Eco-intensive agriculture and the provision of public goods

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The multiple functions of agriculture

- Agriculture: producing food, feed and fibre
- Through agricultural production and reproduction other functions are fulfilled, such as:
  - management of renewable natural resources,
  - preservation of landscape,
  - conservation of biodiversity, and
  - contribution to the socio-economic viability of rural areas.
- In other words:
  - *Agriculture not only produces commodities but also provides goods and services that have a public function (public goods)*
Public goods - characteristics

- Non-excludable – if the good is available to one person, others cannot be excluded from the benefits it confers.
- Non-rival – if the good is consumed by one person it does not reduce the amount available to others.
- Continuum from private to public goods (increasing degree of publicness)
The publicness of goods and services

<table>
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<tr>
<th>Rival</th>
<th>Excludable</th>
<th>Non excludable</th>
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<tr>
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<td>Private Goods</td>
<td>Common pool resources</td>
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<td>- <em>Clothing</em></td>
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<td>- <em>Car</em></td>
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<td>Non rival</td>
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<td>- <em>Cable TV</em></td>
<td>- <em>Landscape</em></td>
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<td>- <em>Golf court</em></td>
<td>- <em>Biodiversity</em></td>
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Governing public goods

- Market mechanisms do not function for the provision of goods with a high degree of publicness.
- For goods characterised by a higher degree of publicness the coordination of supply and demand can only be achieved through more complex mechanisms of social action.
  - Conservation policies
  - Cross-compliance income support
  - Collective management / partnerships
  - Covenants
Agriculture and public goods

- Provision of public goods is not inherent to eco-intensive agriculture, but ....
- ..... strong correlation between the mode of agricultural production and provision of public goods.
- In general the peasant mode of production / smallholder agriculture / organic farming’/ low-external input agriculture provide more public goods (intentionally as well as unintentionally)
Agriculture and public goods

Agriculture and public goods

Agriculture and public goods

Public goods provided through agriculture (Cooper et al., 2009):
- Agricultural landscapes
- Farmland biodiversity
- Water quality and water availability
- Soil functionality
- Climate stability
- Air quality
- Resilience to flooding
- Resilience to fire
- Rural vitality
- Food security
- Farm animal welfare and health
Agricultural landscapes and biodiversity
Agricultural landscapes and biodiversity

Agricultural landscapes and biodiversity

http://minicampingblauforlaet.nl/friese-wouden/
Agricultural landscapes and biodiversity

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Agricultural landscapes and biodiversity

- Almost all farmers are integrating nature conservation and landscape management into farming, but in different ways.

- Three different strategies (Swagemakers & Wiskerke, 2006):
  1. Landscape management as a source of income additional to dairy farming
  2. Multifunctional farming: creating synergies between different income generating activities
  3. Farming economically: utilizing natural resources (ecological capital)

- Provision of landscape and biodiversity by farming economically: practices and discourses (Swagemakers & Wiskerke, 2011)
Agricultural landscapes and biodiversity

Agricultural landscapes and biodiversity

Agricultural landscapes and biodiversity

Agricultural landscapes and biodiversity

http://www.noardlikefryskewalden.nl/weidevogels-en-ganzen
Rural vitality

- Comprises social, cultural and economic dimensions
- Importance of a critical social mass:
  - Sustaining services and infrastructure for rural populations,
  - Repository of skills and knowledge to sustain rural cultures and traditions.
- In some EU-regions rural vitality continues to be closely underpinned by agriculture, in other regions this relationship has been weakened.
- Multifunctional agriculture:
  - Strengthens the role of agriculture in enhancing rural vitality
  - Links agriculture to other rural entrepreneurial activities, creating a more diverse rural economy
Rural vitality

Family Farming Futures

Agrarian pathways to multifunctionality: flows of resistance, redesign and resilience

Henk Oostindie
Rural vitality

Figure 5.7 Interlinking different types of rural development activities

Rural vitality

- Revive regional economy by creating synergies between agriculture, food SMEs, tourism, crafts, culture and arts
- Utilize and valorize endogenous resources (territorial capital) through regional brand (Fuchsia)
- Generate additional value added (€ 107 million) and employment (> 1100 jobs)

http://www.westcorkaplaceapart.com/home/
Rural vitality

http://www.boerderijparadijs.nl/
Food security

- Access to affordable and adequate food is an important public good.
- In this era of urbanization urban and peri-urban agriculture play an important role in reducing urban food insecurity.
- In addition, urban and peri-urban agriculture can also play an important role in climate change mitigation and adaptation, productive re-use of urban waste, employment, social cohesion, quality of living environment, et cetera.
Picture taken by Tim Kort (student Amsterdam Academy of Architecture), during Project 5 field trip to Dar es Salaam (Sept 2013)
Food security (case of Dar es Salaam)

Urban Agriculture A Serious Source of Food

- Estimated at 17% of food supplies to Dar.
  Mainly:
  - Vegetables
  - Eggs
  - Chickens
  - Milk

Up to 90% of the demand of green leaf vegetables is met by urban and peri-urban agriculture
Concluding remarks

- Agricultural production systems (ranging from smallholder to industrial agriculture and from rural to urban farming) should not solely be judged on their capacity to “feed 9 billion”.

- The capacity to provide public goods and the quality of these goods should also be taken into consideration.

- Many interesting and valuable examples of multifunctional agriculture (both in rural and urban settings) capable of jointly providing food and public goods.

- Need to better align governance arrangements for the provision of public goods with multifunctional farming strategies.
Thank you for your attention!

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