Lifeworlds of Sustainable Consumption and Production: Agrifood Systems in Transition

持続可能な食の消費と生産を実現するライフワールドの構築：食農体系の転換にむけて

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March 27th, 2015

We eat at the world's table.

13,000,000,000,000,000

5359kcal

2500kcal

1 billion
are undernourished

2 billion
are overweight

The foodscape

(食環境)

has gone global

-Economies of scale

-Mass consumption

Environmental Health

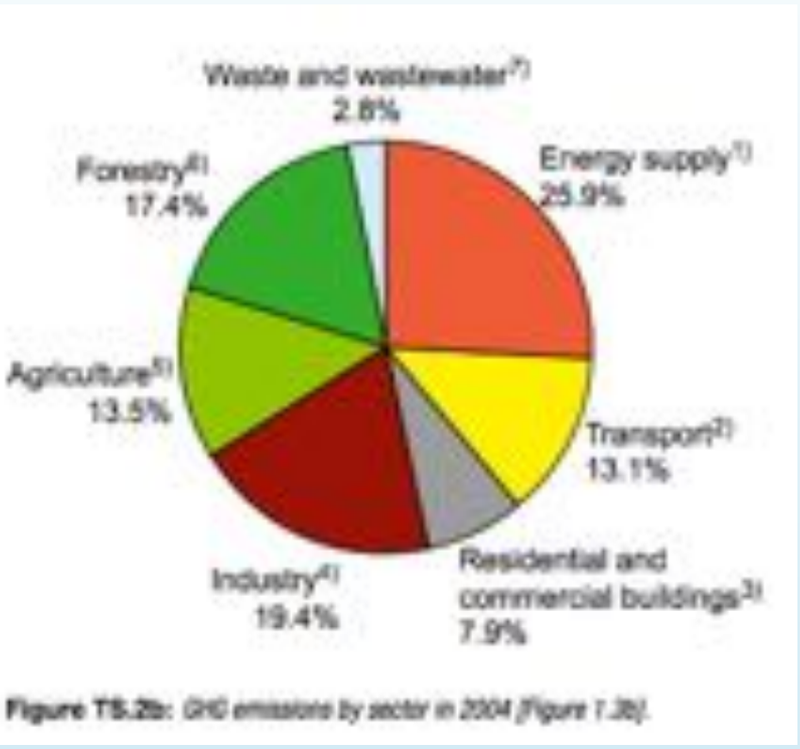
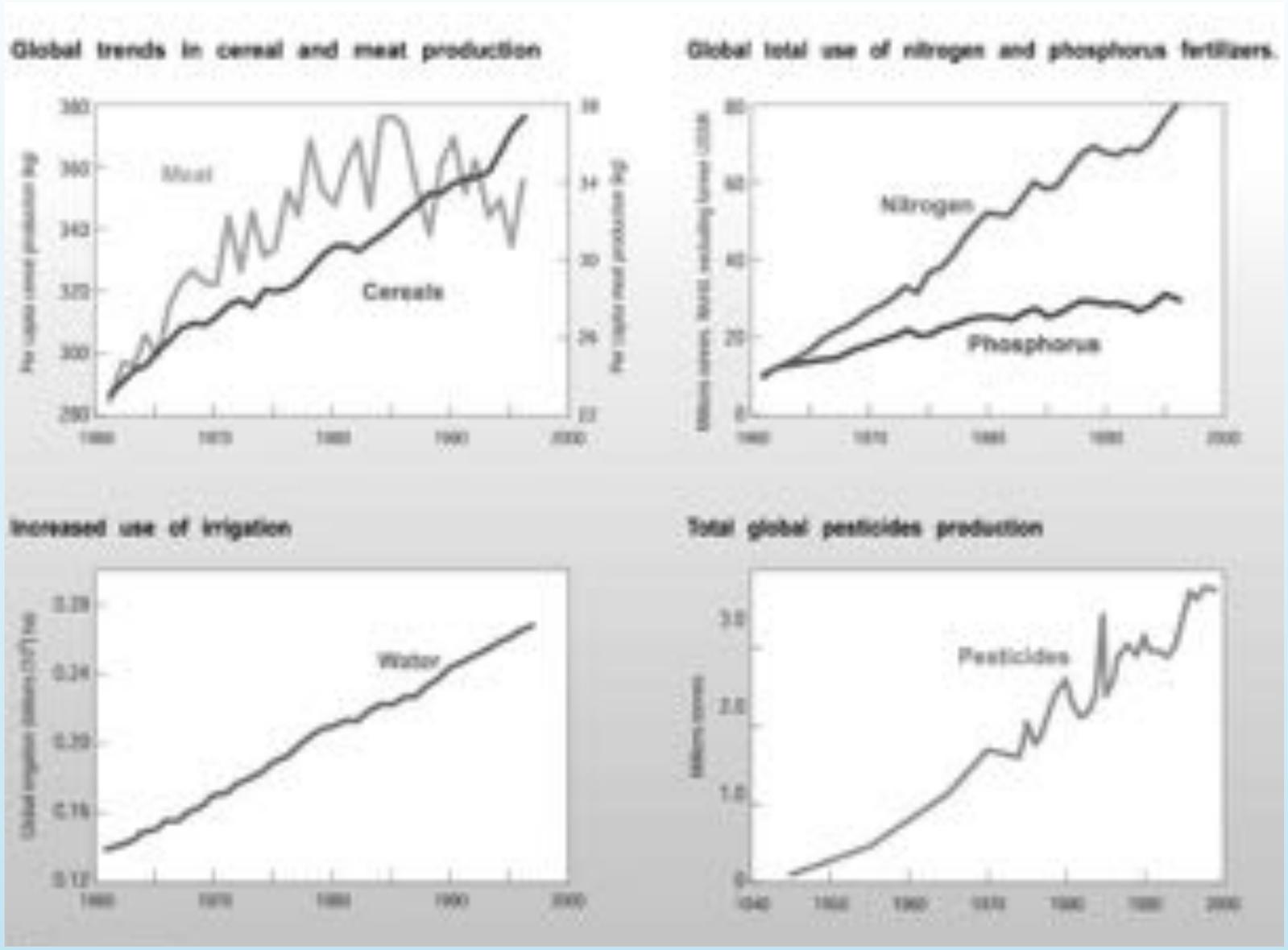


Figure TS.2b: *GHG emissions by sector in 2004 [Figure 1.3b].*

Soil erosion increasing global warming threat: UNEP

Expanding agriculture in Amazon is 'no-win' scenario



Food security risk if crop biodiversity lost: report

Declining bee populations may lead to significant agricultural losses in U.S.

