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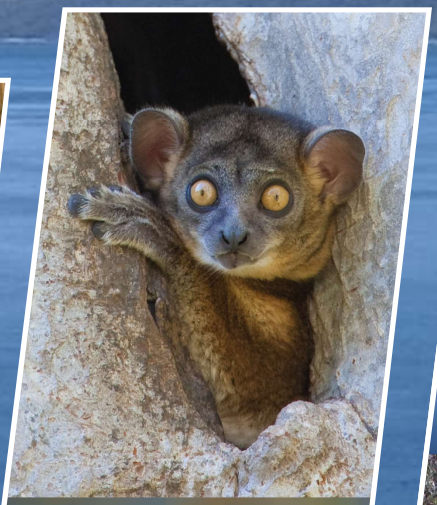
NATIONAL BIODIVERSITY AND ACTION PLANS 2015 - 2025

Decree N° 2016-128 of 2016, february 23 adopting the National Biodiversity Strategy and Action Plans for Madagascar 2015 to 2025



2016

Convention on Biological Diversity

United Nations Decade on Biodiversity 2011-2020

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REPOBLIKAN'I MADAGASIKARA
Fitiavana - Tanindrazana - Fandrosoana

MINISTERE DE L'ENVIRONNEMENT,
DE L'ECOLOGIE, DE LA MER ET DES FORETS

Décret n° 2016-128 portant adoption de la Stratégie et Plans d'Actions Nationaux pour la Biodiversité de Madagascar de 2015 à 2025

LE PREMIER MINISTRE, CHEF DU GOUVERNEMENT

- Vu la Constitution ;
- Vu la loi n° 95-013 du 09 Août 1995 autorisant la ratification de la Convention sur la Diversité Biologique ;
- Vu la loi n° 2003-032 du 20 novembre 2003 autorisant la ratification du Protocole de Cartagena sur la Biosécurité ;
- Vu la Loi n° 2013-010 du 12 juin 2013 autorisant la ratification du Protocole de Nagoya sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation relatif à la Convention sur la Diversité Biologique;
- Vu la loi n°2015-003 du 19 février 2015 portant Charte de l'Environnement Malagasy actualisée ;
- Vu le décret n° 95-695 du 3 Novembre 1995 portant ratification de la Convention sur la Diversité Biologique ;
- Vu le décret n° 2003-1095 portant ratification du Protocole de Cartagena sur la prévention des risques biotechnologiques relatif à la Convention sur la Diversité Biologique ;
- Vu le décret n° 2014 – 794 du 17 juin 2014 portant ratification du Protocole de Nagoya sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation relatif à la Convention sur la Diversité Biologique;
- Vu le décret n°2015-021 du 14 janvier 2015 portant nomination du Premier Ministre, Chef du Gouvernement ;
- Vu le décret n° 2015-030 du 25 janvier 2015, modifié et complété par le Décret n°2016-070 du 02 Février 2016 portant nomination des membres du Gouvernement ;
- Vu le décret n°2015-092 du 10 février 2015 fixant les attributions du Ministre de l'Environnement, de l'Ecologie, de la Mer et des Forêts ainsi que l'organisation générale de son Ministère,

Sur proposition du Ministre de l'Environnement, de l'Ecologie, de la Mer et des Forêts,
En Conseil du Gouvernement,

DECRETE

Article premier : En application des dispositions générales de la Convention sur la Diversité Biologique et de la Charte de l'Environnement Malagasy actualisée **sont adoptés la Stratégie et Plans d'Actions Nationaux pour la Biodiversité de Madagascar pour la période 2015 à 2025, annexés au présent décret.**

Article 2 : Des textes réglementaires précisent, en tant que de besoin les modalités d'application du présent décret.

Article 3 : Le Ministre d'Etat chargé des Projets Présidentiels, de l'Aménagement du Territoire et de l'Equipement, le Ministre auprès de la Présidence chargé des Mines et du Pétrole, le Ministre des Affaires Etrangères, **l**e Ministre de la Justice, Garde des Sceaux, le Ministre des Finances et du Budget, le Ministre de l'Intérieur et de la Décentralisation, le Ministre de l'Economie et de la Planification, le Ministre de l'Agriculture, le Ministre des Ressources Halieutiques et de la Pêche, le Ministre de l'Education Nationale, Le Ministre des Travaux Publics, le Ministre du Tourisme, des Transports et de la Météorologie, le Ministre de l'Energie et des Hydrocarbures, le Ministre de l'Enseignement Supérieur et de la Recherche Scientifique, le Ministre de l'Environnement, de l'Ecologie, de la Mer et des Forêts, le Ministre de l'Eau, de l' Assainissement et de l'Hygiène, le Ministre de l'Elevage, le Ministre de la Population, de la Protection Sociale et de la Promotion de la Femme, le Secrétaire d'Etat auprès du Ministère de la Défense Nationale chargé de la Gendarmerie sont chargés, chacun en ce qui le concerne de l'exécution du présent décret, qui sera enregistré et publié au journal officiel de la République.

Fait à Antananarivo, le 23 février 2016

Par le Premier Ministre
Chef du Gouvernement

Général de Brigade Aérienne Jean RAVELONARIVO

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Pour ampliation conforme

Antananarivo, le

Le Secrétaire Général du Gouvernement

FARATIANA Tsihoara Eugène

REPOBLIKAN'I MADAGASIKARA
Fitiavana - Tanindrazana - Fandrosoana

UNEP

NATIONAL BIODIVERSITY STRATEGY AND ACTION PLANS (2015-2025)

December 2015

United Nations Decade on Biodiversity

PREFACE

Madagascar has pledged to preserve its biodiversity and enhance its benefits to the Malagasy people by ratifying the Convention on Biological Diversity in 1997. In order to implement the Strategic Plan for Biodiversity 2011-2020 and the Aichi Targets, it reviews and updates its hereby National Biodiversity Strategies and Action Plans for (NBSAP) to become an instrument of national policy. It will have begun shortly to implement this updated NBSAP which is to be effective, participatory since its conception.

We invite you to the discovery and to get a sounder knowledge of its so rich and unique biodiversity, but at the same time which is an overwhelming danger looming ahead if appropriate measures or steps are not taken to stop the scourge that prevails throughout its bosom this meet the ever growing needs of the Malagasy people more or less direct expense of the natural resources that surround it.

We hope that the reality presented in this paper will encourage all concerned to work together to reduce various stresses and pressures affecting biodiversity and to open new horizons in order to provide greater promote the conservation and sustainable use of biodiversity. It is combining biodiversity conservation and sustainable economic development and to improve the quality of life of the Malagasy people and the future of the next generation.

Moreover, it will also require a strong political will and a well concerted and thoughtful decision about the choice to do in case of sectoral disputes. Indeed, the competition persists between biodiversity conservation and the great mining explorations and oil exploitation in some places such as protected areas or other unprotected locations but very rich in biodiversity and even for multiple wild and illegal logging, claiming all policy decisions respecting the principles of sustainable development to deal with the poverty that persists.

And following the socio-political crisis raging in Madagascar in recent years, more or less disastrous consequences that ensued remain engraved in the annals of the biodiversity of Madagascar. Indeed, it is known that the island continent holds a record in the terms richness and specificity of its biological diversity, unfortunately it also held that illegal

exploitation of natural resources especially during such crisis. Currently, it can be said that efforts are on the horizon to give the Malagasy biodiversity rank and consideration should return it, as before. The gradual return of donors and developing new partnerships will surely revive hope of this momentum.

The beautiful photographs of this document, which show some animal and plant species shows a striking contrast between the prevailing social, political, economic and cultural richness of nature that risks becoming simply a mythical legend in a few years if no action is urgently undertaken now. The newly created protected areas will no longer be a distant memory knowing that they are mostly prey to the illegal exploitation of forest wood and precious minerals and where men are still seeking land to establish themselves, grow or exploit and in their passage to ravage natural resources. Indeed, the rate of deterioration in the present forest cover, the coral reefs and the reduction in marine production around the Big Island worried many people in the scientific and environmental community.

In this document, the national targets are developed taking into account the Big Island priorities and capacities in order to contribute to the global collective efforts so that we can together achieve the Aichi Biodiversity Targets in its overall level. It is question for the countries to integrate biodiversity in the process of planning, development, and accounting at the national level. The integration of this strategy into national planning and activities of all sectors is expected to have positive consequences for biodiversity. This document is expected to be updated as and when changes in Biodiversity Conservation in Madagascar. It is also planned monitoring and review of the implementation of the NBSAP and national targets according to the indicators determined therein.

Furthermore, biodiversity loss continues to increase dramatically in a worrying manner on our planet. Thus, all attentions and comments from the world of Biodiversity are turned towards this Strategic Plan 2011-2020 and the Aichi Targets. For its part, Madagascar has just arrived to revise its strategies and National Action Plans. A more detailed study and further on the Resource Mobilization should result in extension of the NBSAP and serve as an effective tool to 2020 or more.

The challenge is now to find solutions predestined to continue, by setting up a strong and effective institutional structure and from now to have a manifest political will of decision makers and those responsible for the implementation of this NBSAP.

Through this document, Madagascar has significantly participate as any country party and member of the Convention on Biological Diversity, the fight for the significant reduction of biodiversity loss and mark the "United Nations Decade on Biodiversity" by innovative projects, achievable and really compatible to the needs of the Malagasy population and later to those of the world of today and tomorrow.

ACKNOWLEDGMENT

"This document is dedicated to the future of Biodiversity in Madagascar, with the hope that its knowledge and understanding will lead to positive results and will compete to decrease, if not eradicating, biodiversity loss".

First of all we already thank all those who will use this document to give back to the Environment and Biodiversity Malagasy the place they have always held in our planet.

Just recently and despite the various adventures it had to go through in recent years, the Malagasy biodiversity was back on its pedestal by the presidential promises in November 2014 at the Sydney World Parks Congress, and we authors and publishers have taken to make the outline to be followed in this NBSAP. These decisions have provided the impetus for the participation of Madagascar to the global competition for the conservation of biodiversity and all the environmental team is grateful.

As the first indebted to the entire nation in terms of management of Biological Diversity both land and marine and coastal, national and regional, the Ministry of Environment, Ecology, the Sea and Forests shares its deep gratitude and appreciation to all sector Departments, Institutions, national and international organizations, civil society and individual persons and legal resources for their participation in the preparation and development of this important document. Like the previous edition of the SNGDB and the fifth national report, this Biodiversity Strategy and Action Plan of Madagascar has heavily drawn on the knowledge of over two hundred Malagasy experts, conservationists, scientists, technicians and devoted managers as well as each other and all carried by the same impulse that is to want to contribute to the production of the building. This project would not have been possible without the will of the many colleagues and collaborators, we considerably thank them.

The Ministry is also grateful and appreciates the hard work and great responsibility of the Project Steering Committee for its guidance and its various recommendations. This committee was a great help by agreeing to take time to provide us valuable advice and guidance.

A coordination team was set up within the MEEMF to accompany from conception to finalizing the document. This team has persevered in efforts to coordinate and solve the various constraints and difficulties for this document to be as participatory as possible from the start. The consultancy team has done considerable work to manage information. The team of technical assistance implemented national and regional workshops attended by all stakeholders. Also, let us turn our sincere thanks.

At International level, we also highly thank the Global Environment Facility (GEF) for the different given trainings to prepare this document, for financial supports of these formations and for different advices to help us develop the document.

To summarize, we sincerely thank all those who helped in the preparation of this document and particularly those who commented on the chapters of this book for improvement and especially involved in its validation. And we reiterate our great appreciation to all those who, closely or remotely, directly or indirectly, have contributed in some way or another to the development of this document. Another very promising task is the implementation of the NBSAP awaits us and it is the same for the term of 2025 and its evaluation.

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ABBREVIATIONS AND ACRONYMS

AC : Acquired Capitalization
ADN : Deoxyribonucleic acid
AFD : Agence Française de Développement
AGI : Activities generating income
ALFSP : Agriculture Livestock and Fisheries Sector Programme
ANAE : Association Nationale des Actions Environnementales
ANCESM : Association Nationale du Commerce Equitable et Solidaire de Madagascar
ARBS : Access to Resources and Benefit Sharing arising from their uses
ANAE : Association Nationale des Actions Environnementales
ARPEGE : Regional Promotion support for the Environmental Management Education
ARSIE : Association du Réseau des Systèmes d'Information Environnementale
ASDP : Aquaculture Sustainable Development Plan
ASP : Agriculture Sectorial Programme
AVG : Alliance Voahary Gasy
AZC : Ankeniheny-Zahamena Corridor
AZE : Alliance for Zero Extinction
BAP : Biodiversity Action Plan
BBOP : Business and Biodiversity Offset Program/ Programme de compensation de la Biodiversité
BGCI : Botanic Gardens Conservation International
BIP : Biodiversity Indicators Partnership
BV : watershed
BVIP : watershed and Irrigated perimeters
CAADP : Comprehensive Africa Agricultural Developmened Programme
CCC : Convention on Climate Change
CCD : Convention to Combat Desertification
CCEE : Centre Culturel d'Éducation en Environnement
CCNUCC : United Nations Framework Convention on Climate Change
CCZ : Critical Conservation Zone
CDB : Convention on Biological Diversity
CDP : Communal Development Plan
CEPF : Critical Ecosystem Partnership Fund
CHM : Clearing House Mechanism / Centre d'échanges en biodiversité
CHMBiosafety : Clearing House Mechanism on Biosafety
CI : Conservation International
CIDST : Centre d'Information et de Documentation Scientifique et Technique
CITES : Convention on International Trade in Endangered Species
CLP : Local Protection Committees

CDM : Clean Development Mechanism
CME : Marine and Coastal Ecosystems
CMS : Convention on Migratory Species
CNARP : Centre National d'Application de Recherche Pharmaceutique
CNRE : Centre National de Recherche sur l'Environnement
CNRIT : Centre National de Recherche Industrielle et Technologique
CNRO : Centre National de Recherches Océanographiques
COAP : Protected Areas Management Code /Code des Aires Protégées
COMESA : Common Market for Eastern and Southern Africa
COP : Conférence of Parties Conference of Parties
CR : Critically Endangered
CSM : Contributing to Sustainable Management
CSP : Communal Spatial Planning
CTD : Decentralised Local Authorities/ Collectivité territoriale décentralisée
CWR : Crops Wild Relatives
DBVE : Department of Biology and Vegetal Ecology
DDT : Dichloro-Diphenyl-Trichloroethane
DEP : Department of Environmental Preservation
DTS : Decentralized Territorial Service
ECP : Environmental Commitment Program
EEZ : Exclusive Economic Zone
EFPA : Entrance Fees to Protected Areas
EE : Environmental Education
EIA : Energy Information Administration
EMSDP : Environmental Management and Social Development Plan
EN : Endangered
ENPESD : Education National Policy on the Environment for Sustainable Development
ESA : Environmental Strategic Assessment
ESC : Environmental Specifications Charges
ESIS : Environmental and Social Impact Study
EOBCPAS : Executive Office of Biodiversity Conservation and Protected Areas System
EOTPA : Executive Office of Terrestrial Protected Areas
EPBCN : Educators and Professionals in Biodiversity Conservation Network
EPSD : Environmental Programme for Sustainable Development
ESSMP : Environmental and Social Safeguard Management Plan
ETC : Evaluation Technical Committee
FAO : Food and Agricultural Office
FAEP : Fight Against Erosion Programme
FAPBM : Fondation pour les Aires Protégées et la Biodiversité de Madagascar
FFPRD : Forestry and Fishery Researches Department

FGD : Forestry General Directorate
FIP : Fighting against Invasive Plants
FLT : Fair and liable Trade
FMC : Fisheries Monitoring Centre
FSPWA : Financial Supports Program for Women Associations
GBIF : Global Biodiversity Information Facility / Système mondial d'information sur la biodiversité
GDLS : General Directorate of Land Services
GDP : Gross domestic product
GEF : Global Environment Fund
GEF-IDA : Global Environment Facility / International Development Association
GEF / UNEP : Global Environment Facility / United Nations for Environment
GELOSE : Secure Local Management
GEM : Great Marine Ecosystems
GEOSS : Global Earth Observation System of Systems
GERP : Groupe d'Etude et de Recherche sur les Primates
GMEP : Germano-Malagasy Environment Programme
GMO : Genetically modified organism
GSPM : Groupe des Spécialistes des Plantes de Madagascar
GW : Global Witness
HEFC : Hydrocarbon - Environment - Forest Commission
IAS : Invasive Alien Species
ICBG : International Cooperative Biodiversity Groups
ICFOSS : international conventions on the fight against oil spills at sea
ICPE : Industrial and Commercial Public Establishment.
ICSMFT : Interministerial Committee to Support Madagascar's Fair and liable Trade
ICZM : Integrated Coastal Zone Management
IFF : International Fauna and Flora
IHSM : Institut Halieutique et des Sciences Marines
IMWGHE : Intersectoral and multidisciplinary working group on Health and Environment
IOC : Indian Ocean Committee
IPBES : Intergovernmental Platform on Biodiversity and Ecosystem Services
IPGRI : International Plant Genetic Resources Institute
ISWM : Integrated Solid Waste Management
ITZ : Interest Tourist Zone
IUCN : International Union of the Conservation Nature
JPO : Judicial Police Officer
KBA : Key Biodiversity Areas
LBC : Local Base Community
LMMA : Locally Managed Marine Areas
LMO : Living Modified Organism

MALF : Ministry of Agriculture, Livestock and Fisheries
MAP : Madagascar Action Plan
MBG : Missouri Botanical Garden
MDG : Millennium Development Goals
MEA : Multilateral Environmental Agreements
MEC : Compliance
MECIE : Compatibility of Investments with Environment
MEEMF : Ministry of Environment, Ecology, the Sea and Forests
MFIC : Mining - Forest Interministerial Committee
Min Liv : Ministry of Livestock
MINTOUR : Ministry of Tourism
MNP : Madagascar National Parks
MSBP : Millennium Seed Bank Partenariat
MPA : Marine Protected areas
MPAN : Marine Protected Areas Network
MTPM : Ministry of Public Works and Meteorology
MW : MegaWatt
NAP : National Actions PLan
NAP-DS : National Actions Plan - Decennial strategy
NAPA : National Action Plan of Adaptation
NBCC : National Biodiversity Commission for Coordination
NDA : National Designated Authority
NEADD : National Education Action for Sustainable Development
NEP : National Environment Policy
NDP : National Development Plan
NP : National Park
NPCC : National Plan against Climate Change
NPSS : National Policy and Sanitation Strategy
NSRs : National Scientific Research Strategy
NTFP : NonTimber Forest Products
NSCS : National self-assessment capabilities to strengthen
NSP : National Spatial Policy
NPA : New Protected Area
NWSSAP : National Water Supply and Sanitation Access Programme
OEMC : Office de l'Education de Masse et du Civisme
OLEP : Organe de Lutte contre l'Evènement de Pollution marine par les hydrocarbures
OMNIS : Office des Mines Nationales et des Industries Stratégiques
ONE : Office National pour l'Environnement
ONESF : Observatoire National du Secteur Forestier
ONTM : Office National du Tourisme à Madagascar

PA : Protected areas
PAPs : Populations Affected by the Project
PASM : Protected Areas System of Madagascar/Système des Aires Protégées de Madagascar
PBZT : Parc Botanique et Zoologique de Tsimbazaza
PIWRM : Promoting Integrated Water Resources Management
POPs : Persistent Organic Pollutants
POWPA : Program of work on Protected Areas
PSE : Payments for Environmental Services
QMM : Qit Madagascar Minerals
RBG : Royal Botanical Garden Kew
RCRD : Regional Coral Reef Device
RDAP : Rural Development Action Plan
RDEF : Regional Direction of Environment and Forests
RDRD : Regional Direction of Rural Development
REDD : Reduced Emissions from Deforestation and Dégradation
RPGAA : Plant Genetic Resources for Food and Agriculture
RSEM : Report on State of the Environment in Madagascar
REU : Regional Environmental unit
REMC : Regional Environmental Monitoring Committee
SAGE : Service d'Appui à la Gestion de l'Environnement
SAICM : Strategic Approach to International Chemicals Management
SDPR : Strategy Document for Poverty Reduction
SIDS : Small Island Developing States
SMP : Spatial Management Plan
SNGDB : Stratégie Nationale pour la Gestion de la Diversité Biologique/National Strategy for Sustainable Resource Management
SNGF : Silo National des Graines Forestières
SPPSNE : Support for the Production and Popularization of Supports New Energy
SOC : Civil Society Organization
SSP : Social Sauvegarde Plan
TFP : Timber Forest Products
RSP : Regional Spatial Planning
SSP : Species Survival Program
SWIOFP : South West Indian Ocean Fisheries Project
TBE : Tableau de Bord Environnemental/Environmental Board
TNRM : Transfer of Natural Resource Management
TIRPAA : Treaty on Plant Genetic Resources for Food and Agriculture
PCZ : Priority Conservation Zone
UNCAD : United Nations Convention on Action against Desertification
UNDP : United Nations for Development Programme

UNEP : United Nations for Environment Programme

UICN : Union Internationale pour la Conservation de la Nature International Union for Conservation of Nature

VU : Vulnerable

WAVES : Wealth Accounting and Valuation of Ecosystem Services

WBD : World Biodiversity Day

WED : World Environment Day

WIOMER : Western Indian Ocean Marine Ecoregion

WSSP : Water and Sanitation Sector Policy

WWD : World Wetlands Day

WWF : World Wild Fund for Nature

EXECUTIVE SUMMARY

Madagascar shelters about 5% of global biodiversity and is also an agricultural country whose household economy is predominantly rural. The economy in general is based on the flora and fauna species which are the raw materials for its production activities. This justifies the place to be given to the Malagasy biodiversity values of its ecological environment, economy, society and culture areas.

Ecological functions and ecosystem services that ensure the well-being and socio-economic development of the human population are threatened by deforestation, habitat degradation, land and coastal erosion, the accelerated depletion of natural resources and disappearance of endemic species.

Regarding fauna, it has always been threatened by the combination of human pressures, climate change, degradation and conversion of forests to agricultural land, illegal hunting and international traffic. And the number of mammals, birds, reptiles, amphibians and fish has considerably decreased; it is the same for lemurs.

The causes and consequences of biodiversity loss are many, and in most cases they are linked to practices of economic development to negative impacts on biodiversity such as slash and burn agriculture, grazing pressures, collecting wood energy and coal, mining and other illegal and / or improper natural resource holdings. Habitat protection of fisheries and marine resources also experiencing difficulties related to the availability and application of texts regulating the activities around this area.

The impact of climate change such as coral bleaching, beach erosion and coastal ecosystems, and overexploitation of water, coastal and marine resources lead to the degradation of the marine ecosystem. Regarding wetlands or ecosystems, there is a strong trend towards their transformation into paddy fields to accompany the constantly growing needs of the population. As for the mangrove areas, not only, bush fires and forest fires occur very frequently in the highlands causing siltation and sedimentation of mangroves, but these are also engulfed by the intensity of hurricanes and raising the sea and by the abuse of their wood.

Moreover, the emergence of large-scale mining and hydrocarbons are among the main causes of forest degradation and deforestation. Similarly, Madagascar is on the verge

of becoming an oil country given the importance of its hydrocarbon sedimentary basins. Undoubtedly, this project can bring significant changes to the structure of the economy while bringing a series of negativities on its environment and its biodiversity. Thus, in this perspective, the Big Island is preparing for the issues and challenges of changing its economy while wanting to be respectful of the environment.

Despite the large-scale conservation efforts such as the Protected Areas System of Madagascar and landscape and seascape vision, threats to biodiversity loss remain a concern. Hence the urgency of actions to fight against the predominance of the informal sector as illegal logging, artisanal mining, gold rushes and other precious stones in protected areas, the low participation of women in development, unsustainable exploitation of fisheries resources and aquaculture - and the relatively high poverty rate of the population living around protected areas. Another negative situation is the weakness of the administration in charge of biodiversity in terms of financial investment in this area, and thus its inability to effectively assert its sovereign role.

This document NBSAP scheduled for 2015 to 2025 was focused on 5 strategic goals revolving around the following points:

- Awareness about the value of biodiversity, the causes of biodiversity loss and the consequences of its ecologically, economically and culturally destruction, particularly related to awareness, communication and education of policymakers and planners of the national economy, youth and the general public. This will be accompanied by the sharing of knowledge and basic science on biodiversity to guide the decision making and to stimulate investment in biodiversity conservation;

- The minimization of direct pressures on biodiversity by addressing the main causes and the development of various strategies. Sustainable use is to be encouraged through good governance, rational management and a reduction in the loss or degradation of habitats and ecosystems

- The need for improvement and enhancement of the biodiversity status by safeguarding ecosystems, species and genetic diversity like the creation and management of terrestrial protected areas by at least 10% of the area of its ecosystems and 70% of coastal and marine areas;

- Strengthening the benefits of biodiversity for all and services provided by ecosystems under sustainable management of biodiversity. Activities such as the restoration of at least 15% of degraded areas, the fight against desertification and the implementation of the Nagoya Protocol to the fair and equitable sharing of benefits arising from the utilization of genetic resources are also among the major proposed activities

- And strengthening the implementation of an effective NBSAP using the participatory planning of knowledge management and capacity building, and also setting up a system to protect traditional practices and knowledge of local communities.

Improving the legal and institutional framework and the integration of natural capital in national planning is essential for hinging biodiversity and economic development. Thus we noted there needs - integrate actions against climate change and natural disasters in the promotion of a resilient economy - to manage and enhance biodiversity and protected areas - to develop watersheds - manage fires - to fight against trafficking and irrational exploitation of natural resources.

But this natural capital is experiencing a beginning of exhaustion, which led its integration into the planning of economic and social development and the system of national accounts (WAVES project).

This is more than ever to maintain and strengthen the links and synergies between all stakeholders for a common vision on reducing the loss of Malagasy biodiversity. The implementation of a set of structural reforms and the immediate achievement of urgent actions and measures and rapid impacts are also discussed. And the National Biodiversity Committee and the Regional Units will allow a large number of people from different sectors and areas to work together and participate in the decisions on both the NBSAP that the respective shares of each sector and on biodiversity.

Similarly, this paper proposes some appropriate opportunities to exploit synergies between the various conventions and to advance common goals. This impetus could be the basis for the consistent implementation of the activities of all the conventions on biodiversity.

Similarly, other sectors with actions on biodiversity are also encouraged to undertake steps to align their strategies with the Strategic Plan for Biodiversity 2015-2025 for Madagascar and the Aichi Targets (2011-2020) by opening, for instance, guidance for new and innovative financing mechanisms for biodiversity such as environmental tax reform, payments for ecosystem services (PES), the biodiversity offsets and markets for green products.

Regarding the information and communication management, its constitution by the network of contributors and users of Biodiversity Clearing House Mechanism (CHM) already set up is planned. This network is formed by the same thematic groups of the recent 5th National Report and this NBSAP. It is also to be expected needs reorientation and / or reconsideration of prioritizations and interventions according to the new contexts.

Furthermore, the funding mechanism is based on national mobilizations (public funding and national foundations) and supported by international partners and their implementing agencies, as well as multilateral than bilateral cooperation. Many cooperation is thus to develop for meaningful participation and to increase funding for biodiversity management.

The first attempt to estimate the implementation of this NBSAP amounted to USD 203.20 million through 2025 and most of which is the creation and management of protected areas, both terrestrial and marine and coastal. Indeed, Madagascar has always focused on protected areas to regain power at the same time the largest amount of cash and the best representation possible, areas of the Malagasy biodiversity.

CHAPTER I: INTRODUCTION

I.1. CONTEXTE

Madagascar is among the 10 hotspots of global biodiversity. The unique natural heritage of Madagascar is severely endangered by human activities. Sectoral activities for sustainable socio-economic development actually depend on environmental goods and ecological services provided by different ecosystems. Natural forests which originally covered much of the island disappear very quickly. If in the year 2005, forest cover was estimated at 9450 000ha, in the year 2013 it is no more than about 8490 000ha (Source ONE - Treatment of satellite images).

In recent years, enormous progress has been made in-depth studies, on conservation and the future of the overall biodiversity of Madagascar. Thus, in the context of the made commitments implementation as part of the country Convention on Biological Diversity (CBD), to address the loss of biodiversity and the degradation of natural ecosystems in Madagascar, the main conservation tool of biodiversity, "National Strategy and National Action Plans" is developed by the Ministry of Environment, Ecology, and Forestry and Sea with all its partners in the biodiversity sector in collaboration with other economic sectors and development.

This tool provides the overall framework for the challenges requiring careful management to guide and direct the planning and management of biodiversity in Madagascar.

One of the few rich countries from the standpoint of its biodiversity, Madagascar must take care of its natural capital and manage prudently through sustainable and equitable use of biodiversity for the benefit of all its citizens.

The unsustainable exploitation of its biodiversity and loss of ecosystem services constitute a great threat to the achievement of its forest policies and biodiversity. Ecological processes and biodiversity of Madagascar are economic advantages of prime importance. The protection of natural ecosystems allows the maintenance of primary ecological functions, such as progressive and continuous water restoration. Soil protection resulting avoids the

problems that now affect chronically the economy as silting of agro-rice schemes, port infrastructure, hydroelectric infrastructure, road subsidence,

Having acceded to the Convention on Biological Diversity (CBD), to protect this rich biodiversity, Madagascar needs to establish a proper management tool, in accordance with the Strategic Plan for Biodiversity 2011-2020, adopted at the tenth Conference of Parties (COP-10) of the same CBD. This constitutes the general framework for the Conventions on Biodiversity and the United Nations system in general. The biodiversity sector, together with other economic and development sectors draw the comprehensive framework tools to address the challenges requiring careful management to guide and direct the planning and management biodiversity in Madagascar. A textual consensus to resolve disputes between sectoral codes particularly in terms of biodiversity conservation and natural resource management is to establish.

Thus, the National Strategy and Action Plans for Biodiversity (NSAPBs) are the main CBD implementing instruments at national level and many partnership countries are developing or updating their respective NSAPBs and integrate new national targets and indicators which are aligned to the Strategic Plan and the Aichi biodiversity targets.

Data and information collected from various stakeholders and regional and national stakeholders are the main basic needed elements used in the development of NBSAPs of Madagascar and for the implementation of the "Strategic Plan 2011-2020 and 20 Aichi Goals for biodiversity and priority actions to be considered." Thus, this document describes the NSAPB strategic issues about constraints and opportunities for the different political, administrative, technical, biological and ecological, socio-economic, legal and environmental governance including program funding mechanism on conservation biodiversity. The synoptic analysis of these strategic issues has helped expand national policy goals and implement the objectives of the Convention on Biological Diversity in relation to this plan.

On the legal framework, the Law on the Environment Charter and Protected Areas Management Code (COAP) together provide a framework for the biodiversity conservation and management of natural resources in Madagascar.

This document shows the evolution of the conservation status and / or ecological trend of biodiversity to identify priority areas critical to appropriate management and conservation actions of this unique biodiversity.

Among others, this evolution is mostly regressive due to the reduction in the area of natural habitats, overexploitation of natural resources and poor governance dominated by the growing corruption, the proliferation of invasive species, climate change and the mining and

uncontrolled oil exploration. Everyday human activities enhance the negative trend in biodiversity and it becomes difficult to manage the relatively fragile economic situation.

To cope with the biodiversity loss and the natural ecosystems degradation, this document also describes all the measures actually focused on two regulatory work tools and biodiversity management planning.

Another important element of the NSAPB for new generations is monitoring progress towards achievement of national goals to guide their implementation and facilitate the preparation of national reports. Such tool should set up a monitoring system of reciprocal commitments of everyone in the conservation of biodiversity.

I.2. BIODIVERSITY VALUES

Madagascar has a great wealth in biodiversity and this mega-diversity is recognized by the entire planet. And, that is how the Big Island is one of the global priorities in terms of conservation and investment.

At national level this mega diversity is crucial for the Malagasy people and constitutes a sustainable development support in the economic, socio-cultural, environmental and scientific. Indeed, the natural capital of the basement, the flora and fauna richness, the many variants of both terrestrial and aquatic ecosystems, the young population, vast undeveloped areas, etc., are assets to lead to a development sure to improved living conditions and the sources of well-being of the Malagasy population.

- **Ecological value**

Biodiversity provides and has several environmental goods and services and the functioning of ecosystems, while supporting the improvement of living conditions of the inhabitants and sustainable development. The importance of these ecological services is observed from further upstream ecosystems located on the watershed line to downstream ecosystems related to marine and coastal areas of the island.

Different types of natural and / or modified vegetation of different watersheds ensure hydrological functioning, soil fixation and also prevent erosion and sedimentation. Furthermore, vegetation plays important functions in regulating atmospheric gases and provide habitat and food sources for animal populations. Natural forests of altitude are regulators of water regimes (*Razafimamonjy, 2001*).

Wetlands are one of the wells or carbon pools and play a water regulatory role in case of flooding or drought (*Ramsar Convention, X.24 resolutions Changwon, 2008*).

The marine and coastal environments have ecological values. Mangroves play a role in the upstream sediment capture (for example: the silting case of the Bombetoka estuary) and in coastal protection against the aggression of the marine waves (coastal Morondava). The reefs play an important role in coastal protection, provide habitat for many species and contribute to carbon sequestration. Seagrass beds are a food source and are habitats for various marine fauna (Dugong, Turtles, fish, invertebrates, etc.).

The Fauna species play key roles in the ecological functioning mechanism within ecosystems: roles in the food web (being predators, prey, scavengers or omnivores). Fruit-eating species such as nectar or insects, lemurs, birds and bats play an important role in the efficiency of agricultural production, pollination and forest regeneration (*Prum & Razafindratsita, 2003; Razafindratsita & Zack, 2009*).

Plants provide and operate among others in:

- Photosynthesis by assimilating carbon dioxide from the atmosphere, regulation of atmospheric gases affecting climate;
- The fixation of atmospheric nitrogen (especially by Leguminous species)
- The conservation of soil and water by maintaining the hydrological cycle and fighting against erosion;
- The gene bank constitutes a source of information and materials for sustainable and profitable production. Indeed, over the past decade the Program Millennium Seed Bank (SNGF-RBG KEW) succeeded to keep in gene bank 28% of the Madagascar's flora including endangered species;
- The habitat and food for animals: the species of plants that provide food of some animal species are key species Canarium spp case for lemurs feed, Ficus spp. for feeding the frugivorous fauna; other species provide shelter, nesting boxes (pandanicoles amphibians that live on plant species: *Pandanus spp.)* and spawning grounds for many species (e.g. *Mantella aurantiaca* lives the adult stage of its development in the forest adjacent to nesting marsh). Their disappearance will lead to major changes in the functioning of the ecosystem.

Microorganisms are very active living components in biological balance of forest ecosystems, agricultural and herbaceous at the rhizosphere or topsoil. Indeed, they are the natural decomposers of organic waste (trunks, branches, leaves, dead animals ...) the mineralization process is also assisted by various classes of microorganisms (saprophytes wood-destroying fungi, and limnivores cellulolytic, nitrifying and other bacteria).

Some fungi and micro-organisms (mycorrhizal fungi, rhizobia bacteria) live in symbiosis with plants. This association is vital for both partners (examples for mobilizing and setting the major mineral nutrients (nitrogen, phosphorus, potassium) required for chlorophyll assimilation of plants and the supply of carbohydrates essential for the growth of micro - organisms).

- **Economic value**

Madagascar has a unique natural world and diverse capital allowing the promotion and development of many sectors: agriculture, livestock, fishing, mining, tourism etc., resulting in the availability of raw materials in view of economic development. This wealth dominantly natural capital is experiencing a depletion start penalizing future generations.

However, measures have been taken. Having ratified the Convention on International Trade in Endangered Species (CITES), Madagascar is among the countries in the world that has turned its biodiversity into economic capital. Because of its wealth and its mega-diversity, this capital has become very important for the country. Many species of flora and fauna are valued at the international trade level.

Madagascar's exports (including processed products and derivatives) have grown steadily from 2008 to 2011, for a value of 724.79 billion MGA in 2008 and 1 018.58 billion in 2011 (Source: MEEMF, 2012). These exports are a source of income for local communities and operators working in the sectors and they are a source of substantial currency inflows to the state's fund.

Furthermore, the enhancement of biodiversity as well as animal than plant in the crafts and industry sectors, in domestic trade, and also ecotourism is significant economic resources for the Malagasy society.

Many endangered wildlife species are listed in CITES Convention. Amphibians, reptiles and birds as well as plant species (orchids, palms, etc.) including those recently Malagasy precious wood (Dalbergiaspp. And Diospyros spp) and succulents (Crassulaceae, Apocynaceae, Anacardiaceae, Burseraceae and Asphodelacées, etc.) are included in the CITES Appendices.

Recognizing ecosystem services that we provide our mega diversity, Madagascar has implemented carbon offsetting to generate "carbon credits" whose incomes are to be paid to local communities. Tools have been developed to improve the methodologies and carbon quantification techniques which harmonize account and be adopted by all for a better price. It

is the same for the Global Partnership WAVES (Wealth Accounting and Valuation of Ecosystem Services) which may be a lever for the promotion of Payment for Environmental Services (PES) in so far as resources will now be valued and accounted for in a system of national accounts and that budgetary allocations will be proportional to the values of natural capital created.

Furthermore, genetic resources and their enhancement through the ratification of the Nagoya Protocol on Access and Benefit Sharing (ABS) arising from the use of resources expected to join the desired economic development.

- **Social value**

Historically, biodiversity and natural resources have provided the Malagasy population, building materials, household fuels, medicines and traditional medicines and jobs.

Goods and natural resources offered by a variety of species provide the people food security and health. These are local livelihoods and maintaining the development of production sectors.

Agro-biodiversity is one of the discussed components in the recent fifth National Report to the CBD (2014). Indeed, many plant species (introduced or not) like vanilla (*Vanilla fragrans*), corn (Zeamays), peanuts (Arachushypogea), cocoa (*Theobroma cacao*), pepper (Pipernigrum), rice (*Oryza sativa*), coffee (*Coffea spp*.), the "beans" (*Vigna spp.),* cowpeas (Dolichoslablab), yams (*Dioscorea spp*.), and many others are grown on the Big Island. It is the same for domestic animals such as cattle, poultry, fish, etc. These species are provided by biodiversity are the basis of our diet and an important source of income.

A parameter to be considered is the biosecurity issue to balance all sorts of introducing new species and / or living modified organisms and indigenous species.

- **Cultural value**

The daily life of the Malagasy population is closely linked to natural resources. Many customs and traditions are rooted in our traditions and are still followed by tribes. One example is the case of places where sacred rituals are practiced. It is generally forests, lakes, trees, caves, waterfalls, rock masses, etc.

Other considerations are from the origins of ancestors and beliefs like the case of lemur species and some snakes that are taboo and we should not in any case kill them.

These taboos have shaped the Malagasy natural landscape and have helped the species backups and some ecosystems and particular sites.

It is the same for cropping calendars and fishing calendar that are traditionally managed at local populations. By traditional and local knowledge, local residents were able to develop specific programs for cultivation of fields, opening / closing fishing.

I.3. COMMITMENT TO BIODIVERSITY GLOBAL RESPONSE

The 2011-2020 Biodiversity Strategic Plan of CBD, its vision and mission, the five Strategic Goals and the 20 Aichi Biodiversity Targets, said that the National Biodiversity Strategy and Action Plans (NBSAP) were the main implementation instruments of the Convention at the national level and highlighted some of the synergies between the various multilateral environmental agreements (MEAs). It provided an overview of the report results showing how the goals of CITES, IUCN (International Union for Conservation of Nature) and CMS (Convention on Migratory Species) contribute to the Aichi goals.

The national biodiversity strategy of Madagascar should therefore consider and take into consideration the following important facts:

- The actual need of Malagasy people on biodiversity;
- The multidimensional nature of development;
- The significant improvement of the Malagasy people daily life, especially for the most vulnerable.

From analysis of these facts, it follows that we must build a new Madagascar, a strong Madagascar which is able to bequeath to future generations a peaceful, united and prosperous country, able to become a world leader in valuing and preserving its immense natural capital on the basis of a strong, inclusive growth at the service of sustainable and equitable development of all its territory.

Indeed, the whole socio-economic strategy of Madagascar relies, first of all, on this unique natural capital and diverse world for the development of many sectors: agriculture, livestock, fisheries, forestry, mining, tourism, etc.

All these sectors also constitute strategic sectors which are becoming more interested in the country's socio-economic development programs. These are sectors that use as feedstock diversity of landscapes and natural ecosystems. This shows how the socio-economic development of Madagascar depends on this natural capital (Land, Water and Plant Training), that our country should, therefore, preserve, use and ensure its sustainability, while continuing to enjoy its benefits.

To be effective, a strategy should consider the needs of populations and local communities in biodiversity and at the same time, the need for preservation and conservation of biodiversity.

To preserve and conserve this biodiversity, the strategy should adopt good governance practices linked to consultation, coordination and cooperation of various public and private stakeholders as well as international cooperation with other countries and international organizations.

National Strategy and action plans should care about various national ecosystems such as terrestrial, marine and coastal areas and wetlands. They also provide utmost importance to endemic and / or migratory endangered both plants and animals including the phylogenetic resources, microorganisms and indigenous livestock breeds.

The link between improving biodiversity conservation status and the conditions of human welfare and poverty reduction should be promoted. The same is needed for the consideration of gender in the activities planned.

Some accompanying measures deemed essential such as legislation, advocacy, education, scientific research, coordination and cooperation, should have their ownership interests in the strategy and action plans.

