

Challenges and Strategies of Environmental Health in Yunnan Province, China

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Outline

1. Introduction to Yunnan Province, China
2. Problems of Environmental Health in Yunnan Province
3. How to deal with these Challenges?

Part 1 Introduction to Yunnan Province

Yunnan Province, China

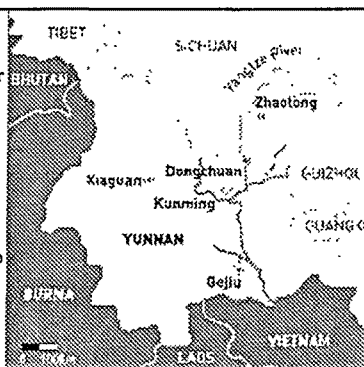


the location of Yunnan in China

The Greater Mekong Subregion:

- Cambodia
- Laos
- Myanmar
- Thailand
- Viet Nam
- Yunnan (China)

Border length with other countries:
4,060 Km



Biological Resources

- ❖ Kingdom of animals
- ❖ Kingdom of plants
- ❖ Kingdom of color metals
- ❖ Home of flowers
- ❖ Home of natural herbs
- ❖ Gene reserves of the biological resources

Diversities of Culture

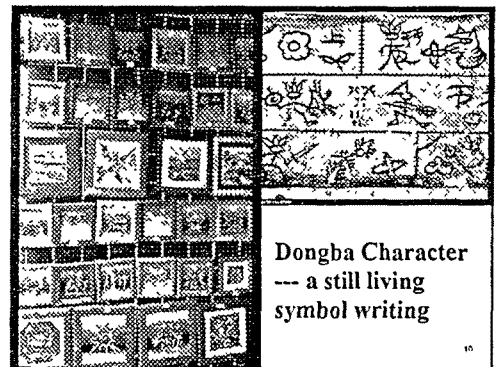
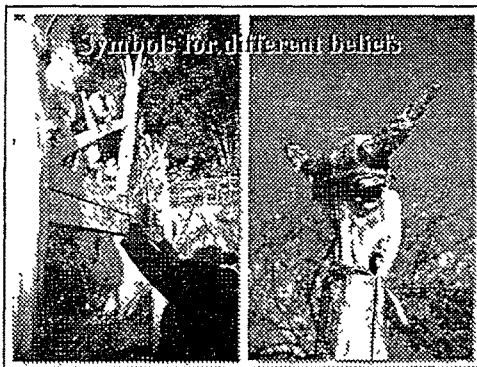
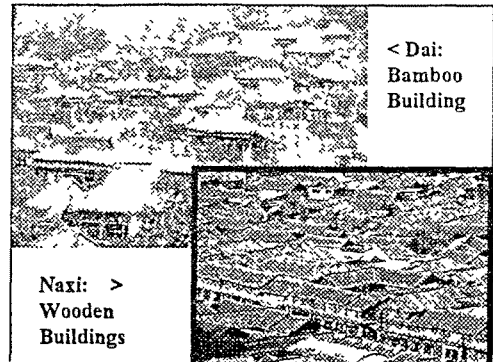
There are 55 minority groups in China except the majority of "Han" --Chinese.

Yunnan Province:

- ◇ 25 ethnic minority groups
- 15 are indigenous to Yunnan

(Bai, Hani, Dai, Lisu, Wa, Lahu, Naxi, ...)

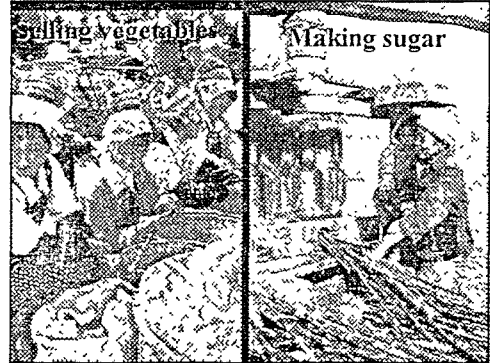
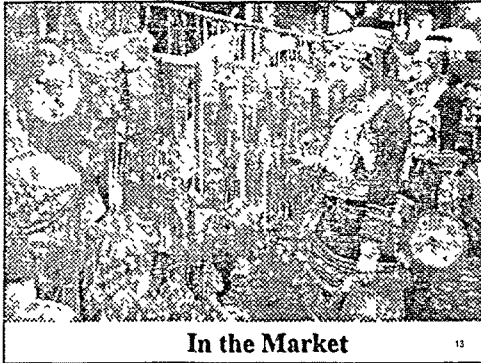
- ◇ Population: > 14,000,000



