Smart Farming Future

Workshop 17-10-2025

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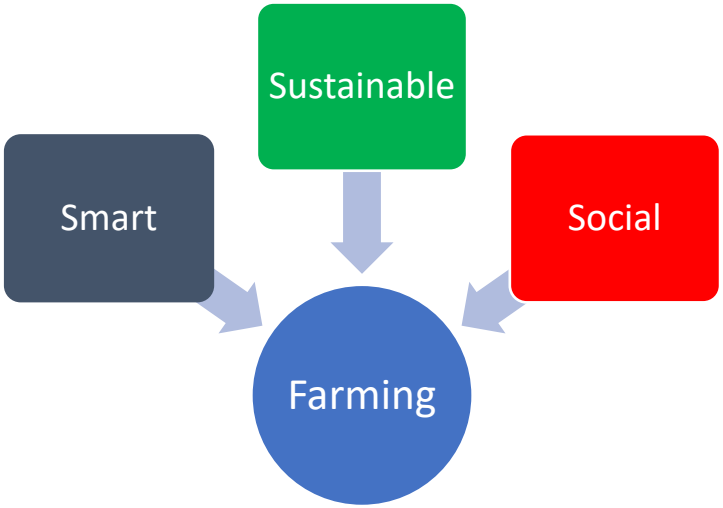

Programme for the day

Morning:

10.00-12.30 Imagining the Future of Smart Farming

Afternoon:

14.00-16.00 Dialogue

Morning:

10.00-12.30 Imagining the future of smart farming

- Check-in (10 minutes)
- Introduction & Q&A (20 minutes)
- Role play (90 minutes)
- Evaluation (30 minutes)

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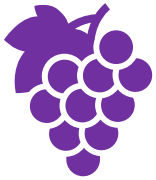
Doe ook mee!



Check-in (10 minutes):

- Who are you?
- What is your favourite fruit?

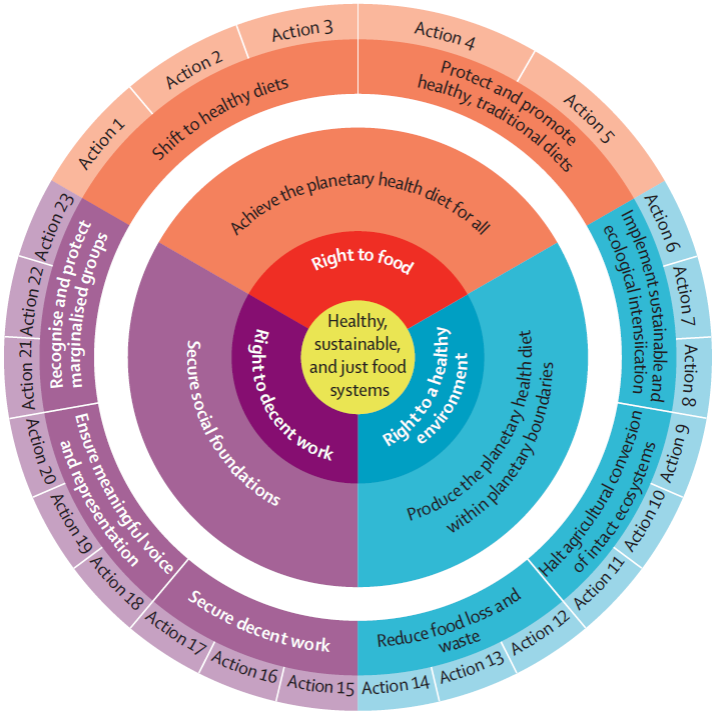
Introduction

The context:

Global political agenda 2030:

In 2015, the General Assembly of the United Nations adopted the seventeen sustainable development goals

Introduction



Excerpt from Figure 16: Goals, solutions, and actions to achieve healthy, sustainable, and just food systems (www.thelancet.com Vol 406 October 11, 2025, p 1672)

The context:

The Lancet Commission on healthy, sustainable and just food systems:

https://www.thelancet.com/commissions-do/eat-2025

The context:

European Green deal 2050:

Fit for 55: 55% less net CO2 emission than in 1990 – by 2030

Europe aims to be the first climate neutral continent by 2050

Among other measures, the EU supports 100+ 'Smart Sustainable Cities' that want to be at the forefront of this climate transition.

