Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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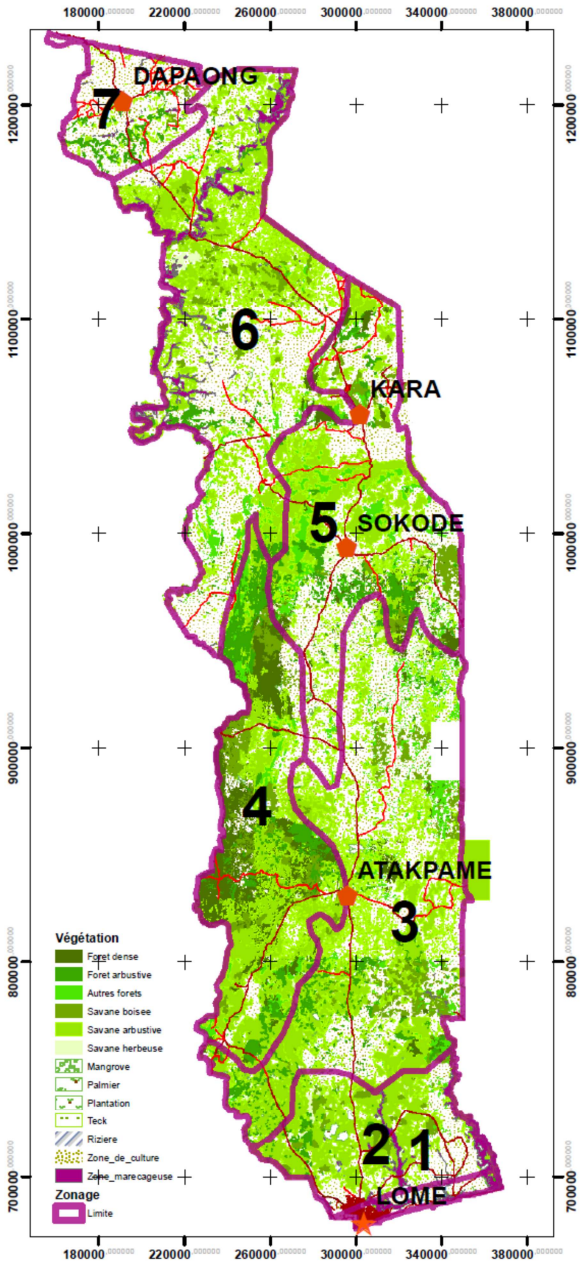
Sector Programme in International Forest Policy

(« Politique forestière internationale »)

« Evaluation of the Potential for Forest Landscape Restoration in Togo »

INTRODUCTION TO THE FOREST SITUATION

The latest (2010) FAO report on world forest resources indicates that Togo's forest coverage is 287,000 ha and represents 5% of its landmass. Other tree-covered areas are reported as being 1,246,000 ha, which is 23% of the country's landmass. The substantial loss of forest coverage is probably closely related to the degradation of the forest, from dense forest, to open forests followed by tree-covered areas. This loss of forest is accompanied by an increase in CO_2 emissions, demanding urgent countermeasures in conjunction with the UNFCCC.



Most of the forest in Togo, 73%, is private, which is indicative of the major stakeholders in any activity regarding forest restoration or rehabilitation. The area classified as either protection or conservation forest is 32%, and most of it, 68%, is production forest.

The «Global Forest Change» at the University of Maryland has produced a map of forest changes/forest loss worldwide, based on the interpretation of LandSat Satellite Images[1], which shows that the major forest losses in Togo have happened in the central mountain range and central lowlands between Atakpame and Sokode.

The latest forest map from the GIZ supported REDD+ project in Togo has produced a forest map on the basis of interpretation of RapidEye Satellite images from the years 2013-2014. This map shows in green colors forest with dark green being dense forest (canopy coverage 80-100%) and towards the lighter green coloring the forest becoming more open. The vegetation type with the least tree coverage is then the "Savane Arbustive", which is a savanna vegetation with scattered trees (canopy coverage 5-10%).

