

# It's time for departure

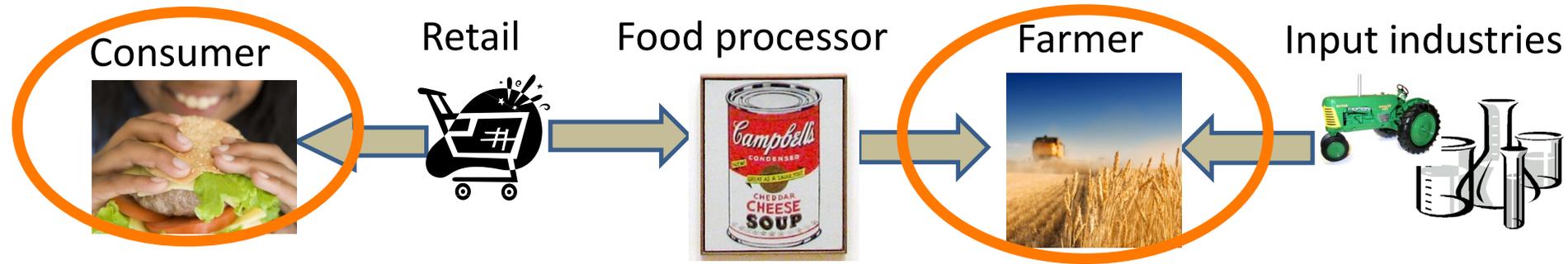
A reflection on the Dutch Food System

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November 4<sup>th</sup>, 2020



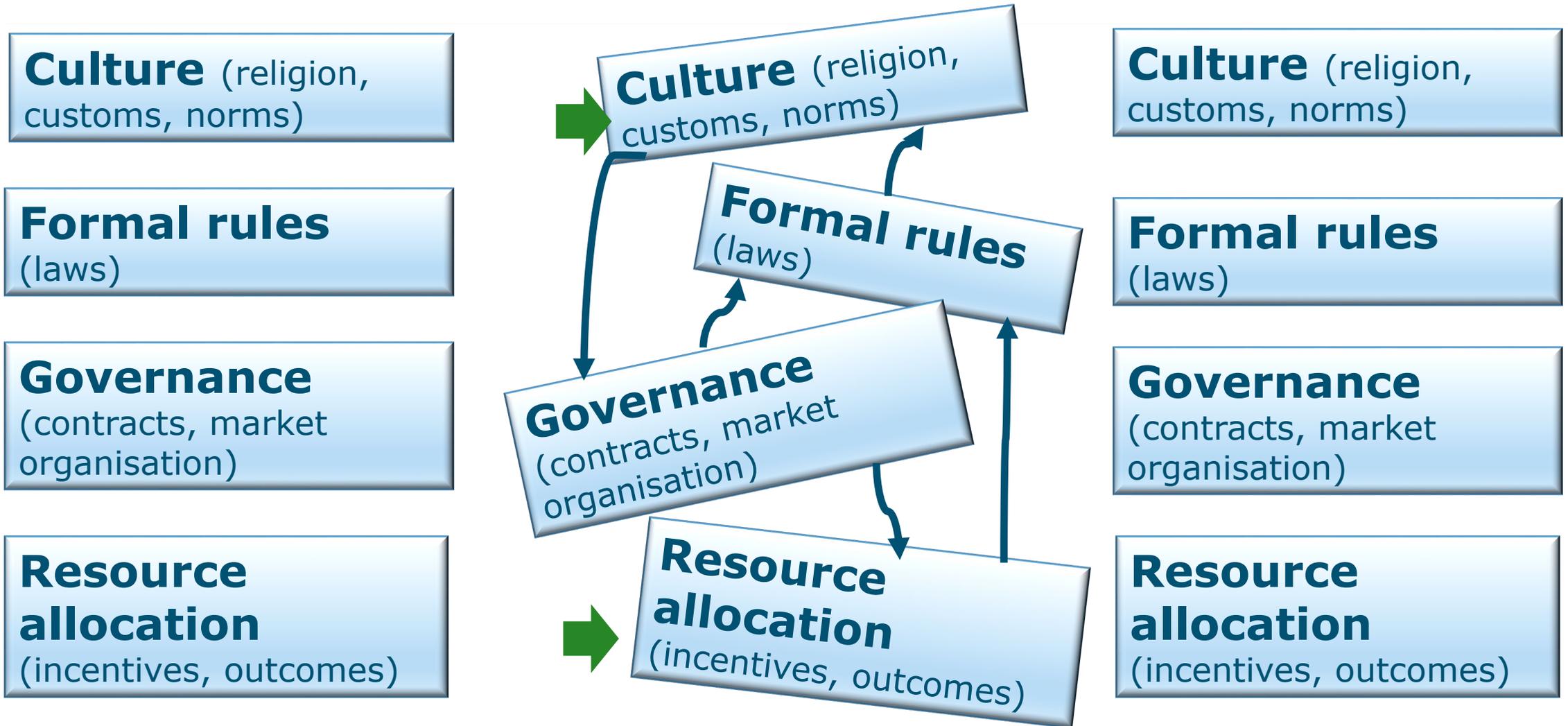
# Food chain: 2 weak spots – at crossroads?



