Agricultural Knowledge Systems in Transition Institutional Reforms in The Netherlands

September 19, 2017 Dr Huib Silvis







OECD Food and Agricultural Reviews

Innovation, Agricultural Productivity and Sustainability in the Netherlands





Message:

Maintain the strength of the agricultural innovation system



Agriculture in The Netherlands

Agricultural area: 2 million ha

No of Farms: 60 thousand

Farm types: Dairy, Horticulture (glasshouse/open), Arable, Pigs, Poultry, Veal

High productivity of land and labour

No 2 in world agricultural exports (after USA)

EU Market & Common Agricultural Policy (CAP)



Model of value creation Dutch agriculture

1. Specific conditions

Favourable climate and light
Delta with harbours and good soils
Knowledge and education
Cheap (water) transport
Diverse production
Small home market

2. Competitive advantage

High productivity
Low cost price
High volume
Cheap capital
Export development



4. Investments

Agricultural knowledge system:
Research – extension - education
Cooperatives: product development
Breeding material
Infrastructure rural area
New land (polders)
Supportive government policies



High participation in organizations
Specialisation of farms
Important in common market EU
Positive image abroad
High costs land and labour
Environmental issues: pressure to
innovate

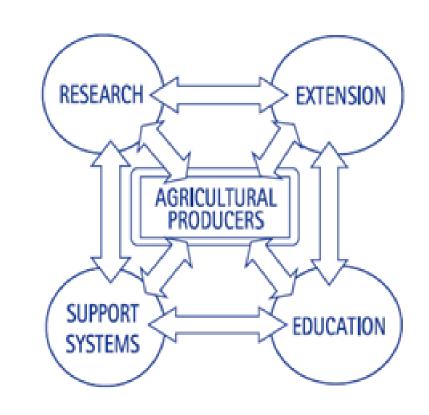


Original model of the Dutch AKS

System for knowledge creation and application

- Research: Fundamental,
 Application-oriented, Field-based
- Extension: Technical,
 Socio-economic
- Education: from Lower
 Professional to Academic

Mainly funded by the ministry of Agriculture



Focus on productivity



Reasons for changes: conflicting interests

With society

- Widening of objectives: public goods, correcting market failure, consumer concerns
- Reduced confidence in technology, social acceptability
- Too expensive for declining sector (GDP, employment)

Within agriculture

- Larger differences between subsectors and enterprises
- Vertical forms of co-operation



Dilemmas and challenges

System Involvement <--- > Independence

Organisation Specialisation <---> Integration

Researchers Creativity <---> Responsiveness



System: towards independence

- Privatization of extension, now privately funded
- Privatization of research institutes

- Merging of ministries of Agriculture and Economic Affairs
- Abolishment of the statutory industrial organizations: Agriculture board; Commodity boards

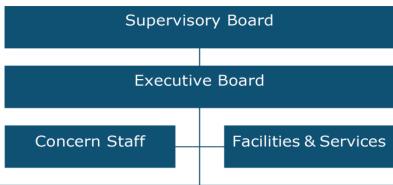


Organisation: towards integration



To explore the potential of nature to improve the quality of life



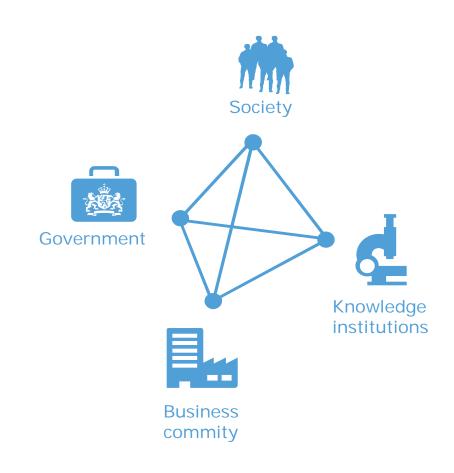


Agrotechnology & Food Sciences Group	Animal Sciences Group	Environmental Sciences Group	Plant Sciences Group	Social Sciences Group	
Wageningen University					
Agrotechnology & Food Sciences	Animal Sciences	Environmental Sciences	Plant Sciences	Social Sciences	Wageningen International
					Wageningen Academy
Wageningen Research					Wageningen Marine Research
Wageningen Food & Biobased	Wageningen Livestock	Wageningen Environmental	Wageningen Plant	Wageningen Economic	
Research	Research Wageningen Bioveterinary Research	Research	Research	Research Centre for Development Innovation	RIKILT (food safety)

Strategic Investment Themes of WUR

- Global One Health
- Resource Use Efficiency
- Resilience
- Metropolitan Solutions
- Synthetic Biology

Stakeholders





Researchers: responsiveness required

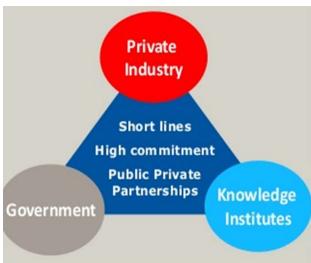
- Input funding
 - Output funding
 - Tendering (beauty contest)
 - Public Private Partnerships





Top sector policy

'Golden triangle': productive relationships to stimulate innovation







Reflections of the OECD

- Performance AKIS very good, based on long term investments
- Institutional changes towards collaborative and demand-driven system
- Sources of R&D funding are uncertain
- Tax incentives provide majority of support to innovation in private sector
- Sustainability of the system's performance questionable: top sector policy driven by industry interests (shorter term)
- Further changes foreseen: education application-or. research
- Longer term impact needs to be evaluated



Response of Dutch government (i)

Support for innovation

Seed capital for innovative start-ups: Future Food Fund and Shift Seed Fund

Cross-overs between top sectors: High Tech to Feed the World: new PP-projects: robots, early-warning in meat processing, smart glasshouse materials, supply chain of cool-fresh products, crop production, climate smart glasshouses, sensors in the field, poultry chain

Start-up accelerators: support for business plans and marketing



Response of Dutch government (ii)

Strategic Knowledge and Innovation Programs

- Sustainable and robust food supply
- Sustainable supply chains
- Sustainable use of natural capital



Thank you for your attention

Any questions?

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