Utrecht is one of those cities.

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The context: Türkiye's Climate Change Strategy:

https://netsifirturkiye.org/en/home-english/

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The context: European Common Agricultural Policy:

https://agriculture.ec.europa.eu/overview-vision-agriculture-food_en

Vision for Agriculture and Food

Shaping the future of farming and the agri-food sector for future generations in Europe.

Strategy to promote generational renewal

This strategy will address demographic challenges facing the EU's agricultural sector by attracting and supporting young & entrepreneurial farmers.

More on the Strategy →

Research, innovation and knowledge exchange

Farmers, foresters and rural communities need knowledge, skills and innovative solutions to be competitive and resilient, and embrace the transition to sustainability.

Türkiye

The EU and Türkiye created a Customs Union in 1996, within the framework of the 1963 Association Agreement, but this does not cover agricultural goods. Agricultural trade relations between the EU and Türkiye are governed by the EU-Türkiye agreement on the trade of agricultural products. The agreement was amended in 2006, to take account of the enlargement of the EU in 2004, and then again in 2018, to take account of a change of definition in a quota for beef granted to the EU.

The agreement has an asymmetrical nature. Türkiye benefits from a complete elimination of ad valorem duties on all except the most sensitive agricultural products, which are covered by quotas. EU preferences are limited to the quotas listed in the agreement.

Türkiye is a major trade partner of the EU, being the 10th largest export destination for EU agri-food products and its 8th biggest supplier (2019). Türkiye has a surplus in agri-food trade with the EU, with exports consisting mainly of fruit and vegetables and preparations of fruit and vegetables. In the other direction, the EU mainly exports cereals, cotton and food preparations to Türkiye.

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EU strategic dialogue on the future of agriculture (2024): https://agriculture.ec.europa.eu/overview-vision-agriculture-food/main-initiatives-strategic-dialogue-future-eu-agriculture_en

"By 2035/2040, agriculture and food systems in Europe are flourishing within the limits of planetary boundaries."

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Doe ook mee!

EU strategic dialogue on the future of agriculture (2024)

"[Agriculture and food systems] deliver food security for Europe by:

- ✓ providing sufficient access to a diverse range of safe, affordable, sustainable, and nutritious food for a healthy diet,
- ✓ produced to high standards of animal welfare
- ✓ and they protect and restore the natural environment and its ecosystem services in a resilient and robust economic manner."

EU strategic dialogue on the future of agriculture (2024):

“At a global level, Europe contributes proportionally to the availability and affordability of healthy food.

This is thanks to its strong commitment to … global food security through … trade and cooperation in respect of other countries’ food sovereignty.

Its global influence … has increased significantly due to the strategic differentiation of its production and the latest EU enlargements.”

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Doe ook mee!

EU strategic dialogue on the future of agriculture (2024):

"… European agriculture and food systems ensure that the EU is … autonomous in food, feed, and biomass.

- ✓ … farmers have reduced their use of synthetic inputs,
- ✓ the European agri-food input industry … invest[s] in the development of new sustainable products and services
- ✓ based on an effective and enabling regulatory and political environment.

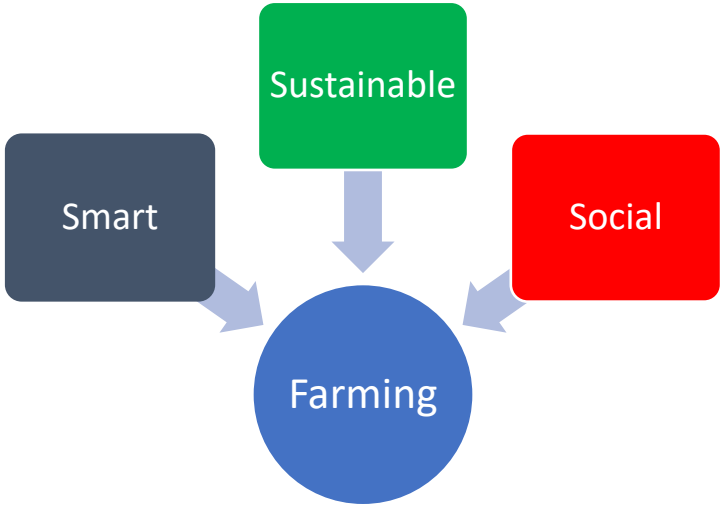
Agriculture, food production and the protection of natural resources have been reconciled in a fair and innovative manner."

