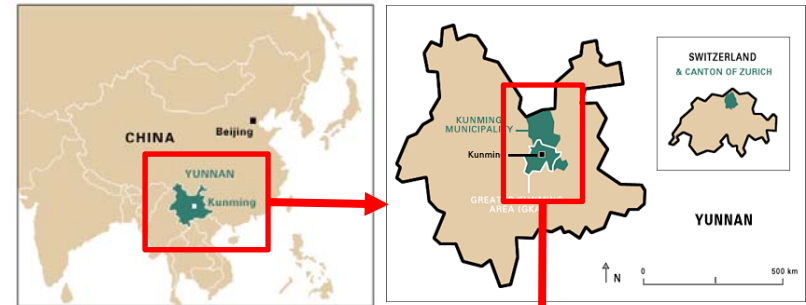


# Kunming City (Municipality)



Spin-off ETH Zurich

- **Capital** of Yunnan Province:
  - 44 mio. inhabitants
  - 394'100 km<sup>2</sup>
- Kunming **Municipality**:
  - 7 mio. Inhabitants
  - 21'473 km<sup>2</sup>
  - **City proper**: 330 km<sup>2</sup>, 3.2 mio. Inhabitants
  - Urban density: 10'000 p/km<sup>2</sup>
  - GDP total (2009): approx. 181 bio. RMB
  - GDP per capita (2009): approx. 29'000 RMB
  - Elevation: 1'892 m a.s.l. ("Spring City")
- **Economic motor**, cultural and political centre of Yunnan
- Experiencing **strong urbanization** in last two decades



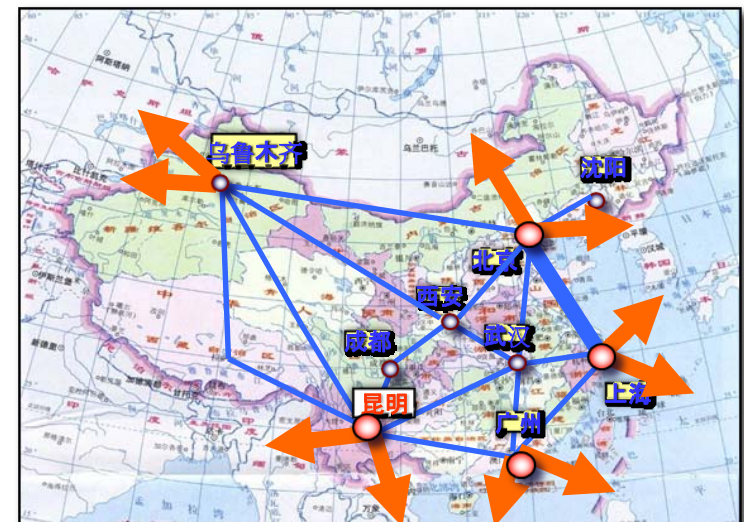
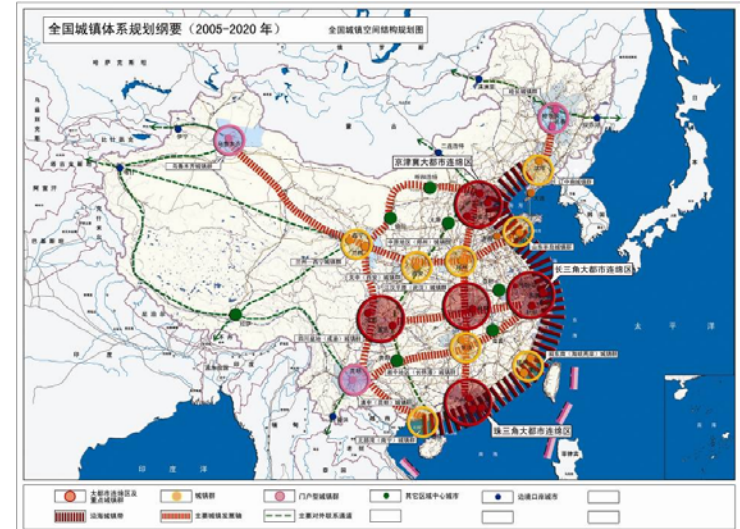


# Kunming City (Municipality)



Spin-off ETH Zurich

- **National urban system plan (2005-2020)** defines Kunming as one of 5 important connection nodes to abroad
- **Shift from dead-end position** into platform and **gate** towards South and Southeast Asia





# Kunming City



**Traditional market street**



**Panlong River**



**New shopping malls**



**Green Lake Park**



# Kunming City



**New pedestrian area (Dong Feng road)**



**Different types of residential areas**





# Kunming City



1997



Kunming City Proper



2007



# Kunming City



**New South Railway Station**



**Daily traffic jam**



**Separate bus lane, Beijing road**

# Kunming City



Typical old town structure



Old town near Dong Feng Dong road



Old town house, Beef street



# Kunming City



**Demolished old town houses -  
Wu Cheng road**



**The construction of Renmin Road  
(1996-97), cutting through the old town**



**The construction of Renmin  
Road from 1997 to 1998**

# Kunming City



**Recent demolition of old town (2007)**



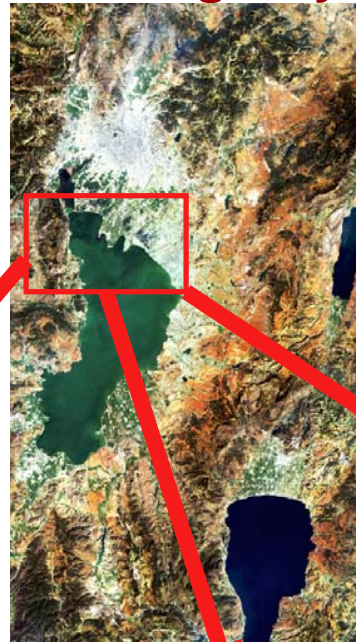
**Remaining old town district near City center**







