

# Towards Establishing the China Node for Sustainable Sanitation: A Scope Study

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# Outline of the Talk

- Introduction to the Scoping Study:
- The main findings
- The key issues
- Suggestion and recommendation

# Introduction

- It is a scoping study required by the EcoSanRes II:
  - To provide an up-to-date background for the establishment and operation of a China Node for Sustainable Sanitation (CNSS), as one of the regional nodes of sustainable sanitation within the EcoSanRes II supported by Sida.
  - The objective thus is to provide a summary of the general situation of sanitation in China, with a focus on the main actors, major projects, capacity and international cooperation
- The organization of the study
  - Back ground literature review
  - Interview
  - Reporting

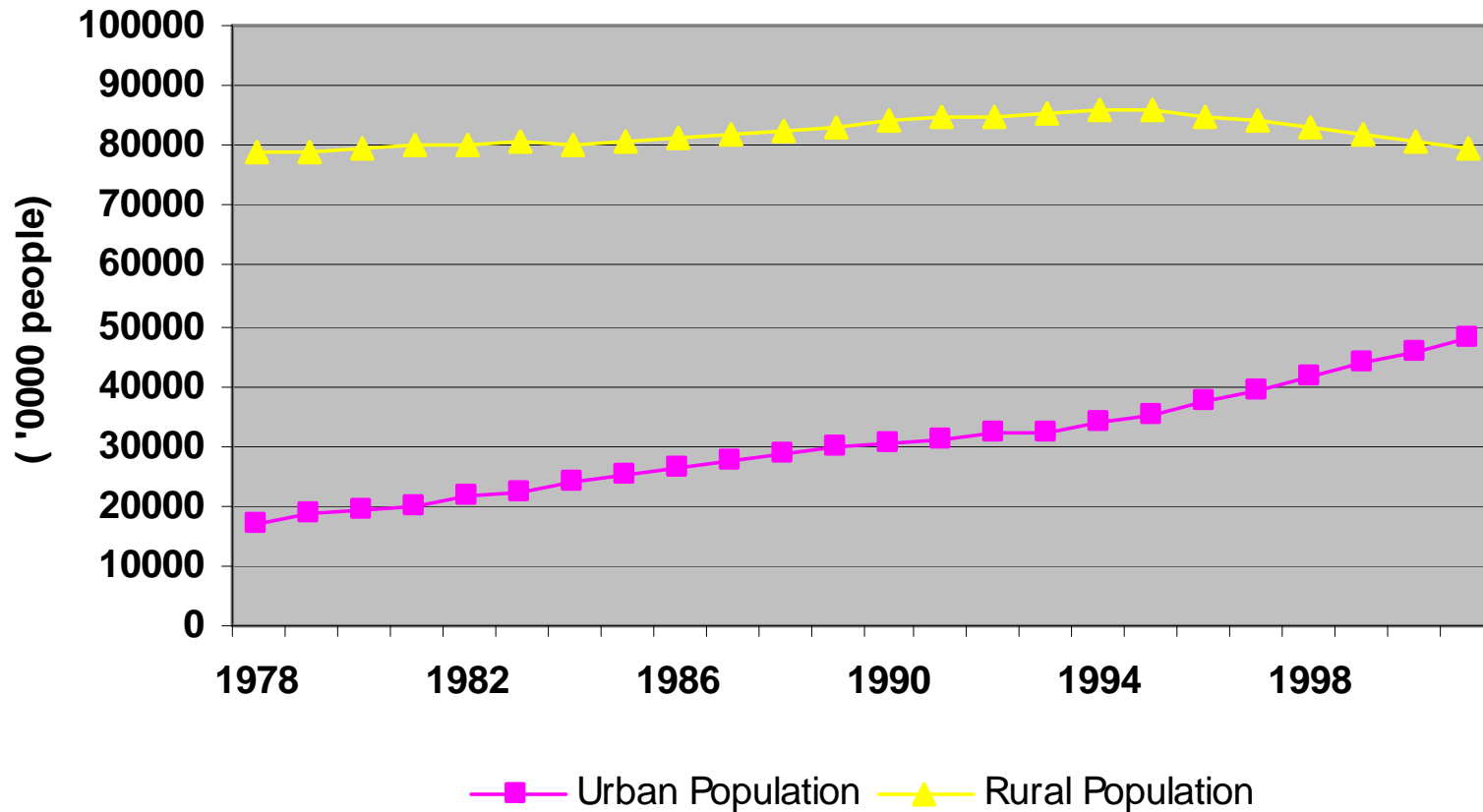
# Structure of the Scoping Report

1. The Current State of Ecological Sanitation Development in China
2. Policy and Impacts
