



REPOBLIKAN'I MADAGASIKARA  
Ministry of Environment, Forests and Tourism

# ***CLIMATE CHANGE SOLUTIONS IN MADAGASCAR : The Role of Forests***

The loss of tropical forests accounts for 20% of global greenhouse gas emissions but at the same time forests are essential for maintaining the environmental services that we need to successfully adapt to climate change impacts. Through its “Madagascar Naturally” vision and the Madagascar Action Plan, Madagascar aims to reduce emissions and to put the environment at the heart of its development agenda.



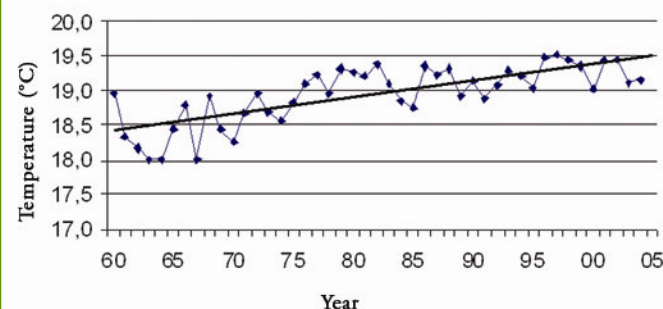
## MADAGASCAR IN THE FACE OF CLIMATE CHANGE

Global and regional models of future climate consistently predict that the southern Africa and Madagascar region will be amongst the most effected on the planet. Meteorological data from Madagascar shows that the average annual temperatures are now 1°C warmer than they were just 50 years ago. We may already be experiencing the harmful effects of that change: in recent years there have been more droughts in the south of the country and more intense cyclones in the north east. These changes will impact on our agriculture, our infrastructure and even on patterns of disease risk. As a signatory to the United Nations Framework Convention on Climate Change since 1998, the Government of Madagascar is engaged in finding and implementing climate change mitigation and adaptation measures. The Ministry of Environment, Forests and Tourism has been particularly focused on forests since their loss is an important source of emissions and the environmental services that they and other healthy ecosystems provide are the main ingredients needed to adapt to future change.

## MADAGASCAR NATURALLY

In 2005, the Government of Madagascar launched its “Madagascar Naturally” vision that recognized the central role that a healthy environment plays in ensuring the current and future social, economic and spiritual well being of the Malagasy people. This vision has now been crafted into concrete strategies that are enshrined in the country’s sustainable development roadmap document, the **Madagascar Action Plan (MAP)**, which includes a specific commitment to “Cherish the Environment”.

Minimum average annual temperatures in Madagascar (1960-2005)



Source: National Meteorological Office

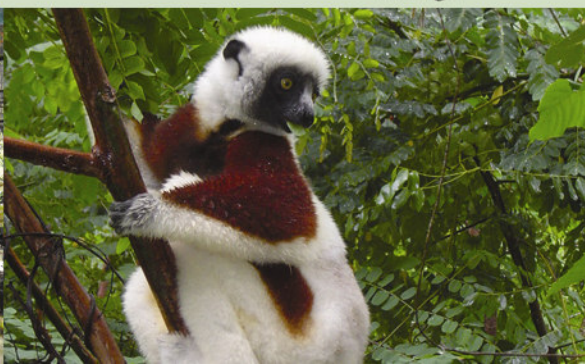
## OUR APPROACH TO CLIMATE CHANGE

The MEFT has already taken a broad range of mitigation and adaptation measures, as well as developing policy positions relative to the Kyoto Protocol that are in line with the MAP.

Specifically in relation to forests, these measures address:

- Maintaining low Greenhouse Gas (GHG) emissions so as to remain as a net carbon storage country;
- The development of win-win-win approaches that provide carbon benefits, biodiversity benefits and community development benefits;
- Improving legal instruments for the regulation of GHG emissions and improving the public’s knowledge of legislation;
- The preservation of the country’s unique biodiversity within its natural forests;
- The development of a national post-Kyoto REDD implementation strategy.

In preparation for the future impacts of climate change, further efforts are needed to inform the public of the origins and potential effects of global warming. Strong partnerships need to be built between the various stakeholders, including the international community. A clear understanding of the roles of all stakeholders also needs to be developed to tackle the challenge of climate change.