It is then important to describe the steps of the NBSAP update and the role of indicators by mentioning the relevant decisions of the Conference of Parties (COP) and the indicative list of indicators adopted at the 11th COP as a flexible framework for the parts. The information on indicators and tools can be found on the CBD website (*https://www.cbd.int/sp/indicators/*) and the Partnership on biodiversity indicators (*www.bipnational.net*).

Thus, opportunities for biodiversity conservation and sustainable use of natural resources can be summarized as follows, without being exhaustive in so far

- Knowledge of biodiversity and its value, both scientific and ecological and social and cultural;
- Valorization of biodiversity and the assessment of the ecosystem services value
- Establishment of protected areas both terrestrial and marine and coastal and extension of conservation efforts beyond the boundaries of protected areas;
- Conservation and sustainable management of wetlands;
- Conservation of indigenous and endemic species, including migratory species by various strategies and action plans relating to specific species;
- The native species conservation and the genetic resources
- Various adaptation and mitigation projects related to climate and / or global change;
- Existence of environmental policy and legislation, strategies and sectoral action plans;
- Natural resources governance;
- Transfer of natural resource management to local communities - co-management of biodiversity;
- Involvement of civil society in biodiversity conservation;
- Integration of environmental considerations into policies, strategies, development programs and projects in each sector - Environmental Unit;
- ABS Implementation (Access and Benefit Sharing);
- Valuation of acquired EUCPN (Educators and Conservation Professionals Network including the adequacy of technical capacity and the need for biodiversity conservation);
- the WAVES process implementation;
- Ratification and / or implementation of 17 international conventions and regional agreements.

I.4. JUSTIFICATION AND BENEFITS OF REVIEWING THE NBSAP

The 2011-2020 Biodiversity Strategic Plan, adopted at the tenth Conference of the Parties (COP-10) of the Convention on Biological Diversity (CBD) provides the general framework for the conventions on biodiversity and the UN system in general. As the main implementation instruments of the CBD at the national level, many Parties are developing or updating their National Biodiversity Strategies and Action Plans (NBSAP) and are

incorporating new objectives and national indicators, in accordance with the Strategic Plan and the 20 Aichi targets for biodiversity.

Indeed the benefits of NSAPB are focused on the following:

- The NBSAP is developed to raise awareness of the unique biodiversity of the country and the value it represents for the people and the management mechanisms that can ensure its conservation and sustainable use ;
- The NBSAP is drawn up to inform planning, biological natural resources management and environmental impact assessment in order to promote sustainable ecological development
- The NBSAP is a promotional item used to increase awareness of the different legal and policy instruments for biodiversity conservation and to encourage their implementation;
- The NBSAP provides a strong framework for biodiversity mainstreaming in policies, projects, current activities of other sectors, and decision-making through a number of production sectors, including the agriculture, fisheries, forestry, tourism and mining;
- The NBSAP is also a tool for interaction with other sectors and offers a rational and constructive framework for engagement thereof whose interests differ from those of the biodiversity sector;
- The NBSAP provides planners and decision makers in spatial planning real opportunities to make spatial decisions that maximize risk prevention, reduce the loss of biodiversity and sustain ecosystem services
- Also, the NBSAP gives the most strategic opportunities to integrate the biodiversity possibilities and constraints in the planning process and decision making on land use at the local level
- The NBSAP contributes significantly to ensure access to biodiversity planning tools to a large number of users by putting at their disposal as much as data.

At the national level, a consideration of the biodiversity aspect is noted. However, the lack of certain aspects of dynamic and / or changes in the biological and ecological systems was found. Such is the case of wild biodiversity and agricultural resources, fish and fisheries, pastoralism, marine and coastal resources, and valuable genetic resources, etc.

The following issues were also recorded:

- Sustainable funding problem;
- Environmental education problem ;

- Traffic, exploitation and illicit trade in natural resources ;
- Unsustainable use of natural resources
- Problems related to the management of energy;
- Overlapping mining permits and lawful oil blocks with protected areas;
- Development of the mechanism on the PSE;
- Pollution management (reduction, avoidance);
- Delay in the consideration of the marine and coastal ecosystem;
- Land Degradation outcome from poor agricultural practices and pastoralism, which is linked to desertification.

It is therefore necessary to:

- Prioritize and extend conservation efforts beyond the protected areas boundaries (PAs managed by Madagascar National Parks or MNP and Protected Areas newly created with adoption of new categories of IUCN categories IV and VI Protected Areas for the management of natural resources): the experience reinforced the belief that the protected areas, which were used, in the past, only to protect certain endangered species, Hotspot and mega biodiverse aren't enough to save representative biodiversity samples and to maintain and preserve the ecosystems integrity. The supporting processes and related services requires a scope covering vast areas of land
- Highlight an adequate ecological biodiversity situations (conservation and / or degradation status) to the implementation of strategy and economic development management related to the recovery and / or management of biodiversity
- Improve, adjust and strengthen the national goals mentioned in the previous version of the document NBSAP (National Biodiversity Strategy for the Management, SNGDB, 2002) in terms of temporal well defined and measurable (quantifiable); and in this sense, to define measurable national goals and temporally defined (Tx to Ty)
- Improve the involvement and participation in the design and adoption of the NBSAPs of some government institutions, civil society, private sector organizations and communities working on biodiversity-related activities and natural resources;
- Define, describe and develop "good indicators", appropriate and adapted to measure and assess progress towards the achievement of objectives;
- For this new challenge, we must focus conservation measures on the maintenance of ecosystems and ecological processes favoured by these ecosystems within these protected areas (there are currently 123) extending over nearly 7.2 million ha of the area of Madagascar.

The adoption of two new legal instruments, the Environment Charter and the COAP that create the overall framework of environmental governance in the country was an important step in the legislative reform. NSAPB has to go into agreement with all rules governing the management of biodiversity.

I.5. THE REVIEW METHODOLOGY

The update of this NBSAP considered the important and priority information items on biodiversity and sustainable development mentioned in the different strategic documents. Various exchanges between different actors of conservation and development areas were also carried out. Thus, the methodological approach of the review results of the mutual intervention of many technical managers and has several stages:

Stage 1: Training and implementation of the technical tms

Stakeholder Consultations

- Formulation of a survey and prepare a summary table highlighting the review process of the NBSAP (Biodiversity and Natural Resources, Issues and Constraints, Targets and national priorities, Action Plan, Implementation Plan, Monitoring and Evaluation, Criteria-Indicators-Auditors);

- Implementation of a collaborative and participatory approach of actors and stakeholders (local, regional, national and international) working in the areas of Environment, biodiversity and natural resources (terrestrial, marine and coastal) and the valuation of mineral resources including: sending and exchange of pre-established questionnaire on specific themes while seeking specific answers also "quantified and measured";

- Implementation of various workshops at regional and national scales (launching workshops, consultation workshops and collect of data and information, workshops and / or meetings of technical working team and / or select committee for drafting different chapters of the document NSAPB, feedback workshops);

- Consulting specialist and / or keys resources in natural resource management areas and biodiversity conservation and collection of remarks and comments.

Stage 3: Compilation and writing

- Compilation and synthesis of data and information and writing the various chapters as defined themes;

- Presentation of the document content and chapters' restitution;

- Sending and exchanging NBSAP draft document with the small technical-scientific committee and the "advisory group" for remarks and relevant observations and fundamental pre-concluding;

- Finalisation of NBSAP document taking into account the relevant inputs and detailed observations from the various consultation workshops, the select committee and the technical team in charge of Coordination and Management.

CHAPTER II: CURRENT AND TREND OF BIODIVERSITY ISSUES

II.1 MADAGASCAR POSITION AND GEOPHYSICAL CHARACTERISTICS

Madagascar lies in the Southern Hemisphere, at a distance of about 400 km from the east coast of Africa by the narrowest part of the Mozambique Channel.

Madagascar Island covers an area of 592,040 km², extending over 1500 km from north to south and 500 km from east to west at its widest. The coastline extends over 5000 km. It shows a marked dissymmetry between a steep cliff overlooking the narrow eastern coastal plain, while to the west the altitude decreases fairly steadily to the sedimentary formations of the western and southern plains. The island is influenced by the north-western monsoon and the trade winds from the east. The presence of the central ridge or central highlands rainfall causes a differential between the East, wetter, and the West drier. These factors result in a wide range of bio-climate: hot tropical temperate fresh from the mountain subequatorial accused the South semi desert saturated humidity of the Northeast coast. Five main bioclimatic zones have been identified, namely humid bioclimate subhumid, mountain, dry and sub-arid. Each of these bioclimates is a natural formation with a particular fauna and flora biodiversity to it.

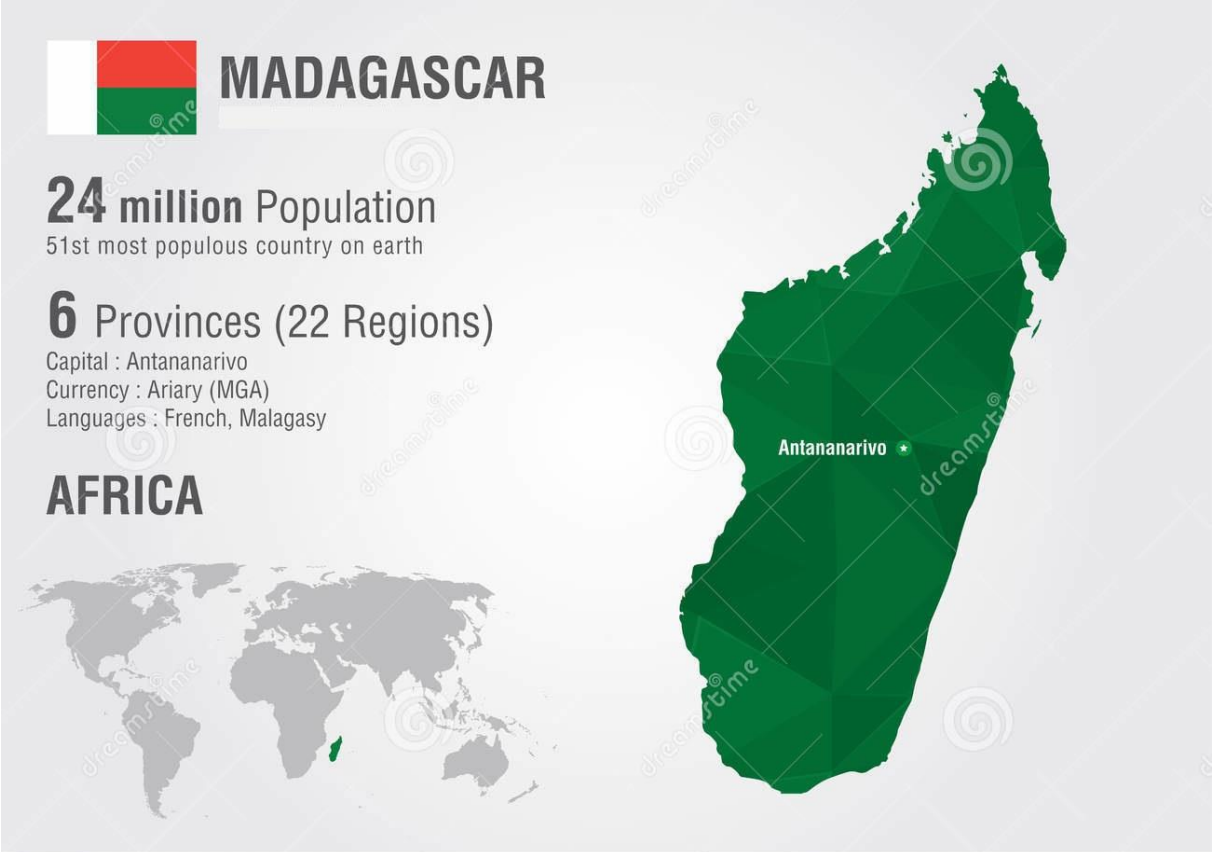


Figure 1 : Madagascar in the world

II.2. THE MAJOR GREAT ECOSYSTEMS

Madagascar presents a set of highly diverse habitats, particularly in the Western Malagasy Region, from climate variability related to different factors such latitudes, altitudes, steep slopes which are combined with the associated effects of foehn winds to concentrate on rainfall the eastern slopes of the mountains. In addition, the extremely varied geological and soil parameters further accentuate habitat heterogeneity. Biogeographic, climatic and ecological situations are relatively complex define across the island four bioma (East, Central Highlands, West, South and South-West), several ecological regions with different centers of endemism and micro-endemism and five major ecosystems. These major ecosystems types are predominantly anthropogenic part because terrestrial habitats do not exceed 20% of the total area of Madagascar. They are:

The forest ecosystem

This ecosystem includes various types of climatic and / or edaphic forest formations. The most recent data on the area of each of these formations come from Moat & Smith (2007) who established a classification of vegetation including 10 major physiognomic types of continental and marine forest habitats.

Table 1 : Madagascar Continental Forest ecosystems (source: 5th National Report, 2014)

Types of forest ecosystems	Total area (km²)	Forest cover (%)
Wet forest	47 637	8,06
Degraded wet forest	58 058	9,81
Western wet forest	72	0,01
Tapia Forest	1 319	0,22
Western subhumid Forest	4 010	0,68
Western dry forest	31 970	5,40
South-western thorny forest	18 355	3,10
Dry and degraded thorny forest	5 427	0,92
Coastal forest	274	0,05

The grassland ecosystem

This ecosystem is anthropogenic and has more or less arid ecological aspects due to high pressure. It is mainly represented by savanna (grasslands, shrub and tree), pseudo-steppes and "Roranga" (herbaceous vegetation dominated graminaceous occupied by wet herbaceous ferns in the east of Madagascar). They occupy different phytogeographical regions and cover about 70% of the area of Madagascar. These grasslands are found on the plateaus of the west and center and associated scarps and also on the fallow in the south and east, these types of formation cover a total area of 382 426 km² along with 4.51% in protected areas.

The agricultural ecosystem

The total of farm fields' area was estimated at 23,522 km² (*Ministry of Agriculture, 2013*). Depending crop types, they cover different topographic levels, particularly in the lowlands, valleys, low slope and different craggy places.

The aquatic ecosystem

Wetlands and inland waters extend over an area of 5339 km². They are composed of lentic environments (lakes, marshes, swamps) with an area of 2000 km², lotic environments (rivers, streams) with a length of 3000 km and groundwater that originate from 8 hydrogeographical areas and main aquifers (*5th National Report CBD, 2014*). Malagasy

Large Rivers and rivers have usually their origins in high altitude areas, in the great massive mountains of the island such as Tsaratanana, Manongarivo, Ankaratra and Andringitra.

Marine and coastal ecosystems

Eight types of marine and coastal ecosystems habitats are distinguished in Madagascar. The 5600 km coastline of Madagascar is a natural environment among the richest and most diverse of the Indian Ocean region, including mangroves, phanerogamic seagrasses, estuaries, marshes, shorelines and reefs coral. These contain 86 geomorphic units, representing 24.43% in the Indian Ocean level. Their surface is estimated at 613 958km², or 24.83% of the region.

II.3. CAUSES AND CONSEQUENCES OF THE BIODIVERSITY LOSS

Deforestation and forest degradation are among the greatest threats to Madagascar terrestrial ecosystems. Due to a strong awareness and involvement of the Malagasy civil society in the biodiversity conservation, mainly after the implementation of the National Environmental Action Programme (NEAP), the deforestation rate has fallen by half from 1990 to 2010. It became 0.83% annually over 1990-2000 and to 0.4% from 2005 to 2010. Even if it is lower than the rate in the world for tropical forests, this deforestation level is alarming for Madagascar where natural forest cover is less than 12% of the territory.

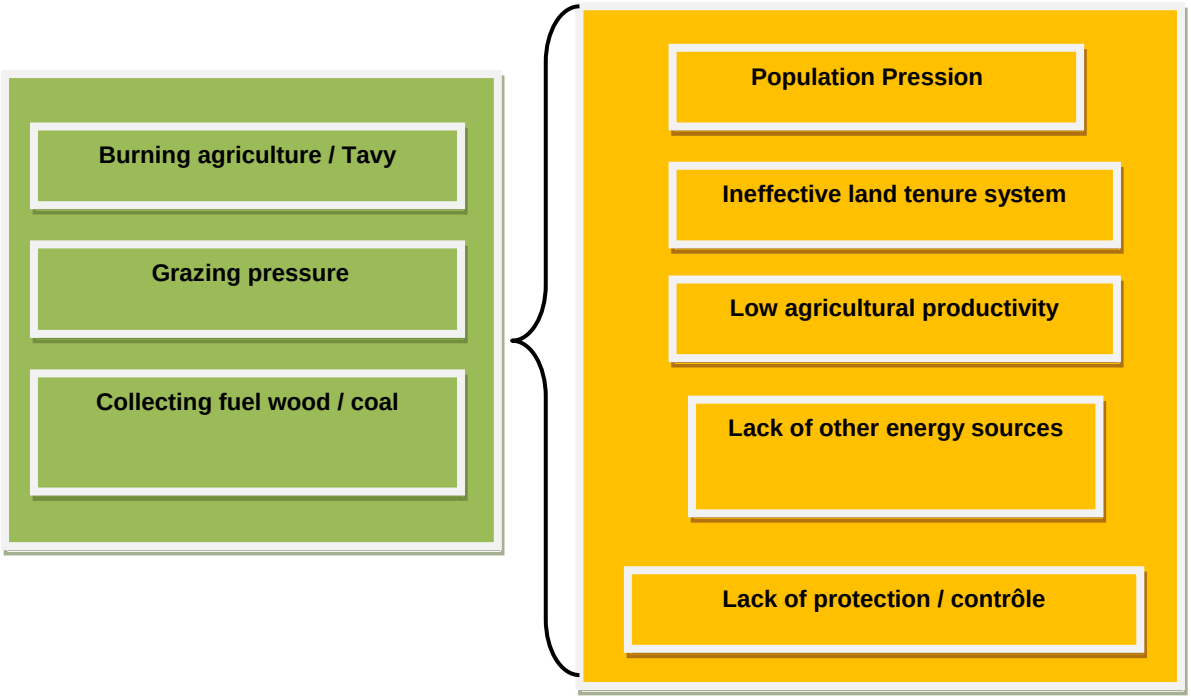


Figure 2 : Direct and indirect deforestation causes in Madagascar

The **illegal and / or abuse exploitation of natural resources** also remains a main concern because it could reduce biodiversity conservation efforts. In Madagascar, the anarchic and illegal exploitation of wildlife (wild gallows and CITES and non-CITES species), forest products and natural resources, including in protected areas, and especially the precious wood (rosewood and ebony), has increased alarmingly since the 2009 political issues and is currently a worrying threat to the conservation of all biodiversity.

Hunting and bushmeat consumption (**bushmeat**) represent a significant threat to small mammals (Tenrecs), the megachiropteran, turtles, amphibians (*Mantidactylus grandidieri M. guttulatus, Boophis goudoti*), water birds (wild ducks and herons) and lemurs (Primates).

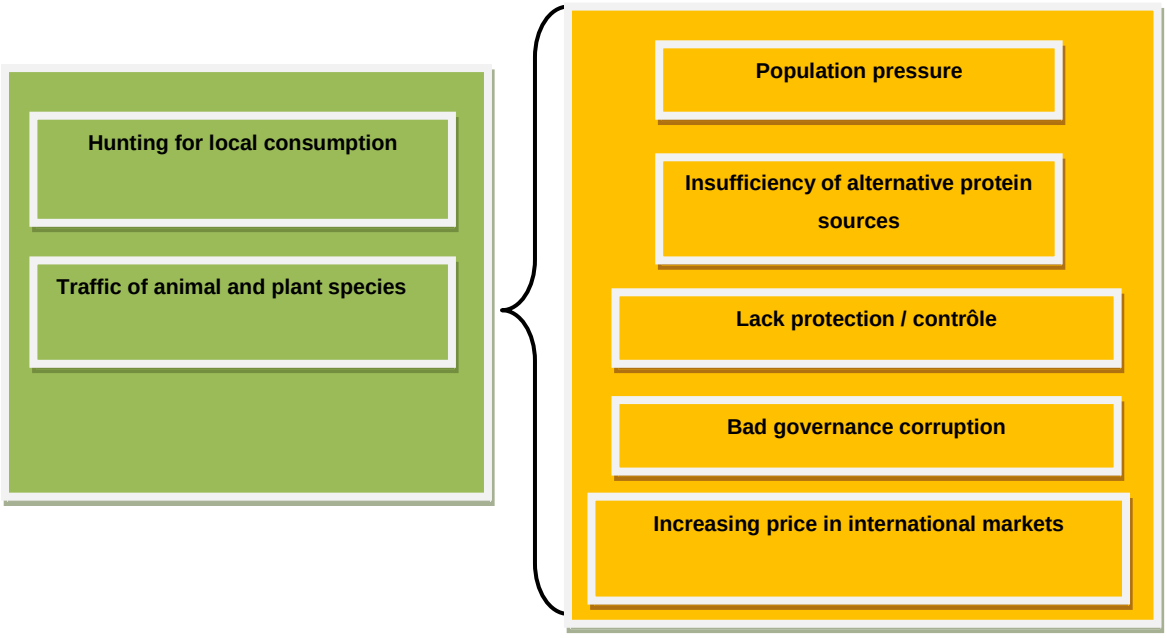


Figure 3 : Direct and indirect wildlife overexploitation causes

Moreover, **fires** are a threat to terrestrial biodiversity. They can be of either natural or anthropogenic origin, accidental or intentional. In addition, sometimes the fires for Tavy (slash and burn shifting cultivation) or pasture spread to nearby natural forests. In Madagascar, the Eastern Bioma and different Highlands vegetation as the Tapia formation and rupicolous formation at Itremo are particularly threatened by fires.

Regarding **extractive industries,** they actually represent a real threat to the biodiversity of Madagascar. The environmental impact of future mining operations could be

considerable. A current major issue lies in the overlap of some legal mining permits along with protected areas. Fifteen sites are concerned. An Interministerial Committee was set up to manage the problem of overlap between the two sectoral activities.

The stronger impact of the **climate change** in the region is undoubtedly the coral bleaching. Rising sea levels and intensifying extreme weather events could cause beach erosion and coastal ecosystems of the Indian Ocean islands.

At the terrestrial level, the climate change impacts on ecosystems are more difficult to measure because of the limited available information. The few recent reports have suggested that higher temperatures may likely involve some species rise in altitude and the disappearance of peak or mountain forests. This habitats destructing will be prejudicial for native species and likely accelerate the spread of invasive species that already exert strong pressure on native habitats of these islands.

There is also the **overexploitation of water and coastal and marine resources**. Indeed, many species are overfished in Madagascar. In most cases, this overfishing follows a windfall with strong demand in national and international markets. On the other hand, non-sustainable fishing practices is developed in fishing communities, such as the use of unsuitable materials, like bed nets, dynamite and chemicals (including plant poisons: Euphorbia and Mundulea). Combined with the increased number of fishermen, these practices can be devastating marine and coastal ecosystems.

Due to the disruption and degradation of some ecosystems, **alien and invasive species** which are harmful to native species, colonize all environments easily and rapidly proliferate. They are commonly devastating and / or pest vectors and cause considerable damage especially on biodiversity, such are the cases of *Rattus rattus* (Black Rat), *Corvus splendens* (Crow House Crow) *Ophiocephalus striatus* (Fibata Fish) *Duttaphrynus melanostictus* (Cane Toad), *Acridotheres tristis* (Common Myna) *Procambarus sp*. (Crustacean), *Opuntia spp*. (Cactus), *Eicchornia crassipes* (water hyacinth), *Psidium cattleianum* (China Guava).

II.4.TRENDS IN THE STATUS OF BIODIVERSITY

The trends of the Malagasy biodiversity are widely developed in the 5th National Report to the Convention on Biological Diversity (2014). Following the essentially various

anthropogenic pressures, ecological disturbances related to the loss and degradation of natural habitats have been mentioned there. Those are the cases of large ecosystems like forest stands, wetlands, marine and coastal ecosystems. Some degraded ecosystems sheltering different endangered flora and fauna species for which precise information is not available and it was found that degradation is alarming.

The following information briefly indicate the essential points of these trends in the biodiversity-rich ecosystems but are most threatened and vulnerable than other ecosystems.

Positive trend:

In terms of the biodiversity status, the positive trend is reflected in the various efforts undertaken by the various conservation and / or restoration activities implemented in Madagascar. They include the following approaches:

- Maintenance and extension of the protected areas system (vision Durban, NAP-MAPS);
- Implementation of "terrestrial landscape" (Corridors), "Seascape" and ecosystem complex vision linked to the ecological interdependence, biological bridge
- Restoration of populations of some threatened endemic taxa (turtles, amphibians, plants, birds of prey, etc.);
- New state involvement in the Sydney Parks Congress in 2014 and consideration of marine and coastal areas and associated ecosystems;
- Implementation of conservation programs and enhancement of biodiversity and forest ecosystems "Climate Change, Carbon Sequestration and REDD +."

Regressive trend:

There is one rather worrying downward trend about the state of biodiversity:

- Degradation related to ownership and patterns of agricultural land use;
- Progressive loss of the aquatic ecosystem due to siltation, sedimentation and drainage of wetlands;
- Biodiversity loss linked to forest and wetlands conversion in agricultural areas;
- Biodiversity and habitats loss related to mining in natural zones and forest corridors rich in biodiversity;
- Biodiversity loss due to voluntary bushfire and renewal pasture;
- Biodiversity loss due to wild game bushmeat;
- Biodiversity loss linked to export and / or illegal trade (Flora and Fauna)
- Size reduction of valuable wood species populations in Protected Areas and in World Heritage sites: the case of rosewood.

II.4.1.TREND ECOSYSTEM

- Forest ecosystems

In Madagascar, the terrestrial ecosystems diversity is particularly determined by climatic, edaphic and physiographic factors (altitude and exposure) and anthropogenic. The natural forest cover in 2010 was estimated at 9,220,040 ha. In general, the national rate of deforestation of natural forests has declined. It was 0.83% per year between 1990 and 2000 and 0.53% per year between 2000 and 2005. For the period of 2005 and 2010, the rate is estimated at 0.4%.

During both periods, the deforestation rate in protected areas is significantly lower than unprotected forests. Between 2000 and 2005, the deforestation rate within existing protected areas was 0.12% per year, and the rate for non-protected forests was 0.65% per year. Between 2005 and 2010, the deforestation rate within PAs managed by MNP was 0.2% per year.

Table 2 : Evolution of forest cover and deforestation rates by region between 1990 and 2010

Regions	Forest cover estimated in hectares				Annual deforestation rate (%)
	1990	2000	2005	2010	2005–2010
AlaotraMangoro	544 420	486 653	477 364	461 122	**0,7**
Amoron'imania	55 931	38 920	35 977	34 691	**0,7**
Analamanga	64 368	55 197	52 633	51 836	**0,3**
Analanjirofo	1 213 522	1 125 690	1 119 522	1 115 574	**0,1**
Androy	511 070	479 371	464 035	460 653	**0,1**
Anosy	541 463	515 327	489 699	484 016	**0,2**
AtsimoAndrefana	2 063 055	1 813 253	1 724 855	1 658 943	**0,8**
AtsimoAtsinanana	339 943	287 723	280 715	277 578	**0,2**
Atsinanana	454 818	383 850	372 190	367 486	**0,3**
Betsiboka	75 795	70 281	69 235	69 169	**0,0**
Boeny	397 335	354 519	346 298	331 004	**0,9**
Bongolava	8 382	8 380	8 358	8 358	**0,0**
Diana	609 779	563 710	545 536	543 219	**0,1**
HauteMatsiatra	80 581	61 887	61 603	61 124	**0,2**
Ihorombe	160 696	156 414	153 620	151 362	**0,3**
Itasy	496	51	36	36	**0,0**
Melaky	552 229	530 406	524 615	509 642	**0,6**
Menabe	941 852	888 059	861 059	835 229	**0,6**
Sava	919 996	885 253	873 372	870 186	**0,1**
Sofia	869 312	775 066	763 508	752 947	**0,3**
Vakinankaratra	14 062	8 971	7 082	7 073	**0,0**
VatovavyFitovinany	239 930	172 715	169 825	168 792	**0,1**
National	10 659 036	9 661 695	**9 401 137**	**9 220 040**	**0,7**

Table 3 : Evolution of the deforestation rate from 1990 to 2010 per region (% per year)

Régions	1990 - 2000	2000 - 2005	2005 - 2010
AlaotraMangoro	1,0	0,4	0,7
Amoron'imania	3,0	1,5	0,7
Analamanga	1,3	0,9	0,3
Analanjirofo	0,3	0,1	0,1
Androy	0,6	0, 7	0,1
Anosy	0,5	1,0	0,2
AtsimoAndrefana	1,2	1,0	0,8
AtsimoAtsinanana	0,9	0,5	0,2
Atsinanana	1,2	0,6	0,3
Betsiboka	0,4	0,3	0,0
Boeny	1,1	0,5	0,9
Bongolava	0,0	0,1	0,0
Diana	0,7	0,6	0,1
HauteMatsiatra	2,3	0,1	0,2
Ihorombe	0,3	0,2	0,3
Itasy	7,7	5,8	0,0
Melaky	0,3	0,2	0,6
Menabe	0,6	0,6	0,6
Sava	0,3	0,1	0,1
Sofia	0,9	0,3	0,3
Vakinankaratra	3,1	3,5	0,0
VatovavyFitovinany	1,5	0,2	0,1
National	**0,8**	**0,5**	**0,4**

- <u>Wetlands</u>

Wetlands (lakes, lagoons, marshes, mangroves, rivers, bays, estuaries and deltas ...) are particularly important in terms of endemic biodiversity and the environmental services they provide.

The wetland gradual disappearance area is growing more than 80% of the marshes because of their conversion into rice field. The productivity of these habitats is reduced because their ecological and socio-economic disrupted. There is a risk of population size reduction and local extirpation of species in wetlands.

The gradual drying up due to climate change and wetlands siltation due to the progressive deforestation of forest cover around these areas and soil erosion surrounding watershed, led to their surface and depth decrease, and the change of physico-chemical parameters. Some lakes and marshes have disappeared and others become temporary or are completely dried up. Such are the cases of the rivers in the Southwest region, Lake Sahaka of the Northeast and Mangarahara River of Sofia to the north of the island.

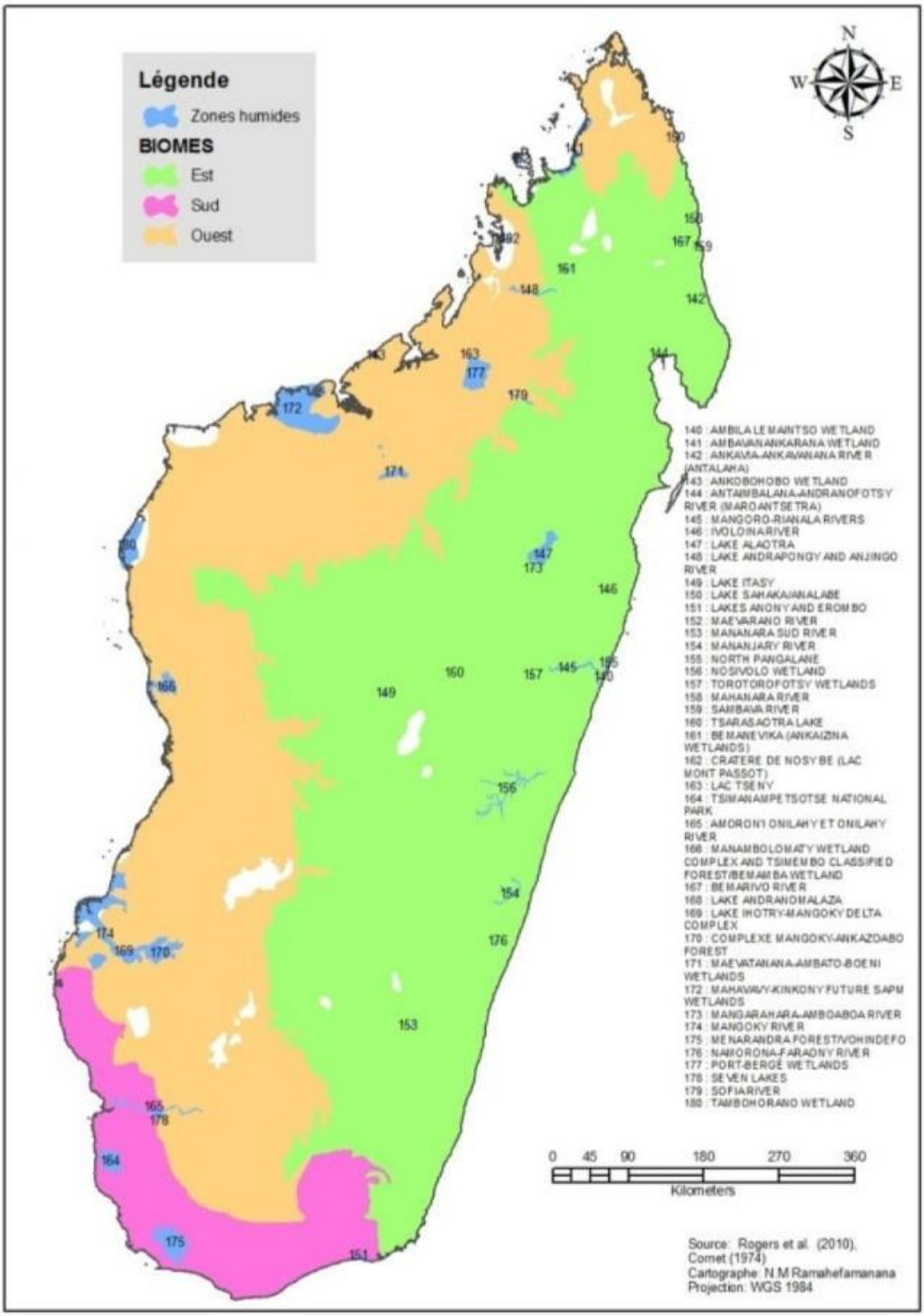


Figure 4 : Inventoried wetlands in Madagascar

- **Marine and coastal Ecosystems**

Marine and coastal ecosystems are interdependent and marked by a specific diversity in indigenous and / or endemic flora and fauna. However, the degradation of these marine ecosystems is more marked in the southwest and the North-East of the island.

For mangroves, available information is for those from localized studies which provide an overall trend at the sites. In most cases, the degradation phenomenon prevails over that of mangroves reconstitution: the area of different types of decaying and degraded mangrove and tanned increases incessantly.

Coral reefs and their associated ecosystems (seagrass beds, mangroves) show an important marine biodiversity wealth and support the livelihoods and economies of coastal communities. The importance of Madagascar's coral reefs, both in terms of biodiversity conservation as poverty reduction, is well established. However, knowledge about are still fragmented while pressures continue to increase.

Source Masoala – MNP

II.4.2. TREND OF SPECIES

Madagascar is recognized by the high specific and endemic fauna and flora diversity in relation to its size. The following table summarizes this unique biodiversity.

Table 4 : Madagascar terrestrial and freshwater biodiversity (source: 5th National Report, 2014)

Taxa	Species richness	Endemic native species (%)
Plants	11 367 vascular plants (estimate between 13 000-14 000)	About 90 (including 96 for the trees)
	619 Ptéridophyts	46
	201 Palm trees	98
	889 Orchids	87
Reptiles	393	90
Amphibians	About 500 (278 described and 150 description pending)	100
Birds	282	37
Mammals	106Primates	100
	60Small non frills mammals	92
	43Bats	73
	13Carnivores	77
Freshwater fishes	159	66
Invertebrates	8356	93
Aquatic insects	1257	87
Malacofauna	993Land snails and slugs 41 freshwater snails	97 49
Ants	More than 1000 species	95
Crustaceans (g.*Astacoides*)	7	100

- <u>Flora</u>

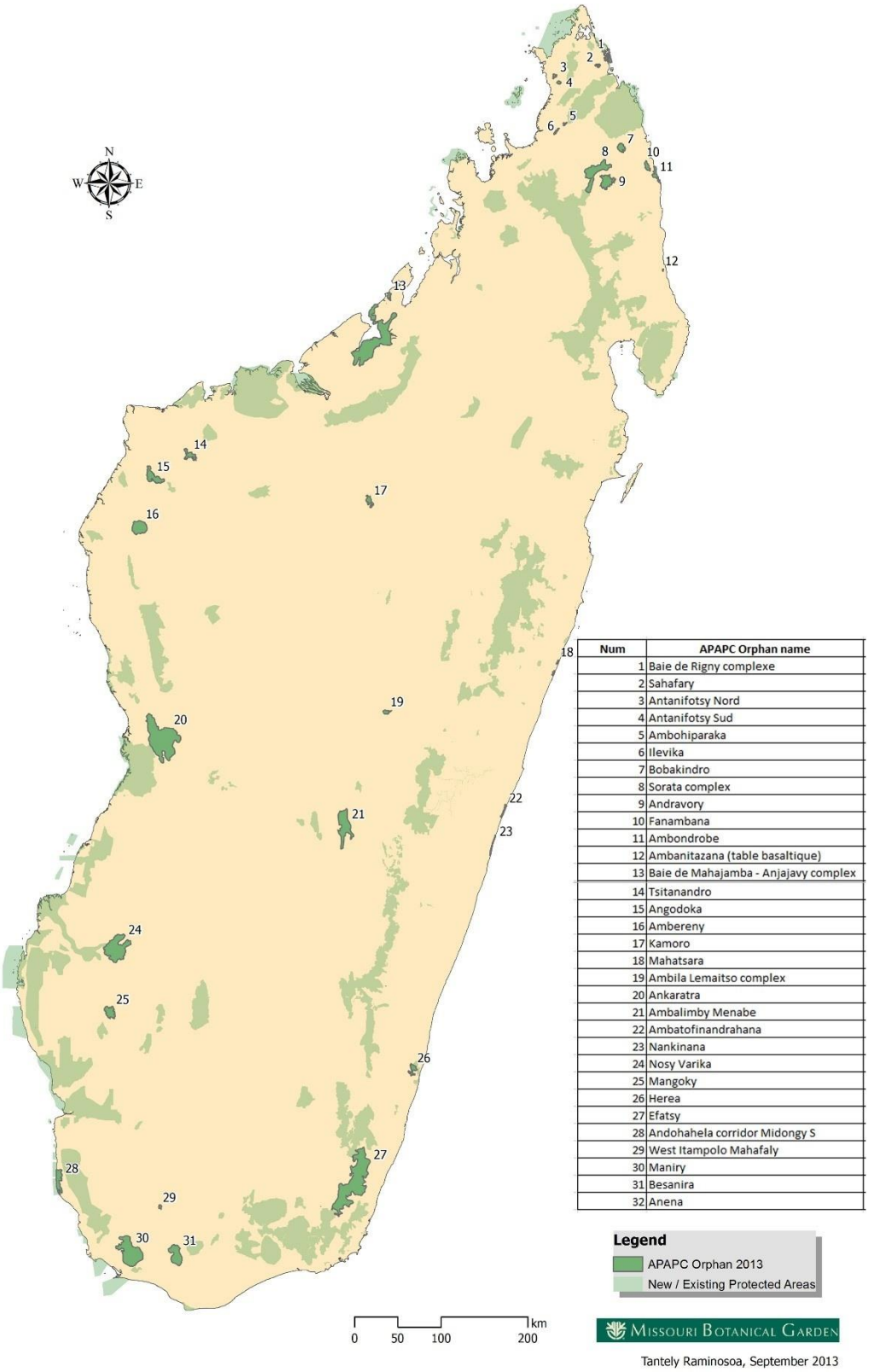
Madagascar is known for its rich native flora, characterized by high specific diversity and high endemism, both in terms of species, with around 90% of endemic vascular plants of the island, as families (five endemic families). The island is part of the world regions that have the greatest richness of vascular plant species (more than 3000 species / 10 000 km²) (Barthlott et.al, 2007). Indeed, more than 11 200 vascular plants species are currently known and it is estimated that at least 2500 species remain to be discovered or described.

The global Red List imperfectly reflects the situation reality in terms of conservation priorities for the plants in the Hotspot. Indeed, just over 900 evaluations (6-7% of the flora) have been formally incorporated into the global Red List, which is slightly under the botanical diversity of Hotspot.

Data from the preliminary assessment of the extinction risk of about 2,300 endemic species, demonstrate that a large proportion of 78% of this sample is threatened and there is a general trend of declining populations (MBG, 2013). The situation is very scarry for some taxa such as orchids (CR 158, 213 EN, VU 40, for around 890 known species) or the palm trees whose 83% are endangered species (CR 53, 41 and 45 EN VU for 201 species known), the Pandanaceae (91% of endangered species).

Regarding Madagascar plants conservation priorities, it should be specified that in 2013, among the 99 species belonging to five endemic families, 12 are not included in the protected areas system.

Moreover, a thorough assessment for the Malagasy plants red list did not occur, but recent estimates suggest that 54% of the Madagascar flora as a whole is under threat (*Oldfield. & Wilson*, 2014).