A Smaller Than Predicted Dead Zone Is Still Toxic for the Gulf of Mexico

(IPCC)

(IAASTD)

Public Health

non-communicable diseases

China

more meat, oil in diet

overweight 25.4%

obesity in some cities: 20.0%

USA

overweight: 70.8

obesity: 33.0

Japan

obesity: 20%*

3x increase (1962-2002)

Thailand

overweight: 32.3%

obesity: 8.8%

UK

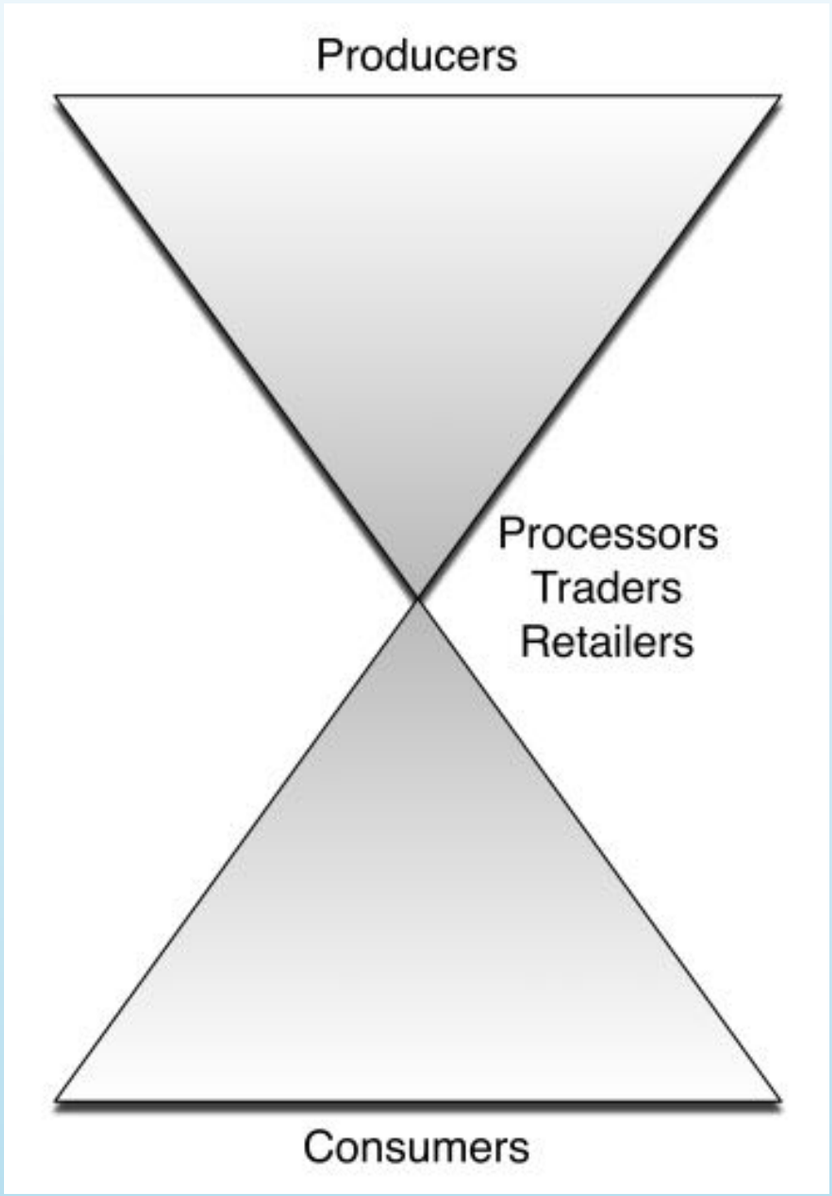
overweight: 64.2

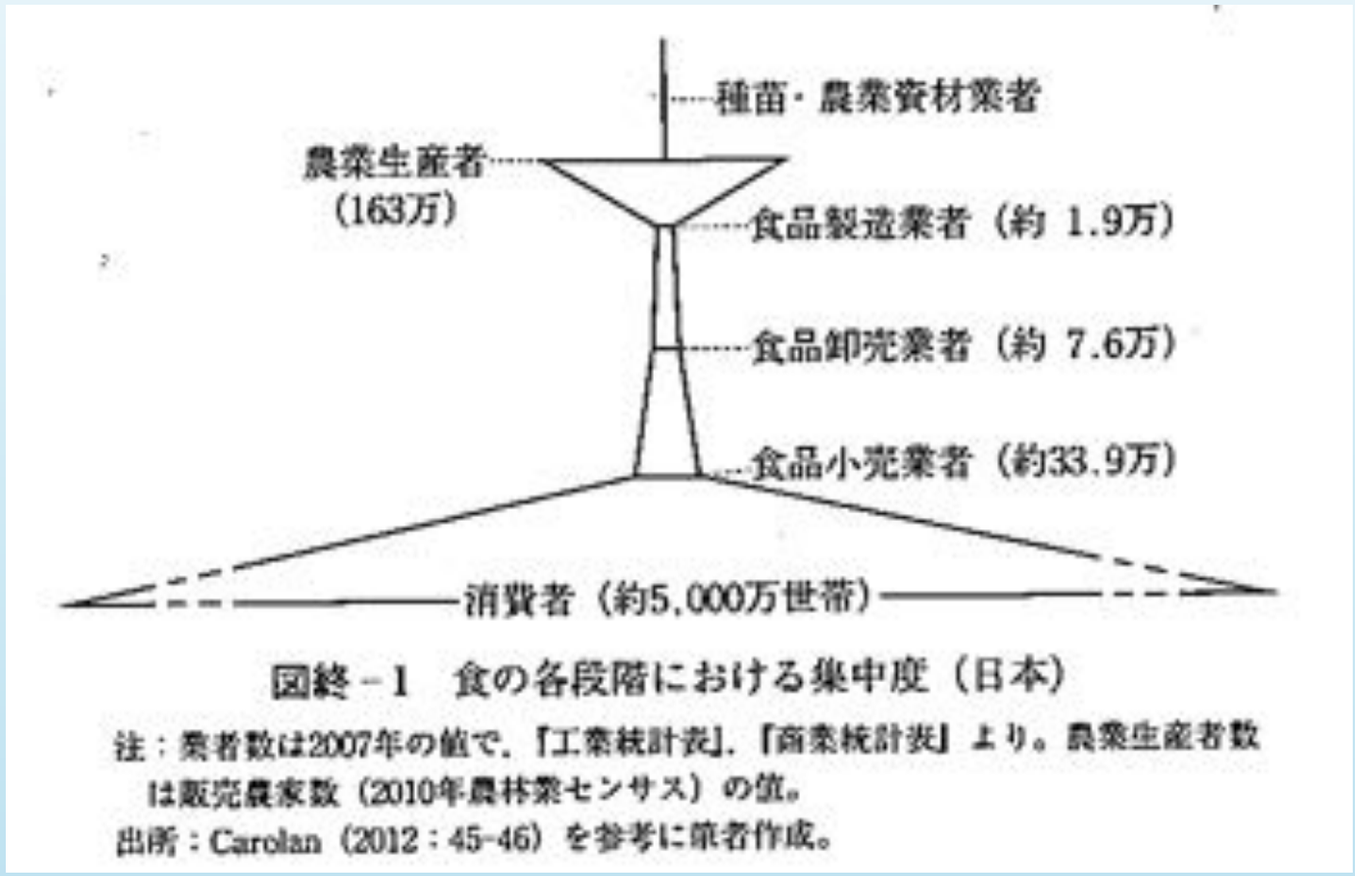
obesity: 26.9

overweight
BMI>25%
obese
BMI>30%
*obesity in Japan
BMI>25%

(WHO)

Food Sovereignty
who controls our food?





