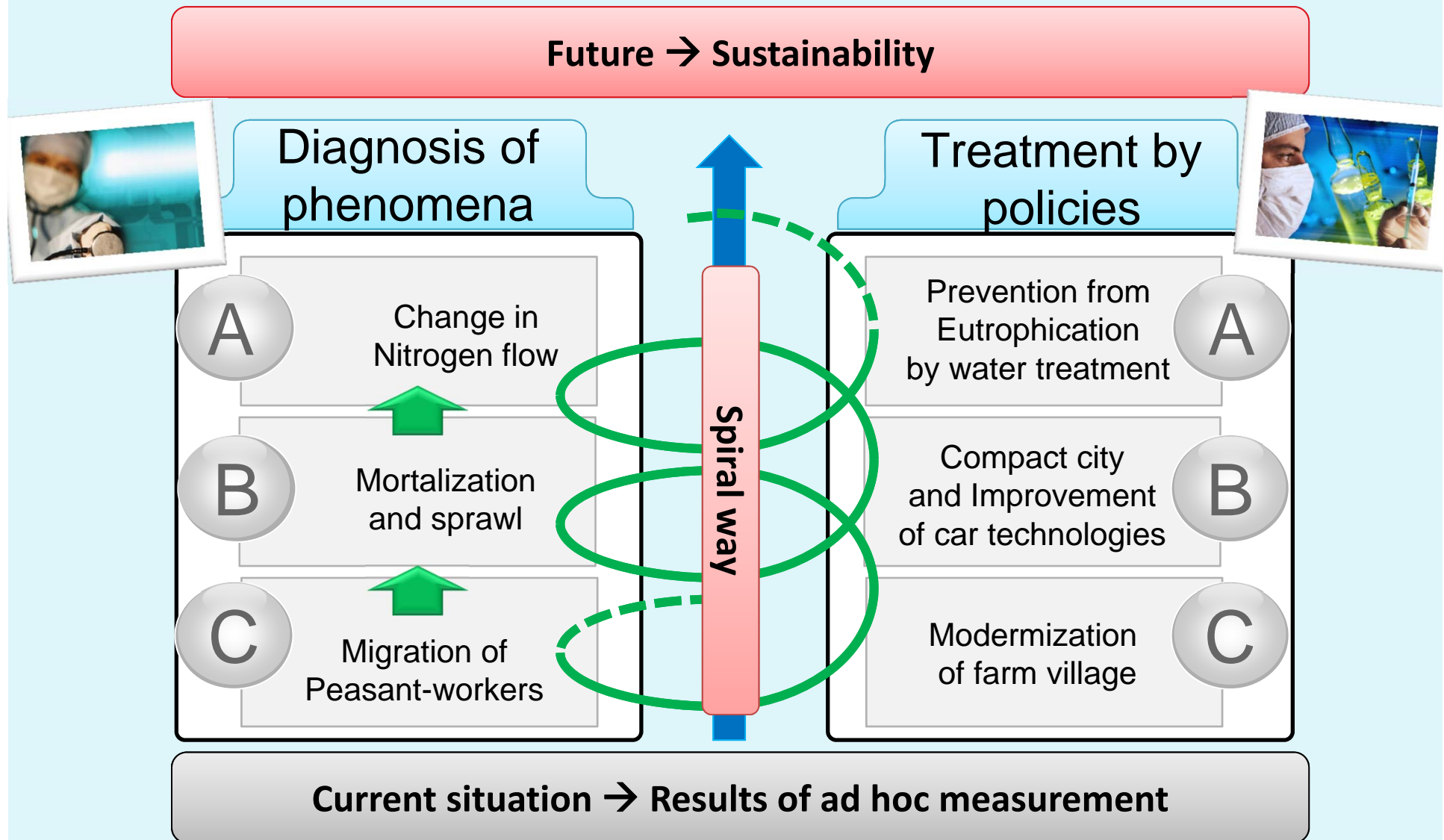