# Kunming City



**Strong growth of algae as a consequence of heavy pollution**

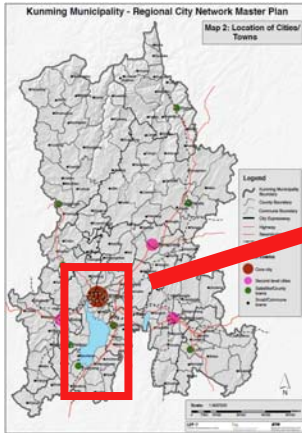


**Heavily polluted tributary to Cao Hai**



**Heavily polluted channel draining off Cao Hai**

# Kunming City



**New urbanization in  
Southern Kunming  
near Dian Lake**



**Agriculture along Dian Lake**

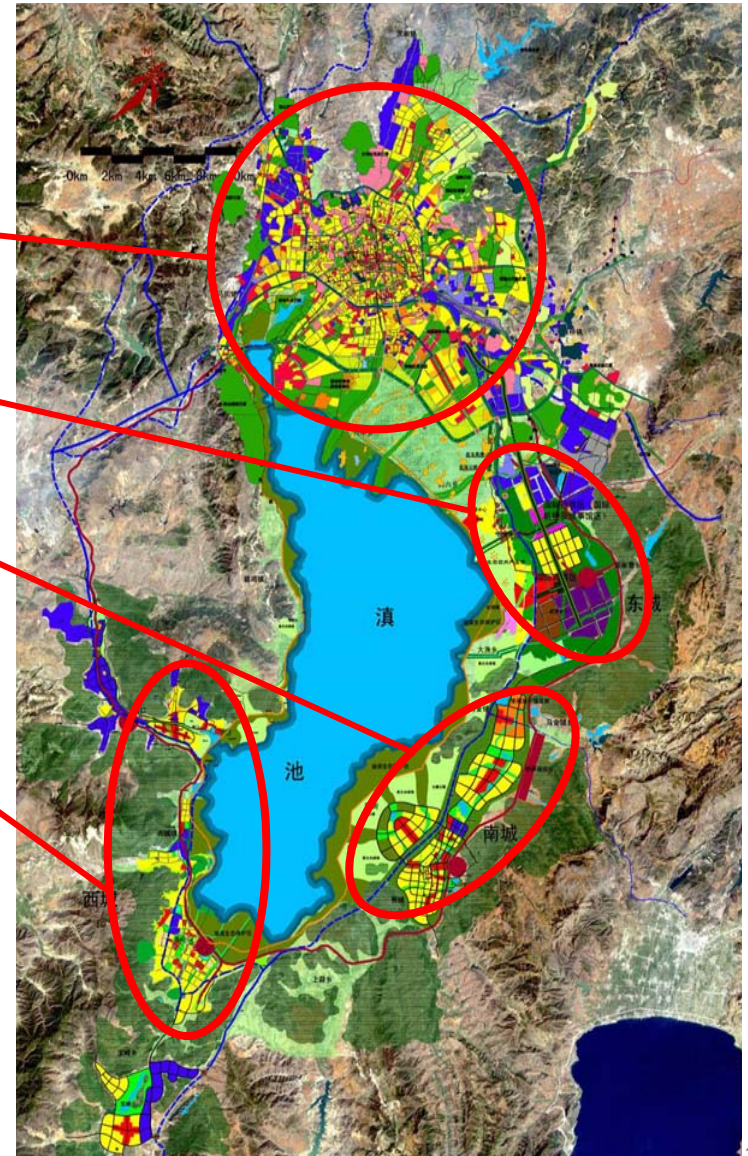


**Hilly landscape  
along Dian Lake**



# Kunming City

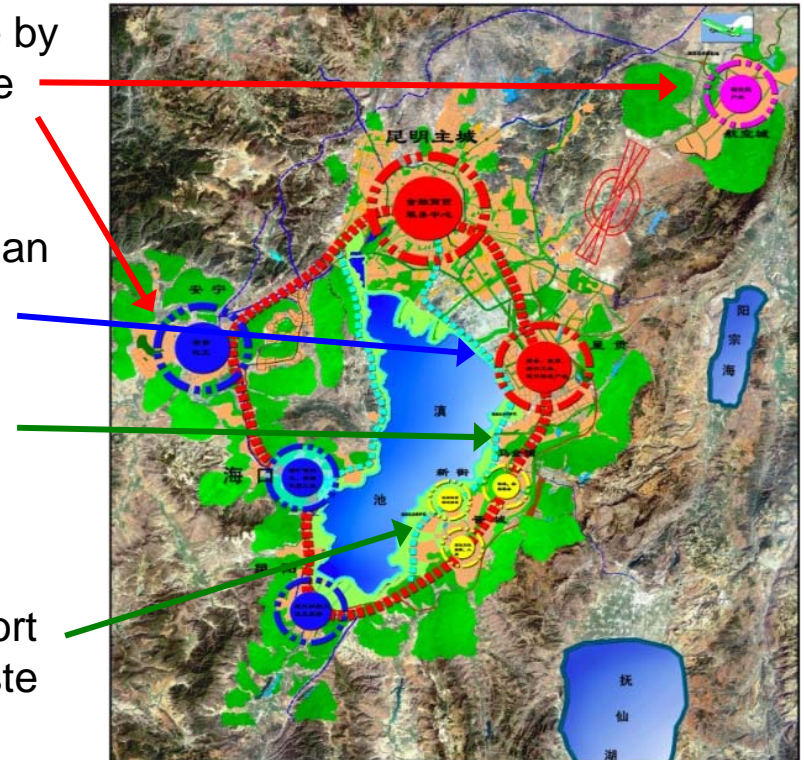
- **2003: New Urban Concept „One Lake and Four Cities“** launched by provincial and municipal governments
- **Limit** growth of Kunming City Proper
- **Promote** new urban growth centers:
  - Chengong New Administrative City
  - Jincheng New Southern City
  - Kunyang/Haikou City





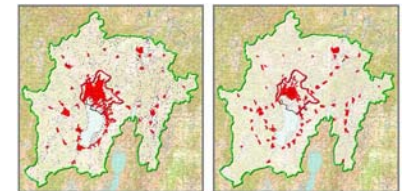
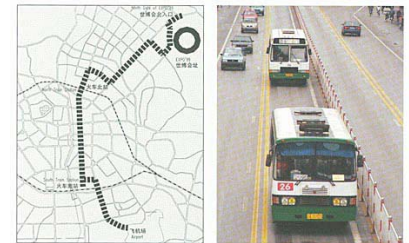
## Kunming City

- **Relieve** environmental pressure from Dian Lake by promoting urban growth of urban centers outside Dianchi catchment area
- Ring road and **sewage ring pipe line** around Dian Lake to limit untreated waste water effluents
- **Eco-buffer zone** between lake shore and ring road/ line around lake, excluding urban construction and farming activities
- **Wetland parks** around lake shore area to support natural treatment of polluted and pretreated waste water



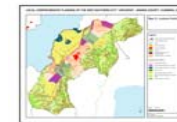
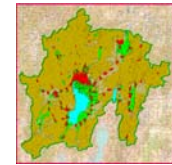
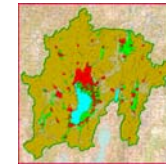


- **1982 - 1987:** Cultural exchange programs
- **1987 - 1994:**
  - Technical support on water supply and waste water disposal (Support from Swiss Agency for Development and Cooperation, SDC)
- **1993 - 1996:** Phase I
  - Master Plan for public transportation, supported by SDC
- **1996 -1999:** Phase II
  - Urban planning and design of Kunming “North Finger”
  - First demonstration bus line
  - Start of Training and Research Project (IRL/ETH): regional planning
- **1999 - 2002:** Phase III
  - Regional development scenarios for urban development in GKA
  - Urban planning and design proposals for different areas in GKA
  - Old town preservation support
- **2002 - 2004:** Phase IV
  - Conduct new urban concept „One lake and four cities“
- **2005 - 2006:** Phase V
  - Consolidation of new urban concept „One lake and four cities“
- **2007 - 2009:** Phase VI (Consolidation of pilot studies)



