



FAO in Action

A matter of survival

FAO promotes unique international treaty on agricultural biodiversity

Due to a massive failure of the potato crop, caused by a fungus hitherto unknown in Europe, famine overwhelmed Ireland in the 1830s. Far off in the Andes mountains of South America, where the potato originated, scientists found the necessary genetic resistance to the fungus. The discovery helped end the famine, but not before more than one million people had died of starvation. This story shows dramatically the vital importance of preserving agricultural biodiversity.

Thousands of years of plant and animal selection by farmers around the world have created today's genetic diversity. This diversity is crucial in improving food quality and boosting food production. Genetic diversity is a key to food security, yet it is being rapidly eroded. The farmers and farm communities that developed all this diversity have been given little economic incentive to maintain it and the importance of their contribution has not been adequately recognized.

The UN Food and Agriculture Organization (FAO) has for many years led a process of patient negotiations between governments, involving all stakeholders, to reach an agreement for the conservation and sustainable use of plant genetic resources, as well as the fair and equitable sharing of benefits arising from their use. In November 2001, the FAO Conference adopted the International Treaty on Plant Genetic Resources for Food and Agriculture by consensus.

“This Treaty recognises the huge contribution made over generations by local farmers to developing and making available biodiversity. But it is also a life insurance policy for our future and our children's future,” explains José Esquinas-Alcázar, Secretary of the FAO Commission on Genetic Resources for Food and Agriculture. “Agricultural biodiversity is a vital inheritance from previous generations. We have a moral obligation to pass it on intact to our children so that they can face unpredictable environmental changes and changing human needs.”

The International Treaty is legally binding and will enter into force when ratified by forty countries. National governments have the responsibility for realizing Farmers' Rights and developing mechanisms to ensure the fair and equitable sharing of the benefits from the use of the genetic resources developed and conserved in farm communities. They are also charged with ensuring farmers' participation in the decision-making process.

This needs to be done as soon as possible, according to Mr. Esquinas. Biodiversity is disappearing at an alarming rate due to the lack of adequate incentives to continue developing and conserving local plant varieties.

Some figures: of 10,000 wheat varieties in use in 1949 in China, only 1,000 remained in use in the 1970s. Much of this valuable genetic diversity has been lost forever.

In traditional farming, now often surviving only in remote areas, such as high mountain zones, biodiversity and cultural diversity go together. Each local group produces and preserves locally adapted crop varieties that pass on through generations, from mother to daughter, from grandfather to niece.

“I grew up with my grandfather,” explains Carlos Romero, a farmer in a small indigenous community in the Andes Mountains. “Thanks to him, I managed to keep all these different kinds of potatoes. We need all of them for our survival: some have better resistance to high temperatures, some last longer, some are more nutritious and some just taste better.”

Once the International Treaty is ratified and comes into force, the valuable conservation work of local communities and traditional farmers like Mr Romero will finally be recognised and rewarded. Then it will be of value not only to him, but to the whole world.



Facts and figures

About plant genetic resources

Agricultural biodiversity is the source of much of our food, clothing and shelter. Yet it is being lost at an alarming rate. Of the 7,098 varieties of apples that were used in the United States between 1894 and 1904, about 86 percent have been lost. The United States has also lost 95 percent of its cabbage varieties, 91 percent of its field corn varieties, 94 percent of its different peas and 81 percent of the tomato varieties that were cultivated in the last century.

Many traditional varieties have been lost and many of those that remain can now be found only in gene banks. These gene banks can also play the role of a safehouse, especially in natural disasters or time of war. They can be used to re-establish farming after disasters. That was the case in Cambodia and more recently Afghanistan.

In the last 500 years, advances in transportation made the exchange of plants among regions and continents possible. Species from the New World, such as beans, maize and rubber, were carried to Europe, Africa and Asia. Rice and soybeans from Asia travelled to the Americas where they became major crops. Maize, whose origin and primary area of diversity is Central America, has a major secondary source of diversity in Africa where many distinct types have been selected and developed over hundreds of years. New World tomatoes combined with pasta made from Near East wheat to become the basis for the traditional Italian pasta.

The principal centres of origin of cultivated plants are concentrated mainly in tropical and sub-tropical areas. Some of the poorest countries in the world are the richest in terms of the agro-diversity. But no country is self-sufficient, and each country depends on others for about 70 percent of the genetic resources for their main crops. In Brazil, for example, nearly half the population's energy from plant sources comes from the three major cereals - rice, wheat and maize - all of which originated in other parts of the world. North America is almost completely dependent for its food and industrial crops on species originally domesticated in other parts of the world. Sub-Saharan Africa depends on species

domesticated elsewhere for 87 percent of its crops. It is estimated that about 70 percent of developing countries acquire more than half of their crop production from crops domesticated in other regions.

Our natural world is the result of 3 billion years of biological evolution and 10,000 years of mutual adaptation between farmers and the environment. Around 10,000 plant species have been used for human food since the origin of agriculture. Today, only about 150 plant species make up the diets of the majority of the world's population. Of these, just 12 species provide over 70 percent of food, while four -- rice, maize, wheat and potatoes -- make up over 50 percent of the food supply and only 30 crops provide 90 percent of the world's calorie intake.

The International Treaty on Plant Genetic Resources for Food and Agriculture was negotiated through the FAO Commission on Genetic Resources for Food and Agriculture (CGRFA). The conditions for access and benefit-sharing will be set out in a 'Material Transfer Agreement' (MTA), to be established by the Governing Body, at its first meeting after entry into force. The multilateral system applies to a list of more than 60 plant *genera*, which include 35 crops and 29 forages, agreed on the basis of interdependence and food security.

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