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REGIONAL POLICY ADVOCACY

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Circular Economy Academy

Communication & Behavioral Change in CE

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ekonnect

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CEE PERDO Center of Excellence on Energy Technology & Environment

KMUTT Celebrating 60 years

Transforming society. Defining the future.

UN environment programme

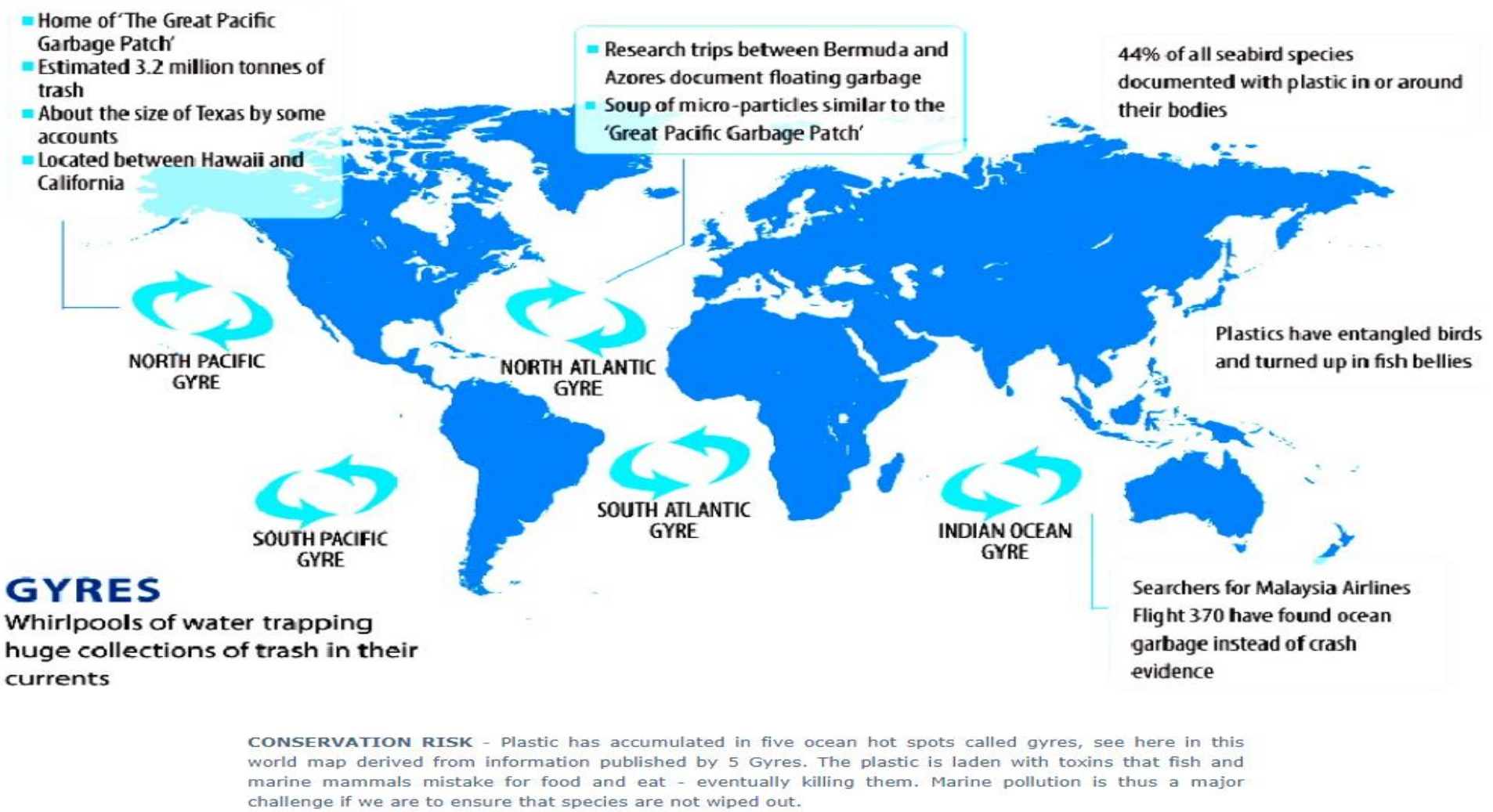
We will communicate on:

1. What CE is not about: communicate in the circle
2. Governing hybrid environmental flows in complex eco-systems: communication
3. Leverage behavioral changes: examples

West-East Communication

Great Universal Geographic Map《坤舆万国全图》1602， Matteo Ricci and Li Zhizao

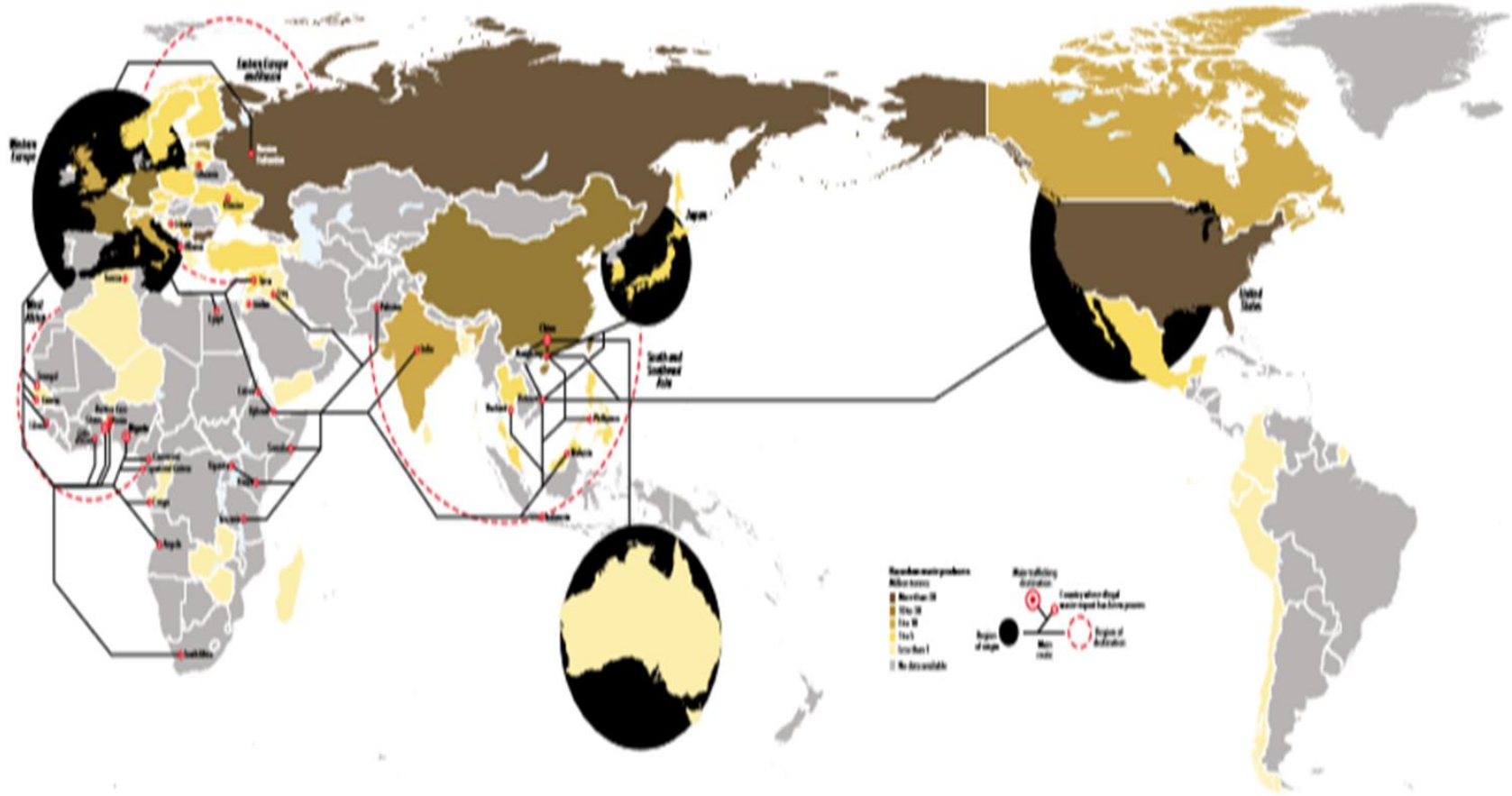
Globalized plastic flows



CONSERVATION RISK - Plastic has accumulated in five ocean hot spots called gyres, see here in this world map derived from information published by 5 Gyres. The plastic is laden with toxins that fish and marine mammals mistake for food and eat - eventually killing them. Marine pollution is thus a major challenge if we are to ensure that species are not wiped out.