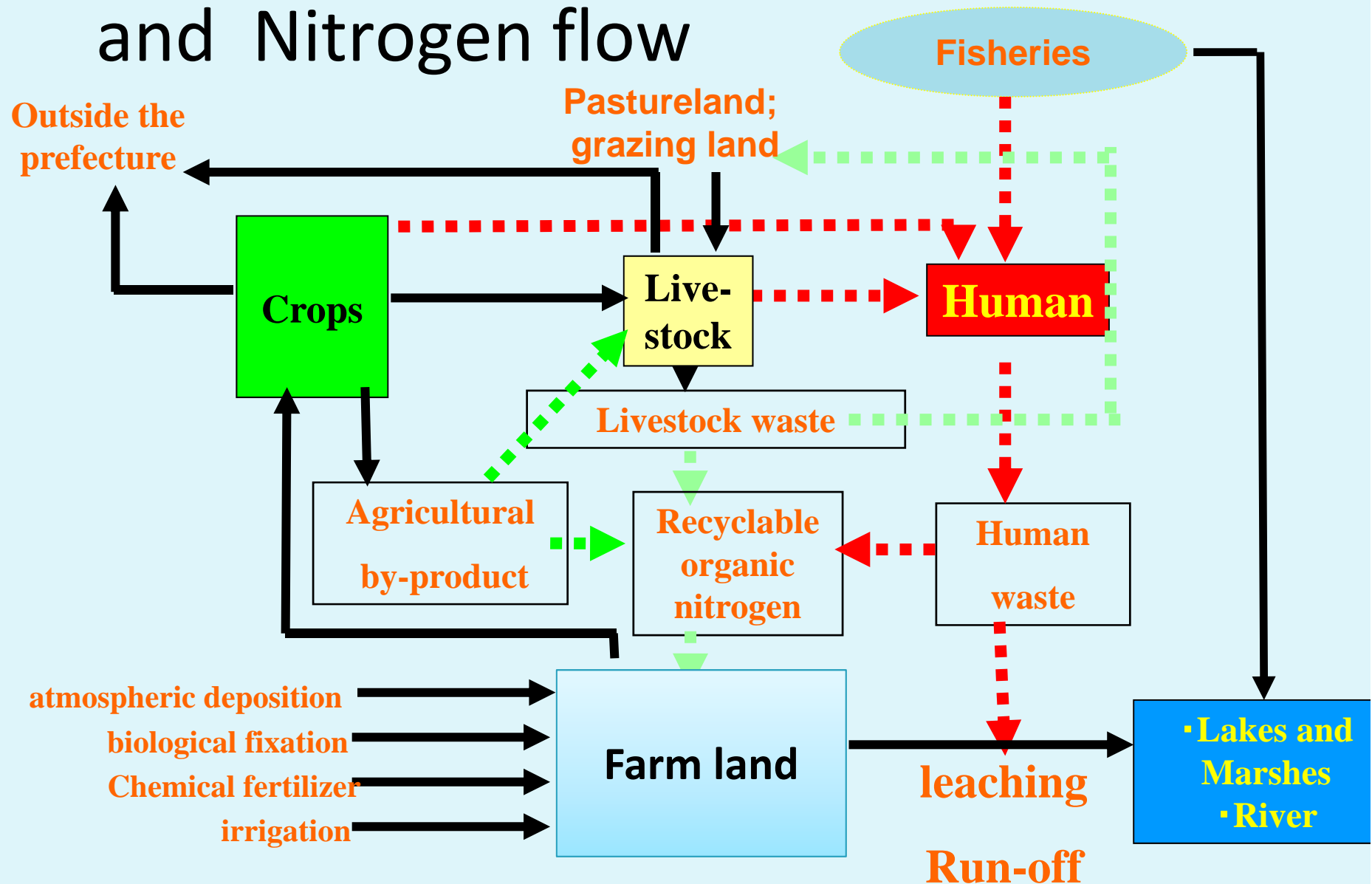


