

Current vulnerability in the Tri-National de la Sangha landscape, Cameroon

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Between 2011 and 2012, a regional baseline assessment to analyse vulnerability was conducted in five landscapes of the Congo Basin as part of the 'Climate Change and Forests in the Congo Basin: Synergies between Adaptation and Mitigation (COBAM)' project. This briefing note summarises the results for the Tri-National de la Sangha (TNS) landscape.

Study sites in the TNS landscape

The TNS landscape covers a total of 43 936 km² across three countries: Cameroon, Central African Republic and Republic of Congo. The landscape includes three national parks. The areas surrounding the parks have multiple uses with zones for logging concessions, community use and professional hunting.

To date, eight community forests (CFs) have been officially established in the Cameroonian area of the TNS, four of which were selected for the baseline assessment. In Cameroon, CFs are defined as forested areas in 'non-permanent forest zones' managed under agreement between a group of villages and the forest administration with the main objective of pursuing sustainable extraction of wood for the social benefit of the registered villages (Article 31(5) of the Forest Law No. 94).

In total, 13 villages are clustered in the four study CFs, 12 of which are located along the west–east road axis that links Yokadouma with Mboy II, a village located at the border with the Central African Republic. An overview of the selected CFs is given in the table below.

Participatory methodology

The vulnerability assessment focused on current vulnerability, which includes an analysis of both past trends and present conditions. In particular, the analysis considers the social aspects of vulnerability, understanding it as processes rooted in the actions of human actors and their interactions with the natural resource base on which they depend. Different dimensions of vulnerability framed the baseline assessment, which applied a participatory approach.

The different methods applied in the local communities were implemented in three main phases: 1) preparatory phase, 2) fieldwork and 3) feedback workshop. Methods included literature review, focus group discussions (including various participatory exercises) and household surveys. Participatory methods were



Meeting at Mboy II, one of the villages where participatory methods were implemented

Photo: Tahia Devisscher

implemented in four villages, and surveys were conducted with 240 households across three villages. Villages in this area were established from the 1920s to the 1960s. All methods were piloted and refined in collaboration with local partners and representatives from local communities previous to their implementation in the project site.

Local perceptions of change

Villagers in the project site have witnessed major ecological and social changes in their lifetimes. Villagers recalled that, in the 1970s, small production fields were surrounded by forests with abundant resources. They explained that, over time, competition for productive land and forest resources has degraded forests around the villages and increased the fragility of local livelihoods, as resources become scarcer, the population keeps growing and uncertainty about rainfall patterns increases.

Villagers described a number of threats to their livelihoods. The main climate-related disturbances are changes in the seasons (i.e. prolonged dry spells and prolonged wet seasons, unexpected dry spells in the wet season and erratic rainfall during the dry seasons), and strong winds. Climate-related disturbances combine with multiple other threats to exacerbate the vulnerability of villages in the study site.

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Table 1. Community forests selected for the baseline assessment

Community forest	Villages	Management entity	Clans	Area	Distance from Yokadouma	Road axis
Bibimbo II	Mboy II	GIC Biweigui Bi Mboy II	Mpiemo Baka	1560 ha	53 km	West–east (Yokadouma–Mboy II/CAR)
Mpiemog	Bompelo Massiembo Mang Nampella	GIC Mpiemog	Mpiemo Baka	5500 ha	38 km	West–east (Yokadouma–Mboy II/CAR)
Morikoualye	Djalobekoe Nyabonda Limoe Mondong Mohevéa Momotegona Momolegue	GIC Morikoualye	Mpiemo Baka	5000 ha	7 km	West–east (Yokadouma–Mboy II/CAR)
Asmimi	Mendoungue	GIC Asmimi	Poupong Baka	2600 ha	4 km	North–south (Yokadouma–Moloundou)

GIC: Initiatives de Gestion Communautaire
CAR: Central African Republic

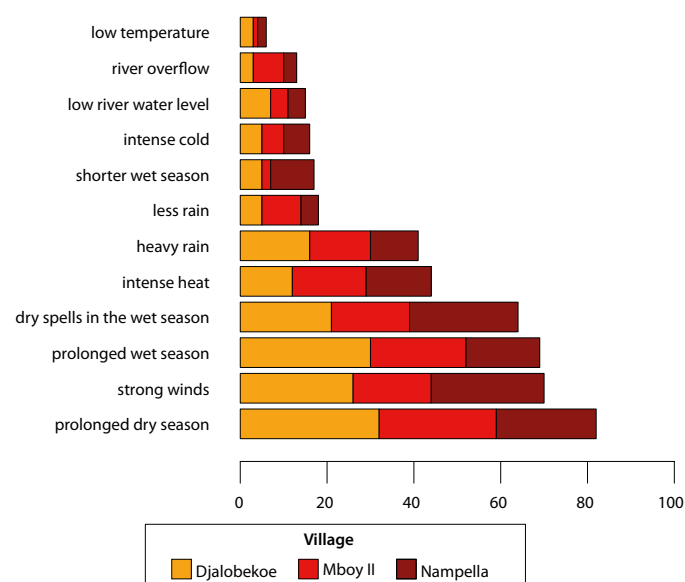


Figure 1. Perceived climate-related disturbances in three villages

Differentiated vulnerability

The analysis shows that different climate-related disturbances have different effects on different groups, natural resources and activities. Children and the elderly seem to be the most vulnerable social groups in the villages. Agriculture is the activity that is most exposed and affected by disturbances such as prolonged dry spells and changes in the seasons.

