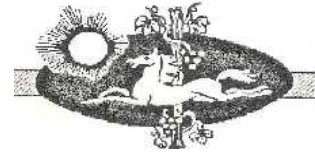


Agricultural Biodiversity in Georgia

A co-operation by:

Georgian Association of the Club of Rome
Georgian Academy of Agriculture
Tbilisi State University, Department of Ecology
European Support Centre of the Club of Rome



საერთაშორისო კლუბის ქვეყნის სპეციალური ცენტრი

Principal Aspects of Agricultural Biodiversity

Even though the term symbiosis would not be used scientifically correctly if applied to the relation between agricultural plants and the human beings, they are living in a mutual dependency which resembles to organisms of different species which have formed communities. Humans cannot survive without plants and agricultural plants cannot survive without humans. The latter makes agricultural biodiversity a unique feature: Usually, wildlife is threatened by extinction because biotopes are being reduced in size or disappear, whereas if humans left the ecological systems in peace, most of the species would survive (at least within the time scale of a human life). Agricultural biodiversity is different: Agricultural plants cannot survive if they are left without care. They need active support by humans. Agri"culture" defines a natural system which became part of the human civilization.



A high diversity of agricultural plants is essential for the survival of mankind. We are living in a steady struggle with pests that threaten our cultivars and the risk of damage gets lower if the amount of species and varieties is higher, a high diversity increases the probability that one of the cultivars would be resistant towards a new plant disease.

The Trends in Agricultural Biodiversity

The number of higher plant species existing on Earth is estimated to be 300,000 - 500,000. About 250,000 species have been described scientifically so far and about 30,000 species have proven to be edible. However, humankind has cultivated only about 7,000 species so far. Today we are in a situation in which only 30 different species are used to produce the nutritional needs for the world population, and wheat, corn and rice alone provide 50% of the calories (FAO Report 1997). Not only is the low number of species used for agriculture a problem but also the varieties of these cultivated species have been reduced significantly in the last century.



Competition forces farmers to cultivate just those species and varieties which return the highest short-term income. Therefore, regionally cultivated varieties with specific properties which would be a very valuable resource for future plant breeding but which have lower yields, are no longer cultivated. This lowering of diversity can have heightened risks associated with crop failure.

- 10,000 wheat varieties were documented in China in 1949, but by 1970 their number had been reduced to 1,000.
- Between 1804 and 1904 there were 7,000 varieties of apples cultivated in the United States. 86% of them do no longer exist. Apart from that, 95% of the cabbage varieties, 94% of the pea varieties and 81% of the tomato varieties have disappeared from the USA.
- In Mexico 80% of the corn varieties have disappeared since 1930.
- In Korea the number of plant varieties cultivated in small gardens was reduced by more than 75% in the period from 1985 to 1993.



Agricultural Biodiversity in Georgia: The Project

The Caucasus Region is a hot spot both of natural and agricultural plant diversity. Spatial separation of biotopes and human habitats made it possible that in close vicinity both natural evolution and human culture took different directions of development. However, the richness is disappearing. Global competition is reaching even farmers in the remotest regions on the globe - they can't help planting just those crops which result in the highest yields. Investment in diversity which secures long-term survival is not rewarded by the market.



The Project "Agricultural Biodiversity" in Georgia has two aims:

- It intends to raise the awareness for the problematique both in Georgia and in wider Europe. Therefore, the project will have an educational component within the European Environmental Education (EEE) Initiative.
- It is doing a scientific assessment of present agricultural plant biodiversity in Georgian villages and will present information on the varieties which are under cultivation.

The project is carried out within the framework of the Georgian Association of the Club of Rome. Involved are also the Georgian Academy of Agriculture (Academician Shota Chalaganidze, Member of the Georgian Association of the Club of Rome and President of the Academy), the Tbilisi State University, (Dr. Eleonora Abashidze, Member of the Georgian Association of the Club of Rome; and Anzor Maisuradze) and the European Support Centre of the Club of Rome.

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