

An aerial sketch of a city design, likely Almere, showing a central urban area with various buildings and a canal. The city is surrounded by green fields and trees, illustrating the integration of agriculture and urban development. The sketch is done in a loose, artistic style with visible pencil or pen lines.

# Integrating agriculture in the design of the Dutch city of Almere

## The case of Agromere

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# Jan Eelco Jansma

- Applied Plant Research, Wageningen University & Research, Lelystad
- Research group Urban – Rural relationships
- My research
  - Designing New Farming Systems
  - Stakeholder Management
- **Urban Agriculture**





# View on The Netherlands



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# About our city live





# About our rural area

Nederland / Nirov



De Nieuwe Kaart van Nederland / Nirov



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# About our food



App. 3.000 km from farm to fork



App. 33% GHG emissions for food



App. 25% global energy use for food



App. 20-30% of our food wasted

**Food Miles**

How well travelled is your dinner?



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About our farmers.....

How the farmers gradually are disappearing from  
the Dutch country side, not their produce

februari 2001 | week 7 | adviesprijs f 6,95 | België: BEF 135  
**HP/DE TIJD**

**Hoe  
de boer  
uit Nederland  
verdwijnt**



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# About our agriculture



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# In short.....

- NL is highly urbanised
- Cities lack of (green) space, livability, social structure
- Cities food print
  - Waste
  - Energy
  - Water
  - Food
- Farming has no connection to its neighbourhood
  - No relation with consumers
  - No influence on product price
  - Part of a (long) food chain
- Farming could bring more than food
  - Green space
  - Services like care, education
  - Waste processing, energy supply