Diagnosis and Treatment of Urbanization (DTR) for sustainability

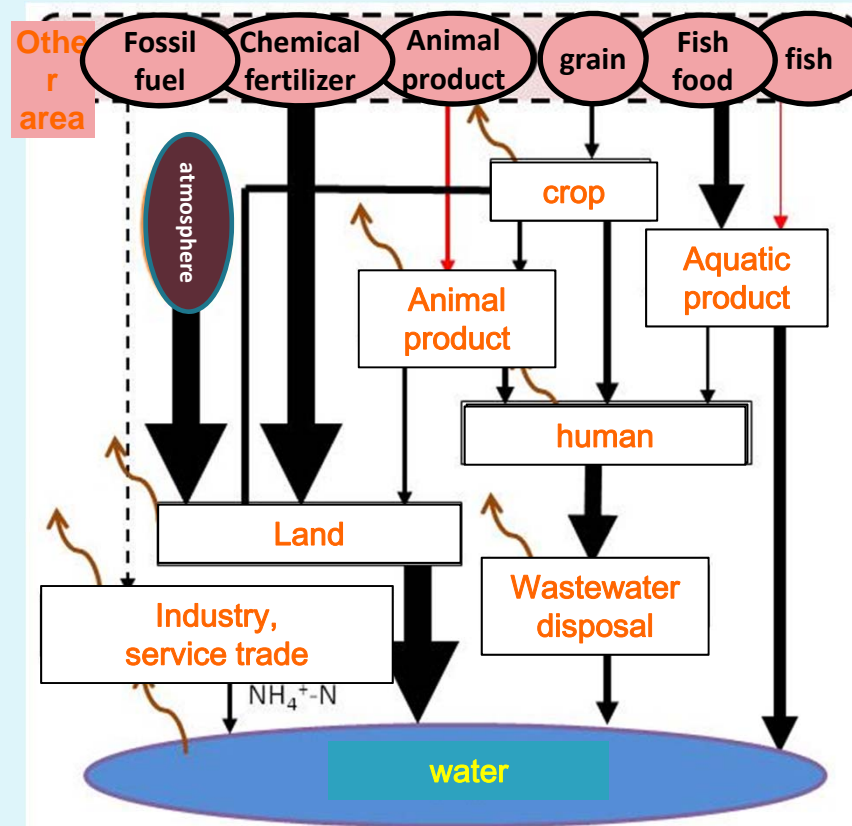


Basic Mechanism of Urbanisation and Nitrogen flow

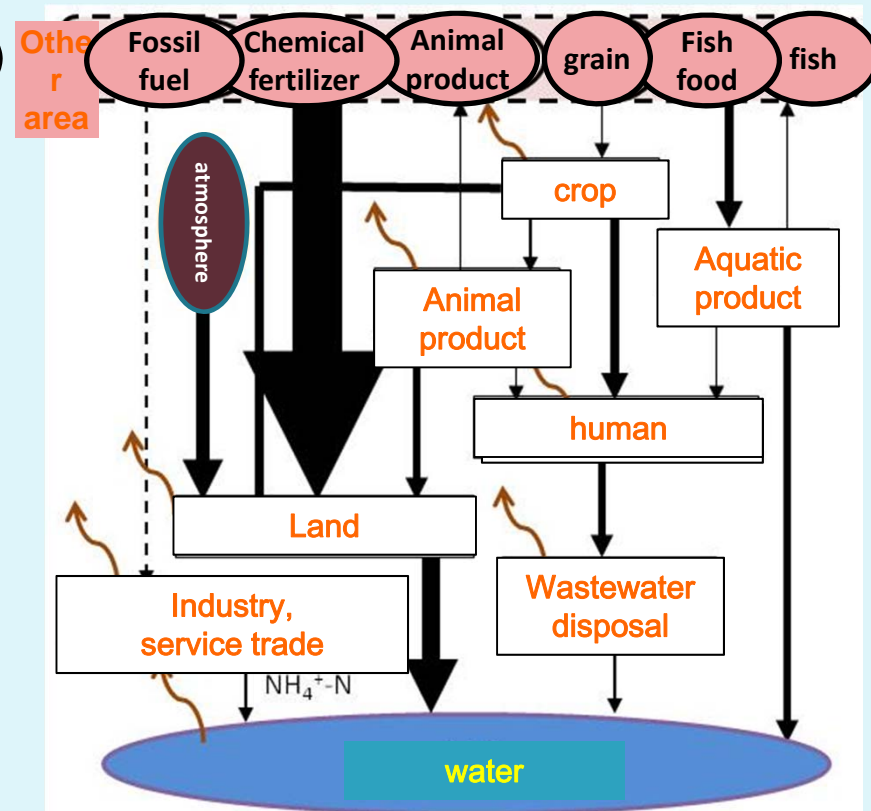


Change of Nitrogen flow in Shanghai

1980

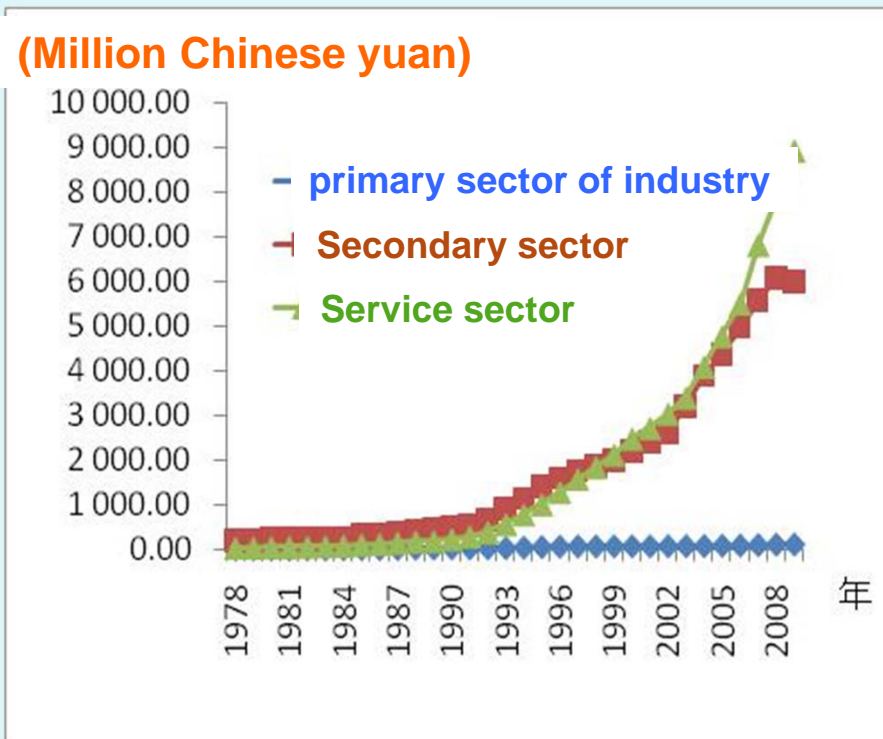


2008

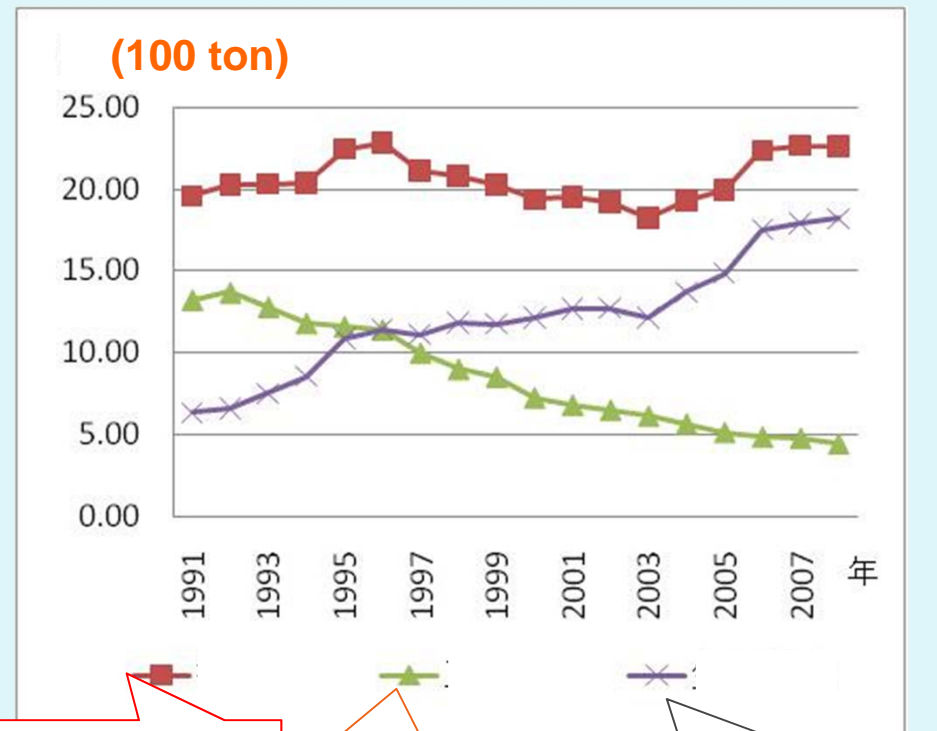