図終－1　食の各段階における集中度（日本）

注：業者数は2007年の値で、『工業統計表』、『商業統計表』より。農業生産者数は販売農家数（2010年農林業センサス）の値。

出所：Carolan（2012：45-46）を参考に筆者作成。

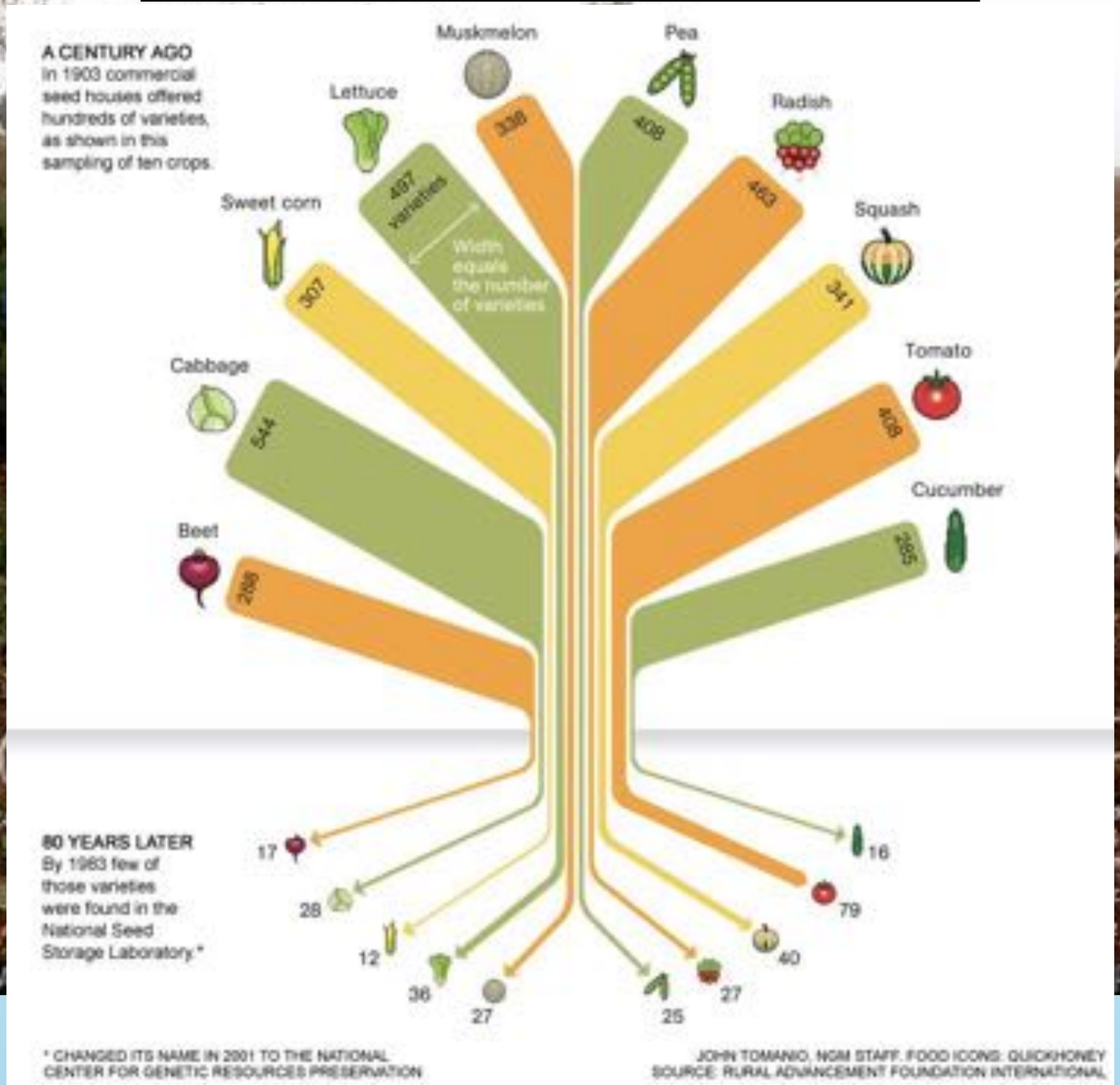
(Akitsu 2014)

“Big 10” food & beverage companies

(OXFAM)