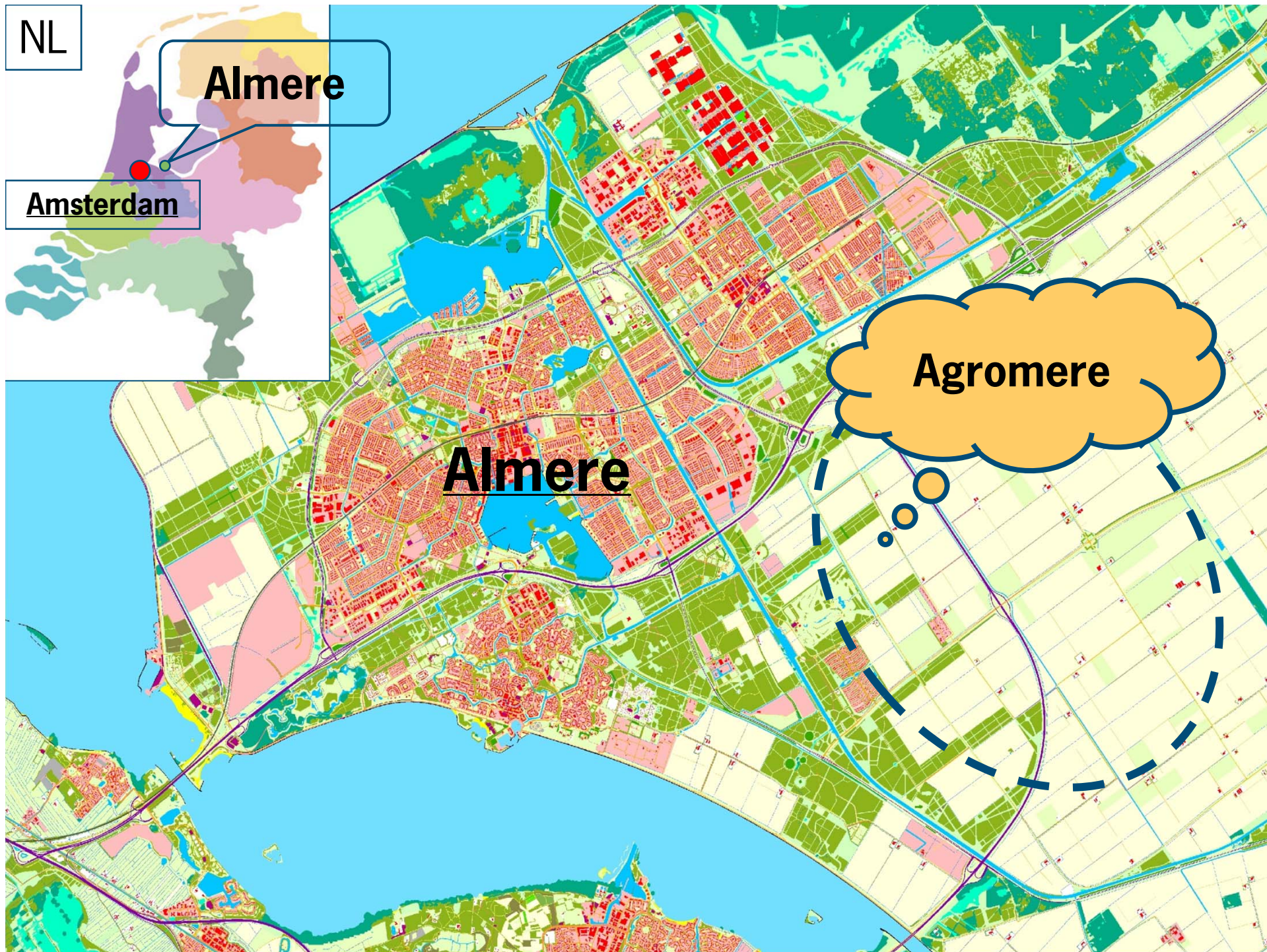
# The challenge

Could we re-integrate farming in cities and thus contribute to a sustainable and livable city (and farming)?


» (....2006...)











From water


**1961**





Through poldering

**1970**

A satellite image of a coastal region. On the left is a large body of water. To the right is a city with a grid-like street pattern. Further right is a vast area of agricultural fields, appearing as a patchwork of different shades of green and brown. A semi-transparent white box is centered over the city area.

