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## **Mahafaly Land and Seascape**

### **Biodiversity value**

The Mahafaly region is a globally unique landscape, possessing the highest rates of floral endemism (95%) of any region in Madagascar. Limestone habitat forms a karst landscape traversed by a labyrinth of underground rivers, dotted with caves and sinkholes and home to the endemic blind fish *Typhleotris madagascariensis*. The Plateau hosts a range of locally endemic fauna, including several reptiles, the Vulnerable bird *Calicalicus rufocarpalis* and the Endangered carnivore *Galidictis grandidieri*, as well as the charismatic lemurs *Propithecus verreauxi* and *Lemur catta*. The landscape is also the last stronghold of the Critically Endangered tortoise *Astrochelys radiata*.

In its West part, the landscape is represented by an exceptional and biodiversity-rich marine area composed of coral reefs (part of the third largest coral reef system in the world – 250 km long for southern Toliara), lagoon, seagrass and mangroves. The coral reef presents 134 coral species and shelters 234 fish species with high biomass up to 2295kg/ha. The seascape harbors flagship species such as sharks, whales, dolphins, the Coelacanth, and endangered marine turtles. The mangrove area of about 3,000 ha constitutes a nursery for numerous shellfishes, mollusks and fishes. The littoral sand dune and is rich in medicinal plants and home of many reptiles and birds species.

### **Strategic value**

Covering the largest remaining block of natural forest in southern Madagascar (over 700, 000 ha), the Mahafaly Landscape is critical to the conservation of the Madagascar Spiny Forest, a WWF Global 200 ecoregion. The landscape's ecosystems form the basis of livelihoods for the Mahafaly, The transfer of forest management to local communities around Tsimanampesotse National Park (a Ramsar site) and within the Amoron'ny Onilahy protected area provide a model of co-management that can be replicated in other landscapes, and the presence of several mines provide an opportunity for dialogue and the development of non-forest-based livelihoods. The conservation of the seascape plays a key role in maintaining the coral reef health which ensure a large part of the region's food security and on which the region's economy heavily rely. This area forms a unique conservation case for developing a coherent and integrated sustainable land and fisheries management system, a key to the livelihoods of local communities there. The remoteness of the Mahafaly area confers high potential successful of model of co-management and community-resources management that can be replicated in Madagascar and the western Indian Ocean region.

### **Challenges and opportunities**

The Mahafaly land and seascape is threatened by unsustainable livelihood strategies and increasing migration, both of which are expected to increase with climate change. In the marine part, the ecosystems and resources are facing an important level of illegal fishing and use of destructive harvesting techniques primarily due to a lack of enforcement of fisheries legislation, the lack of alternative incomes combined with an increasing migration from inland and the trade on marine turtles, sea cucumbers and sharks fuelled by Asian markets.



Local communities' livelihoods mainly depend on the ecosystems. This fact gives local communities a strong interest in sustainable management, an interest capitalised through the establishment of a co-management of natural resources around Tsimanampesotse National Park and the Nosy Ve Androka marine protected area. The existence of a range of conservation, development and academic actors in the landscape, provides an opportunity for fully-integrated management at the landscape scale, while the presence of several mines provides the opportunity to attract and integrate the private sector. The revision of the Atsimo Andrefana SRAT is an opportunity for WWF and partners to strengthen biodiversity and sustainable development strategies. The SEA (Strategic Environmental Impact Assessment) and economic valuation of biodiversity are critical elements in this respect. The landscape approach is fully in line with the four main development pillars of the regional program (fisheries, agriculture, tourism, and mining) to which by his activities WWF and partners are contributing.

***Vision and conservation and sustainable development objectives/strategies:***

The landscape long-term vision is : ***“By 2025, a rational management of the Mahafaly’s exceptional terrestrial and marine biodiversity, including ecosystem services, is the foundation for sustainable regional and local development, and is a source of pride for Atsimo Andrefana”.***

(1) Conserve and manage a robust and functional ecological landscape through the established mosaic of protected areas and sustainable natural resource management areas (the TGRNs and ZPCs). (2) Protect the iconic and endangered species: marine turtles and terrestrial tortoises. (3) Promote sustainable social and economic development. (4) Promote the integration of biodiversity into development plans at regional and communal level.

***WWF’s role***

WWF has worked on the Mahafaly Region since 2001 and implemented a range of conservation and livelihood-related projects, including supporting MNP in the management of Tsimanampesotse National Park. WWF is well placed to catalyse partnerships and integrate a range of actors, including regional authorities, local communities and the private sector, as well as other conservation and development actors, and thus plan and implement holistic, land and seascape-scale management of the Mahafaly Region. WWF has also national and international marine expertise that can contribute for the development of a joint land and seascape management enhancing economic development model for the Western Indian Ocean context.

***Status of planning and Key Achievements to date***

The main achievements to date since 2001 have been:

- South-western ecosystem representativity increase in the protected areas network: from 43, 000 to 454, 025 ha (25% of the landscape).
- Community based natural resources management increase : from 43 069 ha to 441 11 ha, representing 24% of the landscape.
- Regional/local “dina” (agreement between partners) to help combat illegal tortoise trafficking and initiation of reflection on developing new regional fisheries legislation.
- Participatory monitoring programmes in place: periodic aerial surveillance for deforestation monitoring, ecological monitoring and fisheries catch monitoring.
- Income due to the sustainable management of the natural resources : promotion of alternative agro-ecological practices for both pastoral and arable lands, promotion of



alternative income generating activities for fishermen (algae farming, training on seafood processing), improved water access for people (through desalination), for cattle and agriculture, partnership with the private sectors on fisheries and tourism activities.

Those achievements provide us :

- the elements for a landscape base management approach – Protected Areas and Conservation based natural resource management sites (Almost 50% of the landscape already under management).
- Partnership engagement : local community, traditional leaders, Conservation organizations (GIZ, MNP, Tany Meva/SGP-UNDP, ACF, AVSF, ASF-B, Blue Ventures), Regional and local authorities and technical services (Atsimo Andrefana Region, forests, mining, energy, agriculture, tourism, CNA, etc), Development organizations: World Food Programme, GRET, MdP, ACF, AVSF, ADES, ABC Domino), Private sector (tourism operators, mining companies, fishing companies, etc), National authorities (MEF, MinAGRI, MEN, MinEau).
- Donors « club » organization opportunity (KfW, BMZ, AFD/FFEM, NORAD, WWF network, SIDA, IDRC, GEF, UNDP, SWISS Re Foundation, BMBF).

Partners' communication at the landscape level : Mahafaly Plateforme exchange, Plateforme on good governance for traditional fisheries, Cluster food security.

To ensure sustainability of actions, partners on sites : COBA (38), CBO (25), Fédération de COBA, local government (AICPM, OHEMIHA), FAMARI, farmers' group, Research centers and universities.