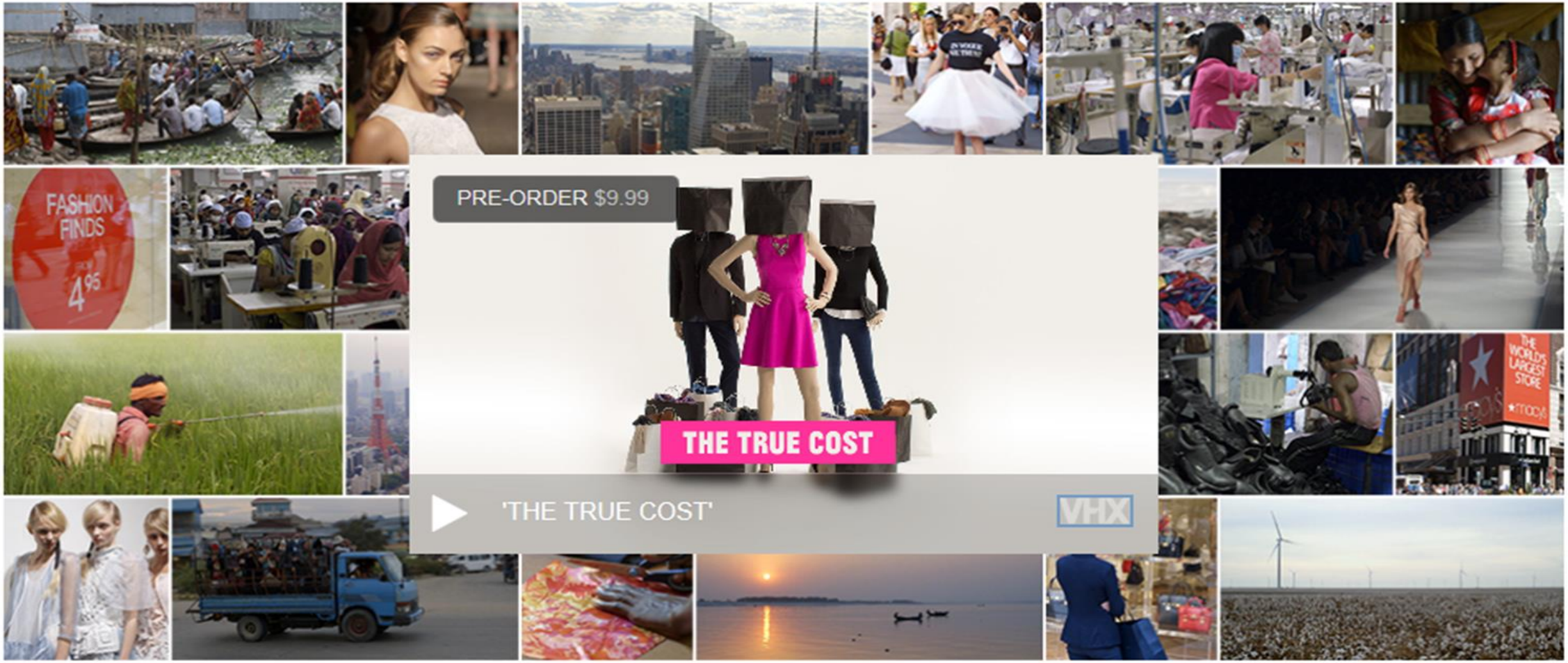
http://www.oceansplasticleanup.com/Biodiversity/Conferences_Parties_COPs_United_Nations_Biological_Diversity/COP15_2020_Kunming_Yunnan_China_Biological_Diversity_Conferences_Parties_Of_The.htm

Figure 4.8: Global illegal waste traffic

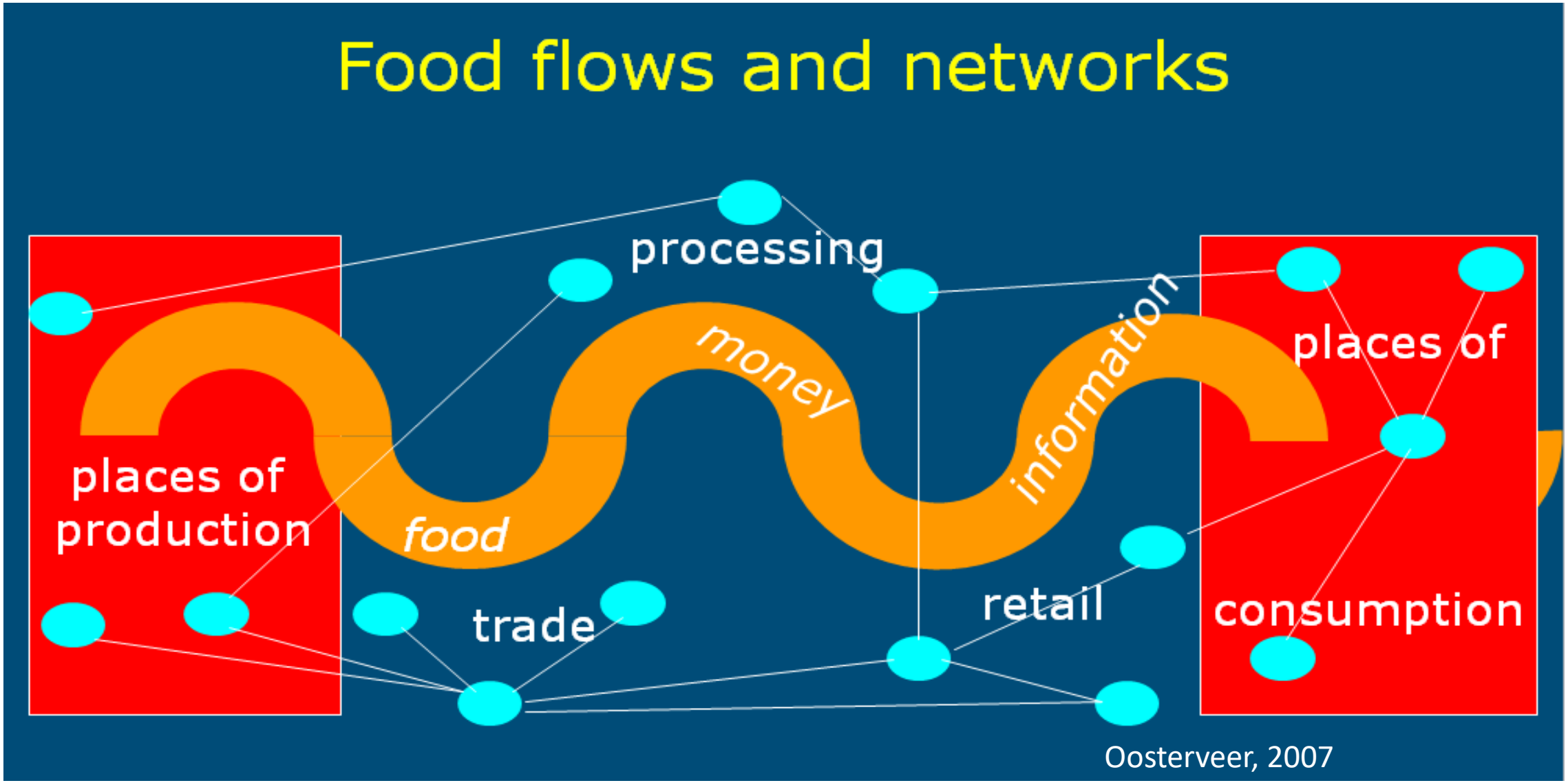


Source: Pravettoni (2015).