Loss of Diversity

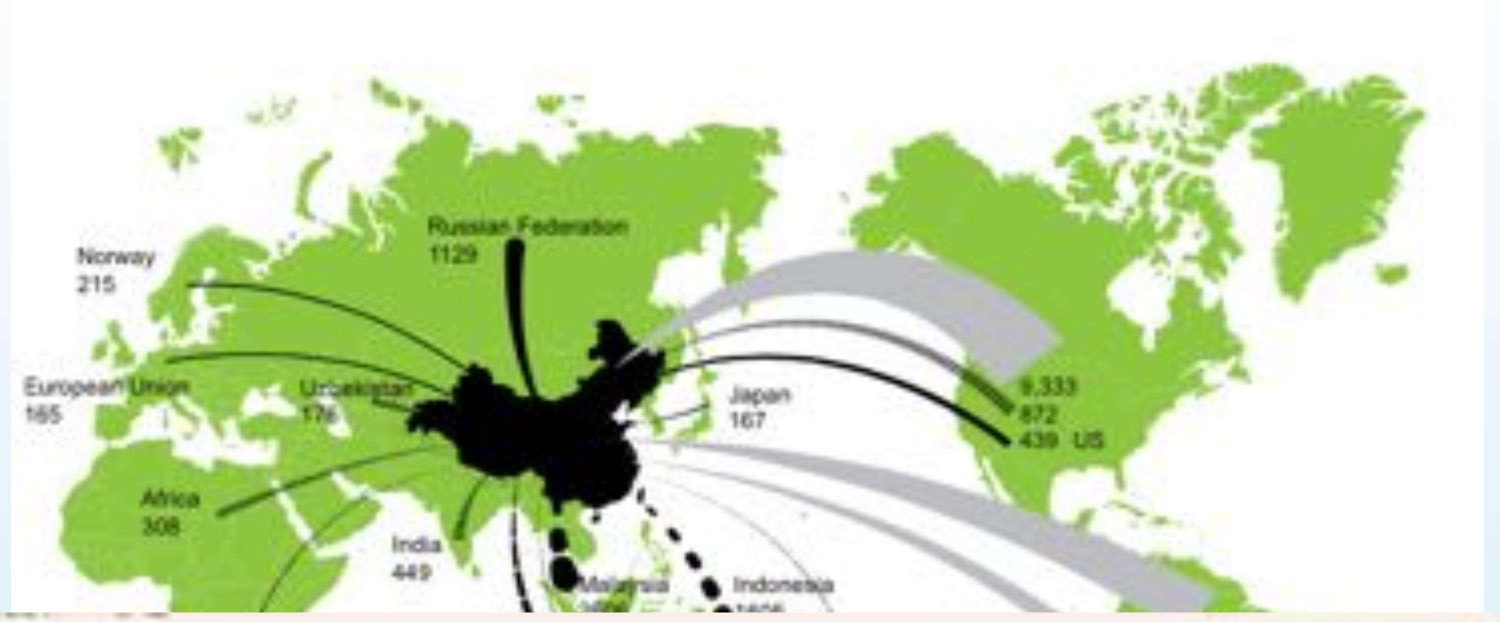
genetic, knowledge, culture

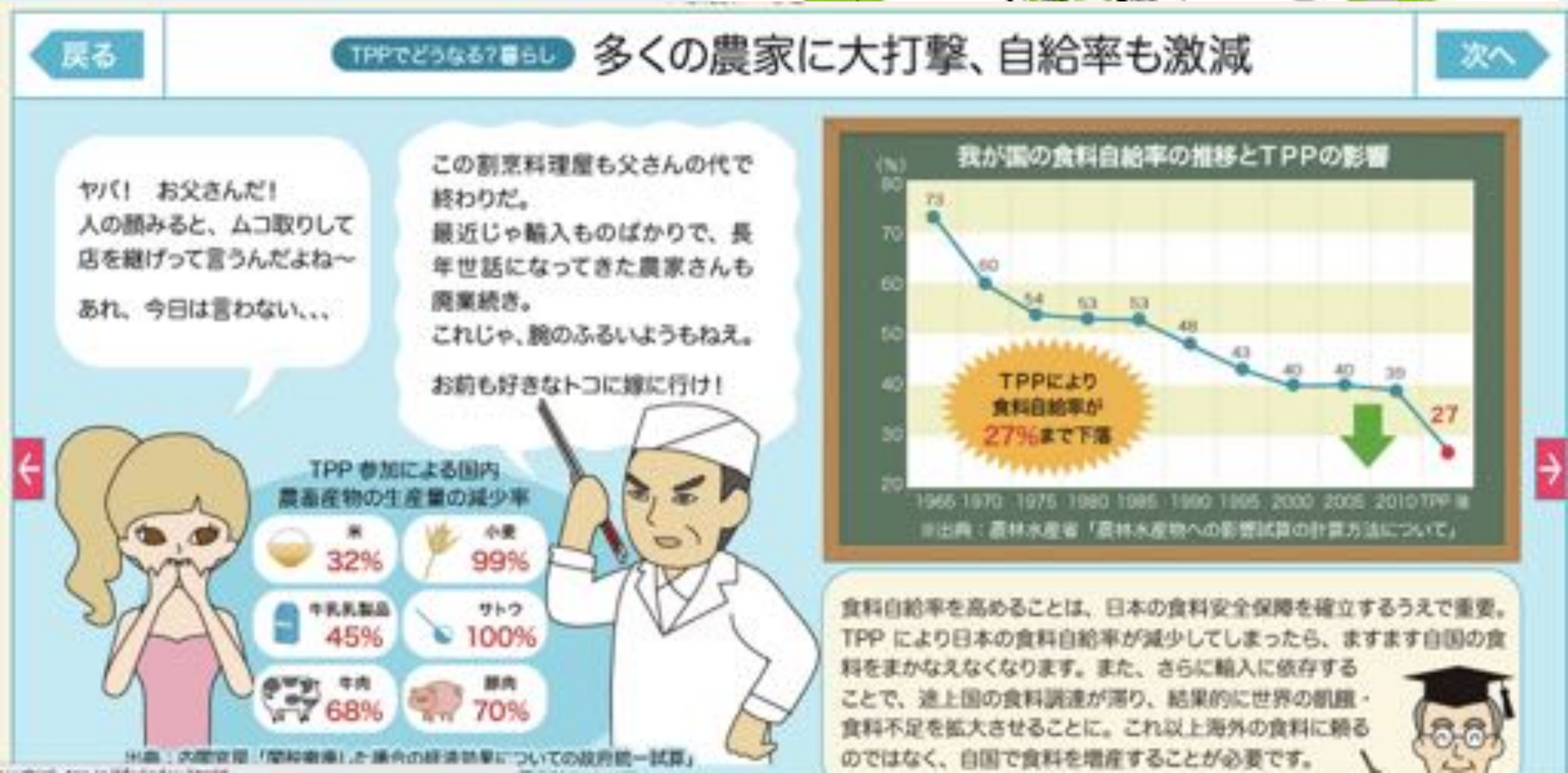


(Sustainability Lexicon)
(RAFI 2009)

Self-sufficiency,
increasing dependency,
decreasing resiliency

Figure 2: China's agricultural imports in 2008 (in USD million)





Core problem

***Foodscape*　食環境**

***Systemic / Structural*　システム面**

***Cultural* 文化面**

operates according to the logic of globalization and markets over logics that embrace environmental, community, and individual health

promotes values of mass consumerism

食環境のシステム面および文化面において、
グローバル化や市場の論理は、
環境、地域社会、健康をめぐる論理に優越するものとして展開し、

大量消費の価値観を拡めている

Change and Agency

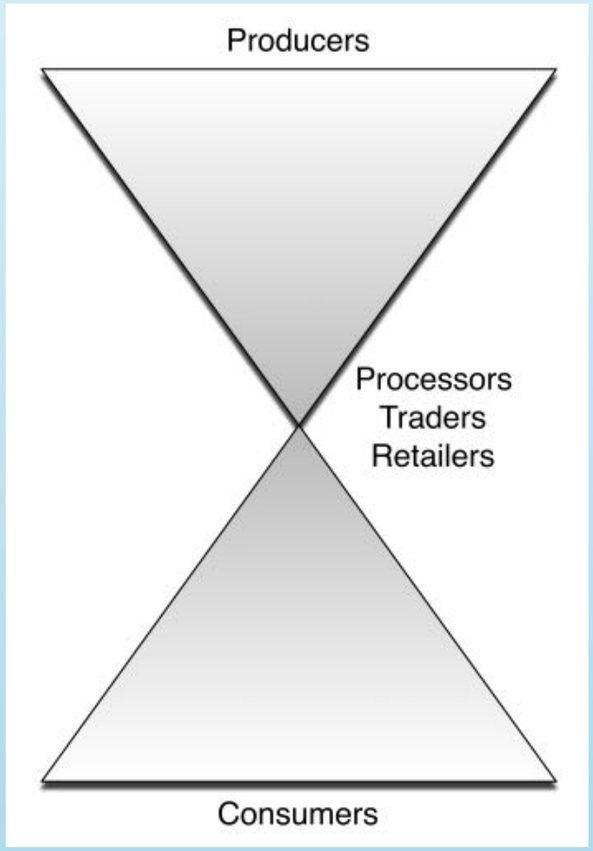
produce food

consume food

govern food

Alternatives

The question of agency to challenge systems & culture



Bottom-up

Bottom-up

take ACTION

new *practices*

"social practice"

