



A "GREEN" GREEN REVOLUTION — SUSTAINABLE SOLUTIONS FOR AGRICULTURE

The food crisis that dominated the news in 2008 had its roots in a number of developments, from poor weather—some possibly climate change induced, such as a decade-long drought in wheat growing regions—to sky-high energy costs. The crisis exposed a severe and decades long neglect of the agricultural sector across the globe and made clear the important links between food production and environmental stewardship, social development and economic stability.

Today, with nearly one billion affected by the food crisis, and global population growing by 90 million a year, it is apparent that the root causes, not just the symptoms, of hunger must be addressed in order to avoid an even more critical situation in the future.

"One thing is clear," says Gerda Verburg, the Netherlands Minister of Agriculture, Nature and Food Quality. "We have neglected agriculture too much for many years. At the same time we are confronted with ever rising trends in energy consumption and climate change. These trends are and should be a major concern to us, as they will have a huge impact on our future. We use far more of our natural resources than our planet can regenerate. The world population would reach nine billion in 2050."

In an examination of several key issues that affect—and will affect—food security, including agricultural development, land management, desertification and drought, and sustainable development in Africa, the Commission on Sustainable Development will be formulating policy recommendations for national governments and for the international community. The Commission on Sustainable Development, created after the Rio Earth Summit to monitor global progress towards sustainable development, seeks to strike a balance in its decisions among economic efficiency, social equity, and environmental sustainability in proposing solutions to the crisis.

According to Tariq Banuri, Director of the UN's Division for Sustainable Development, "The goals of poverty eradication, food security and sustainable natural resource management are inter-linked and need to be addressed in a coherent and integrated manner. The CSD is uniquely placed to tackle these challenges."

At a recent meeting in Windhoek, Namibia, African agriculture ministers and officials negotiated the "Windhoek Declaration" in which they called for a Sustainable Green Revolution for Africa, based on the principles of sustainable development and a new paradigm for agriculture tailored to the specificities of the continent's highly diverse agro-ecological conditions, farming systems and socio-cultural contexts.

Elements of a Green Revolution

- More food production in developing countries - Just as the food crisis most severely affected the most vulnerable people in developing countries, most of the needed increases in food production must come from developing countries—from more intensive production systems based on higher yields and multiple cropping. Yet, the traditional green revolution model based on the heavy use of inorganic fertilizers, pesticides and water is not particularly desirable for use today, especially given the high cost of inputs, growing water scarcities, and the heavy damage to soils, water and biodiversity associated with it. A new Green Revolution therefore will be based on a sustainable approach that will require the sound management of land, water resources and ecological systems as well as measures to improve the socio-economic development of rural communities.
- Linking agriculture and rural development - Countries have already identified a number of ways that agriculture and rural development are mutually reinforcing. Providing access to potable water,

sanitation services, electricity and transport as well as healthcare and education, raises the quality of living in rural areas, while conferring positive externalities on the development of agro-industry and the broader rural economy. Given the prominent role of women in food production and land management, gender sensitive approaches and policies are key to raising food security and the quality life in rural areas.

- Improving productivity—CSD participants will consider policies to spur more private and public investments in agriculture, including by international donors. Investments in drought-resistant and other adapted crops will be important, as will research into improved methods of soil management and, making better use of organic matter. Extension services closely linked to research will help farmers benefit from training, especially in new techniques and sustainable practices, as well as marketing.
- Scaling-up and applying what is known - There exists significant know-how on sustainable land, water and resources management, but it has not been applied in a large enough scale, especially in the context of agriculture. Global policy is needed to make proven 'green' technologies and approaches widely accessible and tailored to the environmental conditions and cultural contexts in which food is grown in developing countries. Such methods and systems could help overcome land degradation, drought, and waning soil fertility, as well as build resilience to climate change, while lifting millions out of poverty.

In one example, the System of Rice Intensification cuts seed costs by at least 80 per cent, achieves water savings of 25-50 per cent, and results in yield increases from 50 to 100 per cent, without the use of additional fertilizers. Likewise, approaches to pest management like Integrated Pest Management (IPM) provide an environmentally sound way to control pests and limit chemical use.

- Protecting the Poor and Most Vulnerable - Participants will also be looking to implement social safety nets to protect the most vulnerable from hunger and other shocks that would otherwise cause them to slip further below the poverty threshold. The majority of the world's poor live in rural areas, where assured access to basic services like clean drinking water, sanitation, healthcare, education, insurance and credit can foster rural development and human security.
- Sustainable value chain development: Amid growing concern about population growth and changing consumption patterns, such as the increase of dairy and meat products in the diets of more people, agricultural value chains (production, processing, marketing, trade and consumption) need to provide a better bargain for small farmers. Support for small farmers to diversify their cropping patterns and income sources can help improve their economic security. Besides their own food production, a variety of commercial market opportunities exist which effective and equitable value chains can help them to seize. ,
- Market access: The lack of progress on the Doha Development Round of Trade negotiations, and especially on market access for developing countries' agricultural exports, remains a cause for concern. Developing countries' concerns over international market access as well as over the impacts of subsidies on their agricultural production and food security will be tabled for discussion at the CSD. Greater regional market integration can help in achieving production economies for agricultural inputs, in expanding farmers' markets, and in enhancing food security.

Climate and agriculture

Climate change leaves no development priority untouched, and must be considered in the context of a sustainable green revolution. Agriculture is not only impacted by climate change, from drought, heat stress, desertification and flooding, but agriculture and forestry are also major emitters of greenhouse gases. Sustainable forest management, including agro-forestry and a reduction of deforestation, along with mitigation strategies in agriculture such as enhancing soil carbon sequestration, improved livestock management and better management of crop and livestock waste, could contribute to global greenhouse gas mitigation, while at the same time improving soil fertility, boosting yields, and enhancing ecosystem services. Coherent policies for linking such adaptation and mitigation measures in agriculture will be central not only to a sustainable green revolution but also to stemming the impacts of global warming.