Num	APAPC Orphan name
1	Baie de Rigny complexe
2	Sahafary
3	Antanifotsy Nord
4	Antanifotsy Sud
5	Ambohiparaka
6	Ilevika
7	Bobakindro
8	Sorata complex
9	Andravory
10	Fanambana
11	Ambondrobe
12	Ambanitazana (table basaltique)
13	Baie de Mahajamba - Anjajavy complex
14	Tsitanandro
15	Angodoka
16	Ambereny
17	Kamoro
18	Mahatsara
19	Ambila Lemaitso complex
20	Ankaratra
21	Ambalimby Menabe
22	Ambatofinandrahana
23	Nankinana
24	Nosy Varika
25	Mangoky
26	Herea
27	Efatsy
28	Andohahela corridor Midongy S
29	West Itampolo Mahafaly
30	Maniry
31	Besanira
32	Anena

Figure 5 : Priority Protected Areas for Plant Conservation (2013)

- Fauna

A large wildlife species proportion is closely linked to specific habitats such as forest ecosystems and wetlands. Although the available information is still insufficient to assess a tangible or quantitative trend of animal populations, different taxa seem to evolve to a biodiversity loss.

With the gradual forest cover and natural habitats loss, and also the illegal species collection for international trade, the some populations size tends to decrease in nature, and for others, the extent of their range becomes increasingly restricted.

For **Mammals**, almost 94% of lemurs are endangered and they are probably the most endangered mammals in the world currently. As most large species depends on the forest to survive, populations of **lemurs** continue to decline in Madagascar.

For **Small Mammals** species, relative to habitat degradation and hunting degree, the trend is negative and the loss is irretrievable as ecosystem restoration is almost impossible. In addition, the presence of the introduced species *Rattus rattus* (Black Rat) also contributes to the number reduction of endemic species in places colonized by the species. Due to the efforts for the creation of new protected areas, most Malagasy mammal species are well represented in protected areas.

Even if the Madagascar **Birds** diversity is low, the endemism degree is high. 35 species of terresetrial and wetlands birds are threatened. The implementation of the Madagascar Protected Areas System (MPI), since 2004, has contributed to securing threatened species and whose in restricted distribution that were not previously covered by the Protected Areas. It was found that the majority of dependent forest species are increasingly confined to specific areas, with a tendency to disappear locally.

In Madagascar, there are currently 69 threatened **Amphibians** species. Nowadays these species are all included in the Madagascar Protected Areas System.

In total 136 **Reptiles** species are threatened. The northern, western and south-east are the regions where the threatened reptiles' status are most encountered. Seven endemic species are out the System Protected Areas.

The latest Madagascar **freshwater fish** evaluation status was carried out by IUCN in 2004. Sporadic updates were done between then and 2012. Currently 56 freshwater species are endangered. Very little information is currently available for fish, this class over a quarter of Malagasy species in the Data Deficient category (DD). In addition, current Madagascar

protected areas does not cover most of the wetlands, exposing this group to strong human pressure, especially overfishing.

For marine mammals, according to the Red List of IUCN, several **shark** species are threatened:

-The Whale shark (*Rhyncodon typus*) is on the list as "Vulnerable";

-The ray of deep water (*Rostroraja alba*) is classified as "Endangered" and 17 other species are classified as "Vulnerable".

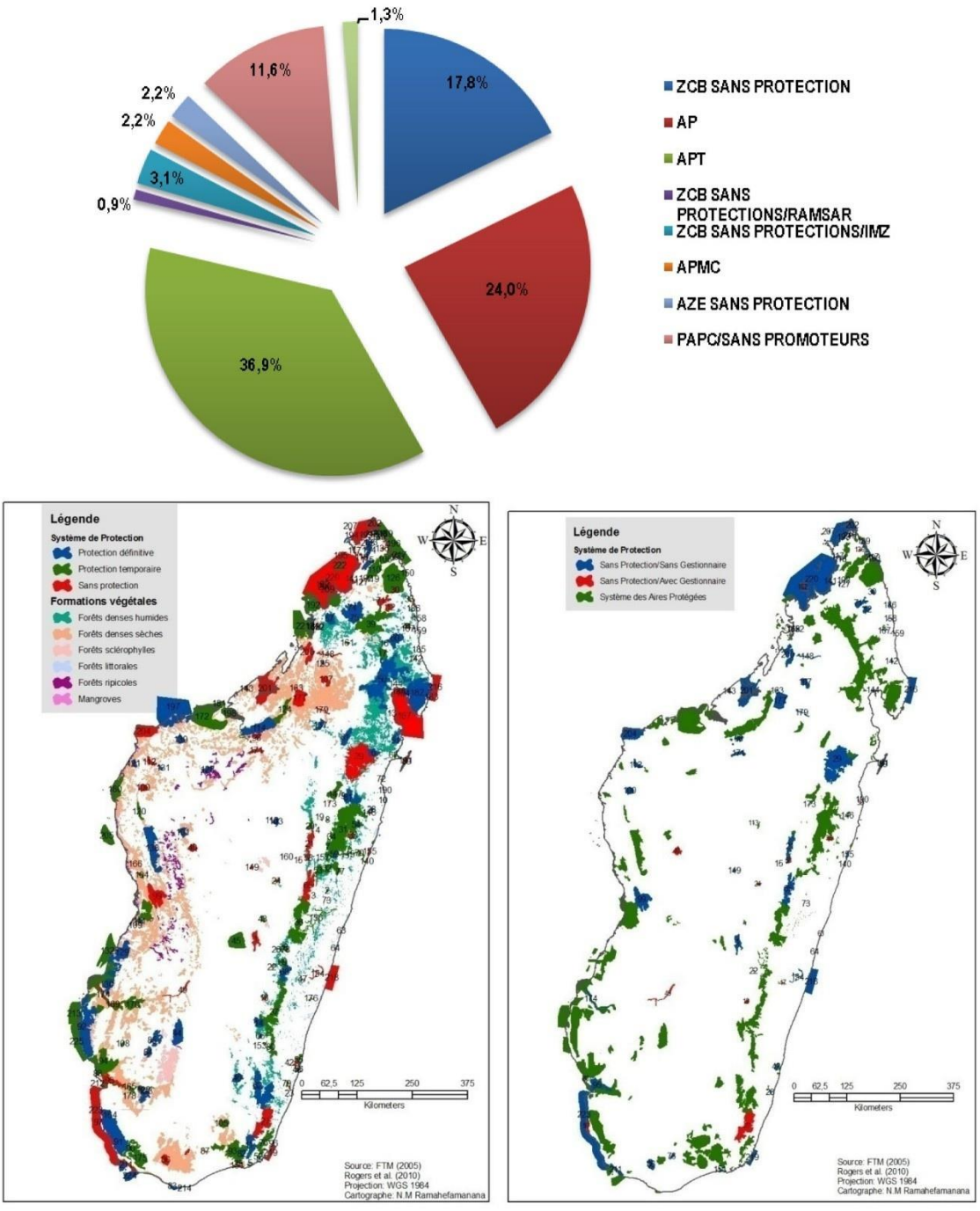


Figure 6 : Biodiversity conservation priority areas

CHAPTER III: POLICY AND LEGAL FRAMEWORK

Biodiversity policies and conservation strategies consider poverty reduction as one of their objectives. Likewise the programs and projects majority of various partners (bilateral, multilateral, international NGOs) working in the of natural resources areas are aimed to reduce poverty and to initiate sustainable development

III.1. BIODIVERSITY POLICY FRAMEWORK

The NBSAP development is a favourable opportunity for making enhancements to the national policy framework, creating "***an institutionally environment and establishing a legal framework conducive***."

The political framework for biodiversity conservation as a tool planning defines the biodiversity conservation vision and strategic objectives.

III.1.1. 2002 NATIONAL SNDBM STRATEGY

Madagascar ratified the Conservation of Biological Diversity (CBD) through Decree No. 95-695 of 03 November 1995 by approving the following objectives:

- Conserving biodiversity;
- Using with sustainable and rational manner the biodiversity components ;
- Sharing fairly and equitably the benefits arising from the genetic resources use.

During the past two decades, the conservation sector perception and its functioning has brought a significant change involving the biodiversity conservation in the population development through the creation of Terrestrial (TPA) and Marines Protected Areas (MPA) component one of the main strategies to stop the biodiversity loss and to retain the ecological functions of the natural ecosystem.

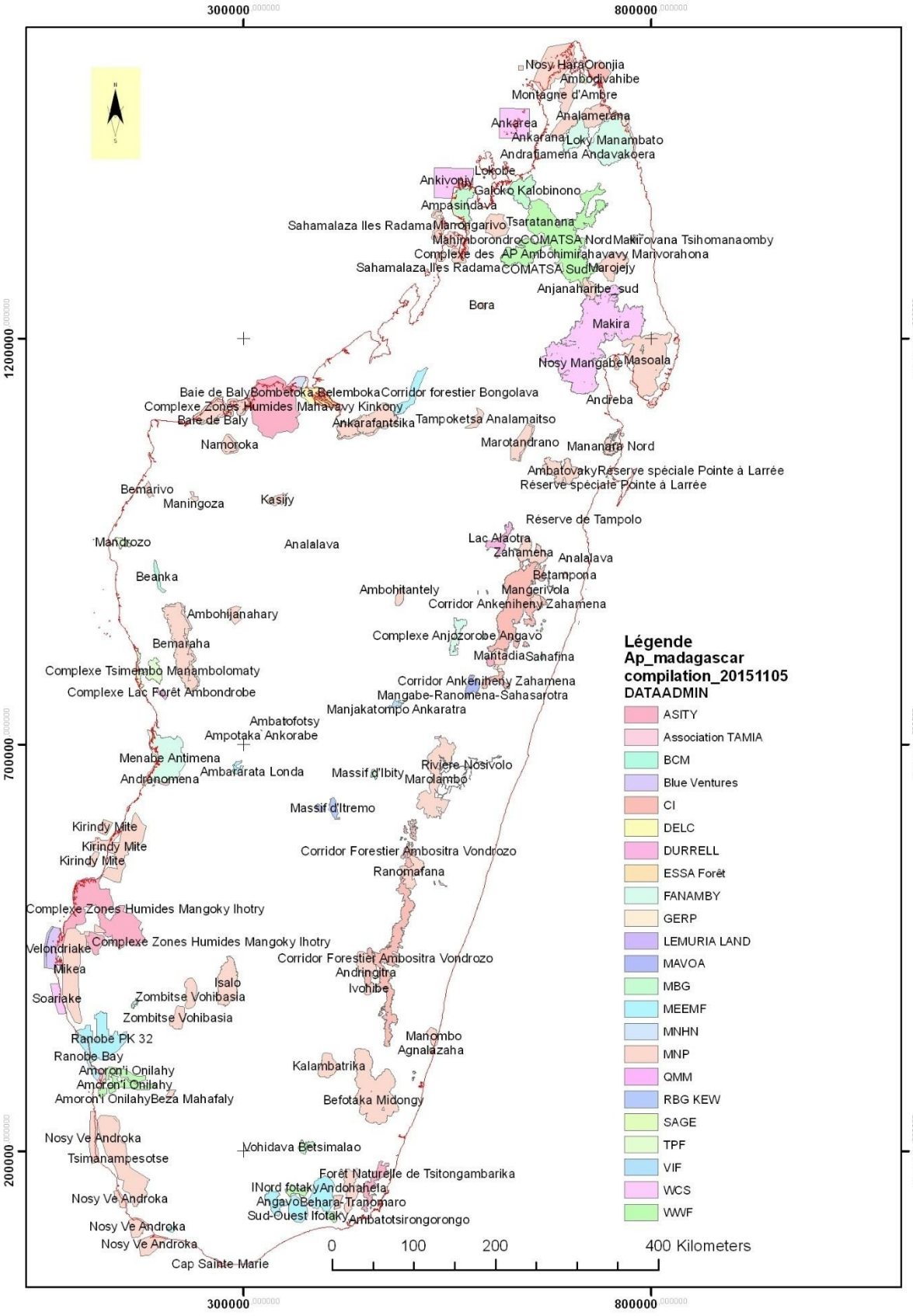


Figure 7 : Madagascar's Protected Areas

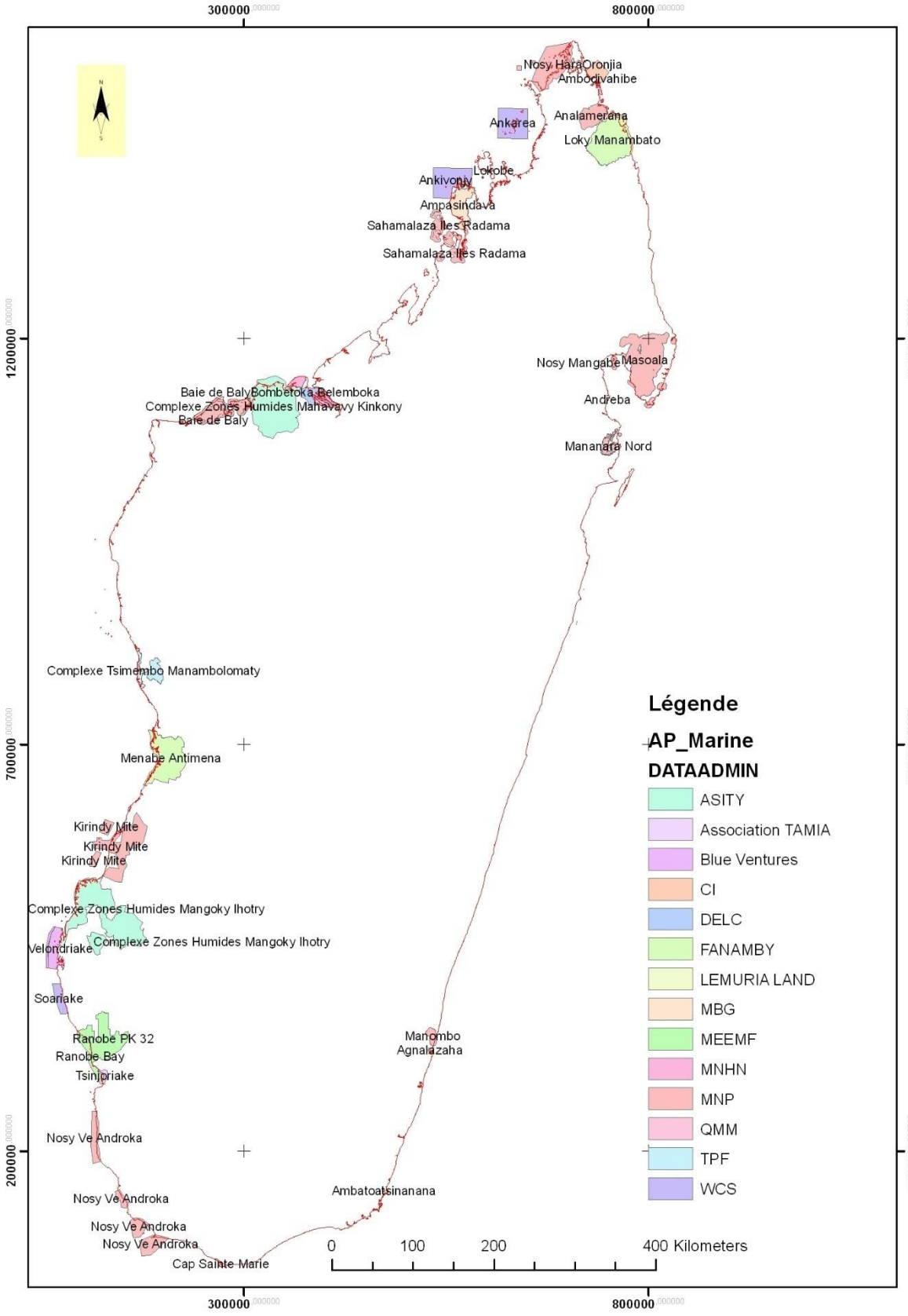


Figure 8 : The Madagascar Marine and Coastal Protected Areas

By implementing the Convention on Biological Diversity, Madagascar adopted its national strategy and action plans for biodiversity management (2002-2012). Three

guidelines were defined in the biodiversity conservation strategy and sustainable development and reducing pressures on biodiversity resources.

Nowadays, Madagascar update the National Biodiversity Strategy and Action Plans. The new National Biodiversity Strategy considers both EMP, NDP and ESDP. It respects and applies the good governance principles which are translated as follows

- Shared Governance with stakeholders, based on decision-making and consultative bodies at both national and local levels;
- Effective and enhanced participation of stakeholders at all steps and as early as possible;
- Piloting with organization of the different stakeholder interests expression and coordination between the various decision levels (international, national, local) ;
- Public Consultation to develop its participation in decision making and access to information;
- Transversally approaches to make them more coherent policies and clearer and more effective actions;
- Monitoring and evaluation to encourage actors to act, inform the decision and pilot the expected change.

III.1.2. RESEARCH STRATEGY AND INTEGRATION OF SCIENCE IN THE DECISION

Since 2013, Madagascar has a National Scientific Research Strategy, which was developed to meet the new needs of sustainable development. The green economy plays a major role while the fight against poverty. Considering the strengths and natural potentials and development gains, the strategy is based on the natural resources enhancement by promoting green technologies and clean energy, as well as management methods adapted to the Malagasy people *(MESupRes, 2013).*

In specific research areas related to the biodiversity conservation, various organizations are involved: Ministries, universities, national research centers, Non-Governmental Organizations (NGOs) and international organizations, and the private sector like the main mining companies. Various partnerships are also established between national organizations (Civil Society Organizations or CSOs, managers of protected areas and Universities and Research Centers, National Researchers) and national and international structures.

III.1.3. SECTORIAL STRATEGIES IN MADAGASCAR

To support sustainable development, the various sectorial ministries are currently developing strategies to cope with the degradation of natural resources and habitats, and also consider the threats posed production actions on biodiversity.

III.1.3.1. NATIONAL STRATEGY OF SPATIAL PLANNING

The National Spatial Planning (**NSP**) integrates all development policies and actions on the national territory. It defines the spatial development problem and main axes in the long term. The process of establishing NSP was launched in 2008, and the document defines a forward-looking 30 years. In 2013, the National sectorial and horizontal Scheme (for a 10 year period) was prepared in a participatory manner with various development sectors (economic and social), civil society and private sector. Seven administrative regions namely Itasy, Amoron'Imania, Haute Matsiatra, Alaotra Mangoro, Ihorombe, Diana and Anosy Vatovavy Fitovinany have already made their Regional Spatial Planning (RSP) where respective Protected Areas and types of assignment forest areas (sustainable production, conservation) are defined and considered.

III.1.3.2. DEVELOPMENT STRATEGY OF AGRICULTURAL SECTOR

Since 2009, for the sake of sustainable rural development, Madagascar has acceded to the Comprehensive Africa Agriculture Development Program (CAADP), one of whose objectives is to align the Agriculture Livestock and Fisheries Sectorial Program (PSAEP) on regional priorities of the Common Market for Eastern and Southern Africa (COMESA) that are based on four pillars: (i) the management of land and water, (ii) market access, (iii) the food supply and (iv) agricultural research.

The PSAEP, initiated in 2007 and taken back in 2011 because of the political crisis in Madagascar, through the period 2014 to 2025, is being developed with guidance as to: (i) ensured economic growth mainly by the private sector in developing investment agricultural areas, the public-private partnership and the export sectors, (ii) a reduction of poverty by improving agricultural productivity to rural households levels (including production and land security extension zone) and improving farm household income through diversification. The adopted development program approach takes account of existing strategies and sectoral policies as the technical and practices agriculture adaptation to climate change or the integration of Environmental Strategic Assessment in the process of identifying main investment zones.

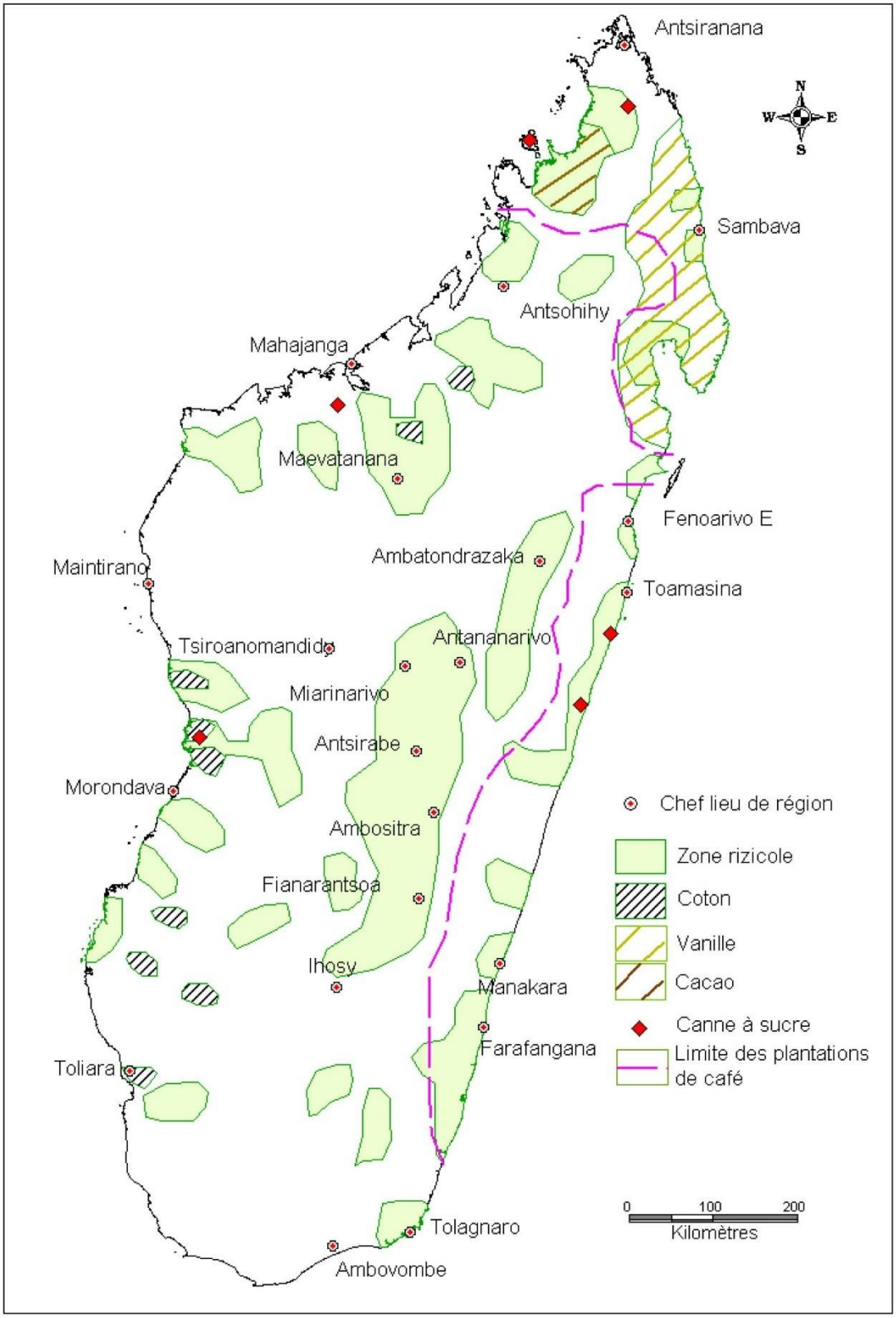


Figure 9 : The main crops in Madagascar

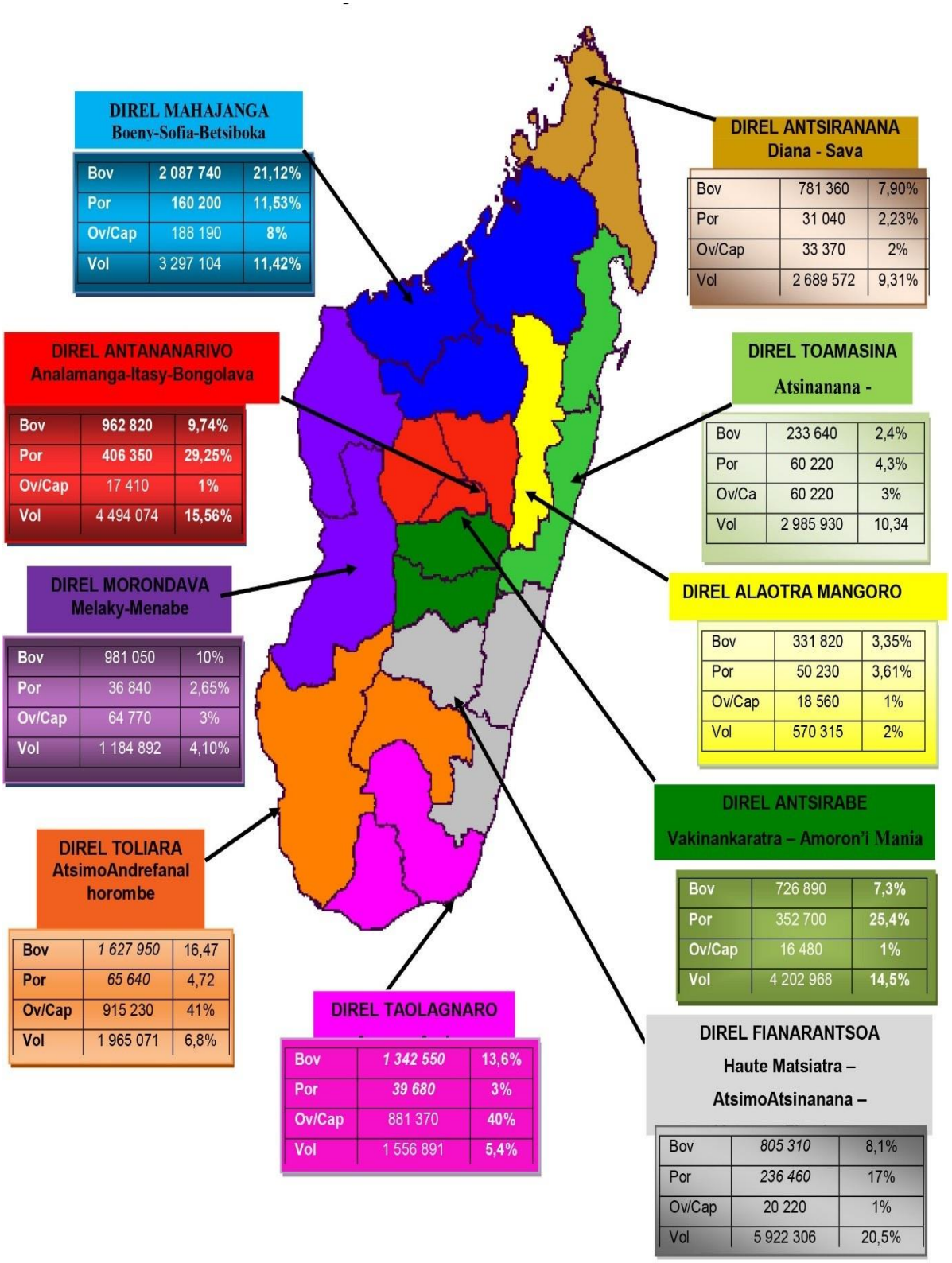


Figure 10 : Breeding in Madagascar

III.1.3.3. DEVELOPMENT STRATEGY OF MINING INDUSTRY SECTOR

The mininf sector is one of the sectors which has adopted several regulations on the need to protect the environment while developing the sector: Act No. 99-022 of 08/19/99 relating to the Mining Code (as amended by Act No. 2005- 021 of 10/17/2005) already reflects the sector's will to protect the environment; Act n ° 2001-031 of 10/08/2002 establishes a special system for main investments in the Malagasy mining sector (as amended by Act No. 2005-022 of 17/10/2005); Interministerial Order No. 12032/2000 of 11/06/2000 on the mining sector regulation in environmental protection.

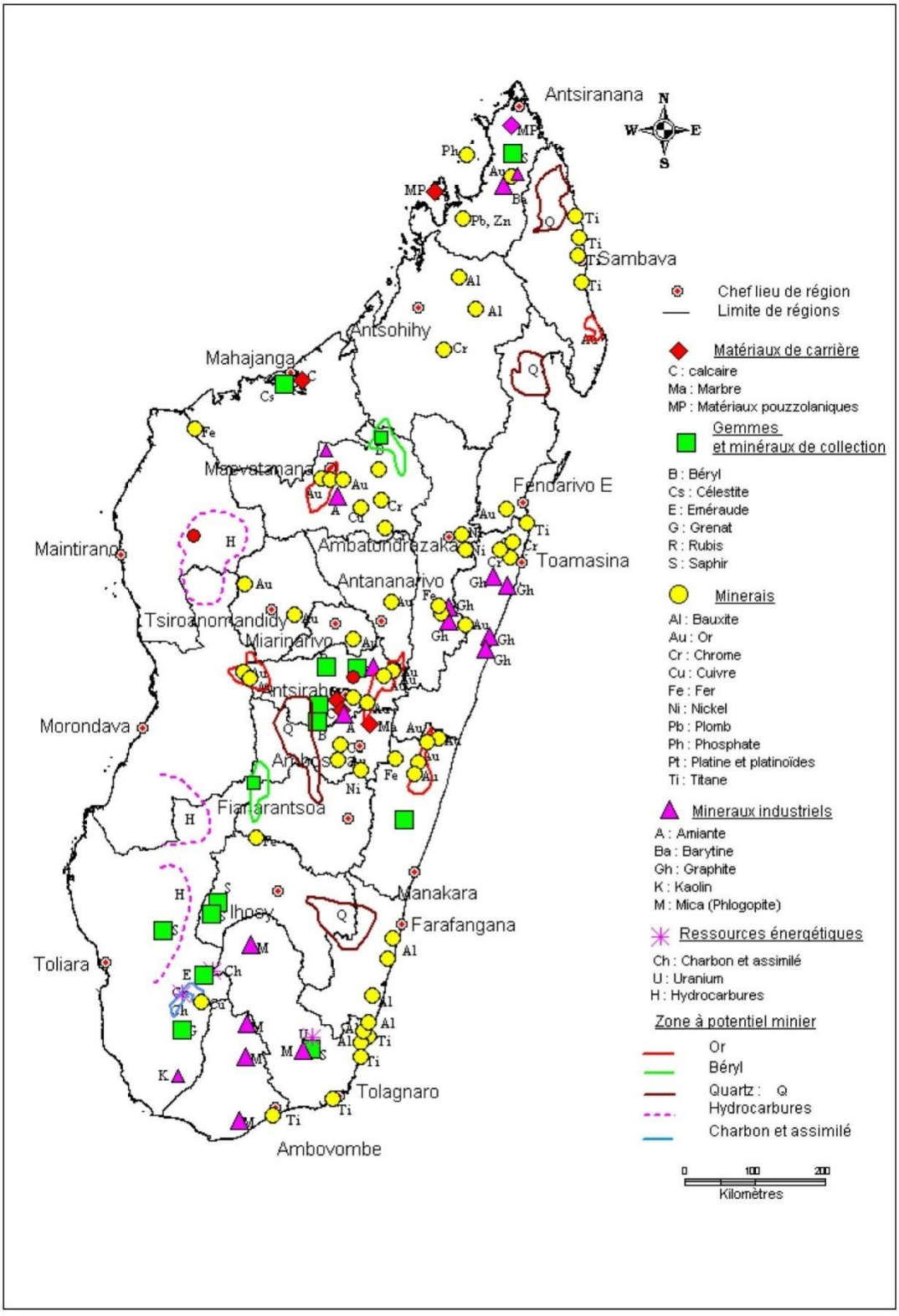


Figure 11 : The main mineral resources in Madagascar

III.1.3.4. DEVELOPMENT STRATEGY OF ENERGY SECTOR

The New Energy Policy for the period 2015-2030, adopted by the Government Council on September 8, 2015, has the overall objective to ensure energy supply in sufficient quantity and good quality at low cost. The strategy, based on broad private sector participation, provides the improvement of the energy scene and the establishment of a favourable framework for investments in the sector.

III.1.3.5. DEVELOPMENT STRATEGY OF TOURISM SECTOR

Based on the "Madagascar Naturally" Vision, a National Tourism Plan was adopted in 2005 which aims to support growth in the sector, while ensuring control of the consequences and developments in various short, medium and long terms. For this, a specific objective of this plan is to make tourism and especially ecotourism a leverage to direct and sustainable benefits for the village communities while preserving the environment. A Tourism Sectorial Programme was launched in 2008 and has defined as a priority the elaboration of a National Policy integrating the sustainable tourism concept and the National Ecotourism Strategy in Protected Areas (not currently existing strategy) and out Protected Areas (*Ministry of Tourism*, 2008).

III.1.3.6. DEVELOPMENT STRATEGY OF FISHERIES AND FISHING SECTOR

The Agricultural Sector Program or ASP (2008) which is based on modernizing the sector to the growth and the transition from a subsistence economy to a market economy includes the sub-sectors agriculture, livestock and fisheries. With the Food and Agricultural Office (FAO), support a Sustainable Development Plan Aquaculture (SDAP) was developed in 2005.

In 2010, Decree (No. 2010-137) on integrated of coastal and marine zones management is created. Subsequently, the National Policy for Integrated Coastal Zone Management and its national action plan (2011-2015) were established and the National ICZM Committee was set up. Regional committees are operational, however, for lack of means implementation, the planned actions in the field are limited. Madagascar is currently in the process of establishing the tuna action plan and ASC and MSC mangrove and develop the aquaculture certification.

III.1.3.7. DEVELOPMENT STRATEGY OF THE WATER SECTOR

The Declaration of the Water and Sanitation Sector Policy or SWSP (1997) and the National Policy and Strategy of Sanitation or NPSS (2009) provide the great strategic guidelines on the water management on the water accessibility objective to all citizens, the water management under state control, and the state withdrawal in operating activities. Among the implementation tools, we note the existence of the Water Code (Law 98029 of January 27, 1999) and its applications decree, the procedures manual and the National Water Supply and Sanitation Access Program (NWSAP, 2008-2012). The Water Code taking account of the watershed management does not specifically take into consideration the problems of irrigation. In case related to payments for environmental services aspects, the law provides for charges for all water withdrawal but now, these taxes do not contribute to the watersheds management or concerned protected areas.

III.1.3.8. STRATEGY OF RISKS AND DISASTER MANAGEMENT

Madagascar is frequently exposed to natural (tropical cyclones, floods, droughts, earthquakes, locusts and tsunamis) and anthropogenic disasters (epidemics, animal diseases, oil spills, etc.).

Since 2000, Madagascar has a National Strategy of Risk and Disaster Management (NSRDM) which provides the framework for all actions relating to Risk and Disaster Management (RDM). It gives guidance's on the management and planning mechanisms as well as guidelines for RDM effective institutional mechanisms. The National Policy for Risk and Disaster Management (Act No 2003-010) establishes the importance of the all stakeholder participation in the RDM including the State, decentralized communities, non-governmental organizations legally constituted, economic operators, communities and citizens. Discussions are underway to update the NSRDM which would incorporate elements of climate change, environment and sustainable development and promote the "Reducing (instead of Management) Risk and Disasters" aspect, which could better integrate the importance of ecosystems in disaster prevention.

III.2. LEGAL FRAMEWORK

The Malagasy Environment Charter is a legal framework that defines the various aspects of legislation relating to the sustainable natural resources use, sustainable marine

and coastal protected areas management and with the effective involvement of local communities and the environmental impact studies.

III.2.1. ENVIRONNEMENTAL LEGISLATIONS

The issue of the National Environmental Policy Declaration - NEP (2010) is in coherence with the socio-economic development and improvement of living conditions of the Malagasy people.

The Environment Charter (Act No. 90-033 of 21 December 1990, amended by Laws No. 97-012 of June 6 1997 and No. 2004-015 of August 19 2004) is the legal basis of the environmental action plan. At the end of phase 3 of the environmental program, the National Environment Policy (NEP) Declaration was developed by the Ministry of Environment and Forests. This declaration defines that the NEP aims to improve Malagasy population living conditions in urban and rural areas and led to the adoption of the Malagasy Environment Charter and action thereon programs.

III.2.2. LEGISLATION ON SUSTAINABLE NATURAL RESOURCES USE

In Madagascar, the public participation in environmental management is defined in the Malagasy Constitution. The Environment Charter adopted in 1990, specifies the forms of public involvement in environmental management. It occurs in two variants: (i) skills transfer like the natural resource management transfer, the protected areas management and (ii) the contribution to decision making through environmental management instruments like the environmental impact study. The constitution through Fokonolona and the Environment Charter recognize the civil society role in protecting the environment.

III.2.3. SUSTAINABLE DEVELOPMENT OF COASTAL AND MARINE AREAS

The Decree No. 2010 / 137 on March 23, 2010 encourages the sustainable development of coastal and marine zones through the integrated management implementation. It involves a participatory planning process which established plans and diagrams must include and specify the coastal zone limits and the conditions for the allocation and use of terrestrial and marine zones concerned. Local communities are involved in both the planning and implementation that follow.

III.2.4. LEGISLATION ON PROTECTED AREAS

At the World Parks Congress in Durban in September 2003, the Government of Madagascar had pledged to triple the protected areas size in Madagascar, by increasing this 1.7 million hectares zone in 2003 to 6 million hectares in 2012, at least 10% of the national territory. In the context of the Durban Declaration implementation, a Madagascar Protected Areas System (MPAS) has been established.

Legally, Madagascar has a Protected Areas Management Code (COAP). This law establishes three categories of protected areas: the Natural Reserve (NR), the National Park (NP) and Special Reserve (SR). To better meet the objectives of the country, the redesign of the Protected Areas Management Code was deemed essential. Thus on February 26 2015, the Protected Areas Management Code redrafting was adopted (Act No. 2015-005). This legal framework provides an opportunity for the actor participation from other than state institutions in the management and governance of protected areas (local communities, associations and NGOs, private sector and local authorities).

III.2.5. LEGISLATION ON ENVIRONMENTAL IMPACT STUDY

The Madagascar Environment Charter adopted in 1990, by Article 10, recommends the establishment of a legal framework for environmental impact studies and is implemented by Decree No. 99-954 (1999) modified by Decree 2004-167 (2004) concerning the Compatibility of Investments with Environment (MECIE : Mise En Compatibilité des Investissements avec l'Environnement). MECIE process expresses the consideration of the various stakeholder participation in decision making for environmental management. This process (see Appendix I) provides one step for the EIA documentation evaluation by the public.

The MECIE is applied to public and private investments which are likely affected the environment. According to the scale of the project and the area sensitivity, the Malagasy legislation provides for three different forms of impact studies: The Environmental Impact Assessment (EIA), the Environmental Commitment Program (PREE) and the Setting in Conformity (MEC). The EIA documents preparation concerns the promoter of the project while the evaluation of documents is coordinate by ONE – National Office for Environment.

III.3. INTERNATIONAL AND REGIONAL TOOLS

Madagascar ratified most of the international conventions directly related to the Convention on Biological Diversity (Law n ° 95-013 of 08/09/95). The various ratified conventions are translated into national law (see Appendix II).

Currently, the country agreed to 17 international conventions, including the Convention on International Trade of Wild endangered fauna and flora species or CITES; the United Nations Framework Convention on Climate Change *UNFCCC*, the Convention to Combat Desertification; the Rio Convention, the Convention on the Conservation of Migratory Species or the CMS; the RAMSAR Convention on Wetlands of International Importance Especially as Waterfowl; the Convention on the protection of cultural and natural World Heritage; the Cartagena Protocol on Biosafety; the United Nations Convention on the Law of the Sea; the Kyoto Protocol and the International Treaty on Phylogenetic Resources for Food and Agriculture.

In addition to national legislation, different tools are set up to give effect to the country's commitments as strategies and action plans. However, the achievement levels and implementation of these tools change according to the allocated conventions resources and the compliance with national legislation. The main gaps are the lack of a national sustainable development strategy, the lack of a National Biodiversity Policy, despite the ratification of the CBD by Madagascar as well as the limited allocated resources and the ineffectiveness of application of legislation.

III.3.2. REGIONAL AGREEMENTS

At regional level, Madagascar ratified:

- The Algiers Convention on the Conservation of Nature and Natural Resources (Law No 70 004 of 23/09/70). The agreement signed in 1968, adopted innovative approaches to conservation by establishing the shared responsibility principle for the environment management by African states ;
- The Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Areas of the Eastern African Region (Law n ° 98-004 of 02/19/98). It provides a framework for multilateral cooperation in the habitats and marine and coastal ecosystems areas in the Western Indian ocean zones and

constitutes a regional platform for scientific exchange and collaboration with NGOs and the private sectors and few opportunities for concluding interstate regional or sub-regional agreements for the marine environment protection, or to adopt additional protocols to the Convention;

- The Libreville Declaration on Health and Environment in Africa is a political statement which provides an agreed framework and integrated coherently to health and environment interfaces. Signed by 52 African countries, it aims to preserve ecosystems to reduce morbidity and mortality due to diseases related to environmental degradation in each country.

Madagascar also integrates in regional cooperation. It is a member of the Indian Ocean Commission (IOC) since its creation in 1984, the Common Market for Eastern and Southern Africa COMESA since 2000 and Southern African Development Community (SADC) since 2005. The main objective of the different member states, such collaborations, is to facilitate trade and economic cooperation between the contracting parties while considering the environmental dimension integration. Initiatives on biodiversity conservation, including fisheries surveillance and study on the impacts of climate change are for example implemented by the IOC.

CHAPTER IV: NATIONAL STRATEGY AND ACTIONS PLANS FOR BIODIVERSITY CONSERVATION

As it was mentioned before that apart from national legislation, different tools are set up to give effect to the country's commitments as strategies and action plans. However, the main shortcomings are the lack of national sustainable development strategy and the lack of a National Biodiversity Policy despite the ratification of the CBD by Madagascar.