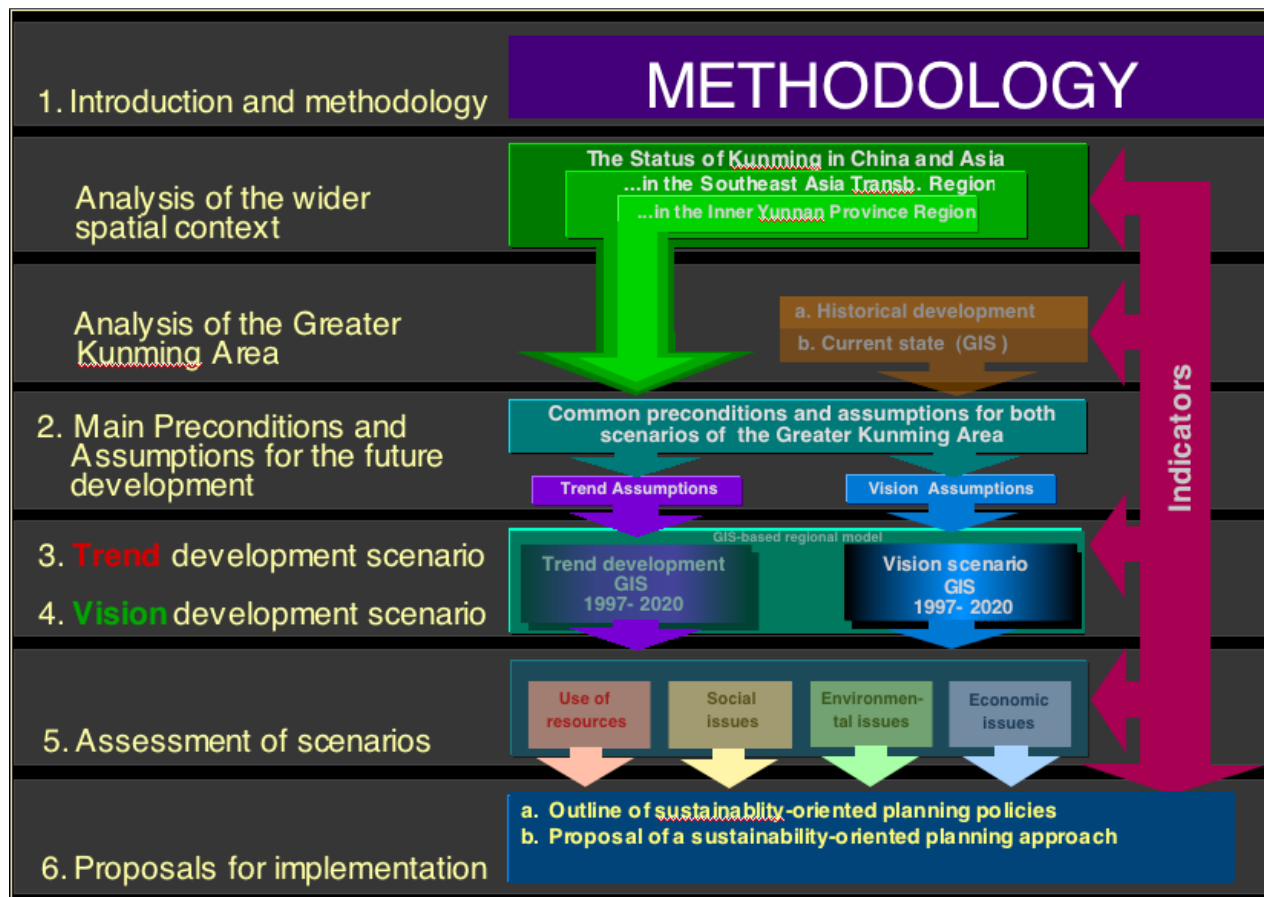


- 1. Support integration of environmental considerations into spatial planning process to facilitate sustainable land use patterns**
- 2. Support decision-making with regard to infrastructure planning and spatial development**
- 3. Develop planning tools and instruments, employing state-of-the art technology**



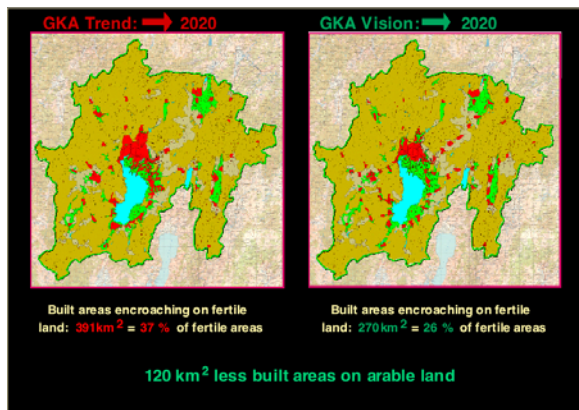
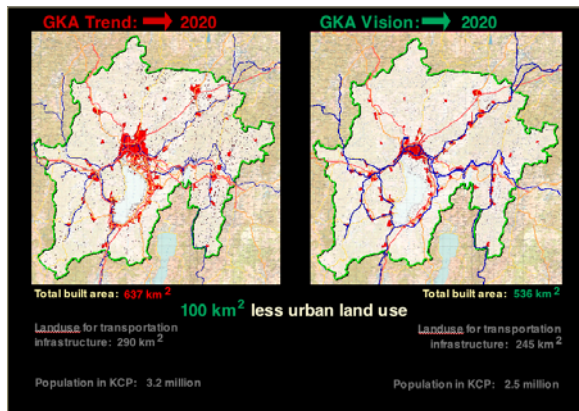
**Objectives are promoted through professional training, research and advisory services by means of pilot projects**

## 1. Comprehensive methodology for elaboration and assessment of GIS-based regional development strategy for the Greater Kunming Area (GKA)