Economy

- ◇ Tourism
- ◇ Agriculture
 - tobacco
 - tea
 - floriculture
 - sugar
 - coffee
 - wine

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Tourism

Tourism: a flourishing industry

In year 2000

- ❖ Tourists
 - 38,410,000 domestic tourists
 - 1,000,000 overseas tourists
- ❖ Total income
 - \$ 2.94 billion USD

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Part 2
Problems of
Environmental Health
in Yunnan Province

Issues of Public Health

- ❖ Infectious diseases
 - Traditional: malaria, typhoid, schistosomiasis, hepatitis, TB
 - Emerging: HIV/AIDS, avian influenza
- ❖ Nutritional Issue
 - Undernutrition (rural)
 - Overnutrition (urban)
- ❖ Behavioral Issue (smoking, alcohol, drug abuse)
- ❖ Chronic diseases (HTN, DM, CVD, asthma, cancer)
- ❖ Injuries (traffic, suicide, poisoning, violence)

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Poverty

In Yunnan by the end of 2002:

- 4,780,000 farmers living on < \$104 USD/Year
- 2,860,000 farmers living on < \$75 USD/Year
- 2,500,000 living in extreme destitution

Poverty in cities???

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Poverty and Environmental Health

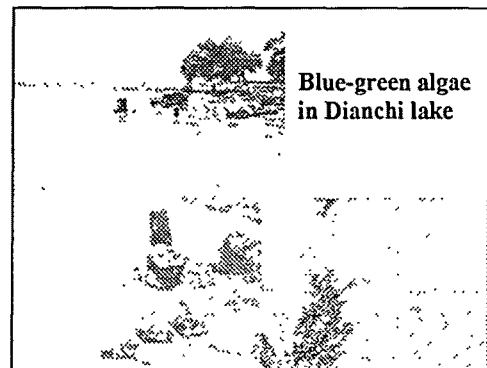
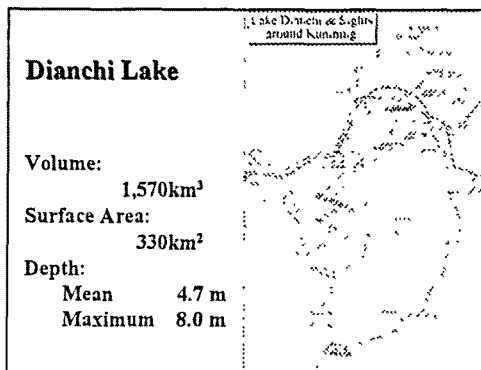
- ❖ Unsafe drinking water
- ❖ Poor sanitation
- ❖ Abused resources
- ❖ Lack of fuel
- ❖ Poor health care service

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Water Pollution

- ❖ Some lakes & rivers are polluted
- ❖ Dianchi Lake is severely polluted
 - Untreated sewage
 - Agricultural runoff (pesticides, fertilizers)
 - Industry pollution
 - Eutrophication

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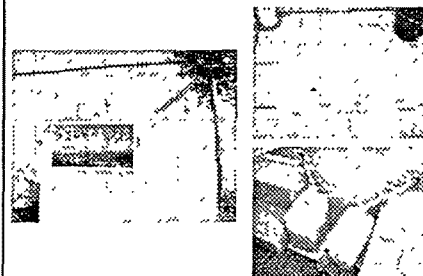


Chinese National Environmental Strategy

- ❖ Dianchi—one of the three priority lakes
 - Stop 249 of 253 factories to dump waste
 - Building new sewage treatment plants
 - Cleaning up algae
 - ❖ dredging
 - ❖ feeding special fish to eat algae
 - Building ecotoilets in houses around Dianchi

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Ecotoilet



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Pesticide Pollution

China (1995-2000)

- ❖ Consumption: 250,000 tons / year
- ❖ Pesticide poisoning (1990s):
53,300 - 123,000 persons / year