3. Key Players and Institutional Arrangements
4. Integrating Ecological Sanitation and Ecological Agriculture to Create Sanitation Models with Chinese Characteristics
5. Implementation Capacity for Sustainable EcoSan Project
6. Conclusions and Recommendations

# The Main Findings (1)

- Changing Context: challenge and opportunity
  - Historically seen as a rural problem
  - Major effort has been made, particularly since the reform (1980s)
  - The challenge is shifting and opportunity for innovation is profound as China rapidly urbanizes.
- Definitions
  - “Ecological Sanitation” and “Sanitary Toilets”
  - In China, the term ‘ecological sanitation’ has a much wider definition and refers to a much broader set of applications, e.g., separation of urine and faeces is not a required feature in the widely favored’ biogas digester sanitary toilet

# Sanitation Challenge in Context



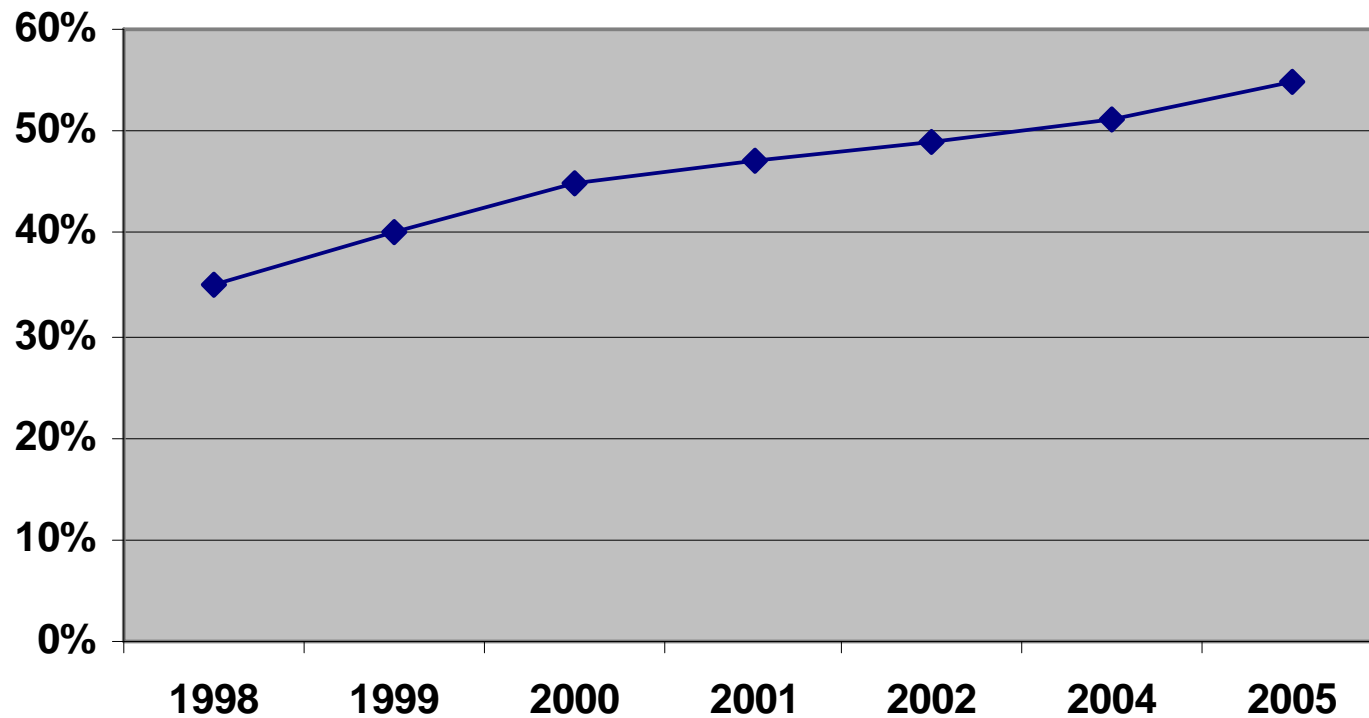
# Potential nutrients from human waste in China<sup>[1]</sup>

