Policy dimensions of sustainable growth in agriculture and food production

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Presentation outline

(i) What exactly does the term ‘sustainable growth’ refer?

(ii) What are challenges and opportunities in pursuing sustainable growth in agriculture?

(iii) What are the policies that will contribute achieving sustainable growth in agriculture and food production?

Sustainable development/growth?

- Sustainable development is defined in many ways, but the 1987 Brundtland report's definition is the most common:

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

What is agricultural sustainability?

Agriculture that makes best use of nature's goods and services while not damaging the environment.

Agriculture that nurtures healthy ecosystems and support the sustainable management of land, water and natural resources, while ensuring world food security.

A sustainable agricultural sector is one that can be maintained without exhausting natural resources. There are three important elements of sustainable development: economic, environmental and social.

Green growth?

"Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies."

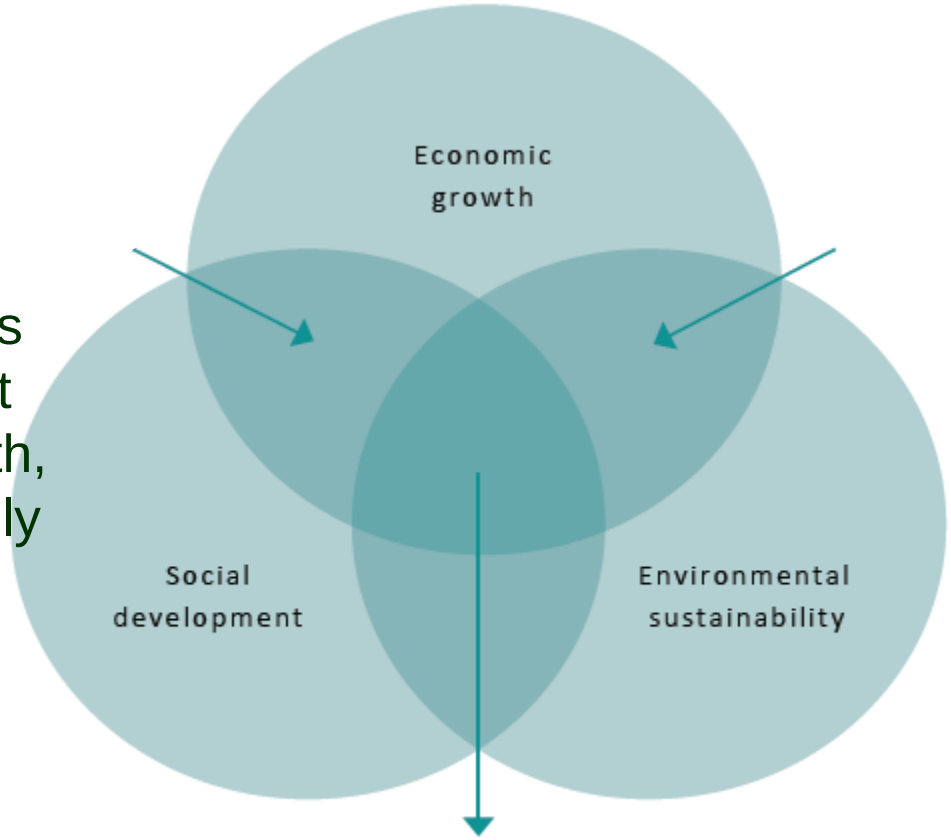
☞ This appears suspiciously similar to the definition of 'sustainable development'

- Is there actually a difference between the terms "sustainable growth" and "green growth"?

Sustainable growth vs. green growth?

- Sustainable development comprises three elements - economic, social and environmental - which have to be considered in equal measure at the political level.”

Social development is less prominent in green growth, though certainly still an implicit priority.



- Conclusion: The terms are essentially the same!

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Challenges facing agriculture?

- Agriculture and food production affected by climate change
- Increased pressure on available water supplies, even in the absence of climate change
- Growing pressure on land markets
- Changes in lifestyles and food consumption patterns across the world imposes greater demands on global energy supplies

Agricultural sector faces considerable challenges in implementing sustainable growth strategies

- **Agriculture has to continue to**
  - become more environmentally friendly
  - contribute to improving environmental quality
  - adapt to climate change
  - economize the use of scarce resources
  - increase productivity

What are the conditions to adapt?

- **Macro-economic environment for agricultural adaptation**
  - agriculture has become increasingly capital intensive
  - the need to response to climate change imposes additional demands on investments
  - rate of profit in agriculture tends to be relatively low
    - ➔ ability to invest from retained earnings is low

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Sustainability of EU farming today?

Problems/challenges:

1. Achieving **productivity** gains
2. Coping with market **volatility**
3. **Climate change** (temp., precpn., extremes, plant & animal disease)
4. Providing **environmental protection** for: soil (fertility & erosion), water (quantity & polln), Climate, Biodiversity & ESS, Cult. L'scape.
5. Survival of the **marginal areas** – land abandonment/popn outflow
6. **Restructuring**: food chain, tiny holdings, new entrants, aged frms.
7. **Bioenergy** contribution
8. **Waste** and residues utilisation
9. **Food safety** and authenticity
10. **Animal welfare**

Source: Buckwell, A. 2015. Europe's Common Agricultural Policy where next post 2020? Presentation in seminar on "CAP implementation in Estonia – results and future outlook", 27.1.2015, Tallinn.