# FOREST CARBON INITIATIVES

## Afforestation

Several afforestation carbon projects are already underway in Madagascar. One of the largest is the MEFT's **Mantadia Corridor Restoration Project** that has been designed to be eligible under the Clean Development Mechanism. Over 3,000 hectares of natural forest will be restored with over 150 native tree species on degraded land that is now too nutrient-poor to use for agriculture. Alongside the restoration activities, more sustainable agricultural techniques are being introduced as alternatives to the current vicious cycle of slash-and-burn and wood plots are being created to provide firewood and timber. The project employs 200 people and is expected to generate 1.2 million tCO<sub>2</sub>e over 30 years. Conservation International provides technical and financial support and 8 Malagasy associations work together to implement the project. The World Bank's BioCarbon Fund has signed an agreement with the Government to purchase the initial Emissions Reductions that will be generated.

Other afforestation projects to date have mostly been linked to the voluntary carbon markets and are a mixture of afforestation using fast-growing exotic species and restoration projects using native species. Organizations developing these projects include: Tany Meva, AD2M, FFA and MATEZA.

## Avoided Deforestation

Deforestation is a major source of the country's Greenhouse Gas emissions and therefore the MEFT has initiated activities to reduce emissions through the protection of forests in three of the largest remaining natural forest blocks. These demonstrations serve several purposes since in addition to reducing emissions they will help to secure the survival of the country's endemic biodiversity, maintain environmental services and provide multiple benefits to the local communities whom are now active participants in the management of these forests.



Each of the three protected sites is expected to generate 9-10 million tCO<sub>2</sub>e emission reductions over the next 30 years. Activities for all three sites are being designed to Voluntary Carbon Standards and Climate, Community, Biodiversity Standards.

The **Ankeniheny-Zahamena Forest Corridor (CAZ)** protects 425,000 hectares of eastern rainforest between two existing national parks. The corridor is the stronghold for several threatened and endangered lemur species such as the indri, the diademed sifaka, the black and white ruffed lemur and arguably the world's most endangered primate, the giant bamboo lemur, has recently been discovered there. Conservation International provides support to MEFT's coordination of the protection of this corridor that involves multiple organizations and already includes over 50 community associations.

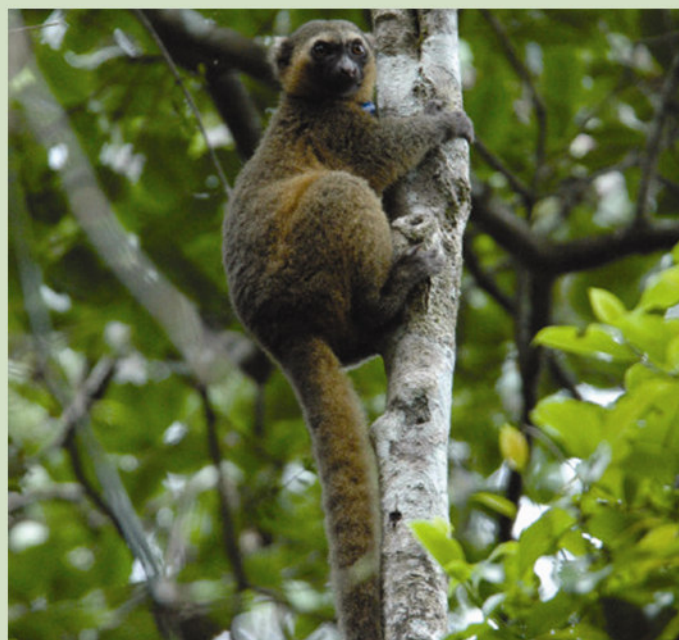




The **Makira Forest Protected Area** in the northeast of the country aims to reduce deforestation in over 500,000 hectares of rainforest that is exceptionally rich in terms of biodiversity and for its environmental service values. The MEFT has delegated the Wildlife Conservation Society to create this new protected area and in June 2008, the two organizations announced a joint agreement to offer for sale 9.5 million tCO<sub>2</sub>e over the next 30 years. Communities will be empowered through resource management rights and improved governance promoting sustainable agricultural practices to encourage improved land stewardship thus ensuring the integrity of ecosystem services vital to local and regional economies.

The **Fandriana-Vondrozo Forest Corridor (COFAV)** in the southeast suffers the highest deforestation rates within the eastern rainforests. Protection of this 250,000 hectare forest corridor is an exceptional challenge given the threats, its long, thin shape, and its overlap with 66 different administrative zones. Like the other two large rainforest corridors it is exceptionally rich in biodiversity and protects many locally endemic species as well as being the source of vital water supplies for a large part of the country. Analysis of species movements in previous climate change events suggests that this corridor may also be essential for allowing species to adapt naturally by modifying their distribution ranges. Conservation International is helping the MEFT create a new protected area in this corridor and an alliance of regional partners will be working with over 100 community associations to safeguard this important forest.