Per person .year	Liters	N (kg)	P (kg)	K (kg)
Urine	500	3.9	0.38	0.97
Feces	50	0.45	0.3	0.21
In China (per year)	Billion liters	Million tons	Million tons	Million tons
Urine	650	5.07	0.494	1.261
Feces	65	0.585	0.39	0.273
In China (per day)	Million liters	Tons	Tons	Tons
Urine	1780.82	13890.41	1353.42	3454.79
Feces	178.08	1602.74	1068.49	747.95

[1] In the calculation, we use 1.3 billion as the population size for China, which is lower than the actual.

# Major progress archived

Rate of coverage, sanitary toilets in China 1996-2005





# Various types of sanitary toilet and their coverage in China<sup>[1]</sup>

TYPE	Accumulated percentage of sanitary toilets by 2005
3-compartment septic tank 三格式化粪池	15.70%
Double-vault 双瓮漏斗厕所	4.96%
3-in-one biogas 三联通沼气式	5.73%
Urine diversion 粪尿分集式卫生旱厕	0.41%
Flushing toilet system	4.14%
<b>Subtotal</b>	<b>30.90%</b>
<b>Other</b> (including Pit latrine with improved ventilation; Frozen-free deep pit latrine, among others)	24.36%
<b>Total percentage of sanitary toilets</b>	<b>55.30%</b>

**Source:** Meng, Liu et al. 2004; 全国爱委会(NPHCCO) 2006

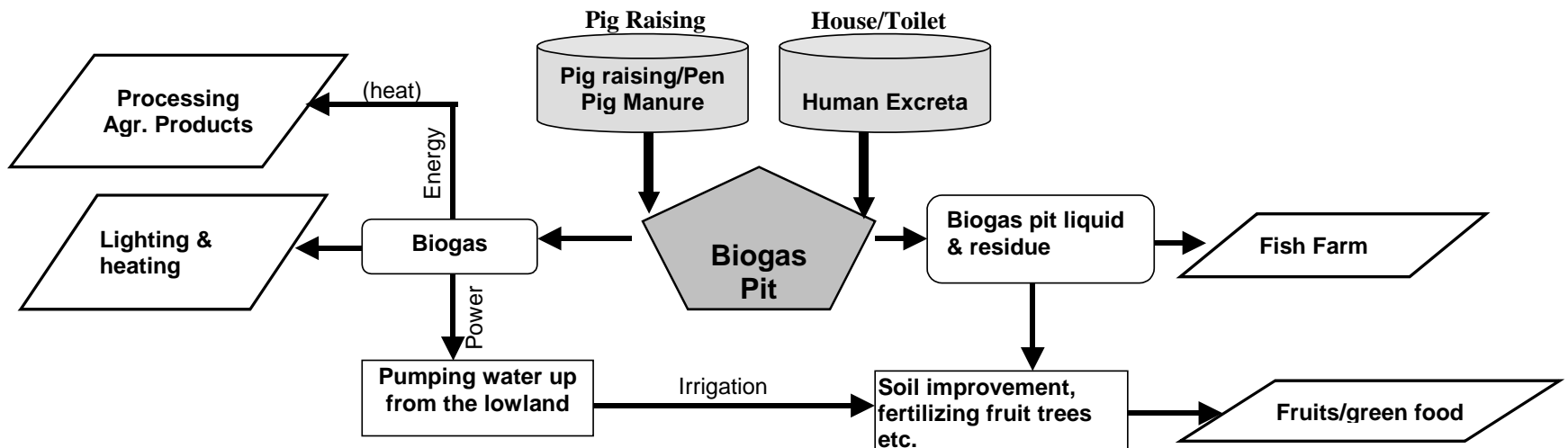
<sup>[1]</sup> The report has a detailed inventory of the main features of those sanitary toilets.