Most of the households depend on agriculture for their subsistence and economic development. Shifting seasons and increased unpredictability of rainfall patterns have had adverse impacts on agricultural production and hence on food security and the local economy. Erratic rainfall and drought also have indirect implications for human health, particularly for children, who suffer from stomach problems during periods of water scarcity when villagers have to use river water for drinking.

Increased climate variability and uncertainty seem to be the main climate-related disturbances shaping vulnerability in the villages. Villagers have noticed that they are no longer able to predict wet

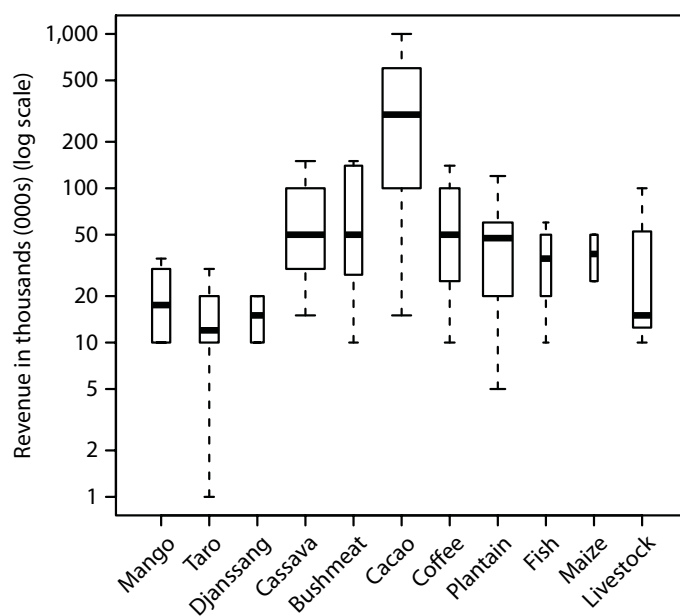


Figure 2. Main sources of revenue in Mboy II, Djalobekoe and Nampella (annual revenues in CFA). The width of the boxes reflects the number of responses, which represents the importance of that product as a source of revenue

and dry periods and thus follow the 'traditional' production calendar for their activities. They have sought to compensate for their losses by increasing the area of agricultural land, which has put more pressure on the other natural resources on which they depend.

Some forest resources also are vulnerable, although to a lesser extent. Although non-timber forest products (NTFPs) are seasonal, villagers stated that NTFPs have not been seriously affected by the recent changes in the seasons, except for mushrooms. Rather, rain during the short dry season seems to have benefited some of the NTFPs collected in the villages.

Current adaptive capacity

A strength in the villages is livelihood diversification: villagers depend on several activities for their subsistence and economic base. Most of these activities are related to the management,

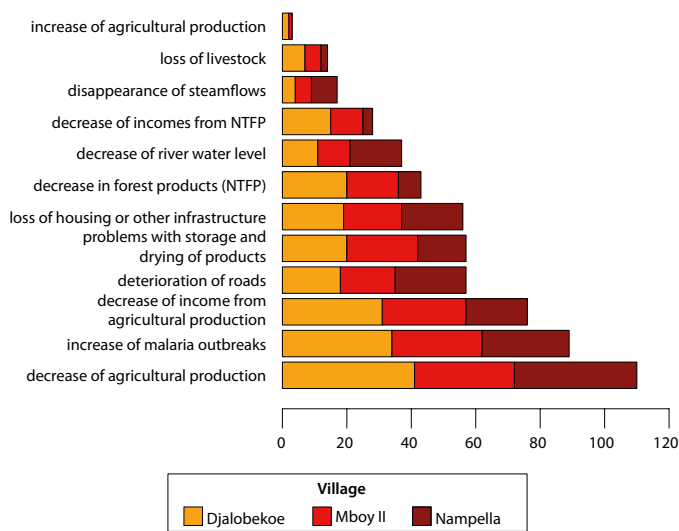


Figure 3. Perceived effects of climate-related disturbances in three villages

production or use of natural resources through agriculture, collection of NTFPs, logging, hunting and mining. Although villagers' main aim is domestic consumption, products such as cacao, cassava and plantain, and to a lesser extent bushmeat, are important sources of income for the households. NTFPs seem to serve as important safety nets in periods of scarcity and stress. Furthermore, villages are generally well connected to markets where groups of households organise themselves to sell their products jointly.

In most of the villages, collective action to maintain social infrastructure is weak, reflecting poor management of common goods for the village as a whole. The same is true of social infrastructure developed using social benefits derived from the CFs in the project site.

