



Madagascar's progress in achieving the Global Strategy for Plant Conservation: the need for a successor to the GSPC to pursue national priorities

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How is GSPC addressed in your country? Do you have a national plant conservation strategy or is plant conservation included in your NBSAP?

- Madagascar : one of the 17 megadiverse countries, largely because of its exceptional flora, which is both highly endemic and threatened, qualifying it as a biodiversity hotspot.
- Has ratified the CBD thus has been required to develop a National Strategy for Plant conservation, but to date this has not yet been accomplished.
- **Most of plant conservation targets included in National Biodiversity Strategy and Action Plan but no national indicators relevant for the GSPC targets**
- However, national reports to the CBD (except for the most recent one) have included an annex on this subject



Target 1: Do you have a national flora?

- The Catalogue of Plants of Madagascar (MadCat): www.tropicos.org/Project/Madagascar: the **only complete online database DB for Madagascar flora**
- MadCat: a DB developed by Missouri Botanical Garden for more than one decade with several partners, offering **an authoritative input for World Flora Online**
- In 2017 Madagascar joined the **WFO Consortium** through the Madagascar Plant Specialist Group (MPSG), reflecting the will of the country to contribute to this global effort with information on its exceptional flora
- It will become **THE NATIONAL authoritative database** for the Malagasy flora



Target 1: Gap on knowledge on the Malagasy flora

Some overlooked ecosystems and plant groups:

- Western part: the current CEPF program is trying to reduce the gap by prioritizing funding on KBA in Western Part
- Inselbergs: specific ecosystem with high value of environmental services
- Aquatic ecosystems (freshwater)
- Bryophytes: undergoing project funded by GBIF for a first specimens and taxon listings (MBG with National Herbarium TAN)
- Fungus: overlooked plant group despite their importance
- Flora for each KBA/NAP
- Information GAPS for Evaluation of red list ecosystem (habitat, fauna and flora) (IUCN project still underway: finish soon)



Target 2: Do you have a national plant Red List?

- Very significant progress has been made in Madagascar toward achieving this target: MPSG members have conducted more than 3,500 conservation assessments to date.
- Currently 1,450 assessments have officially been published on the IUCN Red List, which represents more than 10% of Madagascar's very rich and highly endemic flora.
- **Some current projects** under collaboration with various categories of stakeholders:
 - Global Tree Specialist Group to assess the risk of extinction of 2000 plant tree species by the end of 2019
 - Assessment of precious wood species to inform the CITES action plan
 - The large mining company in Madagascar for their commitment for Biodiversity Conservation
 - The Orchids species (RBG Kew and MBG)
- **Gaps: useful plants**



Target 4: Do you have a national inventory of protected areas, do these cover all ecological regions?

The ecoregions of Madagascar, as defined by the World Wildlife Fund, include seven terrestrial, five freshwater, and two marine ecoregions.

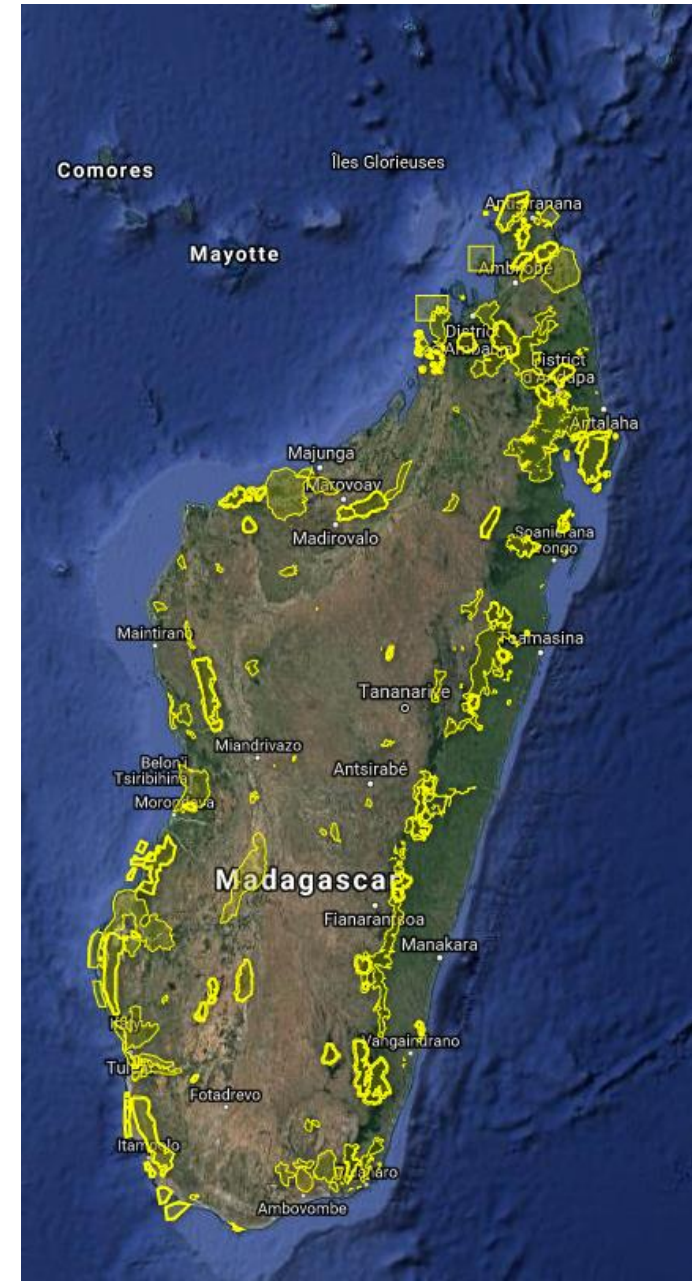
Madagascar has a national inventory of protected areas:

In total: 124 Protected areas listed within the SAPM (have an official regulatory text protection), the management-delegation is underway for those PA.

We have some sites actually to be potential and priority for protection (KBA, IBAT, IPA, AZE,...)

mostly on 7 terrestrial ecoregions (WWF)

The freshwater ecoregion: less represented



Target 5: at least 75% of the most important areas for plant diversity of each ecological region protected, with effective management in place for conserving plants and their genetic diversity

- Significant achievement has been made on this Target:
 - In 2004 through analysis made by MBG: **80 Important Plant Areas** identified for the country, for mainly forest ecosystem
 - More than 60% of these recognized IPAs currently with **Protected Area status**, with management delegated to local communities and their collaborators.
 - Update is required for IPA analysis for Madagascar



Is information available on the numbers of threatened plants in conservation programmes – in situ / ex situ? If so, what percentage are protected? Are protected areas located appropriately for the conservation of threatened plant species? (Targets 5, 7 and 8).

- *In situ/ex situ* conservation programmes exist but are localized.
- Part of the collection probably represent threatened species but the number is currently unknown
- Priority: compilation of information/data on conservation programmes for threatened species

Ex-situ: over the last decade, the establishment of gene banks maintained locally and abroad has experienced remarkable growth,

- geographically (covering almost all of the island's ecosystems),
- in number: more than **3,500 species** of the ca. 13-14,000 species known),
- and in terms of the types of actors (governmental and non-governmental institutions, the private sector, and local populations)



Is information available on the numbers of threatened plants in conservation programmes – in situ / ex situ? If so, what percentage are protected? Are protected areas located appropriately for the conservation of threatened plant species? (Targets 5, 7 and 8).

Few examples:

1. Millennium Seed Bank: RBG Kew's program in Madagascar with various partners but mainly with the National Silo; conservation of threatened plants known outside of PA network, endemic species and families etc. in gene bank

2. The field gene bank:

This concept is developing with the establishment of new protected areas, which provide opportunities for *ex situ* conservation. Case of Ebony rare species within some of MBG's community-based conservation sites

In situ

3. Living plants: conservation of populations within their localized habitats as part of protected or not.

Tahina spectabilis: rare palm species in Analalava , unprotected area, with RBG Kew

Angraecum longicalcar: rare orchids species in Ambatofinandrahana region , with RBG Kew

Dioscorea orangeana: rare edible yams species In Oronjia PA , with MBG

Target 9: Have Crop Wild Relative Species been identified for your country? What projects are in place to protect them? Provide an update on what work is underway to protected indigenous crop species and traditional agricultural landraces.

The only national program on CWR is the one led by FOFIFA with its national partners one decade ago

Main results:

- National list established (taken into account by ITPRAA: genetic resources for agricultural and food)
- Pilot project on their conservation in the SAPM (Yams case)
- Occurrence documented by Herbarium specimen collections

Some projects in progress for ex situ or in situ conservation :

- ***Coffea spp*** (Baracoffea): collections of the genetic diversity of wild coffees of Madagascar-caffeine free (approx. 60 species) in Kianjavato Center
- ***Dioscorea spp***: National Strategy for the Yams Conservation of recently validated
- ***Piper spp* or Tsiperifery**: Strategy for Sustainable use under development

Target 10: what actions are being taken to monitor and control invasive species?