EU strategic dialogue on the future of agriculture (2024):

“Farmers receive a decent income from their production and all actors of the agri-food value chain benefit from fair prices.”

The role play:

Imagine Future Smart Farming in 2040

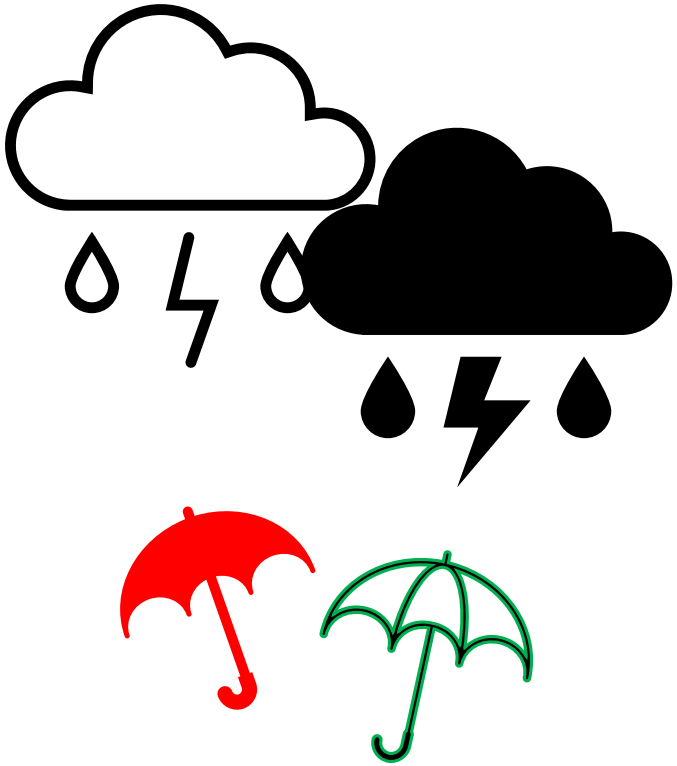


This morning: Imagine what Smart Farming may look like by 2040 and how it will feel to live there

– then take a step back to today -

This afternoon: discuss steps to promote desirable and prevent undesirable future developments

Introduction to the role play - 1



Utrecht, February 2040: After a month of non-stop rain, half of Lunetten and parts of Nieuwegein are half a meter under water. Residents are accommodated in the Fairground and churches in higher neighbourhoods. These locations have been well prepared for this since last summer, when they offered heat refugees cooling for weeks, especially from Overvecht, Kanaleneiland and Hoograven.

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Introduction to the role play - 2

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Bursa, July 2040:
Forest fires are raging and threatening the third largest city of Türkiye. A heat wave with temperatures up to 50 degrees in the South-East has made life unbearable for citizens. Dozens of people are hospitalised and some have died because of heat-strokes. Harvests are failing because of lack of rain for over half a year.

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Introduction to the role play - 3

Four young farmers have prepared business plans for their own farm:

Ahmet: Turkish organic animal farmer

Belinda: Dutch Community Supported Agriculture growing organic fruit and vegetables

Ceyda: Turkish smart vertical vegetable farmer

David: Dutch high tech animal farmer

Today, the farmers are going on a tour of four stakeholder groups, to win their support:

I: Investors

II: Big food companies

III: Consumers

IV: Environmental movement

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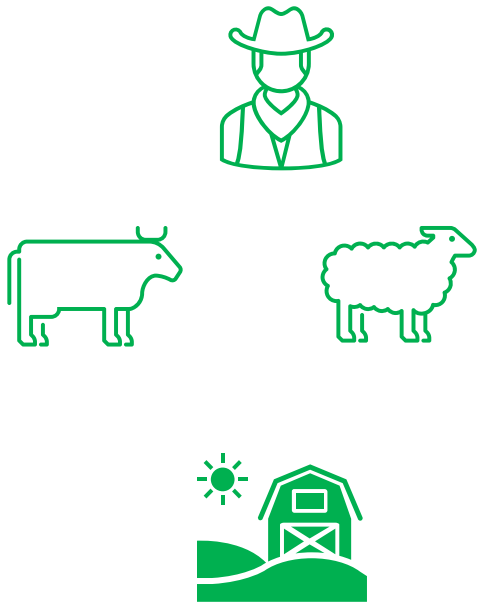
Ahmet



Ahmet: Turkish organic animal farmer

- ✓ Take over small animal farm of parents
- ✓ Grow own organic feed and buys food waste from local organic vegetable farm
- ✓ Uses manure for own land and sells rest to local organic vegetable farm
- ✓ Sells meat, milk and other products direct to local consumers

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Belinda

Belinda: Dutch Community Supported Agriculture growing organic fruit and vegetables

- ✓ Local consumers invest in land of cooperative farm and subscribe to weekly delivery of fresh produce
- ✓ No pesticides or herbicides are used
- ✓ Volunteers help on the farm

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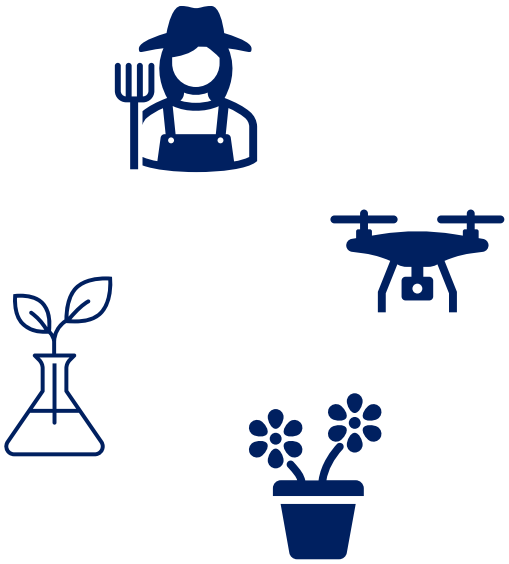

Ceyda

Ceyda: Turkish smart vertical vegetable farmer.

- ✓ The vertical farm is located in a city
- ✓ The vegetables are grown soilless in controlled environments
- ✓ The crops are genetically modified
- ✓ Water and energy use are minimised
- ✓ the produce is sold to big food companies

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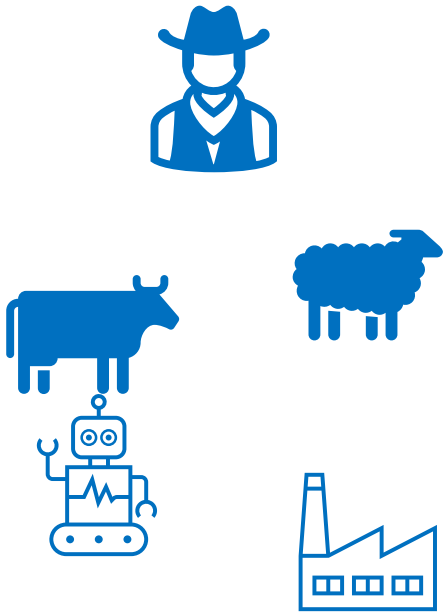
David



David: Dutch high tech animal farmer.