Water environmental problems in Shanghai : Change from “Industrial pollution” to “Urban pollution”

Change in GDP Composition



Change in Sewage Discharge

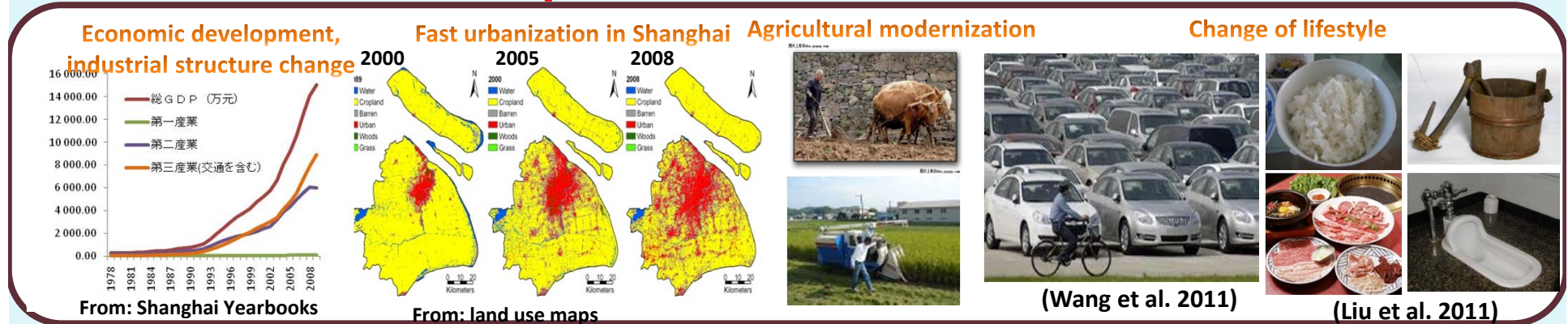


**Total
amount of
sewage
discharge**

**Industrial
discharge**

**Household
discharge**

Severe eutrophication in Yangtze River Delta induced by rapid economic development and urbanization → solutions?



treatment

diagnostic

■ Pollution abatement in urban areas

Positive aspect: government implements effective measures (pollutants removal based on investment in environment, fishery regulation, ecological compensation, etc.)