# Main Findings (2)

- Various well developed models to adapt to the vast regional differences
- Is there an unique Chinese “Model”?

# “Three-in-one” Ecological Agriculture Model

## “三位一体”生态农业模式

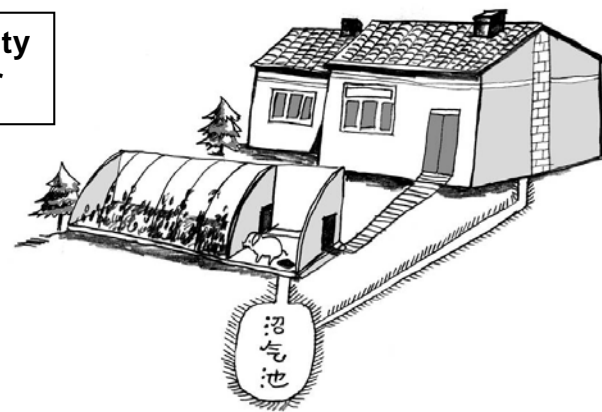
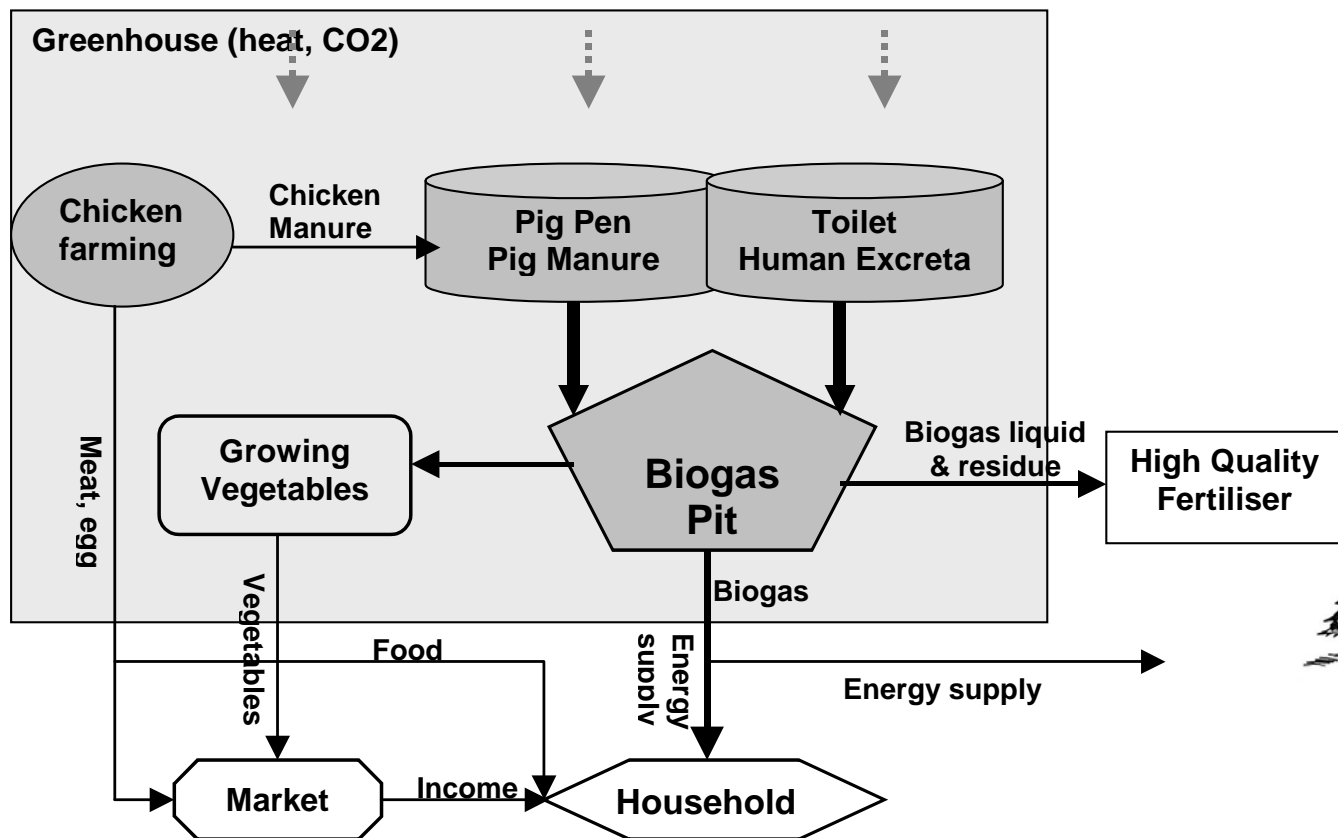