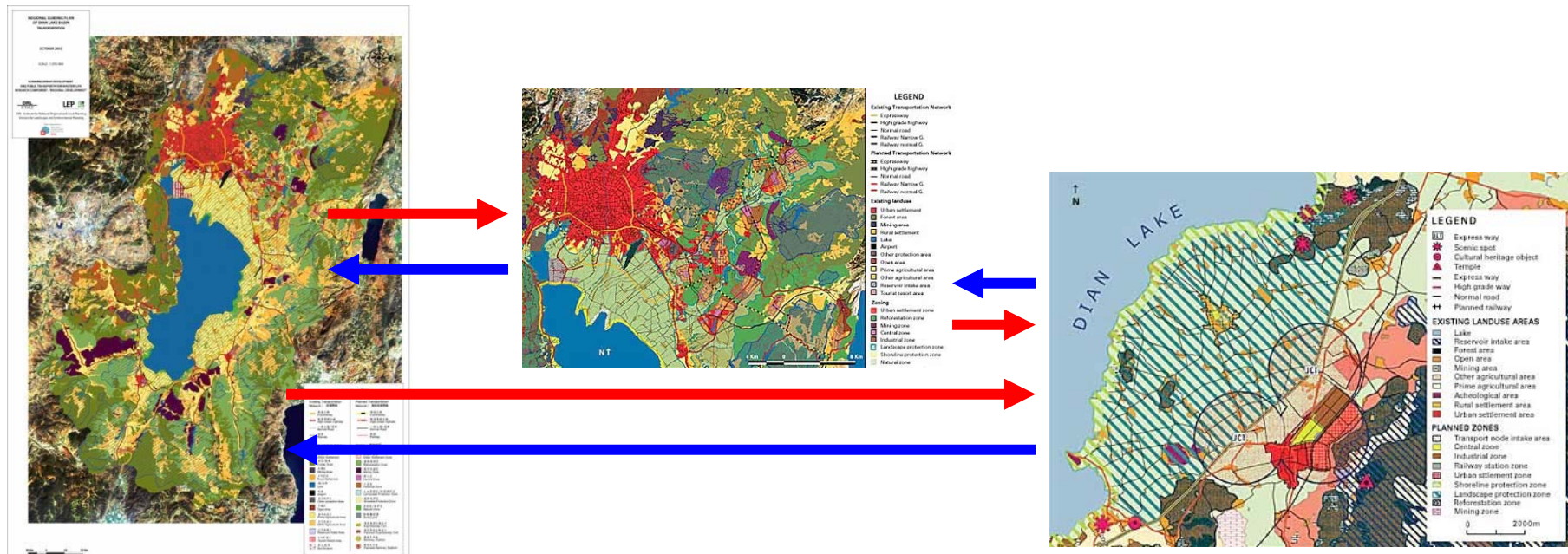
## 2. Elaboration and comprehensive assessment of GIS-based regional development scenarios for the Greater Kunming Area (GKA)



### KEY FIGURES OF DEVELOPMENT SCENARIOS

Description	Trend Development	Vision Scenario	Diff. in favor of vision scenario
Total population	6.9 million	6.9 million	—
Total settlement areas	637 km <sup>2</sup>	536 km <sup>2</sup>	16% less of total settlement area
Urbanization on fertile Land	391 km <sup>2</sup> (37%)	270 km <sup>2</sup> (26%)	11 % of fertile areas (31% less than trend)
Land consumption for transport infrastructure	290 km <sup>2</sup>	245 km <sup>2</sup>	17% less than trend land consumption for transport infra.
Approx. construction cost of future transp. infrastructure	US\$ 8 billion	US\$ 5.2 billion	25% of construction cost
Population living in main center of GKA (Kunming City Proper)	3.2 million (47% of total pop.)	2.5 million (36% of total pop.)	22% less population in KCP
Population living environm. most stressed Dianchi catchment area	4.8 million	4.1 million	15% less popul. in environm. most stressed Dianchi catchment area
Air pollution due to car based passenger transportation: i.e. NOx-emissions for GKA	Depends mainly on technical measures	Depends mainly on technical measures	With identical technical measures emissions could reduce up to 30%
i.e. NOx-emissions for Kunming City Proper	Depends mainly on technical measures	Depends mainly on technical measures	With identical techn. measures emissions could reduce up to 50%

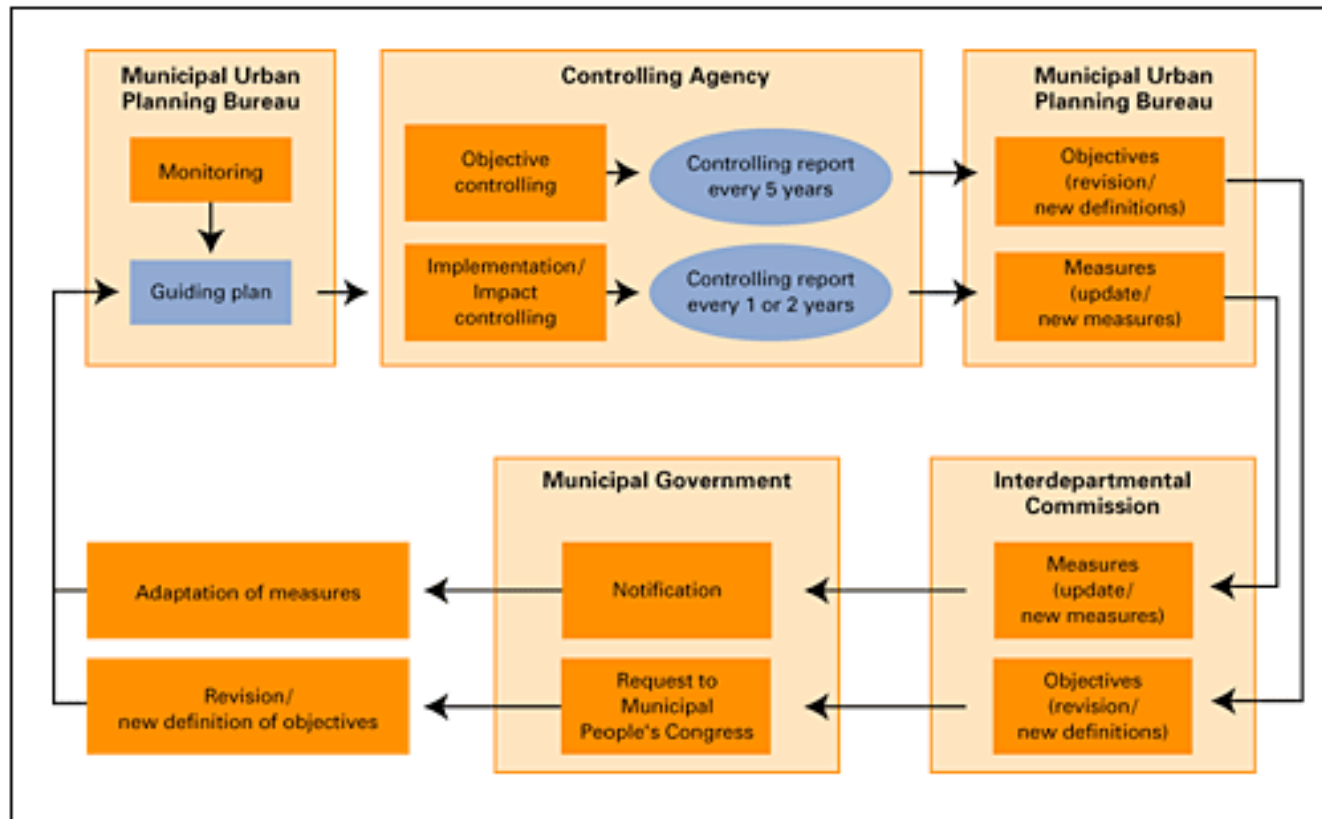
## 3. Elaboration of a comprehensive GIS-based planning approach for a case study area within the Greater Kunming Area, consisting of regional, sub-regional and local guiding plans for different space relevant sectors (settlement/ landscape, transportation, supply/disposal, public infrastructure and lake protection)