Social practices are *embedded*
locked-in by physical, socio-economic foodscape

社会的実践（social practices）概念は、行為が

物理的、社会・経済的食環境の中に埋め込まれ、固定されている面に着目

Lifeworld　ライフワールド概念

shared everyday lived experience

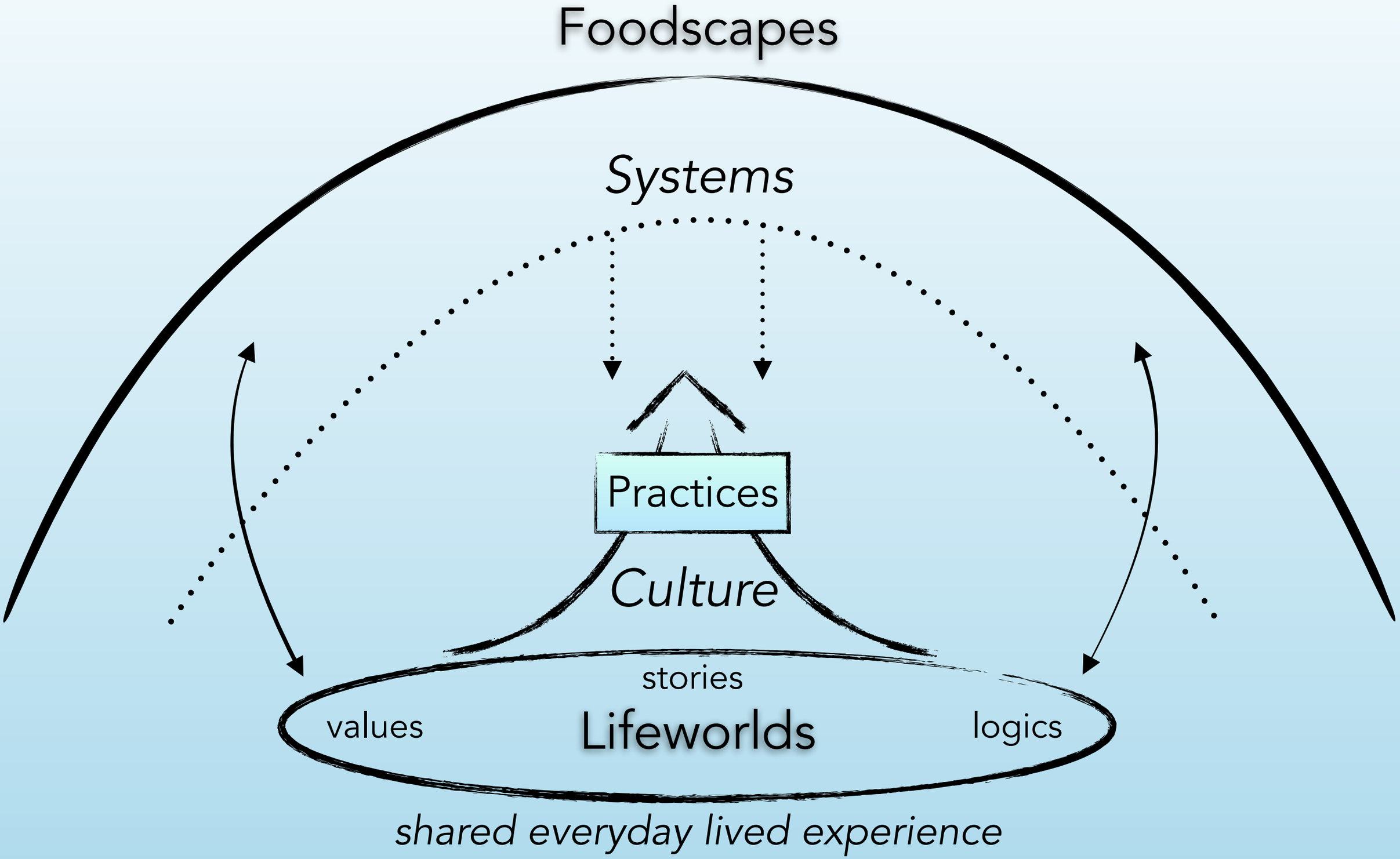
social practices + shared narrative + shared beliefs, values, expectations

"**the arena** in which new ideas, values, and stories in the form of practices surface and are appraised in everyday contexts"

共有された日常生活経験

社会的実践＋共有された語り＋信念、価値観、期待

「新しいアイデア、価値、物語が社会的実践の形で登場し、日常生活の文脈で評価される、出会いの場である」


Foodscapes
Systems
Practices
Culture
stories
values
Lifeworlds
logics
shared everyday lived experience

PROJECT GUIDING QUESTION

How do you change the culture of food consumption and the culture of agriculture from the bottom up?

プロジェクトの基本的問題関心

食品消費や農業生産のあり方をいかにして下から変えていけるか？

PROJECT FINAL GOAL

Sustainable agrifood transition

A process by which the production, processing, distribution, retail, and consumption practices comprising food systems are changed in a way that ensures environmental health, the wise use of natural and culturally-significant resources, fair and transparent relationships for all involved, and a good quality of life for current and future generations

プロジェクトの最終ゴール

持続可能な農と食への転換（*transition*）

フードシステムを構成する、生産・加工・流通・小売・消費にわたる社会的実践（practice）を変化させることで、環境を保全し、自然・文化資源の賢明な利用につながり、公正と透明性を高め、将来世代にわたって生活の質を高められること

Project approach

Transition Action Research —> joint envisioning, experimenting, and learning; create communities of practice; initiate collective action

「転換」のためのアクション・リサーチ → ともに考え、試み、学ぶことを通じて、社会的実践の転換に向けた人びとのつながりと行動を創りだす

Researchers as *translators* of knowledge, *facilitators* of safe "space" for niche development, & *catalysts* of reflective process for social learning

研究者の役割：研究成果を翻訳すると共に、未来への芽となる実験的空間を社会の中に切り開き、内省的な学びをうながす触媒として働く

Co-design and co-produce knowledge and mechanisms that challenge the logic of the market by **valorizing the non-economic qualities** of food and agriculture that improve quality of life

食と農の**非経済的価値を再評価**することによって、生活の質を高め、市場の論理に対抗する、知識や仕組みを共同構築・共同生産する

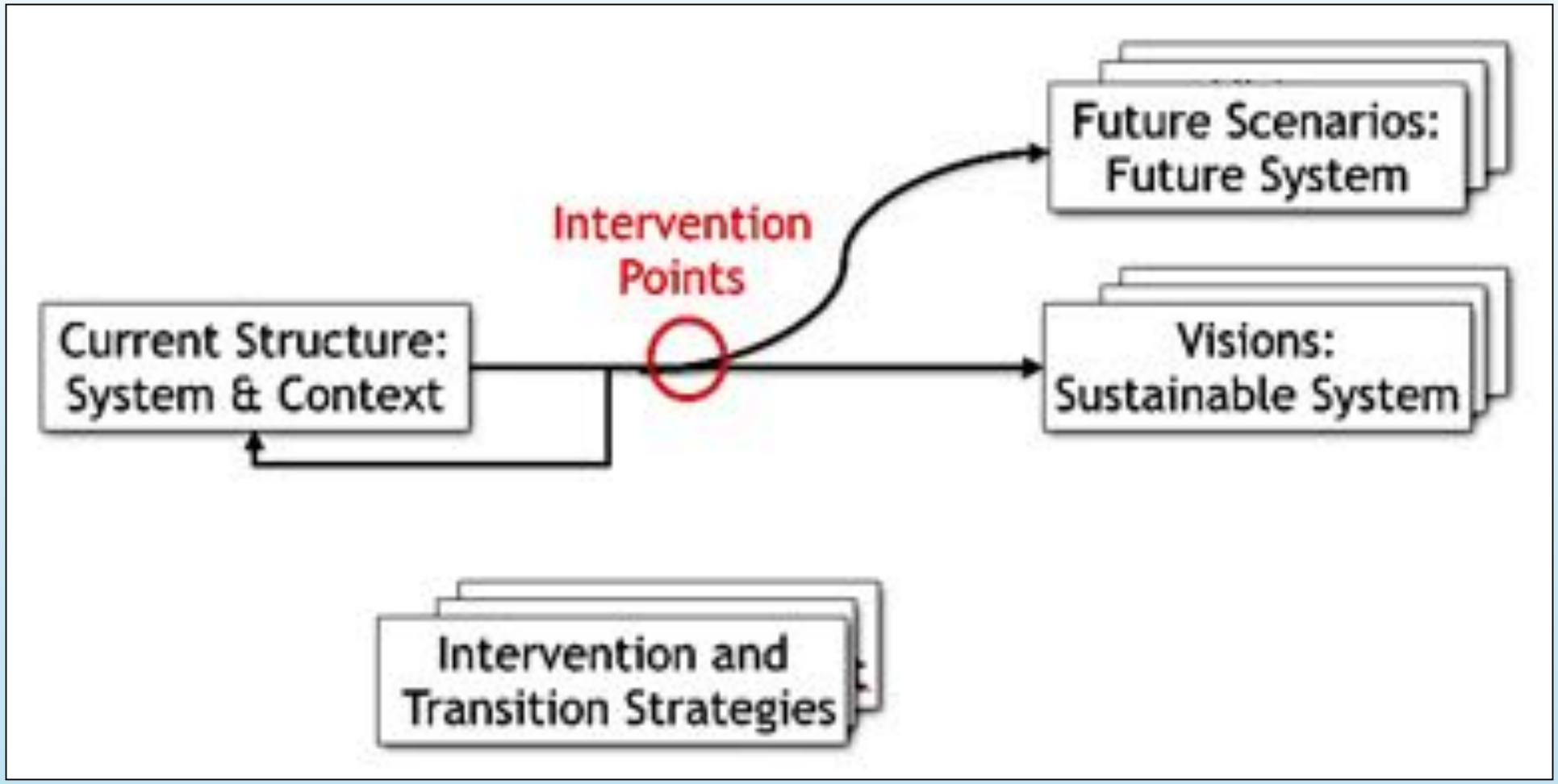
Engage society in a public debate on our relationship with food and nature that **questions shared values** and reacclimatizes consumers as citizens and **co-producers in the foodscapes** around them