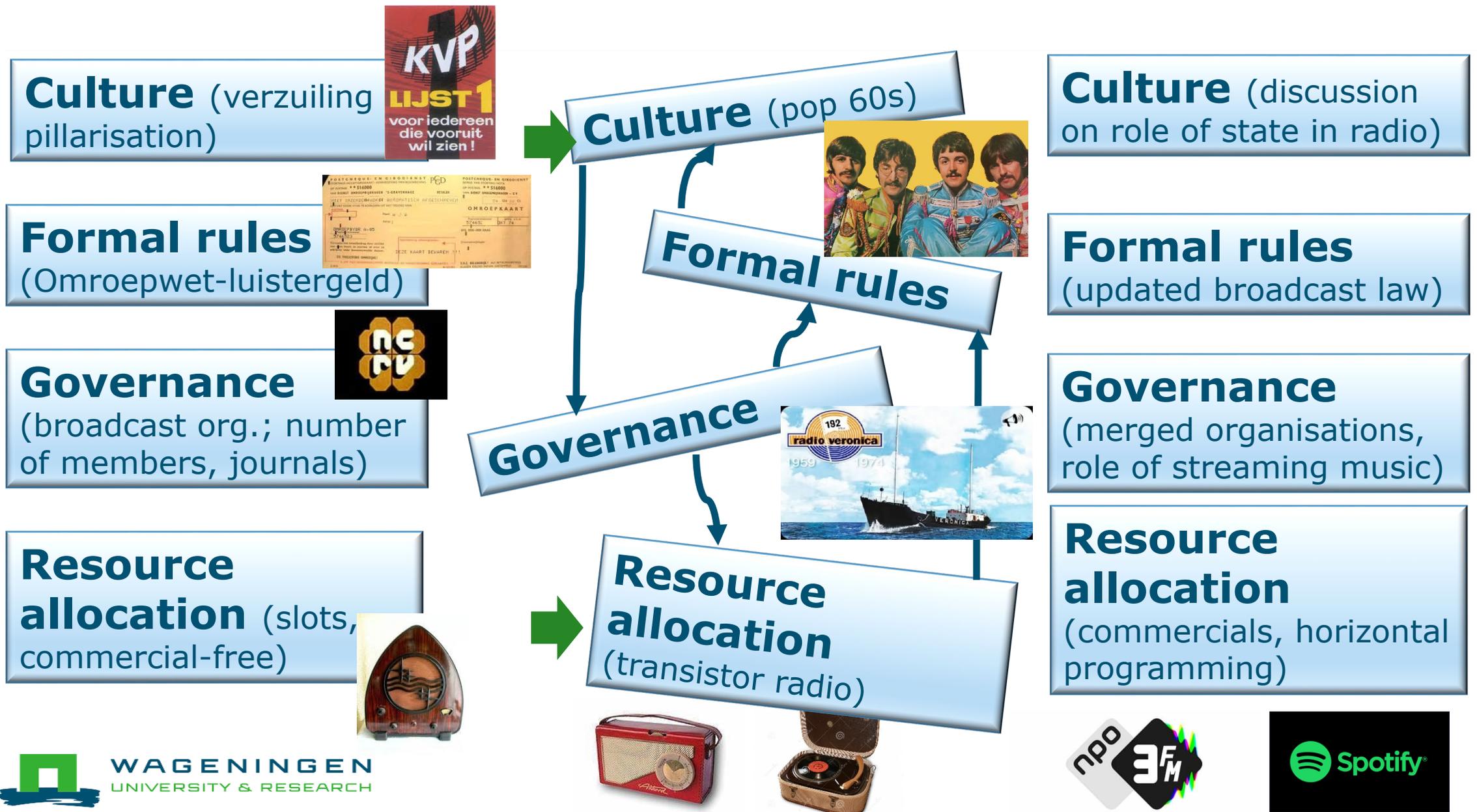
- Public health issues – obesity, Diabetes-2 etc.
- Climate change asks for changes in diet
- Strong structural change
- Environmental costs need to be internalised
- Climate change (GHG) strengthens this

Is it coincidence that these 2 are the weakest groups?  
Are these issues business opportunities / market failure?  
Or system failure and lack of transformative capacity?

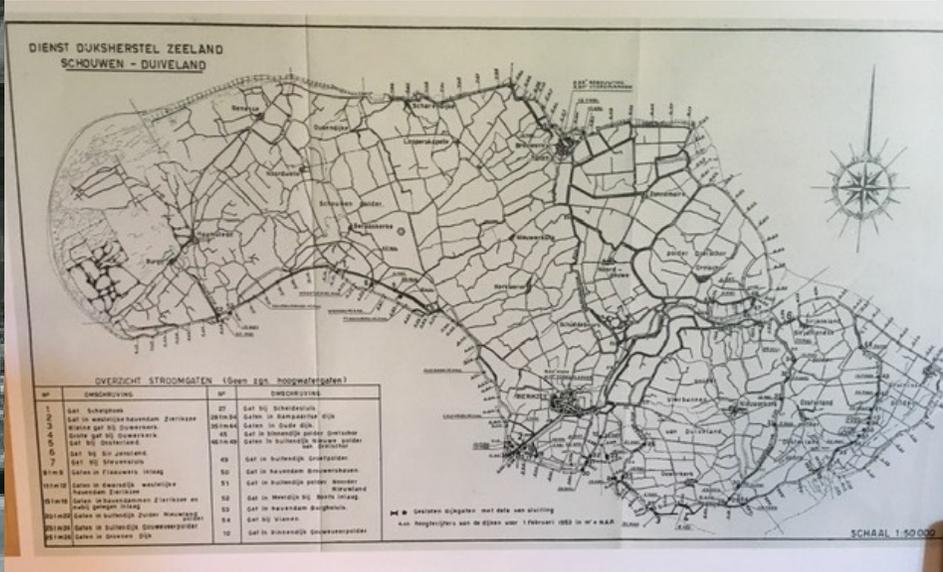
# Institutional economics: regulating mechanisms



# An example from the history of Dutch radio



Schouwen-Duiveland, toestand vóór 1 Februari 1953.



# The 1960s Dutch Food System: State is leading

## Culture

## Formal rules

## Governance

## Resource allocation

- Mixed Economy (USA market and USSR command) Modernisation paradigm. Exports for dollars. Farmers: Blijvers & Wijkers – Grow or go.
- Dominant government laws and instruments. (Common) Ag Policy, Reallotment Act, AKIS: OVO (LH, LEI etc., Consulenten, DLV & SEV). Flevo: RIJP
- Local cooperatives (banks, trade (inputs), first processing, auctions), weekly (cattle) markets
- CAP prices for products. Indirect price support. No environmental problems yet. Inflow of capital, outflow of (paid) labour