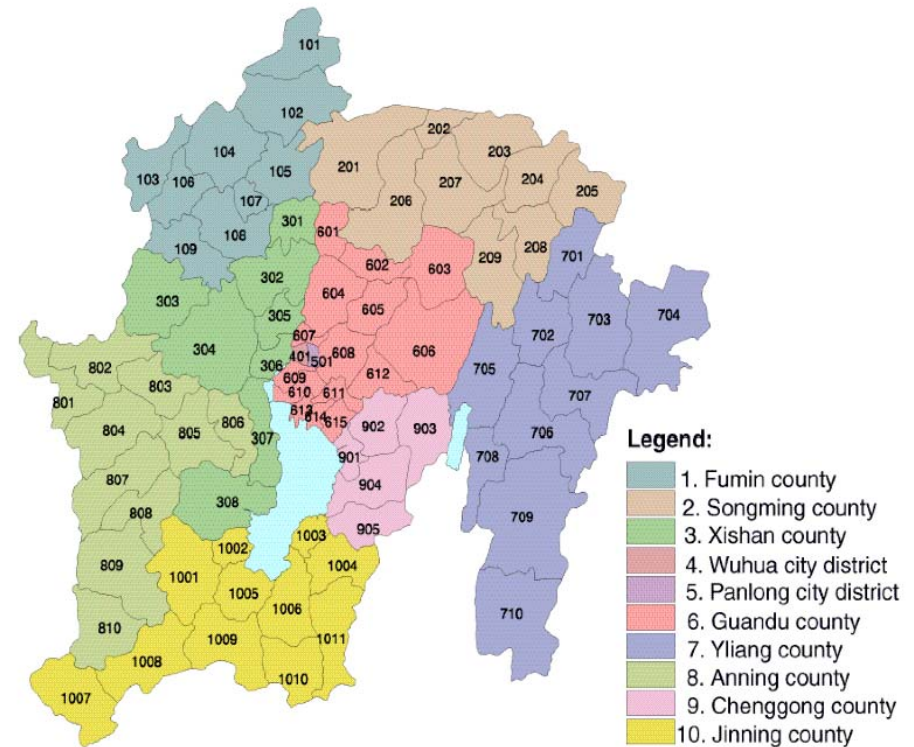
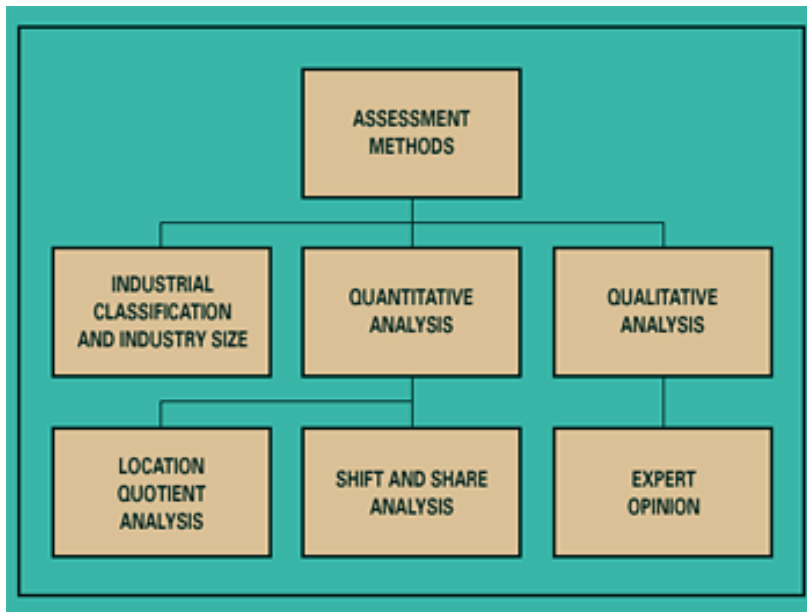
## Program Outputs

### 4. Elaboration of a monitoring and controlling system for regional urban development in Kunming by means of sustainability indicators



Process and responsibilities of controlling system

## 5. Elaboration of a regional economic development strategy for the Greater Kunming Area





## 6. Elaboration of a comprehensive GIS-based local planning approach for the new Southern City Jincheng, Jinning County, Kunming

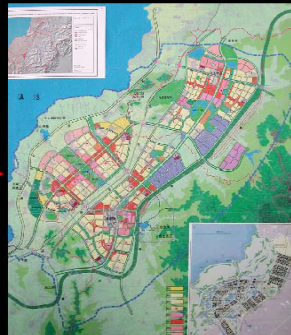
### Development steps of Jincheng planning, 2003 / 2004:

June 2003



KUPDI

December 2003



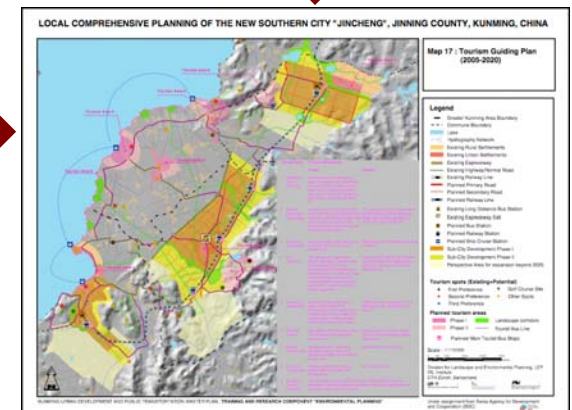
KUPDI / CPC

February 2004



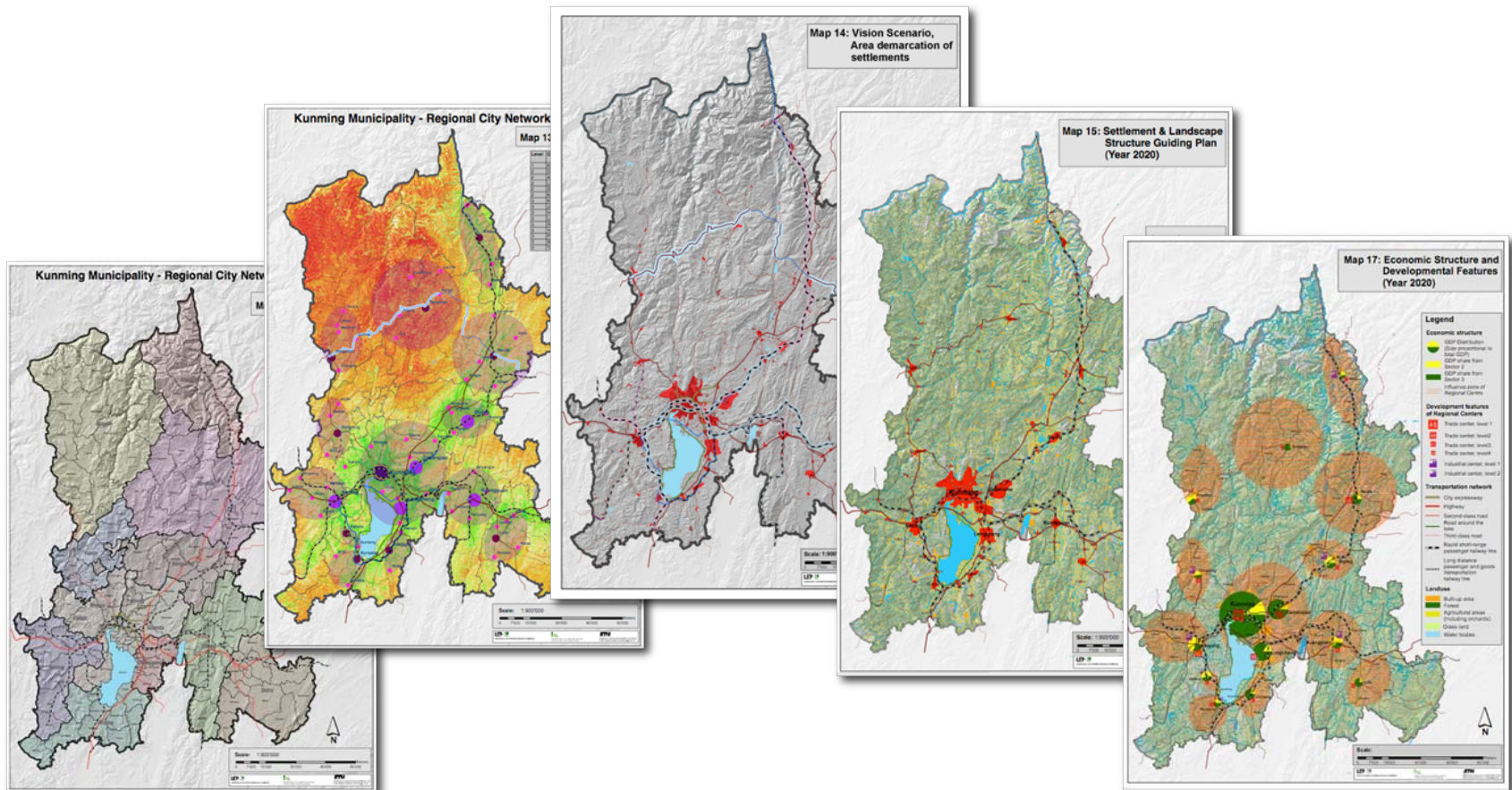
KUPDI / ZH / IRL

IRL Institute, ETHZ, Kunming, May 2004



## Program Outputs

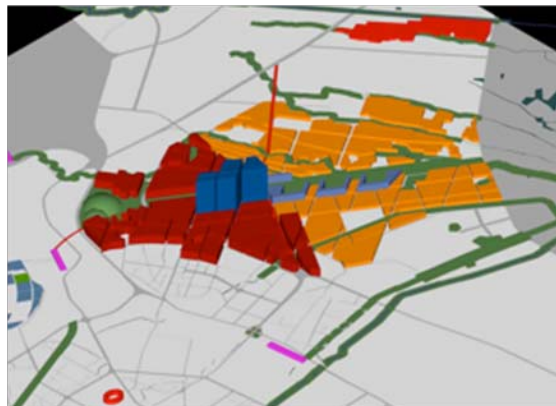
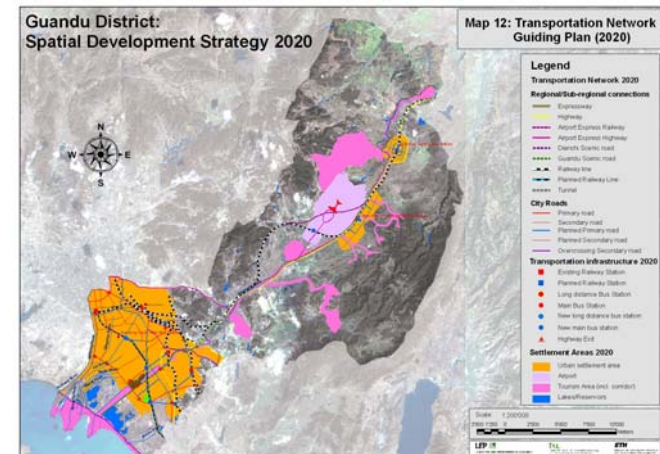
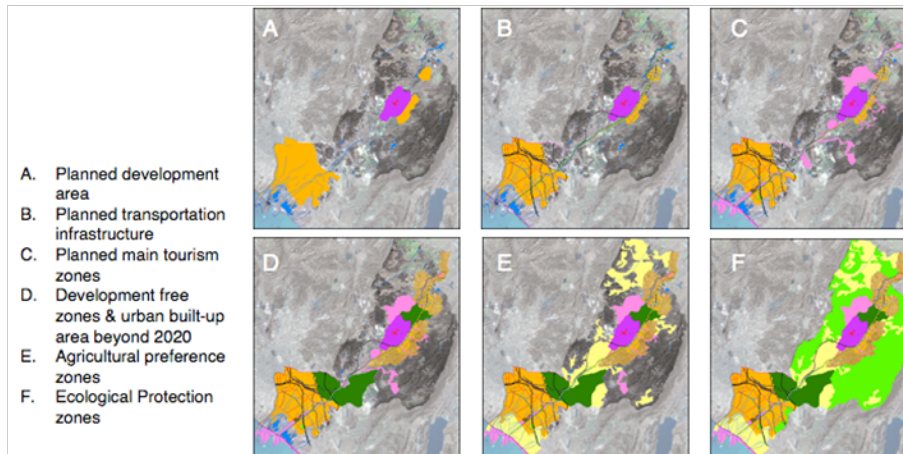
### 7. Kunming Municipality: Regional City Network Master Plan 2020