The map shows two major areas of action according to the two FLR options. The large scale area approach requires blocks of closed forest. This type of landscape is still found in the

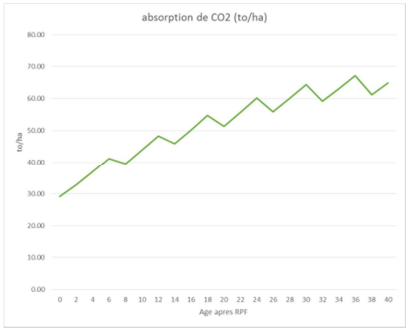
[1] https://earthenginepartners.appspot.com/science-2013-global-forest Study of the University of Maryland on the worldwide loss of forest coverage, based on LandSat Satellite Imagery

central mountain range (zones 4 and 5). The mosaic approach is the recommended action for areas where a mix of farmland and smaller forest plots dominate the landscape. This is the case for the central eastern lowlands and the regions north of the mountain range.

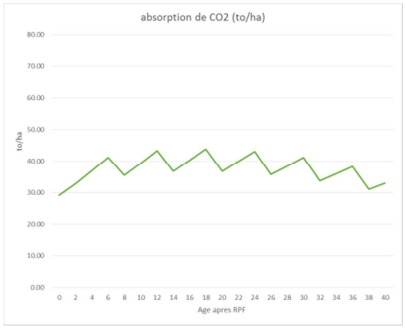
ADVANTAGES OF IMPROVED, RESTORED AND MANAGED FORESTS

The effects of forest lands on their environment include micro-climatic improvements like wind breaks, temperature regulation, water sources and protection against erosion, which have a direct impact on human life. They also provide habitats for wildlife and birds, insects and plants that can only survive in a forest environment. Apart from these ecological effects of forests in a landscape, they are a source of wood and timber and of a number of non-woody products, like fruit and berries, medicinal herbs, etc. This may be valued as an environmental service, which in times of climate change can be described in terms of the impact of rehabilitated forest on CO_2 emissions. Assuming the situation of a wooded savannah with an average stock of 36 m³/ha, proper management would allow a total period harvest of 62 m³ over a time span of 40 years, while still increasing the stock of wood and carbon (absorption of CO_2). Poor management of the same savannah forest, with a total harvest of 77 m³ in the same period, will deplete the stocks further and ultimately lead to degradation of the forest.

Development of timber and carbon stocks in rehabilitated and in unprotected forest lands



Rehabilitated wooded savannah (Harvest 62 m³ in 40 years)

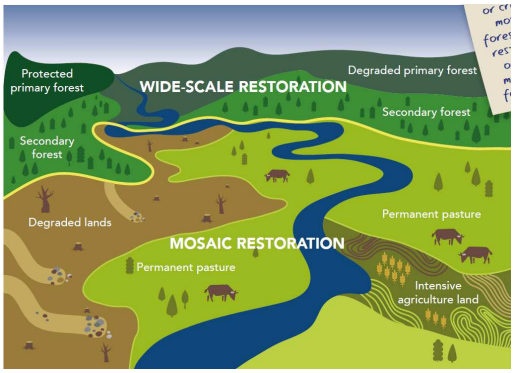


Unprotected wooded savannah (Harvest 77 m³ in 40 years)

Well-managed forests are therefore considered to be a carbon sink and contribute to the absorption of the climate-harming CO_2 from the atmosphere. In the economic evaluation of forest management one must consider that, despite possible short-term advantages for the individual owner due to greater harvests at the beginning, this poor management lessens the remaining value of the forest after a period of overharvesting and that the negative value of the harmful ecological impact of forest degradation is considerable for a country's economy.

WHAT IS FLR – DEFINITIONS AND CLARIFICATIONS

According to IUCN, one of the first NGOs to work in this field, forest landscape restoration is defined as follows: "Forest landscape restoration (FLR) is the ongoing process of regaining ecological functionality and enhancing human well-being across deforested or degraded forest landscapes. FLR is more than just planting trees – it is restoring a whole landscape "forward" to meet present and future needs and to offer multiple benefits and land uses over time."[2]. FLR builds on achievements made with other approaches and suggests that an adequate combination of existing tools should be used. It aims toward the conservation and sustainable use of natural products and services (forest functions) embedded in processes of local development and international policy.