Towards the city of  
tomorrow

**2008**



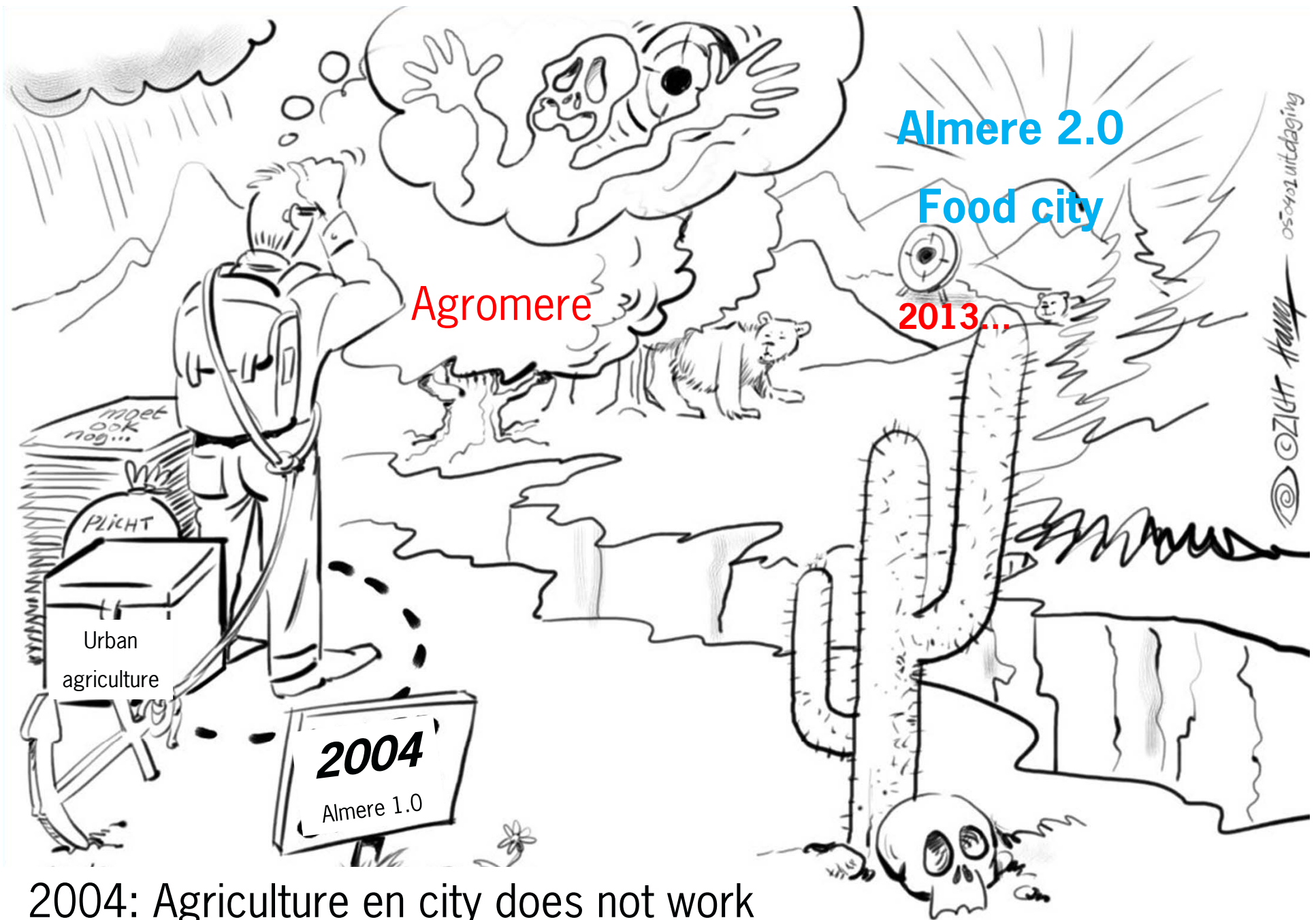


# Greetings from Almere!



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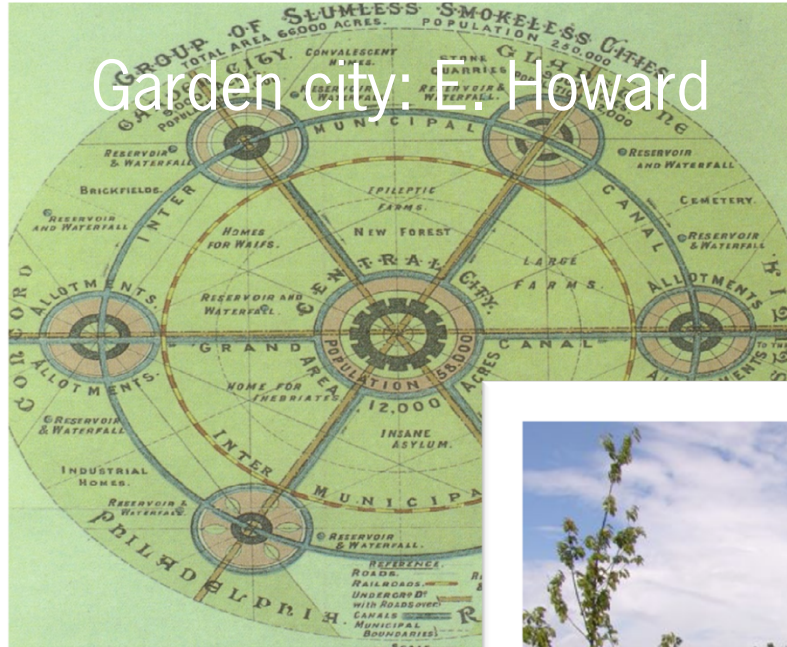