食と自然との関連について地域社会で公共討議を行い、既存の**価値観を問い直す**と共に、消費者に対して身近な食における市民や**共同生産者**としての自覚を促す

Asian sites: Japan, China, Thailand, Bhutan

アジアの研究拠点：日本、中国、タイ、ブータン

Relevant knowledge to foster sustainability transition process



What knowledge is necessary to catalyze sustainable agrifood transition?

(Wiek et al. 2011)

Foodshed mapping

Current Structure:
System & Context

Intervention Points

Future Scenarios:
Future System

Foodshed modeling

Visions:
Sustainable System

Backcasting:
Consumer practices

Backcasting:
Ecological
food provisioning

Intervention and
Transition Strategies

SOCIAL LEARNING

Food Ethics
Food Policy Councils

MARKET TRANSPARENCY

Local Market
Support Tool
Eco-label

Global/Processed
Smartphone App

System & Context

Visions

Interventions

FR1

FR2

FR3

FR4

FR5

③
Foodshed mapping

Desk work
-Eating habit survey
-National, regional, "local" production, food flows

Participatory GIS starts

Who feeds us? Report

③
Foodshed modeling

Sustainable diet guidelines

Foodshed mapping toolkit

Backcasting

①
Consumption Practices

Visioning Workshops

Purchasing

Eating-In

Eating-out

Waste

"A Taste for Diversity"

Scenarios

④
Ecological Food Provisioning

Visioning Workshops

New Entry Succession

GIAHS

Bhutan Organic Ag.

Scenarios

Scenario Building Feedback WS

Transition WS

Transition Frameworks R-P-E

Transition WS

Transition Frameworks R-P-E

Mutual Learning Session

Entrepreneur co-funding, kickstarter

Roundtable for Sustainable Marine Resource Management

②
Ethics

Workshops

"What is good food?"

"Asian notions of food justice, fairness?

Indicator Collaboration
(Justice & Care)
(Rural landscape aesthetics)

Round Tables
Marine
Wildlife

"Eating to manage nature?"

"From consumer to co-producer"

Workshop Manual

Visual Media
Food Ethics of Asia

Food Policy Councils
食と農
未来会議

⑤
Market Transparency

Local Market Support Tool

Multi-indicator Eco-label

Indicator Review
-Ecological
-Social

Create guidelines

Model Case Sites

Eco-label Prototype

Eco-label manual

Smartphone App Development

Data Collection

Indexing

Grading formulas

Qualitative integration

Programming

コンビニ
LAWSON

App Prototype & Testing

App Release

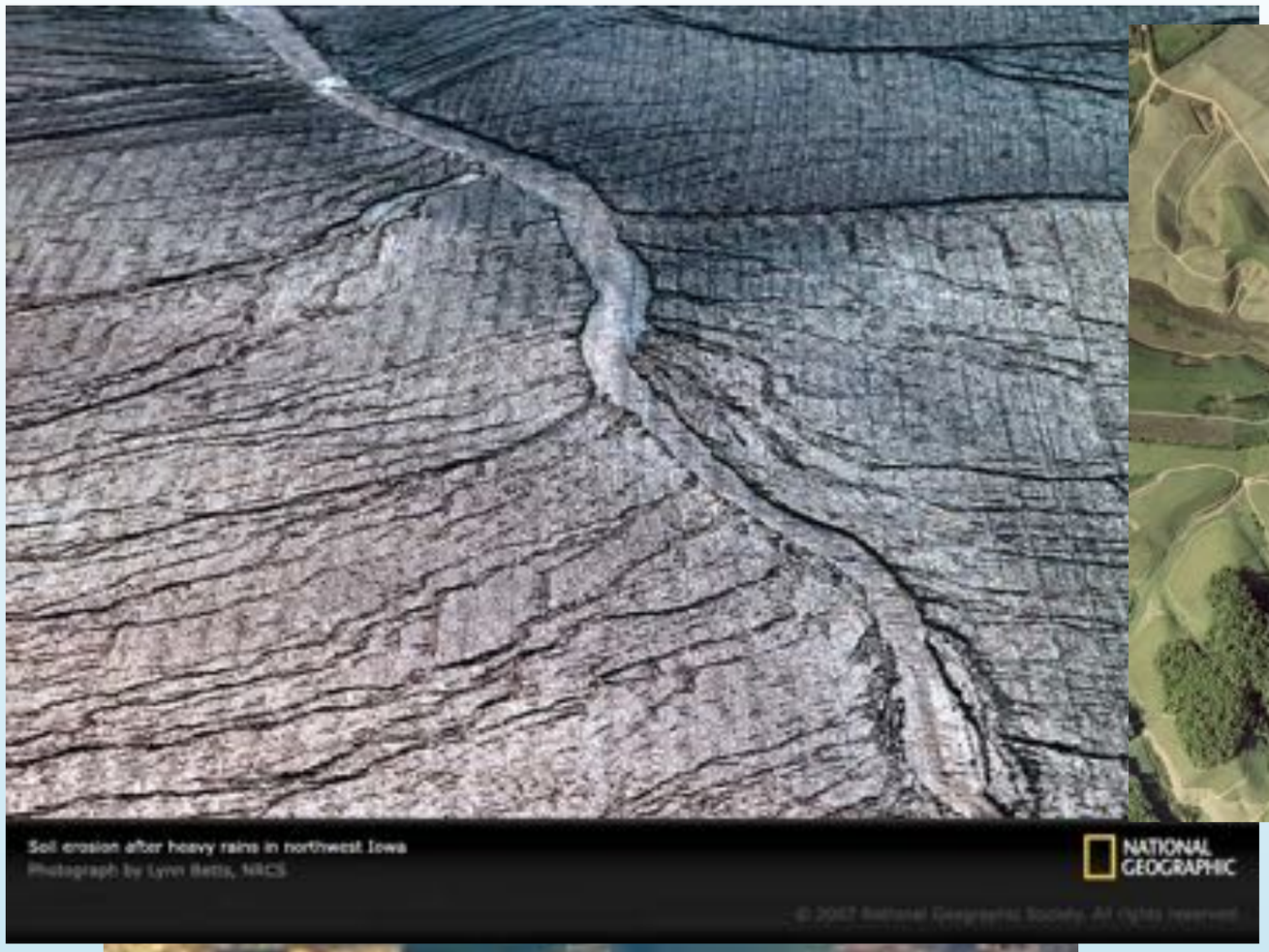
Evaluation

Remote Sensing: Areas of Interest

- **Making connections between landscape and diet**
  - Predicting changes in landscape from diet scenarios

