



**World Day to Combat Desertification 17 June 2008**  
**Theme: Combating land degradation for sustainable agriculture**

The 2008 World Day to Combat Desertification is celebrated under the theme, “Combating land degradation for sustainable agriculture.” The issue is a real challenge in the modern society, both in developed and developing countries, as land degradation crisis these days cannot be solved by the effort of one country alone due to the increasing concern on climate change. Land degradation intensifies agricultural economic losses, disorganizes local and regional food markets, and causes social and political instability. Here are some basic facts about the linkage between land degradation and sustainable agriculture.

**What is sustainable agriculture?**

**Sustainable agriculture refers to the ability of a farm to produce food indefinitely, without causing irreversible damage to ecosystem health.** The issue is two-fold. One aspect is biophysical that relates to the long-term effects of various practices on soil properties and processes essential for crop productivity. The other is socio-economic that relates to the long-term ability of farmers to obtain inputs and manage resources such as labour.

Over the years, agriculture has changed dramatically due to new technologies, mechanization, increased chemical use, specialization and government policies that favored maximizing production. These changes have had significant costs such as, among others, topsoil depletion, groundwater contamination and the disintegration of economic and social conditions in rural communities. A growing movement has emerged during the past two decades to question the role of the agricultural establishment in promoting practices that contribute to these environmental and social problems. Today, this movement for sustainable agriculture integrates three main goals--environmental health, economic profitability, and social and economic equity, and is gaining increasing support and acceptance within mainstream agriculture. A variety of philosophies, policies and practices have contributed to these goals. People in many different capacities, from farmers to consumers, have shared this vision and contributed to them. Not only does sustainable agriculture address many environmental and social concerns, but also it offers innovative and economically viable opportunities for growers, labourers, consumers, policymakers and many others in the entire food production and consumption system.

## **C**onsequence of unsustainable agriculture

**Unsustainable agriculture has direct and strong impact on the soil to the point that it cannot regenerate naturally.** Soil nutrients and organic matter begin to diminish as intensive agriculture removes quantities of nutrients greater than the soil's natural regeneration capacities. As a consequence, the soil is unable to recover, as it does during fallow periods, resulting in an ever-increasing spiral of environmental degradation and poverty, the principal causes of land degradation and desertification.

The principal causes exacerbating land degradation derives from the farmers' determination to maximize soil productivity, which include: crops cultivated in areas at high risk from drought; shortening of crop cycles and the reduction of fallow periods; insufficient use of fertilizer after harvesting; inadequate crop rotation or worse, monoculture; intensive labour; intense breeding and overgrazing with pressure on vegetation and soil trampling by livestock; separation of cattle rearing and agriculture, eliminating a source of natural fertilizer or organic matter (cattle dung) used to regenerate the soil; deforestation; bush and forest fires; in mountainous regions, crops are cultivated along the downward sloping face rather than following the natural contour lines of the mountain; deterioration of terraces and other soil and water conservation techniques.

To combat land degradation and desertification, it is necessary to restore and fertilize the land. Nutritive elements such as nitrogen, phosphorus, calcium, magnesium etc. in the soil are necessary for plants to grow. When the soil has lost all its nutritive elements or a part of its constituents (removed by wind or water) it is said to be degraded or exhausted and its productivity diminishes as a consequence.

## **T**he way forward

**Sustainable agriculture is a unique way to maintain and re-establish soil fertility either by using adapted fertilizers or by preparing much cheaper compost.** It is principally prepared from plant waste: manure, agricultural trimmings (straw), and biological household waste. Water hyacinths, though harmful in rivers, can be transformed into fertile matter that supplies nutritive elements to the soil as compost. After several weeks in a pit, and with the heat and humidity, humus is produced. It can then be spread among the crops and used to prepare the soil before seedlings are planted. The soil regenerated with organic matter in this way will produce more fruitful harvests. The restructuring of the soil is a very effective and particularly sustainable way to maintain soil fertility. The presence of livestock could also be exploited to enrich the soil. By consuming crop leftovers (millet, maize) the animals return nutritive elements to the soil that enriches it with nitrogenous matter in the form of dung. Dung also restores the capacity of soil to produce a more plentiful harvest. The herd also provides meat and milk. In this way, farmers and cattle rearers can help each other.

Around the world, countries are now taking important steps towards sustainable agriculture in recent years. In the economic dimension, efforts have been focused on adjusting profitability and productivity of farms, maintaining, developing or rediscovering organic agriculture, on seeking safer and better living conditions for farmers and their families and the rural population in general. In the environment dimension, efforts have mainly been directed towards the sustainable use, management and protection of natural and genetic resources, including the conservation of biodiversity as well as the

maintenance and improvement of soil, air and water quality. In the social dimension, recent activities have focused on improving quality of life in rural areas, diversifying economic and employment opportunities, better training and education, and integrating grass-root contributions to rural development.

The UNCCD is providing a universal legal policy and advocacy framework for its 193 Parties to combat desertification and land degradation. In implementing the Convention, the great leverage has been made through the unique participatory process of local stakeholders, including farmers and rural populations that offer a number of possibilities to illustrate. In addition, capacity building, sharing of best practices and case studies, partnership development and awareness raising are some of the areas to be refocused under the 10-year strategic plan and framework to enhance the implementation of the Convention (2008-2018). The UNCCD supports member Parties to combat land degradation for sustainable agriculture as the way for future.

**Box: Quezungual: Combating land degradation for sustainable agriculture**

There are many local initiatives and traditional knowledge that comes from indigenous people and small communities that can play an important role in promoting sustainable agriculture and protect soils and water resources. Traditional knowledge and technology can actually be a key tool for the generation of better livelihoods, incomes and sustainable land management through sustainable agricultural activities.

The three Rio conventions (United Nations Convention on Biological Diversity, UNCCD and United Nations Framework Convention on Climate Change) are promoting initiatives to rescue and compile knowledge produced by local and indigenous populations as well as to assess possibilities of adapting them to modern production conditions. One example is the case of the “bio-mass increase” technology, known in Honduras by the indigenous people as “Quezungual.” The technology involves the development of agricultural activities and the protection of existing vegetation and biodiversity. The effectiveness of Quezungual has been recognized by the World Bank and can be verified through the weaker damages caused by the Mitch hurricane in regions where this technology was used relative to other regions.