# What we experienced 1970 – 2020: Productivism

Culture

Formal rules

Governance

Resource allocation

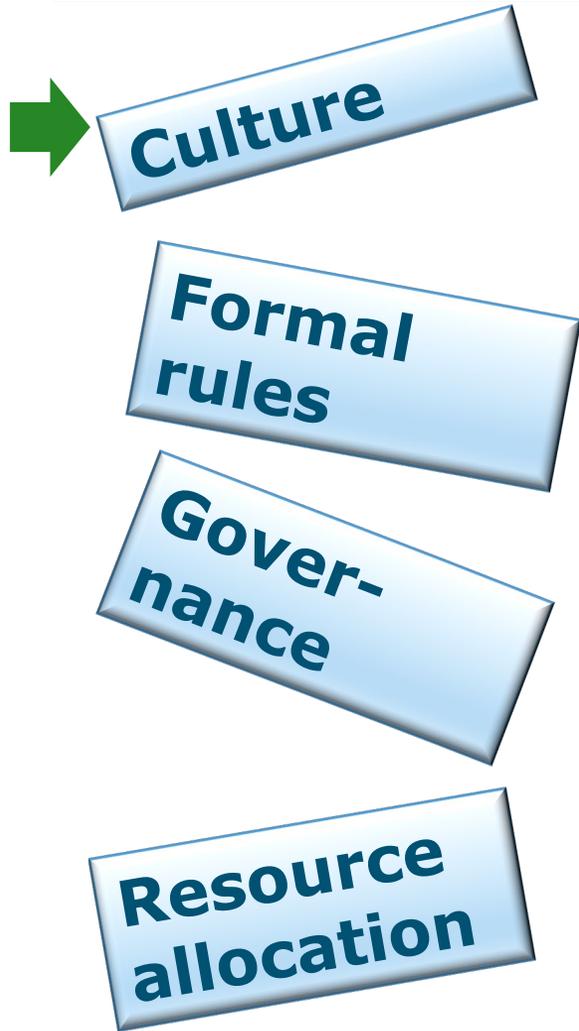
- Thatcher/Reagan neo-liberal move, new public management. Government failure. Fall of the wall (end of history). Farmers labelled as Entrepreneurs. Feed the world, 2<sup>nd</sup> largest exporter.
- CAP: MacSharry direct payments, quota, set aside, budget cuts (modernisation completed, extension privatised)
- Economies of scale for cost reduction: mergers of food chain and retail, banks, into multinationals. Brands. Chain management, product differentiation. Food safety standards (Gobalgap).
- Over supply (butter mountains), world market prices. Budget costs, Higher labour costs, more capital. Disappearing middle. Env. externalities



Global Farmers



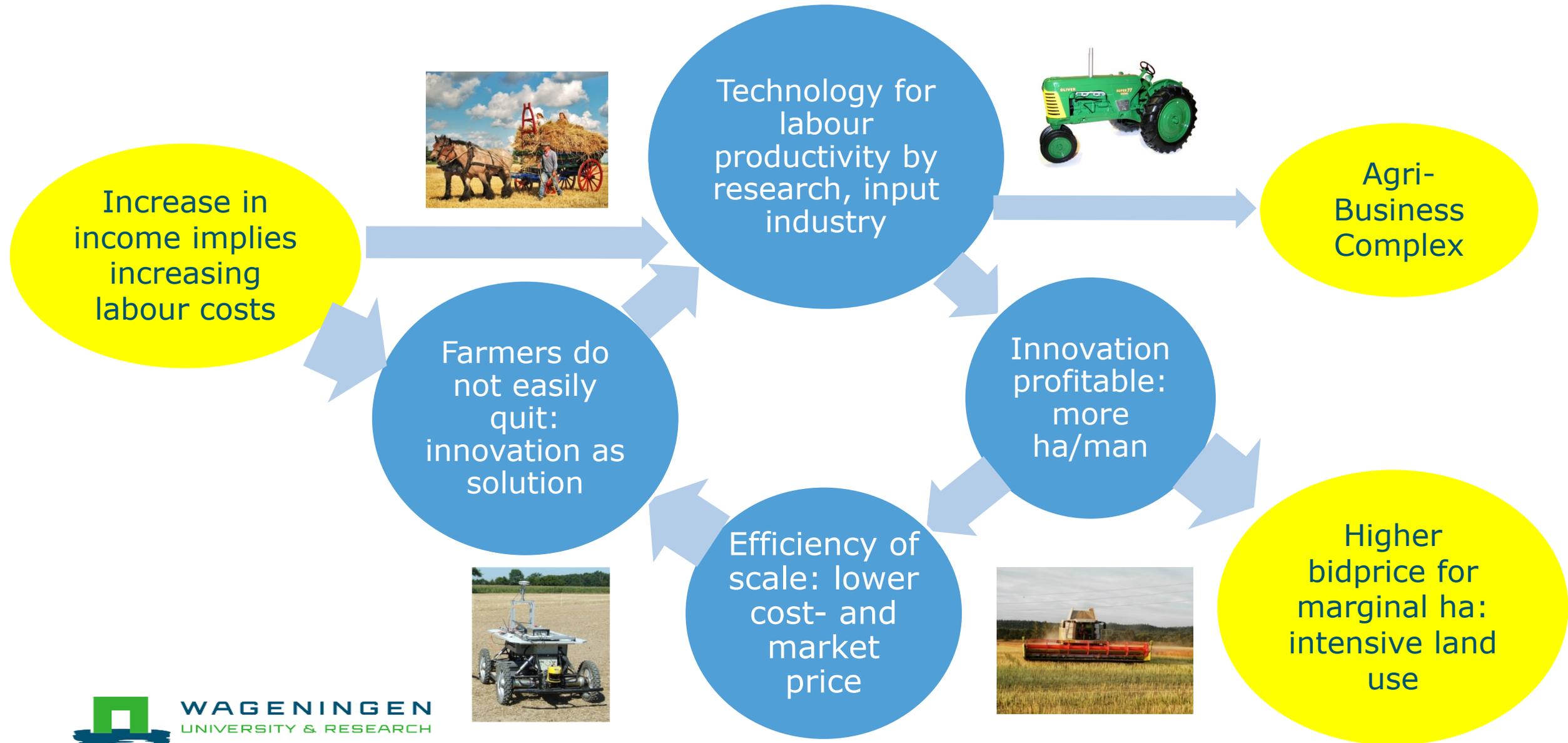
# What we experienced 1970 – 2020: Sufficiency