“Three-in-one” (pig-raising, biogas generating and horticulture) ecological agriculture model in hilly/mountainous areas  
 丘陵山区 “猪、沼、果”“三为一体”生态农业模式

# “Four-in-one” Protected Plot Complex

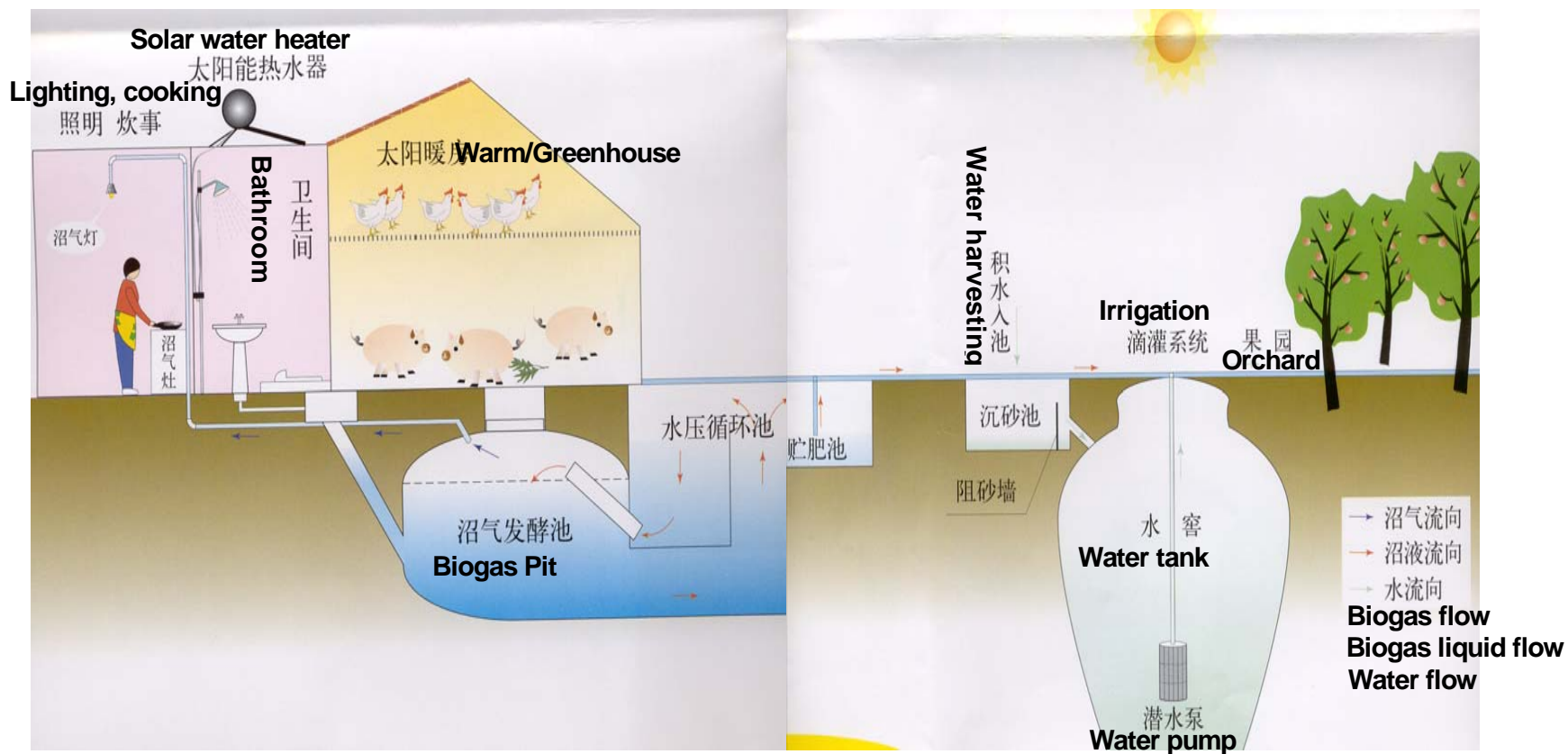
## Eco-agriculture Model in Northern China

