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## **BIAC Discussion Paper**

### ***The Sustainable Agriculture Challenge***

#### **Introduction**

Modern farming systems are faced with the overwhelming challenge of meeting the needs of a booming world population for sufficient food and the demand from modern societies to secure its quality. As a consequence of the technological progress, higher mechanization, increased use of inputs such as improved seeds, fertilizers and a range of modern crop protection products and supportive government policies, the productivity of agricultural activities has soared. But this change has not been without impacts on the environment and on the social conditions of rural society. The new challenge for agriculture is to find an economically viable way of producing a sufficient amount of safe and nutritious food while reducing negative impacts on the environment. Agriculture has to be an integral part of the overall sustainable development process by ensuring that the present needs will be met without compromising the ability of future generations to meet their own needs. Further, although food is the main agricultural output, its new opportunities to be one of the leading sources of biomass feedstock for energy should be given increased attention.

#### **The three pillars of sustainable agriculture**

Sustainable agriculture must encompass food production together with economic profitability and competitiveness, environmental protection, and social benefits. Sustainability means achieving an acceptable balance of these interrelated objectives.

#### **Economic objectives**

To achieve sustainability, agriculture must continue to be competitive and productive to ensure high yields and affordable products.

- ✓ Sustainable agriculture should aim at maximizing output through the highly efficient use of inputs. Where feasible, utilization of modern technologies and the exploration of new agricultural and farming methods adapted to the local context should be promoted, and positive economic externalities should be enhanced. Existing knowledge should be used more efficiently by finding ways of making current and alternative methods appropriate in a modern setting.
- ✓ Sustainable agriculture should ensure an adequate level of annual investment. To attain this goal over time, farmers should benefit from cost-savings, increased yields,

market mechanisms favoring high quality of products, and access to credit, information and global markets.

- ✓ Sustainable agriculture should involve all key players along the value chain.

### Environmental objectives

Agriculture has a potential impact on the environment, especially on air, soil, water, biodiversity and landscapes. The overall environmental goal of sustainable agriculture is to optimize the use of natural resources while at the same time maximizing the efficiency of input use and preserving environmental integrity.

- ✓ Sustainable agriculture should aim at preserving and improving the quality of soil ecosystems to ensure optimal growing crop conditions. The loss of valuable top soil through erosion and harvesting operations should be minimized. Soil pollution should also be avoided through balanced fertilization and efficient waste handling. Nutrients exported with the harvested product should be replaced in order to preserve soil fertility.
- ✓ Sustainable agriculture should ensure the responsible use and management of water by minimizing water losses and implementing proper water management methods. Pollution of ground and surface water should be minimized by judicious use of agricultural inputs and farming methods.
- ✓ Sustainable agriculture should reduce its impact on air by exploring opportunities for minimizing the emission of greenhouse gases.
- ✓ Sustainable agriculture should explore opportunities for the use of renewable or alternative energy resources. In this context, we welcome the conclusions of the OECD workshop on Biomass and Agriculture, held in June 2003.
- ✓ Sustainable agriculture should aim at maintaining landscapes and encouraging biodiversity while remaining productive.
- ✓ Sustainable agriculture should ensure a high-quality livestock management through appropriate housing, transportation and health care.

### Social objectives

- ✓ Sustainable agriculture should seek to guarantee, and even increase, the quality and safety of agricultural products. This entails ensuring the nutritional value of agricultural products and the safety of raw materials produced, as well as minimizing the risk of residues in the final product.
- ✓ Sustainable agriculture should contribute to the development of human capital in the rural community and enhance farmers' skills by: helping them to use their traditional and locally adapted knowledge together with suitable modern and scientific technologies; increasing farmers' awareness and understanding about potential environmental impacts of inappropriate farming activities and on the necessity to implement sustainable practices; ensuring safe conditions for agricultural workers.

- ✓ Sustainable agriculture should help improve the well-being of family farms and rural communities. Healthy local economies can be fostered through stronger institutions in the rural community and the structures that will meet social, employment, educational, and health needs.

### **OECD's work on sustainability in agriculture**

OECD has the expertise to help policy makers and societies to address and better understand the sustainable agriculture challenge. Among others, OECD has undertaken significant work on the impacts of agricultural activities on the environment and the relationship with environmental policies. BIAC encourages the OECD to identify criteria to better design, implement, monitor and evaluate environmental policies while at the same time taking into account economic and social considerations. Policies have an important role to play in the sustainable agriculture challenge, including, for example, policies to address structural adjustment measures in the agricultural sector. Accordingly, in order to introduce sustainability in agriculture, OECD member countries should:

- ✓ ensure that appropriate market signals guide productive decisions,
- ✓ facilitate the creation of markets to take externalities into account,
- ✓ strengthen the agricultural knowledge system through R&D, education and training,
- ✓ allow for choices in agricultural production, and
- ✓ improve policy coherence.

BIAC would like to underline the important role played by technological innovation in sustainability. The concept of sustainable farming goes hand in hand with the adoption of new technologies that comprise the application of new biological, chemical and mechanical techniques at the farm level, and the enhancement of farmers' knowledge through training, education and peer-to-peer learning.

Finally, one of the challenges facing sustainable agriculture today is to monitor and evaluate its achievements and the effectiveness of agri-environmental policies. Some agricultural support policies work against agricultural sustainability, which highlights the need to measure the environmental impact of agricultural production and support policies. BIAC supports OECD work on agri-environmental indicators (AEIs), encourages OECD to further explore the sustainable impact assessment of current agricultural production and policies, and to further develop the integration of social and economic aspects with analyses of environmental impacts.