

The Wealth of Nations

Objective II: Plant diversity is urgently and effectively conserved **II**



Target 9: 70 per cent of the genetic diversity of crops including their wild relatives and other socio-economically valuable plant species conserved, while respecting, preserving and maintaining associated indigenous and local knowledge



that constitute the 'within-species' diversity. It is these genetic resources that provide the biological basis for food security, and directly or indirectly support the livelihoods of every person on earth.

The diversity within some of the major crop species is immense. Estimates for the number of distinct varieties of the rice species *Oryza sativa* range from tens of thousands to more than 100,000. At least seven different vegetables derive from the single wild cabbage species *Brassica oleracea* (kale, cabbage, Brussels sprouts, kohlrabi, broccoli, calabrese, savoy cabbage). Genetic variation also exists within these vegetables and numerous different varieties of each can be found.

Where are we now?

The Doomsday vault

The Svalbard Global Seed Vault serves as the ultimate safety net for the world's crop diversity. It is a failsafe, state-of-the-art seed storage facility, built to stand the test of time – and of disasters, natural or manmade. The purpose of the vault is to store duplicates (back-ups) of all seed samples from the world's crop collections.



It is often stated that only 30 crops feed the world, and wheat, rice and maize alone provide more than half the world's plant-derived energy intake. However, about 7,000 species of plants have been cultivated or collected by humans for food at one time or another, over 50,000 medicinal and aromatic plants (MAP) species are used globally and a wide range of other species are important as ornamental, fodder, and fibre crops. There are, therefore, a very large number of socio-economically important plant species, and each country has to identify its own set of species to conserve under this target. The genetic diversity of a crop includes the species that are closely related to it (wild relatives) that can potentially donate genes in breeding and improvement programmes, as well as the traditional varieties (or landraces)



The Potato Park

One example of preserving and maintaining plant diversity as well as the indigenous knowledge related to it, is found in Peru at the Andean Potato Park. Estimates suggest that there are approximately 6,500 potato varieties in existence worldwide, but it is only in the Andes region, its place of origin, that a wide diversity of potato species and varieties are still cultivated and used. Even here, many of these local varieties were disappearing. To address this situation, six Quechua communities in Peru came together to create the Parque de la Papa, the Potato Park. This 'Indigenous Biocultural Heritage Area' Park covers more than 12,000

ha and aims to preserve the landscape and the traditional way of life of its inhabitants. Around 1,200 different potato varieties are identified by name and used in the region, and a typical family farm will grow between 20 and 80 potato varieties. In addition to preserving this rich biodiversity, the Park is also being used to re-introduce varieties that have already disappeared from farmers' fields.



Permafrost and thick rock ensure that even in the case of a loss of power the seed samples will remain frozen. The vault can therefore be considered the ultimate insurance policy for humanity's food supply. It will secure, for centuries or longer, millions of seeds representing every important crop variety on earth, and today holds over 500,000 samples originating from almost every country in the world. Ranging from unique varieties of primary African and Asian food staples, such as maize, rice, wheat, cowpea and sorghum, to European and South American varieties of eggplant, lettuce, barley and potato, the Doomsday vault already holds the most diverse collection of food crop seeds anywhere on earth.

"A seed hidden in the heart of an apple is an orchard invisible."

Welsh proverb

Find out more:

www.croptrust.org
www.biodiversityinternational.org
www.fao.org