### 北方四位一体保护地复合生态农业模式

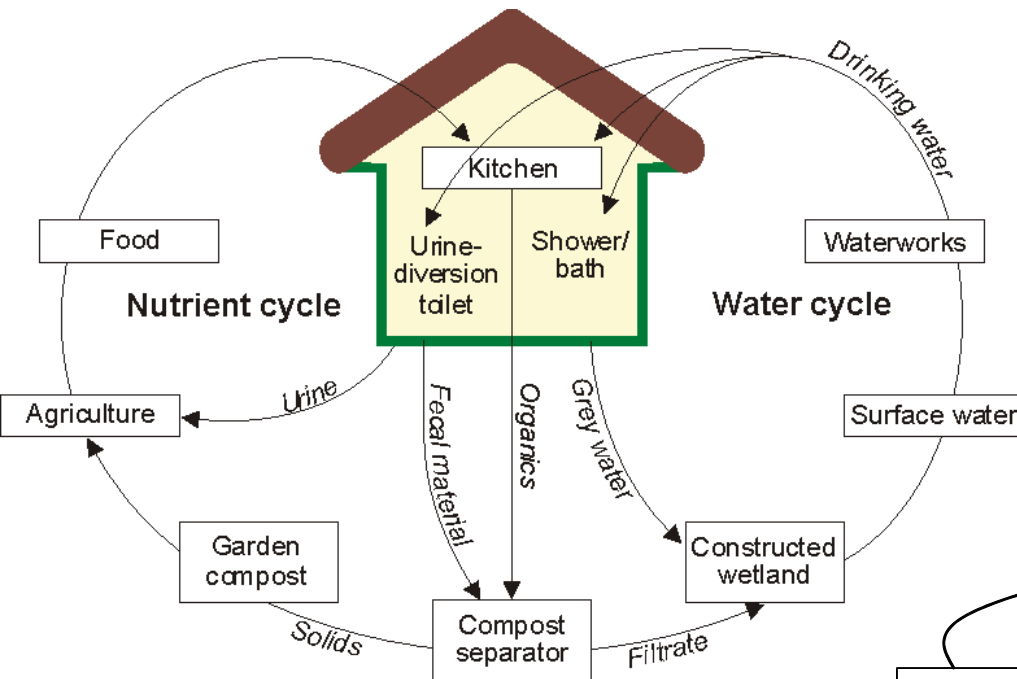


# “Five for a Complete Set” Ecological Agriculture Model in the Arid Northwestern China

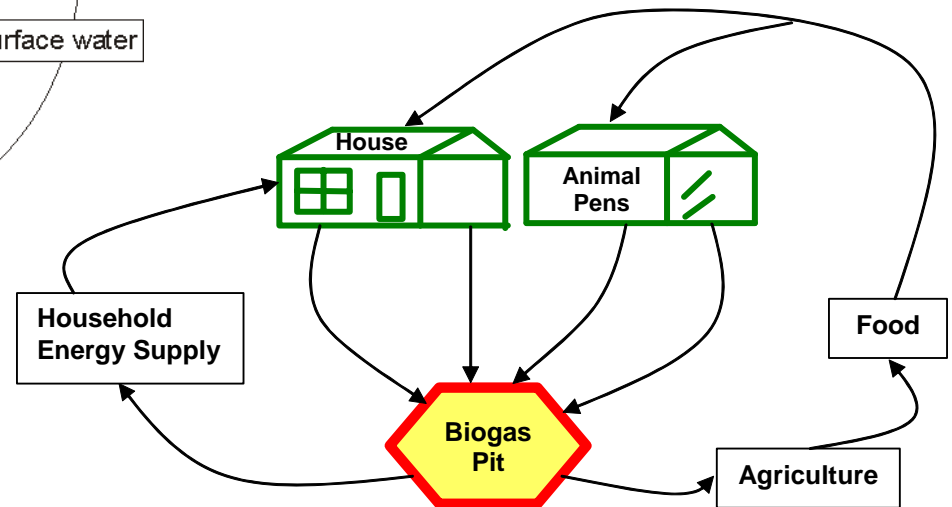
## 西北“五配套”生态农业模式



# Is there a unique Chinese Model?

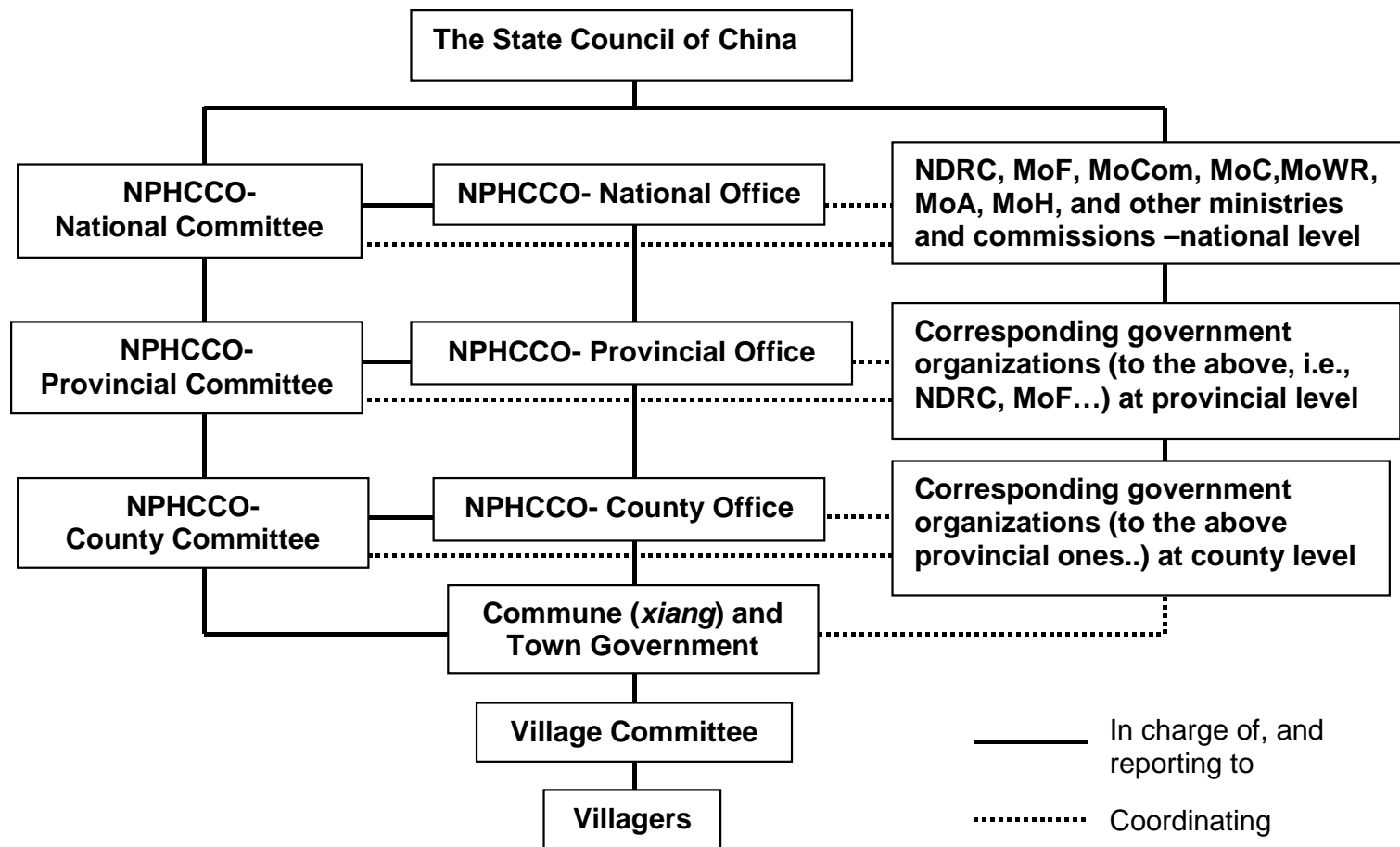


- While the Chinese model is 'weak' on the water cycle, it is very strong on the energy component
- It is a model for rural areas in large



# Main Findings (3): gaps

- Between various actors
  - Government
  - Private and business sector
  - NGO and civil society
  - International organizations
- Between the “mainstream” programmes and the various pilot projects





# Lack of follow-up



Out of a total of 53806 units built since 2004 around the Lake Dianchi in Kunming, over 30000 eco-sanitary toilets are used as storage.

*Source: Zhou Xiaohui in **Life**, August 14, 2006.*

# The Key Issues for Establishing the CNSS

- Does China need a CDSS?
- Does CDSS needs international support?
- If so, in what as aspects and how it should be organized and operated?

# Relevance of a China Node for Sustainable Sanitation (1)

- Sanitation challenges in China remains one of the world's biggest. To meet the MDG target on basic access to sanitation, China will need to installed 200-300 toilets per