

A Global Strategy

for the conservation and use
of Coconut Genetic Resources

2018-2028

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COGENT's nascent international thematic action groups (ITAGs- see Annex 4) also embrace a number of other individuals and institutions who have provided supporting expertise during the Strategy development. Full lists of proposed members are available on the COGENT website.

The "Coconut knowledge network for information exchange about *Cocos* ", known as the coconut Google group⁵⁸ and coordinated by Dr Hugh Harries is the main international forum in which important subjects have been usefully debated, contributing to the relevance and focusing of this Strategy.

All these partners, particularly those holding germplasm in the public domain, as well as any other organizations, institutions or networks involved in coconut genetic resources in recent years, are likely to participate in the implementation of this Strategy. The coconut genetic resources scientific community is currently collaborating through a number of networks, projects and international legal and technical frameworks. COGENT is linking all of the key partners in the coconut sector, worldwide.

COGENT aims to harness the benefits of its networked approach, particularly in the context of the Treaty and its global Plan of action. Since 1992, COGENT has developed an increasing number of connections with genebank curators, decision makers from the public and private sectors, scientists, private companies, farmers from the field until the highest levels. The COGENT Steering Committee, where official representatives from 39 coconut producing countries stand is a unique place to produce recommendations going directly to the Governments. These recommendations, being based on the inputs of hundreds of the most eminent scientists and hundreds of stakeholders working in the coconut sector for many years, are strong and highly reliable.

COGENT network is the only global entity able to generate a world vision of the status of the biodiversity and genetic resources of the coconut crop. Its existence should be recognized by FAO and UN as crucial to protect and ensure the food security of the future generations of coconut farmers and stakeholders. Without genetic resources preservation, the capacity of adaptation of this specific crop to challenges such as climate change, pest, disease or urbanization will be jeopardised. Thus, the monetary equilibrium of millions of people on the planet will be threatened.

2.8 Facing emergency situations: an overview

Despite the crucial role of COGENT in the coconut sector at the global level, this network is today threatened by the lack of interest of major international institutions. Thus, the key emergency situations to be addressed by the Strategy that can be concluded from the above are summarised below:

- There is a lack of commitment to conserving and using coconut genetic resources at local, national and international levels. This situation is mainly due to:
 - 1) insufficient communication between researchers and other stakeholders;

⁵⁸ See URL: <https://groups.google.com/forum/#!forum/coconut>

- 2) the ambivalent and multifaceted coconut symbolisms which often make decision-makers forget that coconut cultivation greatly influences the livelihoods of millions of poor farmers; and 3) the huge constraints linked to the biology of the plant that sometimes discourage both researchers and donors.
- The present global system, based on 5 international genebanks and 19 national genebanks, has not been fully effective and efficient in terms of both quality of conservation and germplasm sharing. This system needs to be revised, taking in account the specificities and the real activities of all COGENT genebanks.
 - Emerging phytoplasma lethal diseases have recently threatened two international genebanks.
 - One of the main risks threatening *ex situ* coconut collections is land pressure, often due to urbanization. Some accessions have already been destroyed and many remain endangered.
 - Alternative methodologies such as cryopreservation of zygotic embryos and callus embryogenesis are not yet fully operational.
 - Funding and business models for the conservation and sustainable use of coconut genetic resources are inadequate. As a consequence, many *ex situ* collections are conserved to sub-optimal standards, due to lack of sufficient expertise, trained staff, reliable methodologies and dedicated laboratories. At least 16 of the 24 COGENT *ex situ* collections have many aged accessions and are presently not able to regenerate them true to type using controlled hand-pollination.
 - In the existing *ex situ* collections, there is a lack of sufficient variation for economically important selection traits such as: dwarfism, fruit quality, and tolerance to biotic and abiotic stresses. This, among others, limits the uptake of accessions in breeding programmes.
 - On-farm and *in situ* coconut genetic resources are threatened by prevailing socio-economic dynamics, emerging diseases and the environmental and social consequences of climate change and hazards. Farmers are losing their traditional knowledge; their technical knowledge needs to be improved; they lack information about diversity and availability of planting material; and they often face shortage of good seednuts. Communication between genebanks staff, farmers and private sector is not efficient, sometimes even does not exist. Thus the link between genetic resources and their use is not possible.
 - The existing international databases are at risk of becoming obsolete. The COGENT recording system is not yet linked to any of the various Big Data initiatives launched around the world. They need continued support to improve sharing, accessibility and interpretation of the available information. They provide the only tool allowing a global assessment of *ex situ* coconut conservation.
 - At time of press COGENT is reviewing options for hosting its secretariat, as the current hosting model is no longer viable (see end of Annex 4).

2.9 References

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