Known and Suspected Routes of e-waste Dumping
RUSSIA
UNITED STATES
EUROPEAN UNION
UKRAINE
SOUTH KOREA
JAPAN
PAKISTAN
INDIA
EGYPT
UAE
CHINA
MEXICO
HAITI
NIGERIA
THAILAND
VIET NAM
PHILIPPINES
MALAYSIA
SINGAPORE
VENEZUELA
KENYA
INDONESIA
TANZANIA
BRAZIL
CHILE
AUSTRALIA
ARGENTINA
KNOWN SOURCE
KNOWN DESTINATION
SUSPECTED DESTINATION
There is currently no system for tracking legal or illegal (under international law) shipments of electronic waste, and therefore, there is no quantitative data on volumes or even all of the true destinations. Some electronic waste is shipped as "working equipment" only to end-up as waste upon arrival. This map indicates information collected through investigations by organizations such as the Basel Action Network, Silicon Valley Toxics Coalition, Toxics Link India, SCOPE (in Pakistan), Greenpeace and others.

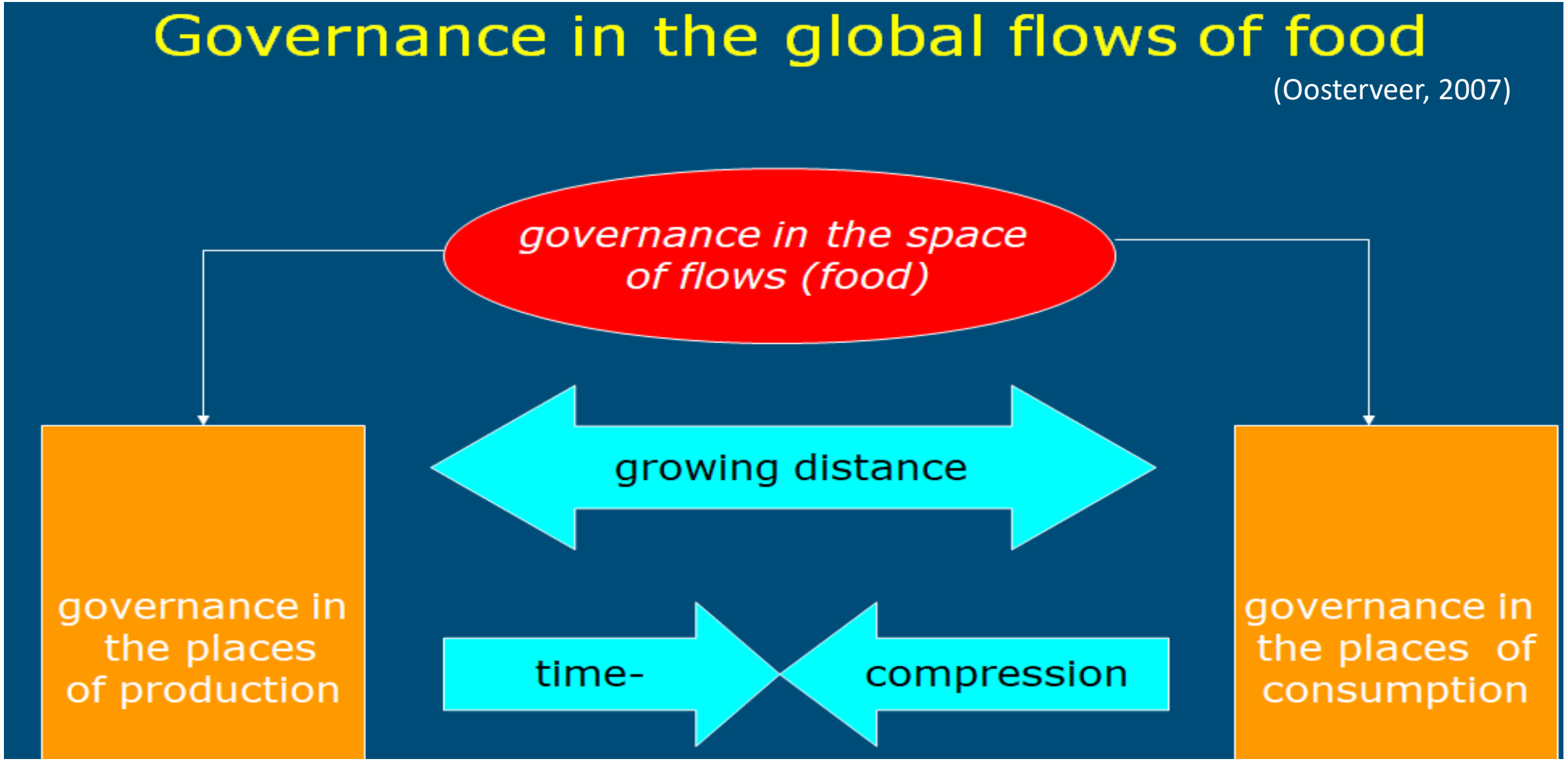


AVAILABLE WORLDWIDE MAY 29TH 2015


Food flows and networks
processing
money
information
places of
places of production
food
trade
retail
consumption
Oosterveer, 2007

Governance in the global flows of food

(Oosterveer, 2007)



Circular Economy is about governing hybrid environmental flows/nexuses:

Environmental Flows (working definition):

"The combination of 'material flows' in natural-sciences-based literature and 'non-material flows' in the sociological literature, focusing on the networks, arrangements, and infrastructures that constitute and govern different sorts of environmental flows, rather than the material dimensions of environmental flows as such or in isolation" (Spaargaren, et al, p. 5).

Examples:

Natural flows	Social flows
Raw materials	- People
Timber/ fiber/ wood products	- Services
Fish/ seafood	- Culture
Whaling	- Images
Trade in endangered species	- Information
Bio-prospecting	- Money
Manufactured goods	- Investments
Toxic waste	- Capital
Air pollution/ haze	- Etc.
Climate change	

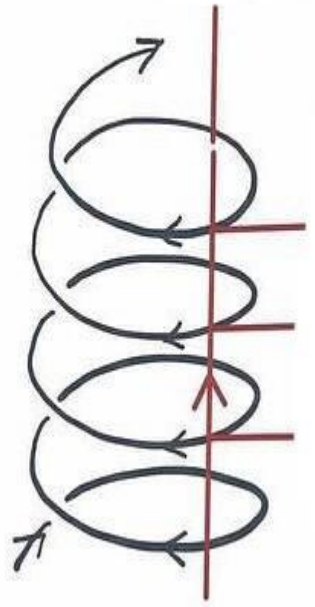
Major misunderstandings about Circular Economy:

A: While CE is getting popular, wide realization of CE is jeopardized by commonly observed misunderstandings of the concept: from “Utopia” to “new bottle with old wine”.

Major misunderstandings about Circular Economy:

B: CE is about 3r principle: reduce, reuse and recycle?

- This is important, but not all about CE.
- Circulation is only one of characteristics of a social-economic-natural complex eco-system.
- Modern CE must be a hybrid economy: competitive and symbiotic natural system and social system.
- CE is not simply a closed loop of materials, but spiral evolving processes of the organic wholeness



Major misunderstandings about Circular Economy:

C: CE is to forbid the resources-consuming, energy-consuming and polluting industries?

- This never takes place in reality.
- It is more important and realistic to involve these industries in a larger system for circulation.
- Conventional government-dominated management approach will fail.
- Governing such a complex social-economic-natural eco-system is a network-based open process, which requires a shift from government to governance.

Major misunderstandings about Circular Economy:

D: The longer the circulating chain is, the better?

- Diversity and complexity may contribute to the stability of the system to certain extent, but not always.
- Complex systems can be vulnerable to external changes, such as prices.
- Innovations on eco-efficiency, eco-effectiveness, eco-service and eco-cultural are also important aspects of CE.

Major misunderstandings about Circular Economy:

D: CE is to forbid the resources-consuming, energy-consuming and polluting industries?

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- It is more important and realistic to involve these industries in a larger system for circulation.