2004: Agriculture en city does not work  
in Almere

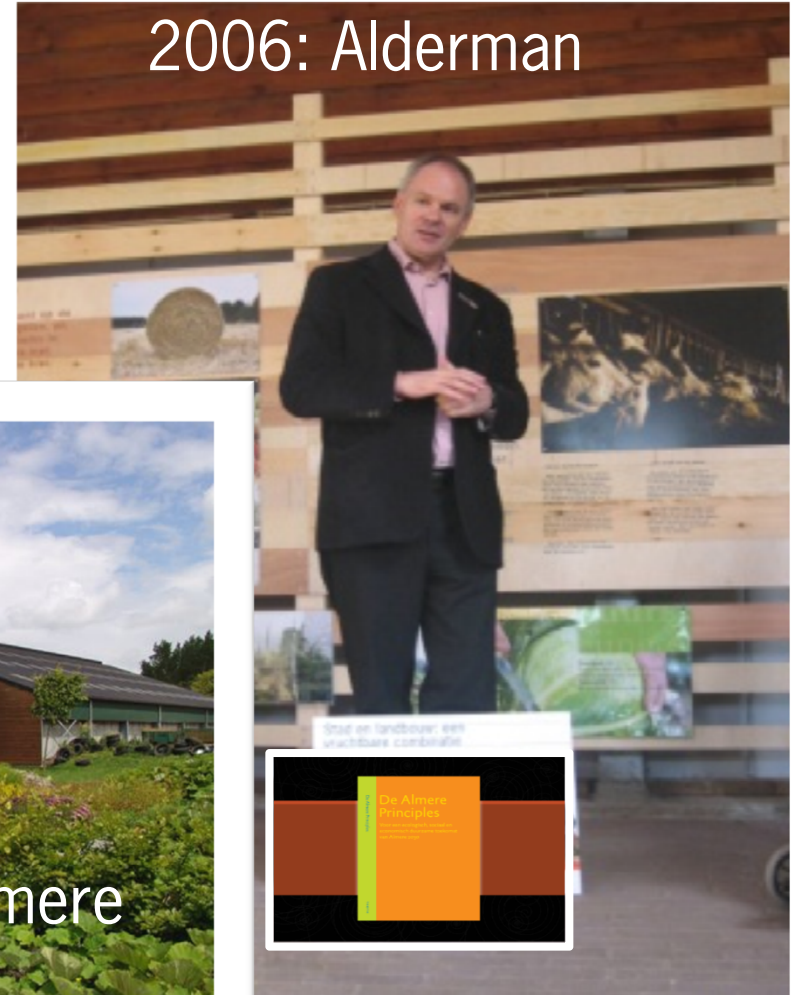


# Three starting points in Almere

Garden city: E. Howard



2006: Alderman



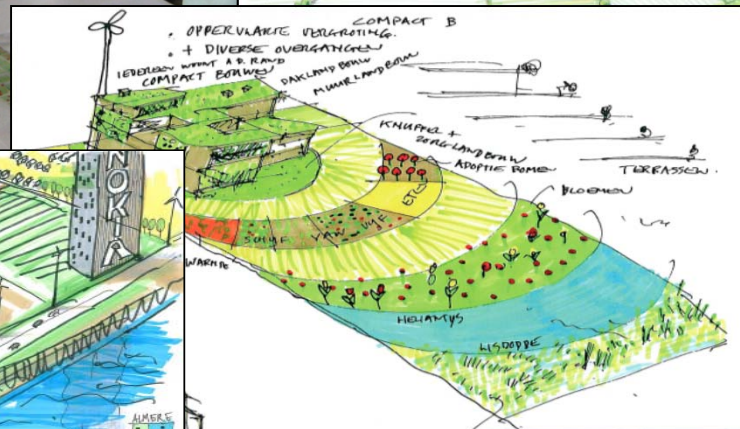
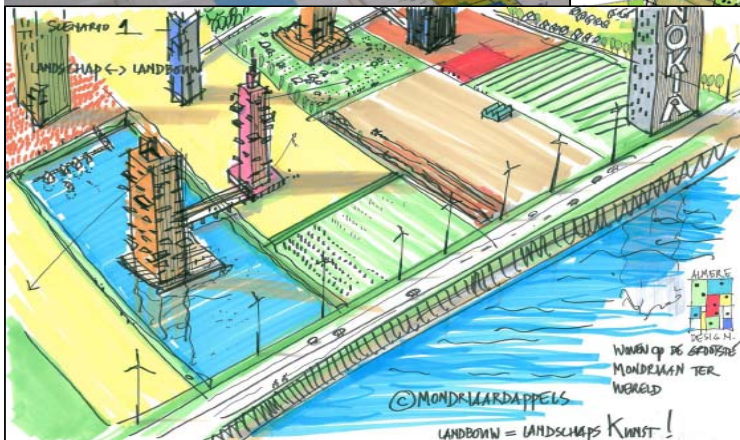
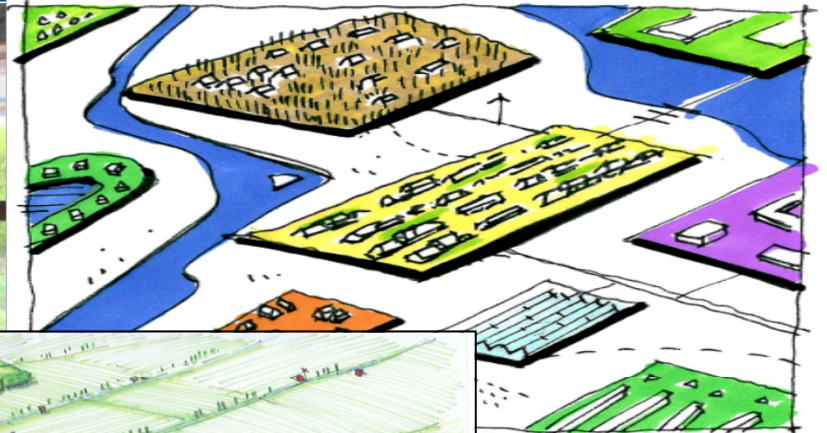
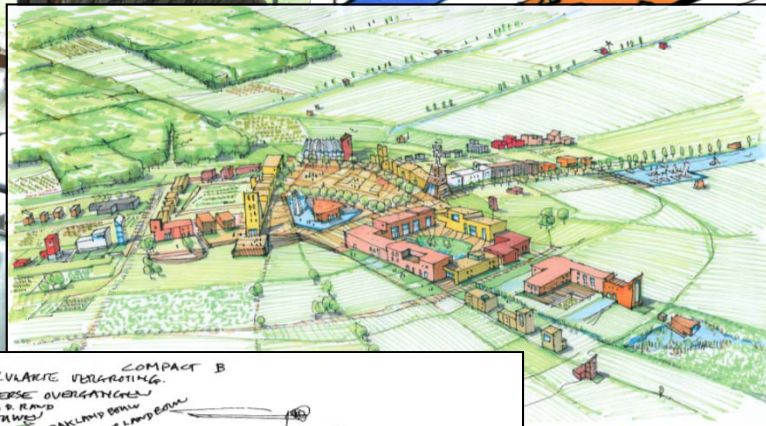
Urban farm of Almere





# Stakeholder & design process

- City of Almere
- Municipality of Zeewolde
- Farmers
- Project developers
- Nature organisations
- Ministry of Agriculture
- Province Flevoland
- Water board
- Inhabitants of Almere





# Principles for design

- Closing nutrient cycles within the area
- Local food production when possible: Reducing food miles
- Self sustaining in energy
- Urban agriculture provides (besides food) the basic services
  - Elementary school/ kindergarten
  - Daycare
  - Green management of the district
  - Cultural meeting places
  - Restaurant/ recreation facilities etc.





# The design of virtual Agromere



- 5.000 inhabitants
- Ca. 250 ha
- 2.300 houses: 70 ha
- 180 ha urban farming
  - 88 ha animal husbandry
  - 25 ha fruits and vegetables
  - 62 ha arable farming
  - 5 ha horticulture



# Almere 2.0: Draft Strategic Vision (2009)

**Almere could grow  
from 190,000 to  
350,000 inhabitants.  
What will the  
'Schaalsprong'  
mean for the city  
and the Amsterdam  
Metropolitan Area**

Summary, Draft Strategic Vision Almere 2.0

**Almere 2.0  
is an ecologically, socially  
and economically sustainable  
city, which will contribute to  
the development of  
the Northern Randstad  
and the Amsterdam  
Metropolitan Area**