The **Holistic Conservation Program for Forests in Madagascar**, initiated in 2008 by GoodPlanet and implemented in the field by WWF, is focusing on reducing emissions from deforestation in several smaller important forests for conservation within the rainforest and western dry forest biomes. The combined area of these



forests is more than 500,000 hectares and as with the larger corridors, this project will contribute to the MEFT's aims of increasing the managed protected area coverage to 6 million hectares. In addition to protecting forests through promotion of community management, this program also aims to restore degraded forests, create plantations for fuelwood and develop methodologies for carbon assessments.

In preparation for the potential inclusion of REDD (Reducing Emissions from Deforestation and Degradation) as a recognized mechanism within post 2012 UNFCCC implementation, the MEFT, GTZ and Intercooperation have developed the **REDD/FORECA project**. FORECA is an acronym that translates as "Committed Forest to be Carbon Reservoirs". The project has several objectives and works at the national level to support policy development for REDD and it works at 7 pilot sites that cover rainforest, dry forest, spiny forest, transitional forest and mangroves to develop a REDD methodology that would be appropriate for local REDD initiatives. The project activities include biomass inventories, socio-economic inventories, development of baselines scenarios, definition of community incentive approaches and capacity building at all levels for future REDD implementation.





## PUBLIC OUTREACH

In the last 2 years there has been an explosion of interest in climate change. Communicating the importance of the issues has become an important task for the MEFT. For example, climate change was the theme of the 2008 World Environment Day that was celebrated throughout the country and tens of thousands of students were involved in tree planting activities, debates and demonstrations of real-world solutions relevant to the Malagasy people. Special training events for national journalists have been organized so that they are better able to communicate the facts and figures of this complex problem. The MEFT has also organized scientific and technical conferences to promote the exchange of knowledge, encourage cooperation and initiate debate to inform government decision making such as national strategies that are needed on mitigation and adaptation options.

## COORDINATION

The MEFT also plays a coordination role for all climate change related projects in the country. For example the Designated National Authority is within the MEFT and the ministry has created a special Climate Change Service.

### Forest related climate change activities

<i>Project Title</i>	<i>Objective</i>	<i>Stakeholders</i>
Mantadia Forest Restoration Corridor Project	Generate 1.2 million tCO <sub>2</sub> e through the restoration of 3,020 hectares of natural forest; reconnect forest fragments and improve livelihoods	MEFT, CI, BioCarbon Fund, 8 Malagasy associations
Ankotrofotsy restoration project	Generate 112,000 tCO <sub>2</sub> e from afforestation	3 local associations, AD2M
Afforestation north of Zahamena National park	Sequester carbon through the restoration and afforestation of 1,000 hectares	MATEZA
Ankeniheny-Zahamena Forest Corridor (CAZ)	Generate 10 million tCO <sub>2</sub> e from avoided deforestation; conserve biodiversity; improve community livelihoods and provide secure access to forest resources; maintain environmental services	MEFT, CI, BioCF Fund, USAID, corridor alliance partners, over 50 community associations
Makira Forest Protected Area	Generate 9.5 million tCO <sub>2</sub> e from avoided deforestation; conserve biodiversity; improve community livelihoods and provide secure access to forest resources; maintain environmental services	MEFT, WCS, community associations, local partners
Fandriana-Vondrozo Forest Corridor (COFAV)	Generate 9 million tCO <sub>2</sub> e from avoided deforestation; conserve biodiversity; improve community livelihoods and provide secure access to forest resources; maintain environmental services	MEFT, CI, USAID, corridor alliance partners, over 100 community associations
Holistic Conservation Program for Forests in Madagascar	Conserve 500,000 hectares of forest, provide 3,000 hectares of fuelwood plantations, develop carbon assessment methodologies	Goodplanet, WWF, MEFT, local partners and communities
REDD/FORECA project	Support REDD policy development; develop a field-tested REDD methodology, develop concept of local REDD initiatives; disseminate results of project	MEFT, GTZ, Intercooperation
Development of a national REDD strategy	Develop a national REDD strategy through a participatory approach that integrates all sectors including conservation, forest management, energy, mining and agricultural sectors	MEFT, ONE, FCPF, partners
Assessment of the vulnerability of biodiversity and human livelihoods	Assess the state of knowledge of potential climate change impacts on biodiversity and human livelihoods and identify priority adaptation strategies for future development	MEFT, CI, WWF, MacArthur Foundation, USAID, partners





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