What are the policies that will contribute to achieving sustainable growth in agriculture?

(1) Increase productivity?
(2) Promote sustainable resource use?
    (a) Internalising the costs of negative externalities
    (b) Increasing positive externalities and the provision of public goods
(3) Promote innovation?

(1) Increasing productivity

- will continue to play a vital role in helping agriculture to achieve sustainability targets, and dealing with new challenges
  - a pressing need to obtain more from existing resources (particularly land and water)
  - a fundamental requirement is that suitable technologies are available to farmers and that they have the knowledge and skills to use these
- public and private R&D expenditures are heavily concentrated in a few countries (USA, Japan, France and Germany)

Source: Blandford, D. 2011. Contribution of Agriculture to Green Growth.

(2) Policies affecting factor use

- a policy environment is needed that encourages the efficient use of factors of production
- in terms of market-based instruments two major approaches have been identified
  - one based on the use of taxes and subsidies and
  - a second based on the assignment of property rights
    - property rights help ensure optimal resource use: when resources are essentially free to private participants it can encourage over-exploitation, resulting in environmentally sub-optimal outcomes
- an alternative approach is to use various non-market instruments, including regulations
- each of these approaches has advantages and disadvantages and neither is universally superior

Source: Blandford, D. 2011. Contribution of Agriculture to Green Growth.

(a) Internalising the costs of negative externalities

- all the costs associated with economic activity should be reflected in production and consumption decisions, *i.e.*, are internalised
- will be reflected in higher input prices ➔ reduction in input use
- applying taxes can be challenging, however
  - often difficult to monitor the amount of environmental damage
  - taxes difficult to apply, when non-point-source pollution is involved
    - how much a particular farm contributes to the problem?

Source: Blandford, D. 2011. Contribution of Agriculture to Green Growth.

Grazing – potential negative impacts

- Increased soil erosion
- Decreased water quality
- Loss of biodiversity
- Reduced nest sites for upland game and waterfowl
- Trampled nests for waterfowl
- Disturbed big game during fawning
- Reduced cover that permits wildlife to hide from predators
- Reduced biomass of desirable wildlife forage
- Increased noxious weed populations

(2b) Increase the provision of public goods

- include measures that are specifically targeted to the protection of environmental quality
  - shifting support payments from relatively untargeted measures to more targeted measures
  - the imposition of environmental conditions linked to the receipt of support payments (cross-compliance)

►►► support payments might be used particularly in cases, where significant capital costs are involved in the adoption of new technologies to reduce negative externalities

- payments can confront problems of conflicting objectives
  - a choice may have to be made between ecosystem preservation and other environmental objectives (trade-offs)

Source: Blandford, D. 2011. Contribution of Agriculture to Green Growth.

Grazing – positive impacts

- Reduced erosion
- Improved water quality
- Food for wildlife
- Habitat and cover for wildlife
  - Feeding, nesting, and hiding sites
  - Create travel corridors
- Improves range or pasture condition
- Increased wildlife populations
- Improved Forages
  - Small mammal & upland game birds

(3) Promoting innovation

- substantial innovation in the sector is needed
  - new technologies will need to be developed and adopted and production methods will have to change
  - new innovations that result in a reduction of the environmental load of production
- shifts the emphasis from “end-of-pipe” pollution control to a focus on product life cycles and integrated environmental strategies and management systems
  - reduce energy usage and product waste
  - initiatives are being taken, for example, to promote the recycling of packaging materials

Source: Blandford, D. 2011. Contribution of Agriculture to Green Growth.

Grazing – promoting innovations?

- the popularity of grazing in Europe is declining
  - an undesirable trend from an economic and societal point of view

- innovations to support grazing are required.
  - technical support, such as automatic sward height measurements
  - GPS or mobile automated milking systems
  - to develop simpler grazing systems
  - decision support tools for farmers to use on a day-to-day basis
  - projects to stimulate grazing

Summary

- Sustainable growth: making best use of nature's goods and services while not damaging the environment
- Agriculture faces considerable challenges in implementing a sustainable growth strategy
  - increasing demand for food and agricultural raw material
  - a pressing need to obtain more from existing resources (particularly land and water)
  - food production will affected by climate change
  - a need for technological innovation, improvements in human capital, and an appropriate policy environment
- A wide array of policies - affecting agriculture and the food system directly and indirectly -has implications for sustainable growth
  - Policy options need to be assessed from the perspectives of effectiveness and efficiency, as well as their distributional implications

Sources of the presentation

- *Blandford, D. 2011. Contribution of Agriculture to Green Growth Available at http://www.oecd.org/greengrowth/sustainable-agriculture/48258861.pdf*
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