Social-Economic-Natural Complex Ecosystem (Ma Shijun and Wang Rusong, 1984)

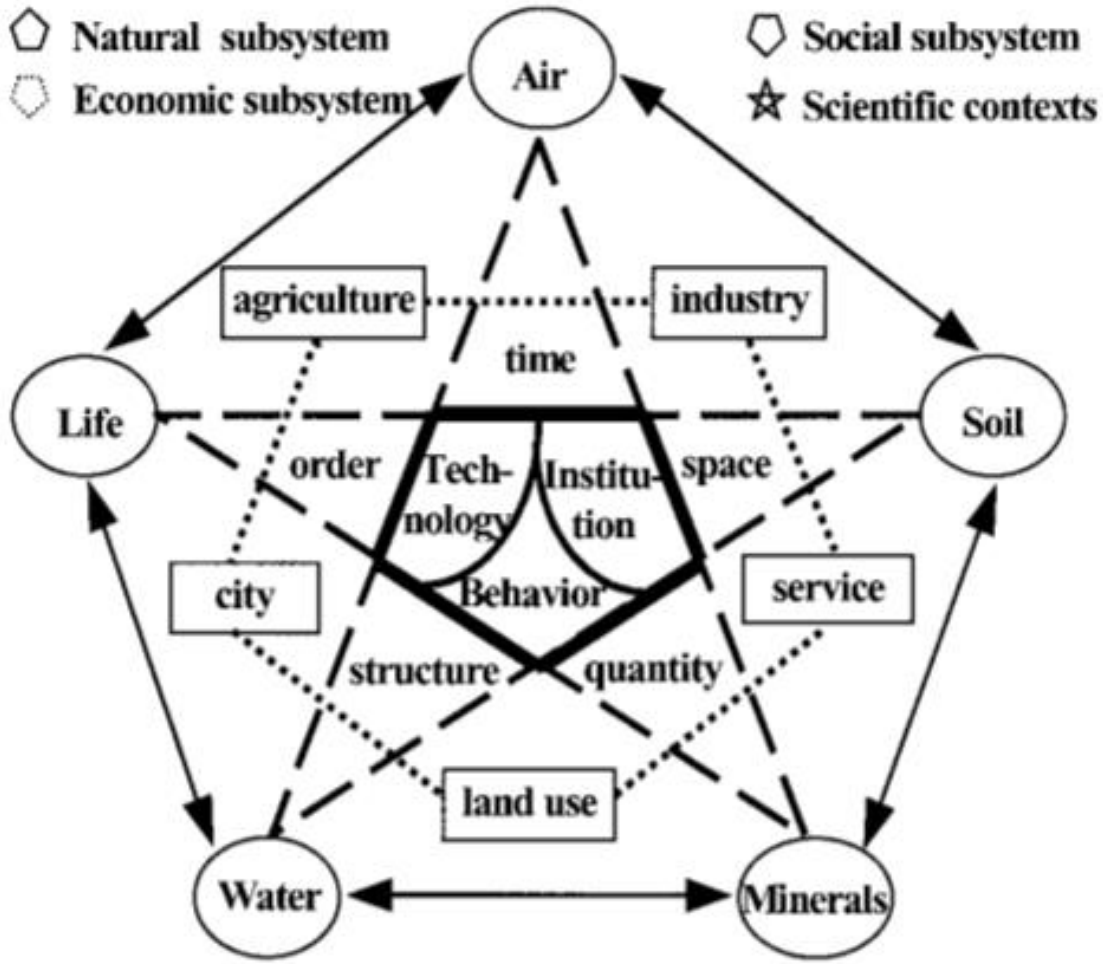
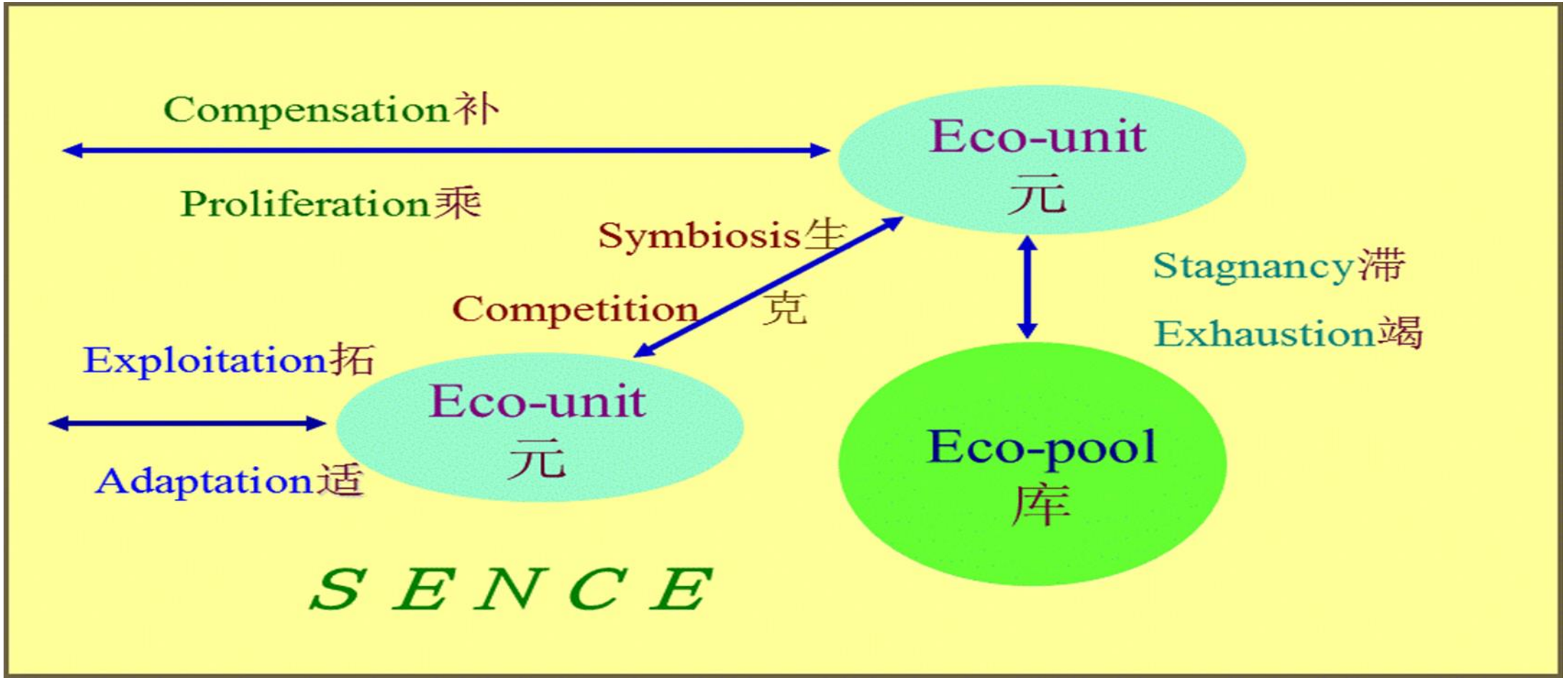


FIGURE 14.1. City: A Social–Economic–Natural-Complex Ecosystem.

Wang R., Ouyang Z. (2003) A Human Ecology Model for the Tianjin Urban Ecosystem: Integrating Human Ecology, Ecosystem Science, and Philosophical Views into an Urban Eco-Complex Study. In: Understanding Urban Ecosystems. Springer, New York, NY. https://doi.org/10.1007/0-387-22615-X_14



Ecological relationships in SENCE (Wang Rusong, 2011).