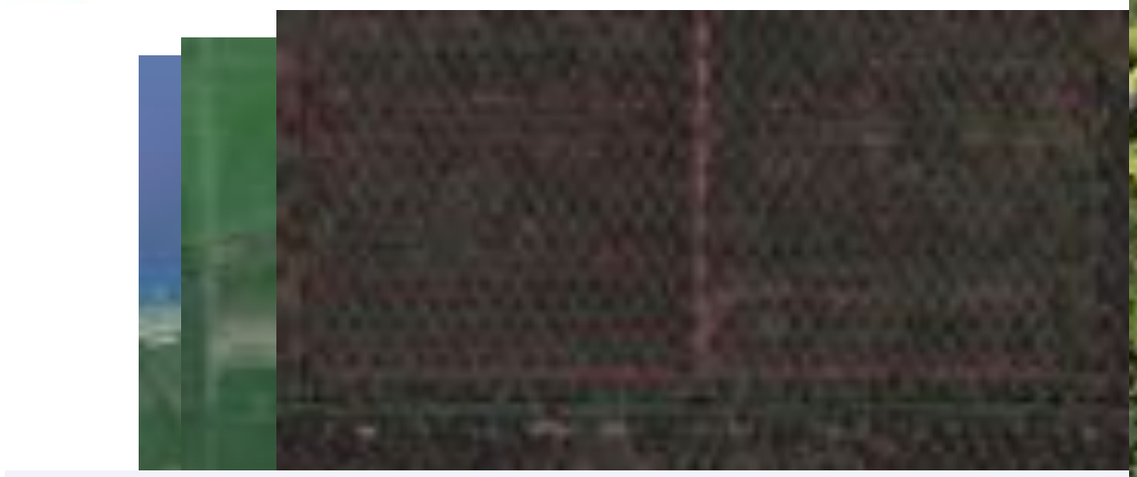
Landscape <—> Diet

Maize



Sugar Cane

Beef



ヤシ油大農場

Northern Malaysia, Google Maps

Sustainable Diets?

CAN BRITAIN FEED ITSELF?

Simon Fairlie

CHEMICAL WITH LIVESTOCK 2005

Population 60.6 million. Agricultural land 18.50 million hectare. Forestry etc 3.69 million hectares

- 4.4 million hectares arable
- 6.4 million hectares

ORGANIC WITH LIVESTOCK (2005)

Population 60.6 million. Agricultural land 18.50 million hectare. Forestry etc 3.69 million hectares

- 8.1 million

	Consumption	Calories in diet	UK production	Yield	Arable land	Perm. pasture	Rough pasture
	g/person/day	kcal/person/day	million tons/year	tons/ha	1000 ha	1000 ha	1000ha
Cereals for human food		1700	11.06	4.3	2572		
Potatoes		300	10	25	400		
Sugar		100	0.707	7.5	94		
Rape oil		150			450		
Dried Peas					1696		
Vegetables							
Green manure							
Land Available [Total Calories]							
Spare Land							
LAND USED							

ORGANIC VEGAN 2005

Population 60.6 million. Agricultural land 18.50 million hectare. Forestry etc 3.69 million hectares

- 7.3 million hectares arable
- 11.2 million spare hectares

TABLE D

	Consumption	Calories in diet	UK production	Yield	Arable land	Perm. pasture	Rough pasture
	g/person/day	kcal/person/day	million tons/year	tons/ha	1000 ha	1000 ha	1000ha
Cereals for human food							
Potatoes							
Sugar							
Rape Oil							
Dried Peas							
Vegetables							
Green manure							
Land Available [Total Calories]							
Spare Land							
LAND USED							

VEGAN PERMACULTURE

Including extra veg, textiles, tractor power and timber

- 7.2 million hectares arable
- 6 million hectares of woodland
- 8.8 million spare hectares

TABLE G

Population 60.6 million. Total agriculture and forestry land 22.205 million ha.

	Consumption	Calories in diet	UK production	Yield	Arable land	Orchard	Other land
	gms/person/day	kcal/person/day	million tons/year	tons/ha	1000 ha	1000 ha	1000ha
Cereals for human food	491	1670	10.9	4.3	2534		
Potatoes	453	300	10	25	400		
Sugar	32	100	0.707	5	94		
Rape oil	35	310	0.774	0.8	968		
Dried peas	80	207	1.77	3	590		
Hemp and flax	7 kg per year		423	3	146		
Vegetables, fruit, nuts	666	180			150	150	
Biofuel					725		
Green manure					1646		
Timber, firewood			18	3			6000
Wildlife, spare land							8803
LAND USED [total calories]		[2767]			7253	150	6000

- One hectare of arable supplies 8.5 people

Remote Sensing: Areas of Interest

- **Making connections between landscape and diet**
  - Predicting changes in landscape from diet scenarios
- **Assessing current and possible "local foodsheds"**
  - Areas of mixed development, urban and peri-urban

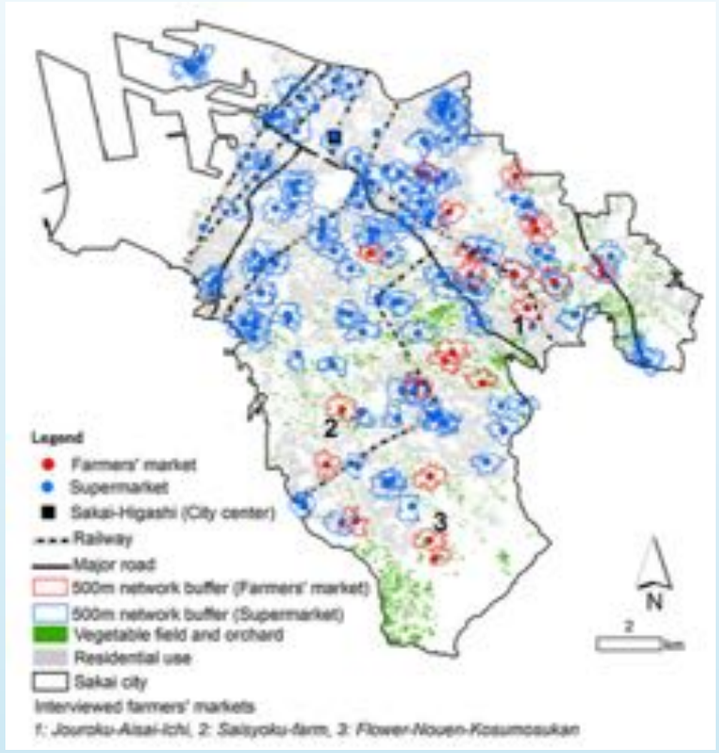
Structures & Future scenarios

Co-leaders:
McGreevy
Hoshino
Iha

Foodshed mapping & modeling

Contexts

- ***Who feeds us?***
  - *Foodshed mapping* — actual or potential sources of food of a population
  - National, regional
  - Local— *Participatory GIS*
    - Small-scale, higher resolution, quantitative & qualitative data
    - "Quiet food sustainability"
- ***What are our changing food practices?***
  Consumer food habits *survey*