As part of developing this document Madagascar NBSAP, participatory reflections at different levels (Aichi Targets - CBD and Madagascar: national and regional) were collected and considered. These various information elements guide the definition and structure of the national strategy and action plans for the conservation of biodiversity in Madagascar

IV.1. MADAGASCAR'S VISION

Madagascar's vision for biodiversity conservation and sustainable economic development is outlined below:

« A Malagasy people living in harmony in a country where the environment is preserved and / or restored, taking advantage for its welfare and sustainable use and enhancement and reasoned with rich and valued biodiversity, resilient to environmental change » .

IV.2. MISSION

Achieving defined vision requires special attention to appropriate measures and adequate and effective solutions to the root causes of biodiversity loss and poverty and expectations which are defined as follows:

« By 2025, effective measures are set up to effectively reduce the loss of biodiversity, to ensure the provision of essential ecosystem services and equitable sharing of benefits from biodiversity, for social welfare, economic and environmental development of current and future generations ».

IV.3. NATIONAL STRATEGIES

The national strategies and action plans related thereto should not only focus on various ecosystems of the terrestrial zone, the coastal and marine environment and wetlands, but the strategic approach should also give critical importance to threatened species as well vegetal as animal and national biological heritage like endemic species, plant genetic resources and indigenous breeds or species.

The link between biodiversity improvement, conditions of well-being and poverty reduction should be promoted.

Some accompanying measures relating to legislation, awareness, education, scientific research, coordination and cooperation, which are considered essential should have their ownership interests in these strategies and action plans.

IV.3.1. GUIDELINES

In order to achieve the vision and the already defined mission, drawing on the clauses of the Convention on Biological Diversity (CBD) and the Aichi Conference objectives, the Promise of Sydney, the Chart Law on the Environment Management, Strategy Papers for National Biodiversity Conservation and Plans of Environmental Management, the Environmental Management Plan (EMP), CEPF Ecosystem Profile, the National Strategy for Scientific Research (SNR), NR 5, PRSP, NDP , SNGDB, SANA MDGs, ESDP, REDD +, Regional consultation Report (March 2015), and all biodiversity-related activities will be guided by the principles mentioned below :

1. Maintain the relationship between biodiversity conservation and economic, social and development, material and spiritual well-being of the people;
2. Prevent the biodiversity loss and the ecosystem services degradation by undertaking national challenges on biodiversity conservation and rational use of natural resources while adopting collaborative and participatory approaches in order to get support of all stakeholders ;
3. Implement effective education of all stakeholders on the biodiversity and natural

resources values and on national biodiversity conservation strategies and action plans;

4. Ensure the fair and equitable benefits sharing arising from the access to genetic resources to encourage the biodiversity conservation and promote sustainable natural resources use and above all develop a sense of ownership and environmental reflex citizens;
5. Integrate the biodiversity and its ecosystem services value in all sectors and national planning processes is an essential element to ensure environmentally and economically sustainable development;
6. Develop natural capital knowledge through scientific research, use of research results and enhancement of traditional knowledge;
7. Ensure sustainable funding mechanisms to meet national commitments to biodiversity conservation and natural resource management;
8. Browse all opportunities to improve the people living conditions through sustainable biodiversity use o and ecosystem services;
9. Safeguard vulnerable social groups, including women and children who are highly dependent on the biodiversity and ecosystems services for their livelihoods and prosperity;
10. Emphasize the importance of intersectorial and holistic consideration factors;
11. Highlight the crucial role of the continuous adapted and proximity IEC
12. Emphasize the imperativeness to reinforce measures to stop the environmental degradation spiral in general, to build resilience to the impacts of climate disruption and to maintain or restore the ecological and economic ecosystems functions.

IV.3.2. GOALS, OBJECTIVES AND STRATEGIC GUIDELINES

The defined national objectives are based on the challenges, threats, issues, gaps and the identified opportunities by consultations series with stakeholders and actors and also workshops throughout the country. They are also based on the examination results of the latest biodiversity reports and/or action plans and guided by national priorities. The adopted methodological approach is guided by the Aichi matrix of goals and strategic objectives which was consistency and row with the national objectives. Thus, the strategic organizations were formulated starting from the already definited objectives.

The strategic goals are to provide appropriate and favourable responses to the direct and indirect underlying causes of the biodiversity loss which are due in particular to the failure and / or lack of awareness and knowledge on values and potentials of biodiversity, the weakness of the science use to guide decision-making and the production models, the population growth, the poverty, the unceasingly and increasing population demand on natural resources, the unsustainable consumption and production methods and the inconsistency of policy and legislation. These factors have contributed to the design for measures to the systemic approach to mainstreaming biodiversity.

This biodiversity integration into all environmental governance depends necessarily on behaviour change of all actors at all levels.

The availability of legal tools and institutional framework does not mean that their use will lead to the strategic goal achievement. The adaptive and adequate management, supported by coherent texts, is one of the most important mechanisms to ensure its effectiveness.

Strategic Goal A: Manage the underlying causes of the biological diversity loss by mainstreaming biodiversity across government and society: «integration strategy».

OBJECTIVE 1: « In 2025, policy makers and 65% of the Malagasy people are aware of the values of biodiversity and the measures they can take to protect and use it sustainably».

Strategic Guidelines:

- Mobilize required human resources to implement the biodiversity and natural resources communication strategy, education and awareness at all levels;
- Set up advocacy campaigns thereon ;
- Ensure the government integration into policy decisions and behaviour change actions

Proof:

Given that Madagascar is one of 34 biodiversity hotspots in the world with extraordinary levels of biodiversity and endemism taxonomic associated with an extremely high level of threat. 80% of the Malagasy population depend on biodiversity and environmental goods and services. This permanent interaction with nature requires awareness programs and appropriate environmental education to promote sustainable natural resources use, to understand the importance of biodiversity and finally to communicate environmental regulations.

Efforts have been made by the Malagasy State in the field of Malagasy citizen's awareness on the biological diversity conservation and sustainable use.

In the context of this national biodiversity strategy, it is targeting at least 65% of the Malagasy population directly dependent on biodiversity and environmental goods and services but also other decision makers and other development sectors so they can use natural resources sustainably. A communication, education and biodiversity strategy awareness will be developed. Efforts will be mainly focused on the dynamic and active local communities living near protected areas and outstanding biological interest zones, the private sector and decision-makers. This strategy will be integrated into the curricula at all levels. Note that there is already an inter-ministerial decree between the Ministry of Environment and the Ministry of Education, establishing the general framework of the National Education Policy Relative to the Environment (P.E.R.E).

OBJECTIVE 2: « In 2025, at the latest, biodiversity values, opportunities and benefits of conservation and sustainable use will be recognized and integrated into the country's socio-economic development activities».

Strategic Guidelines:

- Value data and mobilise the necessary capacity to incorporate environmental and social dimensions and the biodiversity values in the policy, strategies, national and regional plans and programs.

Proof:

Because of its richness in terms of biodiversity and natural resources, Madagascar must take into account the value and significance of natural capital in its planning as the Payment / Compensation for ecosystem services that this Biodiversity and these natural resources give us. This is particularly taken into account the value of this fiduciary capital in the country budget planning among which includes the WAVES program.

WAVES Madagascar was launched in 2011 and draws up a range of tools to integrate the economic value of natural resources selected in the analysis and monitoring of macroeconomic performance, as well as decisions and policy-related management of natural resources.

The Madagascar WAVES implementation were focused on meeting and awareness of government partners, civil and development society to introduce the natural capital concept accounting in analyzing and monitoring the macro-economy performance. After these discussions, the following priority issues were selected for WAVES activities review: (I) distribution and reinvestment in the mining sector; (Ii) integrated planning of water resources

management; (Iii) sustainable forest resources management; (Iv) the tourism sector contribution to the economy; (V) sustainable financing of the national protected area network; (Vi) natural capital accounting for fisheries and coastal resources, and (vii) monitoring the macro-economic performance.

Preliminary data will be available for the sectors of mining, forestry and water, and technical working groups will start preparing the initial accounts with the support of an international expert on environmental accounting.

The great challenge will be incorporating these values in the national economy, planning and policy decision-making process and the environmental accounting system.

OBJECTIVE 3: « In 2025, at the latest, inappropriate and negative incentives on biodiversity will be eliminated or gradually reduced to minimize negative impacts; while positive incentives for conservation and sustainable use of biodiversity and natural resources will be developed and applied».

Strategic Guidelines:

- Develop positive incentives such as payment eco systemic service (PES) for the biodiversity and natural resources conservation and sustainable use while strengthening collaboration with the private sector**.**

Proof:

Several incentives forms provided in the renewable resource sectors are mainly aimed at improving the livelihoods of local people. Although these incentives are relatively low, they are considered positive in terms of their contribution, but their impact on the biodiversity sustainability and the sustainable natural resources management are still being evaluated.

The establishment or development of positive incentives for the biodiversity conservation and sustainable use could help the implementation of the Strategic Plan by providing financial resources or other reasons to encourage actors to undertake actions that could benefit biodiversity.

Promoting payments for environmental goods and services begin to be implemented in Madagascar for the biodiversity protection. Despite this potential, low participation of private sector was observed. Thus, we must further strengthen actions to deal with them.

OBJECTIVE 4 : « In 2025, the Malagasy government and stakeholders at all levels will take appropriate measures to implement rational management plans of resources and maintain the impact of the natural resources use within safe ecological limits».

Strategic Guidelines:

- Deploy necessary means to adopt practices that support the promotion of natural resources production and sustainable consumption within environmental requirements at all levels in a collaborative dynamic approach, good management practices and sharing experiences including scientific database
- Promote sustainable natural resources management based on science.

Proof :

Most often, problems occur the lack and / or inadequacy of relevant information and knowledge on the favourable ecological limits.

Various observed and identified pressures can have serious consequences, comparatively irreversible on the fragile ecosystem and the endemic biodiversity, if no action is taken.

Producers, consumers and key economic policymakers must adopt policies and / or practices which aim to promote, protect and sustainably manage natural capital. And in that sense, it is essential that main stakeholders work together and in mutual way including all upper and lower links in the supply chain to transform the system of production and consumption at the local and / or profitable regional to meet human needs without eroding the critical natural capital.

It is also urgent to develop an appropriate improvement plan, reinforced by the set of specifications to ensure the sustainable use of natural resources.

Strategic goal B**: **Reduce the direct pressures on biodiversity and promote sustainable use of natural resources «conservation strategy».

The purpose of this goal is to meet the main consequences of natural and human pressures on the ecological environment, including changes to landscape and habitat fragmentation that reduce the resilience of diverse ecosystems and disrupt the stability and function of these ecosystems. Consequently, the key endemic species are critically

endangered, endangered or invaded while you record loss and species extinction and the loss of the system of services provided by these ecosystems.

This is to reduce and, if possible, eradicate the natural and human pressures on biodiversity by highlighting knowledge, tools, best practices and efficient technologies to reverse the degradation of biodiversity Malagasy.

To remedy these situations, an attention focused on the prevention and restoration efforts should prevail in order to improve the status of ecosystems, species and genes. This involves preventive approaches to reduce ecosystem degradation significantly and improve the stock of fish products and the management of marine and coastal resources and the reduction of anthropogenic pressures on vulnerable ecosystems in Madagascar.

OBJECTIVE 5: «By 2025, the rate of degradation, fragmentation and loss of habitats or ecosystems is reduced»

Strategic guidelines:

- Map, analyze and evaluate high biodiversity value habitats especially those were poorly represented in MPAS;
- Reduce the loss of habitats and ecosystems;
- Solve the main causes of habitats and ecosystems loss;
- Involve and empower effectively actors and stakeholders in biodiversity management

Proof:

Most of the vulnerable ecosystems within high biodiversity value, particularly in natural forests, are already in the protected areas system. However, other habitats of high biodiversity value like wetlands, marine zones and zones rich in relative crop wild species are still to evaluate, analyze and map to understand their conservation status and to implement appropriate conservation measures.

The development of the implementation process of new protected areas (NPA) and the involvement of local communities in the natural resources management significantly slow the loss of habitats. Moreover, the effective implementation of the texts and regulations and the promotion of sustainable resource use techniques are essential.

OBJECTIVE 6: «In 2025, all exploited fish stocks and other marine living resources and freshwater / brackish water are measured and managed sustainably and destructive harvesting practices are eliminated».

Strategic Guidelines:

- Make available information and / or tools to all stakeholders to improve the rational and sustainable management of fisheries;
- Set up legal and legislative frameworks for fisheries management and strengthen effectively their implementation.

Proof:

Knowledge of freshwater habitats and coastal and marine zones and their biodiversity is still inadequate and / or incomplete on the one hand and on the other, little data and information are available on fish stocks and other aquatic biological resources (crustaceans, other invertebrates, algae ...).

The various threats (habitat degradation, overexploitation and destructive technical use of resources, pollution, development of invasive species) facing marine and freshwater biodiversity in Madagascar are identified. And among them, pollution of the marine and coastal environment resulting from the degradation of watersheds and spills of various terrigenous wastes are important.

Finally, we note the decline of the spawning grounds of the different fish species such as mangroves and coral reefs. Therefore, the development of research projects that will provide the scientific basis for the conservation of aquatic resources must be a priority, including studies on the habitat and biology, management and development plan of habitats and captive breeding (case of endemic species threatened with extinction).

The rational management of fishing strategy has helped to stop the decline of endemic species for a few years in marine and coastal areas, lakes and rivers and even reversed the trend during a period.

In addition, community management is growing increasingly. All the more for any fishery resources exploitation, the strict application of the law is the main mechanism to improve the efficiency of management and sustainable harvesting.

OBJECTIVE 7: «In 2025, all zones allocated to agriculture, aquaculture and forestry are managed according to sustainable production plan, ensuring an integrated approach to biodiversity conservation».

Strategic Guidelines:

- Coordinate and supervise the sustainable management of biodiversity, ecosystems and agricultural resources, forestry and fishery.

Proof:

The biodiversity Conservation and enhancement need to be spoken and coordinated with an intersectorial approach. The effective implementation of land use plans is very important to reduce conflicting uses. The development of the management plan and management is also essential to ensure the sustainable production and development of natural resources.

Over 80% of the Malagasy population is engaged in agriculture. This activity is still associated with harmful practices in biodiversity conservation like slash and burn shifting cultivation for the development of crop fields and / or pasture renewal lights for livestock.

For this purpose, it is also important to strengthen the technical capacity of the population and to disseminate new farming techniques, aquaculture and sustainable forestry to improve the production of resources.

The growth of aquaculture for about twenty years, and mainly that of shrimp in mangrove caused the degradation spawning area for marine and coastal biodiversity and declining fish stocks.

Sustainable management not only contributes to biodiversity conservation but also to improves the production system and human welfare.

Finally, the forestry exploitation in Madagascar is very poorly controlled and is characterized by over-exploitation and illegal exploitation of many species even in protected areas, particularly of precious wood. Therefore, not only forest tree species, but all forest habitats can also be exploited, threatened with degradation and disappearance.

It is therefore essential to ensure that the management of these sensitive areas and associated facilities must be strengthened: (i) the implementation of the development plan and integrated management, promoting the participation of people and different sectors and (ii) the technical capacity building of populations and different players in each sector to enable them to increase production while remaining environmentally friendly.

OBJECTIVE 8: «By 2025, pollution from land and sea activities is reduced to compatible levels to ecosystem function and sustainability of biodiversity».

Strategic Guidelines:

- Develop and strengthen mechanisms and activities to reduce pollution factors programs.

Proof:

Considering the alarming ecological situation on the air and water quality linked to urbanization, human settlements and the anarchic exploitation of basements resources, appropriate strategies and action plans are required to tackle the problems linked to pollution.

The impacts of various pollution types on terrestrial and marine biodiversity are palpable in Madagascar. This is especially the pollution generated by agricultural activities and deforestation (land-based pollution, chemical pollution), industrial activities (wastewater discharge into rivers and the sea), the development of cities, by mining of various kinds, by port activities and oil spills as well as pollution of beaches (hotels installation, garbage dumps, public toilets).

Currently, the increased sediment load in rivers and streams due to bad practices on resource exploitation is a main concern because of the potential impacts on the sustainability of aquatic biodiversity and agricultural development.

While Madagascar already ratified the Convention and has taken legal action to manage pollution from different sources, the lack and / or inadequacy of material / financial resources still remains a great concern to ensure the implementation and monitoring according to the standards of environment. This objective will focus on building knowledge about pollution and national mechanisms to implement controls on pollution sources, including agro-chemical, mining and fertilizers; without forgetting the implementation of measures to the impact of pollution mitigation or elimination.

OBJECTIVE 9: «By 2025, the alien and / or invasive species and the introduction pathways are identified and prioritized, priority species are controlled or eradicated; management measures are in place in order to prevent the introduction, manage pathways and mitigate the establishment of these species and enhance beneficial species».

Strategic Guidelines:

- Promote mechanisms for regulation, management and governance for invasive species to protect natural ecosystems;
- Increase knowledge of invasive species and develop useful invasive species.

Proof:

Efforts have been made in the fight against invasive species. Regulation frameworks and control systems exist but their implementation is still insufficient. Indeed, the public awareness on the so-called alien and / or invasive remains is to be done to enable everyone to take adequate measures against the scourge.

Moreover, as there is no detailed inventory and complete assessment of Invasive Alien Species (IAS) in Madagascar, knowledge is still limited. Therefore, this objective will focus on understanding the diversity of alien invasive species and their impacts, establishing IAS control measures and / or eradication and the development of technical capacity in the fight against these species.

Finally, any form of rational valuation related to IAS is to be promoted. Indeed, the alien and / or invasive species can have vocations for development through their transformation. This is a form of managing the aforesaid species.

OBJECTIVE 10: «By 2025, the multiple anthropogenic pressures on coral reefs and other vulnerable marine ecosystems impacted by climate change or ocean acidification are minimized, in order to preserve their integrity and functioning».

Strategic Guidelines:

- Develop and implement strategies to minimize the various pressures (anthropic and / or climatic) on marine and coastal ecosystems, including coastal forests and adjacent associated habitats.

Proof:

Numerous actions have been undertaken for the conservation of coral reefs and other marine and coastal vulnerable ecosystems through ecological restoration. The continuity of

this initiative is already highlighted and enters into the priority activities of the Ministry of Environment and Forests.

Regarding the reduction initiatives of anthropic pressure such as pollution, overexploitation and collecting natural resources, some problems related to the compliance laws in force and the lack of means for control and monitoring remain. This objective will focus on developing a clear strategy to minimize the anthropogenic pressures and the implementation of the work programs with all stakeholders.

The National Action Plan for Adaptation or NAPA has strategically positioned itself as a new strategic orientation for the sustainable biodiversity management and the conduct of the combat against desertification. Thus, some objectives of the National Strategy for integrated coastal zone management have been mentioned to improve environmental quality in order to maintain or restore, promote economic, social and environmental diversity, as well as productivity in a given ecological zone. This approach can also ensure the conservation of ecological integrity of coastal ecosystems for their consideration in all development projects and development.

Strategic goal C: Improve the biodiversity status by safeguarding ecosystems, species and genetic diversity «Strategy Intervention»

This goal aims to provide answer to the human consequences of biodiversity loss that pose risks to the biodiversity sustainability on the one hand, and on the other hand, it endeavours brakes in national development and especially the growing poverty, disease, various conflicts, food insecurity, reduced revenues and unemployment at household and national levels.

Achieving this goal requires paramount in putting in place strategies and action plans to reduce and / or eliminate the biodiversity loss, the shattering habitat and the restoration of ecological systems and vulnerable populations of endangered species. And all this should be associated with the understanding of goods and services provided by environmental resources contributing to the acquisition of beneficial impact and / or advantages derived from biodiversity elements to reduce poverty and serve as incentives to biodiversity conservation and sustainable use. This goal fits in the wake of the current development option of the country of which one of the engines is its natural capital. One of the national priorities is to ensure that the socioeconomic benefits of goods and services of biodiversity and ecosystems contribute to the fight against poverty.

Achieving this goal is also relies on the importance attached to services provided by biodiversity and ecosystems and their economic values. The possibility of a new national budget approach that considers biodiversity as a key program requires the completion of an assessment of the economic importance of biodiversity to support the budget and accounting system related to biodiversity, which will effectively monitor the contribution of biodiversity to development and justify the need to invest in biodiversity.

Priority interventions also include the establishment of an effective national mechanism for the payment of services provided by ecosystems, including intangible services such as carbon sequestration, climate change mitigation, the cultural value of forests, landscape and associated watersheds. In addition, the effective implementation of the new strategy defined for the sharing of benefits generated by operations and / or enhancement of biological and genetic resources and associated traditional knowledge, guarantees the improvement of livelihoods of local people who are holding such knowledge and contribution to expenses related to biodiversity conservation.

OBJECTIVE 11: « In 2025, 10% of terrestrial ecosystems and 15% of coastal and marine areas , especially the areas of particular importance for biodiversity and ecosystem services , are conserved adequately in ecologically representative systems and in protected areas and are managed effectively by different strategic approaches».

Strategic Guidelines:

- Set up sustainable management and financial mechanism, and participative approach with local communities of the representative and unique System of terrestrial, marine and coastal Protected Areas of Madagascar

Proof:

The goal of tripling the size of Madagascar protected areas is reached. The biggest challenge currently is the effective management of protected areas and the search for sustainable funding for the protected areas management. Another challenge is integrating these protected areas into living ecological landscapes, supported by an integrated vision in which economic sectors have fully integrated the value of our natural capital; reflected in a concerted development of space, and a fair distribution of resources and transparent governance.

The technical and organizational capacities of basic local communities and other stakeholders must be strengthened so that they can co-manage the protected area with other stakeholders.

One of the challenges is also the tripling of thenumber and/or the surface of Marine Protected Areas.

The key issue in the management of protected areas is tagging and physical materialization boundaries to limit human incursions, resulting in ad hoc planning services / facilities and the extraction of resources often conflict with conservation objectives and rules. Although biological corridors have been declared, the lack of a legal status for the protection of development activities is also an issue that should be highlighted and resolved. Sustainable funding is a major challenge for the management of protected areas in the country.

Therefore, the focus of this goal is to keep the current operational system of protected areas with increased technical management effectiveness and sustainability of the funding mechanism.

OBJECTIVE 12: «By 2025, the extinction of endangered species is reduced and their conservation status improved»

Strategic Guidelines:

- Reduce the extinction factors of endemic, migrating and threteaned species as well as the factors of destruction/degradation of their habitats.

Proof:

The country has already carried out a national evaluation of the conservation status of some taxonomic groups such as vertebrates (fish, lemurs, micro mammals, carnivores, birds, reptiles and amphibians and a few species of vascular plants) but much remains to do especially marine species such as whales, dolphins, turtles, sharks, rays, coral, sea birds, etc. ...) and just starting to invertebrates and vascular plants (12 000 to 15 000 species) and cryptogams (pteridophytes, bryophytes , algae, fungi, lichens and Herbal marine plants). Research and evaluation data on marine species are very rare or almost near zero for most of them. Strategy and National Action PIan for the conservation of these marine species are not yet developed as well as legislation.

Some species of vertebrate groups (lemurs, birds and amphibians) and some species of special interest have already had their conservation and management plans however these conservation measures do not cover all endangered or vulnerable species. The strategy and action plans for plant conservation in Madagascar, including priority areas for plant conservation (APCP - IPA) are not yet in place.

Further to these issues, alternative and sustainable measures for conservation of threatened species programs are essential to ensure adequate and effective protection of endemic and globally threatened to Madagascar.

Moreover, the absence of appropriate assessment at national level makes it difficult to know the other native species status of national interest and the subsequent actions required to improve their condition.

Madagascar wants to fit in amongst the Alliance for Zero Extinction sites (AZE) as the country has more dangerously endangered species and because these species are mostly unique.

This goal will focus on the understanding of the conservation status and threats to the global and national species and other taxonomic groups and important species in the country.

The Rural Development, concerning 80% of the Malagasy population, plays a significant role in the economy of Madagascar. Contributions involving technologies related to microorganisms in the field of rural development and fight against poverty are essential.

Agro ecological techniques are effective tools for the degraded vegetation restoration and soil fertility, for increasing productivity and mostly for preservation of «soil capital», our main capital. Therefore, they contribute significantly to the Millennium Development Goals (MDGs) and including to improve food security and income of farmers.

OBJECTIVE 13: «By 2025, the genetic diversity of crops, domestic animals and their wild relatives and other species in social and cultural value is maintained and promoted sustainably».

Strategic Guidelines:

- Elaborate conservation activities programs of the genetic diversity of crops and livestock and other species which have a socio-economic value, and for some wild species of crops and domestic animals
- Develop conservation and use programs and / or sustainable development of genetic resources.

Proof:

The priority of regeneration of endemic and / or cultural and / or worship and / or historical cultural sites is partly achieved compared to the target of 166 sites ranked among the national genetic heritage. The agricultural productivity improvement through plant breeding in agriculture leads to increased incomes for farmers using improved seeds.

The use of the Standard Agreement of Material Transfer (ATT Accord Type de Transfert de Matériels) within the SML in the International Treaty on Phylogenetic Agro -

Food Resources to the exchange and transfer of Plant Genetic Resources for Agriculture and Food (PGRFA) is recourse there. Several genetic studies on coastal wildlife are ongoing.

Documentation and conservation of crops and domestic animals are far from being complete due mainly to the lack of technical and institutional capacity. Considering the significant role that local agro biodiversity can play in the development of resilient agricultural system, this goal will focus on strengthening the documentation of local crop diversity, including wildlife and domestic animals. This will be followed by the development of strategic action plan, policy and institutional framework and mechanisms to improve the conservation and sustainable use of local agro-biodiversity.

Strategic goal D: **Enhance the benefits withdraw to all from biodiversity and the services provided by ecosystems «*strategy of conservation and development support opportunities».***

Madagascar by its biodiversity wealth will largely benefit from goods and services in its current quest for growth and development.

Degradation and ecosystem disruption and the disappearance of some species have highly negative impacts on the social and economic Malagasy population well-being.

The valuation of ecological functions and services that biodiversity is one of its mechanisms: allowing conservation and development for the integrated development of Madagascar.

To achieve these goals, it is crucial to meet the specific needs and concerns of men and women in terms of biodiversity, with an emphasis on the most vulnerable social group.

OBJECTIVE 14: « In 2025, terrestrial ecosystems including forests, marine and coastal, sweet-brackish water including mangroves and lentic environments that provide essential services, particularly water supply and those that contribute to health, livelihoods and human well-being are protected and restored. And equitable access to ecosystem services is ensured for all, taking into account the gender approach».

Strategic Guidelines:

- Promote the sustainable management of various terrestrial, marine and coastal ecosystems so they can provide the necessary services to contribute to socio-economic development.

Proof:

As the values of ecosystems and their services for their welfare and livelihood, the importance of biodiversity and the ecological environment conservation is out discussed. This goal in synergy with other aims will be focused on identifying key and / or potential ecosystems, evaluating of provided services and finally their conservation. But already, it is clear that within the defined larger ecosystems for Madagascar, forests, mangroves and most of lentic environments which are important to women as sources of raw materials show an advanced degradation state reducing the goods and services they can provide. Their restoration is a priority for the country. This goal will also consider actions for the establishment of Marine Protected Areas (permanent establishment) started in 2014.

An important component will also be equitable access to environmental services especially for the poor, the vulnerable, women and local communities. Thereafter, appropriate strategies are set up to safeguard these ecosystems and ecosystem services for human well-being especially local communities through restoration activities.

OBJECTIVE 15: «By 2025, ecosystem resilience and the contribution of terrestrial, freshwater and marine mitigation and adaptation to climate change are strengthened, including restoration of at least 15% of degraded ecosystems and the combat against desertification»

Strategic Guidelines:

- Set up restoration mechanisms of degraded ecosystems (terrestrial, marine and coastal, wetlands) to contribute to the fight against the effects of climate change and desertification, including land degradation.

Proof:

There is considerable evidence that climate change affects biodiversity, environmental resources and ecosystem services. According to the Millennium Ecosystem Assessment, climate change is likely to become one of the main factors of biodiversity loss by the end of the century. Climate change has already forced biodiversity to adapt either through shifting habitat, changing life cycles or developing new physical features.

Keeping terrestrial, freshwater and marine ecosystems and the degraded ecosystems restoration (including their genetic and species diversity) is essential to the overall goals of the Convention on Biological Diversity and the UN Framework Convention on Climate Change climate because ecosystems play a key role in the global carbon cycle and climate change adaptation.

In this overall adaptation strategy, conservation and management strategies that maintain and restore biodiversity can reduce some of the negative effects of climate change. Thus, the integration of the biodiversity and ecosystems use can be profitable and can generate economic and social and also cultural benefits while contributing to biodiversity conservation.

OBJECTIVE 16: «By 2025, the Nagoya Protocol on access and the fair and equitable sharing of benefits arising from the use of genetic resources is in force and operational, in accordance with national legislation and the actual needs of the Malagasy people».

Strategic Guidelines:

- Set up structures and implement programs of activities to operationalize the Nagoya Protocol on access and benefit sharing arising from the use of resources.

Proof:

Madagascar ratified the Nagoya Protocol on Access and Benefit-sharing arising from the genetic resources use in 2014. Some implementing measures have been considered before, it goes on the implementation of aspects related to the access and benefit-sharing through the establishment of legislation by improving the understanding of the Protocol and capacity building by stakeholders allowing for implementation in harmony with the country's need and objective Protocol.

Strategic goal E: **Strengthen implementation through a participatory planning, knowledge management and capacity building: «Implementation and financing strategy of the NBSAP».**

It is important to approach the regulatory framework issue to create measures and operational mechanisms. The coordination framework should be reviewed and supported to promote a better coherence among the various sectors and stakeholders to ensure implementation and effective monitoring.

While behaviour change is a long-term result, it is crucial to improve knowledge and understanding of target actors and the Malagasy population in general, about the causes and consequences of biodiversity loss, to ensure that biodiversity is used sustainably.

The strengthening of human, financial and technical capacities is essential to the effective realization of the national vision and defined goals for biodiversity and the implementation of its priority actions.

A strong partnership with development partners and all stakeholders involved in biodiversity-related activities remains a priority.

OBJECTIVE 17: «In 2017, the Malagasy State has adopted a political and legal instrument for the implementation of national biodiversity strategy and effective action plans».

Strategic Guidelines:

- Share and spread information relating to NBSAP to ensure its implementation at different hierarchical levels;
- Set up a synergy of action mechanism at the national level emphasizing an interministerial and intersectorial coordination to the implementation of NBSAPs (administrative, technical, organizational, legal, and funding).

Proof:

Due to the relatively complex issue of the action plans harmonization of the different sectors and stakes on the conservation of biodiversity, natural resources management, sustainable development and improving the living conditions of mankind, it is essential that the NBSAP update is done through a comprehensive, interactive and consultative, inclusive and participatory manner with all stakeholders.

Order to achieve national objectives, the NBSAP will be adopted as a framework document for the biodiversity planning and management. Effective coordination of the NBSAP implementation mechanism, including monitoring and systematic evaluation, will also be introduced.

OBJECTIVE 18: "In 2025, the initiatives set up to protect traditional knowledge, innovations and practices of local communities are relevant to biodiversity. The traditional sustainable biodiversity use and their contribution to conservation are respected, preserved and maintained"

Strategic Guidelines:

- Promote development of traditional knowledge and customary use relating to biodiversity conservation and sustainable use of natural resources.

Proof:

Overall, the support of the Malagasy Government, through an inclusive and participatory approach, integration of the traditional and customary knowledge in natural

resource management encourages the promotion of good practices used by communities in the conservation of biodiversity and sustainable use of natural resources.

Considering the actual importance of traditional knowledge associated with genetic resources, this goal will focus on the identification of essential activities program to document, protect and use traditional and customary knowledge of local communities in biodiversity conservation and sustainable use of natural resources**.**

OBJECTIVE 19: "By 2025, knowledge and basic science related to biodiversity, its values, its operation and its statement are widely shared with decision makers and applied all the trends and consequences of its loss are mitigated and improved"

Strategic Guidelines:

- Promote the process of capitalization, of sharing and the use of knowledge and information and technologies related to the conservation and sustainable use of biodiversity

Proof:

Several taxonomic, biological, ecological, bio geographical, socio-economic, anthropological, ethno ecological, phylogenetic, information and others are available in different policy documents and scientific literature but sometimes this data or information is not shared.

Despite the undeniable commitment of the government and the Malagasy people to the conservation of his natural heritage, gaps remain in terms of appropriation and application of scientific knowledge and technologies relating to biodiversity.

Thus to develop scientific knowledge and technologies relating to biodiversity, partnership with universities, research centers, national NGOs and international / regional conservation agencies is an option to improve the technical expertise and knowledge to fill gaps.

This objective will focus on promoting sharing, spreading and adoption of useful information for decision making, policy changes, and sensitizing and other education programs through the Clearing House Mechanism (CHM) on biodiversity in order to facilitate the adoption of environmental friendly technologies.

OBJECTIVE 20: «In 2020, the human and financial capitals for the Convention implementation increased on sufficient and adequate levels to achieve the NBSAP goals».

Strategic Guidelines:

Set up sustainable financing mechanisms and capacity building programs for human resources for the implementation and operationalization of NBSAP.

Proof:

The availability of adequate financial resources will be crucial for the implementation of the NBSAP and the achievement of national goals. To reach national objectives go beyond conservation of biodiversity and will contribute to sustainable socio-economic development and human well-being.

A preliminary estimate of financing needs for the implementation of NBSAP should be made as well as the development strategy for the mobilization of financial resources. Therefore, it is vital and important to integrate the implementation of the NBSAP into national plans and establish an institutional framework for coordinating NBSAP and resource mobilization.

About the human resources capacity building priorities at the systemic, institutional and individual level were identified as part of the National Self-Assessment of Capacity Building project or NSACB to ensuring the implementation of the Multilateral Agreement on Environment.

The following tables are the basic summaries that will facilitate the orientation and the translating of these objectives into concrete action.

Strategic goal A: ***Managing the underlying causes of the loss of biological diversity by mainstreaming biodiversity across government and society***

Strategic Objectives		Strategic guidelines
1.	**In 2025, policy makers and 65% of the Malagasy people are aware of the values of biodiversity and the measures they can take to protect it and use it sustainably**	Mobilize human resources required to implement communication strategy, education and awareness on biodiversity and natural resources at all levels
		Deploy advocacy campaigns relating thereto
		Be sure that governmental integration into policy decisions and actions of behaviour change
2.	**In 2025, at the latest, biodiversity values, opportunities and benefits from its conservation and its sustainable use, will be recognized and integrated into the country's socio-economic development activities**	Enhance the data and to mobilize the needed capabilities to integrate environmental and social dimensions as well as the values of biodiversity in the policy, strategies, national and regional sectorial plans and programs
3.	**In 2025, at the latest, inappropriate and negative incentives on biodiversity will be eliminated or gradually reduced to minimize negative impacts. while positive incentives for conservation and sustainable use of biodiversity and natural resources will be developed and applied**	Develop positive incentives such as Payment of Eco Service Systemic (PES) for the conservation and sustainable use of biodiversity and natural resources while strengthening collaboration with the private sector
4.	**In 2025, the Malagasy government and stakeholders at all levels will take appropriate measures to implement rational management plans of resources and will maintain the impact of the use of natural resources within safe ecological limits**	Deploy necessary means to adopt practices that support the promotion of production and sustainable natural resource consumption within ecological imperatives at all levels under an approach of dynamism of dialogue, of good management practice and of sharing experiences including scientific databases
		Promote the sustainable management of natural resources based on science

Strategic goal B: *Reduce the direct pressures on biological diversity and to encourage the sustainable use*

Strategic objectives		Strategic Guidelines
5.	By 2025, the rate of degradation, fragmentation and loss of habitats or ecosystems is reduced	Map, analyze and evaluate the natural habitats with high value of biodiversity especially those slightly represented in the MPAS
		Reduce the loss of habitats and ecosystems
		Solve the main causes of habitat and ecosystems losses
		Involve stakeholders and actors
6.	**In 2025, all exploited fish stocks and other biological marine and freshwater / brackish water resources are measured and sustainably managed and destructive harvesting practices are eliminated**	Make available to all stakeholders necessary information to improve the rational and sustainable management of fishing
		Set up legal and legislative frameworks for the management of fisheries and enhance their effective implementation
7.	**In 2025, all areas dedicated to agriculture, aquaculture and forestry are managed according to the sustainable output plan, ensuring an integrated approach to biodiversity conservation**	Coordinate and lead the sustainable management of biodiversity, ecosystems and agricultural resources, forestry and fishery
8.	**By 2025, pollution from land and sea activities is reduced to consistent levels with the ecosystem-based and sustainability of biodiversity**	Develop and strengthen mechanisms and programs to reduce the pollution factors
9.	**By 2025, invasive alien species and introduction pathways are identified and prioritized, priority species are controlled or eradicated; management measures are in place in order to prevent the introduction, to manage pathways and to mitigate the establishment of these species and to enhance beneficial species**	Promote mechanisms of regulation, management and governance as regard invasive species to protect the natural ecosystems
		Increase knowledge of invasive species, value useful invasive species
10.	**By 2025, the multiple anthropogenic pressures on coral reefs and other vulnerable marine ecosystems impacted by climate change or ocean acidification are minimized in order to preserve their integrity and functioning**	Develop and implement strategies to minimize the various pressures (anthropogenic or climate) on marine and coastal ecosystems, including coastal forests and their associated neighbouring habitats

Strategic goal C: *To Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity*

Strategic objectives		Strategic Guidelines
11.	**In 2025, 10% of terrestrial ecosystems and 15% of coastal and marine areas, especially the areas of particular importance for biodiversity and ecosystem services, are adequately preserved in ecologically representative systems and in protected areas and are effectively managed by various strategic approaches**	Set up mechanisms of management and sustainable funding and of participative approach with local communities of the representative and single System of terrestrial, marine and coastal Protected Areas of Madagascar
12.	**By 2025, the extinction of endangered species is reduced and their conservation status improved**	Reduce extinction factors of endemic, migratory and endangered species and the destruction / degradation factors of their habitats
13.	**By 2025, the genetic diversity of cultivated plants, domestic animals and their wild relatives and other species in social and cultural value is maintained and sustainably valued**	Develop conservation activities programs of the genetic diversity of crops and livestock and those of other species that have a socio-economic value, and for some wild species of cultivated plants and domestic animals
		Develop and use conservation and sustainable valuation of genetic resources programs

Strategic objective D : *Enhance the benefits withdraw to all from biodiversity and the services provided by ecosystems*

Strategic objectives		Strategic directions
14.	**In 2025 , terrestrial ecosystems including forests, marine and coastal , sweet - brackish water including mangroves and lentic environments that provide essential services, particularly water supply and those that contribute to health, livelihoods and human well -being are protected and restored ; equitable access to ecosystem services is ensured for all, taking into account the gender approach**	Promote the sustainable management of various terrestrial ecosystem;, marine and coastal so that they can provide the necessary services to contribute to socio- economic development
15.	**In 2025, ecosystem resilience and the contribution of terrestrial, freshwater and marine waters to mitigation and adaptation to climate change are strengthened, including restoration of at least 15% of degraded ecosystems and the fight against desertification**	Establish restoration mechanisms of degraded ecosystems (terrestrial, marine and coastal , wetlands) to contribute to the fight against the effects of climate change and desertification, including land degradation
16.	**By 2025, the Nagoya Protocol on access and the fair and equitable sharing of benefits arising from the utilization of genetic resources is in force and operational, consistent with national legislation and the actual needs of the Malagasy people**	Establish structures and implement programs of activities to make operational the Nagoya Protocol on access and benefit sharing arising from the use of resources

Strategic objective E*: Enhance implementation through participatory planning, knowledge management and capacity building*

Strategic objectives		Strategic directions
17.	**In 2017 , the Malagasy State adopt a political and legal instrument for the implementation of national biodiversity strategy and effective action plans**	Share and spread information relating to NBSAP to ensure its implementation at different hierarchical levels
		Implement a synergistic mechanism of action at the national level highlighting an interministerial and cross sector coordination for the implementation of NBSAP (administrative , technical, organizational , legal, financial)
18.	**In 2025, the initiatives put in place to protect traditional knowledge, innovations and practices of local communities relevant to biodiversity. The traditional sustainable use of biodiversity and their contribution to conservation are respected , preserved and maintained**	Encourage the recovery of traditional knowledge and customary use relating to biodiversity conservation and sustainable use of natural resources
19.	**In 2025, knowledge and science basis related to biodiversity, its values, its operation and its state are widely shared with policymakers and applied all the trends and consequences of its loss are mitigated and improved**	Promote the capitalization process, sharing and use of knowledge and information and technologies related to the conservation and sustainable use of biodiversity
20.	**In 2020, the human and financial capital for the implementation of the Convention have increased to sufficient levels and appropriate to achieve the objectives of the NBSAP**	Establish sustainable financing mechanisms and capacity building programs for human resources for the implementation and operationalization of NBSAP

IV.4. ACTION PLANS

After the establishment of the 5th report of National Biodiversity which helped highlight the current state of various components of the Malagasy biodiversity, comes the preparation of the National Strategy for the conservation and sustainable use of biodiversity, with its orientations and objectives, which is followed by the action plan, corresponding to the translation of these objectives and strategic guidelines on real events and field measurements.