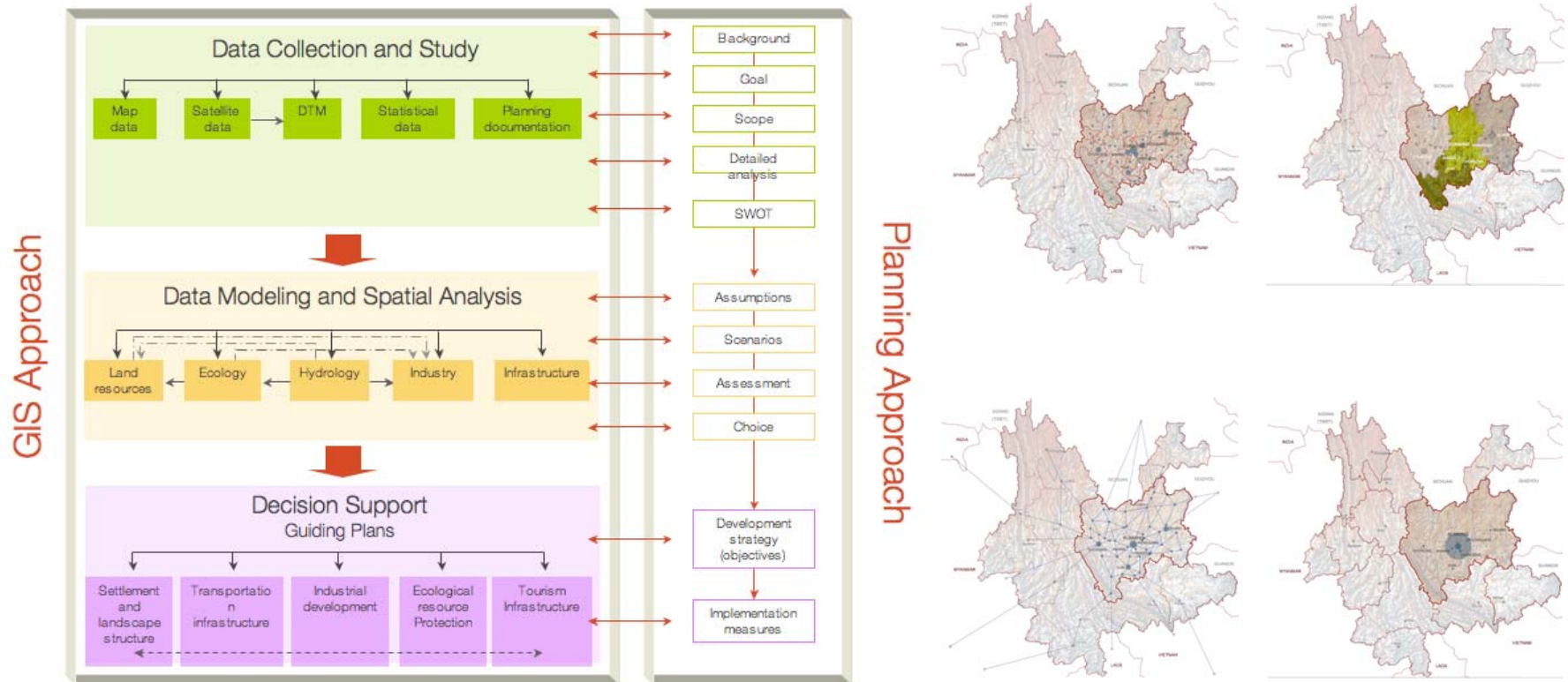


## Program Outputs

## 8. Guandu District/Kunming: Spatial Development Strategy 2020



## 9. Yunnan Central Economic Region: Spatial Development Strategy 2025





## 10. Research and training cooperation with the Ministry of Construction on spatial planning practice



**1<sup>st</sup> Sino-Swiss Spatial Planning Seminar,  
Kunming, July 2001**



**2<sup>nd</sup> Sino-Swiss Spatial Planning Seminar,  
Qingdao, June 2004**



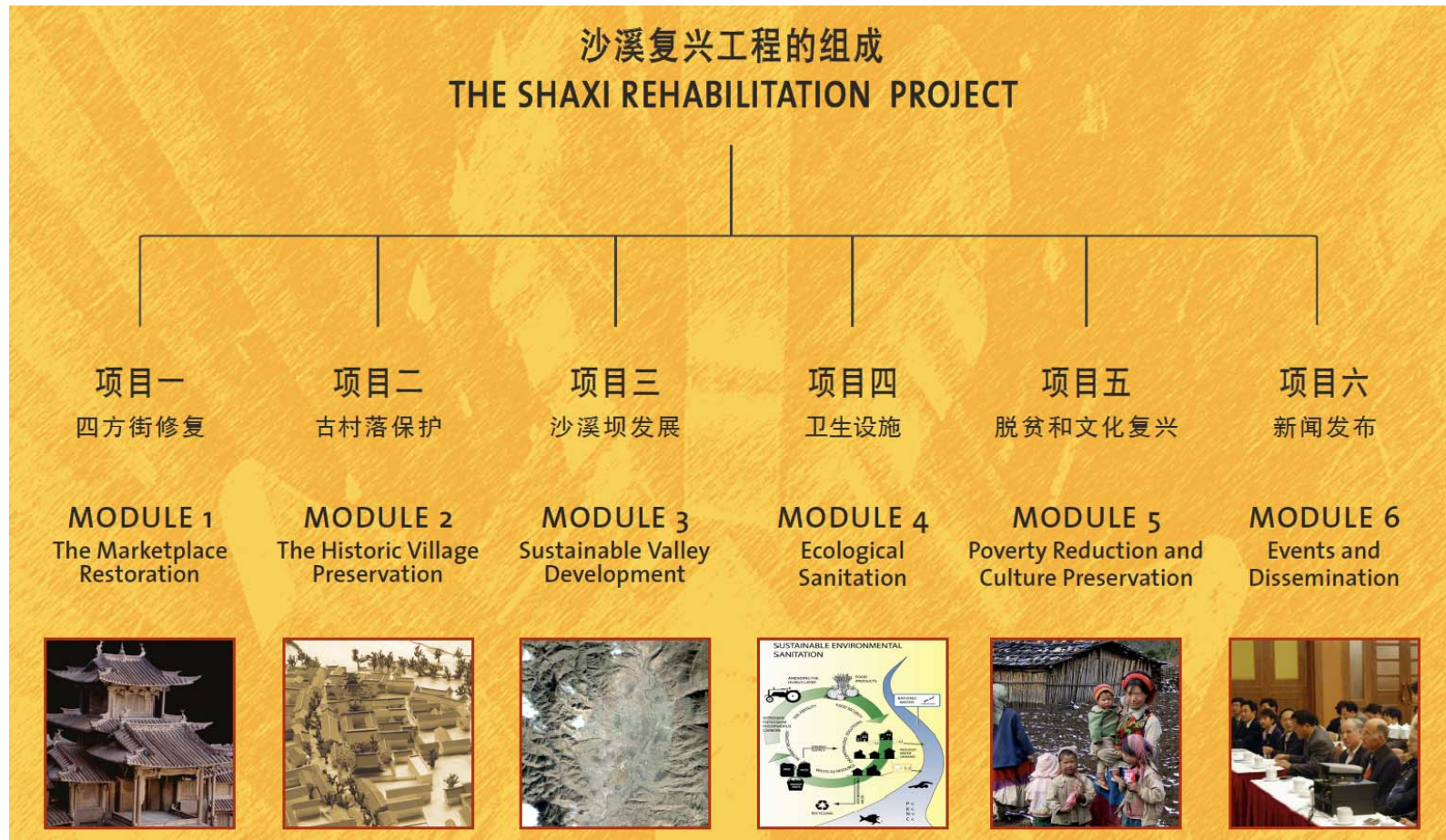
**3<sup>rd</sup> Sino-Swiss  
Spatial Planning  
Seminar,  
Nanjing, October  
2005**