Negative aspect: shift of pollution (expansion of air pollution), top-down environment policy

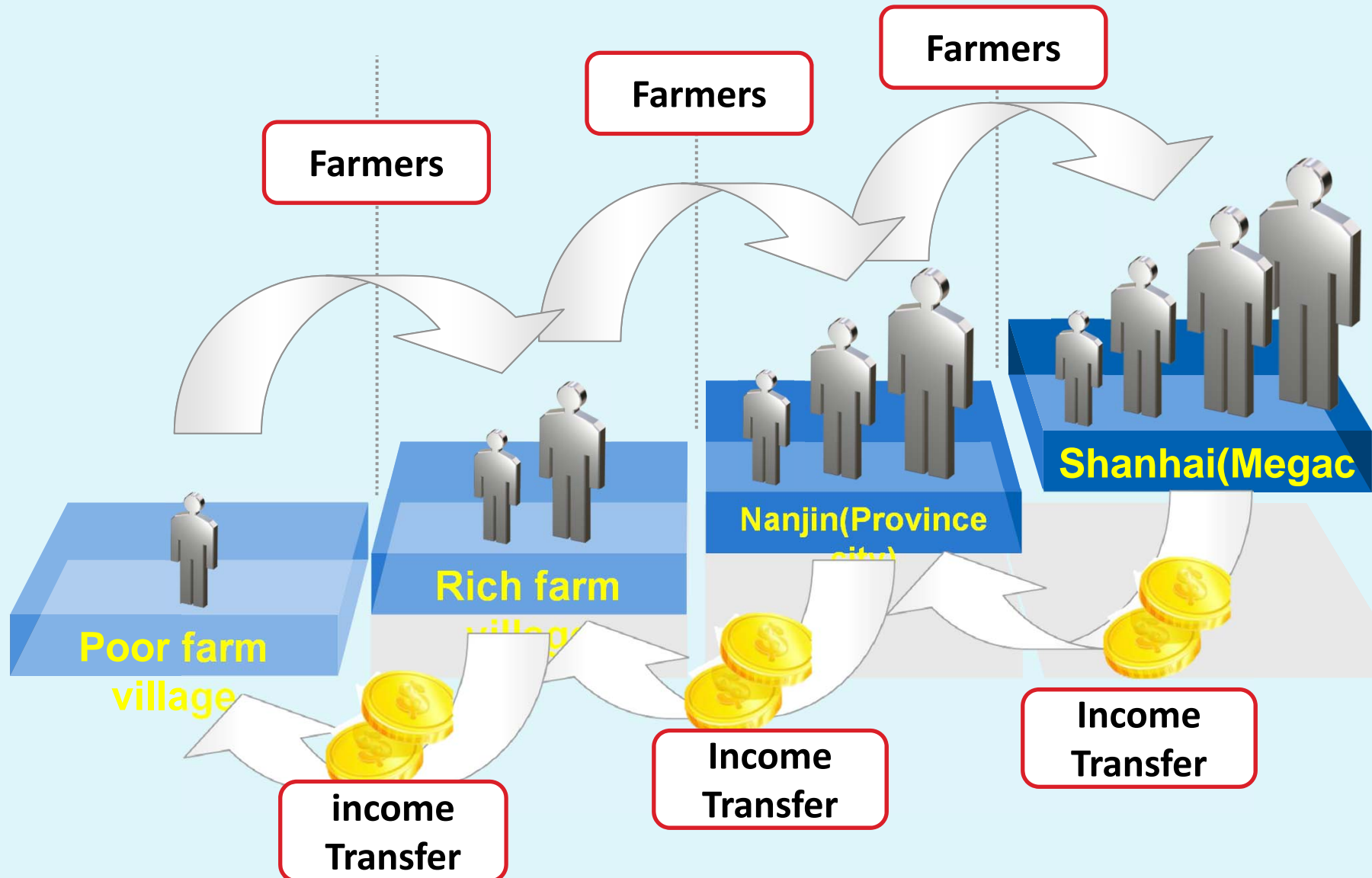
diagnostic

treatment

■ Effective solutions aiming at material cycles in large-scale

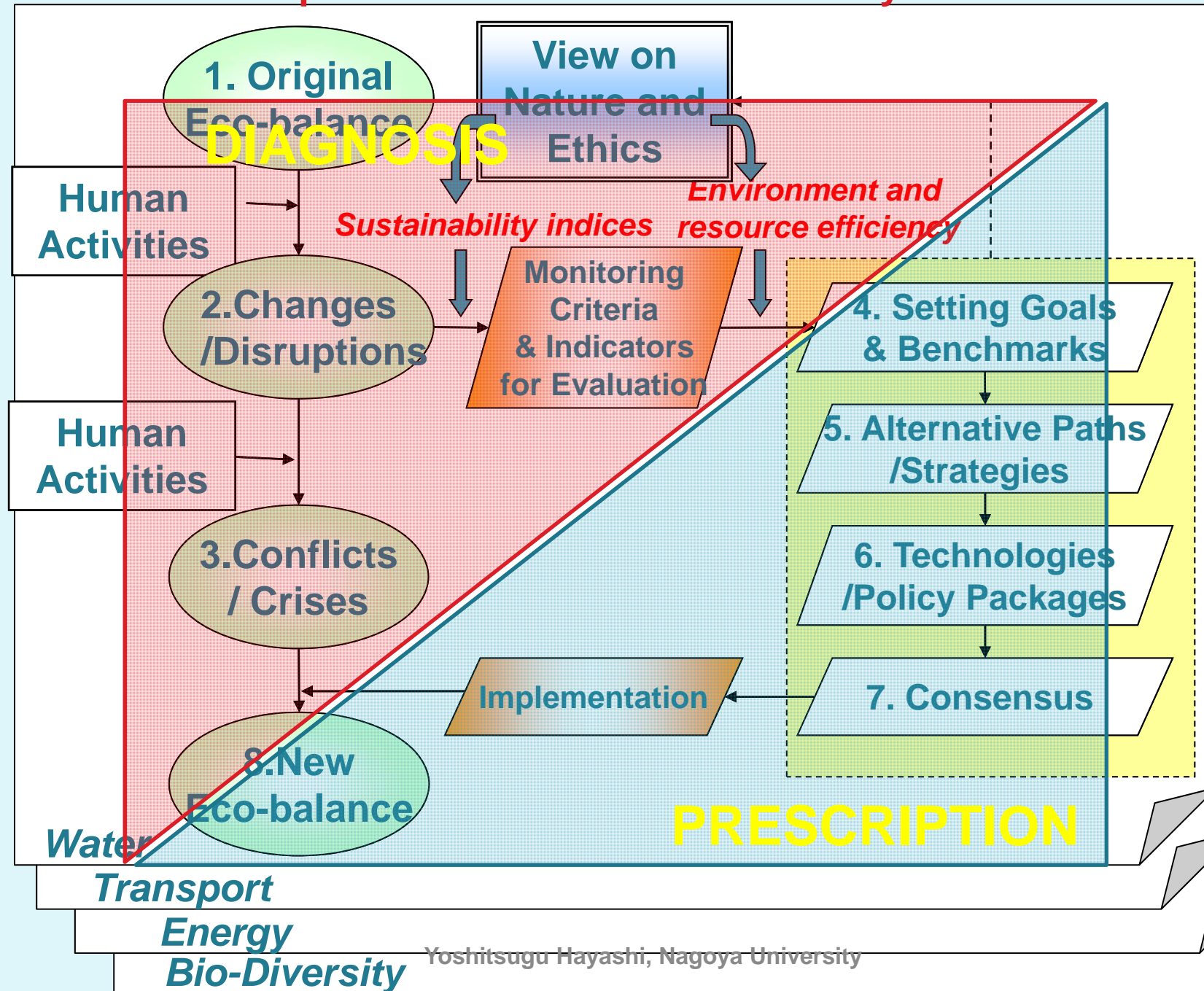
- **Integrated catchment management** - prevention of 'transfer of pollution' -
- **Nitrogen & Phosphorus intensive sewage disposal** - technological treatment
- **Citizen participative society** - Importance of environmental education
- **Local recycling orientation society**
- **agriculture free from Chemical fertilizer**