Collective action tends to occur mainly when specific household groups combine efforts to improve their agricultural practices and trade. Many of the local associations ('Initiatives de gestion communautaire' or GICs) in the villages focus on improving agriculture by making communal fields, introducing alternative production systems or facilitating intensive production, joint purchase of inputs or joint production to increase revenues. Most GICs were formed recently and have not been very active, with few engaged in activities in 2010.



Mang, one of the villages in the project site

Photo: Sukaina Bharwani

Villages experience different external interventions from elites or NGOs, in that villages closer to Yokadouma seem to receive more external support than more remote villages. Private investment from companies settling in the area can create employment when locals are hired instead of migrants. According to villagers, however, foreign companies do not necessarily contribute to the welfare of the villages as a whole.

Strengthening adaptive capacity

Based on the insights gained through the baseline assessment and feedback received in the workshop conducted with village representatives on the last day of the fieldwork, the following considerations were identified as important entry points for future analyses of possible climate adaptation strategies. These need to be studied further as part of future vulnerability analyses in order to promote synergies with climate change mitigation efforts.

Cultivation, processing and commercialisation of NTFPs

NTFPs constitute an important safety net for villages in times of low agricultural production or income and contribute to cash revenue, and they seem to be less vulnerable than agriculture to climate-related disturbances. However, NTFPs are seasonal, people need to know where to find them and their commercialisation is not well organised. Moreover, the walking distance to find NTFPs is likely to increase with population growth, expansion of agricultural land and other pressures on forests.

Villagers mentioned that some sort of cultivation of NTFPs would help improve their availability and cost-effectiveness and shorten the time required to collect them. NTFP plantations or improved agroforestry schemes could reduce competition over NTFPs and offer alternatives for future livelihood diversification. It would be interesting to explore ways to improve the processing, storage and commercialisation of NTFPs, particularly given that all villages have access to markets with existing demand for NTFPs.

New alternative livelihoods

New alternative livelihoods could be introduced to further diversify local economies and income sources. Villagers mentioned apiculture, aquaculture, production of medicinal plants and livestock husbandry as possible activities that would broaden their livelihood and economic base, thus reducing their dependence on vulnerable sources of subsistence and income in times of increased climate variability.

Improvements in agricultural yields and introduction of best practices

Improvements in agricultural practices could lead to increased productivity of crops such as cacao and coffee and garden produce.

To compensate for losses due to lower productivity and damaged produce, caused by recent changes in the seasons, villagers have been cultivating larger areas of land to maintain production at the same level. Some have also developed small associations to improve their agricultural production jointly.

If yields were improved, the need to expand agricultural land at the expense of forests would be avoided, as farmers would achieve higher productivity, which would make up for losses caused by changes in the seasons.

Strengthening collective action

Strengthening collective action in the villages would not only help maintain the social infrastructure that benefits the village as a whole, but would also improve practices that promote more



Cocoa plantation in Mboya II

Photo: Tahia Devisscher

sustainable management of common land and resources such as CFs. According to villagers, common rules could be enforced in such a way that these activities benefit the village as a whole, rather than only the management or decision-making entities.

Participatory monitoring

Baseline results show that villagers believe that deforestation and forest degradation have accelerated over time. Participatory monitoring could not only raise awareness of the loss and degradation of forests, but also lead to empowerment and commitment to improve the state of forests managed by villagers. Information gathered through this decentralised monitoring system would be very valuable for forest and wildlife conservation organisations that are working in the sites.

Looking ahead

Lessons from past ecological and social dynamics serve as the basis for building adaptive capacity to climate variability. However, adaptation to future climate change requires building the capacity to adapt to unprecedented situations and extreme events.

Consequently, planning for uncertainty must be a key element in any adaptation decisions. In this regard, strategies are to be devised to: expand safety nets through the construction of a broader livelihood base and greater access to resources; generate more

information on social and ecological dynamics and interactions; and enhance collaboration between actors with different experiences and knowledge.

Pilot activities, such as those supported by the COBAM project, could lay the foundations for longer-term solutions, as long as there is systematic learning that enables reflection and refinement along the way. This will require mechanisms to support the learning process and facilitate experimenting, monitoring and improving over time.

The insights generated by the current analysis will be combined with more in-depth research to explore future vulnerability and identify synergies between mitigation and adaptation in the project sites. Results from further analyses and evaluation of future strategies will generate recommendations to inform decision-making and planning at local and national levels across countries in the Congo Basin.

Acknowledgements

The baseline assessment was conducted jointly by the Stockholm Environment Institute (SEI) and the Center for International Forestry Research (CIFOR). We are grateful to the ROSE network for the support provided during the fieldwork in the TNS landscape, and we especially thank the communities for their openness, insights and interest in this study.



Road from Yokadouma to the TNS landscape

Photo: Sukaina Bharwani

COBAM is implemented by CIFOR under the African Development Bank (AfDB) grant to the Economic Community of Central African States (ECCAS) for financing the Congo Basin Ecosystems Conservation Support Program (PACEBCo).



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