

Wood Energy – Madagascar

Sustainable use of natural resources

The protection and sustainable use of natural resources is one of the focal areas of the German Development Cooperation with Madagascar. Through integrated land use planning, the KfW “Programme de Lutte Anti-Erosive (PLAE)” tackles the challenges of soil degradation and deforestation. It stabilises slopes with measures to control erosion and supports the afforestation of energy plantations that provide biomass for household energy. Until 2020, 16,000 hectares of energy plantations will have been afforested. Participating farmers are supported in obtaining land use rights which is what mainly ensures the sustainability of the approach chosen.

Context

The growing population in Madagascar is the main contributor to a steeply rising energy demand. Apart from electricity, private households particularly need energy for cooking. Approximately 85 % of the demand for household energy is covered by fuelwood and charcoal, in rural areas close to 100 %. The fuel-switch to petroleum gas, kerosene or electricity has failed so far mainly due to higher costs: According to the World Bank, almost 75 % of the population lives in poverty. Solar stoves have only been introduced with moderate success, not just because they are too expensive for most people but also because cooking and eating habits make solar cookers unsuitable. Hence, even more prosperous households stick to charcoal use in the kitchen.

The current production and supply of wood and charcoal is neither efficient nor sustainable as it significantly

exceeds the growth of the remaining forests and plantations and thus contributes remarkably to deforestation. Particularly in the West, the supply of urban centres poses a problem due to local resources being widely over-exploited. Consequently, the demand for wood energy extends throughout large parts of the country leading to charcoal being transported from more distant areas. This precarious supply situation and over-exploitation causes massive environmental problems: First, the rapid deforestation leads to hillside erosion with corresponding damages such as silting and disturbance of the water balance in fertile valleys. Secondly, there is a significant loss of further ecosystem

Project name	Programme de Lutte Anti-Erosive (PLAE)
Commissioned by	German Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Republic of Madagascar
Lead executing agency	Ministry of Agriculture and Livestock





In order to fix the slopes, the soil is filled with terraces, supported by trees. Photo: KfW photo archive / Rendel Freude

services and biodiversity, leading to Madagascar being confronted with approximately 80 % of endemic species being at stake. However, at the same time the informal production of charcoal and lumbering for firewood is a major source of income for the rural population and there is a lack of incentives to refrain from it. In addition, existing laws and regulations, implemented to protect the natural forests, are often arbitrarily interpreted and applied rather selectively. Since the implementation of a sound regulatory framework runs slow, technical expertise and appropriate financial measures are needed.

Project approach

To improve the supply of wood energy and to prevent further soil degradation, KfW on behalf of the German Government joined up forces with the Ministry of Agriculture and Livestock and set up PLAE. The programme is in its forth phase with a total commitment of EUR 24 million. PLAE is based on successful preceding erosion control projects. It builds on the experience of a former GIZ programme “GREENMad” addressing private charcoal producers to minimise the risk of uncontrolled lumbering and to introduce more efficient production and supply methods. KfW started afforestation of energy plantations in 2010. Primary target group is the local population in the region BOENY and DIANA. The most important activities are:

- PLAE supports local communities in implementing erosion control measures like afforesting and terracing of slopes. This aims at protecting and managing the soil being the most important basis of production and existence of the rural population sustainably.

- Local communities are trained in sustainable forest management and the use of innovative working techniques to afforest energy plantations. The portfolio of

over 12 different fast-growing tree species ensures diversification and sustainability of the plantations and enables farmers to harvest the wood as early as seven years after cultivation.

- Local communities are supported in the preparation of land use plans and installation of functioning land registry offices to provide certificates for the land managed by the farmers.

Impact

PLAE has a multidimensional impact on the selected regions as well as on the target groups. It contributes to the sustainable use of Madagascar's precious natural resources. After the successful implementation of a pilot phase in Marovoay (BOENY) the project has expanded to five other regions so far. Combined they will lead to the afforestation of roughly 26,000 hectares of energy plantations until 2020 with approximately 16,000 hectares within PLAE. In addition, an area of 3,300 hectares was planted as erosion protection until the end of 2016. These erosion protection forests are rarely exploited. They protect fertile agricultural land, especially rice and irrigation systems of participating farmers.

A crucial aspect for the sustainability of this approach is the granting of land use rights to participating farmers. This guarantees future income from energy plantations. Together with measures to control erosion to further prevent soil degradation this will lead to remarkable changes and reduce the pressure on forests.

Above all, PLAE contributes to international objectives in forest and landscape restoration like the AFR100 initiative, which aims at restoring 100 million hectares of deforested landscapes across Africa by 2030.



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