No national system to monitor and control at national level but some localized actions mainly within Protected Areas

However following can be mentioned:

- In 2013, a symposium on "Invasive alien species of the islands of the South-West Indian Ocean: capitalization of acquired knowledge, identification of gaps in their current knowledge and needs for their assessment and management" was held at the University of Antananarivo.
- A preliminary inventory in Madagascar indicates **110 species** of plants including *Grevillea banksii*, *Pinus sp.*, *Salvinia moklesta*, *Melaleuca quinquenervia*, *Eichornia crassipes*, *Casuriana equisetifolia*, *Psidium cattleianum*, *Dicranopteris linearis*, *Acanthospermum austral*, *Ziziphus mauritiana* and *Eucalyptus sp.*.
- Priority: capitalisation of studies undertaken to share good practices



Target 11: are plants resources are being used sustainably? How do you monitor this?

The country must respond to the continued increase in wildlife crime, one of the principle threats to the flora

Priorities for Madagascar:

- Extensive scientific research and drastic, informed policy measures are required to reverse current trends.
- support for strengthening forest governance: revision and updating of legislative texts and development of a model ACNP (FAO Flegt Project with Precious Wood)

Some species are subject to action plan to ensure their sustainable use.

Examples:

Prunus africana:

- listed in CITES since 2008, this species alone constitutes 3% of the export volume of plants but export is suspended due to lack of up-to-date data on existing populations
- CITES Programme aims to lift the suspension, exhorts a stock inventory and domestication action and establish a NDF in the timeline 2018-2020

Species of important trade: succulent plants of the genera *Aloe*, *Euphorbia* and some palm species of the genus ***Dysoxylum***.

Updated data are missing to allow the downgrading of some species due to lack of fund

Target 6 et 16: are you, or your colleagues working towards implementation of the FAO Global Plans of Action for Plant Genetic Resources for Food and Agriculture and/or Forest Genetic Resources

- The country has recently validated the National Strategy on these genetic resources. The law project for its enforcement will be discussed during one board government (legislation)
- Specifically for the Forest genetic resources: Nagoya Protocol on ABS is already decreed but regulatory application text is underway (genetic forest resources utilisation for cosmetics, medicinal, and others...)
- A recent new disposition for the implementation of Nagoya Protocol on ABS/ to issue research and development permit use of genetic and biological resources (PIC and MAT)



Target 13: Is indigenous knowledge on plants being documented and protected?

- Documentation exists but very disparate
- Knowledge mainly comes from conservation sites
- ABS disposition exhorts the country to develop a national inventory (capitalisation) [PRIORITY]



Target 14: How is information on the importance of plants incorporated into education and public awareness programmes ?

- Madagascar does not have a national plant education programme
- Awareness-raising activities on the importance of plants are mainly carried out in conservation sites or at the level of Protected Areas and focus on endangered species.
- In many sites managed by MBG, every year there is the Biodiversity Festival where special attention is given to the plant diversity of the conservation site.



Target 15: Is there sufficient capacity in your country to conserve your native plant diversity? If not where are the main gaps

- implementation of GSPC's target has benefited from various policy frameworks developed as part of Madagascar's CBD commitment,
- but there remains a need for capacity building and on-the-job training at all levels (from implementing stakeholders to the general public).
- Three interdependent levels need to be addressed:
 - a) strengthening the institutional framework for implementing actions,
 - b) improving the quality and availability of the human resources required to carry out priority actions, and
 - c) raising awareness among the general public, especially those who, in their professions or daily lives, are users of biodiversity.



	Objective 1 - Knowledge			Objective 2 - Conservation				
	Target 1	Target 2	Target 3	Target 4	Target 5	Target 6	Target 7	Target 8
Progress								
	Objective 2 - Conservation		Objective 3 – Sustainable use			Objective 4 Education	Objective 5 Capacity	
	Target 9	Target 10	Target 11	Target 12	Target 13	Target 14	Target 15	Target 16
Progress								

Much work related to the Strategy will remain to be done beyond 2020, which Madagascar regards as an ongoing priority (collaboration between Government and all stakeholders for plant conservation): national inventory, research - survey and control, national evaluation for the threatened species and other species, capacity building

Consequently, there is a strong need for a clearly articulated strategy for the next decade to follow on the current GSPC and to build on its successes.

Madagascar considers it's a priority to establish a successor to the current GSPC that will provide a framework for pursuing national priorities linked to its international obligations under the CBD