These action plans , consisting of numerous strategic guidelines , which are based on strategic objectives , aimed at the identification , first of all , the causes of the degradation of national biodiversity and the improvement of its condition , then , reducing pressure on this latter and finally, capacity building , and benefits from , and the mobilization of resources and the establishment of financial mechanisms for its implementation .

For each action, it offers programs and solutions to eliminate or at least reduce impacts on biodiversity.

Presentation of national biodiversity action plans

Each of the action plans presented by Strategic Goal is preceded by a reminder and strategic orientations.

For each proposed action has been awarded:

- A document, which outlined the reasons for the development of each action;
- A schedule indicating the period of its implementation;
- A project manager generally corresponding to the State Department or the national organization more specialized in this action and could play a coordinating role in its implementation ; and
- Partners, corresponding to the sectors concerned by the action.

***Strategic Goal A*: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society**

***Strategic Objective 1* : In 2025 , policy makers and 65% of the Malagasy people are aware of the values of biodiversity and the steps they can take to protect and sustainably use**					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
***Strategic Guidelines* : To mobilize the necessary human resources to implement the communication strategy, education and biodiversity awareness and at all levels natural resources; Deploy advocacy campaigns related with; Ensure integration into government policy decisions and actions of behaviour change**					
1.1.Elaborate and implement a communication strategy , Education and Public Awareness (CEPA) Biodiversity	This CEPA strategy is a tool used to integrate biodiversity at municipal and local level and to incorporate the priorities for biodiversity in the planning and decision making of other sectors	1.1.1.The CEPA strategy document on biodiversity is developed	2020	Ministry for biodiversity, Technical and Financial Partners (TFP)	Ministry in charge of Communication, Ministry of Education , Ministry of Population , Academic Institutions, Regional and Local Authorities and NGOs
		1.1.2.Nature and number of CEPA tools developed for biodiversity	2025	Ministry in charge of biodiversity, TFP	Ministry in charge of Communication, Ministry of Education , Ministry of Population , Academic Institutions, Regional and Local Authorities and NGOs
		1.1.3.Promotion of training and citizen awareness on biodiversity conservation	2025	Ministry in charge of biodiversity, TFP	Ministry in charge of Communication, Ministry of Education , Ministry of Population , Academic Institutions, Regional and Local Authorities and NGOs
		1.1.4.Number of training and awareness session	2020	Ministry in charge of biodiversity	TFP
		1.1.5.Mapping / institutional space research actors and stakeholders in biodiversity	2020	Ministry in charge of biodiversity	TFP, Other development projects
		1.1.6.Number of priority areas for biodiversity integrated into multi-sector regulatory and planning tools	2020	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
1.2. Implement the National Strategy for Information and environmental communication for	The environmental management information is the basis of monitoring and evaluation of the realization of the challenges on the integration of the	2.1. Availability ,accessibility, free and reliable environmental information online	2020	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)

sustainable development in Madagascar	environmental dimension in the context of sustainable development. Developed in 2014 and following the recommendations of Rio + 20, the national strategy will play an important role in helping the different target to acquire new environmental knowledge on the adverse effects of climate change , deforestation and degradation of the Environment on human health , biodiversity and the planet .	1.2.2. Number of communications ensuring the transfer of environmental knowledge for sustainable development	2025	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
		1.2.3.Number of strong manifestations of sensitization of Malagasy citizens to change behaviour and attitudes	2025	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
		1.2.4.Number of priority areas of environmental management incorporated legislation into the multi- sectoral and regulatory planning tools	2025	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
1.3.Integrate the CEPA Strategy on biodiversity in school curricula at all grade levels	This activity allows the integration of information on biodiversity and provides examples in national education programs on how this action is in practice and demonstrates how the same can promote sustainable economic development	1.3.1.Number of school institutions with integrated biodiversity conservation elements into their school curricula	2025	Ministry in charge of biodiversity TFP	Ministry of Education , Ministry of Higher Education and Scientific Research
		1.3.2.Nature and Number of school programs on biodiversity	2025	Ministry in charge of biodiversity TFP	Ministry of Education , Ministry of Higher Education and Scientific Research
1.4. Undertake targeted awareness activities with policy makers and planners in socio -	Sharing experiences and creating exchange network of practices that facilitate integration across sectors is	1.4.1.A private sector engagement program is established	2020	Ministry in charge of biodiversity TFP	Private sector

economic sectors to the private sector to incorporate the environmental dimension	provided by this awareness activity and capacity building	1.4.2.Number of biodiversity initiatives supported by the private sector	2025	Ministry in charge of biodiversity TFP	Private sector
1.5.Strengthen the public awareness on environmental policies and legislation , rules , standards and related institutional arrangements , giving special attention to the application of the law	The inclusion in the institutions of the issues of biodiversity influences the conservation and development policies at regional and municipal level and encourages multisectoral and regulatory planning. These different management tools have no meaning and are always diverted and passed by if they are not followed by awareness raising , rich information. Therefore, this action is taken to share information, establish inter-institutional relations , and promote overture to others to increase their understanding by making it relevant to the performance problems of uncertainty and ambiguity solutions	1.5.1.Number of biodiversity information provided tools (maps and guidelines)	2020	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
		1.5.2.Number of participants aware of the conservation of biodiversity and supporting the initiative of the State on the conservation of biodiversity	2020	Ministry in charge of biodiversity	TFP and other development projects
		1.5.3. Management promotion nearby: Community Management (Terrestrial , Marine and Coastal)	2020	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
		1.5.4.Number of networks for sharing practice is created	2025	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)
		1.5.5.Number of frames and support in the workplace	2020	Ministry in charge of biodiversity	multi-stakeholders (Public - Private)

Strategic Objective 2 : In 2025, at the latest, biodiversity values , opportunities and benefits of conservation and sustainable use, will be recognized and integrated into the country's socio - economic development activities					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
Strategic Guidelines: Valuing data and mobilize the necessary capacity to incorporate environmental and social dimensions and the values of biodiversity in the policy, strategies , national and regional sectorial plans and programs					
2.1.Consider the values of biodiversity into sectorial strategies and programs	Informed, beforehand, of the value of biodiversity , this action already makes a significant contribution to all design initiatives of sectorial strategies and programs related to ecosystems and natural resources	2.1.1.Number of sectorial plans and strategies incorporating and implementing the values of biodiversity implementation strategies	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
2.2.Elaborate and implement pilot programs to integrate biodiversity into the plans of the decentralized local authorities including plans for land use ;	Pilot programs are solid integration tools that provide a rational and constructive framework for engagement of the decentralized sectors for the implementation of plans of development of territory	2.2.1. Integration guide of biodiversity into the plans of decentralized local government is developed	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local decentralized territorial Authorities
		2.2.2.Number of Regions / Municipalities with objectives and action plans related to the conservation of biodiversity	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
		2.2.3.Number of programs and pilot projects on biodiversity developed and implemented by the Regions / Municipalities;	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
		2.2.4.Number of biodiversity programs and projects implemented by the MEEMF in partnership with the regions / municipalities;	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities

2.3. Communicate and promote the results obtained in the WAVES to help decision-making by the competent authorities and to ensure good governance of natural resources and sustainable economic growth.	Promoting the provision of maximum data WAVES contributes significantly to ensure access to biodiversity planning tools to a large number of users	2.3.1. Study and report on valid WAVES validated and spread at regional and national level	2018	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
2.4. Accounting for natural capital ecosystem and ecosystem services	The consideration of the assessment tools of ecosystems and ecosystem services related allow development planning on economic and environmental values provided by these ecosystems	2.4.1. Report on the accounting study of marine and terrestrial ecosystems coastal	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
		2.4 .2 Number and kind of sectors included in the process	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
		2.4.3. preliminary planning at national level available as a tool for political and economic decision	2020	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
2.5. Planning and budgeting guardianship and key sectors to facilitate the integration of biodiversity in the budgets of national and sectorial programs.	This planning and budgeting is effective in mobilizing funding for the activities of national programs to obtain significant catalytic funding from national donors and international organizations , which is important for the financial sustainability	2.5.1.Sectoral programs on biodiversity with investment budgets available	2020	Ministry in charge of biodiversity, TFP	TFP other development projects
		2.5.2. Budgetary allocation to the Ministry in charge of biodiversity for programs and projects on biodiversity	2025	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities

***Strategic Objective 3**: In 2025, at the latest, inappropriate and negative incentives on biodiversity will be eliminated or gradually reduced to minimize negative impacts. while positive incentives for conservation and sustainable use of biodiversity and natural resources will be developed and applied*					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
***Strategic Guidelines** : To develop positive incentives such as payment Eco Systemic Service (PES) for the conservation and sustainable use of biodiversity and natural resources while strengthening collaboration with the private sector*					
3.1. Demonstrate PES schemes promoting conservation and sustainable use of biodiversity	To preserve the achievements so far and make them easily usable tools, this action allows for the training and supervision of actors in the place of work, and strengthening the exchange of partnership management practice network. Both management tools offer benefits for the achievement of biodiversity management objectives. The various PES mechanisms have the great advantage of integrating the issue of sustainable use of biodiversity essentially rewarding local communities. This demonstration action is very useful for communities, because these mechanisms allow them to require real skills in biodiversity management , and the ability to understand the international market in the field	3.1.1. System developed to ensure consistency and complementarity of the PES and biodiversity	2020	Ministry in charge of biodiversity, TFP	Other Departments, Private Sector
3.2 Involve, empower and encourage the private sector in the sustainable use of biodiversity	The involvement , accountability and incentives are important and necessary to keep intact ecological functioning which ensures the continued delivery of ecosystem services on which is based the development of private sector	3.2.1. Number of private and / or public initiatives on the sustainable use of biodiversity	2020	Ministry in charge of biodiversity, TFP	Other ministries, Private Sector
		3.2.2. Promotion of sustainable tourism	2020	Ministry in charge of biodiversity	Other Ministries , Regional and Local Authorities
3.3. Identify and analyze the conflicting policies and laws related to biodiversity and ensure the revision for consistency	There are planning frameworks, specific legal and policy for the management and conservation of biodiversity that are correlated to the legislation concerning the management of the environment in general. This action is an opportunity of their improvements making them more coherent , to overcome the obstacles to their implementation , and support the sustainable management of biodiversity	3.3.1. Number of revised sectorial laws containing provisions related to biodiversity and the prevention or settlement of conflicts including regulatory and legal frame related to BBOP	2022	Ministry in charge of biodiversity,	Other Ministries , Regional and Local Authorities, TFP

***Strategic Objective 4* : In 2025, the Malagasy government and shareholders at all levels will take appropriate steps to implement management plans of resources and maintain the impact of the use of natural resources within limits environmentally safe**					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
***Strategic Guidelines*: Deploy the means to adopt practices that support the promotion of production and sustainable consumption of natural resources within ecological imperatives at all levels in a collaborative dynamic approach, good management practice and sharing of experiences including basic science; Promote the sustainable management of natural resources based on science**.					
4.1. Identify and promote the use of alternative energy options favourable to ecosystems;	The use of alternative energy options can help to reduce such competition exerted on biodiversity and natural ecosystems , and to shape an energy economy that is compatible with the natural ecosystem	4.1.1. Type of alternative energy is promoted ;	2020	Ministry in charge of biodiversity, Ministry of Energy	Other Ministries , Civil Society
		4.1.2. Number of people using alternative energies ;	2020	Ministry in charge of biodiversity, Ministry of Energy	
4.2. Share best practices on mining exploitation , industrial exploitation , forestry exploitation having a positive impact on forest biodiversity , management of protected areas to promote sustainable production ;	This sharing of good practice action helps to focus more on issues related to operating activities of each production sector regarding the strengths, compromises , management tools of technology gaps and progress towards reduce environmental impact and promote biodiversity conservation . It also facilitates effective communication between all actors and landscapes to address issues and share experiences	4.2.1. Number of holdings of natural resources tools that have a positive impact on the conservation and sustainable use of biodiversity	2020	Ministry in charge of biodiversity	TFP and other development projects
4.3. Develop management plans and specifications for sustainable use of natural resources;	The implementation of directives production practices, through the production and monitoring, provides specific commitments to sectors to start strengthening the landscape of sustainable production. These commitments are also part of conservation partnerships which operate at a larger scale and the various economic sectors	4.3.1. Number of facilities plans and specifications implementation costs , is monitored and evaluated	2020	Ministry for biodiversity	Other ministries, TPF and other development projects
4.4. Doing the sector studies for promising products and research the appropriated market.	This action expands the creation of markets for promising products compatible with the maintenance of biodiversity to ensure the common objective to maintain viable economic enterprises to reduce environmental impacts, maintenance services provided by ecosystems and strengthening resilience to climate change	4.4.1. Number of promising sectors is implemented	2020	Ministry in charge of biodiversity	TFP and other development projects , researchers

4.5. Design and implement the management tool and regulations relating to natural resources at local level, and / or regional: Dina (common agreement) and / or customary rights.	This action contributes to the active involvement of all shareholders at all levels in the conservation and development projects since the adoption of the concept allows them to appropriate the initiative so that they could self-product and self-regulate	4.5.1. Number of regulations is applied and implemented	2025	Ministry in charge of biodiversity	TFP and other development projects
4.6. Develop and ensure effective implementation of land use plans to reduce conflicting uses	To reduce conflicting land use, this action allows to introduce the principles that should imply the effective implementation of land use plans : such as legal security of the land; community involvement in agreements on land management with the authorities in charge of conservation; the recognition of people's needs and finally the strengthening of local partnerships	4.6.1. land use plan	2020	Ministry in charge of biodiversity	Other Ministries , Regional and Local Authorities , TFP
		4.6.2. Number and kind of conflict management between different actors is registered	2020	Ministry in charge of biodiversity	Other Ministries , Regional and Local Authorities , TFP
		4.6.3. Number and type of involved actors in the planning and Ministry of Planning	2020	Ministry in charge of biodiversity	Other Ministries , Regional and Local Authorities , TFP

Strategic objective B. Reduce the direct pressures on biodiversity and promote sustainable use

***Strategic Objective 5* : By 2025 , the rate of degradation , fragmentation and loss of habitats or ecosystems is reduced**					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
***Strategic Guidelines*: Mapping, analyzing and evaluating high biodiversity value natural habitats particularly poorly represented in MPI; Reduce the loss of habitats and ecosystems; Solve the main causes of loss of habitats and ecosystems; Involve stakeholders and actors.**					
5.1. Inventory and map and characterize all high biodiversity potential ecosystems (especially wetlands, marine and coastal areas)	The achievement of biodiversity assessments can indicate the importance of critical biodiversity areas and ecological support areas that should be kept in a natural state , as well as areas suitable for development activities	5.1.1. Number of institutions performing inventories and assessment of the biodiversity of natural habitats	2020	Ministry in charge of biodiversity	Other Ministries , Regional and Local Authorities , TFP
		5.1.2. Mapping all ecosystems is made	2020	Ministry in charge of biodiversity	Other ministries, TFP and other development projects
5.2 Determine the conservation status of high biodiversity potential ecosystems	A thorough study should be made on the state of ecosystems because Madagascar has followed the ecosystem approach to biodiversity conservation for ten years	5.2.1. Ecosystem Conservation Status of high potential biodiversities is identified	2020	Ministry in charge of biodiversity	Other ministries, TFP and other development projects

5.3. Assess the extent and rate of habitat loss due to degradation and fragmentation	As the conservation of species, habitat is also of vital importance for the species. An assessment of the loss is useful to take effective measures to reduce degradation and fragmentation	5.3.1. Loss of habitats evaluated : area, rate of loss	2025	Ministry in charge of biodiversity	Other ministries, TFP and other development projects
		5.3.2. Updates and notifications in biodiversity is made	2020	Ministry in charge of biodiversity	Other ministries, TFP and other development projects
5.4. Intensify going on programs or develop new programs on the restoration and management of mangroves and wetlands in general and other ecosystems of the coastal zone ,	These restoration programs include early action for the proper maintenance of wetland ecosystems and mangrove management	5.4.1. Area (ha) of replanted mangroves forests and / or reproduced annually	2020	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, CN ICZM , researchers , NGOs, conservation organizations , community organizations , laboratories , private sector
		5.4.2. Number of created nurseries and plant communities existing there ;	2020	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, CN ICZM , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector
		5.4.3. Mangroves area subject to sustainable use;	2020	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, CN ICZM , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector
5.5. Establish training programs on sustainable use of the products of these ecosystems	The intensification of the training is to focus on the rehabilitation, protection and sustainable use of mangroves that form part of the wetlands	5.5.1. Number of workshops is conducted	2020	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fisheries	Ministry of Higher Education and Scientific Research, CN ICZM , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector
5.6. Develop and implement natural habitat management plans under protection with responsible actors	Madagascar is shelter to a wide variety of natural habitat and high biological diversity. For this reason, it is important to develop a management plan that can help to identify areas of importance for biodiversity conservation purposes and to guide planning of socio -economic development in all sectors .	5.6.1. Number of developed management plans for protected areas	2020	Ministry in charge of biodiversity	Other ministries, TFP and other development projects
		5.6.2. Number of natural habitats under protection with functional management plans;	2020	Ministry in charge of biodiversity	Other ministries, TFP and other development projects
		5.6.3. Total area under protection and / or management is protected	2020	Ministry in charge of biodiversity	Other ministries, TFP and other development projects

5.7. Strengthen enforcement texts on biodiversity and the environment	Strengthening the effective implementation of texts on biodiversity allows improvements on planning and monitoring of biodiversity and the coordinated management and sustainable use throughout the country	5.7.1. Increasing measures to reduce the degradation of natural habitats , with the proper management of resources	2025	Ministry in charge of biodiversity	TFP , other sectors, civil societies
		5.7.2. Reducing crime on illegal exploitation in natural habitats	2025	Ministry in charge of biodiversity	TFP , other sectors, civil societies
5.8. Establish or strengthen programs aimed at strengthening the control of bush fires and minimize the impact in areas with significant biodiversity and / or watersheds ecologically related with ecosystems keys for conservation and / or sustainable development	This action focuses on the management of unwanted fires forest landscapes and the reduction of poverty and the development of training to acquire the skills required for the fight against bushfires	5.8.1. Number of protected areas / agricultural areas with effectively created buffer zones to protect against bush fires and used for other purposes	2022	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research, CN ICZ , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector, federal and / or breeders associations
		5.8.2. Number of training - for technical capacity building workshops organized for local targets communities to manage red areas of bush fires and / or vegetation	2022	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research, CN ICZM , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector, federal and / or breeders associations
5.9. Promote the use of alternative renewable energy adapted to the tropical savannah grassland ecosystem and / or woody and different ecological zones of Madagascar	Alternative renewable energy is used for the energy needs of households to reduce pressure on the savannah ecosystems. Promoting their use offers major advantages in producing energy onsite and at low cost, and reducing the use of firewood which results in less deforestation and degradation of these ecosystems	5.9.1. Number of improved stoves manufactured and distributed to vulnerable households;	2022	Ministry in charge of biodiversity	Other ministries , NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
		5.9.2. Number of biogas projects implemented	2025	Ministry in charge of biodiversity	Other ministries , NGOs , Researchers, Conservation organizations , community organizations , laboratories, national NGOs , Local Services Private Sector and Communities Federation and / or local associations
5.10. Promote the development of technical / local practices in alternative renewable energy	Promoting development of technical / local practices helps to develop and strengthen scientific technologies to mitigate climate	5.10.1. Number of technical capacity building workshops for	2025	Ministry in charge of biodiversity	Other ministries , NGOs , Researchers, Custody organizations , community organizations , laboratories , national NGOs

	change by ensuring the economic development and welfare of communities	the promotion of technical / local practices in alternative renewable energy			, Local Services Private Sector and Communities Federation and / or local associations
		5.10.2. Number of local technics/practices is identified and promoted	2020	Ministry in charge of biodiversity	Other ministries , NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
5.11. Involve and more accountable organizations of civil society , particularly local communities in monitoring and control of natural habitats	The involvement of civil society organizations in the monitoring and control, as partners , justifies the effort invested in the creation and maintenance of innovative inter-institutional partnership	5.11.1. Number of Advocacy done by civil society on the transparent management of natural resources	2025	Ministry in charge of biodiversity	TFP , Civil Society
		5.11.2. Number of intervention and collaboration between civil society and government on monitoring and control of natural resources	2025	Ministry in charge of biodiversity	TFP , Civil Society

***Strategic Objective 6*: In 2025, all exploited fish stocks and other marine resources and freshwater / brackish water are measured and managed sustainably and destructive harvesting practices are eliminated**					
Action	**Justification**	**Indicators**	**Time table**	**Project manager**	**Partners**
***Strategic Guidelines*: To make available to all stakeholders the information necessary to improve the rational and sustainable management of fisheries; Establish legal and legislative frameworks for the management of fisheries and enhance their effective implementation**.					
6.1. Conduct studies and complete the information and data needed to improve fishing management	This action directs and compels all actors in the adoption of means as a practical guide of management and information sheet to raise awareness of conservation issues in the marine ecosystem and its accession to a number guidelines on best practice that also promote the participation of all shareholders in the management	6.1.2. Inventory of knowledge on aquatic ecosystems available	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
		6.1.2. Research program is developed and implemented	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations

		6.1.3. Publication of research results and other relevant studies	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries, STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
		614. Data basis system on management research of marine resources is implemented and exploited	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
6.2. Establish appropriate standards and relevant guidelines for a National Water Quality Management Strategy: definition of standards and fishing quotas	Promoting the standardization of this practice requires a better methodological development for the implementation of interdisciplinary on water management , which ensures both the environmental fate of human pathogens and ecosystem functioning for the biodiversity survival	6.2.1. Document or manual on standards and guidelines on water quality;	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
6.3. Establish and strengthen the strict enforcement of laws relating to marine biodiversity and fisheries resources	Strict implementation of biodiversity legislation helps to ensure the conservation and wise management of marine biodiversity	6.3.1. Texts regulating fishing are inventoried and assessed (strength and weakness)	2020	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
		6.3.2. Newly developed and popularized texts	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs Researchers, Conservation organizations, community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
		6.3.3. Number of measures to reduce the illicit exploitation of fishery products	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations
6.4. Establishing the fishing calendar, particularly for stopping the decline of fishery resources	The introduction of the fishing calendar is a commitment with the planning process of the fishery resources production	6.4.1. Increasing stocks of fish products in potentially important sites for endemic species	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries , STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations

6.5. Encourage and promote the establishment of community management of marine resources	Community management of marine resources is an important mechanism for social equity while pursuing sustainable development	6.5.1. necessary tools developed for community management of marine resources	2025	Ministry in charge of biodiversity Ministry in charge of Fisheries Resources and Fishing	Other Ministries, STD and CTD, NGOs , Researchers, Conservation organizations , community organizations , laboratories , national NGOs , Local Services Private Sector and Communities Federation and / or local associations

***Strategic Objective 7*: In 2025 , all areas under agriculture , aquaculture and forestry are managed according to the plan of sustainable production , ensuring an integrated approach to biodiversity conservation**					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**partners**
***Strategic Guidelines:* Coordinate and manage the sustainable management of biodiversity , ecosystems and agricultural resources , forestry and fishery**					
7.1. Develop and ensure effective implementation of plans for land use to reduce anarchic and conflicting uses of areas for agriculture , forestry and aquaculture and integrating all in the blueprints and national plans , regional or municipal	To reduce conflicting land use, this action allows introduction of the principles that should imply the effective implementation of land use plans: such as legal security of the land; community involvement in agreements on land management with the authorities in charge of conservation: the recognition of people's needs and finally the strengthening of local partnerships. These plans are very essential to inform the planning process of land use and decision making in all sectors in order to reduce conflicts of problems interest Close cooperation should be developed between the regional planning of land use according to their vocation while considering other strategic sectors and development	7.1.1. land plan use considering the sectorial aspects of development and conservation	2025	Ministry in charge of biodiversity Ministry in charge of Spatial planning	Other Ministries, Regional and Local Authorities and STD , NGOs, private sector , TFP
		7.1.2. Number of established multi-stakeholders coordination structure(s) for land allocation and to monitor relating activities	2019	Ministry in charge of biodiversity Ministry in charge of Spatial planning	Other Ministries ,CTD and STD , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector
		7.1.3. Number and type of actors involved in the planning with the Ministry in charge of Spatial Planning	2025	Ministry in charge of biodiversity Ministry in charge of Spatial planning	Other Ministries , Regional and Local Authorities , TFP
		7.1.4. Number and kind of management conflict between different actors is registered	2018	Ministry in charge of biodiversity	Other Ministries , Regional and Local Authorities , TFP

		7.1.5. Agricultural areas guideline included in the SCAT , TARS , SNAT and PLOF	2020	Ministry in charge of biodiversity Ministry of agriculture	Other Ministries , CTD and STD , NGOs, private sector other
		7.1.6. aquaculture development plan and implementation is developed	2018	Ministry in charge of biodiversity Ministry in charge of for fishing and fishing resources	Other Ministries , CTD and STD , NGOs, private sector
		7.1.7. Number of sectorial projects incorporating the approach of biodiversity is carried out	2019	Ministry in charge of biodiversity, Ministry in charge of Regional Development	Other Ministries especially the Ministry of Higher Education and Scientific Research, CTD and STD , Researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector
7.2. Regulate the access to natural resources and ecosystems for the valuation of sectorial options	This action shows that sustainability is the key to the good management of ecosystems for the community to benefit from the conservation of biodiversity through strategic partnerships by supporting the planning, management and capacity building. The aim of this is to sustainable and rational use of natural and biological resources : all rural economic development activity is considered as an action that propels positive and sustainable environmental and social impacts	7.2.1. Number of environmental and social management plans approved and monitored jointly by all actors / stakeholders;	2020	Ministry in charge of biodiversity, Ministry in charge of Spatial planning	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations , community organizations , laboratories , private sector
		7.2.2. Number of environmental and social management plans approved and monitored jointly by all actors / stakeholders;	2020	Ministry in charge of biodiversity, Ministry in charge of Agriculture Ministry in charge of Spatial planning	Other Ministries , CTD and STD , NGOs, private sector , researchers, Conservation organizations , community organizations , laboratories , private sector
7.3. Promote conservation agriculture: adopt sustainable farming practices saving biodiversity and diffuse appropriate new technologies	Being aware of the value of biodiversity and even human health, it is important to conserve, improve and make more efficient use of natural resources through integrated management of soil, water and biological resources. This practice promotes sustainable agriculture and allows the introduction of innovative approaches, using organic fertilizers to reduce the impact of chemicals products	7.3.1. biological agriculture applied to the production of standard and less impact on biodiversity	2025	Ministry in charge of biodiversity, Ministry of Agriculture	Other Ministries , CTD and STD , NGOs, private sector
		7.3.2. New techniques of agriculture appropriate are diffused and popularized	2020	Ministry in charge of biodiversity, Ministry of Agriculture	Other Ministries , CTD and STD , NGOs, private sector
		7.3.3. Use of organic fertilizers locally is popularized	2020	Ministry in charge of biodiversity, Ministry of Agriculture	Other Ministries , CTD and STD , NGOs, private sector

	on the nutrition of the population and to promote organic agriculture conservation and sustainable development				
7.4. Strengthen inputs and discharges control from agriculture, aquaculture , forestry areas	The quality control of disposable waste to be ensured by the departments concerned in this case the environment and the fishing and fishery resources sector while considering the population living in the vicinity of aquatic farms.	7.4.2. Incentives commensurate with preservation of the developed and implemented environment	2020	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , NGOs, private sector
		7.2.2. Number of controls made on farms disposable waste	2020	Ministry in charge of biodiversity,	Other Ministries, CTD and STD , NGOs, private sector
7.5. Promote activities compensation for and / or ecological restoration in the vicinity of aquacultures, agriculture and forestry areas	Peripheral areas and mangroves are sensitive areas especially in relation to vulnerable ecosystems to human pressure. A restoration is paramount so we must rebuild these areas around fish farms of areas to better manage the sustainability of the activity. The development and implementation of arrangements and plans management are increasing on improving the management of aquaculture as well as the integration of biodiversity conservation and the maintenance of services provided by the ecosystem	7.5.1. Tools or Handbook of conservation and / or Ecological restoration of various existing tropical forest types are developed.	2020	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , NGOs, private sector
		7.5.2. Areas of mangroves are reforested and restored	2020	Ministry in charge of biodiversity,	Other Ministries ,CTD and STD , NGOs, private sector
		7.5.3. Number of sustainable forest management systems (corridors or landscapes operational forest) are developed and implemented in the informal forestry sector.	2020	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , NGOs, private sector
7.6. Develop and implement plans management (in- situ conservation and / or ecological restoration) for all types forests (wet or zonal forest a zonal forest, coastal forest , gallery forest , dry forest, Tapia forest , spiny forest) , and modified ecosystems	The development and implementation of plans management are increasing on improving the management of natural resources , as well as the integration of biodiversity conservation in forest management and the maintenance services provided by this ecosystem where the activity area is located	7.6.1.Estate conservations and / or use of site and exploitation with effective plans management developed which are integrated in biodiversity conservation programs and of its habitats	2020	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation Organizations , Community Organizations
		7.6.2. Number of village associations or community groups enjoying a forest management certification (GCF) and / or transfer of natural resource management (TGRN)	2020	Ministry in charge of biodiversity, Ministry of Population	Other Ministries , CTD and STD , researchers , NGOs, Conservation Organizations , Community Organizations

		7.6.3. Number and Size of types of forests vulnerable actively restored according to the approach ONE-MECIE / MEEMF / Mining Companies	2020	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation Organizations , Community Organizations
7.7. Strengthen and ensure the implementation of sustainable management systems and mutual monitoring systems for environmental commitments especially in the informal forestry sector	The establishment of monitoring systems for reciprocal commitments strengthens and develops partnerships that constitute a central element of forest governance. The recommendation of this action can support the implementation of biodiversity landscape conservation approach and facilitate work in partnership to find a comprehensive solution to the problems facing biodiversity and society	7.7.1. Number of Monitoring compliance with cutting permit and of the specifications assigned to the various operators in the sector made in the GCF and TGRN	2020	Ministry in charge of biodiversity,	Other Ministries ,CTD and STD , NGOs, conservation organizations , community organizations , private sector
		7.7.2.standard Conditions of use and exploitation of forest resources developed and implemented in GCF / or other TGRN	2018	Ministry in charge of biodiversity,	Other Ministries, regional and local Authorities,TFP
		7.7.3. environmental commitments tracking systems actors inconclusive related to sustainable forest management (corridors or operational forest landscapes) are placed and operational	2025	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , NGOs, private sector

***Strategic Objective 8*: By 2025 , pollution from land and sea activities is reduced to levels compatible with the ecosystem- based and sustainability of biodiversity**					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
***Strategic Guidelines* : Develop and strengthen mechanisms and programs to reduce pollution factors**					
8.1. Implement the national pollution management strategy	National pollution management strategy was developed in 2013. The challenge consists in its implementation. The establishment of monitoring tools will surely implementation of this strategy and the monitoring of commitments of each stakeholder	8.1.1. Implementation tracking tool is developed	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.1.2. implementation projects of strategy are established	2020	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
8.2 .Strengthen knowledge and communication in order to prevent pollution	studies actions and researches are important to have information about pollution in different areas (air, water, soil ...	8.2.1. Studies and research on air pollution, inland and marine waters, made and elaborated soil	2025	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs

	) , sites , preliminary measures to manage the effects of different types of pollution	8.2.2. National data basis on pollution	2025	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.2.3. polluted sites are identified and assessed	2025	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities, private sector, NGOs
		8.2.4. Pollution indicators in habitat and biodiversity investigated , are identified and determined	2025	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.2.5. Percentage and number of sensitized and educated population	2020	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
8.3. Strengthen environmental impact studies and to conform all projects / investments to reflect the state of biodiversity based on any loss	Achieve the environmental impact study to find out and assess potential threats and risks to the health of communities and that of the surrounding environment of the planned investments	8.3.1. Number of EIA in the context of development projects that reflect the state of biodiversity (on the basis of " no net loss") by project promoters is realized	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.3.2. Number of PGE implemented effectively efficient by year	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities, private sector, NGOs
8.4 .Intensify prevention and monitoring and environmental control of the major sources of pollution and their impacts on the environment, particularly the Sector's activities and / or the Marine and Coastal Department with the polluting effects	The uncontrolled environmental pollution induced effects and disastrous impacts, both on the life of humanity and biodiversity. Capacity building, linked to the follow-up action and evaluation, is indeed the great challenges to cope. This action concerns the preventive measures to reduce air pollution. It provides for a prior reduction and implementation of national action plans on management of industrial pollution : air, waste water and soil The monitoring function that can enrich or endanger the marine and coastal ecosystems from the effects of polluting elements, needs a control structure of support that can strengthen it. So, This action allows to set up this structure depending on the complexity of the risks that each sector / Department of Marine and Coastal can generate	8.4.1. Number of inspections / checks and of findings and / or irregularities	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.4.2. Number of technical training sessions on monitoring capacity and environmental impact assessments	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.4.3. Visit and technical inspections of vehicles is strengthened	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs
		8.4.4. Texts on environmental taxes based on the polluter - pays are developed and implemented	2020	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial Communities , private sector, NGOs

		8.4.5. Number of functioning environmental control positions created in coastal areas or marine area	2017	Ministry in charge of biodiversity,	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		8.4.6. strict application of statutory instruments and action plans against Oil Spills	2018	Ministry in charge of biodiversity,	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , laboratories , Minister responsible for hydrocarbons
8.5. Develop and ensure the implementation of waste management plans (types and categories)	Waste management reduces very much the damage to natural ecosystems. The establishment and implementation of appropriate tools actually help define the functional content, technical and organizational solutions to make the environment healthy	8.5.1. Number of regional and local authorities (CTD) and other institutions with functional waste management plans is approved	2018	Ministry in charge of biodiversity,	Other Ministries decentralized territorial authorities , private sector, NGOs
		8.5.2. Amount of waste annually is collected, processed and / or recycled	2018	Ministry in charge of biodiversity,	Other Ministries, decentralized territorial authorities , private sector, NGOs
		8.5.3. Establishment of treatment plants sewage is done	2020	Ministry in charge of biodiversity,	Other Ministries , decentralized territorial authorities , private sector, NGOs
		8 .5.4Arrangement of slope dock waterways to fight against pollution	2020	Ministry in charge of biodiversity	Other Ministries , decentralized territorial authorities , private sector, NGOs
		8.5.5 Establish Processing treatment units of sewage and their effects	2020	Ministry in charge of biodiversity Ministry of Water	Other Ministries, decentralized territorial authorities , private sector, NGOs
		8.5.6 Establish laboratories of analysis of sewage on regional level and apply urgent measures	2020	Ministry in charge of biodiversity Ministry of Water	Other Ministries, decentralized territorial authorities , private sector, NGOs

		8.5.7 Elaborate activities against pollutions development and chemical and toxic waste	2018	Ministry in charge of biodiversity Ministry in charge of Water Ministry in charge of population	Other Ministries , decentralized territorial authorities , private sector, NGOs

Strategic Objective 9 : By 2025, invasive alien species and the pathways are identified and prioritized , priority species are controlled or eradicated ; management measures are in place in order to prevent the introduction, manage pathways and mitigate the establishment of these species and enhance beneficial species					
Action	**Justification**	**Indicators**	**Time table**	**Project Manager**	**Partners**
Strategic Direction: To promote regulatory mechanisms, management and governance for invasive species to protect natural ecosystems: Deepening knowledge of invasive species, develop useful invasive species.					
9.1. Build on the achievements at national and regional level on invasive species and develop the data basis relating to them	Studies have been already carried out or are underway and some invasive exotic species. These species management strategies can be capitalized to copy for similar species. Moreover, the existence of basic data will be a major asset for the management of invasive species.	9.1.1. Number of data on the status of invasive alien species available	2020	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
		9.1.2. Mapping the status of species inventoried available	2020	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
9.2. Develop and implement a national strategy and programs against the introduction of invasive species and to eradicate them, emphasizing prevention and while involving the local community in these processes control	The lifestyles of exotic and invasive species are dependent on the organization, functioning and ecosystem development, they occupy and cover. The conduct of this inventory is useful and urgent to characterize the main relationships between vegetation and the environment , describing the structural units of vegetation, and identify different plant formations Local potential governance is a key factor in the development of rural areas. Thus, it is still necessary to involve more local stakeholders in developing and implementing appropriate management programs to help them to create a favourable environment for the emergence of more stable livelihoods. The well-developed strategy will integrate massive awareness sessions in local communities.	9.2.1. Number of identified species and characterised according to their negative impacts on the environment and biodiversity	2020	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
		9.2.2.. Number of categorized species and sustained with ecological target	2020	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
		9.2.3. National strategy and fighting programs against introduction of intrusive species and for their eradication	2025	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
		9.2.4. Number of awareness session upon intrusive species	2025	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects

9.3. Promote a regulatory mechanism and governance on invasive species : development of legal and regulatory texts and institutional arrangements	The development of this plan of action can prevent the environmental degradation caused by the invasion of exotic plants, regularly monitor environmental changes and improve control in order to reduce their impact on the means of subsistence	9.3.1. Number of action plans is developed and implemented	2020	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
		9.3.2. Number of control strategies and prevention	2020	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
		9.3.3. Area being monitored and controlled	2018	Ministry in charge of biodiversity	Other Ministries , TFP , NGOs of conservation and other projects
9.4. Encourage research for the enhancement of invasive species and implement outreach programs / extension	The process of eradication of invasive species, like other conservation action must go together with economic development. By appropriate studies and research Some species, even invasive alien can provide raw material base for economic development. Such as for example the case of changes in essential oils and farm tree species	9.4.1. Number and type of research on exotic and invasive species is carried	2025	Ministry in charge of biodiversity Ministry in charge of scientific research	Other Ministries , TFP , NGOs of conservation and other projects
		9.4.2. Number and type of research on exotic and invasive species is capitalized	2025	Ministry in charge of biodiversity Ministry in charge of scientific research	Other Ministries , TFP , NGOs of conservation and other projects
		9.4.3. innovative techniques on the enhancement of exotic and invasive species are popularized	2025	Ministry in charge of biodiversity Ministry in charge of scientific research	Other Ministries , TFP , NGOs of conservation and other projects

***Strategic Objective 10*: By 2025 , the multiple anthropogenic pressures on coral reefs and other vulnerable marine ecosystems impacted by climate change or acidified oceans are minimized , in order to preserve their integrity and operation**					
Action	**Justification**	**Indicators**	**Time table**	**Project manager**	**Partners**
***Strategic Guidelines*: Develop and implement strategies to minimize the various pressures (anthropogenic or climatic) on marine and coastal ecosystems, including coastal forests and adjacent associated habitats**					
10.1. Develop and implement a strategy to minimize the various pressures on coral reefs arising from pollution / sedimentation from land and unsustainable fishing , including recreational activities	Monitoring and evaluation of different management practices and their impacts are essential to take advantage of the wealth of accumulated knowledge and power to cause significant changes in the approaches and innovative technologies supporting the development and implementation of a strategy relating to them. Add to this unsustainable fishing practices and climate change impacts that reduce socio- eco- benefits of marine and coastal ecosystems. The development and implementation of a strategy allows the development of renewable technologies and valuation measures to reduce sources of marine pollution and the integrated management and regeneration of coastal ecosystems	10.1.1. Knowledge of the status and trends of coral reefs, information is updated	2020	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		10.1.2. strategy against the pollution is developed and implemented	2025	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories

10.2. Develop and implement strategies and programs to reduce coastal erosion, watershed and critical areas (and limiting the progress of dunes) and reducing pressures on coral reefs	This is to maintain and improve the services provided by natural ecosystems to ensure the livelihood and sustenance and strengthening security in the field of food for the population living directly or indirectly with Natural coastal and marine areas resources.	10.2.1. Number of additional studies conducted on coastal erosion	2018	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		10.2.2. Repository established on coastal erosion	2018	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		10.2.3. Number of projects implemented to fight against coastal erosion	2018	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		10.2.4. Area is protected and saved from coastal erosion	2018	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
10.2. Strengthen and encourage the use of local techniques to restore , rehabilitate and manage all the eroded coastal beaches	Strengthening and encouraging the use of local techniques of development on multisectorial approaches that bring together all the knowledge available in the different disciplines institutions and private sectors, and appropriate practices to easy situations for promoting local participation	10.2.1. Area of eroded beaches are rehabilitated annually through the use of local technologies	2018	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Ministry of Higher Education and Scientific Research, Ministry of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories

Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity

Strategic Objective 11: In 2025, 10% of terrestrial ecosystems and 15% of coastal and marine areas , especially the areas of particular importance for biodiversity and ecosystem services , are conserved adequately in ecologically representative systems and the protected areas are effectively managed by different strategic approaches					
Action	**Justification**	**Indicators**	**Time table**	**Project manager**	**Partners**
Strategic direction: Establish management and sustainable financing mechanisms, participatory approach with local communities of terrestrial and marine protected areas and representative coastal and unique to Madagascar System					
11.1. Ensure the security of protected areas towards other sectoral activities	This action is to ensure land tenure security of protected areas created legally and regulate access. It also implies that the Malagasy State and sectors have taken political arrangements, strategic, legal and technical to resolve disputes arising from the overlay of protected areas with other sectorial activities. Securing protected areas also requires the reduction of direct pressures in and around protected areas , combining conservation and sustainable socio-economic development in the peripheral areas	11.1.1. Number of protected areas titled and bounded in the name of the State and whose outer limits are materialized	2018	Ministry in charge of biodiversity Ministry in charge of spatial planning	Other Ministries , TFP and Conservation NGOs
		11.1.2. Number of protected areas having management system , monitoring and control functional and effective	2018	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs
		11.1.3. Number of protected areas in which disputes related to the overlay of protected areas with other sectorial activities were completed in collaboration with concerned sectors and stakeholders	2025	Ministry in charge of biodiversity	Ministry in charge of Spatial Planning , Ministry in charge of Mines and Petroleum , Ministry in charge of Fisheries Resources , Ministry in charge of Energy, Ministry in charge of Agriculture, Ministry in charge of Livestock, Ministry in charge of Tourism
		11.1.4. Number / protection areas surface and / or forest corridors created around protected areas	2020	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs
		11.1.5. Number of social and environmental safeguards plans are developed, implemented and sustained	2025	Ministry in charge of biodiversity	Other Ministries, TFP and Conservation NGOs
11.2.Elaborate and implement programs to restore degraded ecosystems , protected areas and	On one hand, this restoration action ensures the rehabilitation of degraded ecosystems and / or vulnerable biodiversity in protected areas and the protection of	11.2.1. Inventory and assessment of degraded areas is made	2025	Ministry in charge of biodiversity	Other Ministries, TFP and Conservation NGOs

enhance their biodiversity	natural habitats and ecosystem services. Moreover, it permits to promote sustainable development strategies of natural resources in the context of the restoration of natural habitats	11.2.2. Number of recovery programs for protected areas of degraded ecosystems is developed and implemented	2025	Ministry in charge of biodiversity	Other Ministries, TFP and Conservation NGOs
		11.2.3. Number of species biodiversity enhanced in restoration	2025	Ministry in charge of biodiversity	Other Ministries, TFP and Conservation NGOs
11.3. Integrate Protected Areas in a harmonious overall environmental landscape combining development and conservation	This integration action of protected areas in an environmental landscape allows to identify the crucial elements of the approach, such as partnerships between various actors , the effective integration of biodiversity considerations in planning for land development and the activities of various sectors	11.3.1. Principles and implementation mechanisms of the approach of landscape identified	2016	Ministry in charge of biodiversity	Other Ministries, TFP and Conservation NGOs
		11.3.2. Number of Protected Areas included in the overall development plans of the territory and adopting the principles and mechanisms of harmonious landscape	2017	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs
11.4. Create and / or Effectively manage protected areas to preserve fragile ecosystems and sensitive and / or critical areas of high biodiversity	To meet the country's commitments at the World Parks Congress, actions to be taken will focus on the creation of marine protected areas. They will also be focused on the effective and sustainable management of protected areas already legally established It also prioritizes the valuation of prior learning and the effective involvement of local communities in protected area management The sustainability of the management activities require the development of partnerships with stakeholders , mobilizing innovative financing , including from the private sector	11.4.1. Number and area of protected areas are created legally	2025	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs
		11.3.2 Number of management tools are adopted and implemented by stakeholders	2025	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs
		11.3.3. Experiences and achievements on the establishment and management of protected areas are capitalized , disseminated and exploited	2018	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs
		11.3.4. Number of training and information sessions on the protected area	2025	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs

		management is performed			
		11.3.5. Number of strategic partnerships , financial and techniques is developed	2025	Ministry in charge of biodiversity	Other Ministries , TFP and Conservation NGOs

***Strategic Objective 12*: By 2025 the extinction of vulnerable and / or threatened species is reduced and their conservation status improved**					
Action	**Justification**	**Indicators**	**Timetable**	**Project manager**	**Partners**
***Strategic Guidelines*: Reduce the extinction factors of endemic, migratory and endangered species and the destruction / degradation factors of their habitats**					
12.1. Implement conservation and recovery of affected populations target species programs in-situ and ex- situ	The implementation of these programs allows for relevant information on the targeted species and guide human future interventions. This action also allows for the likely correlation between conservation and recovery of species in situ and ex situ	12.1.1. Number of landscaped functional arboreta and zoos ;	2020	Ministry in charge of biodiversity TFP	Ministry in charge of Communication, Ministry in charge of Education, Ministry of Population, Universities, Regional and Local Authorities, NGOs and TFP
		12.1.2. species population size recovered of targeted	2025	Ministry in charge of biodiversity TFP	Ministry in charge of Communication, Ministry in charge of Education, Ministry of Population, Universities, Regional and Local Authorities, NGOs and TFP
12.2. Develop and implement the strategy / program of activities for the control and prevention of biological invaders (invasive alien species , modified living organisms)	Invasive exotic plants are one of the major threats to biodiversity and ecosystem functioning in Madagascar Thus, this action, first, to bring policymakers clarification of the different impacts of these plants on the hydrographic basins and ecological functioning of ecosystems. And then she moves forward new suggestions to solve the problems in monitoring and developing preventive tools	12.2.1. national monitoring and control strategy for biological invaders made operational	2018	Ministry in charge of biodiversity	Other Ministries , TFP , Projects
		12.2.2. Number and type of LMOs and / or GMOs authorized and under control	2020	Ministry in charge of biodiversity	Other Ministries , TFP , Projects
		12.2.3. Area occupied by invasive alien species subject to monitoring and control	2020	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
12.3. Develop and implement a program / project / planning for management of species (flora and fauna) endemic , vulnerable and endangered	These different management tools are part of guidelines that are intended to slow the loss of natural habitats and to protect ecosystems for maintaining threatened biodiversity at sites	12.3.1. Number of operational projects in place to manage endemic and threatened species (flora and fauna);	2018	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects

		12.3.2. Number of endemic species (flora and fauna) threatened per taxonomic groups , biome, per habitat in and out of protected areas ;	2018	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
12.4. Promote and integrate Priority Areas for Conservation (SFA) and the Critical Areas for Conservation (ZCC) in the national institutional framework for conservation and management of natural resources	This action is an opportunity for the establishment of national institutional framework for conservation and integration of biodiversity in planning, land use and decision making related to the management of SFA and ZCC. It is also to establish strategic tools , planning and management of vulnerable and / or threatened taxonomic groups	12.4.1. distribution Mapping of the species (flora and fauna) endemic , vulnerable and endangered is developed ;	2018	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
		12.4.2. Mapping and prioritization of the Priority Zones and / or keys to the conservation of biodiversity (all taxonomic groups) is carried out;	2020	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
		12.4.3. Number of strategies / action plans for the management of vulnerable and threatened endemic taxa developed and implemented ;	2018	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
		12.4.4. Number of management tools of threatened endemic taxa group is implemented and operational.	2020	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
12.5.Élaborate and implement programs / species management projects threatened and endangered partnership with decentralized local authorities	The involvement of local communities facilitates local governance and support the operational management of endangered species management programs. It also contributes to the awareness of local communities on socio- economic, environmental disappearance said endangered species	12.5.1. Number of community programs / projects is developed and implemented	2019	Ministry in charge of biodiversity, TFP	Other Ministries , Regional and Local Authorities
		12.5.2. Number of pilot decentralized local communities with participatory management programs of threatened and endangered	2020	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects

		12.5.3. population growth rate of threatened and endangered in SFA	2020	Ministry in charge of biodiversity	Other Ministries , TFP , Conservation NGOs, Projects
12.6. Improve the management of marine and coastal terrestrial ecosystems and integrate the conservation of migratory species vulnerable / threatened by anthropogenic pressures , natural disasters and climate change	This action is an innovative way to jointly address issues of biodiversity, development and climate change within the framework of the integrated management of natural ecosystems, based mainly on the protection and restoration of ecosystems and natural habitats and the services they provide . Also , it identifies priority areas of biodiversity, and ensure as far as possible, to maintain connectivity of these ecosystems	12.6.1. Number of conservation projects on migratory species of terrestrial, coastal and marine ;	2018	Ministry in charge of biodiversity	Ministry in charge of Higher Education and Scientific Research, Ministry in charge of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		12.6.2. Number of habitats and / or areas for concentration or the usual passage of migratory species	2018	Ministry in charge of biodiversity	Ministry in charge of Higher Education and Scientific Research, Ministry in charge of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		12.6.3.Number of management tools or area conservation measures to maintain the quality, integrity , resilience and functioning of target migratory species habitats;	2020	Ministry in charge of biodiversity	Ministry in charge of Higher Education and Scientific Research, Ministry in charge of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
		12.6.4. Population trends of migratory species vulnerable and / or endangered of terrestrial, marine and coastal	2020	Ministry in charge of biodiversity	Ministry in charge of Higher Education and Scientific Research, Ministry in charge of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, conservation organizations , community organizations , Laboratories
		12.6.5. Trends in habitats of migratory species including their places of spawning and / or reproducing, confronted with various factors (natural - and anthropogenic CC - Use of fertilizers).	2020	Ministry in charge of biodiversity	Ministry in charge of Higher Education and Scientific Research, Ministry in charge of Marine Resources and Fisheries , CN ICZM , researchers , NGOs, Conservation organizations , community organizations , Laboratories
12.7. Promote and improve the implementation of community	Community management of cave and inselbergs ecosystems can generate	12.7.1. Number of community projects	2018	Ministry in charge of biodiversity	Other Ministries , CTD & STD , researchers , NGOs, Conservation organizations ,

management of cave and inselbergs ecosystems and integrate the management of vulnerable targets / threatened species and natural disasters in sensitive biodiversity areas	collective action and the convergence of the biological realities, socio- economic and institutional integration that facilitates the management of target species in biodiversity -sensitive areas	(participatory ecological monitoring , identification and location of potential habitats , etc.) implemented and taking into account the conservation management of species of cave and vulnerable Inselbergs ecosystems			community organizations , laboratories , federal and / or local associations
		12.7.2. Trends in populations of vulnerable and / or endangered species of cave ecosystems (endemic fauna) and Inselbergs (endemic flora) are identified	2020	Ministry in charge of biodiversity	Other Ministries , CTD & STD , researchers , NGOs, Conservation organizations , community organizations , laboratories , federal and / or local associations
		12.7.. Trends in habitats of migratory species including their places of spawning and / or reproducing confronted with various factors (natural - and anthropogenic CC - Collection of fertilizers).	2018	Ministry in charge of biodiversity	Other Ministries , CTD & STD , researchers, NGOs, Conservation organizations, community organizations, laboratories, federal and / or local associations
		12.7.4. Update of conservation status according to IUCN vulnerable cave species and endangered species targets, is carried	2020	Ministry in charge of biodiversity	Other Ministries , CTD & STD , researchers , NGOs, Conservation organizations , community organizations , laboratories , federal and / or local associations

Strategic Objective 13: By 2025, the genetic diversity of crops, domestic animals and their wild relatives and other species in social and cultural value is maintained and promoted sustainable					
Action	**Justification**	**Indicators**	**Time table**	**Project manager**	**Partners**
<u>Strategic Direction:</u> Develop conservation activities programs of the genetic diversity of crops and livestock and of other species that have a socio-economic value, and for some wild species of crops and domestic animals; Develop conservation programs and use / enhancement sustainable of genetic resources.					
13.1. Make an inventory of endangered genetic resources of cultivated plants, domestic animals, their wild relatives, Non Timber Forest Products and species with	The completion of the inventory of endangered genetic resources strengthens the knowledge thereto. This action allows for relevant information to inform future	13.1.1. database developed on genetic species, crops, domestic animals, wild relatives, Non Timber Forest	2020	Ministry in charge of biodiversity	Ministry in charge of biodiversity and Other Ministries , TFP

high potential for commercialization	decisions and establish monitoring system	Products and species with high potential for commercialization			
		13.1.2 Monitoring system in place and functional	2020	Ministry in charge of biodiversity	Ministry in charge of biodiversity and Other Ministries , TFP
13.2.Élaborate and implementing threatened genetic resource management plans, crops , domestic animals and their wild relatives	These tools will encourage and promote sustainable use practices of biodiversity for their preservation and socio- economic development	13.2.1. Number of management plans is developed and implemented	2025	Ministry in charge of biodiversity	Ministry in charge of biodiversity and Other Ministries
		3.2.2. Number of threatened genetic species is maintained and valued	2025		Ministry in charge of biodiversity and Other Ministries
13.3. Encourage the recovery of species with potential for commercialization and cultivation of marketable endangered species	This action will better manage the recovery of endangered species and promote their sustainable use while allowing local communities to improve their quality of life	13.3.1. Number of species with potential valued for commercialization	2020	Ministry in charge of biodiversity	Ministry in charge of biodiversity and Other Ministries
		13.3.2. Number of crop threatened species marketable;	2025	Ministry in charge of biodiversity	Ministry in charge of biodiversity and Other Ministries
13.4 .Include in-situ conservation programs of genetic diversity of crops and livestock species with high socio- economic value , wild species of plants and animals in national strategies and action plans biodiversity	This action provides support for in-situ conservation models and processes and also offers opportunities for sustainable development, based on the valuation of biodiversity	13.4.1. Strategies and action plans considering the in-situ conservation of the genetic diversity of plants and animals are developed and implemented	2025	Ministry in charge of biodiversity	Ministry in charge of biodiversity and Other Ministries

Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services

***Strategic Objective 14**: In 2025, terrestrial ecosystems including marine and coastal forests, sweet - brackish water including mangroves and lentic environments that provide essential services, particularly water supply and those that contribute to health, livelihoods and human well -being are protected and restored ; equitable access to ecosystem services is ensured for all, taking into account the gender approach.*					
Action	**Justification**	**Indicators**	**Timetable**	**Project manager**	**Partners**
***Strategic Guideline** : Promote sustainable management of the different terrestrial, marine and coastal ecosystems so they can provide the necessary services to contribute to socio-economic development*					
14.1. Proceed to an assessment of services provided by different ecosystems	This action is a key element of a better decision support for the management of natural ecosystems	14.1.1. Study assessments of services provided by different ecosystems available (including the estimated quantity of ecosystem carbon stock in tones of CO2 equivalent)	2025	Ministry in charge of biodiversity	Organs under the Ministry in charge of biodiversity, and conservation NGOs PTF
		14.1.2. Number of studies and implementation of programs on the use and operation of the services provided by ecosystems to the needs of the local population especially women	2020	Ministry in charge of biodiversity	Organs under the Ministry in charge of biodiversity, and conservation NGOs PTF
		14.1.3. Compensation mechanism , is developed and implemented (REDD +)	2025	Ministry in charge of biodiversity	Organs under the Ministry in charge of biodiversity, and conservation NGOs PTF
		14.1.4. Total revenue generated by the sale of carbon stocks (REDD +)	2025	Ministry in charge of biodiversity	Organs under the Ministry in charge of biodiversity, and conservation NGOs PTF

14.2. Encourage business initiatives and the private sector in order to undertake other PES schemes	This encouragement of initiatives undertaken PES mechanisms, which is a new trend emerging opportunity and is very developer for the development and recognition of the roles of upstream users in improving and supporting ecosystems that 'they manage	14.2.. Payment Mechanism companies and the private sector for the use of biodiversity and ecosystem services is established	2020	Ministry in charge of biodiversity	Organs under the Ministry in charge of biodiversity, and conservation NGOs PTF
		14.2.2. Total revenues from payments for the use of biodiversity and ecosystem services by corporate initiatives and the private sector	2025	Ministry in charge of biodiversity	Organs under the Ministry in charge of biodiversity, and conservation NGOs PTF
14.3. Compile and develop the information on the services provided by ecosystems and the benefits received by the population, especially the local communities	The biodiversity conservation system focuses on natural ecosystems that provide various goods and service, by-product of ecological processes, useful for local communities. This compilation and optimization allow more know the socio- economic value of these services through the received by the local communities	14.3.1. Information on services and systemic Eco functions with benefits estimated population capitalized and valued than exploited for sustainable purposes	2025	Ministry in charge of biodiversity Ministry of Population, Ministry of Energy , Ministry of water , Ministry of Health	Other Ministries , TFP and conservation NGOs
14.4. Develop national strategies or policies to a supply and improved and equitable access to essential ecosystem services as a contribution to improving living conditions , reducing poverty and sustainable development strategies	It is well known that the services provided by ecosystems are crucial to the wellbeing of the population. Base for many socio -economic activities and regarded as a kind of natural capital , these ecosystem services should be managed with appropriate policies and policy tools	14.4.1. National tools and instruments on access and benefit sharing from the use of systemic Eco Services	2025	Ministry in charge of biodiversity Ministry of Population, Ministry of Energy , Ministry of water , Ministry of Health	Other Ministries , TFP and conservation NGOs
14.5. An assessment of all wetlands in the country (Ramsar and no Ramsar) , develop and implement appropriate management plans and complying with the Ramsar Convention management principles on wetlands	The assessment of all wetlands in the country is essential to take advantage of the wealth of accumulated knowledge and to improve skills in management and decision support. It may also help raise awareness about the achievements and guide decision subsequent decisions	14.5.1. Number and area of Wetland of International Importance;	2025		Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
		14.5.2. Number and percentage of Ramsar wetlands and other international importance is recognized with management plans ;	2025	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations

		14.5.3. Percentage of significant habitats of water birds covered by the different sites management plans , species conservation plans , agreements on conservation and other conservation programs;	2025	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
		14.5.4. Number of biodiversity offsets to meet growing demands and uses of wetlands in the context of sustainable development projects.	2025	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
		14.5.5. Economic figures for goods and services provided by different types of wetland ecosystems and degradation or loss of freshwater ecosystem (WAVES)	2025	Ministry in charge of biodiversity, Ministry in charge of Fisheries Resources and Fishing	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations

Strategic Objective 15: By 2025, ecosystem resilience and the contribution of terrestrial biodiversity, freshwater and marine waters to mitigation and adaptation to climate change are strengthened, including restoration of at least 15% of degraded ecosystems and the fight against desertification					
Action	**justification**	**indicators**	**Time table**	**Project manager**	**partners**
<u>Strategic Direction</u>: Implement restoration mechanisms of degraded ecosystems (terrestrial, marine and coastal , wetlands) to contribute to the fight against the effects of climate change and desertification, including land degradation					
15.1. Develop and / or strengthen the best practices for adaptation to and mitigation of phenomena due to climate change	Current efforts in Madagascar to address climate change focus on reducing greenhouse gas (GHG) emissions through projects focusing approaches to mitigation and adaptation based on ecosystems and the natural capital, are aimed at improving and ensuring more sustainable management of resources and natural habitats. To facilitate the adoption of these achievements, incentives measures should be introduced, such as the identification and reproduction	15.1.1. Studies of good ecosystem management practices for adaptation and mitigation programs available	2020	Ministry in charge of biodiversity, Ministry in charge of Higher Education and Scientific Research	Other Ministries , TFP and conservation NGOs
		15.1.2. Fact sheets on climate change regularly published	2025	Ministry in charge of biodiversity, Ministry of Higher Education and Scientific Research	Other Ministries , TFP and conservation NGOs

		15.1.3. Number of standards / guidelines is developed	2020	Ministry in charge of biodiversity, Ministry of Higher Education and Scientific Research	Other Ministries , TFP and conservation NGOs
		15.1.4. Number of adaptation and mitigation programs is valued and capitalized disseminated to stakeholders developments	2020	Ministry in charge of biodiversity, Ministry of Higher Education and Scientific Research	Other Ministries , TFP and conservation NGOs
15.2. Develop community programs of rehabilitation of key ecosystems including protected areas, zones of conservation and sustainable use to enhance the adaptability and mitigation to climate change	The rehabilitation of semiarid ecosystems within or outside protected areas will produce significant benefits, both environmental and socioeconomic creating opportunities for livelihoods deals that generate income for local communities. That's why we recommended this intensified action program of rebate status of these ecosystems and protected areas	15.2.1. Degraded / flooded surface areas are reconditioned	2025	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
		15.2.2. Number of operational stations for nurseries of target species candidates for restoration	2025	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
		15.2.3. Number of improved stoves distributed annually related to the rational management of fuel wood resources	2020	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
15.3. Develop and implement a national plan of restoration of priority ecosystems vulnerable to the effects of climate change and desertification including refuge areas	The restoration of these priority ecosystems, vulnerable to the impact of climate change, helping to strengthen their health and strength. Having a national restoration plan ensures efficient use	15.3.1. National Restoration Plan of vulnerable priority ecosystems is developed	2022	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
		15.3.2. National Restoration Plan is implemented	2022	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations
15.4. Compile and enhance the information on the potential contribution of all ecosystems storage and carbon sequestration	Ecosystems allow to store and sequester carbon in large quantities. To better understand these natural facts, it is necessary to have more information on the contribution of the natural ecosystem , especially to take advantage of opportunities to learn any mitigation program and ecosystem- adaptation	15.4.1. carbon stock assessment in all ecosystems	2023	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations

15.5. Study and disseminate methods and improved and appropriate tools to support adaptation based on ecosystems to climate change	The adaptation is based primarily on the protection and restoration of ecosystems and natural habitats, natural resources and the services they provide. This action contributes therefore to all those bases , including the development of essential ecosystem services and reducing the degradation of natural capital	15.5.1. National Action Plan on ecosystems	2024	Ministry in charge of biodiversity,	Other Ministries , CTD and STD , researchers , NGOs, Conservation organizations, community organizations, laboratories , , national NGOs federation and / or local associations

Strategic Objective 16: By 2025, the Nagoya Protocol on access and equitable sharing of benefits arising from the use of genetic resources is in force and operational, consistent with national legislation and the actual needs of the Malagasy people					
Action	**Justification**	**Indicators**	**Timetable**	**Project manager**	**Partners**
<u>Strategic Guidelines:</u> Establish structures and implement programs of activities to operationalize the Nagoya Protocol on access and benefit sharing arising from the use of resources.					
16.1. Develop a national strategy implementation ABS	This implementation scoping is important for framing a policy and national vision on the implementation soon of the use and exploitation of genetic resources and sharing of benefits at all levels	16.1.1. Strategy of implementation ABS available	2017	Ministry in charge of biodiversity,	Government, National Assembly, APA Committee , others
		16.1.2. ABS letter of national policy is formalized	2016	Ministry in charge of biodiversity,	Government, National Assembly, APA Committee , others
16.2. Establish legal instruments, institutional and regulatory for ABS	The ABS Protocol was formalized at the government level, the Malagasy State has ratified it. Legislative and legal frames should be developed on the implementation of the ABS protocol	16.2.1. Transitional measure on ABS are developed and formalized	2017	Ministry in charge of biodiversity,	National Assembly, Government
		16.2.2 Legislation and regulations are developed and adopted	2017	Ministry in charge of biodiversity	National Assembly, Government
		16.2.3 National Authority (s) responsible designated and functional for ABS	2016	Ministry in charge of biodiversity,	National Assembly, Government
		16.2.4 Case studies and development of standard models for ABS	2017	Ministry in charge of biodiversity,	National Assembly, Government
		16.2.5 interdepartmental systems for Nagoya Protocol established	2017	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs

16.3. Develop and implement capacity building programs for an ABS regime.	Given the importance of the use of genetic resources (ABS) in Madagascar, opportunities are not to be overlooked on awareness, capacity building of all stakeholders to facilitate the implementation of this protocol.	16.3.1 Capacity Building Program for ABS developed	2025	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
		16.3.2 Number and type of tools for building capacity ABS	2025	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
		16.3.3 Number and type of capacity building workshops	2025	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
		16.3.4 Number and class of people trained in the ABS	2025	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
16.4. Launch a pilot initiative for the protection and development of traditional knowledge associated with genetic and biological resources	Securing traditional knowledge is of paramount importance on the process of implementation of the Nagoya Protocol on ABS , as this is the basic knowledge of the use of biological and genetic resources	16.4.1. Study on protection and development of traditional knowledge;	2018	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
		16.4.2. Pilot protection of traditional knowledge	2018	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
16.5. Encourage research activities on genetic resources and establish traceability systems for the benefit of all and especially local communities	The implementation of ABS protocol mechanism requires that all stakeholders and users and exploiters get shared benefits and equitable at all levels	16.5.1. Number of ABS projects	2025	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
		16.5.2. mechanisms for access and sharing of benefits are developed and applied	2025	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs
16.6. Promote national research on genetic resources for the benefit of all and especially local communities	A collaboration between research institutions and other centers are possible to plan research programs on genetic resources and their use so that users and other stakeholders / local communities can benefit	16.6.1. Capacity of national research centers strengthened Research results have been subject to enforcement	2016	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs

16.7. Support the development strategy of the genetic and biological resources	The development of tools for valuation of biological and genetic resources is necessary to ensure the implementation of the ABS, a national strategy is required given the participatory and collaborative approach between all actors during the years of implementation of the Convention on Biological Diversity	16.7.1 Efficiency Strategy of genetic and biological resources is developed and implemented.	2017	Ministry in charge of biodiversity,	Other Ministries , TFP and conservation NGOs

Strategic Goal E. Enhance implementation through participatory planning, knowledge management and capacity building

Strategic Objective 17: In 2017 , the Malagasy State has adopted a political and legal instrument for the implementation of national biodiversity strategy and effective action plans					
Action	**Justification**	**Indicators**	**Time table**	**Project manager**	**Partners**
Strategic Guidelines: Share and disseminate information relating to NBSAPs to ensure its implementation at different hierarchical levels ; Establish a mechanism of action of synergy at the national level highlighting an interministerial and intersectoral coordination for the implementation of NBSAPs (administrative , technical, organizational , legal, financing).					
17.1. Making actors feel responsible in terms of biodiversity management at all levels of hierarchical organization (Strategic Policy, Organizational , Operational)	This action of accountability is a fundamental approach to the operationalization of the administration to quickly achieve empowerment at all levels, officials able to be at once authors and actors, while promoting and facilitating self-organizing network.	17.1.1. NBSAPS Document appropriate known by policy makers	2017	Ministry in charge of biodiversity and its regional branches	Other Ministries , CTD and STD , TFP and conservation NGOs
		17.1.2. Actors made aware of the biodiversity management	2017	Ministry in charge of biodiversity and its regional branches	Other Ministries , CTD and STD , TFP and conservation NGOs
		17.1.3. Established and effective cooperation between the hierarchies of the administration	2017	Ministry in charge of biodiversity and its regional branches	Other Ministries , CTD and STD , TFP and conservation NGOs
17.2. Create and operationalize the National Coordination Committee on Biodiversity effective collaboration with industry and local regional units to ensure consistency and carry out monitoring and reporting on biodiversity issues	This NBSAP tool developed at all levels , helps coordinate and harmonize the efforts of several organizations involved in the conservation and management of biodiversity in Madagascar	17.2.1. A National Committee for the Coordination of Biodiversity (NCCB) functional	2015	Ministry in charge of biodiversity	Other Ministries , TFP and conservation NGOs
		17.2.2. Number of designated Resource persons, sectorial and regional focal points	2016	Ministry in charge of biodiversity	Other Ministries , TFP and conservation NGOs
		17.2.3. Number of validated national reports , sectorial and regional	2016	Ministry in charge of biodiversity	Other Ministries , TFP and conservation NGOs
		17.2.4. Number of NCCB meetings held annually	2025	Ministry in charge of biodiversity	Other Ministries , TFP and conservation NGOs
17.3. Establish coordination mechanisms (administrative,	The consideration of the issues of the different production sectors requires	17.3.1. Mechanism of implementation and	2016	Ministry in charge of	Other Ministries , TFP and conservation

technical, organizational, legal, charter on the sharing of roles and responsibilities, funding) interdepartmental and intersectoral	multidisciplinary and integrated approaches that require a mechanism promoting interdisciplinary to meet environmental actions coordination problems	coordination on the operationalization of the NBSAP is developed and implemented, and formalized		biodiversity	NGOs
17.4. Involve civil society and local communities to the use of tools for planning, implementation and monitoring (Business , Civil Society ...)	This involvement of civil society is a potential to support the implementation of NBSAP and a contribution to the sound management of biodiversity and ecosystems and permits to work alongside the State subsidiarity and complementarity as that partnership facilitator	17.4.1. Involvement of civil society in decision-making on sustainable management of biodiversity : interpellation and incitement to good governance; solutions are proposed and used by the actors of biodiversity	2017	Ministry in charge of biodiversity and its regional branches	Other Ministries , CTD and STD , TFP and conservation NGOs, civil society
		17.4.2. Effective participation of civil society in biodiversity planning especially at regional level	2017	Ministry in charge of biodiversity and its regional branches	Other Ministries , CTD and STD , TFP and conservation NGOs, civil society
17.5. Integrate the management of biodiversity in the planning tools (SCAT , TARS , SNOPS) : monitoring the commitments of the actors.	This planning tool approach allows to integrate important information on biodiversity and its spatial distribution in the planning of land use at the regional and municipal level and to guide decision making	17.5.1. SCAT and TARS developed consensually between different actors and considering integrating biodiversity and sustainable development	2017	Ministry in charge of biodiversity and its regional branches Ministry in charge of spatial Development	Other Ministries, TFP and conservation NGOs, civil society

Strategic Objective 18: In 2025, the initiatives put in place to protect traditional knowledge, innovations and practices of local communities relevant to biodiversity. The traditional sustainable use of biodiversity and their contribution to conservation are respected , preserved and maintained					
Action	**Justification**	**Indicators**	**Time table**	**Project manager**	**Partners**
<u>Strategic Direction</u> : Promote the development of traditional knowledge and customary use relating to biodiversity conservation and sustainable use of natural resources					
18.1. Perform an analytical review of the use of knowledge, innovations and practices, status and trends of customary use of biological resources	This action allows the identification of best practices through the use of knowledge , innovation and traditional practices that involve all stakeholders , including rural women through participatory approaches by applying the multi-criteria method and multi-stakeholders in collaboration with indigenous and local communities	18.1.1. Inventory on traditional knowledge at regional and national level : information and knowledge is made	2020	Ministry in charge of biodiversity	Other Ministries, TFP and conservation NGOs, civil society
		18.1.2. Computerized data bases is made	2020	Ministry in charge of biodiversity	Other Ministries, TFP and conservation NGOs, civil society
18.2. Implement appropriate measures to respect and protect	This action by the establishment of legal rules allows all stakeholders to refer to the	18.2.1. legal and legislative framework	2019	Ministry in charge of	Other Ministries, TFP and conservation

traditional knowledge, innovations and practices, customary uses and rights of indigenous and local communities	use of existing practices of traditional knowledge, understanding their advantages and disadvantages,	on traditional knowledge is developed and formalized		biodiversity	NGOs, civil society
18.3. Establish rules to promote and develop the knowledge, innovations and practices , with the approval of the knowledge holders	Build trust and collaboration among stakeholders concerned: including holders of traditional knowledge , researchers and farmers This is to have a universal rule among all stakeholders for the use and exploitation of knowledge , innovations and practices , and in accordance with their rights, through conservation, sustainable management and biodiversity research	18.3.1. Tools on traditional knowledge valued, exploited, capitalized and disseminated to better conserve biodiversity	2025	Ministry in charge of biodiversity	Other Ministries, TFP and conservation NGOs, civil society

***Strategic Objective 19*: In 2025, knowledge and basic science related to biodiversity, its values, its operation and its state are widely shared with policymakers and applied all the trends and consequences of its loss are mitigated and improved**					
Action	**Justification**	**Indicators**	**Timetable**	**Project Manager**	**Partners**
***Strategic Guidelines* : Promote the capitalization process, sharing and use of knowledge and information and technologies related to the conservation and sustainable use of biodiversity**					
19.1. Develop and implement a key stakeholder capacity -building program on biodiversity	To facilitate the adoption and dissemination of good practice in the management of biodiversity, capacity building programs should be implemented for the sustainability of biodiversity: Purpose of research on biodiversity for conservation and sustainable management, not to mention the local socio -economic development	19.1.1. Number of developed and validated training modules on biodiversity;	2020	Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.1.2. Types of implemented training modules on biodiversity	2020	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research , Researchers, TFP and conservation NGOs
		19.1.3. Number of training workshops for biodiversity is organized	2025	Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.1.4. Number of trained stakeholders	2025	Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.1.5. Research planning on biodiversity is developed and implemented (habitats, ecosystems, ecological services and functions) (Fundamental , experimental and applied	2020	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research , Researchers, TFP and conservation NGOs

		)			
		19.1.6. Research database is implemented	2018	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research , Researchers, TFP and conservation NGOs
		19.1.7. Results of capitalized research : valued, disseminated and exploited	2022	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research , Researchers, TFP and conservation NGOs
		19.1.8. Collection and inventory re searches of biodiversity data used: for data recovery	2018	Ministry in charge of biodiversity	Ministry of Higher Education and Scientific Research , Researchers, TFP and conservation NGOs
19.2. Develop and implement training tools and awareness about the goals and the newly adopted Biodiversity Action Plan	Awareness tools implemented increase the timely dissemination opportunities useful information and the development practices of managing biodiversity	19.2.1. Number of developed training and awareness tools;	2025	Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.2.2. Number of dissemination workshops organized in the NBSAP ;	2025	Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.2.3. Number of beneficiaries / recipients	2025	Ministry in charge of biodiversity	TFP and conservation NGOs,
19.3. Provide training and grant scholarships in order to expand knowledge on key aspects of biodiversity	Biodiversity management requires proper training in this area and sharing and transfer of knowledge across multiple cooperation : international, national and decentralized required	19.3.1. Number of trained players	2025	Ministry of Higher Education and Scientific Research Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.3.2. Number of organized workshops	2025	Ministry of Higher Education and Scientific Research Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.3.3. Number of studies Awards recipients on biodiversity and by theme ;	2025	Ministry of Higher Education and Scientific Research Ministry in charge of biodiversity	TFP and conservation NGOs,
19.4. Develop and implement awareness tools and integrating gender equality in the achievement of all objectives of the NBSAP , develop related information	Many women in rural middle rely on the use of natural resources for their livelihoods. Thus, they need an understanding of all aspects of biodiversity management. Therefore , this data collection action and information is essential to allow them to explore and to know the knowledge and practices that have become important job	19.4.1. Inventory on the links between biodiversity is developed	2017	Ministry in charge of biodiversity Ministry of Population	TFP and conservation NGOs,
		19.4.2. Report on the study on biodiversity and the type is performed and capitalized	2020	Ministry in charge of biodiversity Ministry of Population	TFP and conservation NGOs,

	creator The well operated knowledge and practices offer local communities and the local population opportunities to enable them to be empowered in the achievement of all objectives of the NBSAP through awareness tools developed and implemented	19.4.3. Number of developed awareness tools ;	2020	Ministry in charge of biodiversity Ministry of Population	Other Ministries, TFP and conservation NGOs
		19.4.4. Number of biodiversity objectives taking into account the gender aspect is identified and valued	2020	Ministry in charge of biodiversity Ministry of Population	Other Ministries, TFP and conservation NGOs
		19.4.5. Number and types of actors involved in the implementation of projects and programs on biodiversity information is identified and valued	2022	Ministry in charge of biodiversity Ministry of Population	Other Ministries, TFP and conservation NGOs
19.5. Conduct a review of relevant knowledge and technology available in the country as well as gaps in knowledge and technologies necessary to implement the Convention on Biological Diversity	The priority of this action of an assessment of knowledge should be given to improving the efficiency of the implementation of the CBD	19.5.1. Inventory of information and knowledge places on the implementation of the CBD is made and developed	2018	Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.5.2. Improvements proposition of implementation according to national requirements is established to better manage biodiversity	2020	Ministry in charge of biodiversity	TFP and conservation NGOs,
19.6. Make the clearinghouse (or CAE Platform Environmental exchanges) operational to improve access to knowledge and technologies	Access to knowledge must be ensured by this platform which will assume the establishment of knowledge and technical expertise in the management of biodiversity	19.6.1. Exchange Centre on biodiversity and the environment in general available exploited for all	2020	Ministry in charge of biodiversity	TFP and conservation NGOs,
19.7. Implement regulatory frameworks on wildlife and flora research and develop a data retrieval system on biodiversity	The research data on biodiversity in Madagascar are part of the national heritage. These data are useful and important in research and allow to accumulate, evaluate	19.7.1. institutional system governing the mode of repatriation of the results of research on the genetic and biological resources is established	2020	Ministry of Higher Education and Scientific Research Ministry in charge of biodiversity	TFP and conservation NGOs,

	and share experiences on the management of biodiversity in Madagascar.	and operated			
		19.7.2. national database of practices related to the management of biodiversity is compiled, recorded, capitalized	2020	Ministry in charge of biodiversity Ministry of Higher Education and Scientific Research	TFP and conservation NGOs,
19.8. Strengthen the technical capacity of the various stakeholders to ensure and support the sustainable management of natural resources	The technical capacity building supports and allows to involve the various actors and stakeholders to work together in the planning, decision making and implementation of sustainable management of natural resources are a success	19.8.1. Number of trained actors from various environmental institutions	2020	Ministry of Higher Education and Scientific Research Ministry in charge of biodiversity	TFP and conservation NGOs,
		19.8.2. Number of workshops organized on various topics of biodiversity and environment	2020	Ministry of Higher Education and Scientific Research Ministry in charge of biodiversity	TFP and conservation NGOs,

Strategic Objective 20: In 2020, the human and financial capital for the implementation of the Convention have increased to sufficient levels and appropriate to achieve the objectives of the NBSAP					
Action	**Justification**	**Indicators**	**Timetable**	**Project Manager**	**Partners**
<u>Strategic direction</u>: Establish sustainable financing mechanisms and capacity building programs for human resources for the implementation and operationalization of NBSAP					
20.1. Strengthen, develop and expand partnerships (collaborative and transparent) with regional, sub regional and international biodiversity issues ;	Partnerships that bring together various actors around common objectives promote the implementation of the NBSAP This action helps to strengthen the coordination of biodiversity conservation activities on any scale intervention and involve many stakeholders in the direct implementation da NBSAP The approach is to strengthen strategic partnerships with major development actors, insofar as they constitute a powerful tool to mobilize funds and to diversify funding sources on biodiversity. This is to pool resources and funding to leverage other co-financing	20.1.1. Number and types of partnerships involved in biodiversity issues are made	2020	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.1.2. financing system with its mechanisms and approaches is created and implemented ;	2020	Ministry in charge of biodiversity	Multi-stakeholders (Public – Private)
		20.1.3. funding mechanisms are established and approved	2020	Ministry in charge of biodiversity	Multi-stakeholders (Public – Private)

20.2. Develop and implement a strategy and a resource mobilization plan to increase funding for biodiversity	This action led to the identification of funding mechanisms to promote investment for the sustainable conservation of biodiversity	20.2.1. Amount of national financial support for biodiversity annually is identified , negotiated and acquired	2020	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.2. GEF funding amount in the field of Biodiversity is negotiated and acquired ;	2018	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.3. Amount of other multilateral financing for biodiversity is negotiated and acquired	2018	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.4. Amount of bilateral funding for biodiversity is negotiated and acquired	2020	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.5. Estimates of private sector investment in programs and projects on biodiversity including BBOP and PSE are allocated	2017	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.6. Number and types of initiatives developed and implemented works under innovative financing mechanisms to support biodiversity: development of strategies and resource mobilization plan	2017	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.7. Number and types of initiatives undertaken to	2018	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge

		increase awareness on the need to increase or mobilize support for biodiversity			of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.8. mechanisms developed and implemented works : for payments of ecosystem services, biodiversity compensation measures	2017	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
		20.2.9. Promotion and support for income flow activities for the benefit of neighbouring rural communities of Protected Areas and conservations sites developed , conducted and implemented : Type implementation of social safeguards	2016	Ministry in charge of biodiversity	Ministry of Economy and Planning , Ministry of Finance and Budget, Ministry in charge of Spatial Planning , Donors, Bilateral Agreements and Multilateral Environmental Agreements, TFP and conservation NGOs
20.3. Analyze , enhance and strengthen existing financing mechanisms that have been developed in terrestrial and marine protected areas and on biodiversity	This action allows to use financial incentives that programs provided through the issue of protected areas established This action helps support the biodiversity conservation in protected areas and helps to build trust among potential donors Support for alternative livelihoods and sustainable development activities for communities living or dwelling in the buffer area or inside protected areas concerned allows supporting community initiatives projects with a focus on conservation and development in buffer zones and protected areas. The traditional donors funding and foundations are to sustain. New funding sources such as crowdfunding and its derivatives (crowdfunding or equity	20.3.1. Types of existing financing mechanisms are identified and analysed	2017	Ministry in charge of biodiversity	Delegated / Promoters of Protected Areas , stakeholder Multiparty (Public - Private) Funders (MEAs and AB)
		20.3.2. Number of protected areas and areas of intervention beneficiaries of funding identified having support	2018	Ministry in charge of biodiversity	Delegated / Promoters of Protected Areas , stakeholder Multiparty (Public - Private) Funders (MEAs and AB)
		20.3.3. Number and types of Funders contributors / donors	2020	Ministry in charge of biodiversity	Delegated / Promoters of Protected Areas , stakeholder Multiparty (Public - Private) Funders (MEAs and AB)
		20.3.4. Mechanism and sustainability of funding	2017	Ministry in charge of biodiversity	Delegated / Promoters of Protected Areas , stakeholder Multiparty (Public - Private) Funders (MEAs and AB)

	crowdfunding or capital investment) are to exploit seen the development of social networks.	are enhanced			
		20.3.5. Financing of programs and projects on biodiversity monitored and controlled : transparent management of financial support are made	2017	Ministry in charge of biodiversity	Delegated / Promoters of Protected Areas , stakeholder Multiparty (Public - Private) Funders (MEAs and AB)
		20.3.6. needed and urgent community projects in need of support are identified	2020	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
		20.3.7. alternative livelihoods with funding by type of area (alternative development activities)	2020	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
		20.38. implementation of sub projects is monitored and evaluated	2020	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
		20.3.9 Number of project financed by crowdfunding	2020	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
20.4. Search and explore sources and mechanisms of new funding from the private sector , foundations and civil society organization	This action is intended to help the country to prepare projects and programs on biodiversity , to get funding, and promote consensus partnerships between different stakeholders	20.4.1. Number and types of access mechanisms to forms of funding is adopted / approved;	2017	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
		20.4.2. Number of private sector / non-governmental organization that contributed is identified	2018	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
20.5. Mobilize new sources of innovative funding and mechanisms to conserve biodiversity and natural ecosystems , at national , bilateral and multilateral level	At national level, the level of funding from the private sector, foundations and civil society, so low, causes serious constraints on the scale of possible activities on biodiversity. This failure, particularly evident for all stakeholders working on biodiversity,	20.5.1. Number and types of international and regional financial institutions that contributed identified and the amount of funds	2020	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)

	justifies the need and urgency of new sources and innovative mechanisms for mobilizing action on biodiversity sector	allocated concluding financing agreements is approved			
		20.5.2. Types of measures developed and implemented to promote innovative forms of financing	2020	Ministry in charge of biodiversity	Delegated / Promoters of Protected Areas , stakeholder Multiparty (Public - Private) Funders (MEAs and AB)
20.6. Strengthen resource mobilization capacity and use of different tools to the implementation of existing and new financing mechanisms	Resource mobilization and use of tools of implementation of mechanisms need required capabilities helping to develop the involvement of stakeholders in any initiative	20.6.1. Number of organized trainings	2017	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
		20.6.2. Number of public and private institutions participating in training courses is organized	2017	Ministry in charge of biodiversity	Multi- stakeholders (Public - Private)
20.7. Develop specific strategies for country resource mobilization through the update process of their national strategies and action plans for biodiversity	For NBSAP produce efficient results, the update process is necessary in particular to ensure sustainable management of biodiversity. A strategy is essential to promote the continuity of project management and programs on biodiversity efforts	20.7.1. Mechanism for mobilizing durable financial resources are developed and implemented	2020	Ministry in charge of biodiversity	Multi-stakeholders (Public - Private)

IV.5. CONDITIONS OF IMPLEMENTATION OF NBSAP

To implement the NBSAP, existing institutional structures must contribute. The State through the development of framework documents NDP, ESDP, as well as strategies and sectoral policies contribute to the implementation of this strategy. Existing collaborations between ministries through the various committees should be maintained.

