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)
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

3. Results
- 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

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

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<th>Involvement</th>
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- **System**: Involvement vs. Independence
- **Organisation**: Specialisation vs. Integration
- **Researchers**: Creativity vs. 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
Strategic Investment Themes of WUR

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

Stakeholders
- Society
- Government
- Knowledge institutions
- Business community
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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