Governing hybrid environmental flows in SENCE

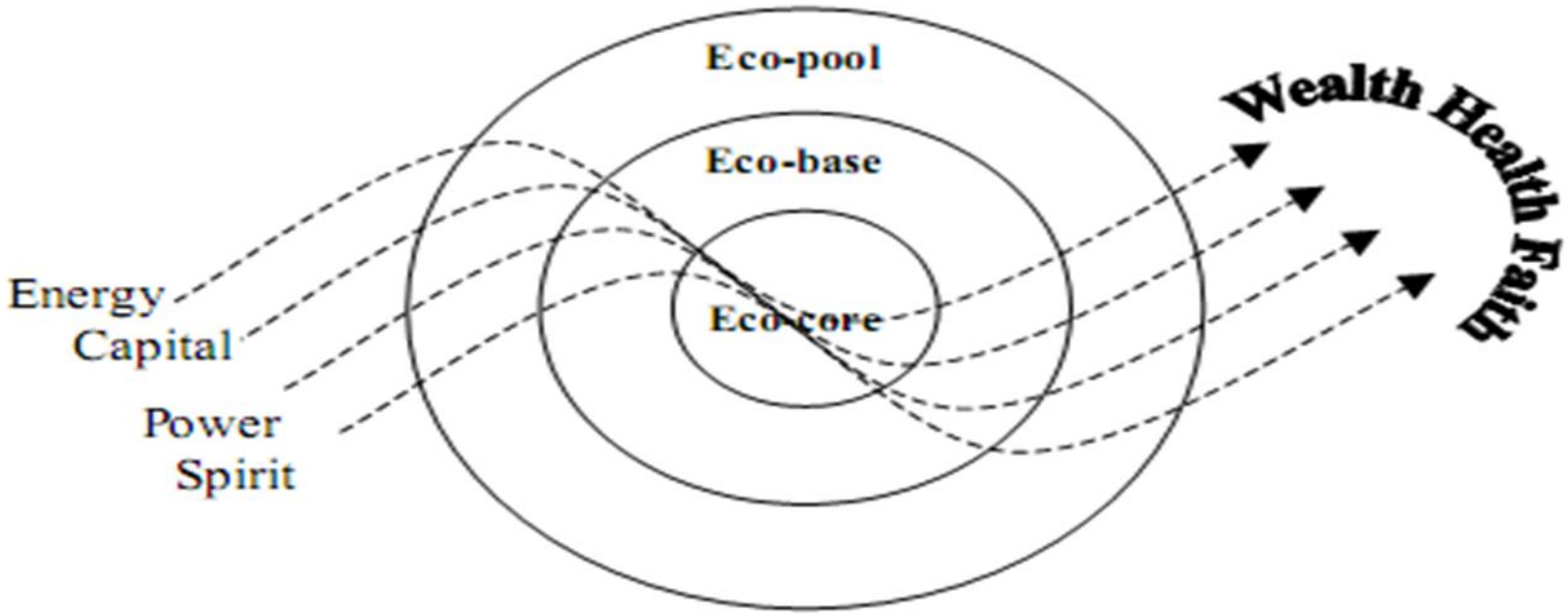
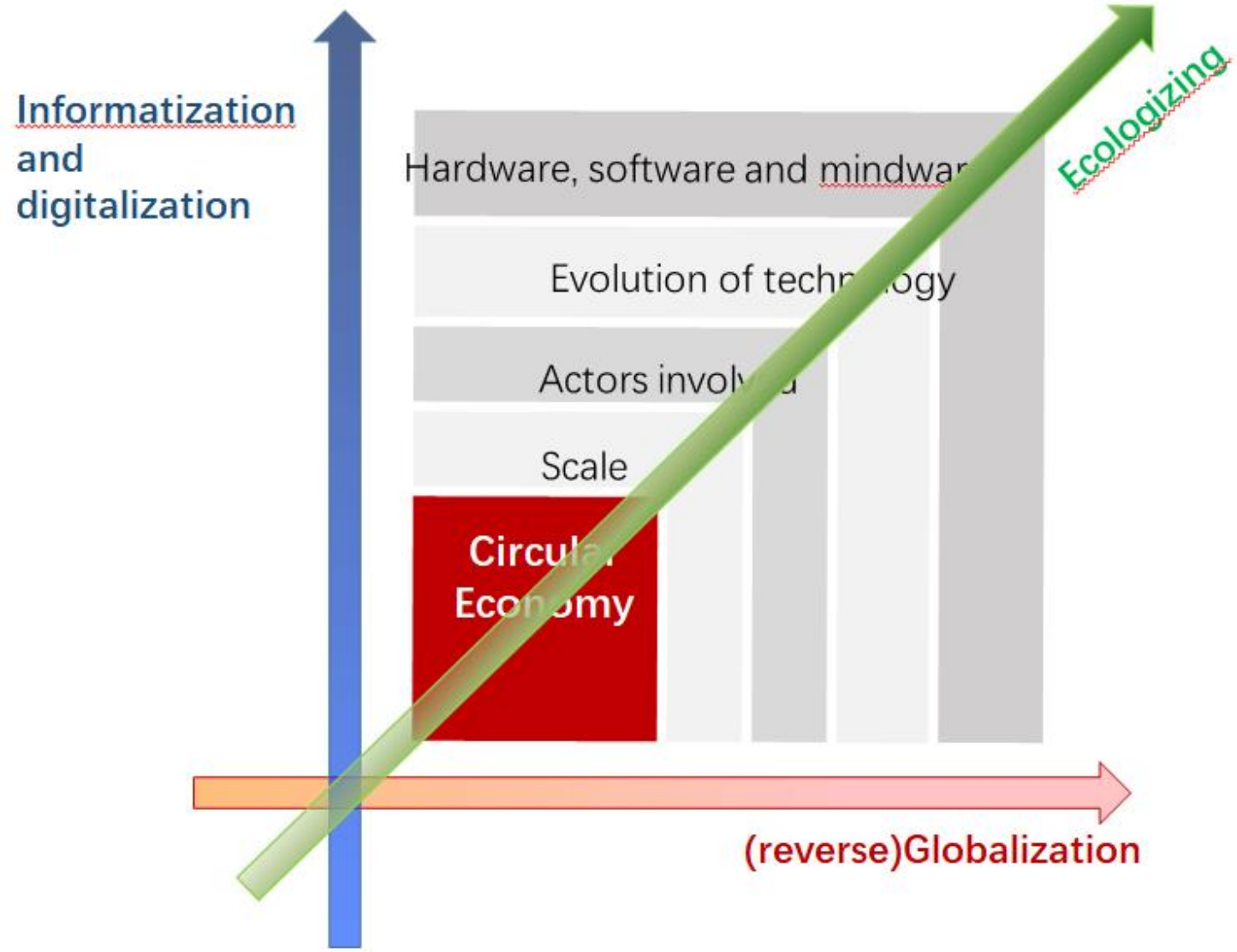


Figure 2.4 **The composition, driving forces and goals of SENCE**

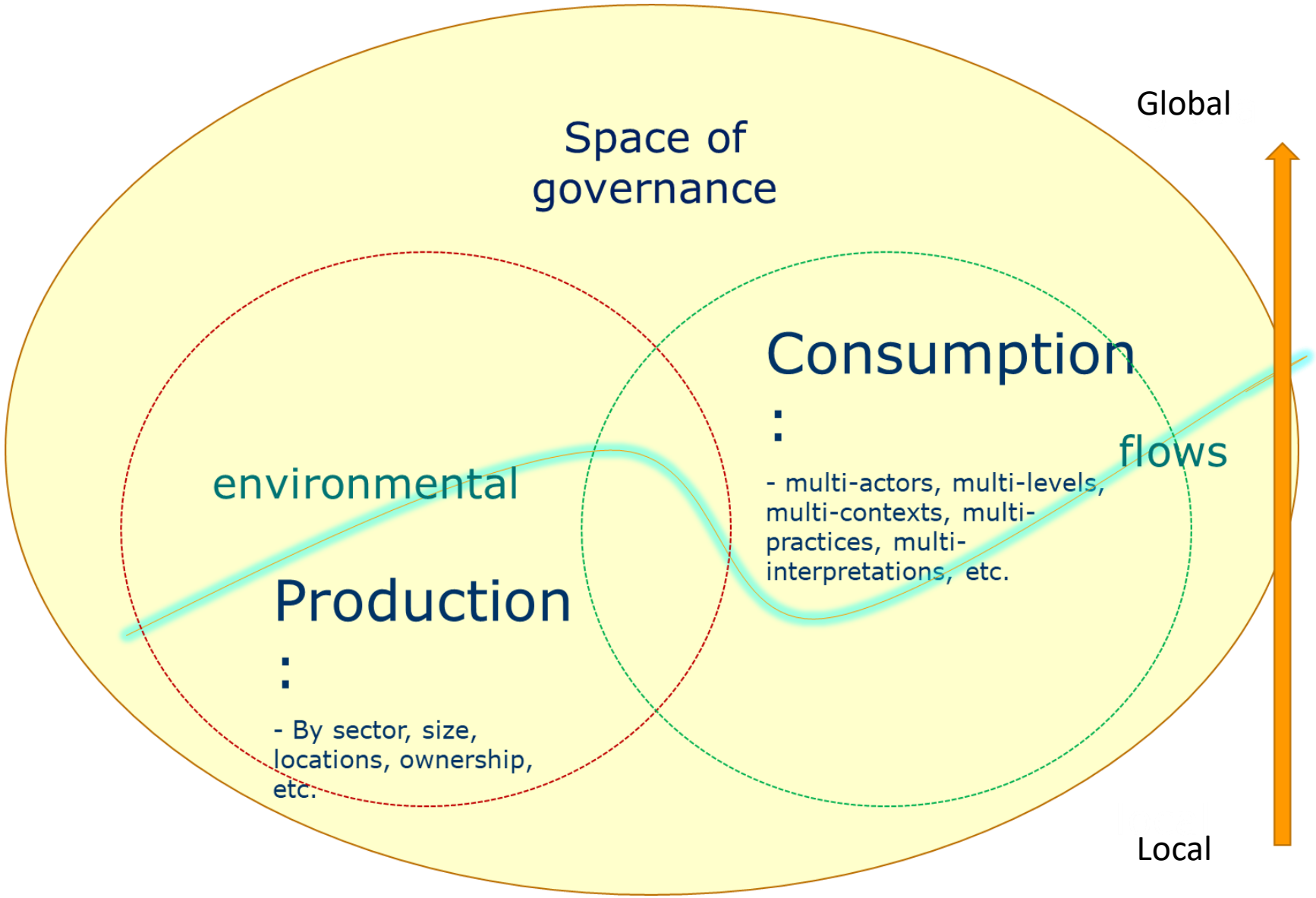
(Ma Shijun and Wang Rusong, 1984)