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Almere 1.0 = Almere polder





Almere 2.0 = Almere Oosterwold



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## Almere 2.0 = Almere Oosterwold

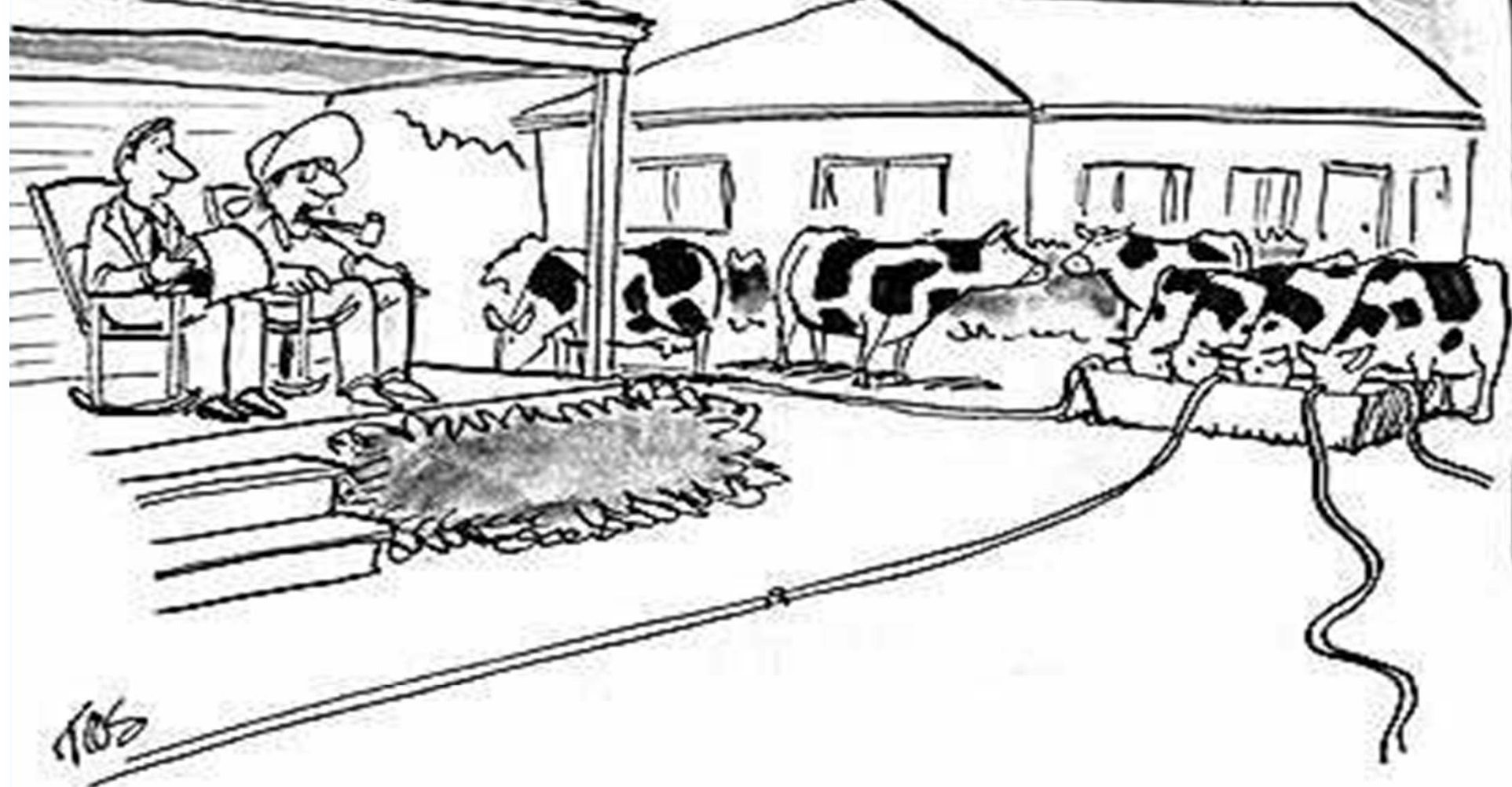
### New Connections between:

- Urban en rural life
- Food production and consumption
- Energy production and consumption
- Waste and fertilizers





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"I used to have a real nice lawn  
before the cows moved in next door."