Yunnan Province

- ❖ Lack of data

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Floriculture

- ❖ Yunnan-- center of cut flower production in China
- ❖ Yunnan flower output
 - 40% consumed in Yunnan province
 - 50% to other provinces of China
 - 10% exported to other countries

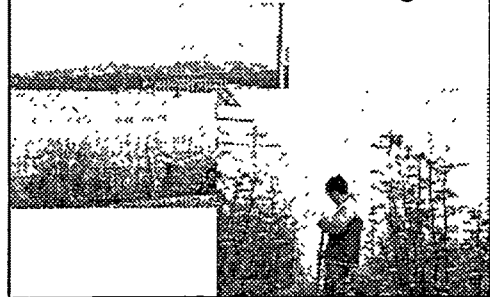
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Kunming- Center of Floriculture

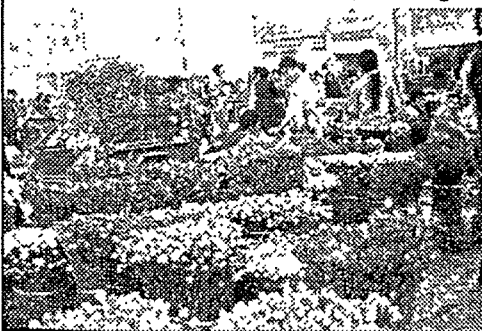
- ❖ Floriculture in Chenggong, Kunming
 - Floriculture: 18,000 farm families
 - Cultivated area: 1,660 ha
- ❖ The biggest Flower Market in China
 - Cut flower: 3,500,000-5,000,000 stems/day
 - Cut greenery: 18 tons of /day
 - USD: \$ 300,000 - 400,000 /day

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Floriculture in Kunming



Dounan wholesale Flower Market, Kunming



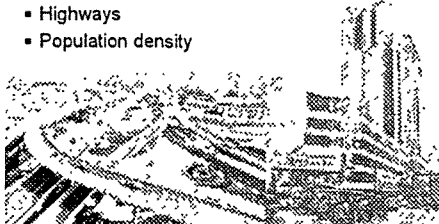
Floriculture: health issues

- ❖ Employment patterns
 - Males: cultivation, pesticide application, harvesting
 - Females: carrying, preparation, selling
 - Children: incidental exposure (?)
- ❖ Pesticide use
 - Workers
 - Community exposure
 - Ecotoxicity (e.g. lake contamination)


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Urban Sprawl

- ❖ Urbanization
 - Buildings
 - Highways
 - Population density



Urban Sprawl



"Fengshui" (*wind water*)

- Chinese view of the environment
- Harmony between human settlements and natural environment

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Urban Sprawl

- ❖ Environmental health concerns include:
 - housing
 - transportation (automobile infrastructure vs non-motorized travel infrastructure vs transit)
 - parks and public spaces
 - Green space

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Tourism

- ❖ Overburden
- ❖ Exploitation of resources
- ❖ Interruption to native cultures



Dam Building

- Environment damage
 - climate change
 - livelihood
- Diseases spread
 - Schistosomiasis
 - Malaria



Part 3

How to deal with these challenges?

How to deal with these challenges???

- ❖ Sustainable development
 - Yunnan– “Green Economy”
- ❖ Collaborations in Environmental Health
 - International, national, local
 - Government, society, individuals

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Key Players in Environmental Health

- ❖ Health agencies (national, provincial, local)
- ❖ Environment agencies (national, provincial, local)
- ❖ Private sector
- ❖ Multilateral agencies and donor countries
- ❖ Academic institutions (schools of public health)
- ❖ Others: NGOs, individuals

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How to deal with these challenges???

- ❖ Our barriers
 - Very little EH activity in all sectors
 - Shortage of capable persons in EH
 - Lack of communication among diverse disciplines and all sectors

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How to deal with these challenges???

There is variety of strategies.

- ❖ Sharing of information & resources
- ❖ Improving systems of health surveillance
- ❖ Capacity building
 - Scientists
 - Policy makers
 - Public

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The Future of Environmental Health in Yunnan

- ❖ Communication
- ❖ Collaboration
- ❖ Cooperation