- ✓ A large number of animals is housed in large ‘animal flats’ and kept under controlled conditions
- ✓ The air in the stable is washed to remove greenhouse gases and smells before releasing it to the outside air
- ✓ Feeding, milking and control of the health of the animals is automated to minimise the use of energy and raw materials

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Investors

Stakeholder groups and their interests:

I: Investors

- ✓ Maximising shareholder profit is leading
- ✓ Financial risks due to climate change impacts should be minimised
- ✓ They want to improve their Corporate Social Responsibility reputation by investing in sustainable agriculture

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Big food companies

Stakeholder groups and their interests:

II: Big food companies

- ✓ They want reliable supply of good quality food
- ✓ They offer long term contracts at a bargain price
- ✓ They want to improve their corporate social responsibility reputation by qualifying for sustainability labels

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Consumers

Stakeholder groups and their interests:

III: Consumers

- ✓ They are very diverse
- ✓ Some insist on buying organic, local, vega(n), halal/kosher food
- ✓ Some prefer ordering food or buying everything at the same supermarket
- ✓ Some are on a diet (diabetic, etc)

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Environmental movement

Stakeholder groups and their interests:

IV: Environmental movement

- ✓ Campaigns for nature rights
- ✓ Is very concerned with nature conservation
- ✓ Limit human footprint to planetary boundaries
- ✓ Phase out all use of pesticides

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Evaluation (30 minutes):

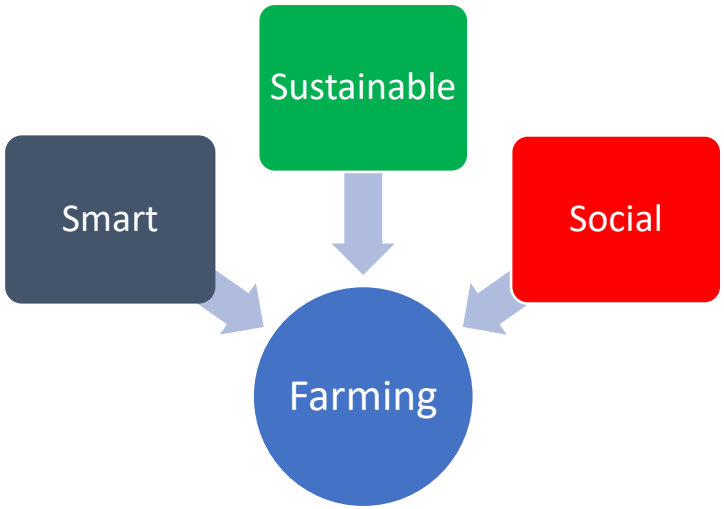
- What did you learn from the role play?
- Which new questions has the role play raised?

Afternoon:

14.00-16.00 Dialogue and Backcasting

- Introduction (10 minutes)
- World café round 1 (45 minutes)
- Break (10 minutes)
- World café round 2 (45 minutes)
- Conclusions and follow up (10 minutes)

Introduction to the dialogue



- Summary of outcomes of role play [to be added]

In the dialogue, we will return to the year 2025 and co-create plans for the next 15 years:

- How can we strengthen desirable
- And weaken undesirable developments
- In collaboration involving Turkish and Dutch youth
- Towards climate change-proof Smart Farming in 2040?

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- World café round 1 (45 minutes)
- 4 tables:

Organic animal farm (Ahmet)	Smart vertical vegetable farm (Ceyda)
Organic vegetable CSA (Belinda)	High tech animal farm (David)

In 4 groups, the other participants join one of the tables and contribute their personal expertise to these questions:

1) What goals must the farmer and other stakeholders reach by 2035 to make this farm flourish?
2) What steps must be taken by 2030 to be on track for achieving these goals?

- World café round 2 (45 minutes)
- 4 tables:

Organic animal farm (Ahmet)	Smart vertical vegetable farm (Ceyda)
Organic vegetable CSA (Belinda)	High tech animal farm (David)

The 4 groups move to another table, read and briefly discuss the results of the first round and contribute their personal expertise to these questions:

1) What regulatory, technological, economic, environmental and social support is needed by 2035 to let this type of agriculture contribute to the common agricultural strategy: “By 2040, agriculture and food systems in Europe are flourishing within the limits of planetary boundaries.”
2) Which steps must regulators and other stakeholders take by 2030 to allow this type of agriculture to contribute to the common agricultural strategy?

- Conclusions and follow up (10 minutes)
- In the role play, we have imagined what the future of agriculture may look like in 2040
- In the dialogue, we have co-created basic business models for 4 types of sustainable farms
- This offers a basis for developing a common strategy for collaboration on smart, sustainable and social farming involving the Netherlands and Türkiye