Is it possible to produce in Agromere  
20% of daily food basket of future Almere  
with 350.000 inhabitants?



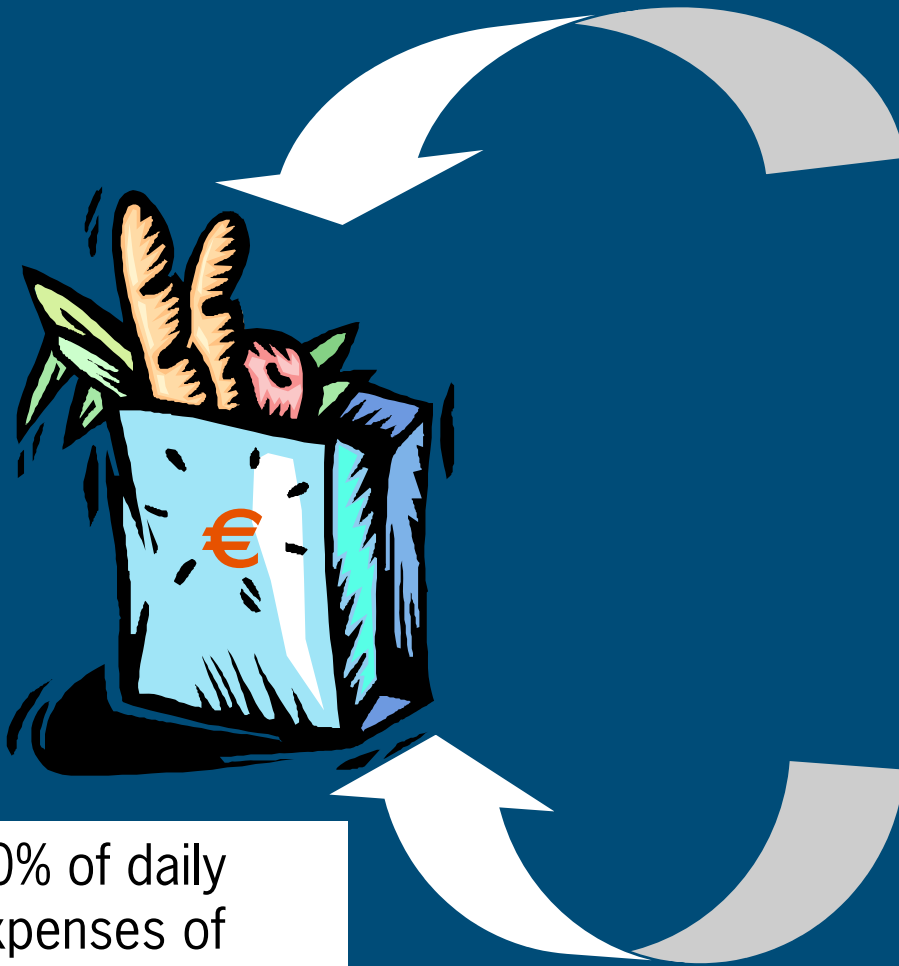
Almere

Agromere

And so then what is the Climate impact?



# What is replaced by local production & processing



## **Plant production:**

60-80% veg. and fruit

80% bread

30% beer

## **Animal production:**

30-50% milk and cheese

80% eggs

0-4% meat

20% of daily  
expenses of  
350.000 inhabitants



# Reduction & impact of 20% local production

## Reduction:

- 16 million km (mostly local transport)
- Energy use of 11.000 households
- GHG emission of 2.000 Dutch inhabitants



## Impact:

- 6.000-9.000 ha land
- Local distribution/retail
- Consumption pattern
  - Meat
  - Off season
  - Exotic and processed food





# Relevance of Urban Agriculture

- Ecologic
  - Biodiversity
  - Food & nutrient chains
- Social
  - Food and social structures
  - Transparency in food production
  - Health
- Economic
  - New entrepreneurship, markets
  - Edible (& cheaper) green
- Spatial
  - Diverse & accessible green space
  - Temporary use of “left” space
  - Cities livability