The era of management is over

(Ludwig, 200[illegible])

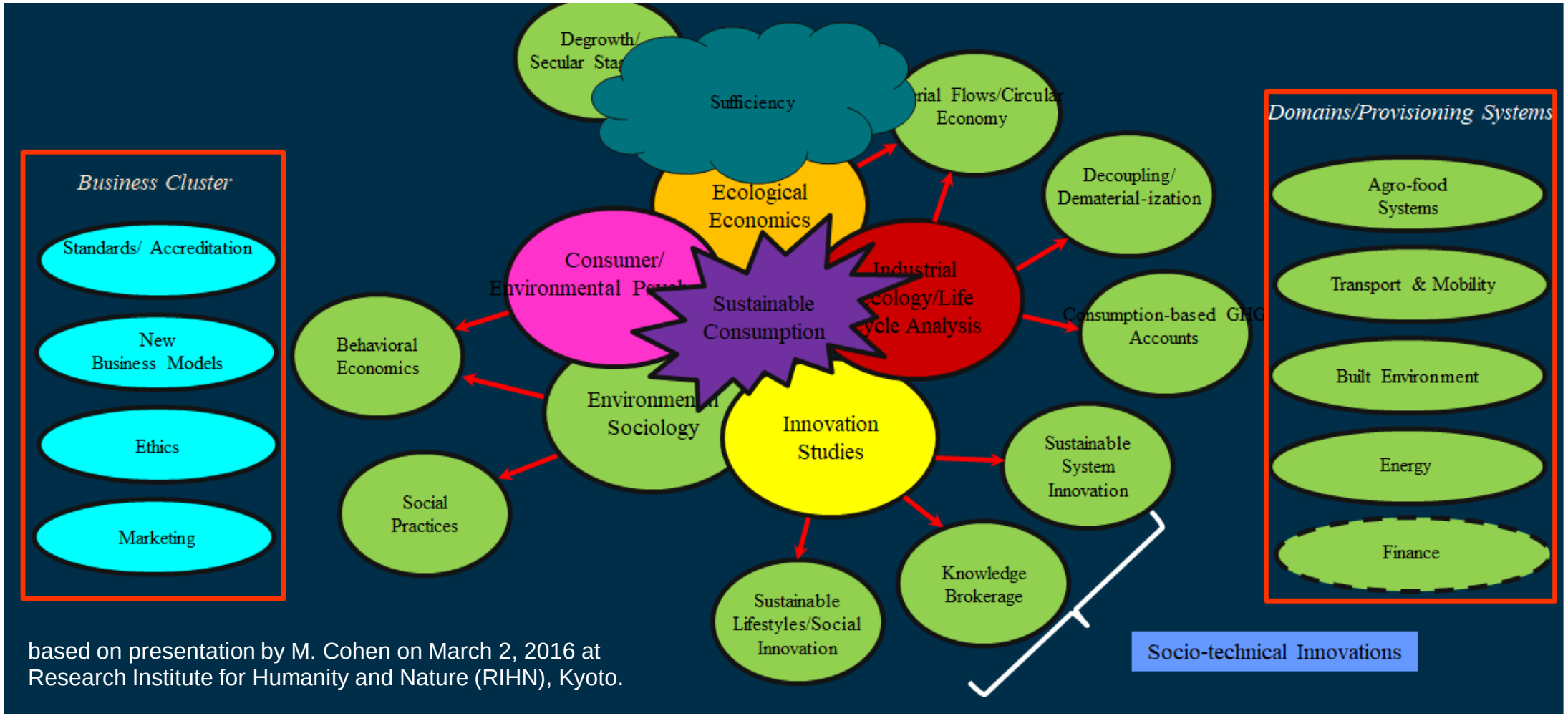


Apart from small 3r (reduce, reuse, recycle), it is more important to enable big 3R (Rethink, Reform and Renovation) of the traditional technologies, institutions and behaviors.



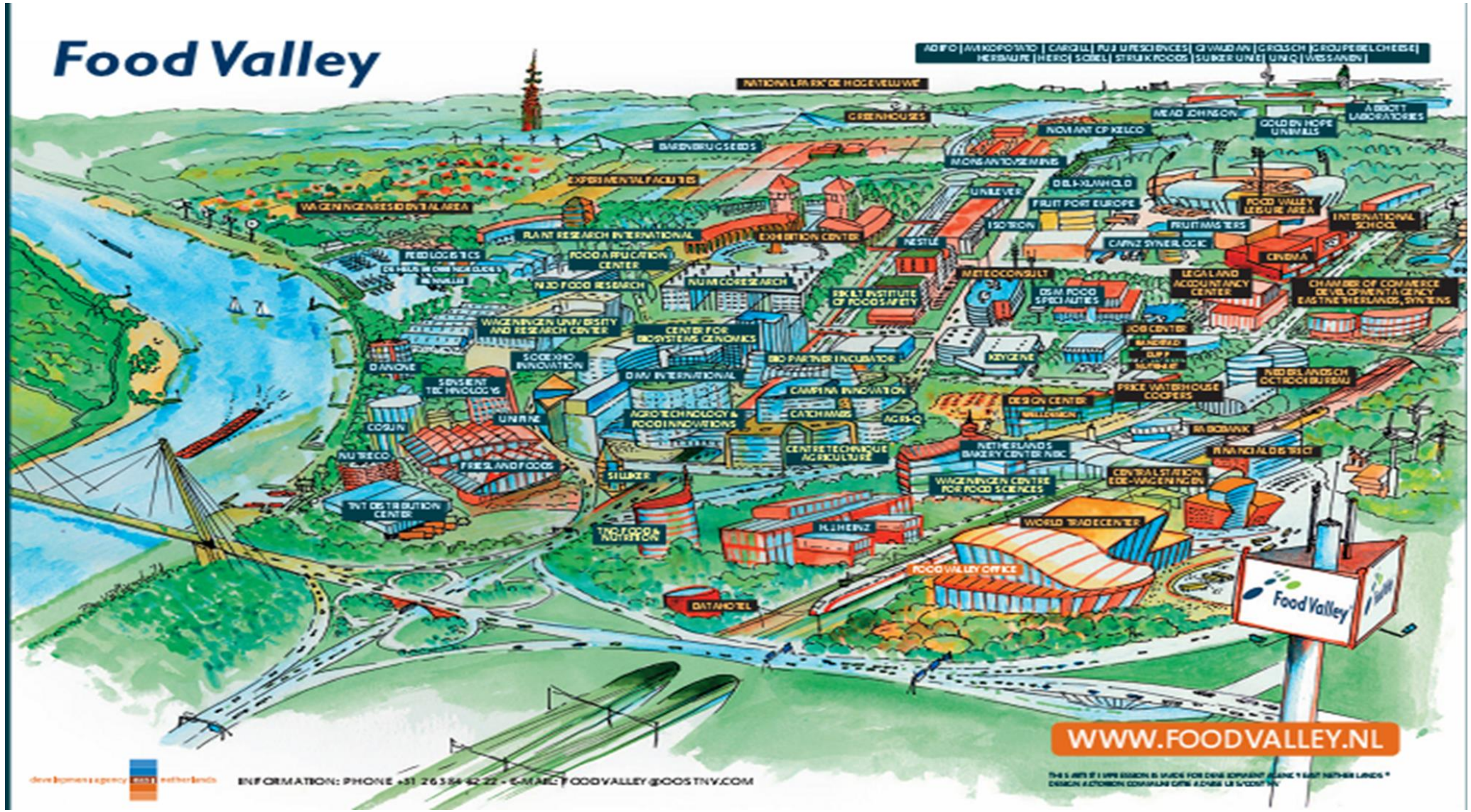
Governing hybrid environmental flows/nexuses means communication between different layers of the flows, different stakeholders networks and within, different localities, different sectors, scales, cultures, lifestyles, etc.