Wide-scale and mosaic restoration opportunities (from: A guide to the Restoration Opportunities Assessment Methodology (ROAM)

The principles of FLR for the restoration of functionality and resilience of the landscape may be summarised as follows;

[2] https://www.iucn.org/theme/forests/our-work/forest-landscape-restoration

- Incorporation of the generation of goods and ecosystem services;
- selection from various existing technical strategies;
- involvement of stakeholders to ensure adaptation to local conditions;
- avoidance of a further reduction in the area of natural forest.

OPTIONS FOR FLR IN TOGO

The results of a joint evaluation of options by participating stakeholder groups are shown in the table below. The table reflects the lack of detailed information on technical options, as there are very few details available on costs and benefits. The rating of the impact of viable envisaged activities show clearly the stakeholders' fears of losing agricultural production areas, where forest tree plantations are to be established. On the other hand, the table also shows that people accept the planting of trees in the agro-forestry system. Protection activities are the most positively rated by the stakeholders. This rating indicates the direction the FLR activities have to take. Careful planning involving participation of the local population will be required to increase forested portions of the landscape in densely populated zones subject to intensive agricultural use. Fire protection and controlled range land management are measures that the stakeholders seem to welcome. Tests have yet to be conducted in order to determine which activities would be effective and would be accepted by the local population.

		Intervention / Restoration activity	Cost per ha in FCFA	Increase of stocks in 20 years in m³/ha	Increase of stocks in 40 years in m³/ha	Harvesting possibility during 20 years in m³/ha	Value of harvest during 20 years in FCFA/ha	Harvesting possibility during year 20-40 in m³/ha	Value of harvest form year 20-40 in FCFA/ha	Agricultural production	Animal husbandry production	Wild fruits, fibers, medicinal plants	Bushmeat	Supply of water	Quality of drinking water
				Effect/ Impact on forest production						Effect/Impact on other productions red = significant/negative effect; green = positive effect; yellow = marginal effect					
Forest Lands	Plantation	**Plantation of exotic species**	600-800 mill.	196.7	206.6	260	2,106,000	260	2,106,000						
		Fuel woo lots	400-500 mill.	11.8	21.4	8.6	69,660	13.1	106,110						
		Plantation of native species	1 - 1.2 millio.	11.8	21.4	8.6	94,041	13.1	143,249						
	Natural Regeneration	**Controled pasturing/grazing**	n.a.												
		on community level	n.a.												
		Protectionn against wild fires	n.a.												
		on community level	n.a.												
		on regional level	n.a.												
	Silviculture	**Enrichment planting in forests**	n.a.	24.7	38.5	25.9	283,217	33.4	365,229						
		Agro-forestry (coffee/cacao)	n.a.												
Terres Agricoles	Agriculture	**Plantation of tress or afforestation**	n.a.												
		other agro-forestry	n.a.												
	Improved Fallow	**Enrichment planting in fallow**	n.a.	13.8	25.1	10.0	81,000	15.3	123,930						
		Protection against wild fires	n.a.												
Protection Zones, Buffer Zones		**Rehabilitation of Mangroves**	n.a.												
		Poretection of watersheds against erosion	n.a.												

Rehabilitation with local species in form of forest plantations and enrichment planting are the preferred options in almost all regions of the country. Controlled grazing and the control of Bush fires are also considered important activities. Planting of trees outside forests is considered to be a necessary option for all areas. In the central mountain chain, where coffee and cocoa are important crops, the proposed restoration method is agroforestry. Improvement of the mangroves has been prioritized in coastal areas. Protection of watershed erosion was only mentioned by one group as rehabilitation option, and thus despite the need for this option, it could not be ranked as priority.

OBSERVATIONS AND RECOMMENDATIONS

Possibilities and requirements for the implementation of Forest Landscape Restoration (FLR) in Togo:

- The options for FLR in Togo are two, according to the type of topography. One is a mosaic-based approach, in which each individual group or person implementing the plan is more often than not a land owner, or at least a holder of user rights for the land or resources in question. In this case the forest cover landscape would be maintained or restored in the form of plots and compartments mixed with the main agricultural use of the land. The other option is a larger scale approach, where the forest is maintained as the main land cover, with agricultural use mixed in as smaller farm lots and fields or as agroforestry, where the agricultural use of the land is implemented under a certain amount of tree coverage within the forest (e.g. coffee and cacao plantations under tree canopy).