**4<sup>th</sup> Sino-Swiss Spatial Planning Seminar,  
Yuxi, November 2007**

## Program Outputs

### 11. Shaxi Rehabilitation Project (SRP): 2002 – 2009, Phases I – III (Phase IV: 2010 – 2012)





## 11. Shaxi Rehabilitation Project (SRP): Market Place Restoration (Module





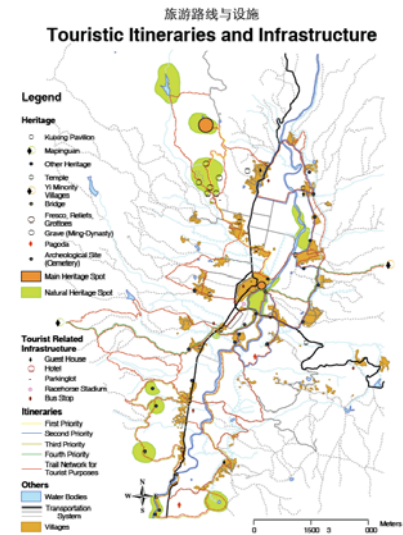
## Program Outputs

### **11.** Shaxi Rehabilitation Project (SRP): Historic Village Preservation (Module 2)





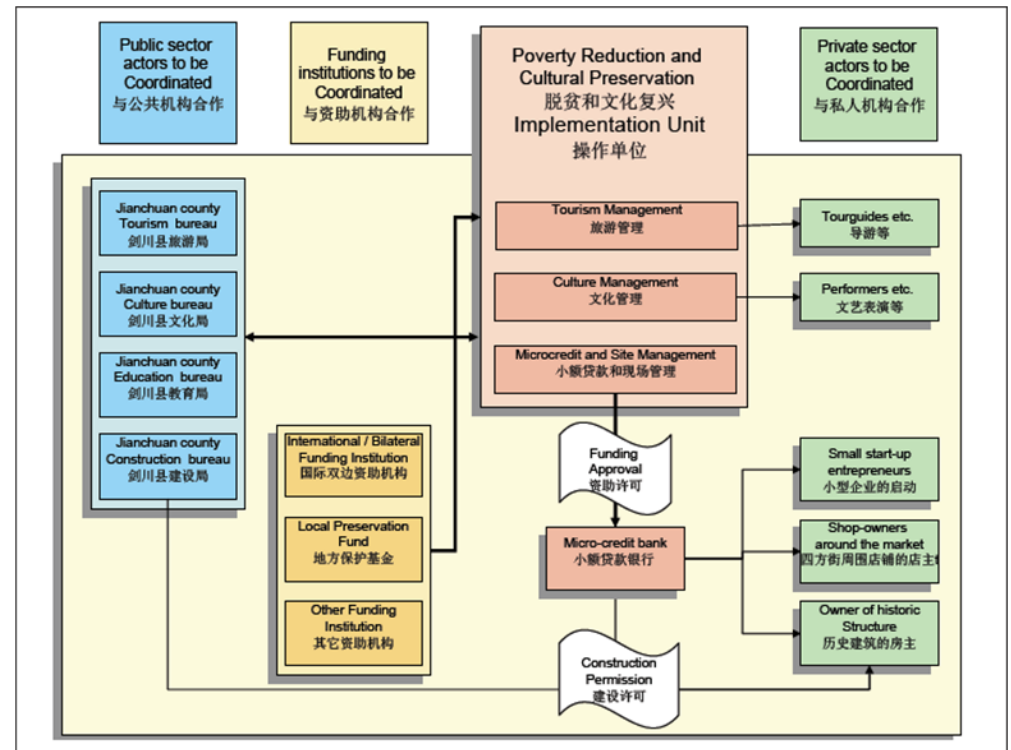
## 11. Shaxi Rehabilitation Project (SRP): Sustainable Valley Development (Module 3)







## 11. Shaxi Rehabilitation Project (SRP): Poverty Alleviation (Module 5)



## 11. Shaxi Rehabilitation Project (SRP): Dissemination (Module 6)

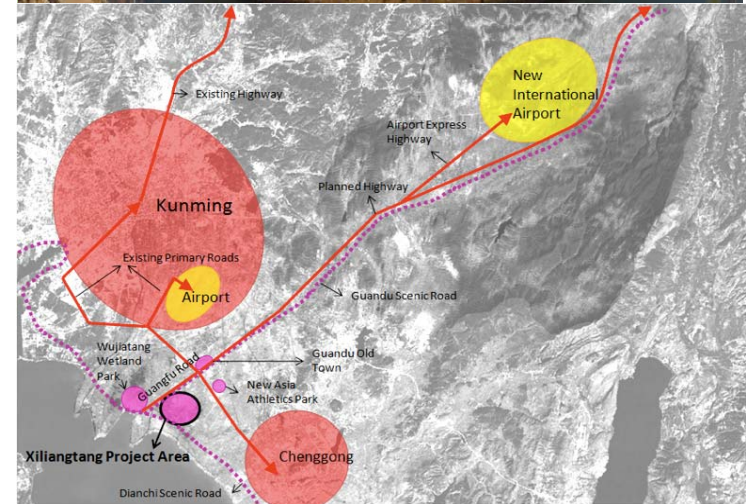
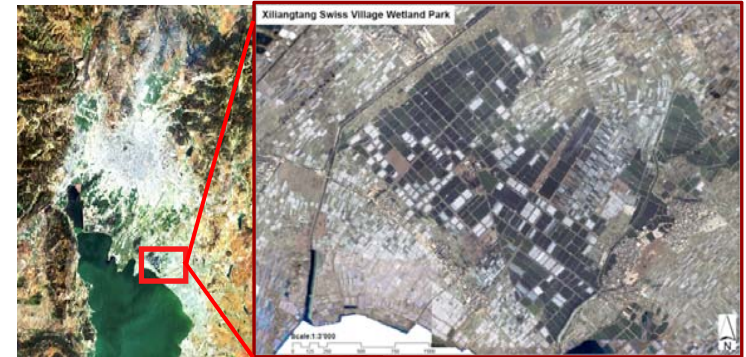




# Outlook

## Kunming Dianchi International City Wetland Park

- **Scope:**
  - Planning & design of international wetland park, Xiliangtang, Kunming, China (2008 – 2010)
- **Project area:** 2.2 km<sup>2</sup>
- **Clients:**
  - Yunnan Junfa Real Estate Co. Ltd.,
  - Guandu State Development Inv. Co. Ltd.
- **Partners:**
  - Kunming Urban Planning and Design Institute (KUPDI): Data supply
  - Maxmakers Ltd., Zurich: Economic planning
  - Helsingizurich, Zurich: Urban planning & design
  - Holinger AG, Luzern: Water engineering



# Kunming Dianchi International City Wetland Park

- An artifact of Kunming Zurich partnership which shall demonstrate **Swiss practices** in management of ecological, tourism and socio- economic affairs





# Kunming International Wetland Park Swiss Village Center

- 1. Swiss Experience Farm**
  - 2. Time Zone**
  - 3. Art and Culture Pavilion**
  - 4. Chocolate & Tourism Zone**
  - 5. Central Square**
  - 6. Events Zone**
  - 7. Children's Island**
  - 8. Parking area**
- + Alternative Energy Learning Centre**



# Kunming International Wetland Park Swiss Village Center



Central Square: Landscape Adventure  
中央广场：景观游乐



Art & Culture Pavilion  
文化艺术展馆



Chocolate and Tourism Zone 巧克力和旅游区



Swiss Experience Farm 瑞士农家乐



Time Zone 时间区



Events Zone 活动举办区



Children's Island 儿童岛



# THANK YOU FOR YOUR ATTENTION!