Example: interdisciplinary studies on sustainable consumption

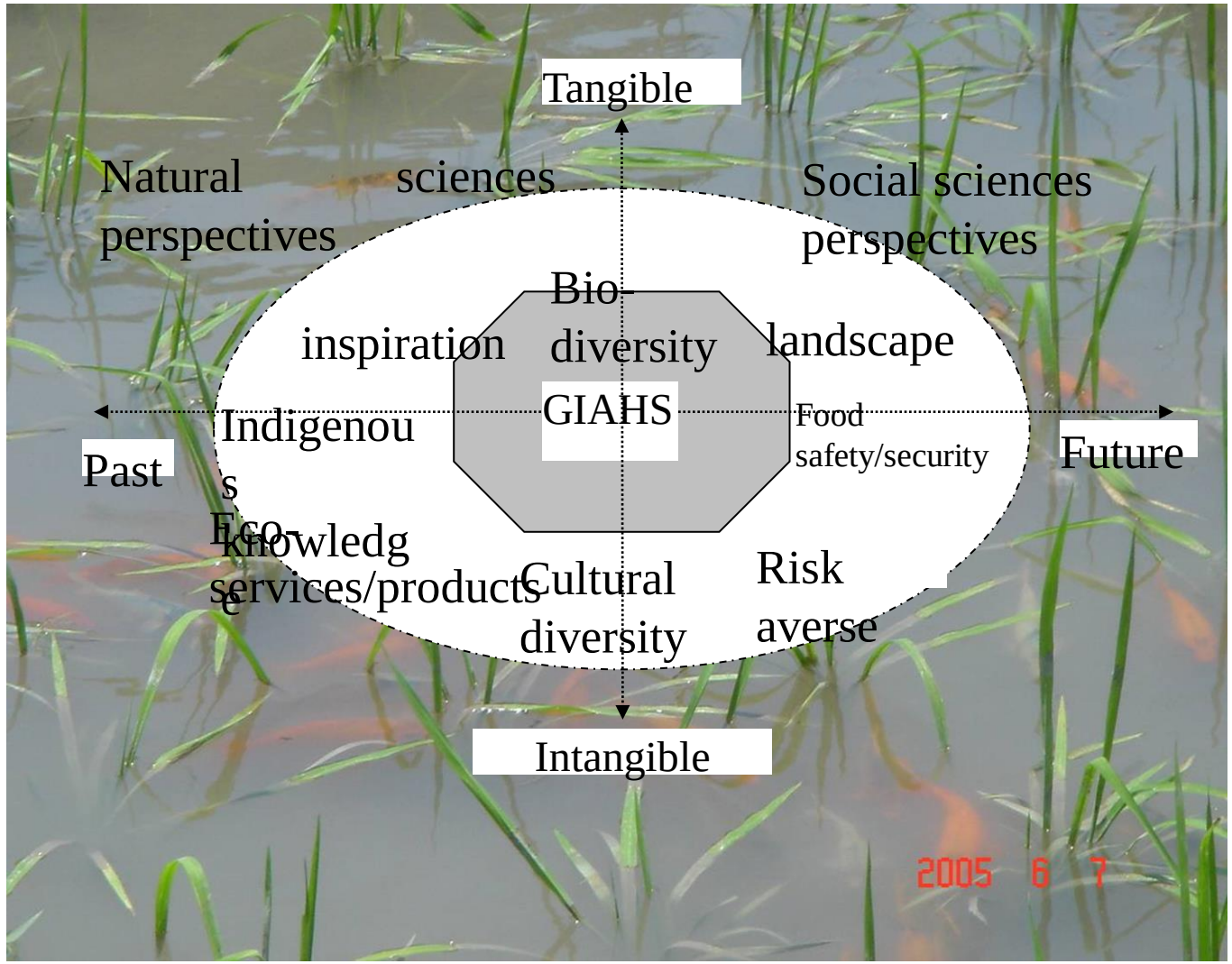


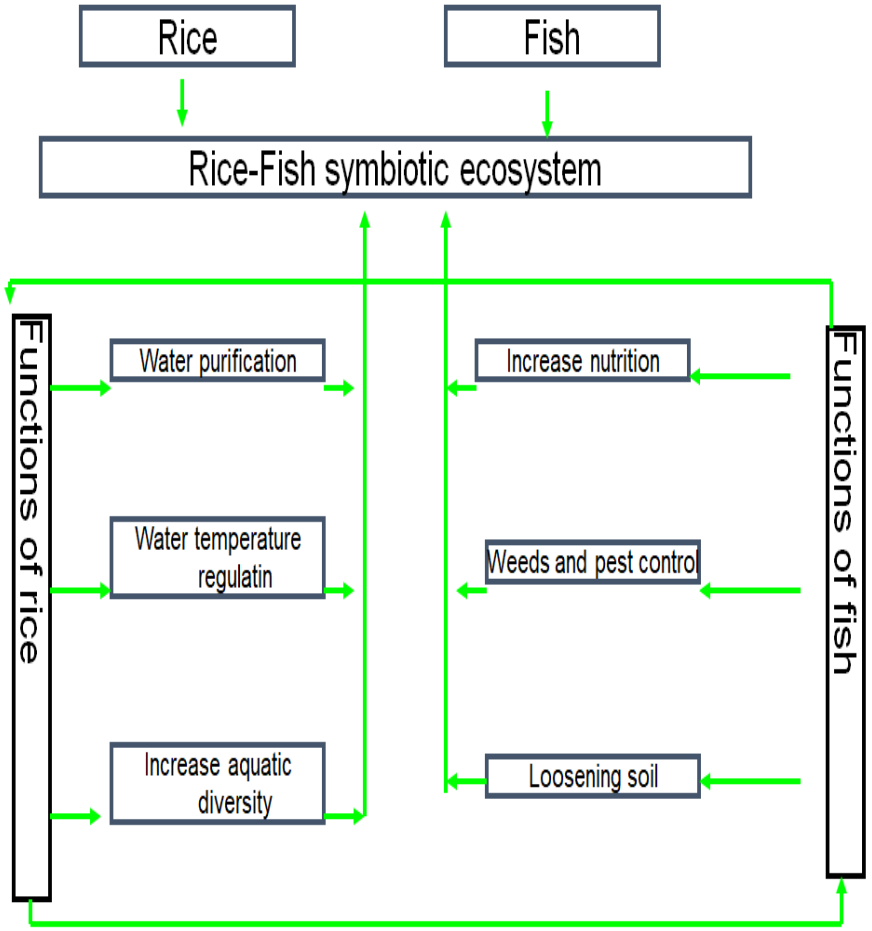
based on presentation by M. Cohen on March 2, 2016 at Research Institute for Humanity and Nature (RIHN), Kyoto.