- The mosaic approach seems to be possible in the south-central region and in the northeast. This approach may also be successful in the far north, considering the demand for fuel wood in the densely populated area. The large-scale area approach is suggested for the central mountain range of Togo, where the agroforestry system is already in use with coffee and cacao, and shows a tendency to expand, reducing further the forest canopy coverage in the area.

Approaching a Coffee Planters home in a former dense forest of the central mountain range of Togo related forest degradation becomes obvious

- There are few examples of technical options for reforestation and afforestation in Togo. These are either larger plantation plots, often with teak, on better quality soils in the southern part of Togo, with better-developed infrastructure, or they are externally-supported programs (e.g. NGOs) on a very limited scale with difficult access to information on cost structures. The coffee/cacao agroforestry carried out in the mountain ranges lacks clear planning and a description of technical models for appropriate environmentally-adapted production of agricultural products, besides timber and fuel wood could not be found.
- The institutional set-up for the implementation of FLR in Togo lacks the trained staff and sufficient inter-agency cooperation to achieve the necessary involvement of local stakeholders. The staff of the related government institutions has little or no experience and training related to the incorporation of villagers in planning activities, such as participatory identification of suitable land for FLR, or for the development of village-based models of mosaic afforestation and sustainable agroforestry within larger forest compartments.
- The current ongoing efforts in forest restoration or forest rehabilitation are a few NGO activities on a smaller scale. Large support programs funded by the WB, EU and German Cooperation are in start-up phases. These are to do mainly with REDD+, and have not yet reached a larger scale, replicable approach, nor have they established technical procedures for the involvement of the local population in the planning and implementation of FLR-related activities. This is a good opportunity for Togo to plan and direct the use of these programs and funds in order to develop an approach to forest rehabilitation and forest protection that includes technical instruction and manuals adapted to local needs, capacities and landscape requirements.

POLICY IMPLICATIONS FOR THE IMPLEMENTATION OF FLR

Policies, strategies and development programs being implemented in Togo (SCAPE, ODD, PNIERN, PNR, PNADE, PNIASA, NFAP, PFT, etc.) have placed special emphasis on the restoration and conservation of forests. These strategies call for a committed and active participation of all actors, state and non-state, in the sustainable management of forest resources for the well-being of present and future generations. FLR fits perfectly into these different national and sectoral policies and also into ongoing programmes. The focus on FLR may reinforce the national reforestation programme (Programme National de Reboisement - PNR) through the identification of priority areas and the development of the restoration plan.

The country's REDD+ strategic approach will be based on a prioritization of "win-win" strategies, to directly benefit the forest, non-forest trees and for profit of the people of Togo. The strategy arising from R-PP implementation will be a consolidation of the overall vision for the forestry sector for the year 2035, as reflected in the national forest policy: "by consolidating the process of decentralization, making grass-roots community stakeholders accountable, by integrating forestry into rural development, with the effective involvement of private stakeholders and civil society in the management of forests and systems of production. This should be achieved by means of an approach that respects the balance of ecosystem and the ecological, social and economic functions of forests. In so doing, Togo will achieve 20% forest cover by 2035 and 30% by 2050 and thus fully cover its needs

for fuel wood, conserve its biodiversity and ensure the sustainable protection of its risk-prone areas, as well as its animal habitats."[3]

CONCLUSIONS

The stakeholders participating in the evaluation workshops were encouraged to identify and analyse the types of financing and sources of funding available in Togo to support FLR. It became clear that sources for funding for FLR exist and are diversified. There are institutions already on site (World Bank, German Cooperation) or preparing for an intervention (EU) to support the Togolese efforts of forest landscape restoration and reduction of CO2 emissions from deforestation and forest degradation. In addition, there may be new sources of funding available, such as private equity, pension funds and the markets for environmental services for socially responsible investors.

The recommendations of the Restoration Opportunities Assessment study looked at several aspects of restoration options. Certainly, there are areas for the implementation of FLR in Togo, but it will be essential to integrate a more detailed land use and forest management planning in its realization. The institutional framework for the implementation of FLR in a planned and structured approach is not yet sufficiently developed to ensure success in all regions. Financing options for a nationwide implementation of FLR on a larger scale must still be secured. The negotiations for foreign aid support have to include options for technical cooperation as well as the options for financial cooperation.

[3] "Décret présidentiel N° 2011-002/PR portant déclaration de la politique forestière, janvier 2011