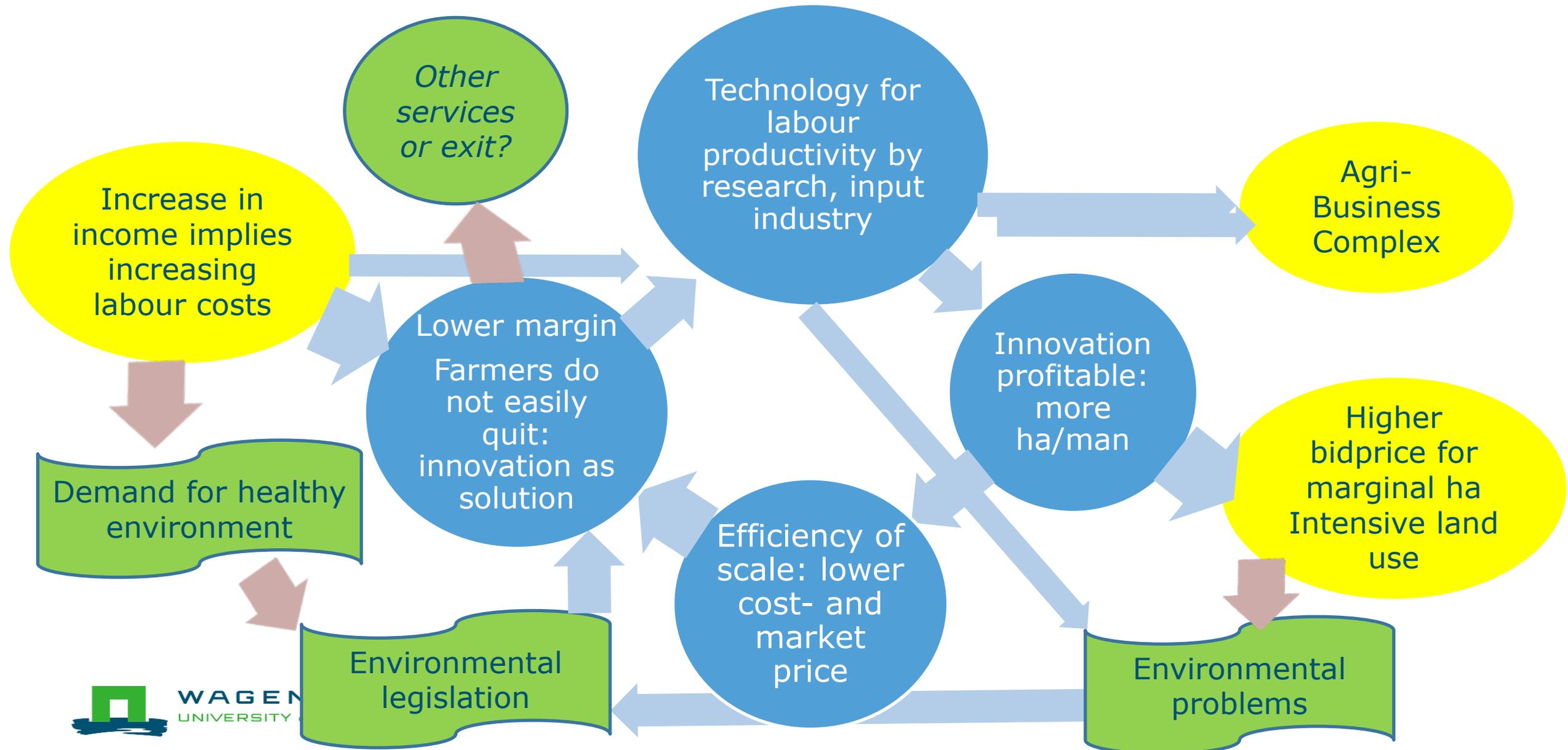
- 60s counter culture / cultural liberalisation. Environment: Silent Spring, Limits to the growth (Meadows et al). Small is beautiful.
- Governments move to environmental policy: Relatienota, Manure, Pesticides, Nitrate, FMD/Q-fever: public health. Organic regulation. From information, subsidies (cross compliance) to regulation and environmental quota
- NGOs as a new player oriented to politics and to food brands with vulnerable reputation. Animal welfare concepts. Nature management contracts.
- Niche products, (sale and lease of) intangible assets like quota. Environmental outcomes.



# Three Economic Mechanisms: 1. Cochrane's Treadmill



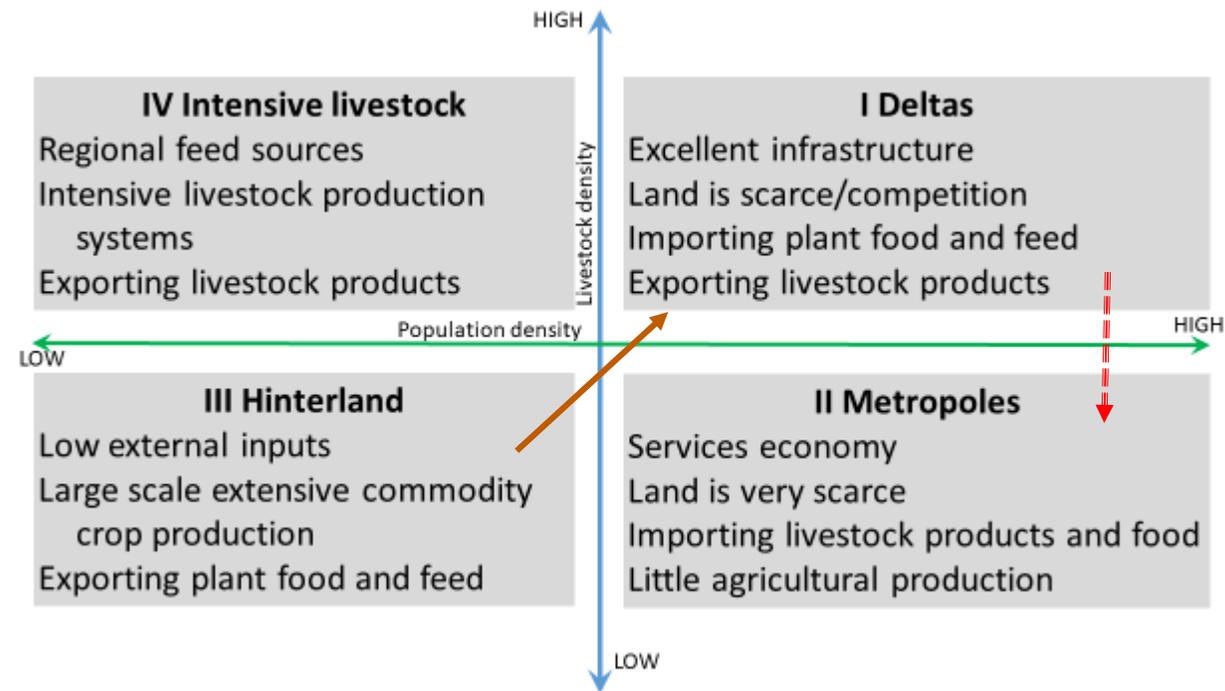
# Cochrane's Treadmill and environmental consequences