thousand households from now to 2015. In absolute number of the installations required to meet the MDG sanitation target, China is the world's largest, followed by India. According to an estimation done by SEI, China will need to install around **32,000 toilets every day** from 2004 to 2015, that is, about **1300 per hour**, and more than **20 per minute!** (Rockström, Axberg et al. 2005)

# Relevance of a China Node for Sustainable Sanitation (2)

- There are various tracks of development including a wide range of international cooperation relating to sanitation in China, promoting the linkages amongst them is urgently needed.
- China is in an extremely rapid phase of development, the potential for high impact argues strongly for a Node as a catalyst.
- Lastly, the relevance of a China Node also lies in the potential that the Chinese experiences might be very relevant and appealing for South-South capacity building and mutual learning, particularly in the context of linking the various regional nodes.

# Recommendation: Overall Direction

- *Focus on rural sanitation* with about 127 million rural households still don't have access to basic sanitation, rural sanitation will remain to be the main challenge
- *Raising Awareness still holds the key*, and should be one of the main entry points for the CNSS
- *Alternative sanitation in emerging cities and towns* is the biggest challenge and ALSO the unique 'starting from scratch' opportunity.

# Recommendation: Set-up and Focus

- Set-up: focusing on networking rather than ‘office’ development in the initial phase; it has to take into consideration of the vast regional differences in China
- The CNSS should be ‘linkage promoter’ rather than a project implementer, focusing on knowledge development/dissemination
  - a ‘clearing house’ on sanitation development, including knowledge and information
  - to be the spider for an informal yet active ‘sustainable sanitation solution promotion net’
- Promoting China-Africa exchange (south to south partnership and capacity building), particularly on those well-tested ‘Chinese models’

# Recommendation: Next Steps

- Establish the Node website
- Make full use of the ‘ITP Chinese Alumni’ (The EcoSanRes International Training Programme). Since 2004, there have been already close to a dozen of the Chinese graduates from the ITP, which form the basis for a jump start on the networking in China
- Seeking a hosting institution for the Node in China. A workshop is planned later this year or early next year to convey the key stakeholders and a call for proposal will follow the workshop