Migration of Farmers in China

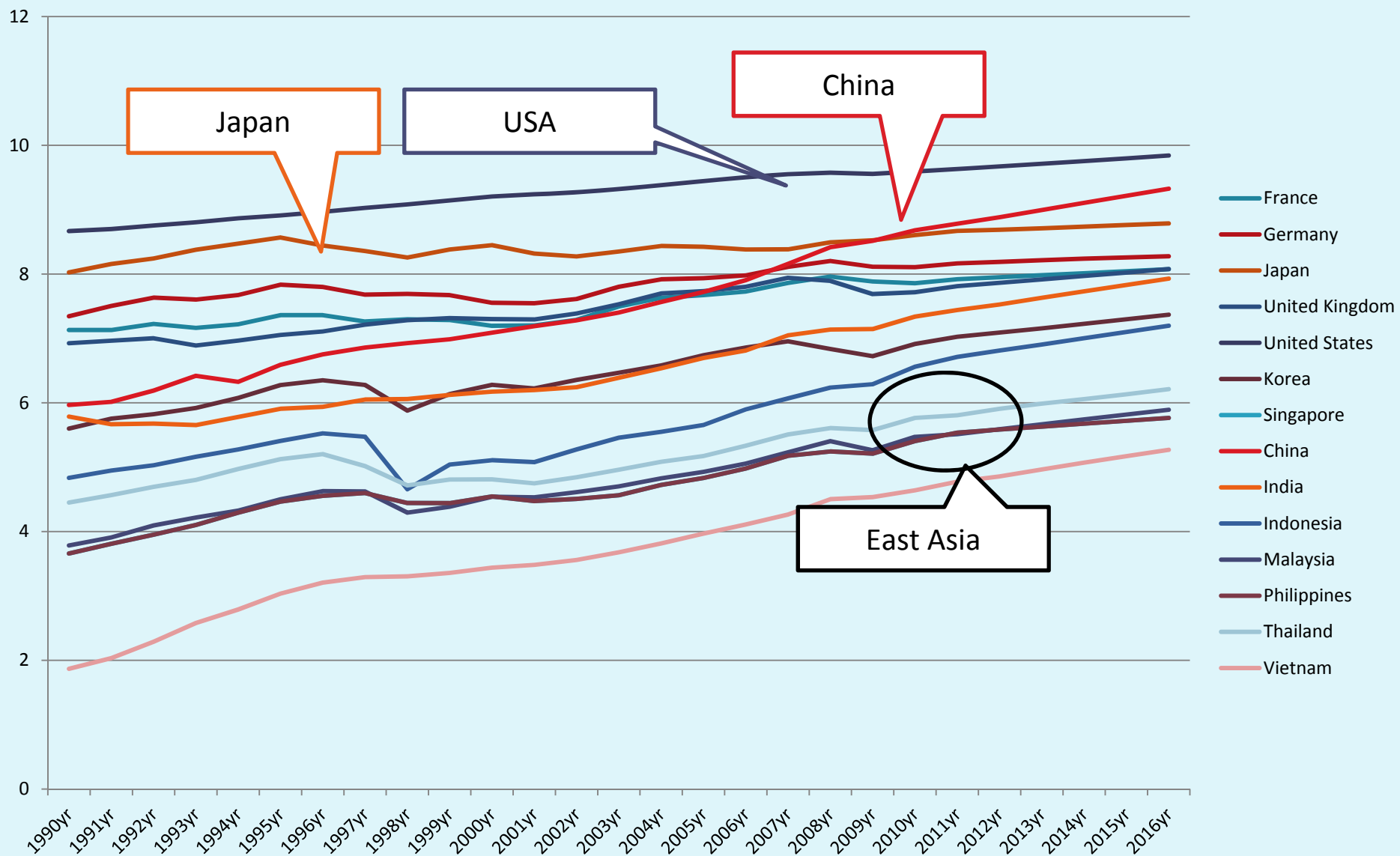


Prescription for Motorisation & Climate Change

Proposed Process for Sustainability Studies



GDP Growth (1990-2016), \times natural logarithm



Data source:

IMF (World Economic Outlook Database, April 2011)

IEA Vehicle Ownership Projections

Where Will These Cars Fit?