# Mechanism 2. Cluster / agglomeration effects

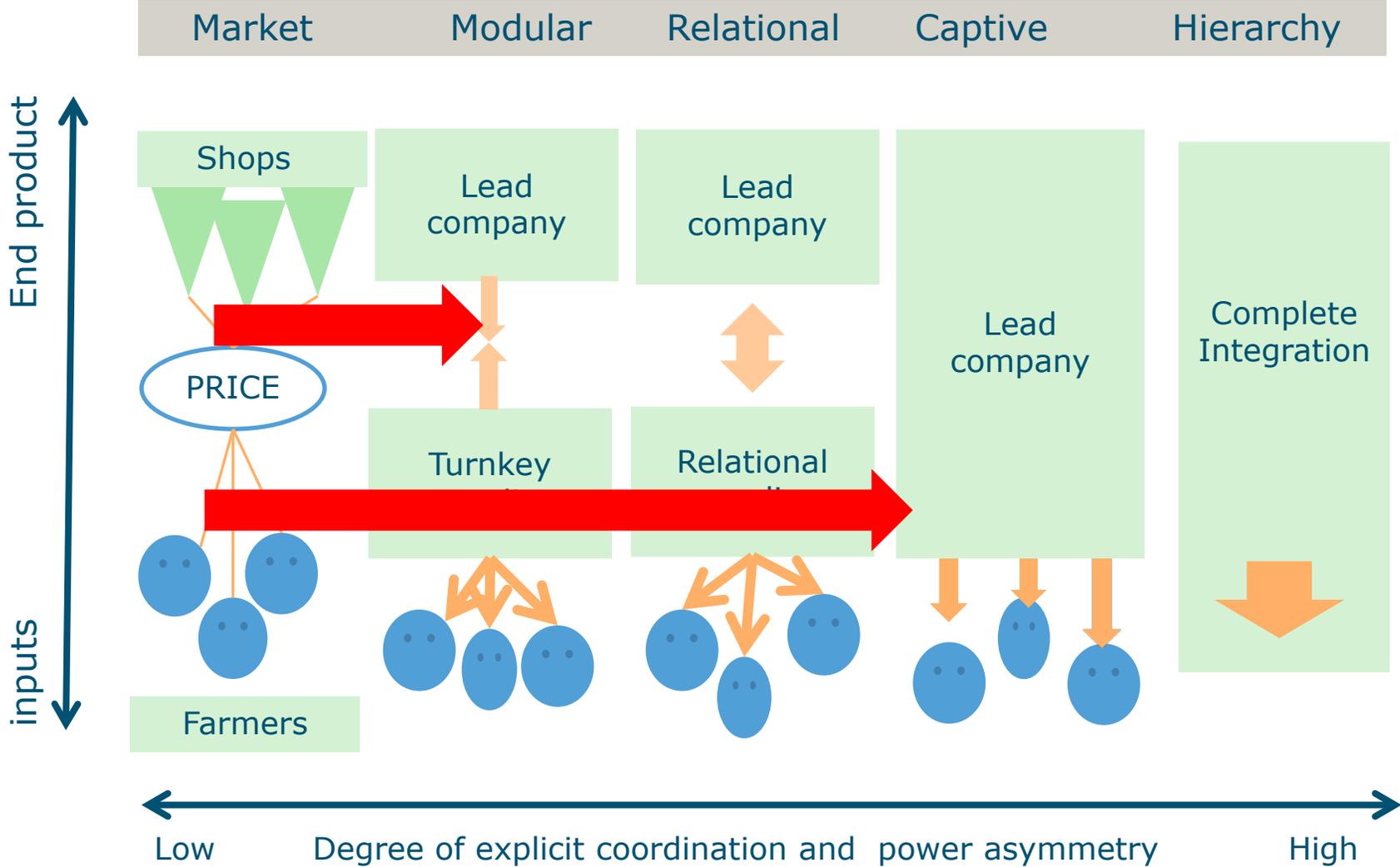
The delta with its main ports remains attractive (cluster is hard to copy)

- Mix imports and own products
- Specialised services in agri-business cluster with educated knowledge workers
- Deep labour markets
- Attractive living environment for staff in green metropole
- International connections
- Links with other innovative industries (ict, health ?)



Environmental issues as a side - effect

# Mechanism 3. Chain organisation changes (©Gereffi et al., 2005)



# Current Food System: Agribusiness leads at cross roads

## Culture

- Culture wars: productivism (2<sup>nd</sup> exporter, feed the world, low foot print / kg, level playing field) versus sufficiency (pollution / ha; meat and GHG). *Disruption ahead?*

## Formal rules

- Non-interventionist CAP, Market solutions and (PPS) innovation as preferred instruments (neo-liberal), PAS: count on future tech fixes in N, Decentralisation in law (Omgevingswet).