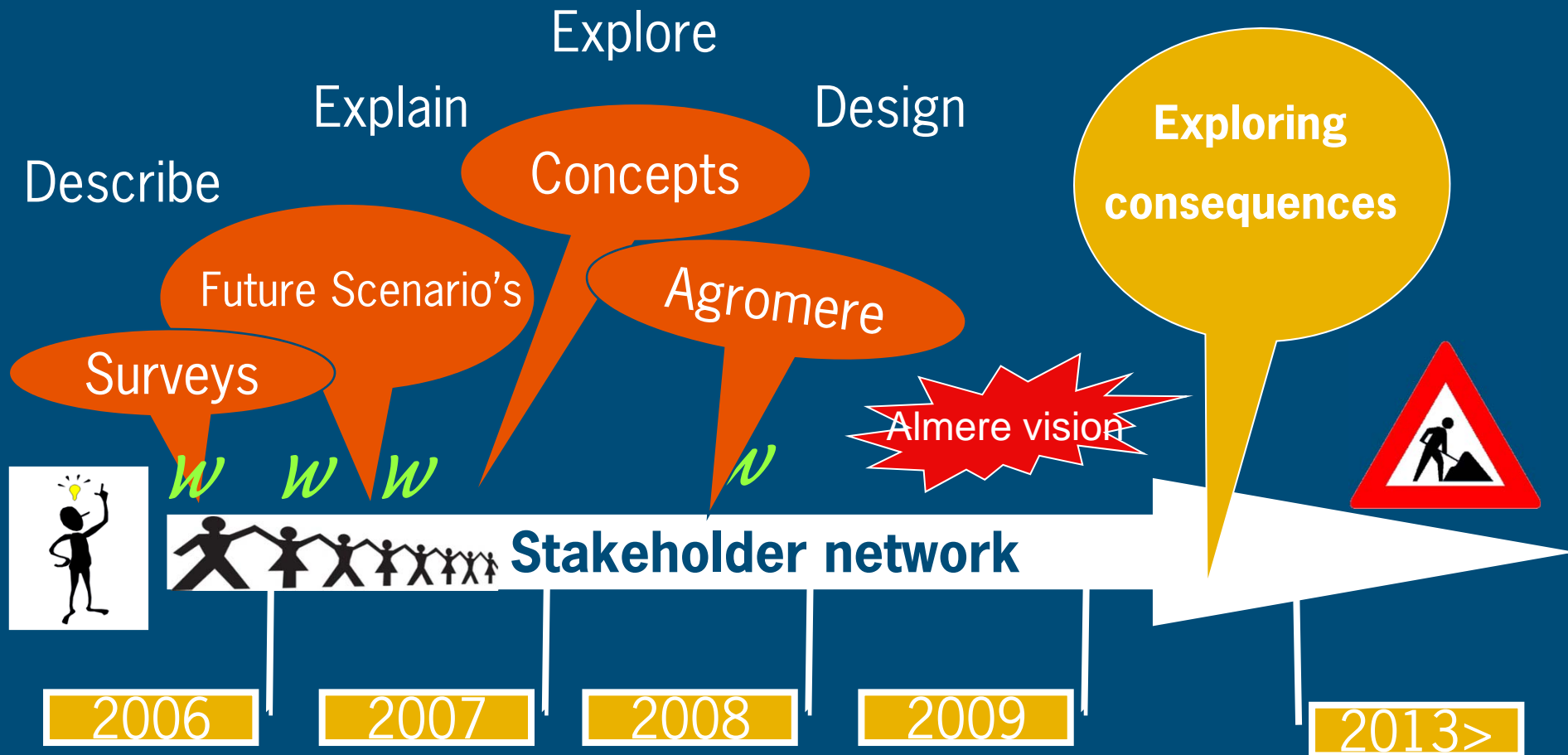
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# Where are we in proces?...



# Future.....



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[WWW.OS-ALMERE.NL](http://WWW.OS-ALMERE.NL) (NL)