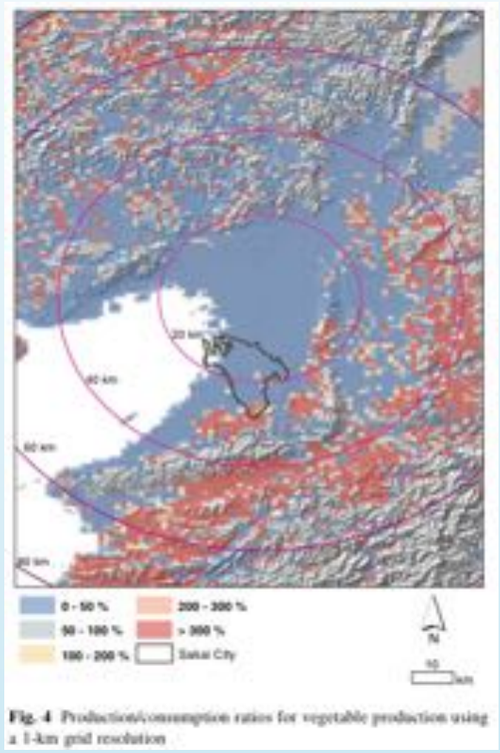
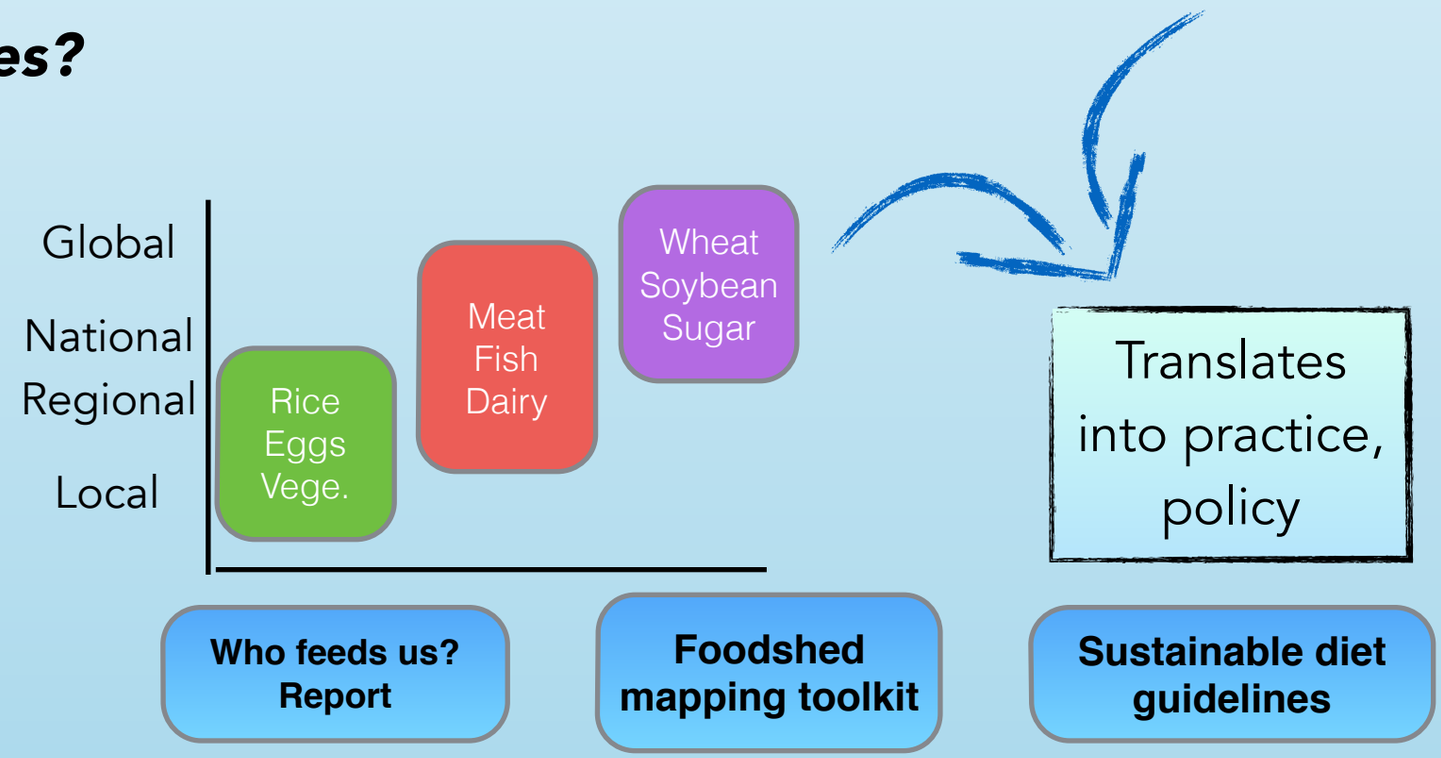


Fig. 4 Production/consumption ratios for vegetable production using a 1-km grid resolution

Scenarios

- ***What is possible?*** Test feasibility through modeling
- *define minimum food security*
- Overlap with backcasting, councils



Remote Sensing: Areas of Interest

- **Making connections between landscape and diet**
  - Predicting changes in landscape from diet scenarios
- **Assessing current and possible "local foodsheds"**
  - Areas of mixed development, urban and peri-urban
- **Land-use scenarios for GIAHS sites**

Future visions

Co-leaders:
McGreevy
Tamura
Koohafkan

Ecological Food Provisioning

Future of farming where traditional agrifood culture can thrive?

<u>*Globally Important Agricultural Heritage Systems (GIAHS)*</u>

- agro-ecological farming and food culture preserved
- "*Dynamic conservation action plans*" and livelihoods will be analyzed (sustainable livelihood framework)
- **Model land-use plans** within and *surrounding* GIHAS sites & **backcast long term visions** of the future
- *How can GIAHS styles and practices of farming spread?*

> **Japan**: Noto *(satoumi)*, Shizuoka *(tea)*
> **China**: Zhejiang (rice - fish), Pu'er (tea)
> **Thailand**: Kung Krabaen Bay (shrimp)

<u>*Future of Bhutanese farming*</u>

- Plan to be 100% organic
- Government spending 1/3 of overall economy
- Work with "green public procurement" groups, NGO, & national government to **backcast a plan**


Japan: Participatory (Kyoto City, Nagano City, Akita City), Eco-label model sites (Kameoka City, Kashiwa City), GIAHS (Noto, Shizuoka)


Thailand: Eastern Nakhon Pathon province, Phutthamonthon District (West of Bangkok), GIAHS (Kung Krabaen Bay)


Sites


China: Foodshed mapping & Backcasting in NW Beijing district (Haidian); Market transparency in Hong Kong (Kowloon); GIAHS (Pu-er, Zhejiang)



Bhutan: Backcasting in Thimphu, fieldwork in the SW, E


Diversity— landscapes, diets, food culture, socio-economic factors

Main

GIAHS

Local
Eco-label
Model

Main

GIAHS

Local Eco-label Model

Beijing (Haidian District)

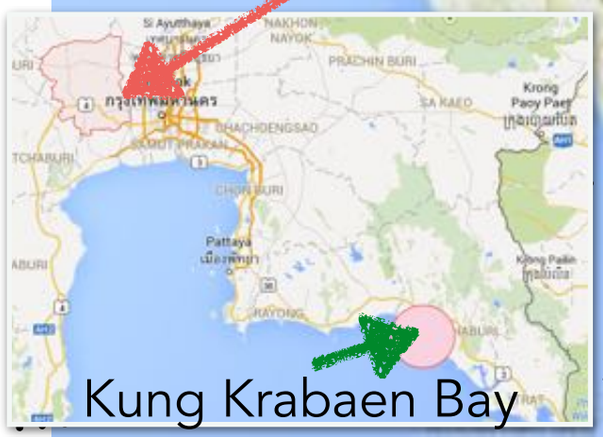
Thimphu

Pu'er City

Qingtian County

Hong Kong (Hung Hom, Kowloon)

Nakhon Pathon Province



Kung Krabaen Bay

Thank you