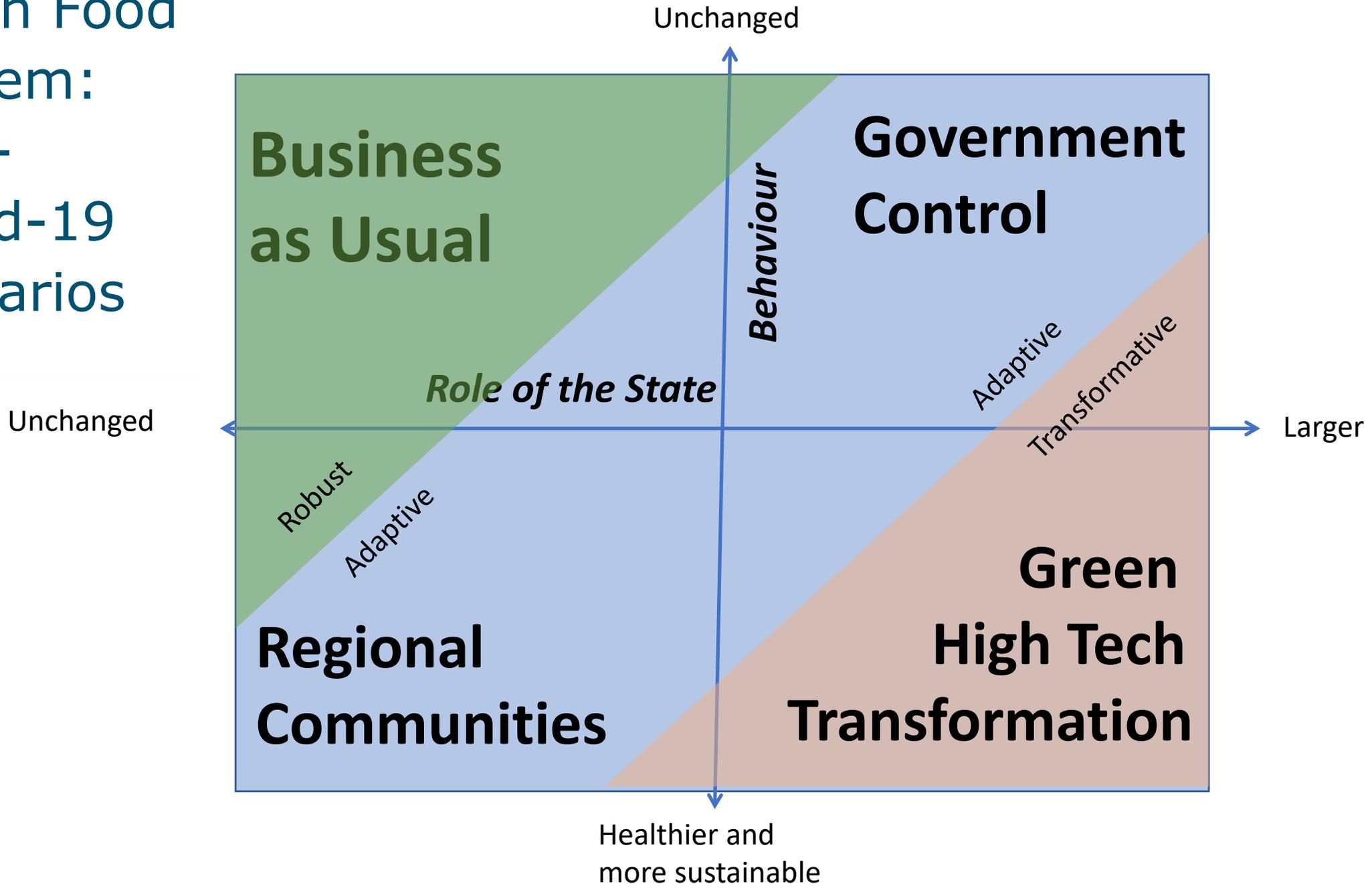
## Governance

- Contracts instruct farmers. NGO's check business and government. Some experiments / niches in short supply chains.

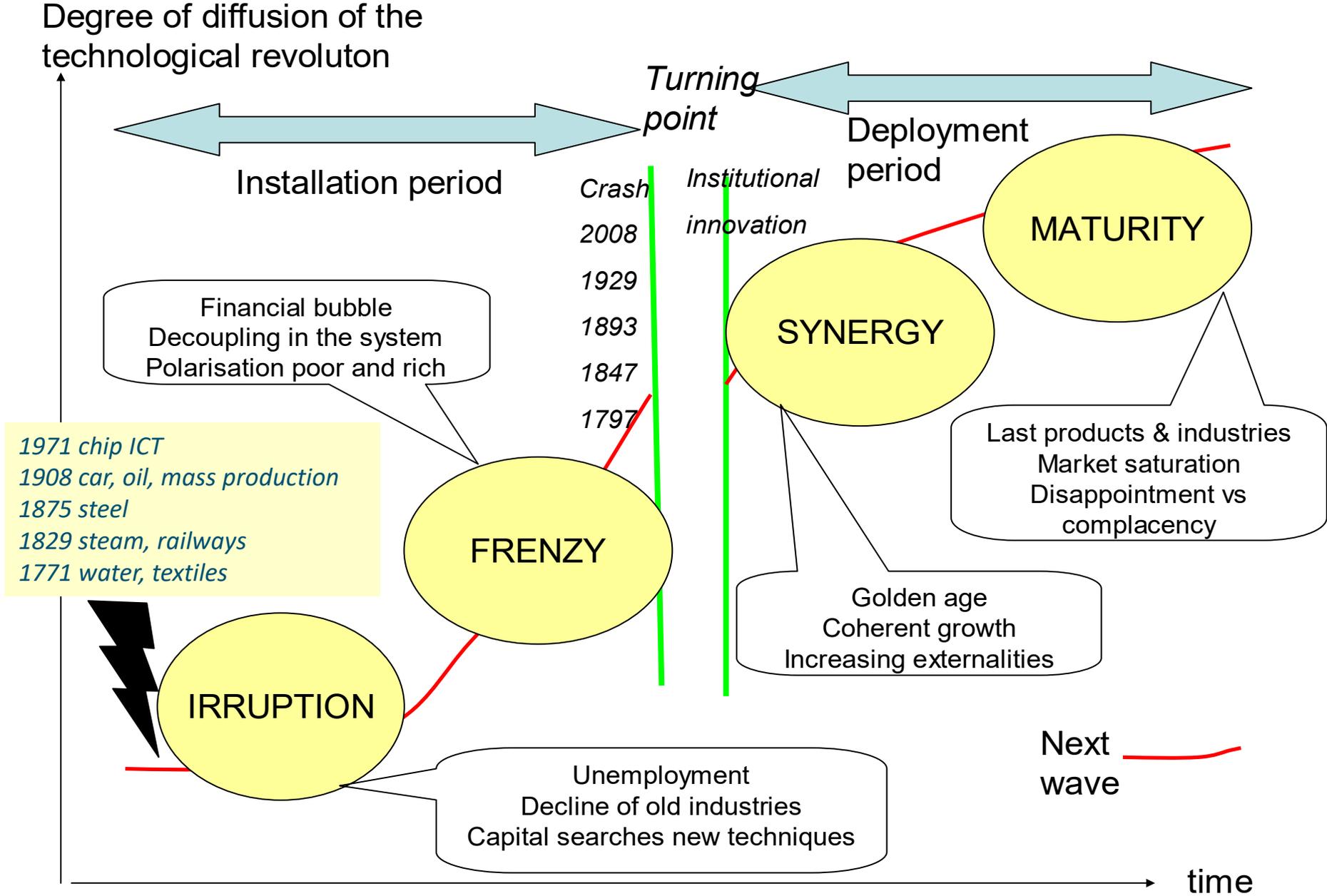
## Resource allocation

- Cost price based commodities with migrant labour. Problematic (although improving) environmental effects. High marginal land prices (source of wealth and incentive for intensification). Low incomes with mid-sized producers. Economies of scale dominate.

# Dutch Food System: post-Covid-19 scenarios



# The opportunity for green growth



Based on Perez, 2002



# The future Food System in a Green High Tech scenario

## Culture

- New modernisation paradigm: ***Produce the most Innovative and Sustainable Metropolitan Food and Landscape services***. Based on data as a common good for collaboration. Farmers as managers.

## Formal rules

- Tradeable environmental quota (N, P, NH<sub>3</sub>, CO<sub>2</sub>). CAP Eco-schemes / Pillar 2 long term contracts. Independency in AKIS for transition. Law on data management that makes farmer holder of data and obliges UBL. Active land policy. Regional planning (zoning) and re-allotment.

