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# The concept of "Networked collection" or "Virtual collection":□revisiting the classical delineation between "in situ" and "ex situ" conservation and its consequences on database management

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## Abstract

A networked collection, also called a virtual collection, is located at more than one geographical/institutional site, spans the genetic diversity of a given species (genepool) and gathers stakeholders having a mutual interest in rationally conserving and exchanging germplasm. In the extreme application of this concept, several accessions could be conserved, each at a distinct site. Many intermediate strategies are also conceivable.

The global coconut conservation strategy (GCCS) was developed by the International Coconut Genetic Resources Network (COGENT) and the Global Crop Diversity Trust. This strategy is mainly based on ex situ conservation in five large regional field gene banks. The implementation of a networked collection could allow this system to involve more countries, sites and stakeholders.

In order to make the germplasm affordable to stakeholders, the Polymotu concept was integrated as a new approach in the GCCS. Several accessions of coconut palms will be planted, each in a distinct isolated site, such as islets near inhabited islands, isolated valleys, or large plantations of other tree crops. This geographical remoteness will ensure the reproductive isolation needed for true-to-type breeding of the crop varieties through natural and cheap open pollination.

A challenge being faced is that of gathering (in the same network and database) accessions held in international genebanks, as well as accessions conserved on islets owned by municipalities, islanders' families or tourism enterprises.

Between 1992 and 2003, in a step-by-step manner, a database called CGRD (Coconut Genetic Resources Database) has been developed to manage and describe the accessions conserved in the ex situ coconut field genebank. This database system will have to be updated in order to integrate further geographical, social and ethnological information. Data will include not only Bioversity standard descriptors, but also additional information regarding places where the germplasm is conserved, information about the owners of these places, and rules that regulate access to the germplasm.

The responsibility of funding such a networked/virtual collection could be shared by participants (who could provide part of the infrastructural costs) and by donors (through the funding of specific activities focussed on priority unique accessions). In order to improve the quality of conservation, funding could be allocated on an accession basis, according to evaluations conducted by the COGENT network. Criteria for the selection of an accession for conservation in the virtual/networked collection include: the ability to reproduce true-to-type, genetic representativeness, uniqueness of the germplasm, and policy considerations. Database management will be essential for conducting such evaluations.