Example: multi-actors in the Dutch Food Valley



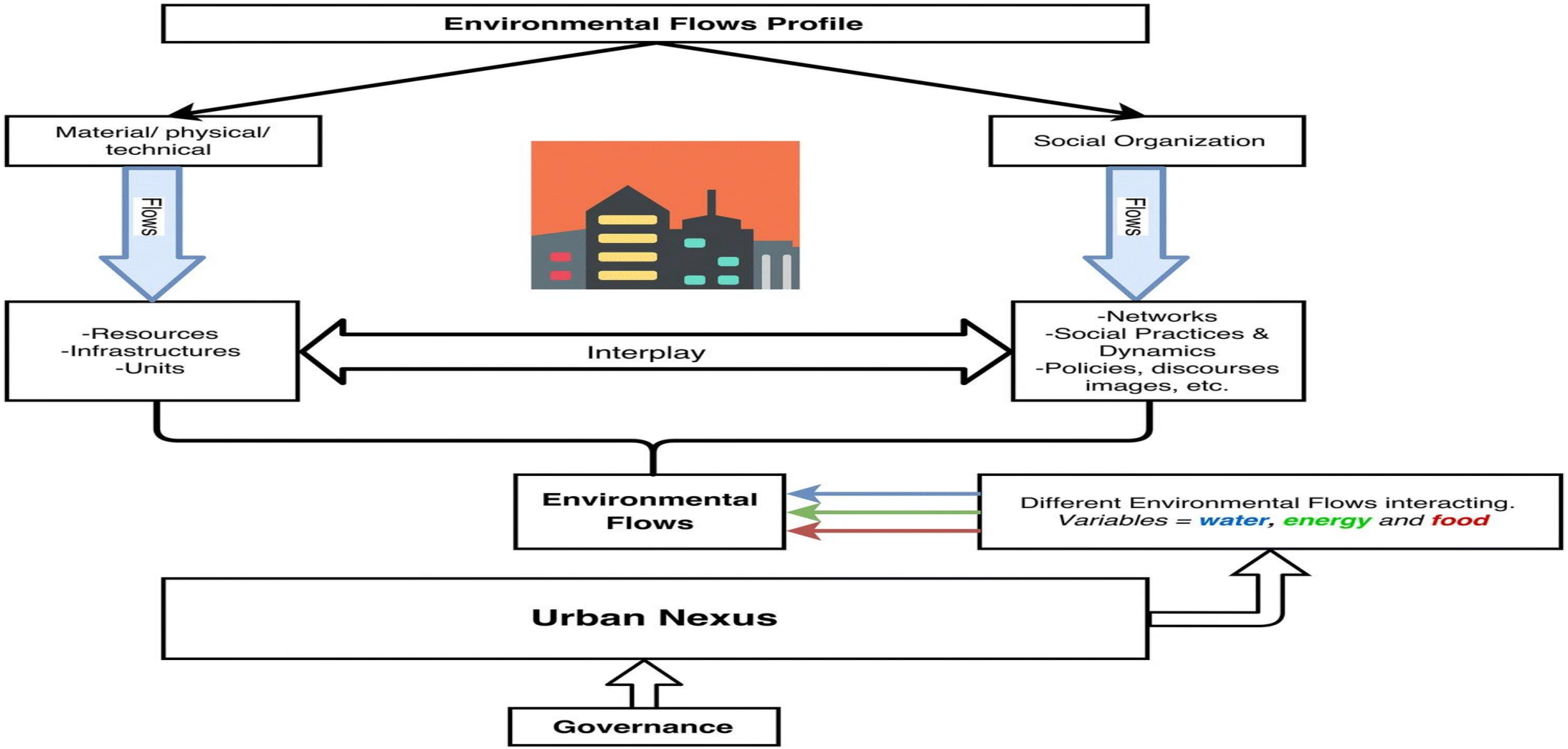
Example: Chinese traditional rice-fish circular economy as heritage for the future





Example: Governing environmental flows in the nexus

Covarrubias, M. The nexus between water, energy and food in cities: towards conceptualizing socio-material interconnections. Sustain Sci 14, 277–287 (2019). https://doi.org/10.1007/s11625-018-0591-0)



CE communication aims to change behaviors:

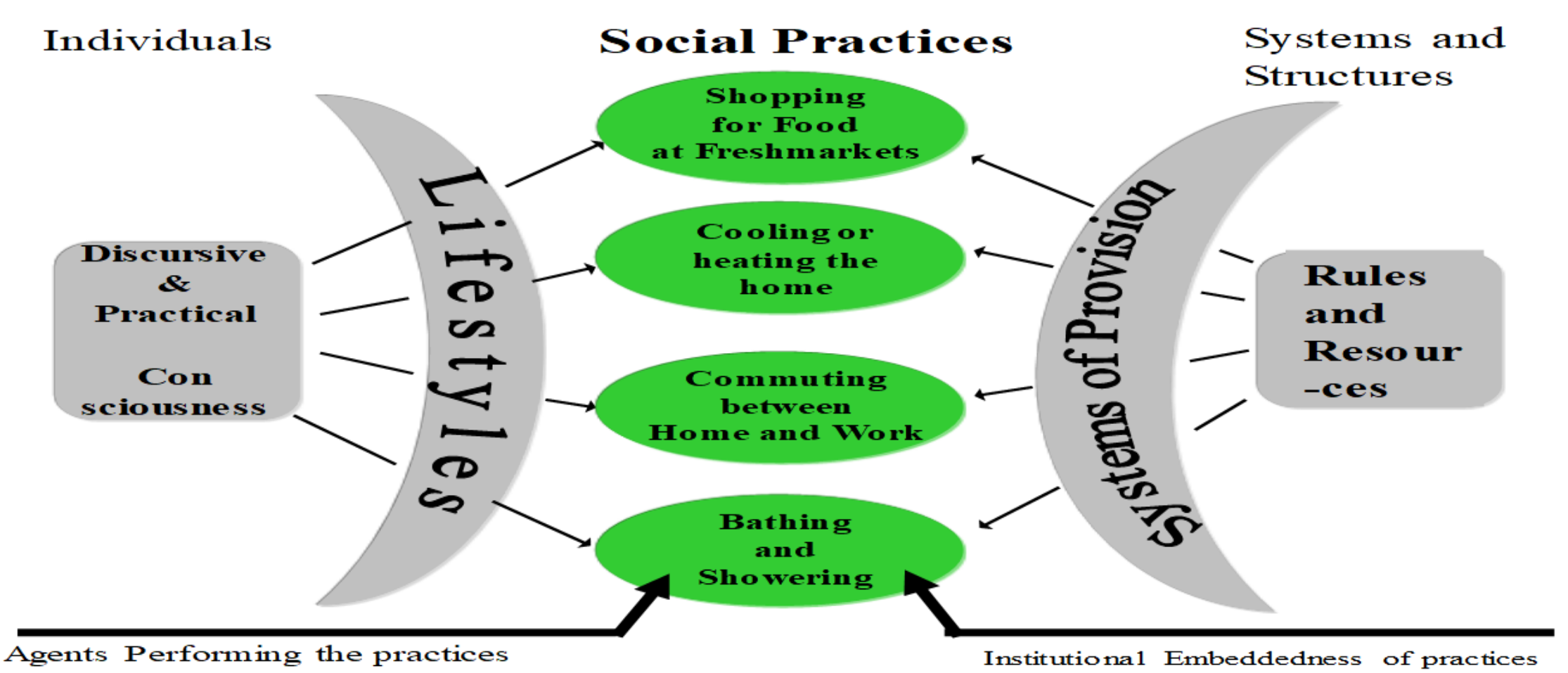
- Whose behaviors?
- Change what behaviors?
- Do we know what behaviors more desirable?
- How to induce the changes we want?

Douglas Holt writes :

"For the sustainable economy movement to resonate deeply and motivate collective action, it must:

- target a group of citizens sharing the same socio-economic circumstances,
- address an acute cultural contradiction that is disrupting the target's identity projects; and then
- propose an alternative that offers a compelling path to substantially resolve these collective tensions and anxieties.

Zoom in and out social practices:



(Spaargaren et al., 2010)

Example: internet-powered platform *Green Inclusive* in China

A platform for recording, accounting, pricing and rewarding personal green behavior. Through the core technologies of carbon emission reduction, Internet of Things, big data and blockchain, it enables the public to quantify their green travel and emission reduction behavior, which can be accumulated and rewarded. Its core competitiveness lies in the use of inclusive innovation mechanism, gathering many banks, insurance, car enterprises, public welfare organizations and other social sectors, establishir the ecology of carbon emission reduction trading between individuals and enterprises, and arousir public awareness of green, low-carbon and environmental protection through technical means, and then carrying out green public welfare and green consumption innovation.

http://www.lvpuhui.com/

Example: Alibaba Group Ant Forest program:
3 years, 500 million participants contributed to the planting of 100 million trees.

Example: NEOBox is a green packaging solution suppler for logistics. In this APP, consumers can choose this green packaging solution.

NEOBox

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Thank You

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