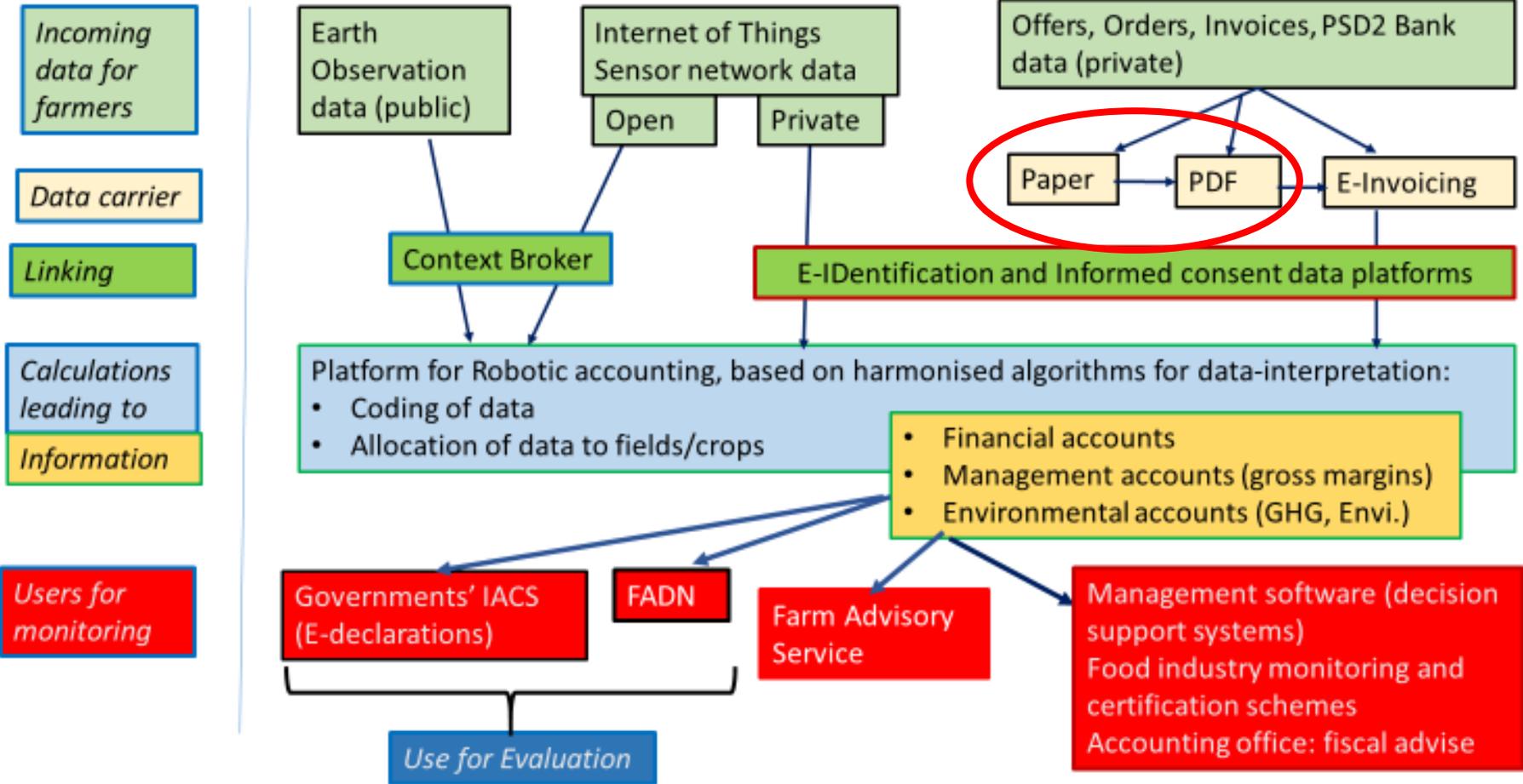
## Governance

- Food processors: multinationals governed by EU. Farmers are incentivised by contracts of industry, topped up by eco-schemes. Clear methods for data transparency and sustainability accounting.

## Resource allocation

- Economies of scale and Economies of scope and place; Small farmers' issue: income based on location, income from biodiversity contracts, CO<sub>2</sub> storage, solar fields, niche products, part-time. Data adds value.

# Improved data management: digital farm dashboard with kpi's (© EU project MEF4CAP >> Farm Sustainability Data Network)



# Citizen Data Platform (© Food, Nutrition and Health RI)



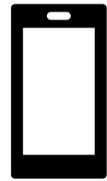
**Food Consumption**



**Activity / Lifestyle**



**Health**



**Smartphone**  
(FoodProfiler)



**Smartwatch**  
(iWatch)



**Other (external) data sources**

(smart training data,  
retail loyalty cards  
Digital Patient Dossier  
social media, other apps)



**Citizen is owner  
and provides  
access**



**Datawarehouse**

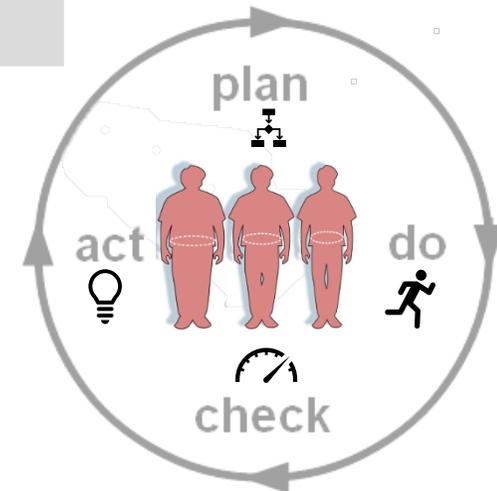
Citizens,  
Patient groups  
Employers  
Health and Food industry  
(Local) government  
Farmers in short supply  
chains (marketing plans)

**Data needs  
and research  
questions**

**Research (output)**

Fitness / Sport plan  
Menu / Diet Advise  
Health Treatment plan

Behavioral Insights  
Policy Advise



**"Citizen health cycle"**

**Policy makers  
and industry**

# A regional approach is needed to overcome problems

Farms have become small and suboptimal, even in Flevoland.

Intensification per ha problematic for environment

How to stay competitive and create more regional income?