While the findings of GBO 3 constituting the background of the Strategic Plan for Biodiversity 2011-2020 assume that the loss of biodiversity can be effectively reduced by simultaneous and concerted action at different levels , those of GBO 4 advocate broaden political support and general audit strategic Plan.

This implementation of the strategy and action plans in effect requires diverse efforts, consistent joint of a multitude of institutions and the involvement of all areas of expertise across different sectors. This should, in addition, to comply with national policies, including the General State Policy (EMP), the National Development Plan (NDP) and its implementation (ODB), the Charter of the Environment and the Environmental Plan for Sustainable Development. Also, sectoral development plans directly linked (Forest, Sea, Agriculture, Fisheries and Livestock) or indirectly linked (Energy, Mining, Tourism, Transportation, Meteorology, Justice, etc.) to the Biodiversity should refer to this strategy.

The synergy of the document NBSAP with other national plans, texts, sector strategies and programs , including those with impacts and / or interactions of the three objectives of the Convention on Biological Diversity which are the conservation of biodiversity, its sustainable use and sharing of benefits among the conditions for the success of the implementation of this NBSAPs. It is recommended to declare it for the success of its implementation, particularly with respect to other sectors and to make it a case for all.

Generally, the lack of ownership at national, sectoral and local levels linked to insufficient coordination mechanism for the mobilization of funds and implementation of projects is one of the main gaps in the implementation of a program. Indeed, it has been noticed that the implementation of biodiversity management programs is often in isolation, Madagascar has not escaped this situation. This is largely due to the absence of a national

mechanism to coordinate and oversee the management of biodiversity among the various stakeholders.

The integration of NBSAP in the National Planning made the Biodiversity Conservation for sustainable development a national priority. This vision requires some prior arrangements and to follow including:

- The formalization and formalization of the National Strategy and Action Plan on Biodiversity and its implementation by a regulatory text;
- The establishment of a National Committee on Biodiversity;
- The participation of all national stakeholders, including civil society and research centers across the various research projects, conservation, development and investment;
- Strengthening links between all focal points of international conventions and agreements and between sectors;
- Public awareness on the implementation of the strategy, participatory and collaborative approach to sustainable management of biodiversity;
- The implementation of the action plan developed as part of the NCSA to strengthen the capacity of national institutions; indeed, the effective implementation of the NBSAP should be a national mechanism shared among all stakeholders sensitized and whose capacity should be strengthened at local and national level;
- Strengthening of the thematic groups, think tanks and monitoring actions;
- The implementation of the NBSAP which should align with the conventions / treaties and agreements to which Madagascar is a party ; it is among other related framework documents to the CBD such as the ITPGRFA , the Nagoya Protocol , the Cartagena Protocol and initiatives at the IOC , SADC or COMESA ; and
- Strengthening of environmental units within sectoral ministries.

The implementation mechanism of the NBSAP is based on four strategic areas:

- ***Strategic Area 1:*** Institutional Arrangement for the implementation of the NBSAP ;
- ***Strategic Priority 2 :*** Financing Mechanism for the implementation of the NBSAP ;
- ***Strategic Priority 3 :*** Information and communication management in the implementation of the NBSAP ; and
- ***Strategic Area 4:*** Monitoring and evaluation of the implementation of NBSAP.

These strategic axes implementation will be developed below.

IV. 5.1. MECHANISM FOR IMPLEMENTATION OF NBSAP

IV.5.1.1. INSTITUTIONAL ARRANGEMENTS FOR THE IMPLEMENTATION OF NBSAP

The National Biodiversity Strategy is a major variation of the EMP, the NDP and the ESDP. It respects and thus applies the principles of good governance, which are derived from the improved Charter of the environment and COAP.

These principles are translated as follows for the national strategy:

- Shared Governance with stakeholders, based on decision-making and consultative bodies at both national and regional and local levels;
- Effective and enhanced participation of stakeholders at all stages and as early as possible;
- Piloting organizing the expression of different stakeholder interests and coordination between the various decision levels (international, national, regional and local);
- Public consultation to develop its participation in decision making and its access to information;
- Cross-cutting approaches to make more coherent the policies and actions, clearer and more effective; and
- Monitoring and Evaluation to call to action, clarify the decision and control the expected change.

The formalization of the NBSAP

As a country party to the Convention on Biological Diversity, Madagascar needs to establish its NBSAP whose entry into force of the decree would be passed to the government consulting and to popularize for communication to the public. It will serve as dashboard for all stakeholders, as well as key decision makers, planners and executives.

The National Commission for Biodiversity Coordination

The development guide of the NBSAP / CBD recommends that a monitoring structure and lead on the implementation should be set up to assist the administration in charge of biodiversity management to perform its role of sovereign function monitoring and evaluation of the implementation of NBSAPs and the effective management of biodiversity at national level. And following a national reflection workshop on the development of RN5 which saw the

participation of almost all stakeholders in Madagascar, the creation of this structure was recommended. Said Committee will be multisectoral, institutionalized through regulatory means and will make the big decisions in terms of biodiversity.

Some production objectives of this axis are mentioned in the following table:

Table 5 : Achievement of the objectives implementation

Objectives	Activities	Indicators	In charge
Formalize and make official the NSAPB and its implementation	Development of a roadmap according to fixed targets	Roadmap is elaborated	Ministry in charge of Biodiversity
	Preparation of the draft decree	Draft decree is elaborated	
	Formalization of the decree	Creation of the decree NSAPB	
Ensure wide distribution of the official NSAPB document	Draw up a communication strategy for the NSAPB	Communication support is elaborated	Ministry in charge of Biodiversity
	Awareness workshops (national and regional)	Number of workshops conducted	
	Advocacy near high officials	Decision making within the guidelines of this NSAPB	
Institute formally the National Coordination Commission for Biodiversity, CNCB (intersectoral and interdisciplinary)	Draw up the CNCB ToR	ToR is elaborated	All Ministries and PNF concerned by the Biodiversity
	Appointment of the CNCB members in concerted and consensual manner	Validation of the list of the CNB members with all stakeholders	
	Formalization of the CNCB and its constituent members	Appointment order	
(involvement of all stakeholders, including representatives of local communities)	Regional workshops with members of CNCB	regional workshops reports	Ministry in charge of Biodiversity and its regional branches CNCB
	Establishment of the regional version of the Committee	Appointment of the CRB members	
	Formalization of CRBs	Appointment order	
Create thematic groups through the strategic goals of the NSAPB	Thematic NSAPB identification workshops	workshops reports	CNCB
	Creating clusters	List of cluster members	
	ToR of thematic groups	ToR is elaborated	
Develop national capacity by thematic groups,	Strengthening capacities of thematic groups	Rapports reports	CNCB
Implement capacity building of all stakeholders	Partnerships with international national, regional and local donors,	Partnerships agreements	MEEMF, CNCB, CRB
	Monitoring and evaluation of the NSAPB implementation	Rapports reports	

IV.5.1.2. FINANCIAL MECHANISM FOR THE NSAPB IMPLEMENTATION

The NSAPB implementation requires sustainable funding mechanism based on national mobilizations (public funding and national foundations) supported by international partners such as the GEF and its implementing agencies, multilateral cooperation (EU, ADB, Bank World, etc.) and bilateral cooperation.

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This NSAPB implementation also requires the strengthening of relations with international partners for technical and financial support. It is the same with the implementing agencies of the various Convention to which Madagascar has adhered and other Governments who want to contribute to financial support especially for developing countries. Thus, it was suggested a strong link between NFPs and in particular with the GEF.

Some objectives of this outputs axis are mentioned in the following table:

Table 6 : Implementation objectives of the financial mechanism

Objectives	Activities	Indicators	In charge
To sensitize policy makers on the NSAPB	Communication, Awareness raising for the NSAPB		CNCB
	Advocacy near high officials		
Ensure the annual registration of the budget heading on the implementation of the NBSAP in the Finance Acts	Advocacy for biodiversity causes with sectoral ministries, especially with the Ministries in charge of Planning, Economy, Budget and Finance	Biodiversity is transcribed as a national priority in the budget laws	Ministry in charge of finance and budget Government departments in charge of the management of biodiversity resources (Forest, Sea, Fishing, Farming, Agriculture) Ministry of Finance and Budget
Adopt a revolving system of valuation of revenue shares in the national funding of the implementation of the NSAPB			Government departments in charge of the management of biodiversity resources (Forest, Sea, Fishing, Farming, Agriculture) Ministry of Finance and Budget
Have a list of national needs and priorities in the implementation of the NSAPB	Make an inventory of needs sites and national priorities for biodiversity management		CNCB
Submit national priority projects with external funding sources			CNCB

IV.5.1.3. INFORMATION MANAGEMENT AND COMMUNICATION IN THE IMPLEMENTATION OF NSAPB

An information management mechanism for the NSAPB implementation will be also set up (monitoring indicators, identification of stakeholders, presentation of regional projects and programs, national and international and sectoral data) that will be processed at the CHM Clearinghouse Mechanism of the CBD. The Madagascar Clearing House information on the Convention on Biological Diversity (CHM), in response to decision X / 15 of the 10th Conference of the Parties, aims to contribute substantially to the implementation of the Convention on biological diversity and its 2011-2020 strategic Plan for biodiversity, through effective information services and other appropriate means, to promote and facilitate scientific and technical cooperation, knowledge sharing and exchange information and to develop a fully operational network of Parties and partners.

Madagascar developed its CHM national strategy and action plan in 2011. This strategy has three strategic axes (1) Operationalizing / Sustainability System; (2) Organization and prioritization of content; (3) Capacity building and communication.

To make the information available, a network of contributors and users of the CHM was established. This network contains taxonomy and ecosystem group, the sectoral group (sectorial ministries) and the transverse group (thematic focal points and other international conventions, NGOs, projects and journalists).

Training sessions on the CHM management were organized for representatives of thematic groups.

Some objectives of this outputs axis are mentioned in the following table:

- **SYSTEM OPERATIONALIZATION / SUSTAINABILITY**

Objectives	Activities	Indicators	In charge
1.1- Strengthen the CHM national network (national focal point and contributors)	Integrate the national focal point in the actions and initiatives related to the CBD	Number of meetings / workshops / training which the CHM NFP participated	MEEMF - PFN CDB
1.2- To run the CHM website	• Use the PTK • Ensure representation of corporate entities and key stakeholder institutions in the field related to the CBD in the CHM network	The CHM website using the PTK list of CHM contributors representing stakeholders	MEEMF - PFN CDB – PFN CHM
1.3- Ensure the CHM sustainability	Integrate the CHM funding in projects	Number of Projects with CHM funding	MEEMF – PFN CDB – PFN CHM

- **ORGANIZATION AND CONTENT PRIORITIZATION**

Objectives	Activities	Indicators	In charge
2.1- Use the CHM website to spread data	Integrate data on researchers / stakeholders (technical and financial partners) Integrate data on biodiversity and ecosystems Integrate data on legal texts Integrate data on projects and initiatives	Number of page on researchers / actors Number and list of links in the CHM website Number of pages on the biodiversity of Madagascar Number of pages of legal texts Number of pages on projects and initiatives	MEEMF - PFN CDB – PFN CHM – Contributors
2.2- Use the CHM website to monitor the implementation of the CBD in Madagascar	• Spread the implementation of the thematic programs at the CHM • Spread information on the updating of the national strategy for biodiversity management • Spread information on synergies with other conventions signed in Rio	Number of pages related to requirements available on the website and consulted for the report of establishment, strategy Number of pages diffusing implementation of thematic programs Number of page on the implementation of the Aichi Objectives Number of pages on the implementation of the cooperation between the three conventions signed in Rio	MEEMF - PFN CDB – PFN CHM

- **CAPACITY BUILDING AND COMMUNICATION**

Objectives	Activities	Indicators	In charge
3.1- Strengthen the capacity of partners	• Develop and implement a training plan on using the PTK	Training plan of Training Statistics reports of	PFN CDB, PFN CHM, interveners

	for stakeholders • Encourage the stakeholders to integrate them -Same information concerning them and useful for CHM • Schedule periodic exchanges between stakeholders	contributions by interveners, by category and by topic Interchange reporting between stakeholders	
3.2- Use the CHM as a tool of communication, awareness	• List events and important initiatives related to the CBD in the site • Integrate important communications in particular those related to cooperation (financial aspect) in the site • Introduce and lead the discussion forum for important issues • Translate to Malagasy and English language, site information • Enhance collaboration with NFPs protocols related to the CBD (Nagoya - Cartagena), treaties and conventions (CITES, RAMSAR, Nairobi, UNFCCC - UNCCD)	Number of events initiatives featured in the website Number of pages on cooperation Number of topics discussed in the forum Number of pages presented in Malagasy and English A partnership with the NFP of CBD protocols and other conventions signed in Rio List of information used by other CHM and other conventions List of information transmitted by other CHM and other conventions Number of exchanges done	PFN CDB, PFN CHM, interveners
3.3- Promote technical and scientific cooperation among stakeholders	• Spread guides, manuals specific site level • Incorporate best practices in website • Ensure and maintain communication with the SCBD	Number of guides and manuals included in the site and reported to SCDB Number of pages on best practices Report on exploited information data	PFN CDB, PFN CHM, Interveners
3.4- Popularize CHM to stakeholders at all levels	• Insert information on the CHM in media outlets, magazines or newsletter related to biodiversity and the environment • Produce CD of the updated version of the CHM • Produce brochures or post • Participate in various biodiversity-related events	Number of articles on the CHM in the media, magazine or newsletter The updated version of the CHM on CD and distributed to stakeholders Number of events to which information on the CHM were presented	PFN CDB, PFN CHM, interveners

IV.5.1.4. MONITORING AND EVALUATION OF THE IMPLEMENTATION OF NSAPB

This NSAPB document includes a plan for monitoring and evaluation of its implementation with indicators, scales and verification sources. The annual implementation plan for monitoring and evaluation would reorient and / or prioritize interventions. It would also require financial support from the various sources above.

A work plan to strengthen the CHM, CHM communication, and the contribution to its implementation by data on biodiversity, researchers, actors and stakeholders, projects and activities under the NBSAP and aligned to the Aichi Targets was established with the responsibility charter.

The adequate management information system will be operated in the preparation of NSAPB implementation reports: reports for the Government, for financial partners for the CBD Secretariat.

Monitoring the implementation of the NBSAP and therefore CBD will be:

- Through the monitoring of indicators that have been developed and the data will be processed to the CHM of CBD level;
- At the national CHM level which is a portal spreading information and data on biodiversity, actors, projects and programs, regional and sectorial data and information, data on cooperation;
- By consolidating the various interventions reports of sectorial or thematic stakeholders that are communicated to the responsible monitoring and evaluation at the Ministry in charge of Biodiversity.

A systematic evaluation of achievements should be done annually to refocus or prioritize interventions.

The reporting will be based on requests of the Secretariat of the Convention, using the information and data from its various sources. The reporting will be done by theme or in the CBD of the national report.

Table 7: Summary of monitoring and evaluation of the implementation

Objectives	Activities	Indicators	In charge
Indicators monitoring	Development of a monitoring plan	The monitoring plan is developed	Ministry in charge of Biodiversity / CHM NFPs
	Data gathering	Reports	
Information spreading	Update CHM	Reports	Ministry in charge of Biodiversity / CHM NFPs
	Workshops for exchange and sharing		
reports consolidation	Workshops for exchange and sharing	Reports	Ministry in charge of Biodiversity / CHM NFPs

IV.5.2. INSTITUTIONAL FRAMEWORK

IV.5.2.1. PUBLIC INSTITUTIONS

Madagascar has a department in charge of Biodiversity, currently the Ministry of Environment, Ecology, the Sea and Forests (MEEMF). It defines national environmental policy, ensures its implementation and its integration into the country's economic development logic. Within this Ministry there and four branches that are respectively in charge of Forests, Environment, Sea and Ecology. The Ministry works on administrative and technical supervision of several organizations including Madagascar National Parks (MNP), a

national association managing a network of 51 protected areas categories I, II and IV); the Office National pour l'Environnement : ONE is an Industrial Public Establishment (EPIC) ensuring the single office of the environmental impact study in Madagascar, namely the MECIE process and the Association Nationale des Actions Environnementales ANAE and also the Service d'Appui à la Gestion de l'Environnement SAGE, both of them are national associations working in the fields of environment, promotion and management of protected areas, the development and the strengthening of capacity communities.

An environmental unit is implemented among each ministry to ensure the consideration of biodiversity issues and the environment into development policies, Programs and Projects of that area. The effectiveness of these structures depends on the place that cell within these ministries (Board level, Department or Division, integration of regional / inter-directions as in the case of the Ministry of Mines).

According to the National Policy on Decentralization and Deconcentration (PN2D) established in 2006, the Ministry in charge of Biodiversity has established 22 Regional departments (currently DREEFs) that ensure the implementation of the forestry and environmental policy at regions, in collaboration with the regional and Local Authorities, private sector, civil society, communities and technical services. The resources allocated to the decentralized technical services are quite limited and the political situation since 2009 has accentuated this critical lack of capacity and resources greatly affect the effectiveness of these Regional Offices (World Bank, 2013).

The decentralization of the natural forest resources management is a major reforms initiated in the sector. One of the successes is the application of natural resource management transfers allowing the legal transfer of the power technology management to local base communities who requested voluntarily. This decentralization has also allowed greater participation of Communes in the biodiversity and environmental management. However one of the major challenges to make effective decentralization is the capacity and capability of the different regional actors.

The roles assigned to the administration are determining national policy, the political momentum, the adoption of standards and regulations, business planning, research funding, the implementation of operations, supervision, monitoring and evaluation, monitoring, training, research and support / advice. For this purpose, the following structures have roles for:

The Ministry in charge of Biodiversity

Its mission is to lead the collective momentum for the implementation of the strategy. He is the guarantor of the coherence of actions, their integration into other policies and / or strategies. He is responsible in particular for

- Lead in the National Commission for Biodiversity Coordination (CNCB);
- Develop and / or update the national strategy and plan conservation action and sustainable use of biological diversity
- Develop national reports on biodiversity which will be moved in the Conferences of the Parties;
- Coordinate the activities of actors;
- Harmonize the CBD shares strategies and plans with those of other conventions in particular the UNFCCC, UNCCD, RAMSAR, CITES, CMS, AEWA;
- Suggest additions or legislative and institutional amendments needed to ensure proper consideration of the aspects related to the conservation of biological diversity.

The department in charge of Conservation for Biodiversity and Protected Areas (Land, Marine and Coastal, wetlands) / Forestry General Directorate

The department responsible for the conservation for Biodiversity and Protected Areas is responsible for the implementation of the state policy on the establishment and management of protected areas in Madagascar. It is also in charge of the first implementation of the Convention on Biological Diversity, considering implementation and good management of these protected areas is key to biodiversity conservation. It ensures the coordination, monitoring and evaluation of this implementation. The national focal points for each CBD theme should be attached thereto. In fact, the coordination of the implementation of this convention is under the leadership of this department. This is its primary function in relation to the State's commitment to international relations on biodiversity management issues.

The General Directorate of the Ecology, the General Directorate of the Sea

The General Directorate of The Ecology is in charge of the technical activities coordination on the ecology to protect the natural heritage. The General Directorate of the Sea, coordinates the activities of the ecosystem protection and promotion of marine ecosystem services. These functions also contribute fully to the sustainable management of biodiversity. Both DGs are both among the Institution of the Ministry responsible for coordinating the implementation of the National Strategy and Plan of Action on Biodiversity with the Forestry General Directorate.

- **The National Focal Points**

For Madagascar, the rallying of national focal points at the Ministry in charge of the national biodiversity in the vision of the NSAPB concerns not only the convention focal points but also experts from different sectors, institutions and associations, the civil society, in order to improve the synergies of existing cooperation.

The sectoral ministries and decentralized technical services

They will have project management actions to implement the NSAPB, within their jurisdiction. They will contribute to the mobilization of funds and ensure the monitoring and supervision of activities of service providers (private operators, NGOs, AGEX / MEEMF) as well as the implementation of activities under their jurisdiction. They will actively participate in the NBC and CRB.

Specialized research institutions and training / University Institutions

They play a key role in acquiring of knowledge and skills necessary for the implementation of the strategy through basic and applied research. They will participate in the creation of technology operations, in the capacity building of operators and producers, monitoring and evaluation as well as the elements necessary for decision making.

Local authorities

Local authorities (communes and regions) are the project managers in the NSAPB implementation. They will ensure the consideration of biodiversity in regional and municipal development plans. They also will coordinate and monitor the service providers' actions with the technical services support.

IV.5.2.2. ACTORS AND / OR NON-STATE INSTITUTIONS

Civil Society Organizations

They will contribute to the NSAPB implementation through social mobilization and funding research as agencies of performance and / or service providers in connection with sectorial ministries, decentralized technical services and Communes.

Civil society is involved in the strategies, policies, plans or sector development programs. This results in their contribution in the various consultation forums on major issues and national policies and their involvement as providers or operators carrying out sectorial projects and programs and initiatives of local authorities. However, in the absence of clear institutional framework for collaboration between the state, private sector and civil society, the effectiveness of the accountability vis-à-vis State citizens / others is not yet systematic, making difficult management / evaluation of public policies / strategies and limiting the involvement of civil society in matters relating to the implementation and monitoring of these national guidance tools. The involvement of civil society as interpellations or proposed structures in the development and implementation of public policies enjoyed a significant expansion during the recent Malagasy sociopolitical crisis. However, it is usually obvious to national policies / strategies.

Technical and Financial Partners

Technical and Financial Partners (TFP) are key players in the implementation context of the strategy. In addition to their substantial contribution to the funding of the strategy, they will participate in the consultation, supervision of interventions and evaluation of the results of the strategy. Their involvement in the actions of communication and advocacy for the strategy as well as their suggestions and proposals will be decisive in achieving the expected goals. They are therefore urged to honor their admissibility to the State and the Ministry in charge of Biodiversity on the basis of a concerted and coordinated approach with the Central governments, regional and local.

Beneficiaries

They are the main actors in the implementation. They also contribute to the funding of activities by physical supply and / or financial support if necessary. These beneficiaries are the main concerned in case of drift in the implementation of the NSAPB. They are mostly made by local and surrounding populations of projects that are not only actors but also suffer the positive or negative effects of their implementation.

IV.5.3. INTERINSTITUTIONAL ORGANIZATIONAL STRUCTURE

Setting up an Inter-Institutional Organizational Structure (SOI) and established in a strong consensus is fundamental to highlight the charter of roles and responsibilities of various state institutions and / or private in the implementation of this NSAPB. This inter-institutional coordination requires the development of coherent strategic partnerships involving all stakeholders in clear and specific commitments.

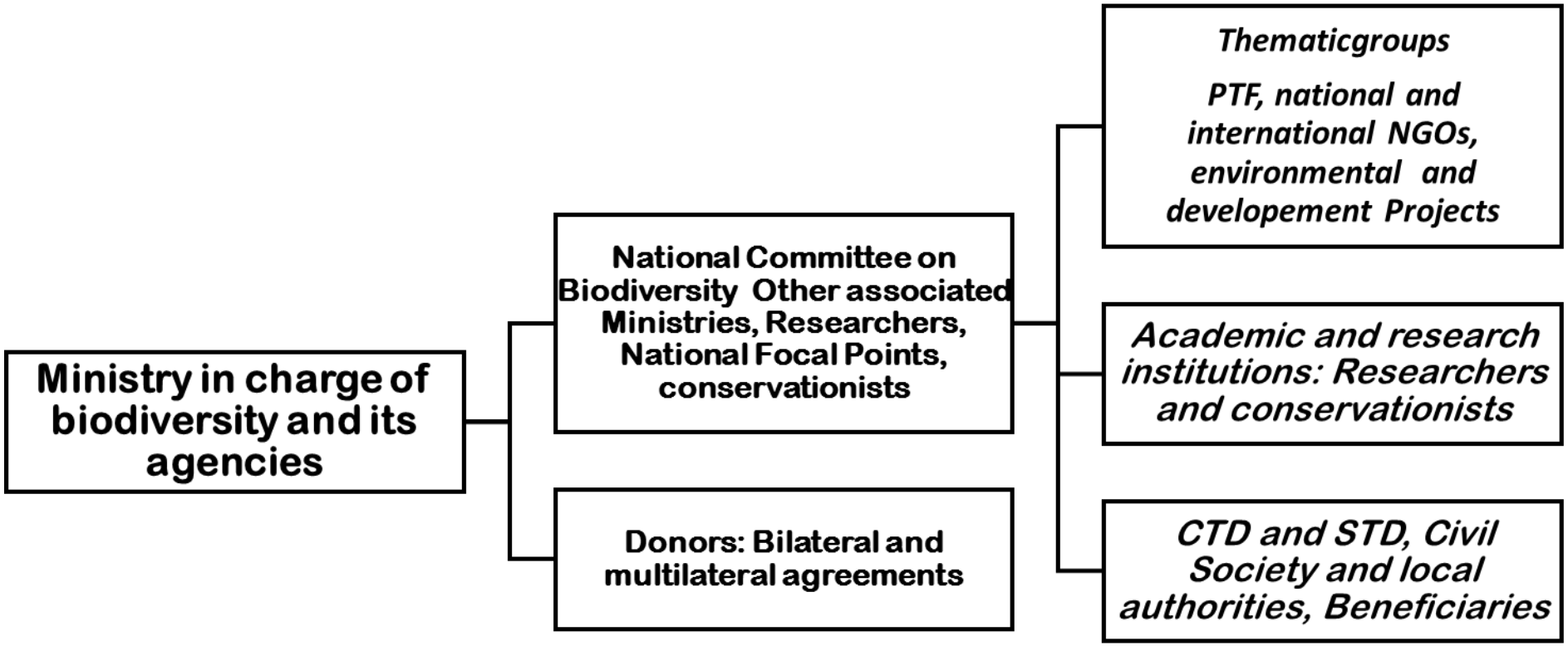

Figure 12 : Organizational structure of the implementation of the NSAPB

IV.5.4. MOBILIZING FINANCIAL RESOURCES

CONTEXT

Currently, activities related to the Convention on Biological Diversity (CBD) are financed by:

- The GEF through its implementing agencies (UNEP, WB, UNDP) and programs (such as Small Grant Program SGP);
- Multilateral cooperation: the European Union, ADB, French Cooperation, Japan, Germany...
- National and international foundations for protected areas, conservation projects and / or research and investment.

This NBSAP will be the framework for the financing of different interventions and each program / project will respect the principle of accountability and duty to report.

It is therefore to identify approaches of Madagascar for the mobilization of its resources and to outline. Indeed, the effective development of the National Strategy for Resource Mobilization should be an extra job and hence a budget of NBSAP and thus a particular study just after setting the present NBSAP. This study has never been done because of the social, political and economic crisis that have just crossed the country in recent years, the situation is not favourable knowing the size and importance of the theme which is the mobilization of resources for the conservation of the country's biodiversity and the sustainability of activities and funding.

Like all other parties which have not yet their National Strategy and Plan of Actions for Biodiversity, Madagascar was also encouraged to develop as appropriate its National Strategy for Resource Mobilization Plan or its financing. A resource mobilization plan or a national financial strategy is specific to each country in the implementation of part of its updated Strategy and Plan of National Action for Biodiversity. That is how it will have to characterize firstly upstream the particular features of biodiversity including ecosystems, habitats and species as well as its institutional, political, economic and / or social. Indeed, the effective development of the National Strategy for Resource Mobilization should be the object of a particular study during the implementation of the present NBSAP. This study has never been done because of the social, political and economic crisis that have just crossed the country in recent years, the situation is not favourable knowing the size and importance of the theme which is the resource mobilization for biodiversity conservation of the country to the sustainability of a biodiversity management.

It is also for the country to have solid baseline values and a communication framework in terms of its biodiversity conservation. It is required a framework of policies and institutional consistent and relevant, and a strong political will, especially at national level. Indeed, the political will is proving crucial for a developing country like ours, given the apparent magnitude of the impact of its application and that compared to the same set of the national budget planning.

The resource mobilization strategy aims to considerably increase the volume of international financial flows and domestic funding for biological diversity.

It asks for this purpose to consider all the relevant financing sources, public or private, based on national priorities and capacities and taking into account the situation and special needs of the country.

Reports will be established as and when the implementation of the Strategy for Resource Mobilization. Likewise, assessments will be made and may lead to additions and / or adjustments as the likely evolutionary context where the project lives.

To develop cooperation

A lot of cooperation is to develop for that we can participate in significantly increased funding for the biodiversity conservation and whose main areas are:

- Biodiversity, Finance, Economics and Planning;
- Public and private agencies, actors, institutions and investors who finance actions related to biodiversity;
- Government agencies;
- Public aid for bilateral and multilateral development;
- Private Fund/ Financing based on the market;
- NGOs and financing obligations asset-backed;
- Cooperation between conventions: it is to find a mechanism for links and synergies between conventions and focal points.

Promoting mobilization and awareness on biodiversity's value at the different key sectors and policy makers are in order, and before initiating action on resource mobilization.

Generalities on proposed approaches

The importance of biodiversity for a developing country and having mega diversity like Madagascar led to regard the said biodiversity as natural capital essential for human well-being and sustainable development at national and global level, and highlight needs to substantially increase funding for conservation.

Each country fixes its own approaches and usually the parties choose the following approaches as having been proposed at a regional training and on resource mobilization.

These are therefore:

- The commitment of stakeholders;
- The assessment of ecosystems;
- The mapping of ecosystem services;
- The indicators of ecosystem services;
- The monetary assessment;
- Green accounting integrating environmental and socio-economic related thereto;
- Documents and legislation of the Policy.
- The partnership between direct actors of biodiversity and development actors

Specifically for a developing country like Madagascar, it is to have strong political support and an appropriate institutional framework through a National Committee on Biodiversity under the auspices of the Prime Minister with the Ministry of environment and Biodiversity.

Now individual approaches should be avoided, it is a participatory and consensual planning of overall management of the Malagasy biodiversity. It is the same for the determination of national needs and subsequently the national prioritization. Studies to get appropriate funding opportunities and look for gaps in funding and operational structure of the GEF national capacity to provide reinforcements for the implementation of the Resource Mobilization can be for example done.

As Madagascar is still at the beginning of the development of its NBSAP, it must first identify potential financial stakeholders and engage them, identify funding mechanisms to prepare and adopt the institutions and expenditure review and develop systems for aggregating financial data. A system must be developed to identify key priorities, potential financial mechanisms and strong mobilizations foundation plans;

To implement NSAPB by:

- Mobilizing financial resources;
    - Implementing the resource mobilization plan.
- To evaluate and prepare reports by:
    - Developing national reports;
    - Communicating the results of the implementation of NBSAP;
    - Reviewing and adapting priorities;
    - Reviewing of the effectiveness of resource mobilization strategies.

The main State commitments (objective 20)

- Development of the National Strategy and Action Plans on Biodiversity

- Development of National Strategy for Resource
- Mobilization and Financing Plan
- Call For efforts to financial contributions from the public sector to improve the Resource Mobilization in biodiversity (the Ministry of Finance plays a very important role);
- Release of all the procedures and mechanisms;
- Priority to contract adequate financial resources and their effective mobilization for the success of the Strategic Plan for Biodiversity 2011-2020 Diversity and the Aichi Targets;
- Participatory determination of Needs and Priorities countries (under the GEF / GEF.);
- Evaluation and adaptation in case of need;
- Raising state investment in biodiversity management.

Towards a mobilization scheme for national financial resources (objective 20, act 20.2; 20.7)

All stakeholders and specifically policy makers and key public sectors should have the same vision on the need to promote biodiversity of Madagascar for the future of the present and the future of the people and all mankind by increasing its investment in biodiversity management and integrating its financing plan in the national financial plan. This is to develop:

- Partnerships and synergies to achieve a Roadmap to a planning of national finances;
- National financing plans by identifying key funding opportunities, key players and mechanisms;
- Coherent resource mobilization plan;
- Integration of resource mobilization in the national plans, and to make the case for the financing of biodiversity;
- Potential synergies for the most relevant plans and the steps required to take advantage of these synergies.

Financing needs

The first attempt to estimate the implementation of the present NBSAP amounted to USD 203.20 million through 2025.

Given that Madagascar has always relied on its protected areas both Terrestrial and Marine and Coastal and Lakes for the biodiversity conservation, nearly 50% of the budget is above USD 100 million will be devoted to them.

National needs that require vision and collaborative cross sector approach and will focus on:

- The Protection of biodiversity: ecosystem restoration, the approach to clearing systems on the actions of exploitation of natural resources, payment services Eco systemic use of functions provided by ecosystems (water, air, ...);
- Strengthening of political and legal frameworks for biodiversity considering the country's economic development;
- Rational and sustainable use of biodiversity;
- Production and the sustainable use of biodiversity.

The table below summarizes the developed objectives taking account of the necessary funding and which lists potential resource needs.

Table 8: Summary of funding needs for each objective

Required Funds by objective	budgetary needs for guidance 2015 - 2025 ($ In millions)
Objective 1: In 2025, policy makers and 65% of the Malagasy people are aware of the values of biodiversity and the steps they can take to protect and sustainably use	**4,00**
Objective 2: In 2025, at the latest, biodiversity values, opportunities and benefits of conservation and sustainable use, will be recognized and integrated into the country's socio - economic development activities	**1,20**
Objective 3: In 2025, at the latest, inappropriate and negative incentives on biodiversity will be eliminated or gradually reduced to minimize negative impacts. while positive incentives for conservation and sustainable use of biodiversity and natural resources will be developed and applied	**2,00**
Objective 4: In 2025, the Malagasy government and stakeholders at all levels will take appropriate steps to implement sound management plans of resources and maintain the impact of the use of natural resources within ecological limits secure	**1,60**
Objective 5: By 2025 , the rate of degradation , fragmentation and loss of habitats or ecosystems is reduced	**8,00**
Objective 6: In 2025, all exploited fish stocks and other marine resources and freshwater / brackish water are measured and managed sustainably and destructive harvesting practices are eliminated	**4,00**
Objective 7: In 2025 , all areas under agriculture, aquaculture and forestry are managed according to the plan of sustainable production, ensuring an integrated approach to biodiversity conservation	**8,00**
Objective 8: By 2025, pollution from land and sea activities is reduced to levels compatible with the ecosystem- based and sustainability of biodiversity	**2,00**
Objective 9 : By 2025, invasive alien species and the pathways are identified and prioritized, priority species are controlled or eradicated ; management measures are in place in order to prevent the introduction, manage pathways and mitigate the establishment of these species and enhance beneficial species	**2,00**
Objective10: By 2025, the multiple anthropogenic pressures on coral reefs and other vulnerable marine and coastal ecosystems impacted by climate change or acidification of oceans are minimized , in order to preserve their integrity and functioning	**6,00**
Objective 11: In 2025, 10% of terrestrial ecosystems and 15% of coastal and marine areas , especially the areas of particular importance for biodiversity and ecosystem services , are adequately preserved in ecologically representative systems of protected areas and are efficiently managed by different strategic approaches	**100,00**
Objective 12: By 2025 the extinction of threatened species is reduced and their conservation status improved	**8,00**
Objective 13 : By 2025, the genetic diversity of crops , domestic animals and their wild relatives and other species in social and cultural value is maintained and promoted sustainable	**4,00**
Objective 14: In 2025 , terrestrial ecosystems including forests, marine and coastal , sweet - brackish water including mangroves and lentic environments that provide essential services, particularly water supply and those that contribute to health, livelihoods and human well -being are protected and restored. And equitable access to ecosystem services is ensured for all, taking into account the gender approach	**10,00**
Objective 15 : By 2025, ecosystem resilience and the contribution of terrestrial, freshwater and marine mitigation and adaptation to climate change are strengthened, including restoration of at least 15% of degraded ecosystems and the fight against desertification	**4,00**
Objective 16: By 2025, the Nagoya Protocol on access and the fair and equitable sharing of benefits arising from the utilization of genetic resources is in force and operational, consistent with national legislation and the actual needs of the Malagasy people	**10,00**

Objective 17 : In 2017, the Malagasy State has adopted a political and legal instrument for the implementation of national biodiversity strategy and effective action plans	**6,00**
Objective18: In 2025, the initiatives put in place to protect traditional knowledge , innovations and practices of local communities relevant to biodiversity. The traditional sustainable use of biodiversity and their contribution to conservation are respected , preserved and maintained	**10,00**
Objective19 : In 2025, knowledge and basic science related to biodiversity , its values, its operation and its state are widely shared with policymakers and applied all the trends and consequences of its loss are mitigated and improved	**9,20**
Objective 20: In 2025, the human and financial capital for the implementation of the Convention have increased at sufficient levels and appropriate to achieve the objectives of the NBSAP	**3,20**
Total amount required	**203,20**

Source Masoala – MNP

CONCLUSION

As Hotspots and biological mega-diversity countries, Madagascar intends to launch a challenge to implement effectively the various strategic action plans developed to reverse all forms of incentives or negative and inappropriate practices in sustainability biodiversity and sustainable development and achieve the 20 Aichi targets in 2020. The national document NBSAP manages the findings and summaries below while taking into account legislative tools of environmental policy and strategic planning of the country's biodiversity:

- Ecosystems and natural landscapes of Madagascar with wild species in recreational places, tourist and rich in environmental goods and ecosystem services for sustainable development for the country offer ecological importance, economic opportunities and social and cultural specificities ;
- Among its major ecosystems, marine and coastal, continental freshwater, inland tropical forests ecosystems and semi-arid habitats are most vulnerable by the irrational and uncontrolled use of biodiversity and natural resources causing the decline and the loss of biodiversity on the one hand and also the degradation of natural resources throughout the watershed Madagascar including hydrological and edaphic systems and desertification. Therefore, there is currently still about 15 % of the national territory covered by relatively natural ecosystems;

The approach to the conservation of biodiversity and management of natural resources in Madagascar involves a concerted and collaborative participation among all actors and stakeholders in coordination with the support of international donors and managed and coordinated by the Ministry responsible for Biodiversity. This would facilitate the development of management tools to conserve biodiversity while supporting the socio - economic development. Cross sector strategic partnerships and inter- institutional bringing together all actors are well set up at national and regional level, where the mechanism and institutional structure for the implementation of this NBSAP proposed above

Thus, understanding of the values of biodiversity to policy makers and planners would be a key challenge if we want a successful strategy to deal with the complexity of biodiversity conservation issues including aspects of pressures and threats.

The development of the NBSAP did consider inter and multidisciplinary exchanges , consultation with stakeholders and regional stakeholders , analyzes and observations of the issues related to the problems and opportunities gathered on the conservation of biodiversity and management of natural resources, that the purpose or ultimate objectives of national

strategies to halt the loss of biodiversity and habitat fragmentation , motivate and empower actors and stakeholders including civil society as beneficiaries of environmental goods and services.

Moreover, as Madagascar has always focused on protected areas as land and lake that marine and coastal conservation of its biodiversity, the budget allocated for the said protected areas would be more than half that of the entire NBSAP . Almost all actions will be reported in these protected areas to still give a little more insurance for their sustainable and efficient management, and the fact of the existence of managers responsible in these places and also to have more gains.