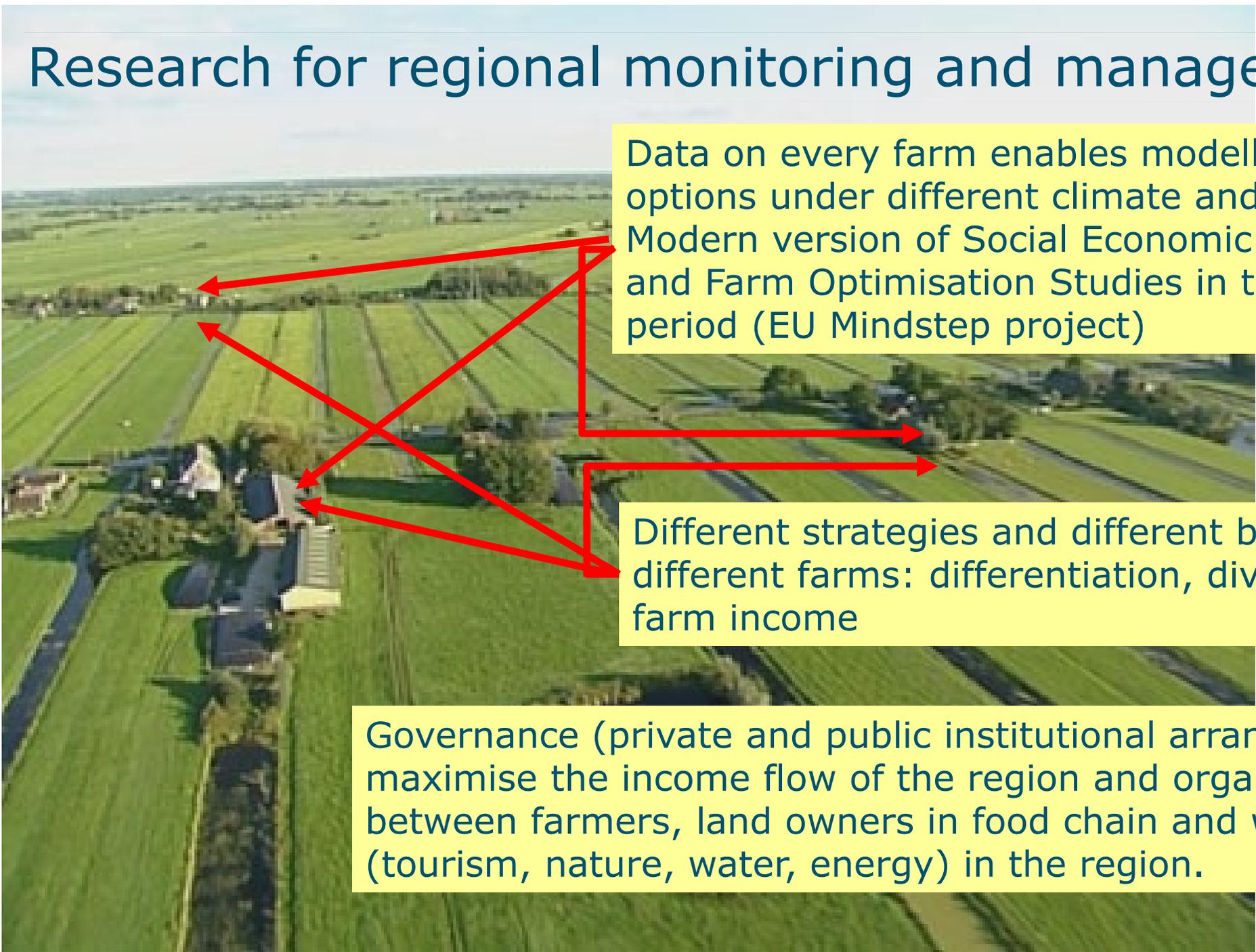
A regional approach is needed in 100 regions:

- Issues differ even in 1 theme and sector (climate / dairy)
- Issues have to be integrated
- Options differ between regions due to economic structure of the region
- Trust is needed, that can be created locally with coffee

Role of Dutch government:

- Install quota for N, P, NH<sub>3</sub>, CO<sub>2</sub> with emission levels 2030,2050
- CAP: from direct payments to eco-schemes topping up private labels
- 25 year conservation contracts like in the US to underpin farm strategy
- Time to change: demographics will help to close down some farming
- Budget to organise the process (re-install DLG) and de-value land

# Research for regional monitoring and management

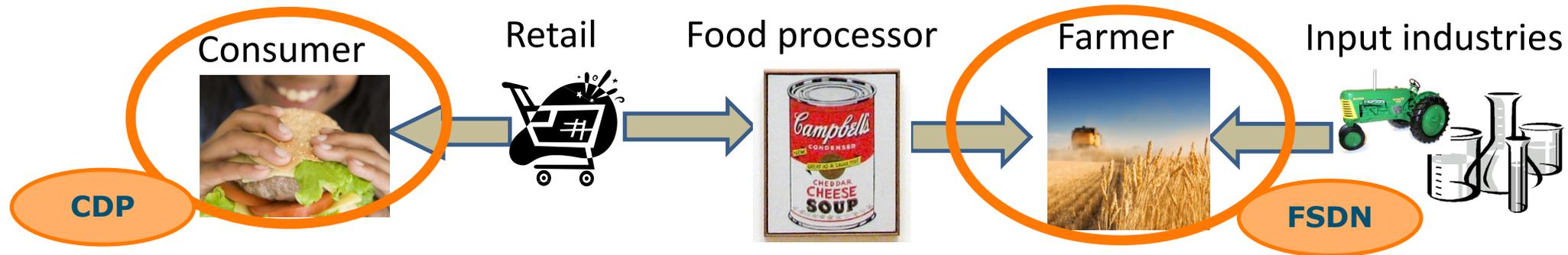
An aerial photograph of a rural landscape. In the foreground, there is a farmstead with several buildings, including a large white house and a smaller structure. A canal or waterway runs through the fields. The background shows a vast expanse of green agricultural fields under a clear sky.

Data on every farm enables modelling individual farm options under different climate and policy scenarios. Modern version of Social Economic Regional Studies and Farm Optimisation Studies in the 1950-1970 period (EU Mindstep project)

Different strategies and different business models for different farms: differentiation, diversification, non-farm income

Governance (private and public institutional arrangements) to maximise the income flow of the region and organise collaboration between farmers, land owners in food chain and with other sectors (tourism, nature, water, energy) in the region.

# In conclusion: how to make us more resilient?



- For a resilient society we need to accept that transitions are part of life
- Changes at the farm are driven by trends in society
- If we are not satisfied with the outcome: change the governance
- With digitization and a regional approach we can create the ***Most Innovative and Sustainable Metropolitan Food and Landscape services***. Make it a mission.
- Food policy should enable: address industry, organize the data market, environmental quota, bio-diversity contracts and a supportive AKIS
- Economists (at WEcR) have interesting contributions in the pipeline.

Time for  
departure !

Thanks for  
your attention

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