Finally, the following principles deserve to be retained and considered in the implementation of activities of the NBSAP and the Aichi targets:

* The dimension on the "fight against poverty in the biodiversity conservation action and sustainable use of natural resources" is essential. Indeed, the increased poverty of the masses in Madagascar is one of the main factors for the loss of biodiversity. Thus, to improve the current environmental situation and heal related problems , the implementation of a set of structuring and in-depth reforms and the immediate implementation of actions and urgent measures and with quick impact , including improving notable of the daily life of the Malagasy people and especially for the most vulnerable are priority and urgent.

* The strengthening of links between different sectors for a common cause for biodiversity and sustainable development is essential. Hence the need for serious and concerted studies. Following the example of the need for genuine collaboration between the sector responsible for the management of natural resources and the sector in charge of security and the prosecution charged. Another example is the political and economic choices between protecting biodiversity on some sites and major operating activities as oil exploitation and mining.

* The coordination of interventions of the various actors and stakeholders in order to develop a real synergy of actions in a clear charter of shared roles and responsibilities is needed. For that, institutional measures including the establishment of a National Committee of high biodiversity and composed of potential decision makers from various government sectors are expected. Coordination and collaboration should also ensure the capitalization and regular sharing of thematic information («Biodiversity and Genetic Resources»; «Sectoral Options», «cross Options») beyond the national reporting, and eventual strategic documents.

And finally, the mechanism itself should begin with the development of a legal and official Roadmap for the route to follow for the effective participation of all in the implementation of this NBSAP.

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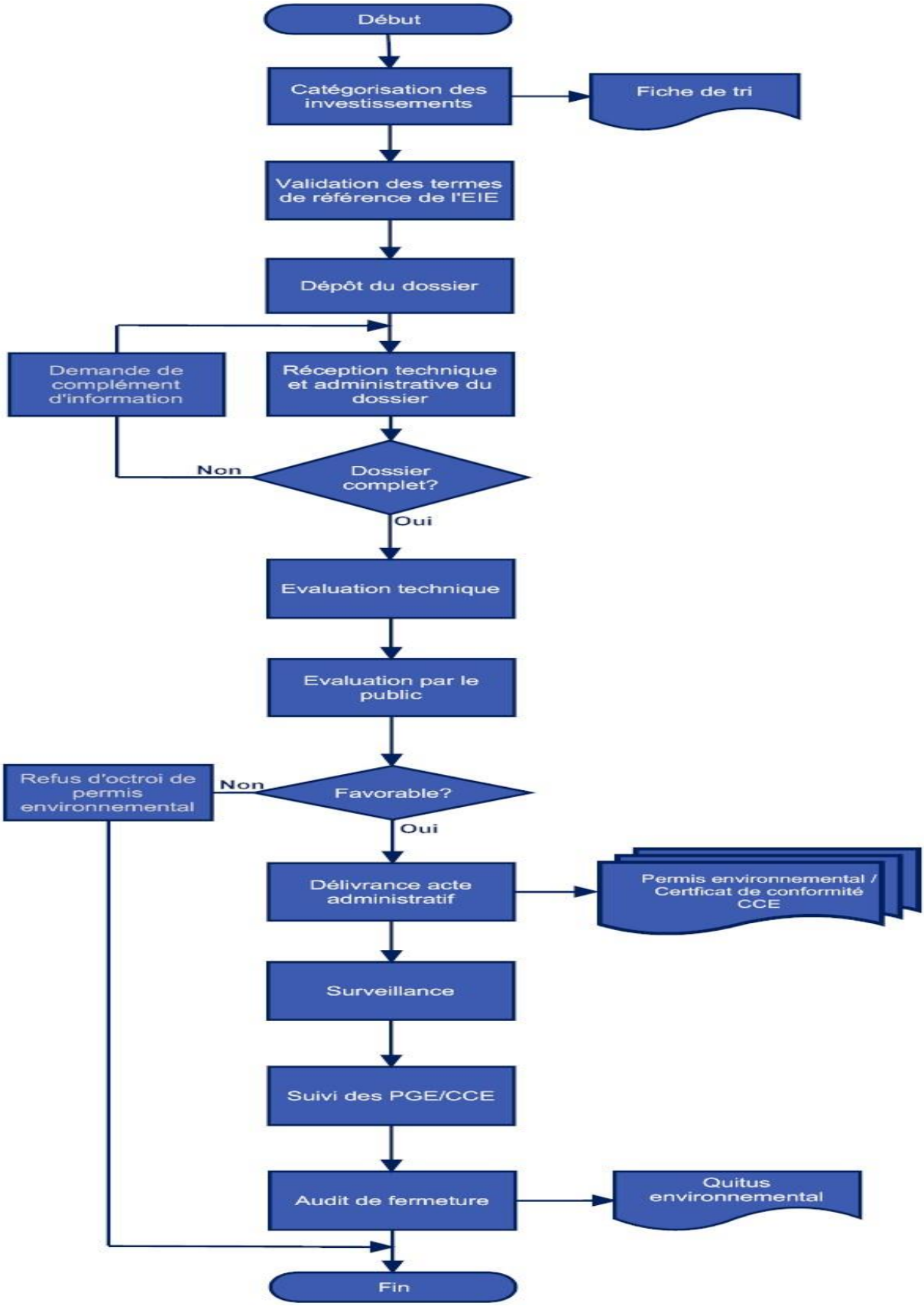
ANNEXES

ANNEXE 10 : Processus MECIE



ANNEXE 11 : Liste des 122 Aires Protégées de Madagascar

n°	Nom du site	Catégorie	Catégorie IUCN	Superficie	Gestionnaire actuel	Création	Observation
1	Agnakatrika	Reserve de Ressources Naturelles	VI	780,00	MBG	Décret n°2015-794 du 28 avril 2015	
2	Agnalazaha	Reserve de Ressources Naturelles	VI	2 745,15	MBG	Décret n°2015-767 du 28 avril 2015	
3	Allée des Baobabs	Monument Naturel	III	320,00	FANAMBY	Décret n°2015-760 du 28 avril 2015	
4	Ambararata Londa	-	-	10 284,00	-	Décret n°2015-808 du 5 mai 2015	
5	Ambatoatsinana	Paysage Harmonieux Protégée	V	1 365,00	QMM	Décret n°2015-778 du 28 avril 2015	
6	Ambatofotsy	Paysage Harmonieux Protégée	V	1 175,31	MAVOA	Décret n°2015 -724 du 21 avril 2015	
7	Ambatotsirongorongo	-	-	1 033,00	-	Décret n°2015-792 du 28 avril 2015	
8	Ambatovaky	Reserve Spéciale	IV	78 139,00	MNP	Changement de limite en 2015 sous le décret n°2015-782 du 28 avril 2015	Créée depuis le 28.10.58
9	Ambodivahibe	Paysage Harmonieux Protégée	V	39 794,00	CI	Décret n°2015-753 du 28 avril 2015	
10	Ambohidray	-	-	1 241,00	-	Décret n°2015-808 du 5 mai 2015	
11	Ambohijanahary	Reserve Speciale	IV	24 750,00	-	Créée depuis le 28	

						octobre 1958	
12	Ambohitantely	Reserve Speciale	IV	5 600,00	MNP	Changement de limite en 2015 sous le decret n° 2015-731 du 21 avril 2015	Créée depuis le 12.02.82
13	Ambohitr'Antsingy Montagne des Français	Paysage Harmonieux Protégée	V	6 049,00	SAGE	Ddécret n°2015-780 du 28 avril 2015	
14	Amoron'i Onilahy	Paysage Harmonieux Protégée	V	100 482,00	WWF	Décret n°2015-788 du 28 avril 2015	
15	Ampananganandehibe-Behasina	Paysage Harmonieux Protégée	V	579,70	MAVOA	Décret n°2015-749 du 28 avril 2015	
16	Ampasindava	Paysage Harmonieux Protégée	V	91 790,00	MBG	Décret n°2015-769 du 28 avril 2015	
17	Ampotaka Ankorabe	Paysage Harmonieux Protégée	V	96,82	MAVOA	Décret n°2015-726 du 21 avril 2015	
18	Analabe Betanatanana	Reserve de Ressources Naturelles	VI	434,70		Décret n°2015-751 du 28 avril 2015	
19	Analalava	Reserve de Ressources Naturelles	VI	471,60	MBG	Décret n°2015-750 du 28 avril 2015	
20	Analalava	Reserve Special	IV	229,00	MBG	Décret n°2015-765 du 28 avril 2015	
21	Analamazaotra	Parc National	II	874,00	MNP	Créé le 21 juin 1970	
22	Analamerana	Parc National	IV	34 700,00	MNP	Changement de limite et statut en 2015 , auparavant RS , actuellement PN sous le décret n°	Créé depuis le 20.02.56

						2015-732 du 21 avril2015	
23	Andohahela	Parc National	II	76 140,00	MNP	Changement limite en 2015 sous le n° décret 2015-785 du 28 avril 2015	Créé depuis le 07.08.07
24	Andrafiamena Andavakoera	Paysage Harmonieux Protégée	V	73 319,00	FANAMBY	Décret n°2015-761 du 28 avril 2015	
25	Andranomena	Reserve Spéciale	IV	6 420,00	MNP	Créé le 28 octobre 1958	
26	Andreba	Paysage Harmonieux Protégée	V	39,20	WCS	Décret n°2015-791 du 28 avril 2015	
27	Andringitra	Parc National	II	31 160,00	MNP	Créé le 19 octobre 1998	
28	Angavo	-	-	42 760,00	-	Décret n°2015-808 du 5 mai 2015	
29	Anjanaharibe-Sud	Reserve Spéciale	IV	26 903,00	MNP	Créée le 28 octobre 1958	
30	Ankarabolava	Reserve de Ressources Naturelles	VI	773,00	MBG	Décret n°2015-793 du 28 avril 2015	
31	Ankarafantsika	Parc National	II	136 513,00	MNP	Changement de limite en 2015 sous le n° décret2015-730 du 21 avril 2015	Créé depuis le 07.08.02
32	Ankarana	Reserve Spéciale	IV	18 225,00		Changement de limite en 2015 sous le décret n° 2015-729 du 21 avril 2015	Créé depuis le 20.02.56
33	Ankarea	Paysage Harmonieux	V	135 556,00	WCS	Décret n°2015 -721 du 21 avril 2015	

		Protégée					
34	Ankivonjy	Paysage Harmonieux Protégée	V	139 409,50	WCS	Décret n°2015 -722 du 21 avril 2015	
35	Ankodida	Paysage Harmonieux Protégée	V	11 048,00	WWF	Décret n°2015-787 du 28 avril 2015	
36	Baie de Baly	Parc National	II	57 418,00	MNP	Créé le 18 décembre 1997	
37	Beanka	Paysage Harmonieux Protégées	V	17 000,00	BCM	Décret n°2015-727 du 21 avril 2015	
38	Behara Tranomaro	-	-	95 588,00	-	Décret n°2015-808 du 5 mai 2015	
39	Bemaraha	Parc National	II	157 710,00	MNP	Changement de statut en 2011 auparavant PN et RNI , actuellement PN	Créé depuis le 07.08.97
40	Bemarivo	Reserve Spéciale	IV	11 570,00	-	Créée le 10 septembre 1956	
41	Betampona	Reserve Naturelle Intégrale	I	2 228,00	MNP	Créée le 31 décembre 1997	
42	Beza Mahafaly	Reserve Spéciale	IV	4 200,00	MNP	Créée le 04 juin 1986	
43	Bombetoka Beloboka	-	-	71 943,00	DELC	Décret n°2015-808 du 5 mai 2015	
44	Bora	Reserve Spéciale	IV	4 841,00	-	Créé le 20 février 1956	
45	Cap Sainte Marie	Reserve Spéciale	IV	3 610,00	MNP	Changement de limite en 2015 sous le décret n° 462015-733 du 21 avril 2015	Créé depuis le 24.10.62

46	Complexe Anjozorobe Angavo	Paysage Harmonieux Protégée	V	41 100,00	FANAMBY	Décret n°2015-763 du 28 avril 2015	
47	Complexe Lac Forêt Ambondrobe	Paysage Harmonieux Protégée	V	6 133,35	DURELL	Ddécret n°2015-758 du 28 avril 2015	
48	Complexe Tsimembo Manambolomaty	Paysage Harmonieux Protégée	V	62 745,00	TPF	Décret n°2015 -715 du 21 avril 2015	
49	Complexe Zones Humides Mahavavy Kinkony	Paysage Harmonieux Protégée	V	302 000,00	ASITY	Décret n°2015 -718 du 21 avril 2015	
50	Complexe Zones Humides Mangoky Ihotry	Paysage Harmonieux Protégée	V	426 146,00	ASITY	Décret n°2015 -719 du 21 avril 2015	
51	Corridor Ankeniheny Zahamena	Reserve de Ressources Naturelles	VI	369 266,00	CI	Décret n°2015-754 du 28 avril 2015	
52	Corridor Forestier Ambositra-Vondrozo	Paysage Harmonieux Protégée	V	314 186,00	CI	Décret n°2015-755 du 28 avril 2015	
53	Corridor Forestier Bongolava	-	-	60 589,00	-	Décret n°2015-790 du 28 avril 2015	
54	Forêt Naturelle de Petriky	Paysage Harmonieux Protégée	V	300,00	QMM	Décret n°2015-777 du 28 avril 2015	
55	Forêt Naturelle de Tsitongambarika	Reserve de Ressources Naturelles	VI	58 597,00	ASITY	Décret n°2015 -720 du 21 avril 2015	
56	Forêt Sacrée Alandraza Analavelo	Monument Naturel	III	4 487,00	MBG	Décret n°2015-766 du 28 avril 2015	
57	Galoko Kalobinono	Paysage Harmonieux Protégée	V	74 205,00	MBG	Décret n°2015-770 du 28 avril 2015	

58	Iles Radama/Sahamalaza	Parc National	II	26 035,00		Décret N°2007/247 du 19/03/07	
59	Isalo	Parc National	II	81 540,00	MNP	Créé depuis le 19 juillet 1962	
60	Kalambatritra	Reserve Spéciale	IV	28 255,00	MNP	Changement de limite en 2015 sous le décret n° 2015-734 du 21 avril 2015	Créé depuis le 24.04.59
61	Kasijy	Reserve Spéciale	IV	19 800,00	-	Créé le 10 septembre 1956	
62	Kirindy - Mitea	Parc National	II	156 350,00	MNP	Changement limite en 2015 sous le décret 2015-735 du 21 avril 2015	Créé depuis le 18.12.97
63	Lac Alaotra	Paysage Harmonieux Protégée	V	46 432,16	DURRELL	Décret n°2015-756 du 28 avril 2015	
64	Lokobe	Parc National	II	862,00		Décret n°2011 - 499 du 06 juillet 2011, anciennement RNI	
65	Loky Manambato	Paysage Harmonieux Protégée	V	250 000,00	FANAMBY	Décret n°2015-759 du 28 avril 2015	
66	Mahialambo	Paysage Harmonieux Protégée	V	302,00	MAVOA	Décret n°2015-748 du 28 avril 2015	
67	Makira	Parc Naturel	II	372 470,00	WCS	Décret n°2012-641 du 19 juin 2012	
68	Makirovana tsihomanaomby	Reserve de Ressources Naturelles	VI	3 398,00	MBG	Décret n°2015-768 du 28 avril 2015	
69	Mananara-Nord	Parc National	II	23 000,00	MNP	Créé le 25 juillet 1989	
70	Mandena	Paysage Harmonieux	V	430,00	QMM	Décret n°2015-779 du 28 avril 2015	

		Protégée					
71	Mandrozo	Paysage Harmonieux Protégée	V	15 145,00	TPF	Décret n°2015 -714 du 21 avril 2015	
72	Mangabe-Ranomena-Sahasarotra	Reserve de Ressources Naturelles	VI	27 346,00	MAVOA	Décret n°2015-725 du 21 avril 2015	
73	Mangerivola	Reserve Spéciale	IV	11 900,00	MNP	Créé le 28 octobre 1958	
74	Maningoza	Reserve Spéciale	IV	7 900,00	-	Créé le 20 fevrier 1956	
75	Manjakatompo Ankaratra	Reserve de Ressources Naturelles	VI	8 130,00	VIF	Décret n°2015 -711 du 21 avril 2015	
76	Manombo	Reserve Spéciale	IV	5 320,00	MNP	Créé depuis le 05 decembre 1962	
77	Manongarivo	Reserve Spéciale	IV	51 567,90	MNP	Créé depuis le 20 fevrier 1956	
78	Mantadia	Parc National	II	10 000,00	MNP	Changement de limite le 07 aout 2002	
79	Marojejy	Parc National	II	60 050,00	MNP	Créé le 19 mai 1998	
80	Marolambo	Parc National	II	95 063,00	MNP	Décret n°2015 -716 du 21 avril 2015	
81	Maromizaha	Reserve de Ressources Naturelles	VI	1 880,00	GERP	Décret n°2015-783 du 28 avril 2015	
82	Marotandrano	Reserve Spéciale	IV	42 200,00	MNP	Changement de limite en 2015 sous le décret n° 2015-784 du 28 avril 2015	Créé depuis le 20.02.56
83	Masoala	Parc National	II	230 000,00	MNP	Créé le 02 mars 1997	

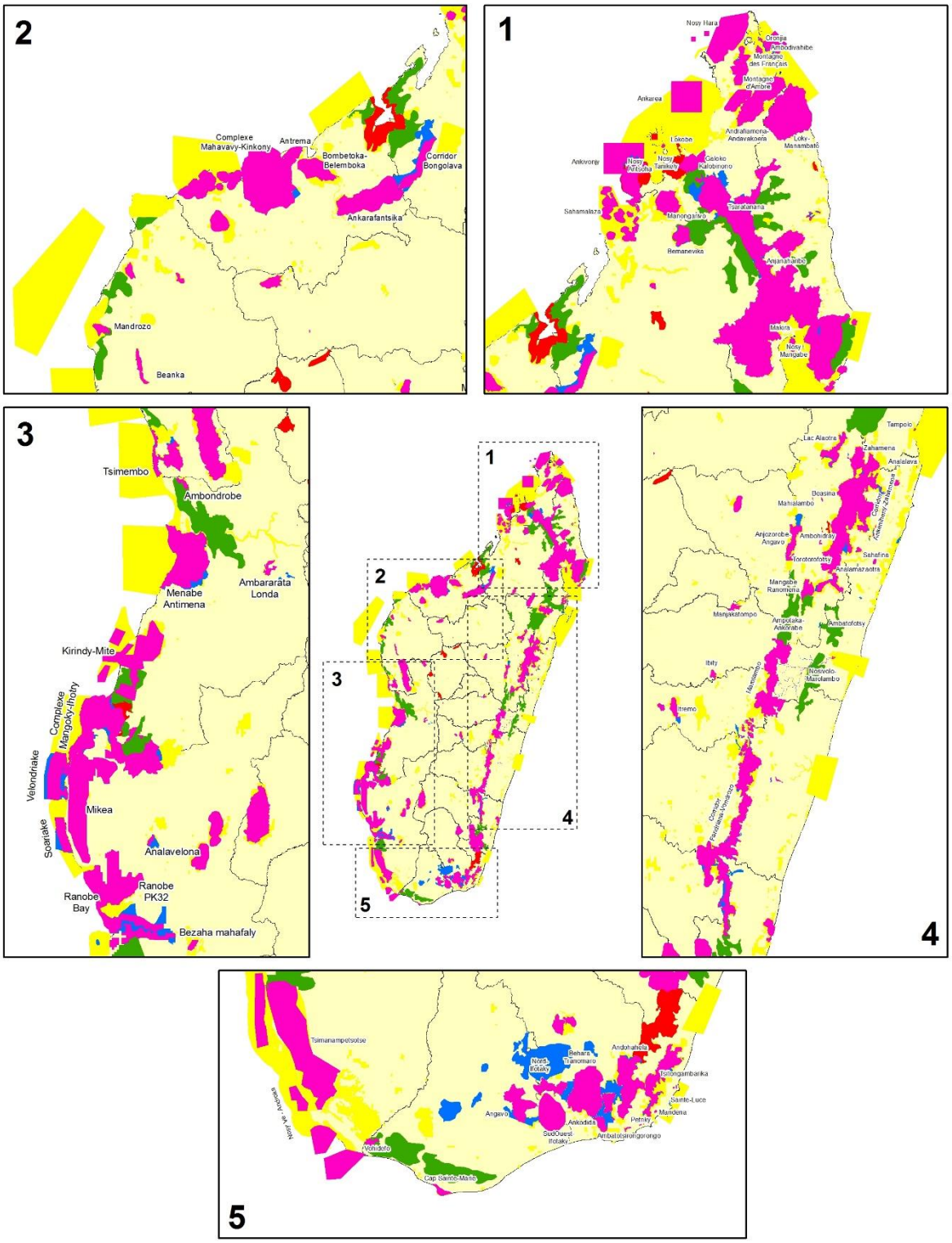
84	Massif d'Ibity	Paysage Harmonieux Protégée	V	6 136,00	MBG	Décret n°2015-772 du 28 avril 2015	
85	Massif d'Itremo	Paysage Harmonieux Protégée	V	24 788,00	RBG KEW	Décret n°2015 -713 du 21 avril 2015	
86	Menabe Antimena	Paysage Harmonieux Protégée	V	210 312,00	FANAMBY	Décret n°2015-762 du 28 avril 2015	
87	Midongy du Sud	Parc National	II	192 198,00	MNP	Créé le 18 décembre 1997	
88	Mikea	Parc National	II	184 630,00	MNP	Décret n°2011 - 499 du 06 juillet 2011	
89	Montagne d'Ambre/Forêt d'Ambre	Parc National	II	30 538,00	MNP	changement limite en 2015 auparavant PN et RS Forêt d'Ambre, actuellement PN sous le n° décret 2015-776 du 28 avril 2015	Créé depuis le 28.10.58
90	Nord Ifotaky	Paysage Harmonieux Protégée	V	22 288,00	WWF	Décret n°2015-786 du 28 avril 2015	
91	Nosy Antsoha	Paysage Harmonieux Protégée	V	28,47	Lemuria Land	Décret n°2015-764 du 28 avril 2015	
92	Nosy Hara	Parc National	II	125 471,00	MNP	Décret n°2011 - 499 du 06 juillet 2011	
93	Nosy Mangabe	Reserve Spéciale	IV	729,00	MNP	Créé le 14 décembre 1965	
94	Nosy Tanikely	Parc National	II	180,00	MNP	Décret n°2011 - 499 du 06 juillet 2011	
95	Nosy Ve Androka	Parc National	II	91 445,00	MNP	Décret n°2015 -717 du 21 avril 2015	

96	Oronjia	Paysage Harmonieux Protégée	V	1 648,00	MBG	Décret n°2015-771 du 28 avril 2015	
97	Paysage Harmonieux Protégées Bemanevika	Paysage Harmonieux Protégées	V	35 605,00	TPF	Décret n°2015-782 du 28 avril 2015	
98	Paysage Harmonieux Protégées COMATSA SUD	Paysage Harmonieux Protégées COMATSA SUD	V	80 204,00	WWF	Décret n°2015-782 du 28 avril 2015	
99	Pic d'Ivohibe	Reserve Spéciale	IV	3 453,00	MNP	Changement de statut et limite en 2015 , auparavant RS , actuellement PN sous le décret n° 2015-775 du 28 avril 2015	Créé depuis le 16.09.64
100	Ranobe Bay	-	-	42 404,00	-	Décret n°2015-808 du 5 mai 2015	
101	Ranobe PK32	-	-	168 500,00	-	Décret n°2015-808 du 5 mai 2015	
102	Ranomafana	Parc National	II	41 601,00	MNP	créé le 27 mai 1991	
103	Reserve de Ressources Naturelle Corridor Marojejy Anjanaharibe Sud, Tsaratanàna, NORD(COMATSA NORD)	Reserve de Ressources Naturelle	VI	237 083,00	WWF	Décret n°2015-782 du 28 avril 2015	
104	Reserve de Ressources Naturelle Mahimborondro	Reserve de Ressources Naturelle	VI	75 163,00	TPF	Décret n°2015-782 du 28 avril 2015	
105	Reserve deTampolo	Paysage Harmonieux	V	675,00	CI ex ESSA FORET	Décret n°2015-789 du 28 avril 2015	

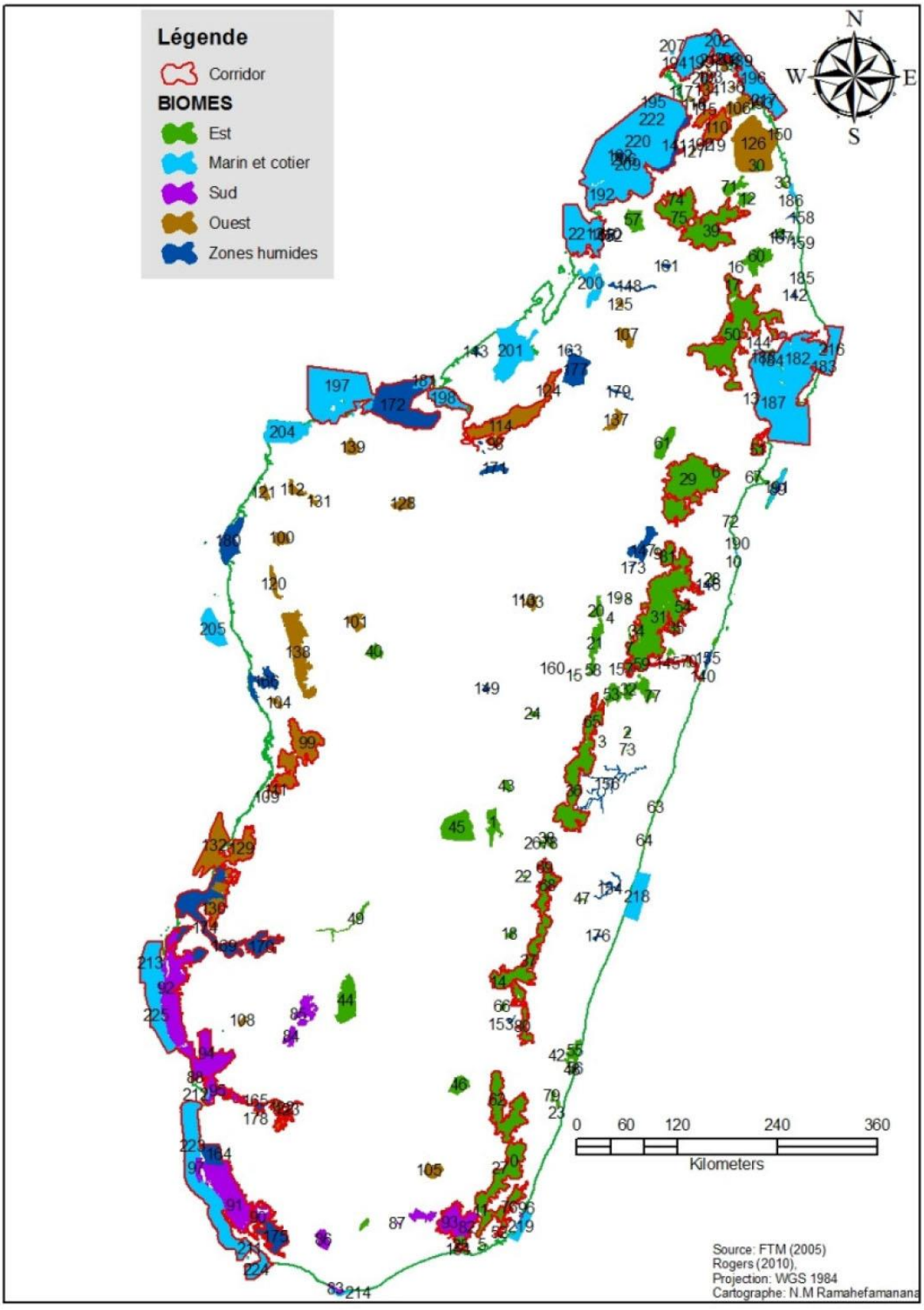
		Protégée					
106	Reserve spécial Pointe à larrée	Reserve Spécial	IV	770,00	MBG	Décret n°2015-773 du 28 avril 2015	
107	Rivière Nosivolo	Paysage Harmonieux Protégée	V	9 656,92	DURRELL	Décret n°2015-757 du 28 avril 2015	
108	Sahafina	Paysage Harmonieux Protégées	VI	2 400,00	BCM	Décret n°2015-728 du 21 avril 2015	
109	Site Bioculturel d'Antrema	Reserve de Ressources Naturelles	VI	20 620,00	MUSEUM	Décret n°2015 -712 du 21 avril 2015	
110	Soariake	Reserve de Ressources Naturelles	VI	38 293,00	WCS	Décret n°2015 -723 du 21 avril 2015	
111	Sud Ouest Ifotaky	-	-	57 062,00	-	Décret n°2015-808 du 5 mai 2015	
112	T. Analamaitso	Reserve Spéciale	IV	17 150,00	-	Créé le 28 octobre 1958	
113	Torotorofotsy	-		9 764,00	ASITY	Décret n°2015-808 du 5 mai 2015	
114	Tsaratanàna	Parc National	II	109 060,00	MNP	Changement de statut en 2011 auparavant RNI, actuellement PN	créé depuis le 31.12.97
115	Tsimanampesotsa	Parc National	II	202 525,00	MNP	Changement de limite en 2015 sous le n° décret 2015-736 du 21 avril 2015	créé depuis le 07.08.03
116	Tsingy de Namoroka	Parc National	II	22 227,00	MNP	Créé le 07 aout 04	
117	Tsinjoriake	Paysage Harmonieux Protégée	V	5 484,00	GIZ	Décret n°2015-781 du 28 avril 2015	

118	Velondriake	Paysage Harmonieux Protégée	V	63 985,00	Blue Ventures	Décret n°2015-752 du 28 avril 2015	
119	Vohidava-Betsamamilaho	Reserve de Ressources Naturelles	VI	18 169,00	MBG	Décret n°2015-774 du 28 avril 2015	
120	Vohidefo	-	-	5 056,00	-	Décret n°2015-808 du 5 mai 2015	
121	Zahamena	Parc National	II	65 935,00	MNP	Changement de statut en 2015, auparavant RNI et PN , actuellement PN sous le n° décret 2015-737 du 21 avril 2015	Créé depuis le 07.08.97
122	Zombitse Vohibasia	Parc National	II	36 852,00	MNP	Créé le 18 decmbre 1997	

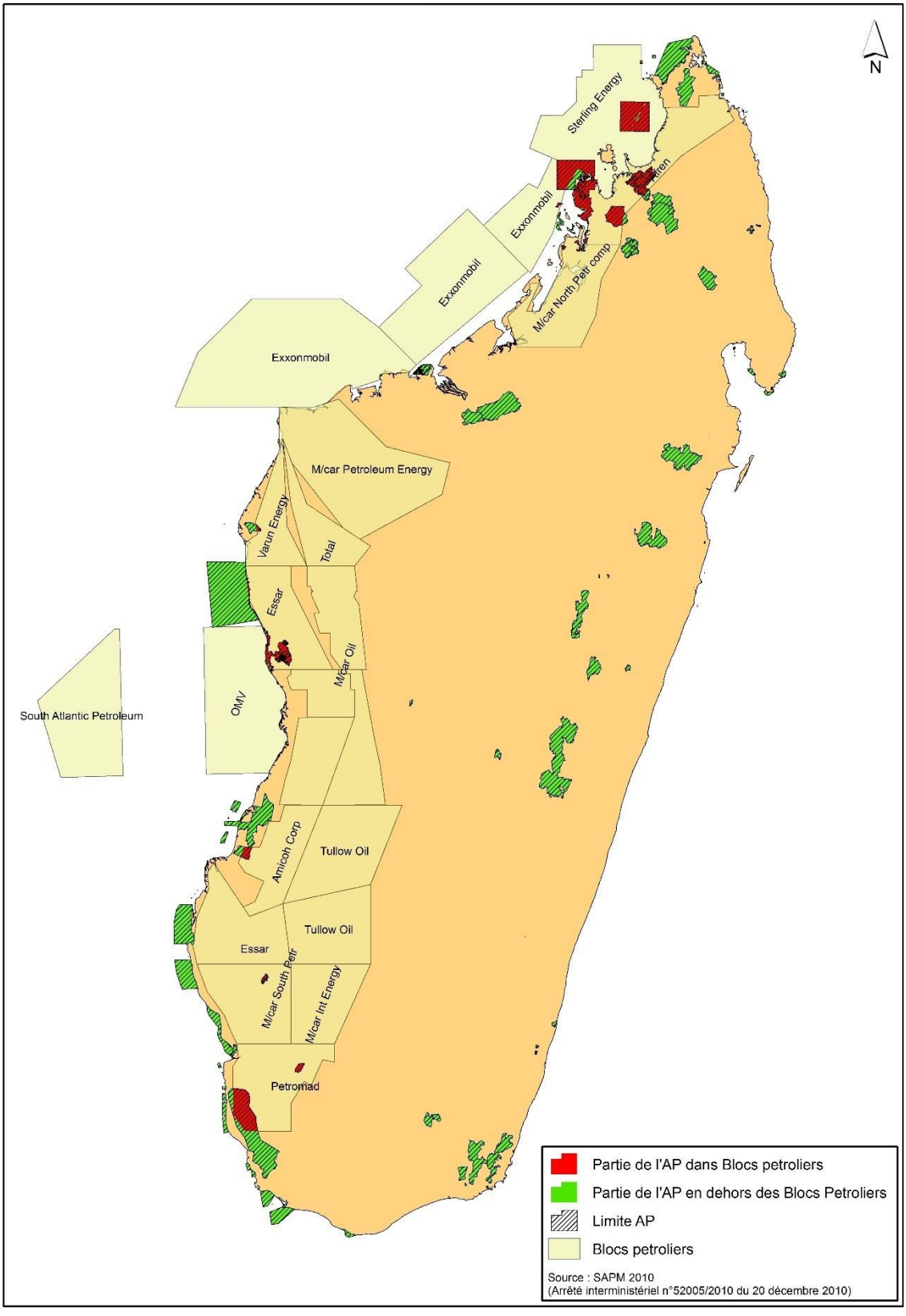
ANNEXE 12 : Cartographie des sites Koloala



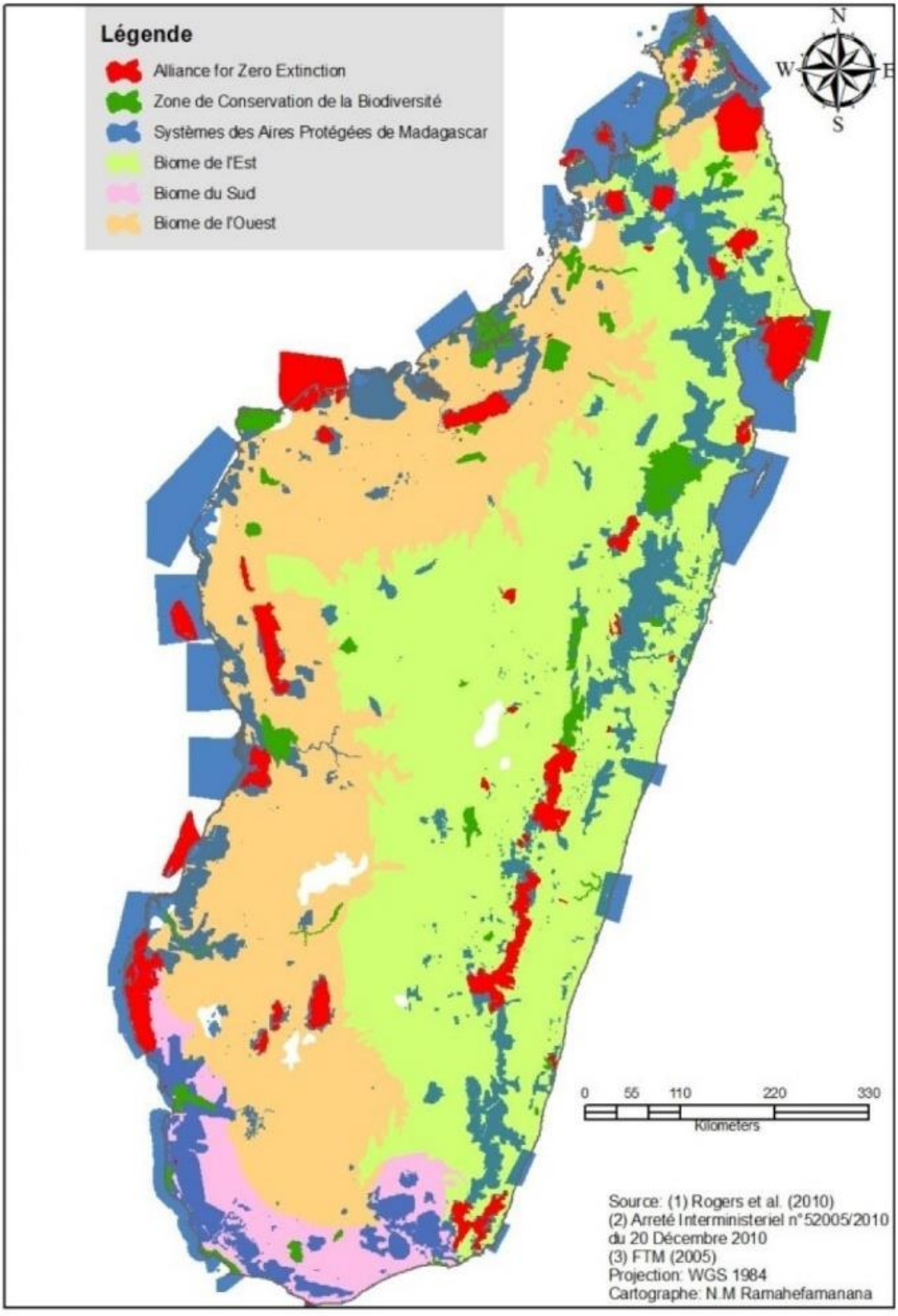
ANNEXE 13 : Les corridors hotspots de Madagascar



ANNEXE 14 : Cartographie de superposition des Aires Protégées et blocs pétroliers



ANNEXE 15 : Zones de Conservation de la Biodiversité et Alliance for Zero Extinction 2013



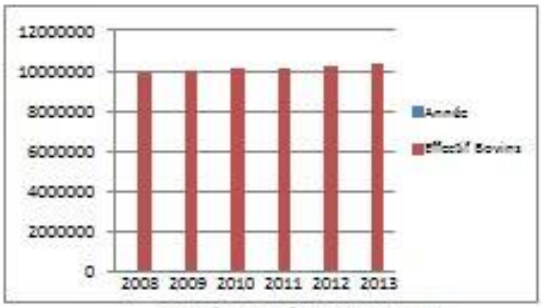
ANNEXE 16 : Zones prioritaires pour l'adaptation des espèces en vue de la restauration

ANNEXE 17 : Production agricole à Madagascar de 2005-2008

Culture	2005	2006	2007	2008
Arachide en coque	60 681	60 125	60 145	59 855
Cacao en fève	6 462	6 465	6 465	6 465
Café marchand	55 382	55 655	57 750	60 100
Canne à sucre	531 340	495 860	480 525	474 440
Girofle clou	9 817	11 665	14 030	17 115
Haricot grain sec	78 061	78 990	79 505	80 485
Letchis	169 519	169 525	175 725	183 340
Maïs grain sec	390 901	394 735	453 385	542 835
Manioc frais	2 963 944	2 982 485	2 993 585	3 021 080
Paddy	339 245	3 487 930	3 595 755	3 914 175
Patate douce	878 520	885 430	894 555	902 665
Pois du cap	16 901	16 650	16 680	16 680
Poivre noir sec	1 311	1 690	2 915	5 455
Pomme de terre	213 654	215 625	216 620	219 630
Tabac	1 699	1 848	2 117	2 087
Thé sec	351	353	374	246
Vanille verte	7 889	6 700	5 825	5 280

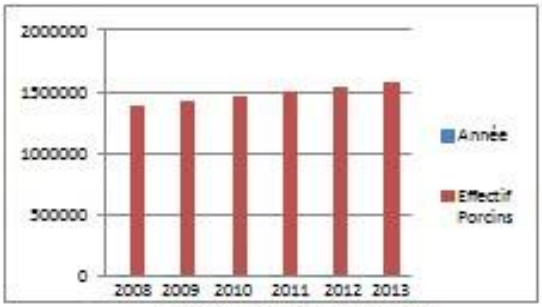
Source : Service des Statistiques Agricoles / DSEC

ANNEXE 18 : Evolution des élevages bovins, caprins, porcins et volailles de 2010 à 2013

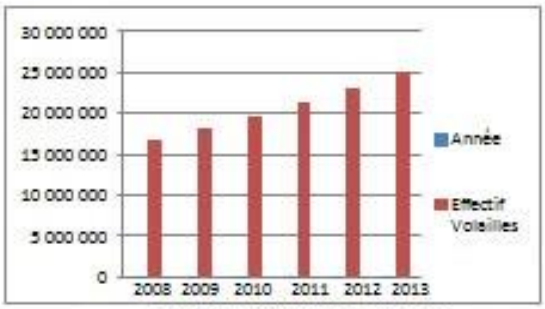


Effectif des bovins de 2008 – 2013

Effectif des Ovins et Caprins de 2008 - 2013



Effectif des Porcins de 2008 - 2013



Effectif des volailles de 2008 – 2013

Source : MinEly, DRA (2014)